

CENTURYLINK, INC
Form 10-K
March 11, 2019

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

✓ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018

or

o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT
o OF 1934

For the transition period from _____ to _____
Commission File No. 001-7784

CENTURYLINK, INC.
(Exact name of registrant as specified in its charter)

Louisiana 72-0651161
(State or other jurisdiction of (I.R.S.
incorporation or organization) Employer
Identification
No.)

100 CenturyLink Drive, Monroe, Louisiana 71203
(Address of principal executive offices) (Zip Code)

(318) 388-9000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
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Common Stock, par value \$1.00 per share	New York Stock Exchange
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Securities registered pursuant to Section 12(g) of the Act: Stock Options

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer,"

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"accelerated filer", "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.
Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

On February 22, 2019, 1,079,783,226 shares of common stock were outstanding. The aggregate market value of the voting stock held by non-affiliates as of June 30, 2018 was \$17.7 billion.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the Registrant's Proxy Statement to be furnished in connection with the 2019 annual meeting of shareholders are incorporated by reference in Part III of this report.

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Unless the context requires otherwise, (i) references in this report on Form 10-K, for all periods presented, to "CenturyLink," "we," "us", the "Company" and "our" refer to CenturyLink, Inc. and its consolidated subsidiaries and (ii) references in this report to "Level 3" refer to Level 3 Communications, Inc., which we acquired and renamed Level 3 Parent, LLC, on November 1, 2017.

PART I

Special Note Regarding Forward-Looking Statements

This report and other documents filed by us under the federal securities law include, and future oral or written statements or press releases by us and our management may include, forward-looking statements about our business, financial condition, operating results and prospects. These "forward-looking" statements are defined by, and are subject to the "safe harbor" protections under, the federal securities laws. These statements include, among others:

- forecasts of our anticipated future results of operations, cash flows or financial position;

- statements concerning the anticipated impact of our transactions, investments, product development and other initiatives, including synergies or costs associated with our November 2017 combination with Level 3, the impact of our other acquisitions or dispositions, and the impact of our participation in government programs;

- statements concerning the anticipated impact of the Tax Cuts and Jobs Act enacted in late 2017;

- statements about our liquidity, profit margins, tax position, tax rates, asset values, contingent liabilities, growth opportunities and growth rates, acquisition and divestiture opportunities, business prospects, regulatory and competitive outlook, market share, product capabilities, investment and expenditure plans, business strategies, dividend and stock repurchase plans, capital allocation plans, financing alternatives and sources, and pricing plans; and

- other similar statements of our expectations, beliefs, future plans and strategies, anticipated developments and other matters that are not historical facts, many of which are highlighted by words such as "may," "will," "would," "could," "should," "plan," "believes," "expects," "anticipates," "estimates," "projects," "intends," "likely," "seeks," "hopes," or variations or similar expressions with respect to the future.

These forward-looking statements are based upon our judgment and assumptions as of the date such statements are made concerning future developments and events, many of which are beyond our control. These forward-looking statements, and the assumptions upon which they are based, (i) are not guarantees of future results, (ii) are inherently speculative and (iii) are subject to a number of risks and uncertainties. Actual events and results may differ materially from those anticipated, estimated, projected or implied by us in those statements if one or more of these risks or uncertainties materialize, or if our underlying assumptions prove incorrect. All of our forward-looking statements are qualified in their entirety by reference to our discussion of factors that could cause our actual results to differ materially from those anticipated, estimated, projected or implied by us in those forward looking statements. Factors that could affect actual results include but are not limited to:

- the effects of competition from a wide variety of competitive providers, including decreased demand for our traditional wireline service offerings and increased pricing pressures;

- the effects of new, emerging or competing technologies, including those that could make our products less desirable or obsolete;

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our ability to attain our key operating imperatives, including simplifying and consolidating our network, simplifying and automating our service support systems, strengthening our relationships with customers and attaining projected cost savings;

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our ability to safeguard our network, and to avoid the adverse impact on our business from possible security breaches, service outages, system failures, equipment breakage, or similar events impacting our network or the availability and quality of our services;

the effects of ongoing changes in the regulation of the communications industry, including the outcome of regulatory or judicial proceedings relating to intercarrier compensation, interconnection obligations, special access, universal service, broadband deployment, data protection and net neutrality;

our ability to timely realize the anticipated benefits of our November 2017 combination with Level 3, including our ability to use Level 3's net operating losses in the amounts projected;

our ability to effectively adjust to changes in the communications industry, and changes in the composition of our markets and product mix;

possible changes in the demand for our products and services, including our ability to effectively respond to increased demand for high-speed data transmission services;

our ability to successfully maintain the quality and profitability of our existing product and service offerings and to introduce profitable new offerings on a timely and cost-effective basis;

our ability to generate cash flows sufficient to fund our financial commitments and objectives, including our capital expenditures, operating costs, debt repayments, dividends, pension contributions and other benefits payments;

changes in our operating plans, corporate strategies, dividend payment plans or other capital allocation plans, whether based upon changes in our cash flows, cash requirements, financial performance, financial position, market conditions or otherwise;

our ability to effectively retain and hire key personnel and to successfully negotiate collective bargaining agreements on reasonable terms without work stoppages;

the negative impact of increases in the costs of our pension, health, post-employment or other benefits, including those caused by changes in markets, interest rates, mortality rates, demographics or regulations;

adverse changes in our access to credit markets on favorable terms, whether caused by changes in our financial position, lower debt credit ratings, unstable markets or otherwise;

our ability to meet the terms and conditions of our debt obligations, including our ability to make transfers of cash in compliance therewith;

our ability to maintain favorable relations with our key business partners, suppliers, vendors, landlords and financial institutions;

our ability to collect our receivables from financially troubled customers;

any adverse developments in legal or regulatory proceedings involving us;

changes in tax, communications, pension, healthcare or other laws or regulations, in governmental support programs, or in general government funding levels;

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the effects of changes in accounting policies, practices or assumptions, including changes that could potentially require future impairment charges;

the effects of adverse weather, terrorism or other natural or man-made disasters;

the effects of more general factors such as changes in interest rates, in exchange rates, in operating costs, in public policy, in the views of financial analysts, or in general market, labor, economic or geo-political conditions; and

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other risks referenced in "Risk Factors" in Item 1A or elsewhere in this report or other of our filings with the SEC.

Additional factors or risks that we currently deem immaterial, that are not presently known to us or that arise in the future could also cause our actual results to differ materially from our expected results. Given these uncertainties, investors are cautioned not to unduly rely upon our forward-looking statements, which speak only as of the date made. We undertake no obligation to publicly update or revise any forward-looking statements for any reason, whether as a result of new information, future events or developments, changed circumstances, or otherwise. Furthermore, any information about our intentions contained in any of our forward-looking statements reflects our intentions as of the date of such forward-looking statement, and is based upon, among other things, existing regulatory, technological, industry, competitive, economic and market conditions, and our assumptions as of such date. We may change our intentions, strategies or plans (including our dividend or other capital allocation plans) at any time and without notice, based upon any changes in such factors, in our assumptions or otherwise.

ITEM 1. BUSINESS

Overview

We are an international facilities-based communications company engaged primarily in providing a broad array of integrated services to our business and residential customers. Our specific products and services are detailed below under the heading "Operations - Products and Services."

With approximately 450,000 route miles of fiber optic cable globally, we believe we are among the largest providers of communications services to domestic and global enterprise customers. Our terrestrial and subsea fiber optic long-haul network throughout North America, Europe, Latin America and Asia Pacific connects to metropolitan fiber networks that we operate. We provide services in over 60 countries, with most of our revenue being derived in the United States. We believe we are the third largest wireline telecommunications company in the United States, based on the number of access lines we serve.

We were incorporated under the laws of the State of Louisiana in 1968. Our principal executive offices are located at 100 CenturyLink Drive, Monroe, Louisiana 71203 and our telephone number is (318) 388-9000.

For a discussion of certain risks applicable to our business, see "Risk Factors" in Item 1A of Part I of this report. The summary financial information in this Item 1 should be read in conjunction with, and is qualified by reference to, our consolidated financial statements and notes thereto in Item 8 of Part II of this report and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of this report.

Acquisition of Level 3

On November 1, 2017, CenturyLink acquired Level 3 through successive merger transactions, including a merger of Level 3 with and into a merger subsidiary, which survived such merger as our indirect wholly-owned subsidiary under the name of Level 3 Parent, LLC. Upon closing, CenturyLink shareholders owned approximately 51% and former Level 3 shareholders owned approximately 49% of the combined company.

For additional information about our acquisition of Level 3, see (i) Note 2—Acquisition of Level 3 to our consolidated financial statements in Item 8 of Part II of this report, (ii) our current report on Form 8-K/A filed by us with the Securities and Exchange Commission (the "SEC") on January 16, 2018, (iii) our current report on Form 8-K filed by us with the SEC on November 1, 2017 and (iv) the definitive joint proxy statement/prospectus filed by us with the SEC on February 13, 2017.

Sale of Data Centers and Colocation Business

On May 1, 2017, we sold a portion of our data centers and colocation business to a consortium led by BC Partners, Inc. and Medina Capital ("the Purchaser") in exchange for pre-tax cash proceeds of \$1.8 billion and a minority stake in the limited partnership that owns the consortium's newly-formed global secure infrastructure company, Cyxtera Technologies ("Cyxtera"). As part of the transaction, the Purchaser acquired 57 of our data centers and assumed \$294 million (as of May 1, 2017) of our capital lease obligations related to the divested properties.

See Note 3—Sale of Data Centers and Colocation Business to our consolidated financial statements in Item 8 of Part II of this report for additional information.

Financial Highlights

Our consolidated operating results and financial position include the operating results and financial position of Level 3 beginning as of November 1, 2017. For additional information, see Note 2—Acquisition of Level 3 to our consolidated financial statements in Item 8 of Part II of this report.

The following table summarizes the results of our consolidated operations.

Years Ended December 31,
2018⁽¹⁾⁽²⁾⁽³⁾ 2017⁽¹⁾⁽²⁾ 2016⁽¹⁾
(Dollars in millions)

Operating revenue	\$23,443	17,656	17,470
Operating expenses	22,873	15,647	15,137
Operating income	\$570	2,009	2,333
Net (loss) income	\$(1,733)	1,389	626

During 2018, 2017 and 2016, we incurred Level 3 acquisition-related expenses of \$393 million, \$271 million and \$52 million, respectively. For additional information, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Acquisition of Level 3" and Note 2—Acquisition of Level 3 to our consolidated financial statements in Item 8 of Part II of this report.

The enactment of the Tax Cuts and Jobs Act in December 2017 resulted in a re-measurement of our deferred tax assets and liabilities at the new federal corporate tax rate of 21%. The re-measurement resulted in tax expense of \$92 million and a tax benefit of approximately \$1.1 billion for 2018 and 2017, respectively.

During 2018, we recorded a non-cash, non-tax-deductible goodwill impairment charge of \$2.7 billion for goodwill attributed to our consumer segment.

We estimate that during 2018 approximately 7.9% of our consolidated revenue was derived from providing telecommunications, colocation and hosting services outside the United States.

The following table summarizes certain selected financial information from our consolidated balance sheets:

As of
December 31,
2018 2017
(Dollars in
millions)

Total assets	\$70,256	75,611
Total long-term debt ⁽¹⁾	36,061	37,726
Total stockholders' equity	19,828	23,491

For additional information on our total long-term debt, see Note 6—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of this report. For information on our total obligations, see (1) "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Future Contractual Obligations" in Item 7 of Part II of this report.

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Operations

Segments

At December 31, 2018, we had the following two segments:

Business Segment. Under our business segment, we provide our products and services to large domestic and global enterprises, small and medium businesses, federal, state and local governments and wholesale customers, including other communication providers. Our products and services offered to these customers include our IP and Data Services suite of products, which includes VPN and hybrid networking, Ethernet and IP services; Transport and Infrastructure, which includes wavelengths and private line, dark fiber, colocation and data center services, and professional services; Voice Services, which includes local, long-distance, toll-free and unified communications services; and IT and Managed services, all of which are described further under "Products and Services"; and

Consumer Segment. Under our consumer segment, we provide our products and services to residential customers. Our products and services offered to these customers include our broadband, local and long-distance voice, video and other ancillary services.

The following table shows the composition of our operating revenue by segment under our current segment categorization for the years ended December 31, 2018, 2017 and 2016:

	Years Ended			Percent	
	December 31,			Change	
	2018	2017	2016	2018	2017
				vs	vs
				2017	2016
Percentage of revenue:					
Business segment	74 %	64 %	61 %	10 %	3 %
Consumer segment	23 %	32 %	35 %	(9)%	(3)%
Non-segment revenue*	3 %	4 %	4 %	(1)%	— %
Total operating revenue	100%	100%	100%		

* Consists of all revenue not attributable to our segment revenue.

For additional information on our segment data, including information on certain centrally-managed assets and expenses not reflected in our segment results, see Note 15—Segment Information to our consolidated financial statements in Item 8 of Part II of this report and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of this report.

Our Chief Executive Officer, who is also our Chief Operating Decision Maker ("CODM") continues to review the operational and internal reporting structure as a result of our acquisition of Level 3, see Note 2—Acquisition of Level 3 to our consolidated financial statements in Item 8 of Part II of this report.

Products and Services

Global enterprises, governmental entities and regional organizations depend on our wide variety of technologies and the services engineered to work in conjunction with them. These range from specific offerings such as networks or cloud-based application hosting to complex multi-layered engagements where we develop custom solutions involving numerous technologies and professional consulting services. In many cases, enterprises engage with us to outsource many of their IT functions so they can focus on their core business.

While most of our customized customer interactions involve multiple integrated technologies and services, we organize our products and services according to the core technologies that drive them. We report our related revenue under the following categories: IP and data services, transport and infrastructure services, voice and collaboration services, IT and managed services and regulatory revenue, each of which is described in further detail below.

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IP and Data Services

VPN Data Network. Built on our extensive optical transport network, we create private networks tailored to our customers' needs. These technologies enable service providers, enterprises and government entities to streamline multiple networks into a single, cost-effective solution that simplifies the transmission of voice, video, and data over a single secure network;

Ethernet. We deliver a robust array of networking services built on Ethernet technology. Ethernet services include point-to-point and multi-point equipment configurations that facilitate data transmissions across metropolitan areas and larger enterprise-class wide area networks. Our Ethernet technology is also used by wireless service providers for data transmission via our fiber-optic cables connected to their towers;

Internet Protocol ("IP"). Our Internet Protocol services provide global internet access over a high performance, diverse network with connectivity in more than 60 countries with over 72 Tbps of global throughput. Our network features over 48 Tbps of global peering capacity, and spans approximately 450,000 route miles globally with extensive off-net access solutions across North America, Europe, Latin America and Asia Pacific; and

- Video. To our residential customers, we make available our own branded facilities-based Prism TV service, plus satellite digital television under an arrangement with DIRECTV.

Transport and Infrastructure

Broadband. Our broadband services deliver a cost-effective Internet connection through existing telephone lines or fiber-optic cables while companies enjoy high speed data transfer services. A substantial portion of our broadband subscribers are located within the local service area of our wireline telephone operations.

Private Line. We deliver private line (including business data services) services, a direct circuit or channel specifically dedicated for connecting two or more organizational sites. Private line service offers a high-speed, secure solution for frequent transmission of large amounts of data between sites, including wireless backhaul transmissions;

Wavelength. We deliver high bandwidth optical networks to firms requiring an end-to-end transport solution with Ethernet technology by contracting for a scalable amount of bandwidth connecting sites or providing high-speed access to cloud computing resources;

Colocation and Data Center Services. We provide different options for organizations' data center needs. Our data center services range from dedicated hosting and cloud services to more complex managed solutions, including disaster recovery, business continuity, applications management support and security services to manage mission critical applications;

Professional Services. Our experts deliver a robust array of consulting services to organizations either as part of a larger engagement or as stand-alone services. This category includes network management, installation and maintenance of data equipment and the building of proprietary fiber-optic broadband networks for government and business customers; and

- Dark Fiber. We possess an extensive array of unlit optical fiber, known as "dark fiber." Many large enterprises are interested in building their networks with this high-bandwidth, highly secure optical technology and dark fiber gives them access to the technology. CenturyLink provides professional services to engineer these networks, and in some cases, manage them for customers.

Voice and Collaboration

Voice. We offer to our business and residential customers a complete portfolio of traditional Time Division Multiplexing voice services including Primary Rate Interface service, local inbound service, switched one-plus, toll free, long distance and international services; and

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Voice Over IP (VoIP). We deliver a broad range of local and enterprise voice and data services built on VoIP (Voice over Internet Protocol) technology. Our local and enterprise voice services include VoIP enhanced local service, national and multinational SIP Trunking, Hosted VoIP, support of Primary Rate Interface service, long distance service, and toll-free service.

IT and Managed Services

Managed Services. We craft technology solutions for our customers and often manage those solutions on an ongoing basis. Managed services represent a blend of network, hosting, cloud (public and private), and IT services that typically require ongoing support such as managing applications, operating systems and hardware. This product line includes intuitive management tools that optimize efficiencies in companies' technology infrastructure. These services frequently enhance equipment or networks owned, acquired or controlled by the customer and often include our consulting or software development.

Regulatory Revenue

Universal Service Fund ("USF") support payments. We receive federal and state USF support payment subsidies designed to reimburse us for various costs related to certain telecommunications services, including the costs of deploying, maintaining and operating voice and broadband infrastructure in high-cost rural areas where we are not able to fully recover our costs from our customers;

Connect America Fund ("CAF"). We receive federal support payments from both Phase I and Phase II of the CAF program. The funding from the CAF Phase II support program has substantially replaced the funding from the interstate USF program that we previously utilized to support voice services in high-cost rural markets in 33 states; and

Other. We generate other operating revenue from the leasing and subleasing of space in our office buildings, warehouses and other properties and from rental income associated with our failed-sale-leaseback. For additional information on our failed-leaseback transaction, see "Sale of Data Centers and Colocation Business-Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of this report.

Throughout 2018, we centrally managed the activities that generate this regulatory and other revenue and as such this revenue was not included in our segment revenue. Beginning in 2019, we will report USF support payments and CAF support revenue as part of our Consumer segment. The adoption of the new lease accounting standard results in us no longer reporting rental income associated with the 2017 failed-sale-leaseback.

From time to time, we may continue to change the categorization of our products and services.

Additional Information

From time to time, we also make investments in other communications or technology companies.

For further information on regulatory, technological and competitive factors that could impact our revenue, see "Regulation" and "Competition" under this Item 1 below and "Risk Factors" under Item 1A below. For more information on the financial contributions of our various services, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of this report.

Our Network

Most of our products and services are provided using our telecommunications network, which consists of fiber-optic and copper cables, high-speed transport equipment, electronics, voice switches, data switches and routers, and various other equipment. Our local exchange carrier networks also include central offices and remote site assets, and form a portion of the public switched telephone network. A substantial portion of our equipment operates with licensed software.

At December 31, 2018, our network included:

• Approximately 450,000 route miles of fiber optic plant;

• Approximately 910,000 miles of copper plant;

• More than 360 colocation facilities and data centers globally;

• Approximately 37,500 route miles of subsea fiber optic cable systems;

• More than 150,000 Fiber On-net buildings;

• Multiple gateway and transmission facilities used in connection with operating our network throughout North America, Europe and Latin America; and

• Central office and other equipment that enables us to provide telephone service as an incumbent local telephone company (“ILEC”) in 37 states.

We continue to enhance and expand our network by deploying various technologies to provide additional capacity to our customers. Rapid and significant changes in technology are expected to continue in the telecommunications industry. Our future success will depend, in part, on our ability to anticipate and adapt to changes in technology and customer demands, including demands for enhanced digitization, automation and customer self-service capabilities. In addition, we anticipate that continued increases in internet usage by our customers will require us to make significant capital expenditures to increase network capacity or to implement network management practices to alleviate network capacity shortages. The FCC's definition of broadband service could create additional requirements for higher capital spending to address marketing and competitive issues. Any such additional expenditure could adversely impact our results of operations and financial condition.

Similarly, we continue to take steps to simplify and modernize our network, much of which we have assembled through acquisitions. To attain our objectives, we plan to continue to pursue several complex projects that we expect will be costly and may take several years to complete. The costs of these projects could materially increase if we conclude that we need to replace any or all of our legacy systems.

Like other large communications companies, we are a constant target of cyber-attacks of varying degrees, which has caused us to spend increasingly more time and money to deal with increasingly sophisticated attacks. Some of the attacks result in security breaches, and we periodically notify our customers, our employees or the public of these breaches when necessary or appropriate. None of these resulting security breaches to date have materially adversely affected our business, results of operations or financial condition.

Similarly, like other large communication companies operating complex networks, from time to time in the ordinary course of our business we experience disruptions in our service. Although none of these outages have thus far materially adversely affected us, certain of these outages have resulted in regulatory fines, negative publicity, service credits and other adverse consequences.

We rely on several other communications companies to provide our offerings. We lease a portion of our core fiber network from our competitors and other third parties. Many of these leases will lapse in future years. A portion of our services are provided by other carriers under agency agreements or through reselling arrangements with other carriers. Our future ability to provide services on the terms of our current offerings will depend in part upon our ability to renew or replace these leases, agreements and arrangements on terms substantially similar to those currently in effect.

For additional information regarding our systems, network assets, network risks, capital expenditure requirements and reliance upon third parties, see "Risk Factors," generally, in Item 1A of Part I of this report, and, in particular, "Risk Factors—Risks Affecting Our Business" and "Risk Factors—Risks Affecting Our Liquidity and Capital Resources." For more information on our properties, see Item 2 of Part I of this report.

Patents, Trade Names, Trademarks and Copyrights

Either directly or through our subsidiaries, we have rights in various patents, trade names, trademarks, copyrights and other intellectual property necessary to conduct our business. Our services often use the intellectual property of others, including licensed software. We also occasionally license our intellectual property to others as we deem appropriate.

Through acquisitions or our own research and development, as of December 31, 2018, we had approximately 3,000 patents and patent applications in the United States and other countries. Our patents cover a range of technologies, including those relating to data and voice services, content distribution and transmission and networking equipment. We have also received licenses to use patents held by others, including through certain extensive cross-license arrangements. Patents give us the right to prevent others, particularly competitors, from using our proprietary technologies. Patent licenses give us the freedom to operate our business without the risk of interruption from the holder of the patented technology. We plan to continue to file new patent applications as we enhance and develop products and services, and we plan to continue to seek opportunities to expand our patent portfolio through strategic acquisitions and licensing.

We periodically receive offers from third parties to purchase or obtain licenses for patents and other intellectual property rights in exchange for royalties or other payments. We also periodically receive notices, or are named in lawsuits, alleging that our products or services infringe on patents or other intellectual property rights of third parties. In certain instances, these matters can potentially adversely impact our operations, operating results or financial position. For additional information, see "Risk Factors—Risks Affecting Our Business" in Item 1A of Part I of this report, and Note 17—Commitments, Contingencies and Other Items to our consolidated financial statements in Item 8 of Part II of this report.

Sales and Marketing

We maintain local offices in most major and secondary markets within the U.S. and in most of the larger population centers within our local service area and in many of the primary markets of the more than 60 countries in which we provide services. These offices provide sales and customer support services to the communities in our local markets. We also rely on our call center personnel and a variety of channel partners to promote sales of services that meet the needs of our customers. Our sales and marketing strategy is to enhance our sales by offering solutions tailored to the needs of our various customers and promoting our brands. To meet the needs of different customers, our offerings include both stand-alone services and bundled services designed to provide a complete offering of integrated services.

We conduct most of our operations under the brand name "CenturyLink." Our satellite television service is offered on a co-branded basis under the "DIRECTV" name.

Our sales and marketing approach to our business customers includes a commitment to provide comprehensive communications and IT solutions for business, wholesale and government customers of all sizes, ranging from small business offices to the world's largest global enterprise customers. We strive to offer our business customers stable, reliable, secure and trusted solutions. Our marketing plans include marketing our products and services primarily through direct sales representatives, inbound call centers, telemarketing and third parties, including telecommunications agents, system integrators, value-added resellers and other telecommunications firms. We support our distribution through digital advertising, events, television advertising, website promotions and public relations.

Similarly, our sales and marketing approach to our residential customers emphasizes customer-oriented sales, marketing and service with a local presence. Our marketing plans include marketing our products and services primarily through direct sales representatives, inbound call centers, telemarketing and third parties, including retailers, satellite television providers, door to door sales agents and digital marketing firms. We support our distribution with digital marketing, direct mail, bill inserts, newspaper and television advertising, website promotions, public relations

activities and sponsorship of community events and sports venues.

Regulation

Overview

Our domestic operations are regulated by the Federal Communications Commission (the "FCC"), various state utility commissions and occasionally by local agencies. Our non-domestic operations are regulated by supranational groups (such as the European Union, or EU), national agencies and frequently state, provincial or local bodies. Generally, we must obtain and maintain operating licenses from these bodies in most areas where we offer regulated services.

The following description discusses some of the major industry regulations that affect our operations, but numerous other regulations not discussed below also have a substantial impact on us. For additional information, see "Risk Factors" in Item 1A of Part I of this report.

Federal Regulation of Domestic Operations

General

The FCC regulates the interstate services we provide, including the business data service charges we bill for wholesale network transmission and intercarrier compensation, including the interstate access charges that we bill to long-distance companies and other communications companies in connection with the origination and termination of interstate phone calls. Additionally, the FCC regulates a number of aspects of our business related to international communications services, privacy, public safety and network infrastructure, including our access to and use of local telephone numbers and our provision of emergency 911 services.

In April 2017, the FCC revised the regulation of the provision of data services to businesses providing greater freedom to respond to competition for these business data services. Several parties appealed the FCC's decision and the resulting remand proceedings remain pending. Their ultimate impact on us of the FCC's recent action is currently unknown.

Universal Service

In 2015, we accepted Connect America Fund or "CAF" funding from the FCC of approximately \$500 million per year for six years to fund the deployment of voice and broadband capable infrastructure for approximately 1.2 million rural households and businesses in 33 of the 37 states in which we are an ILEC under the CAF II high-cost support program. The funding from the CAF II support program in these 33 states has substantially replaced the funding from the interstate USF high-cost program that we previously utilized to support voice services in high-cost rural markets in these 33 states. As a result of accepting CAF II support payments for 33 states, as well as existing merger-related commitments, we are obligated to make substantial capital expenditures to build infrastructure by certain specified milestone deadlines. For information on the risks associated with participating in this program, see "Risk Factors—Risks Relating to Legal and Regulatory Matters" in Item 1A of Part I of this report.

Currently, it is unclear when the FCC will complete the development of the next phase of the CAF program expected to follow the CAF Phase II program and what that plan will entail. Although the FCC has taken certain initial steps, we cannot assure you when such replacement plan will be proposed or implemented.

For additional information about the potential financial impact of the CAF II program, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of this report.

Broadband Regulation

In February 2015, the FCC adopted an order classifying Broadband Internet Access Services ("BIAS") under Title II of the Communications Act of 1934 and applying new regulations. In December 2017, the FCC voted to repeal most of those regulations and the classification of BIAS as a Title II service and to preclude states from imposing substantial regulations of their own on broadband. Opponents of this change have appealed this action in federal court and have advocated in favor of re-instituting regulation of Internet services under Title II of the Communications Act. Several states have also opposed the change and have initiated state executive orders or introduced legislation focused on state-specific Internet service regulation. The result of these appeals is pending and the potential impact to CenturyLink is currently unknown.

State Regulation of Domestic Operations

In recent years, most states have reduced their regulation of ILECs. Nonetheless, state regulatory commissions generally continue to (i) set the rates that telecommunication companies charge each other for exchanging traffic, (ii) administer support programs designed to subsidize the provision of services to high-cost rural areas, (iii) regulate the purchase and sale of ILECs, (iv) require ILECs to provide service under publicly-filed tariffs setting forth the terms, conditions and prices of regulated services, (v) limit ILECs' ability to borrow and pledge their assets, (vi) regulate transactions between ILECs and their affiliates and (vii) impose various other service standards. In most states, switched and business data services and interconnection services are subject to price regulation, although the extent of regulation varies by type of service and geographic region.

We operate in states where traditional cost recovery mechanisms, including state USF, are under evaluation or have been modified. Recent changes to the federal tax code have prompted several states to review regulated rates. As laws and regulations change, there can be no assurance that these mechanisms will continue to provide us with the same level of cost recovery.

International Regulations

Our subsidiaries operating outside of the United States are subject to various regulations in the markets where service is provided. The scope of regulation varies from country to country. The telecommunications regulatory regimes in certain of our non-domestic markets are in the process of development. Many issues, including the pricing of services, have not been addressed fully, or even at all. We cannot accurately predict whether and how these issues will be resolved, or their effect on our operations. Further, some of the legal requirements governing our foreign operations are more restrictive than or conflict with those governing our domestic operations, which raises our compliance costs and regulatory risks.

In June 2016, following a national referendum, the United Kingdom (the "UK") elected to terminate its membership in the EU ("Brexit"). The UK will remain a member of the EU until at least March 29, 2019. Several factors which are currently unknown will influence Brexit's impact on our business, including the form Brexit will take. We operate a staging facility in the UK, where certain core network elements and customer premises equipment is configured before being shipped to both UK and EU locations. The UK is currently also the central location of our stores of spare replenishment in our European operations. In respect of our UK workforce, we do not anticipate any adverse impact from Brexit as only a small percentage of the workforce are EU nationals. The same is true of UK nationals working in our EU located workforce. We are currently monitoring Brexit developments, reviewing our supply chain alternatives, and assessing the short and long-term implications of Brexit on our operations. Nonetheless, based on current information, we do not anticipate Brexit will have a substantial impact on our business.

Other Regulations

Our networks are subject to numerous local regulations, including codes that regulate our trenching and construction operations or that require us to obtain permits, licenses or franchises to operate. Such regulations are enacted by municipalities, counties or other regional governmental bodies, and can vary widely from jurisdiction to jurisdiction as a result. Such regulations may also require us to pay substantial fees.

Various foreign, federal and state laws govern our storage, maintenance and use of customer data, including a wide range of consumer protection, data protection, privacy, intellectual property and similar laws. The application, interpretation and enforcement of these laws are often uncertain, and may be interpreted and applied inconsistently from jurisdiction to jurisdiction. Various foreign, federal and state legislative or regulatory bodies have recently adopted increasingly restrictive laws or regulations governing the protection or retention of data, and others are contemplating similar actions. In particular, regulatory bodies in Europe have aggressively enforced the stringent terms of the EU's General Data Protection Regulation.

For additional information about these matters, see "Risk Factors—Risks Affecting Our Business" and "Risk Factors—Risks Relating to Legal and Regulatory Matters" in item 1A of Part I of this report.

Competition

General

We compete in a rapidly evolving and highly competitive market, and we expect intense competition from a wide variety of sources under evolving market conditions to continue. In addition to competition from larger telecommunication service providers, we are facing increasing competition from several other sources, including cable and satellite companies, wireless providers, technology companies, cloud companies, broadband providers, device providers, resellers, sales agents facilities-based providers, and smaller more narrowly focused niche providers either using their own networks, leasing parts of our network or providing services such as VoIP, SD-WAN and security independent of network assets. The ability to provide such services independently of the network challenges more traditional solution selling. Further technological advances and regulatory and legislative changes have increased opportunities for a wide range of alternative communications service providers, which in turn have increased competitive pressures on our business. These alternate providers often face fewer regulations and have lower cost structures than we do. In addition, the communications industry has, in recent years, experienced substantial consolidation, and some of our competitors in one or more lines of our business are generally larger, have stronger brand names, have more financial and business resources and have broader service offerings than we currently do. In certain overseas markets, we compete against national incumbent telecommunications providers and other regional or international companies that may have a longer history of providing service in the market.

We compete to provide services to business customers based on a variety of factors, including the comprehensiveness and reliability of our network, our data transmission speeds, price, the latency of our available intercity and metro routes, the scope of our integrated offerings, the reach and peering capacity of our IP network, and customer service. Depending on the applicable market and requested services, competition can be intense, especially if one or more competitors in the market have network assets better suited to the customer's needs or are offering faster transmission speeds or lower prices.

Wireless voice services are a significant source of competition with our traditional ILEC services. It is increasingly common for customers to completely forego use of traditional wireline phone service and instead rely solely on wireless service for voice services. We anticipate this trend will continue, particularly with younger customers who are less accustomed to using traditional wireline voice services. Technological and regulatory developments in wireless services, Wi-Fi, and other wired and wireless technologies have contributed to the development of alternatives to traditional landline voice services. Moreover, the growing prevalence of electronic mail, text messaging, social networking and similar digital non-voice communications services continues to reduce the demand for traditional landline voice services. These factors have led to a long-term systemic decline in the number of our wireline voice service customers.

The Telecommunications Act of 1996, which obligates ILECs to permit competitors to interconnect their facilities to the ILEC's network and to take various other steps that are designed to promote competition, imposes several duties on an ILEC if it receives a specific request from another entity which seeks to connect with or provide services using the ILEC's network. In addition, each ILEC is obligated to (i) negotiate interconnection agreements in good faith, (ii) provide nondiscriminatory "unbundled" access to all aspects of the ILEC's network, (iii) offer resale of its telecommunications services at wholesale rates and (iv) permit competitors, on terms and conditions (including rates) that are just, reasonable and nondiscriminatory, to collocate their physical plant on the ILEC's property, or provide virtual collocation if physical collocation is not practicable. Current FCC rules require ILECs to lease a network element only in those situations where competing carriers genuinely would be impaired without access to such network elements, and where the unbundling would not interfere with the development of facilities-based competition.

As a result of these regulatory, consumer and technological developments, ILECs also face competition from competitive local exchange carriers, or CLECs, particularly in densely populated areas. CLECs provide competing services through (i) reselling an ILEC's local services, (ii) using an ILEC's unbundled network elements or (iii) operating their own facilities.

Technological developments have led to the development of new products and services that have reduced the demand for our traditional services, as noted above, or that compete with traditional ILEC services. Technological improvements have enabled cable television companies to provide traditional circuit-switched telephone service over their cable networks, and several national cable companies continue to aggressively market these services. Similarly, companies providing VoIP services provide voice communication services over the Internet which compete with our traditional telephone service and our own VoIP services. In addition, demand for our broadband services could be adversely affected by advanced wireless data transmission technologies being deployed by wireless providers and by certain technologies permitting cable companies and other competitors to deliver generally faster average broadband transmission speeds than ours.

Similar to us, many cable, technology or other communications companies that previously offered a limited range of services are now offering diversified bundles of services, either through their own networks, reselling arrangements or joint ventures. As such, a growing number of companies are competing to serve the communications needs of the same customer base. Such activities will continue to place downward pressure on the demand for and pricing of our services.

As both residential and business customers increasingly demand high-speed connections for entertainment, communications and productivity, we expect the demands on our network will continue to increase over the next several years. To succeed, we must continue to invest in our networks to ensure that they can deliver competitive services that meet these increasing bandwidth and speed requirements. In addition, network reliability and security are increasingly important competitive factors in our business.

In addition to facing direct competition from those providers described above, ILECs increasingly face competition from alternate communication systems constructed by long distance carriers, large customers, municipalities or alternative access vendors. These systems are capable of originating or terminating calls without use of an ILEC's networks or switching services. Other potential sources of competition include non-carrier systems that are capable of bypassing ILECs' local networks, either partially or completely, through various means, including the provision of business data services or independent switching services and the concentration of telecommunications traffic on a few of an ILEC's access lines. We anticipate that all these trends will continue and lead to decreased billable use of our networks.

Additional information about competitive pressures is located (i) under the heading "Risk Factors—Risks Affecting Our Business" in Item 1A of Part I of this report and (ii) in the discussion immediately below, which contains more specific information on how these trends in competition have impacted our segments.

Business Segment

In connection with providing services to our business customers, which includes our small, medium and enterprise business, wholesale and government customers, we compete against other telecommunication providers, as well as other regional, national and international carriers, other data transport providers, cable companies, CLECs and other enterprises, some of whom are substantially larger than us. Competition is based on price, bandwidth, quality and speed of service, promotions and bundled offerings. In providing broadband services, we compete primarily with cable companies, wireless providers, technology companies and other broadband service providers. We face competition in Ethernet based services in the wholesale market from cable companies and fiber based providers.

Our competitors for providing integrated data, broadband, voice services and other IT services to our business customers range from mid-sized businesses to large enterprises. Due to the size and capacity of some of these companies, our competitors may be able to offer more inexpensive solutions to our customers. To compete, we focus on providing sophisticated, secure and performance-driven services to our business customers through our global infrastructure.

The number of companies providing business services has grown and increased competition for these services, particularly with respect to smaller business customers. Many of our competitors for business services are not subject to the same regulatory requirements as we are and therefore they are able to avoid significant regulatory costs and obligations.

Our competitors for cloud, hosting, colocation and other IT services include telecommunications companies, technology companies, cloud companies, colocation companies, hardware manufacturers and system integrators that support the in-house IT operations for a business or offer outsourcing solutions. Due to the size, capacity and strategically low pricing tactics of some of these companies, our competitors may be able to offer more inexpensive solutions to our customers. The increase in recent years in the number of companies providing these services has placed substantial downward pressure on pricing for a wide range of cloud, hosting, colocation and other IT services. To address these competitive pressures, we have focused on offering end-to-end integrated customer solutions which we believe could help differentiate our products and services from those offered by competitors with a narrower range of products and services.

For our wholesale customers, we will continue to be adversely affected by product substitution, technological migration, industry consolidation and mandated rate reductions. Competition for private line services is based on price, network reach and reliability, service, promotions and bundled offerings. We face significant competition for access services from CLECs, cable companies, resellers and wireless service providers as well as some of our own wholesale markets customers, many of which are deploying their own networks to provide customers with local services. By doing so, these competitors reduce revenue producing traffic on our network.

In providing equipment sales and professional services to our business customers, we compete primarily with large integrators, equipment providers and national telecommunication providers. Competition is based on package offerings, and as such our strategy is to provide these customers individualized and customizable packages that include other services. As such, in providing data integration we often face many of the same competitive pressures as we face in providing other services, as discussed above.

We expect equipment sales and professional services revenue to continue to fluctuate from quarter to quarter as these offerings tend to be more sensitive than others to changes in the economy and in spending trends of our governmental customers. We further expect the profit margins on our equipment sales and professional services offerings to continue to be lower than those of our other services.

Consumer Segment

With respect to providing our services to residential customers, technology advancements have increased both the quantity and type of competitors that we compete with for our services. More specifically, voice services face significant product and technology substitution. Additionally, wireless carriers' latest generation technologies are allowing them to more directly compete with our Broadband services. The fragmentation of the video market with the proliferation of Over the Top providers has made it difficult for us to offer a cost-effective video product. Lastly, the regulatory environment in which we operate, while it provides us certain advantages, can make us less nimble than cable, wireless, and other technology companies.

As a result, our strategy for competing in the consumer space is to continue to invest in our network with fiber solutions to increase connection speeds and service quality, partner with video providers such as DIRECTV to provide video and content options to customers, and encourage customers to bundle voice services by providing a high quality voice connection with discounts for bundling. In addition, we believe initiatives to improve the customer experience and digital experience should increase customer loyalty over time.

The domestic consumer market for broadband services is mature, with a significant portion of households already receiving those services. We compete for customers on the basis of pricing, packaging of services and features and quality of service. In order to remain competitive, we believe continually increasing connection speeds is important. As a result, we continue to invest in our network, which allows for the delivery of higher speed broadband services.

Although our status as an ILEC in our local service areas continues to provide us advantages in providing local services in those territories, as noted above, we increasingly face significant competition as an increasing number of consumers are willing to substitute cable, wireless and electronic communications for traditional voice telecommunications services. This has led to an increase in the number and type of competitors within our industry, price compression and a decrease in our market share. As a result of this product substitution, we face greater competition in providing local and long-distance voice services from wireless providers, resellers and sales agents (including ourselves), social media hosts and broadband service providers, including cable companies. We also continue to compete with traditional telecommunications providers, such as national carriers, smaller regional providers, CLECs and independent telephone companies.

Acquisitions and Dispositions

Since being incorporated in 1968, we have grown principally through acquisitions. By 2008, we had become one of the largest providers of rural telephone services in the United States. Since then, we acquired Embarq Corporation in mid-2009, Qwest Communications International Inc. in early 2011 and Level 3 Communications, Inc. in late 2017. These acquisitions have substantially changed our customer base, geographic footprint and mix of products and services.

We regularly evaluate the possibility of acquiring additional assets or disposing of assets in exchange for cash, securities or other properties, and at any given time may be engaged in discussions or negotiations regarding additional acquisitions or dispositions. We generally do not announce our acquisitions or dispositions until we have entered into a preliminary or definitive agreement.

See above under "Acquisition of Level 3", for additional information about our November 1, 2017 acquisition of Level 3, and the "Sale of Data Centers and Colocation Business" for additional information about our May 1, 2017 disposition.

See Note 4—Goodwill, Customer Relationships and Other Intangible Assets for additional information on these acquisitions.

Environmental Compliance

From time to time we may incur environmental compliance and remediation expenses, mainly resulting from owning or operating prior industrial sites or operating vehicle fleets or power supplies for our communications equipment. Although we cannot assess with certainty the impact of any future compliance and remediation obligations or provide you with any assurances regarding the ultimate impact thereof, we do not currently believe that future environmental compliance and remediation expenditures will have a material adverse effect on our financial condition or results of operations. For additional information, see "Risk Factors—Risks Relating to Legal and Regulatory Matters—Risks posed

by other regulation" in Item 1A of Part I of this report and Note 17—Commitments, Contingencies and Other Items included in Item 8 of Part II of this report.

Seasonality

Overall, our business is not materially impacted by seasonality. Our network-related operating expenses are, however, generally higher in the second and third quarters of the year. From time to time, weather related problems have resulted in increased costs to repair our network and respond to service calls in some of our markets. The amount and timing of these costs are subject to the weather patterns of any given year, but have generally been highest during the third quarter and have been related to damage from severe storms, including hurricanes, tropical storms and tornadoes in our markets along the Atlantic and Gulf of Mexico coastlines.

Employees

At December 31, 2018, we had approximately 45,000 employees, of which approximately 12,000 are members of either the Communications Workers of America ("CWA") or the International Brotherhood of Electrical Workers ("IBEW"). See the discussion of risks relating to our labor relations in "Risk Factors—Risks Affecting Our Business" in Item 1A of Part I of this report and see Note 19—Labor Union Contracts to our consolidated financial statements in Item 8 of Part II of this report for additional information on the timing of certain contract expirations.

Website Access and Important Investor Information

Our website is www.centurylink.com. We routinely post important investor information in the "Investor Relations" section of our website at ir.centurylink.com. The information contained on, or that may be accessed through, our website is not part of this report. You may obtain free electronic copies of our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports in the "Investor Relations" section of our website (ir.centurylink.com) under the heading "SEC Filings." These reports are available on our website and on the SEC's website at www.sec.gov. From time to time we also use our website to webcast our earnings calls and certain of our meetings with investors or other members of the investment community.

We have adopted a written code of conduct that serves as the code of ethics applicable to our directors, officers and employees, in accordance with applicable laws and rules promulgated by the SEC and the New York Stock Exchange. In the event that we make any changes (other than by a technical, administrative or non-substantive amendment) to, or provide any waivers from, the provisions of our code of conduct applicable to our directors or executive officers, we intend to disclose these events on our website or in a report on Form 8-K filed with the SEC. The code of conduct, as well as copies of our guidelines on significant governance issues and the charters of our key board committees, are also available in the "Corporate Governance" section of our website at www.centurylink.com/Pages/AboutUs/Governance/ or in print to any shareholder who requests them by sending a written request to our Corporate Secretary at CenturyLink, Inc., 100 CenturyLink Drive, Monroe, Louisiana, 71203.

In connection with filing this report, our chief executive officer and chief financial officer made the certifications regarding our financial disclosures required under the Sarbanes-Oxley Act of 2002, and its related regulations. In addition, during 2018, our chief executive officer certified to the New York Stock Exchange that he was unaware of any violations by us of the New York Stock Exchange's corporate governance listing standards.

We typically disclose material non-public information by disseminating press releases, making public filings with the SEC, or disclosing information during publicly accessible meetings or conference calls. Nonetheless, from time to time we have used, and intend to continue to use, our website and social media accounts to augment our disclosures.

Investors should also be aware that while we do, at various times, answer questions raised by securities analysts, it is against our policy to disclose to them selectively any material non-public information or other confidential information. Accordingly, investors should not assume that we agree with any statement or report issued by an analyst with respect to our past or projected performance. To the extent that reports issued by securities analysts contain any

projections, forecasts or opinions, such reports are not our responsibility.

Unless otherwise indicated, information contained in this report and other documents filed by us under the federal securities laws concerning our views and expectations regarding the communications industry are based on estimates made by us using data from industry sources, and on assumptions made by us based on our management's knowledge and experience in the markets in which we operate and the communications industry

generally. You should be aware that we have not independently verified data from industry or other third-party sources and cannot guarantee its accuracy or completeness.

ITEM 1A. RISK FACTORS

The following discussion identifies the most significant risks or uncertainties that could (i) materially and adversely affect our business, financial condition, results of operations, liquidity or prospects or (ii) cause our actual results to differ materially from our anticipated results or other expectations. The following information should be read in conjunction with the other portions of this report, including “Special Note Regarding Forward-Looking Statements”, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Item 7 and our consolidated financial statements and related notes in Item 8. Please note that the following discussion is not intended to comprehensively list all risks or uncertainties faced by us. Our operations or actual results could also be similarly impacted by additional risks and uncertainties that are not currently known to us, that we currently deem to be immaterial, that arise in the future or that are not specific to us, such as general economic conditions. In addition, certain of the risks described below apply only to a part or segment of our business.

Risks Affecting Our Business

Our failure to simplify our service support systems could adversely impact our competitive position.

For many of our services, we can effectively compete only if we can quickly and efficiently (i) quote and accept customer orders, (ii) provision and initiate ordered services, (iii) provide customers with adequate means to manage their services and (iv) accurately bill for our services. To attain these goals, we believe we must digitally transform our service support processes to permit greater automation and customer self-service options. This digital transformation is complex and will require a substantial amount of resources, especially in light of the multiplicity of our systems. Development of systems designed to support this transformation will continuously require our personnel and third-party vendors to, among other things, (i) adjust to changes in our offerings and customers’ preferences, (ii) simplify our processes, (iii) improve our data management capabilities, (iv) eliminate inconsistencies between our legacy and acquired operations, (v) eliminate older support systems that are costly or obsolete, (vi) develop uniform practices and procedures, and (vii) automate them as much as possible. We cannot assure you that these undertakings will be successful. Our competitive position could be adversely impacted if we fail to continuously develop viable service support systems that are satisfactory to our current and potential customers.

We may not be able to compete successfully against current or future competitors.

Each of our offerings to our business and consumer customers face increasingly intense competition from a wide variety of sources under evolving market conditions. In particular, (i) aggressive competition from a wide range of communications and technology companies has limited the prospects for several of our offerings to business customers, (ii) intense competition from wireless and other communications providers has led to a long-term systemic decline in the number of our wireline voice customers and (iii) strong competition from cable companies has impacted our business and consumer segments. We expect these trends will continue. For more detailed information, see “Business—Competition” in Item 1 of this report.

In addition to competition from a wide range of technology companies and communications providers (including those described above), we are facing increasing competition from several other sources, including satellite companies, cloud companies, broadband providers, software developers, device providers, resellers, sales agents and facilities-based providers using their own networks as well as those leasing parts of our network. Further competition could arise through industry consolidation, technological innovation, or changes in regulation, including changes allowing foreign carriers to more extensively compete in the U.S. market.

Some of our current and potential competitors (i) offer products or services that are substitutes for our traditional wireline voice services, including wireless voice and non-voice communication services, (ii) offer a more comprehensive range of communications products and services, (iii) offer products or services with features that we cannot readily match in some or all of our markets, (iv) install their services more quickly than we do, (v) have greater marketing, engineering, research, development, technical, provisioning, customer relations, financial or other resources, (vi) have larger or more diverse networks with greater transmission capacity, (vii) conduct operations or raise capital at a lower cost than us, (viii) are subject to less regulation, which we believe enables such competitors to operate more flexibly than us with respect to certain offerings, (ix) offer services nationally or internationally to a larger geographic area or larger base of customers, (x) have substantially stronger brand names, which may provide them with greater pricing power than ours, or (xi) have larger operations than ours, which may enable them to compete more successfully in recruiting top talent, entering into operational or strategic partnerships or acquiring companies. Consequently, these competitors may be better equipped to provide more attractive offerings, to charge lower prices for their products and services, to develop and expand their communications and network infrastructure more quickly, to adapt more swiftly to changes in technologies or customer requirements, to devote greater resources to the marketing and sale of their products and services, to provide more comprehensive customer service, to provide greater resources to research and development initiatives and to take advantage of business or other opportunities more readily.

Competition could adversely impact us in several ways, including (i) the loss of customers, market share or traffic on our networks, (ii) our need to expend substantial time or money on new capital improvement projects, (iii) our need to lower prices or increase marketing expenses to remain competitive and (iv) our inability to diversify by successfully offering new products or services.

We are continually taking steps to respond to these competitive pressures, but these efforts may not be successful. Our operating results and financial condition would be adversely affected if these initiatives are unsuccessful or insufficient.

Rapid technological changes could significantly impact our competitive and financial position.

The communications industry has been and continues to be impacted by significant technological changes, which in general are enabling a broader array of companies to compete with us. Many of these technological changes are (i) enabling customers to reduce or bypass use of our networks, (ii) displacing or reducing demand for our services, or (iii) enabling the development of competitive products or services. For years, the development of wireless and Internet-based voice and non-voice communications technologies and social media platforms have reduced demand for our traditional voice services, and these trends continue. More recently, continuous improvements in wireless data technologies have enabled wireless carriers to offer competing products, and we expect this trend to continue as technological advances enable these carriers to carry greater amounts of data faster and with less latency.

Technological advancements have also permitted cable companies and other of our competitors to deliver generally faster average broadband transmission speeds than ours. Developments in software have permitted new competitors to offer affordable products that historically required more expensive hardware investment. Rapid changes in technology have also placed competitive pressures on our video, cloud and hosting businesses, and enabled new competitors to enter our markets. To enhance the competitiveness of certain of our services, we will likely be required to spend additional capital to install more fiber optic cable or to augment the capabilities of our copper-based services.

We may not be able to accurately predict or respond to changes in technology or industry standards, or to the introduction of newly-offered services. Any of these developments could make some or all of our offerings less desirable or even obsolete, which would place downward pressure on our market share and revenue. These developments could also require us to (i) expend capital or other resources in excess of currently contemplated levels, (ii) forego the development or provision of products or services that others can provide more efficiently, or (iii) make other changes to our operating plans, corporate strategies or capital allocation plans, any of which could be contrary to

the expectations of our security holders or could adversely impact our business operating results.

Even if we succeed in adapting to changes in technology or industry standards by developing new products or services, there is no assurance that the new products or services would have a positive impact on our profit margins or financial performance.

In addition to introducing new technologies and offerings, we may need, from time to time, to phase out outdated and unprofitable technologies and services. If we are unable to do so on a cost-effective basis, we could experience reduced profits. Similarly, if new market entrants are not burdened by an installed base of outdated equipment or obsolete technology, they may have a competitive advantage over us.

For additional information on the risks of increased expenditures, see “Risk Factors—Risks Affecting our Liquidity and Capital Resources—Our business requires us to incur substantial capital and operating expenses, which reduces our available free cash flow.”

Several of our services continue to experience declining revenue, and our efforts to offset these declines may not be successful.

Primarily as a result of the competitive and technological changes discussed above, we have experienced a prolonged systemic decline in our local voice, long-distance voice, network access and private line revenue. Consequently, we have experienced declining consolidated revenue (excluding acquisitions) for a prolonged period. More recently, we have experienced declines in revenue derived from the sale of certain of our business products and services.

We have taken a variety of steps to counter these declines in revenue, including an increased focus on selling services in greater demand. However, for the reasons described elsewhere in this report, most of our more recent product and service offerings generate lower profit margins than our traditional services, and some can be expected to experience slowing or no growth in the future. Moreover, we cannot assure you that the revenue generated from our newer offerings will offset revenue losses associated with our traditional services.

Our failure to meet the evolving needs of our customers could adversely impact our competitive position.

In order to compete effectively and respond to changing market conditions, we must continuously offer products and services on terms and conditions that allow us to retain and attract customers and to meet their evolving needs. To do so, we must continuously (i) invest in our network (ii) develop, test and introduce new products and services and (iii) rationalize and simplify our offerings by eliminating older or overlapping products or services. Our ability to maintain attractive products and services and to successfully introduce new product or service offerings on a timely and cost-effective basis could be constrained by a range of factors, including network limitations, support system limitations, limited capital, an inability to attract key personnel with the necessary skills, intellectual property constraints, inadequate digitization or automation, testing delays, technological limits or an inability to act as quickly or efficiently as other competitors. In addition, new product or service offerings may not be widely accepted by our customers. Our business could be materially adversely affected if we are unable to maintain competitive products and services and to timely and successfully develop and introduce new products or services.

Our failure to strengthen our relations with our customers could harm our competitive position.

In mid-2017, our Board of Directors formed a special committee of independent directors to review our policies, procedures and practices relating to consumer sales, service and billing following a former employee’s allegations of sales-related misconduct. In late 2017, the special committee concluded its review and issued its key findings. Among other things, the committee found that (i) our investment in consumer sales monitoring was insufficient, (ii) our ordering and billing software contributed to customer confusion and (iii) systems and human errors contributed to inaccurate billing. As noted in our disclosures above, we are committed to simplifying and improving our customers’ experience and believe that we have already made significant progress in addressing these concerns. Nonetheless, given the complexity of the undertaking, we cannot assure you that we will timely and effectively implement changes that will adequately address all of our service support issues to the full satisfaction of our customers.

We could experience difficulties in consolidating, integrating, updating and simplifying our technical infrastructure.

Our ability to consolidate, integrate, update and simplify our systems and information technology infrastructure in response to our growth and changing business needs is important to our ability to develop and maintain attractive product and service offerings and to interface effectively with our customers. As discussed further under “Business—Network” in Item 1 of this report, we are currently undertaking several complex, costly and time-consuming projects to simplify, consolidate and modernize our network, which combines our legacy network and the networks of companies we have acquired in the past. Delays in the completion of these projects has hampered our progress, and any additional delays may lead to increased project costs or operational inefficiencies. In addition, there may be issues related to our expanded or updated infrastructure that are not identified by our testing processes, and which may only become evident after we have started to fully utilize the redesigned systems. Our failure to modernize, consolidate and upgrade our technology infrastructure could have adverse consequences, including the delayed implementation of new service offerings, decreased competitiveness of existing service offerings, network instabilities, increased operating or acquisition integration costs, service or billing interruptions or delays, service offering inconsistencies, customer dissatisfaction, and the diversion of development resources. Any or all of the foregoing developments could have a negative impact on our business, results of operations, financial condition and cash flows.

We may not be able to successfully adjust to changes in our industry, our markets and our product mix.

Ongoing changes in the communications industry have fundamentally changed consumers’ communications expectations and requirements. In response to these changes, we have substantially altered our product and service offerings through acquisitions and internal product development. Many of these changes have placed a higher premium on sales, marketing and product development functions, and necessitated ongoing changes in our processes and operating protocols, as well as periodic reorganizations of our sales and leadership teams. In addition, we now offer a much more complex range of products and services, operate larger and more complex networks and serve a much larger and more diverse set of global customers. Consequently, we now face greater challenges in effectively managing and administering our operations and allocating capital and other resources to our various offerings. For all these reasons, we cannot assure you that our efforts to adjust to these changes will be timely or successful.

Our revenue and cash flows from operating activities may not be adequate to fund all of our cash requirements.

As noted in greater detail elsewhere herein, our business is capital intensive, including our need to continually invest to update, consolidate and improve our network, our product offerings and our customer support systems. We expect our business to continue to be capital intensive for the foreseeable future. We will also continue to need substantial amounts of cash to meet our fixed commitments and other business objectives, including without limitation funding our operating costs, debt repayments, periodic pension contributions and other benefits payments. We further expect to continue to require significant cash to fund our quarterly dividend payments, subject to the discretionary right of our Board of Directors to change or terminate our current dividend practices at any time. We rely upon our consolidated revenue and cash flows from operating activities to fund our cash needs.

As noted in the risk factor disclosures appearing above and below, changes in competition, technology, regulation and demand for our traditional wireline services continue to place downward pressure on our consolidated revenue and cash flows from operating activities. Over the next several years, we expect that our future cash flows from operating activities will remain under pressure due to the factors discussed herein.

For these reasons, we cannot assure you that our future cash flows from operating activities will be sufficient to fund all of our cash requirements in the manner currently contemplated. Our inability to fund certain of these payments could have an adverse impact on our business, operations, competitive position, prospects or on the value of our securities.

We could be harmed by security breaches or other significant disruptions or failures of networks, information technology infrastructure or related systems owned or operated by us.

We are materially reliant upon our networks, information technology infrastructure and related technology systems (including our billing and provisioning systems) to provide products and services to our customers and to manage our operations and affairs. We face the risk, as does any company, of a security breach or significant disruption of our information technology infrastructure and related systems. As a communications company that transmits large amounts of information over communications networks, we face an added risk that a security breach or other significant disruption of our network, infrastructure or systems, or those that we operate or maintain for certain of our business customers, could lead to material interruptions or curtailments of service. Moreover, in connection with processing and storing sensitive and confidential customer data, we face a heightened risk that a security breach or disruption could result in unauthorized access to our customers' proprietary information.

We strive to maintain the security and integrity of information and systems under our control, and maintain contingency plans in the event of security breaches or other system disruptions. Nonetheless, we cannot assure you that our security efforts and measures will prevent unauthorized access to our systems, loss or destruction of data (including confidential customer information), account takeovers, unavailability of service, computer viruses, malware, ransomware, distributed denial-of-service attacks, or other forms of cyber-attacks or similar events. These threats may derive from human error, hardware or software vulnerabilities, aging equipment or accidental technological failure. These threats may also stem from fraud, malice or sabotage on the part of employees, third parties or foreign nations, including attempts by outside parties to fraudulently induce our employees or customers to disclose or grant access to our data or our customers' data, potentially including information subject to stringent domestic and foreign data protection laws governing personally identifiable information, protected health information or other similar types of sensitive data. These threats may also arise from failure or breaches of systems owned, operated or controlled by other unaffiliated operators to the extent we rely on such other systems to deliver services to our customers. Each of these risks could further intensify to the extent we maintain information in digital form stored on servers connected to the Internet.

Similar to other large telecommunications companies, we are a constant target of cyber-attacks of varying degrees. Although some of these attacks have resulted in security breaches, thus far none of these breaches have resulted in a material adverse effect on our operating results or financial condition. You should be aware, however, that the risk of breaches is likely to increase due to several factors, including the increasing sophistication of cyber-attacks, our greater use of open and software-defined networks, our increased operation of offshore systems and our increased profile due to the growth of our organization and our customer base. You should be further aware that defenses against cyber-attacks currently available to U.S. companies are unlikely to prevent intrusions by a highly-determined, highly-sophisticated hacker. Consequently, you should assume that we will be unable to implement security barriers or other preventative measures that repel all future cyber-attacks. Any such future security breaches or disruptions could materially adversely affect our business, results of operations or financial condition, especially in light of the growing frequency, scope and well-documented sophistication of cyber-attacks and intrusions.

Although we maintain insurance coverage that may, subject to policy terms and conditions (including self-insured deductibles, coverage restrictions and monetary coverage caps), cover certain aspects of our cyber risks, such insurance coverage may be unavailable or insufficient to cover our losses.

Additional risks to our network, infrastructure and related systems include, among others:

capacity or system configuration limitations, including those resulting from changes in our customer's usage patterns, the introduction of new technologies or products, or incompatibilities between our newer and older systems;

theft or failure of our equipment;

• software or hardware obsolescence, defects or malfunctions;

• power losses or power surges;

• physical damage, whether caused by fire, flood, adverse weather conditions, terrorism, sabotage, vandalism or otherwise;

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deficiencies in our processes or controls;

our inability to hire and retain personnel with the requisite skills to adequately maintain or improve our systems;

programming, processing and other human error; and

inadequate building maintenance by third-party landlords or other service failures of our third-party vendors.

Due to these factors, from time to time in the ordinary course of our business we experience disruptions in our service. We could experience more significant disruptions in the future, especially if network traffic continues to increase and we continue to assume greater responsibility for managing our customers' critical systems and networks.

Disruptions, security breaches and other significant failures of the above-described networks and systems could:

disrupt the proper functioning of these networks and systems, which could in turn disrupt (i) our operational, billing or other administrative functions or (ii) the operations of certain of our customers who rely upon us to provide services critical to their operations;

result in the unauthorized access to, and destruction, loss, theft, misappropriation or release of proprietary, confidential, sensitive, classified or otherwise valuable information of ours, our customers or our customers' end users, including trade secrets, which others could use for competitive, disruptive, destructive or otherwise harmful purposes and outcomes;

require us to notify customers, regulatory agencies or the public of data breaches;

require us to provide credits for future service under certain service level commitments we have provided contractually to our customers or to offer expensive incentives to retain customers;

subject us to claims for damages, fines, penalties, termination or other remedies under our customer contracts or service standards set by regulators, which in certain cases could exceed our insurance coverage;

result in a loss of business, damage our reputation among our customers and the public generally, subject us to additional regulatory scrutiny or expose us to prolonged litigation; or

require significant management attention or financial resources to remedy the resulting damages or to change our systems, including expenses to repair systems, add new personnel or develop additional protective systems.

Any or all of the foregoing developments could have a negative impact on our business, results of operations, financial condition and cash flows.

Negative publicity may adversely impact us.

Our ability to attract and retain customers depends in part upon external perceptions of our products, services, management integrity and financial performance. Customer complaints, governmental investigations, outages, or other service failures of networks operated by us could cause substantial adverse publicity affecting us. Similar events impacting other operators could indirectly harm us by causing substantial adverse publicity affecting our industry in general. In either case, press coverage, social media messaging or other public statements that insinuate improper actions by us or other operators, regardless of their factual accuracy or truthfulness, may result in negative publicity, litigation, governmental investigations or additional regulations. Addressing negative publicity and any resulting litigation or investigations may distract management, increase costs and divert resources. Negative publicity may have an adverse impact on our reputation and the morale of our employees. We could suffer similar adverse effects if shareholders, financial analysts or other financial professionals issue public statements that cast us or our industry in a negative light. Any of these developments could adversely affect our business, results of operations, financial condition, cash flows, prospects and the value of our securities.

Market prices for many of our services have decreased in the past, and any similar price decreases in the future will adversely affect our revenue and margins.

Over the past several years, a range of competitive and technological factors, including robust network construction and intense competition, have lowered market prices for many of our products and services. If these market conditions persist, we may need to continue to reduce prices to retain customers and revenue. If future price reductions are necessary, our operating results will suffer unless we are able to offset these reductions by reducing our operating expenses or increasing our sales volumes.

Our future growth potential will depend in part on the continued development and expansion of the Internet.

Our future growth potential will depend in part upon the continued development and expansion of the Internet as a communication medium and marketplace for the distribution of data, video and other products by businesses, consumers, and governments. The use of the Internet for these purposes may not grow and expand at the rate anticipated by us or others, or may be restricted by factors outside of our control, including (i) actions by other carriers or governmental authorities that restrict us from delivering traffic over other parties' networks, (ii) changes in regulations, (iii) technological stagnation or (iv) increased concerns regarding cyber threats or (v) changes in consumers' preferences or data usage.

Our failure to hire and retain qualified personnel could harm our business.

Our future success depends on our ability to identify, hire, train and retain executives, managers and employees with technological, engineering, software, product development, operational, provisioning, marketing, sales, customer service, administrative, managerial and other key skills. There is a shortage of qualified personnel in several of these fields, particularly in certain growth markets, such as the areas adjoining our Denver and Seattle offices. We compete with several other companies for this limited pool of potential employees. As our industry increasingly becomes more competitive, it could become especially difficult to attract and retain top personnel with skills in high demand. Our workforce reduction and integration initiatives over the past couple of years have further increased the challenges of attracting and retaining talented individuals. In addition, subject to limited exceptions, none of our executives or domestic employees have long-term employment agreements. For all these reasons, there is no assurance that our efforts to recruit and retain qualified personnel will be successful.

Increases in broadband usage may cause network capacity limitations, resulting in service disruptions, reduced capacity or slower transmission speeds for our customers.

Video streaming services, gaming and peer-to-peer file sharing applications use significantly more bandwidth than other Internet activity such as web browsing and email. As use of these services continues to grow, our broadband customers will likely use much more bandwidth than in the past. If this occurs, we could be required to make significant capital expenditures to increase network capacity in order to avoid service disruptions, service degradation or slower transmission speeds for our customers. Alternatively, we could choose to implement network management practices to reduce the network capacity available to bandwidth-intensive activities during certain times in market areas experiencing congestion, which could negatively affect our ability to retain and attract customers in affected markets. Competitive or regulatory constraints may preclude us from recovering the costs of network investments designed to address these issues, which could adversely impact our operating margins, results of operations, financial condition and cash flows.

We have been accused of infringing the intellectual property rights of others and will likely face similar accusations in the future, which could subject us to costly and time-consuming litigation or require us to seek third-party licenses.

Like other communications companies, we have increasingly in recent years received a number of notices from third parties or have been named in lawsuits filed by third parties claiming we have infringed or are infringing upon their intellectual property rights. We are currently responding to several of these notices and claims and expect this industry-wide trend will continue. Responding to these claims may require us to expend significant time and money defending our use of the applicable technology, and divert management's time and resources away from other business. In certain instances, we may be required to enter into licensing agreements requiring royalty payments. In the case of litigation, we could be required to pay significant monetary damages or cease using the applicable technology. If we are required to take one or more of these actions, our profit margins may decline or our operations could be materially impaired. In addition, in responding to these claims, we may be required to stop selling or redesign one or more of our products or services, which could significantly and adversely affect our business, results of operations, financial condition and cash flows.

Similarly, from time to time, we may need to obtain the right to use certain patents or other intellectual property from third parties to be able to offer new products and services. If we cannot license or otherwise obtain rights to use any required technology from a third party on reasonable terms, our ability to offer new products and services may be prohibited, restricted, made more costly or delayed.

We may not be successful in protecting and enforcing our intellectual property rights.

We rely on various patents, copyrights, trade names, trademarks, service marks, trade secrets and other similar intellectual property rights, as well as confidentiality agreements and procedures, to establish and protect our proprietary rights. The steps we have taken, however, may not prevent unauthorized use or the reverse engineering of our technology. Others may independently develop technologies that are substantially equivalent, superior to, or otherwise competitive to the technologies we employ in our services or that infringe on our intellectual property. We may be unable to prevent competitors from acquiring proprietary rights that are similar to or infringe upon our proprietary rights, or to prevent our current or former employees from using or disclosing to others our proprietary information. Enforcement of our intellectual property rights may depend on initiating legal actions against parties who infringe or misappropriate our proprietary information, but these actions may not be successful, even when our rights have been infringed. If we are unsuccessful in protecting or enforcing our intellectual property rights, our business, competitive position, results of operations and financial condition could be adversely affected.

Our operations, financial performance and liquidity are materially reliant on various third parties.

Reliance on other communications providers. To offer certain services in certain of our markets, we must either purchase services or lease network capacity from, or interconnect our network with the infrastructure of, other communications carriers or cloud companies who typically compete against us in those markets. Our reliance on these supply or interconnection arrangements exposes us to multiple risks. Typically these arrangements limit our control over the quality of our services and expose us to the risk that our ability to market our services could be adversely impacted by changes in the plans or properties of the carriers upon which we are reliant. In addition, we are exposed to the risk that the other carriers may be unwilling or unable to continue or renew these arrangements in the future on terms favorable to us, or at all. This risk is heightened when the other carrier is a competitor who may benefit from terminating the agreement or imposing price increases, or a carrier who suffers financial distress or bankruptcy. If we lose these arrangements and cannot timely replace them, our ability to provide services to our customers and conduct our business could be materially adversely affected. Moreover, many of our arrangements with other carriers are regulated by domestic or foreign agencies, which subject us to the additional risk that changes in regulation could increase our costs or otherwise adversely affect our ability to provide services. Finally, even when another carrier agrees or is obligated to provide services to us to permit us to obtain new customers, it is frequently expensive, difficult and time-consuming to switch the new customers to our network, especially if the other carrier fails to provide timely and efficient cooperation.

Conversely, certain of our operations carry a significant amount of voice or data traffic for other communications providers. Their reliance on our services exposes us to the risk that they may transfer all or a portion of this traffic from our network to existing or newly built networks, owned or leased by them, thereby reducing our revenue. For additional information, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Business Trends” included in Item 7 of this report.

We also rely on reseller and sales agency arrangements with other communications companies to provide some of the services that we offer to our customers, including video and wireless services. As a reseller or sales agent, we do not control the availability, retail price, design, function, quality, reliability, customer service, marketing or branding of these products and services.

Our operations and financial performance could be adversely affected if our relationships with any of these other communications companies are disrupted or terminated for any other reason, including if such other companies:

- become bankrupt or experience substantial financial difficulties;
- suffer work stoppages or other labor strife;
- challenge our right to receive payments or services under applicable regulations or the terms of our existing contractual arrangements; or
- are otherwise unable or unwilling to make payments or provide services to us.

Reliance on other key suppliers and vendors. We depend on a limited number of suppliers and vendors for equipment and services relating to our network infrastructure, including fiber optic cable, software, optronics, transmission electronics, digital switches and related components. If any of these suppliers experience interruptions or other problems delivering or servicing these network components on a timely basis, our operations could suffer significantly. To the extent that proprietary technology of a supplier is an integral component of our network, we may have limited flexibility to purchase key network components from alternative suppliers and may be adversely affected if third parties assert patent infringement claims against our suppliers or us. We also rely on a limited number of (i) software vendors to support our business management systems, (ii) content suppliers to provide programming to our

video operations, and (iii) contractors to assist us in connection with our network construction and maintenance activities. In the event it becomes necessary to seek alternative suppliers and vendors, we may be unable to obtain satisfactory replacement supplies, services, utilities or programming on economically attractive terms, on a timely basis, or at all, which could increase costs or cause disruptions in our services.

Reliance on utility providers and landlords. Our energy costs can fluctuate significantly or increase for a variety of reasons, including changes in legislation and regulation. Several pending proposals designed to reduce greenhouse emissions could substantially increase our energy costs, which we may not be able to pass on to our customers.

We lease many of our office facilities. Although the majority of these leases provide us with the opportunity to renew the lease, many of these renewal options provide that rent for the renewal period will be equal to the fair market rental rate at the time of renewal. Any resulting increases in our rent costs could have a negative impact on our financial results.

Reliance on governmental payments. We receive a material amount of revenue or government subsidies under various government programs, which are further described under the heading "Risk Factors—Risks Relating to Legal and Regulatory Matters." We also provide products or services to various federal, state and local agencies. Our failure to comply with complex governmental regulations and laws applicable to these programs, or the terms of our governmental contracts, could result in us being suspended or disbarred from future governmental programs or contracts for a significant period of time. Moreover, certain governmental agencies frequently reserve the right to terminate their contracts for convenience or if funding is unavailable. If our governmental contracts are terminated for any reason, or if we are suspended or debarred from governmental programs or contracts, our results of operations and financial condition could be materially adversely affected.

Violating our government contracts could have other serious consequences.

We provide services to various governmental agencies with responsibility for national security or law enforcement. These governmental contracts impose significant requirements on us relating to network security, information storage and other matters, and in certain instances impose on us additional heightened responsibilities, including requirements related to the composition of our Board of Directors. While we expect to continue to comply fully with all of our obligations under these contracts, we cannot assure you of this. The consequences of violating these contracts could be severe, potentially including the revocation of our Federal Communications Commission (the "FCC") licenses in the U.S. (in addition to being suspended or debarred from government contracting, as noted above.)

If we fail to extend or renegotiate our collective bargaining agreements with our labor unions as they expire from time to time, or if our unionized employees were to engage in a strike or other work stoppage, our business and operating results could be materially harmed.

As of December 31, 2018, approximately 26% of our employees were members of various bargaining units represented by the Communications Workers of America or the International Brotherhood of Electrical Workers. From time to time, our labor agreements with unions expire. Although we typically are able to negotiate new bargaining agreements, we cannot predict the outcome of our future negotiations of these agreements. We may be unable to reach new agreements, and union employees may engage in strikes, work slowdowns or other labor actions, which could materially disrupt our ability to provide services and result in increased cost to us. In addition, new labor agreements may impose significant new costs on us, which could impair our financial condition or results of operations in the future. To the extent they contain benefit provisions, these agreements may also limit our flexibility to change benefits. In particular, retirement benefits provided under these agreements could cause us to incur costs not faced by many of our competitors, which could ultimately hinder our competitive position.

Portions of our property, plant and equipment are located on property owned by third parties.

We rely on rights-of-way, colocation agreements, franchises and other authorizations granted by governmental bodies, railway companies, utilities, carriers and other third parties to locate our cable, conduit and other network equipment on or under their respective properties. A significant number of these authorizations are scheduled to lapse over the next five to ten years, unless we are able to extend or renew them. Our operations could be adversely affected if any of

these authorizations terminate or lapse, or if the landowner requests price increases. Moreover, our ability to expand our network could depend in part on obtaining additional authorizations, the receipt of which is not assured.

Over the past few years, certain utilities, cooperatives and municipalities in certain of the states in which we operate have requested significant rate increases for attaching our plant to their facilities. To the extent that these entities are successful in increasing the amount we pay for these attachments, our future operating costs will increase.

Our subsidiaries currently are, and in the past have been, subject to lawsuits challenging the subsidiaries' use of rights-of-way. Similar suits are possible in the future. Plaintiffs in these suits typically seek to have them certified as class action suits. These suits are typically complex, lengthy and costly to defend, and expose us to each of the other general litigation risks described elsewhere herein.

Our business customers may seek to shift risk to us.

We furnish to and receive from our business customers indemnities relating to damages caused or sustained by us in connection with certain of our operations. Our customers' changing views on risk allocation could cause us to accept greater risk to win new business or could result in us losing business if we are not prepared to take such risks. To the extent that we accept such additional risk, and seek to insure against it, our insurance premiums could rise.

Our international operations expose us to various regulatory, currency, tax, legal and other risks.

Our international operations are subject to U.S. and non-U.S. laws and regulations regarding operations in international jurisdictions in which we provide services. These numerous and sometimes conflicting laws and regulations include anti-corruption laws, anti-competition laws, trade restrictions, tax laws, immigration laws, privacy laws and accounting requirements. Many of these laws are complex and change frequently. Regulations that require the awarding of contracts to local contractors or the employment of local citizens may adversely affect our flexibility or competitiveness in these jurisdictions. Local laws and regulations, and their interpretation and enforcement, differ significantly among those jurisdictions. There is a risk that these laws or regulations may materially restrict our ability to deliver services in various international jurisdictions or could be breached through inadvertence or mistake, fraudulent or negligent behavior of our employees or agents, failure to comply with certain formal documentation or technical requirements, or otherwise. Violations of these laws and regulations could result in fines and penalties, criminal sanctions against us or our personnel, or prohibitions on the conduct of our business or our ability to operate in one or more countries, any of which could have a material adverse effect on our business, reputation, results of operations, financial condition or prospects.

Many non-U.S. laws and regulations relating to communications services are more restrictive than U.S. laws and regulations, particularly those relating to privacy rights and data retention. For example, all 28 current member states of the European Union have adopted new European data protection laws that we believe could impact our operations in Europe and could potentially expose us to an increased risk of litigation or significant regulatory fines. Moreover, national regulatory frameworks that are consistent with the policies and requirements of the World Trade Organization have only recently been, or are still being, enacted in many countries. Accordingly, many countries are still in the early stages of providing for and adapting to a liberalized telecommunications market. As a result, in these markets we may encounter more protracted and difficult procedures to obtain licenses necessary to provide the full set of products and services we seek to offer.

In addition to these international regulatory risks, some of the other risks inherent in conducting business internationally include:

- tax, licensing, political or other business restrictions or requirements, which may render it more difficult to obtain licenses or interconnection agreements on acceptable terms, if at all;

- uncertainty concerning import and export restrictions, including the risk of fines or penalties assessed for violations;

longer payment cycles and problems collecting accounts receivable;

U.S. and non-U.S. regulation of overseas operations, including regulation under the U.S. Foreign Corrupt Practices Act (the "FCPA") and other applicable anti-corruption laws, including the U.K. Bribery Act of 2010 and the Brazilian Anti-corruption Law, (collectively with the FCPA, the "Anti-Corruption Laws");

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- economic, social and political instability, with the attendant risks of terrorism, kidnapping, extortion, civic unrest and potential seizure or nationalization of assets;
- currency and exchange controls, repatriation restrictions and fluctuations in currency exchange rates;
- challenges in securing and maintaining the necessary physical and telecommunications infrastructure;
- the inability in certain jurisdictions to enforce contract rights either due to underdeveloped legal systems or government actions that result in a deprivation of contract rights;
- increased risk of cyber-attacks or similar events to our network as we expand our network or interconnect our network with other networks internationally;
- the inability in certain jurisdictions to adequately protect intellectual property rights;
- laws, policies or practices that restrict with whom we can contract or otherwise limit the scope of operations that can legally or practicably be conducted within any particular country;
- potential submission of disputes to the jurisdiction of a non-U.S. court or arbitration panel;
- reliance on third parties, including those with which we have limited experience;
- limitations in the availability, amount or terms of insurance coverage;
- the imposition of unanticipated or increased taxes, increased communications or privacy regulations or other forms of public or governmental regulation that increase our operating expenses; and
- challenges in staffing and managing overseas operations.

Changes in multilateral conventions, treaties, tariffs or other arrangements between or among sovereign nations could impact us. Specifically, the British government is currently negotiating the terms of the United Kingdom's exit from the European Union ("Brexit"). Brexit could potentially impact our supply chains, logistics, and human resources. Additionally, Brexit and other changes in multilateral arrangements may more broadly adversely affect our operations and financial results.

Many of these risks are beyond our control, and we cannot predict the nature or the likelihood of the occurrence or corresponding effect of any such events, each of which could have an adverse effect on our financial condition and results of operations.

Certain of our international operations are conducted in countries or regions experiencing corruption or instability, which subjects us to heightened legal and economic risks.

We do business and may in the future do additional business in certain countries or regions in which corruption is a serious problem. Moreover, in order to effectively compete in certain non-U.S. jurisdictions, it is frequently necessary or required to establish joint ventures, strategic alliances or marketing arrangements with local operators, partners or agents. In certain instances, these local operators, partners or agents may have interests that are not always aligned with ours. Reliance on local operators, partners or agents could expose us to the risk of being unable to control the scope or quality of our overseas services or products, or being held liable under any Anti-Corruption Laws for actions taken by our strategic or local partners or agents. Any determination that we have violated any Anti-Corruption Laws

could have a material adverse effect on our business, results of operations, reputation or prospects.

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We conduct significant operations in regions that have historically experienced high levels of political, economic and social instability, including the Latin American region. Various events in recent years have placed pressures on the stability of the currencies of several Latin American countries in which we operate, including Argentina, Brazil and Colombia. Pressures or volatility in local or regional currencies may adversely affect our customers in this region, which could diminish their ability or willingness to order products or services from us. Several Latin American countries have historically experienced high rates of inflation. Governmental actions taken to curb inflation, coupled with speculation about possible future actions, have in the past contributed to periodic economic uncertainty in many Latin American countries. Similar actions in the future, together with abrupt shifts in governmental administrations, could impede our ability to develop or implement effective business plans in the region. In addition, if high rates of inflation persist, we may not be able to adjust the price of our services sufficiently to offset our higher costs. A high inflation environment would also have negative effects on the level of economic activity and employment and adversely affect our business.

We are exposed to currency exchange rate risks and currency transfer restrictions and our results may suffer due to currency translations and re-measurements.

Declines in the value of non-U.S. currencies relative to the U.S. dollar could adversely affect us in several respects, including hampering our ability to market our services to customers whose revenue is denominated in depreciated currencies. In addition, where we issue invoices for our services in currencies other than U.S. dollars, our results of operations may suffer due to currency translations if such currencies depreciate relative to the U.S. dollar and we cannot or do not elect to enter into currency hedging arrangements regarding those payment obligations. Similarly, the strengthening of the U.S. dollar and exchange control regulations could negatively impact the ability of overseas customers to pay for our services in U.S. dollars.

Certain Latin American economies have experienced shortages in non-U.S. currency reserves and have adopted restrictions on the use of certain mechanisms to expatriate local earnings and convert local currencies into U.S. dollars. Any of these shortages or restrictions may limit or impede our ability to transfer or to convert those currencies into U.S. dollars and to expatriate those funds.

We expect rising costs and other industry changes will continue to adversely impact our video business.

The costs of purchasing video programming have risen significantly in recent years and continue to rise. Moreover, an increasing number of consumers are receiving access to video content through video streaming or other services pursuant to new technologies for a nominal or no fee, which will likely continue to reduce demand for our more traditional video products. Various new technologies have increased the number of entertainment choices available to consumers and intensified the challenges posed by audience fragmentation. All of these changes have reduced demand for our video products and services, and we expect this trend will continue.

We may not be able in the future to acquire new businesses on attractive terms.

Historically, much of our growth has been attributable to acquisitions. Our future ability to grow through additional acquisitions could be limited by several factors, including our leverage, debt covenants and inability to identify attractively-priced target companies. Moreover, we generally must devote significant management attention and resources to evaluate acquisition opportunities, which could preclude us from evaluating acquisition opportunities during periods when management is committed to other opportunities, tasks or activities. Accordingly, we cannot assure you that we will be able to attain future growth through acquisitions. See "Risks Relating to Our November 2017 Combination with Level 3" for a discussion of certain specific risks raised by our combination with Level 3 on November 1, 2017 and see the next risk factor immediately below for a discussion of certain general risks raised by acquisitions.

Any additional future acquisitions or strategic investments by us would subject us to additional business, operating and financial risks, the impact of which cannot presently be evaluated, and could adversely impact our capital structure or financial position.

In an effort to implement our business strategies, we may from time to time in the future pursue other acquisition or expansion opportunities, including strategic investments. These transactions could involve acquisitions of entire businesses or investments in start-up or established companies, and could take several forms, including mergers, joint ventures, investments in new lines of business, or the purchase of equity interests or assets. These types of transactions may present significant risks and uncertainties, including the difficulty of identifying appropriate companies to acquire or invest in on acceptable terms, distraction of management from current operations, insufficient revenue acquired to offset liabilities assumed, unexpected expenses, inadequate return of capital, regulatory or compliance issues, potential infringements, potential violations of covenants in our debt instruments and other unidentified issues not discovered in due diligence. To the extent we acquire part or all of a business that is financially unstable or is otherwise subject to a high level of risk, we may be affected by currently unascertainable risks of that business. Accordingly, there is no current basis to evaluate the possible merits or risks of the particular business or assets that we may acquire. Moreover, we cannot guarantee that any such transaction will ultimately result in the realization of the benefits of the transaction originally anticipated by us or that any such transaction will not have a material adverse impact on our financial condition or results of operations. In particular, we can provide no assurances that we will be able to successfully integrate the technology systems, billing systems, accounting processes, sales force, cost structure, product development and service delivery processes, standards, controls, policies, strategies and culture of the acquired company with ours. In addition, the financing of any future acquisition completed by us could adversely impact our capital structure as any such financing would likely include the issuance of additional securities or the borrowing of additional funds. Except as required by law or applicable securities exchange listing standards, we do not expect to ask our shareholders to vote on any proposed acquisition. Moreover, we generally do not announce our material transactions until we have entered into a preliminary or definitive agreement.

We may not be able to dispose of assets or asset groups on terms that are attractive to us, or at all.

In the past, we have disposed of assets or asset groups for a variety of reasons, and we may consider disposing of other assets or asset groups from time to time in the future. We may not be able to divest any such assets on terms that are attractive to us, or at all. In addition, if we agree to proceed with any such divestitures of assets, we may experience operational difficulties segregating them from our retained assets and operations, which could impact the execution or timing for such dispositions and could result in disruptions to our operations or claims for damages, among other things.

Unfavorable general economic conditions could negatively impact our operating results and financial condition.

Unfavorable general economic conditions, including unstable economic and credit markets, could negatively affect our business. While it is difficult to predict the ultimate impact of these general economic conditions, they could adversely affect demand for some of our products and services and could cause customers to shift to lower priced products and services or to delay or forego purchases of our products and services. These conditions impact, in particular, our ability to sell discretionary products or services to business customers that are under pressure to reduce costs or to governmental customers operating under budgetary constraints. Any one or more of these circumstances could continue to depress our revenue. Also, our customers may encounter financial hardships or may not be able to obtain adequate access to credit, which could negatively impact their ability to make timely payments to us. In addition, as discussed further below, unstable economic and credit markets may preclude us from refinancing maturing debt at terms that are as favorable as those from which we previously benefited, at terms that are acceptable to us, or at all. For these reasons, among others, weak economic conditions could adversely affect our operating results, financial condition, and liquidity.

For additional information about our business and operations, see "Business" in Item 1 of this report.

Risks Relating to Our November 2017 Combination with Level 3

We expect to continue to incur substantial expenses related to the Level 3 combination.

As noted elsewhere herein, we have incurred substantial expenses in connection with completing our business combination with Level 3 on November 1, 2017, and we expect to continue to incur substantial expenses in connection with integrating our business, operations, networks, systems, technologies, policies and procedures with those of Level 3. As a result of these expenses, we have taken, and expect to continue to take, charges against our earnings. Our future charges are expected to continue to be significant, although the timing and magnitude of such charges remains uncertain.

We may be unable to integrate successfully our incumbent business and Level 3's business and realize the anticipated benefits of the combination.

The transaction combined two companies which previously operated as independent public companies. The combined company continues to devote significant management attention and resources to integrating the business practices and operations of CenturyLink and Level 3. Potential difficulties we may encounter in the remainder of the integration process include the following:

- the inability to successfully combine our incumbent business and Level 3's business in a manner that permits us to fully and timely attain the cost savings and operating synergies anticipated to result from the acquisition;
- the additional complexities of combining two companies with different histories, cultures, regulatory restrictions, operating structures and markets;
- the complexities associated with managing the combined businesses out of several different locations and integrating personnel from the two companies, while at the same time attempting to provide consistent, high quality products and services under a unified culture;
- lost sales and customers as a result of certain customers of either of the two companies deciding to terminate or reduce their business with the combined company;
- the failure to retain key employees of either of the two companies;
- unanticipated impediments in integrating departments, systems, technologies, procedures and policies, and in maintaining uniform standards and controls;
- potential unknown liabilities and unforeseen increased expenses, delays or regulatory conditions associated with the acquisition; and
- performance shortfalls as a result of the diversion of management's attention caused by completing the acquisition and integrating the companies' operations.

For all these reasons, you should be aware that it is possible that the integration process could result in the distraction of management, the disruption of our ongoing business or inconsistencies in our products, services, standards, controls, procedures and policies, any of which could adversely affect the ability of the combined company to maintain relationships with customers, vendors and employees or to achieve the anticipated benefits of the acquisition, or could otherwise adversely affect our business and financial results.

We may be unable to retain key employees.

Our success following the combination will depend in part upon our ability to retain key Level 3 and CenturyLink employees. Key employees may depart because of issues relating to uncertainty, changes in workplace responsibilities or demands, or difficulties associated with integrating companies with different histories and cultures. Accordingly, we cannot assure you that we will be able to retain key employees to the same extent as in the past.

We may be unable to obtain security clearances necessary to perform certain Level 3 government contracts.

Certain Level 3 legal entities and officers have security clearances required for Level 3's performance of customer contracts with various government entities. We continue to discuss with appropriate governmental representatives arrangements that will permit us or our officers to continue to perform these Level 3 contracts. Although we expect these efforts will be successful, we cannot assure you of this.

Risks Relating to Legal and Regulatory Matters

We operate in a highly regulated industry and are therefore exposed to restrictions on our operations and a variety of risks relating to such regulation.

General. Our domestic operations are regulated by the FCC, various state utility commissions and occasionally by local agencies. Our domestic operations are also subject to potential investigation and legal action by the Federal Trade Commission ("FTC") and other federal and state regulatory authorities over issues such as consumer marketing, competitive practices, and privacy protections. Our non-domestic operations are regulated by supranational groups (such as the European Union), national agencies and frequently state, provincial or local bodies.

Generally, we must obtain and maintain operating licenses from these bodies in most territories where we offer regulated services. We cannot assure you that we will be successful in obtaining or retaining all licenses necessary to carry out our business plan. Even if we are, the prescribed service standards and conditions imposed on us under these licenses may increase our costs and limit our operational flexibility. We also operate in some areas of the world without licenses, as permitted through relationships with locally-licensed partners.

We are subject to numerous requirements and interpretations under various international, federal, state and local laws, rules and regulations, which are often quite detailed and occasionally in conflict with each other. The regulation of telecommunications networks and services around the world varies widely. In some countries, the range of services we are legally permitted to provide may be limited or may change. As noted above, in other countries existing telecommunications legislation is in development, is subject to currently ongoing proceedings, is unclear or inconsistent, or is applied in an unequal or unpredictable fashion, often in the absence of adjudicative forums that are adequate to address disputes. Accordingly, we cannot ensure that we will always be considered to be in compliance with all these requirements at any single point in time (as discussed further elsewhere herein). Our inability or failure to comply with the telecommunications and other laws of one or more countries in which we operate could prevent us from commencing or continuing to provide service therein.

The agencies responsible for the enforcement of these laws, rules and regulations may initiate inquiries or actions based on customer complaints or on their own initiative. Even if we are ultimately found to have complied with applicable regulations, such actions or inquiries could create adverse publicity that negatively impacts our business.

Domestic regulation of the telecommunications industry continues to change, and the regulatory environment varies substantially from jurisdiction to jurisdiction. A substantial portion of our local voice services revenue remains subject to FCC and state utility commission pricing regulation, which periodically exposes us to pricing or earnings disputes and could expose us to unanticipated price declines. In addition, from time to time carriers or other third parties refuse to pay for certain of our services or challenge our rights to receive certain service payments. Our future revenue, costs, and capital investment could be adversely affected by material changes to or decisions regarding the applicability of government requirements, and we cannot assure you that future regulatory, judicial or legislative activities will not have a material adverse effect on our operations.

Changes in the composition and leadership of the FCC, state commissions and other agencies that regulate our business could have significant impacts on our revenue, expenses, competitive position and prospects. Changes in the

composition and leadership of these agencies are often difficult to predict, and make future planning more difficult.

Risks associated with changes in regulation. Changes in regulation can have a material impact on our business, revenue or financial performance. Changes over the past couple of decades in federal regulations have substantially impacted our operations including recent orders or laws overhauling intercarrier compensation, revamping universal service funding and increasing our responsibilities to assist various governmental agencies and safeguard customer data. These changes, coupled with our participation in the new FCC support programs, have significantly impacted various aspects of our operations, financial results and capital expenditures, including the amount of revenue we collect from our wholesale customers and from federal support programs. We expect these impacts will continue in the future. For more information, see "Business—Regulation" in Item 1 of this report, and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of this report.

Many of the FCC's regulations adopted in recent years remain subject to judicial review and additional rulemakings, thus increasing the difficulty of determining the ultimate impact of these changes on us and our competitors.

Federal and state agencies that dispense universal service or other support program payments can, and from time to time do, reduce the amount of those payments to us and other carriers.

Risks of higher costs. Regulations continue to create significant operating and capital costs for us. Regulatory challenges to our business practices or delays in obtaining certifications and regulatory approvals could cause us to incur substantial legal and administrative expenses, and, if successful, such challenges could adversely affect our operations.

Our business also may be impacted by legislation and regulation imposing new or greater obligations related to regulations or laws related to regulating broadband services, storing records, fighting crime, bolstering homeland security or cyber security, increasing disaster recovery requirements, minimizing environmental impacts, enhancing privacy, restricting data collection, protecting intellectual property rights of third parties, or addressing other issues that impact our business. We expect our compliance costs to increase if future laws or regulations continue to increase our obligations.

Increased risks of fines. We have recently paid certain regulatory fines associated with network or service outages, particularly with respect to outages impacting the availability of emergency - 911 services. Over the past couple of years, we believe that regulators have assessed substantially higher fines than in the past for these types of incidents, and it is possible this trend will continue.

Risks of reduced flexibility. As a diversified full service incumbent local exchange carrier in many of our operating markets, we have traditionally been subject to significant regulation that does not apply to many of our competitors. This regulation in many instances restricts our ability to change rates, to compete and to respond rapidly to changing industry conditions. In particular, cable television companies in recent years have been able to exploit differences in regulatory oversight, which we believe has helped them to develop service offerings competitive with ours. As our business becomes increasingly competitive, regulatory disparities could continue to favor our competitors.

Risks posed by other regulations. All of our operations are also subject to a variety of environmental, safety, health and other governmental regulations. In connection with our current operations, we use, handle and dispose of various hazardous and non-hazardous substances and wastes. In prior decades, certain of our current or former subsidiaries owned or operated, or are alleged to have owned or operated, former manufacturing businesses, for which we have been notified of certain potential environmental liabilities. We monitor our compliance with applicable regulations or commitments governing these current and past activities. Although we believe that we are in compliance with these regulations in all material respects, our use, handling and disposal of environmentally sensitive materials, or the prior operations of our predecessors, could expose us to claims or actions that could potentially have a material adverse effect on our business, financial condition and operating results.

For a discussion of regulatory risks associated with our international operations, see “Risk Factors—Risks Affecting Our Business—Our international operations expose us to various regulatory, currency, tax, legal and other risks.”

Our participation in the FCC's Connect America Fund ("CAF") Phase II support program poses certain risks.

Our participation in the FCC's CAF Phase II support program subjects us to certain financial risks. If we fail to attain certain specified infrastructure buildout requirements, the FCC could withhold future CAF support payments until these shortcomings are rectified. In addition, if we are not in compliance with FCC measures by the end of the CAF Phase II program, we would incur substantial penalties. To comply with the FCC's buildout requirements, we believe we will need to dedicate a substantial portion of our future capital expenditure budget to the construction of new infrastructure. The CAF-related expenditures could reduce the amount of funds we are willing or able to allocate to other initiatives or projects. In addition, if the FCC decides not to renew or extend the current CAF Phase II program, or initiate a replacement program, these support payments could end at the termination of the program.

Regulation of the Internet could limit our ability to operate our broadband business profitably and to manage our broadband facilities efficiently.

Since the creation of the Internet, there has been extensive debate about whether and how to regulate Internet service providers. A significant number of congressional leaders, state elected officials and various consumer interest groups have long advocated in favor of extensive regulation. In 2015, the FCC adopted new regulations that regulated broadband services as a public utility under Title II of the Communications Act of 1934. Although the FCC voted to repeal most of those regulations in December, 2017, opponents of the rescission have judicially challenged this action and continue to advocate in favor of re-instituting extensive regulation. Depending on the scope of any such future federal or state regulations, the imposition of heightened regulation of our Internet operations could hamper our ability to operate our data networks efficiently, restrict our ability to implement network management practices necessary to ensure quality service, increase the cost of network extensions and upgrades, and otherwise negatively impact our current operations. As the significance of the Internet expands, state, local or foreign governments may adopt new laws or regulations, or apply existing laws and regulations to the Internet. We cannot predict the outcome of any such changes.

We may be liable for the material that content providers or distributors distribute over our network.

The liability of private network operators for information stored or transmitted on their networks is impacted both by changing technology and evolving legal principles that remain unsettled in many jurisdictions. While we disclaim any liability for third-party content in our service contracts, as a private network provider we could be exposed to legal claims relating to third party content stored or transmitted on our networks. Such claims could involve, among others, allegations of defamation, invasion of privacy, copyright infringement, or aiding and abetting restricted activities such as online gambling or pornography. Although we believe our liability for these types of claims is limited, suits against other carriers have been successful and we cannot assure you that our defenses will prevail. If we decide to implement additional measures to reduce our exposure to these risks, or if we are required to defend ourselves against these kinds of claims, our operations and financial results could be negatively affected.

Our pending legal proceedings could have a material adverse impact on our financial condition and operating results, the trading price of our securities and our ability to access the capital markets.

There are several material proceedings pending against us, as described in Note 17—Commitments, Contingencies and Other Items to our consolidated financial statements included in Item 8 of this report. Results of these legal proceedings cannot be predicted with certainty. Irrespective of its merits, litigation may be both lengthy and disruptive to our operations and could cause significant expenditure and diversion of management attention. We review our litigation accrual liabilities on a quarterly basis, but in accordance with applicable accounting guidelines only establish accrual liabilities when losses are deemed probable and reasonably estimable and only revise previously-established accrual liabilities when warranted by changes in circumstances, in each case based on then-available information. As such, as of any given date we could have exposure to losses under proceedings as to which no liability has been

accrued or as to which the accrued liability is inadequate. For each of these reasons, any of the proceedings described in Note 17—Commitments, Contingencies and Other Items, as well as current litigation not described therein or future litigation, could have a material adverse effect on our business, reputation, financial position, operating results, the trading price of our securities and our ability to access the capital markets. We can give you no assurances as to the ultimate impact of these matters on us.

We are subject to franchising requirements that could impede our expansion opportunities or result in potential fines or penalties.

We may be required to obtain from municipal authorities operating franchises to install or expand certain facilities related to our fiber transport operations and certain of our other services. Some of these franchises may require us to pay franchise fees, and may require us to pay fines or penalties if we violate or terminate our related contractual commitments. In some cases, certain franchise requirements could delay us in expanding our operations or increase the costs of providing these services.

We are exposed to risks arising out of recent legislation affecting U.S. public companies.

Changing laws, regulations and standards relating to corporate governance and public disclosure, including the Sarbanes-Oxley Act and the Dodd-Frank Wall Street Reform and Consumer Protection Act, and related regulations implemented thereunder, have increased our legal and financial compliance costs and made some activities more time consuming. Any failure to successfully or timely complete annual assessments of our internal controls required by Section 404 of the Sarbanes-Oxley Act could subject us to sanctions or investigation by regulatory authorities. Any such action could adversely affect our financial results or our reputation with investors, lenders or others.

Changes in any of the above-described laws or regulations may limit our ability to plan, and could subject us to further costs or constraints.

From time to time, the laws or regulations governing us or our customers, or the government's policy of enforcing those laws or regulations, have changed frequently and materially. The variability of these laws could hamper the ability of us and our customers to plan for the future or establish long-term strategies. Moreover, future changes in these laws or regulations could further increase our operating or compliance costs, or further restrict our operational flexibility, any of which could have a material adverse effect on our results of operations, competitive position, financial condition or prospects.

For a more thorough discussion of the regulatory issues that may affect our business, see "Business—Regulation" in Item 1 of this report.

Risks Affecting Our Liquidity and Capital Resources

Our high debt levels expose us to a broad range of risks.

We continue to carry significant debt. As of December 31, 2018, the aggregate principal amount of our consolidated long-term debt was \$35.6 billion, excluding unamortized discounts, net, unamortized debt issuance costs and capital lease and other obligations. As of such date, \$4.3 billion aggregate principal amount of this long-term debt was scheduled to mature prior to December 31, 2021. In addition, our term loans require mandatory principal payments of approximately \$164 million per year until maturity. While we currently believe we will have the financial resources to meet or refinance our obligations when they come due, we cannot fully anticipate our future performance or financial condition, the future condition of the credit markets or the economy generally.

Our significant levels of debt can adversely affect us in several other respects, including:

limiting our ability to obtain additional financing for working capital, capital expenditures, acquisitions, refinancings or other general corporate purposes, particularly if, as discussed further in the risk factor disclosure below, (i) the ratings assigned to our debt securities by nationally recognized credit rating organizations are revised downward or (ii) we seek capital during periods of turbulent or unsettled market conditions;

requiring us to dedicate a substantial portion of our cash flow from operations to the payment of interest and principal on our debt, thereby reducing the funds available to us for other purposes, including acquisitions, capital expenditures, strategic initiatives, dividends, stock repurchases, marketing and other potential growth initiatives;

hindering our ability to capitalize on business opportunities and to plan for or react to changing market, industry, competitive or economic conditions;

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• increasing our future borrowing costs;

• limiting or precluding us from entering into commercial, hedging or other financial arrangements with vendors, customers or other business partners;

• making us more vulnerable to economic or industry downturns, including interest rate increases;

• placing us at a competitive disadvantage compared to less leveraged competitors;

• increasing the risk that we will need to sell securities or assets, possibly on unfavorable terms, or take other unfavorable actions to meet payment obligations; or

• increasing the risk that we may not meet the financial covenants contained in our debt agreements or timely make all required debt payments, either of which could result in the acceleration of some or all of our outstanding indebtedness.

The effects of each of these factors could be intensified if we increase our borrowings.

A substantial portion of our indebtedness bears interest at variable rates. If market interest rates increase, our variable-rate debt will have higher debt service requirements, which could adversely impact our cash flows and financial condition.

Any failure to make required debt payments could, among other things, adversely affect our ability to conduct operations or raise capital.

Subject to certain limitations, our current debt agreements and the debt agreements of our subsidiaries allow us to incur additional debt, which could exacerbate the other risks described in this report.

Subject to certain limitations and restrictions, the current terms of our debt instruments and the debt instruments of our subsidiaries permit us or them to incur additional indebtedness. Incremental borrowings that impose additional financial risks could exacerbate the other risks described in this report.

We expect to periodically require financing, and we cannot assure you that we will be able to obtain such financing on terms that are acceptable to us, or at all.

We have a significant amount of indebtedness that we intend to refinance over the next several years, principally through the issuance of debt by CenturyLink, Inc., Qwest Corporation or Level 3 Financing, Inc. We may also need to obtain additional financing under a variety of other circumstances, including if:

• we engage in additional acquisitions or undertake substantial capital projects or other initiatives that increase our cash requirements;

• we are required to make pension or other benefits payments earlier or in greater amounts than currently anticipated;

• we become subject to significant judgments or settlements, including in connection with one or more of the matters discussed elsewhere herein; or

• we otherwise require additional cash to fund our cash requirements described elsewhere herein.

Our ability to arrange additional financing will depend on, among other factors, our financial position, performance, and credit ratings, as well as prevailing market conditions and other factors beyond our control. Global financial markets continue to be unpredictable and volatile. Prevailing market conditions could be adversely affected by (i) general market conditions, such as disruptions in domestic or overseas sovereign or corporate debt markets, geo-political instabilities, contractions or limited growth in the economy or other similar adverse economic developments in the U.S. or abroad and (ii) specific conditions in the communications industry. Volatility in the global markets could limit our access to the credit markets, leading to higher borrowing costs or, in some cases, the inability to obtain financing on terms that are as favorable as those from which we previously benefited, on terms that are acceptable to us, or at all.

In addition, our ability to borrow funds in the future will depend in part on the satisfaction of the covenants in our credit facilities and other debt instruments, which are discussed further below.

Our access to funds under our revolving credit facility is further dependent upon the ability of the facility's lenders to meet their funding commitments. If one or more of the lenders fails to fund, the remaining lenders will not be legally obligated to rectify the funding shortfall.

For all the reasons mentioned above, we can give no assurance that additional financing for any of these purposes will be available on terms that are acceptable to us, or at all.

If we are unable to make required debt payments or refinance our debt, we would likely have to consider other options, such as selling assets, issuing additional securities, reducing or terminating our dividend payments, cutting or delaying costs or otherwise reducing our cash requirements, or negotiating with our lenders to restructure our applicable debt. Our current and future debt instruments may restrict, or market or business conditions may limit, our ability to do some of these things on favorable terms, or at all. For these and other reasons, we cannot assure you that we could implement these steps in a sufficient or timely manner, or at all. Moreover, any steps taken to strengthen our liquidity, such as cutting costs, could adversely impact our business or operations.

We have a complex debt structure, and our various debt agreements include restrictions and covenants that could (i) limit our ability to conduct operations or borrow additional funds, (ii) restrict our ability to engage in inter-company transactions and (iii) lead to the acceleration of our repayment obligations in certain instances.

CenturyLink, Inc. and various of its subsidiaries (including Embarq Corporation, Qwest Corporation, Qwest Capital Funding, Inc., Level 3 Financing, Inc. and Level 3 Parent, LLC) have borrowed substantial amounts of money from financial institutions or investors. Under the associated debt and financing arrangements, CenturyLink, Inc. and these subsidiaries are subject to various covenants and restrictions, the most restrictive of which pertain to the debt of CenturyLink, Inc. and the Level 3 entities.

CenturyLink, Inc.'s revolving and term loan debt arrangements contain several significant limitations restricting CenturyLink, Inc.'s ability to, among other things:

- borrow additional money or issue guarantees;
- pay dividends or other distributions to shareholders;
- make loans, advances or other investments;
- create liens on assets;
- sell assets;

- enter into sale-leaseback transactions;
- enter into transactions with affiliates; and
- engage in mergers or consolidations.

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These above-listed restrictive covenants could materially adversely affect our ability to operate or expand our business, to pursue strategic transactions, or to otherwise pursue our plans and strategies.

The debt and financing arrangements of Level 3 Parent, LLC and its subsidiary Level 3 Financing, Inc. contain substantially similar limitations that restrict their operations on a standalone basis as a separate restricted group. Consequently, certain of these covenants may significantly restrict our ability to receive cash from Level 3, to distribute cash from Level 3 to other of our affiliated entities, or to enter into other transactions among our wholly-owned entities.

CenturyLink, Inc.'s above-referenced debt arrangements also contain financial covenants that require us to maintain certain financial ratios, and the term loan debt of Qwest Corporation includes a similar financial covenant. The ability of CenturyLink, Inc. and Qwest Corporation to comply with these provisions may be affected by events beyond their control.

Increasingly in recent years, certain debt investors have sought to financially benefit themselves by identifying and seeking to enforce defaults under borrowers' debt agreements. This development could increase the risk of claims made under our debt agreements.

The failure of CenturyLink, Inc. or any of its subsidiaries to comply with the above-described restrictive or financial covenants could result in an event of default, which, if not cured or waived, could accelerate our debt repayment obligations. Certain of our debt instruments have cross-default or cross-acceleration provisions. When present, these provisions could have a wider impact on liquidity than might otherwise arise from a default or acceleration of a single debt instrument. As noted elsewhere herein, we cannot assure you that we could adequately address any such defaults, cross-defaults or acceleration of our debt payment obligations in a sufficient or timely manner, or at all. For additional information, see "Risks Affecting Our Liquidity and Capital Resources—We expect to periodically require financing, and we cannot assure you that we will be able to obtain such financing on terms that are acceptable to us, or at all" and Note 6—Long-Term Debt and Credit Facilities.

Any downgrade in the credit ratings of us or our affiliates could limit our ability to obtain future financing, increase our borrowing costs and adversely affect the market price of our existing debt securities or otherwise impair our business, financial condition and results of operations.

Nationally recognized credit rating organizations have issued credit ratings relating to CenturyLink, Inc.'s long-term debt and the long-term debt of several of its subsidiaries. Many of these ratings are below "investment grade", which results in higher borrowing costs than "investment grade" debt as well as reduced marketability of our debt securities. There can be no assurance that any rating assigned to any of these debt securities will remain in effect for any given period of time or that any such ratings will not be lowered, suspended or withdrawn entirely by a rating agency if, in that rating agency's judgment, circumstances so warrant.

A downgrade of any of these credit ratings could:

- adversely affect the market price of some or all of our outstanding debt or equity securities;
- limit our access to the capital markets or otherwise adversely affect the availability of other new financing on favorable terms, if at all;
- trigger the application of restrictive covenants or adverse conditions in our current or future debt agreements;
- increase our cost of borrowing; and

impair our business, financial condition and results of operations.

For more information on the credit ratings of our secured and unsecured debt, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources - Debt and Other Financing Arrangements” in Item 7 of this report.

Under our debt agreements, a change of control of us or certain of our affiliates could have certain adverse ramifications.

Under our June 19, 2017 credit agreement, a “change of control” of CenturyLink, Inc. constitutes an event of default. Moreover, if the credit ratings relating to certain of our currently outstanding long-term debt securities are downgraded in the manner specified thereunder in connection with a “change of control” of CenturyLink, Inc., then we will be required to offer to repurchase such debt securities. The long-term debt securities of several of our subsidiaries include similar covenants that could, under similar circumstances in connection with a “change of control” of one of the subsidiaries, require us to offer to repurchase such securities. If, due to lack of cash, legal or contractual impediments, or otherwise, we fail to offer to repurchase such debt securities, such failure could constitute an event of default under such debt securities. Any default under our credit facility or these debt securities could in turn constitute a default under other of our agreements relating to our indebtedness outstanding at that time. Moreover, the existence of these default or repurchase provisions may in certain circumstances render it more difficult or discourage a sale or takeover of us, or the removal of our incumbent directors.

Our business requires us to incur substantial capital and operating expenses, which reduces our available free cash flow.

Our business is capital intensive. We expect to continue to require significant cash to maintain, upgrade and expand our network infrastructure as a result of several factors, including:

- changes in customers' service requirements, including increased demands by customers to transmit larger amounts of data at faster speeds;

- our above-described need to (i) consolidate and simplify our various legacy systems, (ii) strengthen our customer support systems and (iii) support our development and launch of new products and services;

- technological advances of our competitors; and

- our regulatory commitments, including infrastructure construction requirements arising out of our participation in the FCC's CAF Phase II program, which are discussed further herein.

We may be unable to expand or adapt our network infrastructure to respond to these developments in a timely manner, at a commercially reasonable cost or on terms producing satisfactory returns on our investment.

In addition to investing in expanded networks, new products or new technologies, we must from time to time invest capital to (i) replace some of our aging equipment that supports many of our traditional services that are experiencing revenue declines or (ii) convert older systems to simplify and modernize our network. While we believe that our currently planned level of capital expenditures will meet both our maintenance and core growth requirements, this may not be the case if demands on our network continue to accelerate or other circumstances underlying our expectations change. Increased spending could, among other things, adversely affect our operating margins, cash flows, results of operations and financial position.

Similarly, we continue to anticipate incurring substantial operating expenses to support our incumbent services and growth initiatives. We may be unable to sufficiently manage or reduce these costs, even if revenue in some of our lines of business are decreasing. If so, our operating margins will be adversely impacted.

As a holding company, we rely on payments from our operating companies to meet our obligations.

As a holding company, substantially all of our income and operating cash flow is dependent upon the earnings of our subsidiaries and their distribution of those earnings to us in the form of dividends, loans or other payments. As a result, we rely upon our subsidiaries to generate cash flows in amounts sufficient to fund our obligations, including the payment of our long-term debt. Our subsidiaries are separate and distinct legal entities and have no obligation to pay any amounts owed by us, except to the extent they have guaranteed such payments. Similarly, subject to limited exceptions for tax-sharing or cash management purposes, our subsidiaries have no obligation to make any funds available to us to repay our obligations, whether by dividends, loans or other payments. As discussed in greater detail elsewhere herein, restrictions imposed by credit instruments or other agreements applicable to certain of our subsidiaries limit the amount of funds that our subsidiaries are permitted to transfer to us, including the amount of dividends that may be paid to us. Moreover, our rights to receive assets of any subsidiary upon its liquidation or reorganization will be effectively subordinated to the claims of creditors of that subsidiary, including trade creditors. In addition, the laws under which our subsidiaries were organized typically restrict the amount of dividends that they may pay. The ability of our subsidiaries to transfer funds could be further restricted under applicable tax laws or orders imposed by state regulators (either in connection with obtaining necessary approvals for our acquisitions or in connection with our regulated operations). For all these reasons, you should not assume that our subsidiaries will be able in the future to generate and distribute to us cash in amounts sufficient to fund our cash requirements. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations —Liquidity and Capital Resources” included elsewhere in this report for further discussion of these matters.

We cannot assure you that we will continue paying dividends at the current rates, or at all.

For the reasons noted below, we cannot assure you that we will continue periodic dividends on our capital stock at the current rates, or at all. From time to time, our board has reduced our dividend rate, including reductions in early 2019 and early 2013.

As noted in the immediately preceding risk factor, because we are a holding company with no material assets other than the stock of our subsidiaries, our ability to pay dividends will depend on our subsidiaries generating a sufficient amount of earnings and cash flow and their ability to furnish funds to us in the form of dividends, loans or other payments.

Any quarterly dividends on our common stock and our outstanding shares of preferred stock will be paid from funds legally available for such purpose when, as and if declared by our Board of Directors. Decisions on whether, when and in which amounts to continue making any future dividend distributions will remain at all times entirely at the discretion of our Board of Directors, which reserves the right to change or terminate our dividend practices at any time and for any reason without prior notice, including without limitation any of the following:

- our supply of cash or other liquid assets is anticipated to remain under pressure for the various reasons described in this report;

- our cash requirements or plans might change for a wide variety of reasons, including changes in our financial position, capital allocation plans (including a desire to retain or accumulate cash), capital spending plans, stock purchase plans, acquisition strategies, strategic initiatives, debt payment plans (including a desire to maintain or improve credit ratings on our debt securities), pension funding or other benefits payments;

- our ability to service and refinance our current and future indebtedness and our ability to borrow or raise additional capital to satisfy our capital needs;

-

the amount of dividends that we may distribute to our shareholders is subject to restrictions under Louisiana law and restrictions imposed by our existing or future credit facilities, debt securities, outstanding preferred stock securities, leases and other agreements, including restricted payment and leverage covenants; and

the amount of cash that our subsidiaries may make available to us, whether by dividends, loans or other payments, may be subject to the legal, regulatory and contractual restrictions described in the immediately preceding risk factor.

Based on its evaluation of these and other relevant factors, our Board of Directors may, in its sole discretion, decide not to declare a dividend on our common stock or our outstanding shares of preferred stock for any period for any reason without prior notice, regardless of whether we have funds legally available for such purposes. Holders of our equity securities should be aware that they have no contractual or other legal right to receive dividends.

Similarly, holders of our common stock should be aware that repurchases of our common stock under any repurchase plan then in effect are completely discretionary, and may be suspended or discontinued at any time for any reason regardless of our financial position.

Our current dividend practices could limit our ability to deploy cash for other beneficial purposes.

The current practice of our Board of Directors to pay common share dividends reflects a current intention to distribute to our shareholders a substantial portion of our cash flow. As a result, we may not retain a sufficient amount of cash to apply to other transactions that could be beneficial to our shareholders or debtholders, including stock buybacks, debt prepayments or capital expenditures that strengthen our business. In addition, our ability to pursue any material expansion of our business through acquisitions or increased capital spending may depend more than it otherwise would on our ability to obtain third party financing.

We cannot assure you whether, when or in what amounts we will be able to use our net operating loss carryforwards, or when they will be depleted.

As of December 31, 2018, CenturyLink had approximately \$7.3 billion of federal net operating loss carryforwards, (“NOLs”), which for U.S. federal income tax purposes can be used to offset future taxable income. A significant portion of our federal NOLs were acquired through the Level 3 acquisition and are subject to limitations under Section 382 of the Internal Revenue Code (“Code”) and related Treasury regulations. It should be noted that issuances or sales of our stock (including certain transactions outside of our control) could result in an ownership change of CenturyLink under Section 382, which may further limit our use of the NOLs. For these and other reasons, you should be aware that these limitations could restrict our ability to use these NOLs in the amounts we project or could limit our flexibility to pursue otherwise favorable transactions.

At December 31, 2018, we had state NOL carryforwards of approximately \$19 billion. A significant portion of the state NOL carryforwards are generated in states where separate company income tax returns are filed and our subsidiaries that generated the losses may not have the ability to generate income in sufficient amounts to realize these losses. In addition, certain of these state NOL carryforwards will be limited by state laws related to ownership changes. As a result, we expect to utilize only a small portion of the state NOL carryforwards, and consequently have determined that as of December 31, 2018, these state NOL carryforwards, net of federal benefit, had a net tax benefit (after giving effect to our valuation allowance) of \$438 million.

Additionally, we have foreign NOL carryforwards of \$6 billion. A significant portion of the foreign NOL carryforwards are generated in subsidiaries that do not have a history of earnings and may not have the ability to generate income in sufficient amounts to realize the losses. As of December 31, 2018, we have determined that these foreign NOL carryforwards had a net benefit of \$290 million (after giving effect to our valuation allowances).

Increases in costs for pension and healthcare benefits for our active and retired employees may reduce our profitability and increase our funding commitments.

As of December 31, 2018, we had approximately 35,000 active employees participating in our company sponsored benefit plans, approximately 68,000 active and retired employees and surviving spouses eligible for post-retirement benefits, approximately 66,000 pension retirees and approximately 13,000 former employees with vested pension

benefits participating in our benefit plans. The cost to fund the pension and healthcare benefit plans for our active and retired employees has a significant impact on our profitability. Our costs of maintaining our pension and healthcare plans, and the future funding requirements for these plans, are affected by several factors, most of which are outside our control, including:

- decreases in investment returns on funds held by our pension and other benefit plan trusts;

- changes in prevailing interest rates and discount rates or other factors used to calculate the funding status of our pension and other post-retirement plans;

- increases in healthcare costs generally or claims submitted under our healthcare plans specifically;

- increasing longevity of our employees and retirees;

- the impact of the continuing implementation, modification or potential repeal of current federal healthcare legislation and regulations promulgated thereunder;

- increases in the number of retirees who elect to receive lump sum benefit payments;

- increases in insurance premiums we are required to pay to the Pension Benefit Guaranty Corporation, an independent agency of the United States government that must cover its own underfunded status by collecting premiums from a declining population of pension plans that are qualified under the U.S. tax code;

- changes in plan benefits; and

- changes in funding laws or regulations.

Increased costs under these plans could reduce our profitability and increase our funding commitments to our pension plans. Any future material cash contributions could have a negative impact on our liquidity by reducing our cash flows available for other purposes. Similarly, depletion of assets placed in trust by us to fund these benefits, such as those discussed elsewhere herein, will similarly reduce our liquidity by requiring us to deploy a portion of our cash flows to fund such benefit payments.

As of December 31, 2018, our pension plans and our other post-retirement benefit plans were substantially underfunded from an accounting standpoint. See Note 10—Employee Benefits to our consolidated financial statements included in Item 8 of this report. For more information on our obligations under our defined benefit pension plans and other post-retirement benefit plans, please see “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Pension and Post-retirement Benefit Obligations” included in Item 7 of this report.

For additional information concerning our liquidity and capital resources, see Item 7 of this report. For a discussion of certain currency and liquidity risks associated with our international operations, see "Risk Factors—Risks Affecting Our Business—Our international operations expose us to various regulatory, currency, tax, legal and other risks."

Other Risks

We face risks from natural disasters, which can disrupt our operations and cause us to incur substantial additional capital and operating costs.

A substantial number of our facilities are located in Florida, Alabama, Louisiana, Texas, North Carolina, South Carolina and other coastal states, which subjects them to the risks associated with severe tropical storms, hurricanes and tornadoes, including downed telephone lines, flooded facilities, power outages, fuel shortages, damaged or destroyed property and equipment, and work interruptions. Although we maintain property and casualty insurance on our property (excluding our above ground outside plant) and may, under certain circumstances, be able to seek recovery of some additional costs through increased rates, only a portion of our additional costs directly related to such natural disasters have historically been recoverable. We cannot predict whether we will continue to be able to obtain insurance for catastrophic hazard-related damages or, if obtainable and carried, whether this insurance will be

adequate to cover our losses. In addition, we expect any insurance of this nature to be subject to substantial deductibles, retentions and coverage exclusions, and the premiums to be based on our loss experience. For all these reasons, any future hazard-related costs and work interruptions could adversely affect our operations and our financial condition.

Terrorist attacks and other acts of violence or war may adversely affect the financial markets and our business.

Future terrorist attacks or armed conflicts may directly affect our physical facilities or those of our customers. These events could cause consumer confidence and spending to decrease or result in increased volatility in the U.S. and world financial markets and economy. Any of these occurrences could materially adversely affect our business.

If conditions or assumptions differ from the judgments, assumptions or estimates used in our critical accounting policies or forward-looking statements, our consolidated financial statements and related disclosures could be materially affected.

The preparation of financial statements and related disclosures in conformity with U.S. generally accepted accounting principles requires management to make judgments, assumptions and estimates that affect the amounts reported in our consolidated financial statements and accompanying notes including the judgments, assumptions and estimates applied pursuant to our critical accounting policies, which are described in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates" in Item 7 of this report. If future events or assumptions differ significantly from the judgments, assumptions and estimates applied in connection with preparing our historical financial statements, our future financial statements could be materially impacted.

While frequently presented with numeric specificity, the guidance and other forward-looking statements that we disseminate from time to time is based on numerous variables and assumptions (including, but not limited to, those related to industry performance and competition and general business, economic, market and financial conditions and additional matters specific to our business, as applicable) that are inherently subjective and speculative and are largely beyond our control. As a result, actual results may differ materially from our guidance or other forward-looking statements. Similarly, for a variety of reasons, we may change our intentions, strategies or plans at any time, which could materially alter our actual results from those previously anticipated. For additional information, see "Special Note Regarding Forward-Looking Statements" in Item 1 of this report.

We identified material weaknesses in our internal control over financial reporting as of December 31, 2018, and the occurrence of this or any other future material weakness or significant deficiencies could have a material adverse effect on us.

Our management recently concluded that, as described under the heading Item 9A. Controls and Procedures, we had material weaknesses as of December 31, 2018 and therefore as of that date did not maintain effective internal control over financial reporting, which is a requirement of the Securities Exchange Act of 1934. As a result of that evaluation, management concluded that two material weaknesses existed as described below.

• Ineffective design and operation of process level internal controls over the fair value measurement of certain assets acquired and liabilities assumed from Level 3.

These deficiencies arose because (i) we did not conduct an effective risk assessment to identify and assess changes we needed to make to our financial reporting and process level controls, related to fair value measurement of assets acquired and liabilities assumed in the transaction with Level 3, (ii) we did not clearly assign responsibility for the design, implementation, and operation of controls over the fair value measurements and (iii) we did not maintain effective information and communication processes to ensure the right information was available to personnel on a timely basis so they could fulfill their control responsibilities related to the fair value measurements.

• Ineffective design and operation of certain process level internal controls over the existence and accuracy of revenue transactions.

These deficiencies arose because we did not conduct an effective risk assessment to identify risks of material misstatement related to the existence and accuracy of revenue transactions.

We plan to execute our plans to remediate the material weaknesses identified above as soon as feasible. However, the remedial measures we take may not be adequate to avoid other control deficiencies in the future. There can be no assurance that any system of internal control over financial reporting will be successful in

preventing all errors or fraud or in making all material information known in a timely manner to the appropriate levels of management. As a result, it is possible that our current or future financial statements may not comply with generally accepted accounting principles, will contain a material misstatement or will not be available on a timely basis, any of which could cause investors to lose confidence in us and lead to, among other things, unanticipated legal, accounting and other expenses, delays in filing required financial disclosures, enforcement actions by regulatory authorities, fines, penalties, the delisting of our securities and liabilities arising from shareholder litigation.

Lapses in disclosure controls and procedures or internal control over financial reporting could materially and adversely affect our operations, profitability or reputation.

There can be no assurance that our disclosure controls and procedures will be effective in the future. Any such lapses or deficiencies may materially and adversely affect our business, operating results or financial condition, restrict our ability to access the capital markets, require us to expend significant resources to correct the lapses or deficiencies, expose us to regulatory or legal proceedings, including litigation brought by private individuals, subject us to fines, penalties or judgments, harm our reputation, or otherwise cause a decline in investor confidence and our stock price.

If our goodwill or other intangible assets become impaired, we may be required to record a significant charge to earnings and reduce our stockholders' equity.

As of December 31, 2018, approximately 55% of our total consolidated assets reflected on the consolidated balance sheet included in this report consisted of goodwill, customer relationships and other intangible assets. Under U.S. generally accepted accounting principles, most of these intangible assets must be tested for impairment on an annual basis or more frequently whenever events or circumstances indicate that their carrying value may not be recoverable. From time to time, including in the fourth quarter of 2018, we have recorded large non-cash charges to earnings in connection with required reductions of the value of our intangible assets. If our intangible assets are determined to be impaired in the future, we may be required to record additional significant, non-cash charges to earnings during the period in which the impairment is determined to have occurred. Any such charges could, in turn, have a material adverse effect on our results of operation, financial condition or ability to comply with financial covenants in our debt instruments.

Shareholder Activism Efforts Could Cause a Material Disruption to Our Business

While we always welcome constructive input from our shareholders and regularly engage in dialogue with our shareholders to that end, activist shareholders may from time to time engage in proxy solicitations, advance shareholder proposals or otherwise attempt to affect changes or acquire control over us. Responding to these actions can be costly and time-consuming, may disrupt our operations and divert the attention of the Board and management from the management of our operations and the pursuit of our business strategies, particularly if shareholders advocate actions that are not supported by other shareholders, our board or management. Further, the perceived uncertainty as to our future direction as a result of such activities could affect our market price and volatility in our common stock.

The Tax Cuts and Jobs Act will have a substantial impact on us.

The Tax Cuts and Jobs Act (the "Act") enacted in December 2017 significantly changed U.S. tax law by reducing the U.S. corporate income tax rate and making certain changes to U.S. taxation of income earned by foreign subsidiaries, capital expenditures, interest expense and various other items. The net impact of this Act, as applied to date, has been favorable to us. However, the Act is quite complex and the impacts could potentially change as additional regulatory guidance is received from the Internal Revenue Service. As a result, our views on the Act's ultimate impact on us could change.

Additional changes in tax laws or tax audits could adversely affect us.

Like all large multinational businesses, we are subject to multiple sets of complex and varying tax laws and rules. Legislators and regulators at various levels of government may from time to time change existing tax laws or regulations or enact new laws or regulations. In many cases, the application of existing, newly enacted or amended tax laws may be uncertain and subject to differing interpretations that could negatively impact our operating results or financial condition. We are also subject to frequent and regular audits by a broad range of foreign, federal, state and local tax authorities. These audits could subject us to tax liabilities if adverse positions are taken by these tax authorities.

We believe that we have adequately provided for tax contingencies. However, our tax audits and examinations may result in tax liabilities that differ materially from those that we have recognized in our consolidated financial statements. Because the ultimate outcomes of all of these matters are uncertain, we can give no assurance as to whether an adverse result from one or more of them will have a material effect on our financial results.

The trading price of our common stock could be reduced if a large number of shares of our common stock are sold in the public market.

Our articles of incorporation currently authorize us to issue additional shares of our common stock, frequently without shareholder approval. Such additional issuances may dilute the beneficial ownership and voting power of our shareholders, and could reduce the trading price of our common stock. Similarly, the market price of our common stock could drop significantly if certain large holders of our common stock sell all or a substantial portion of their holdings in the public markets, or indicate their intent to do so. Similarly, the market price of our stock could be adversely affected if analysts or other market participants issue reports or make other statements that recommend the sale of our shares.

The rights agreement that we entered into to protect our ability to use our accumulated NOLs could discourage third parties from seeking strategic transactions with us that could be beneficial to our shareholders.

On February 13, 2019, we entered into the rights agreement in an effort to deter acquisitions of our common stock that might reduce our ability to use our NOL carryforwards. Under the rights agreement, from and after the record date of February 25, 2019, each share of our common stock carries with it one preferred share purchase right until the earlier of the date when the preferred share purchase rights become exercisable or expire. The rights agreement and the preferred share purchase rights issuable thereunder could discourage a third party from proposing a change of control or other strategic transaction concerning CenturyLink or otherwise have the effect of delaying or preventing a change of control of CenturyLink that other shareholders may view as beneficial.

Our other agreements and organizational documents and applicable law could similarly limit another party's ability to acquire us.

In addition to other restrictions mentioned above, a number of provisions in our organizational documents and various provisions of applicable law may delay, defer or prevent a future takeover of CenturyLink unless the takeover is approved by our Board of Directors. These provisions could deprive our shareholders of any related takeover premium. For additional information, please see our Registration Statement on Form 8-A/A filed with the SEC on March 2, 2015.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our property, plant and equipment consists principally of fiber-optic and metallic cables, high-speed transport equipment, electronics, switches, routers, cable landing stations, central office equipment, land and buildings related to our operations. Our gross property, plant and equipment consisted of the following components:

	As of			
	December 31,			
	2018		2017	
Land	2	%	2	%
Fiber, conduit and other outside plant ⁽¹⁾	45	%	45	%
Central office and other network electronics ⁽²⁾	35	%	36	%
Support assets ⁽³⁾	15	%	15	%
Construction in progress ⁽⁴⁾	3	%	2	%
Gross property, plant and equipment	100	%	100	%

(1) Fiber, conduit and other outside plant consists of fiber and metallic cable, conduit, poles and other supporting structures.

(2) Central office and other network electronics consists of circuit and packet switches, routers, transmission electronics and electronics providing service to customers.

(3) Support assets consist of buildings, cable landing stations, data centers, computers and other administrative and support equipment.

(4) Construction in progress includes inventory held for construction and property of the aforementioned categories that has not been placed in service as it is still under construction.

We own substantially all of our telecommunications equipment required for our business. However, we lease from third parties certain facilities, plant, equipment and software under various capital and operating lease arrangements when the leasing arrangements are more favorable to us than purchasing the assets. We also own and lease administrative offices in major metropolitan locations both in the United States and internationally. Substantially all of our network electronics equipment is located in buildings or on land that we own or lease, typically within our local service area. Outside of our local service area, our assets are generally located on real property pursuant to an agreement with the property owner or another person with rights to the property. It is possible that we may lose our rights under one or more of these agreements, due to their termination or expiration or in connection with legal challenges to our rights under such agreements. With the acquisition of Level 3 on November 1, 2017, we acquired, among other things, title or leasehold rights to various cable landing stations and data centers throughout the world related to undersea and terrestrial cable systems.

Our net property, plant and equipment was approximately \$26.4 billion and \$26.9 billion at December 31, 2018 and 2017, respectively. Substantial portions of our property, plant and equipment is pledged to secure the long-term debt of our subsidiaries or the guarantee obligations of our subsidiary guarantors. For additional information, see Note 8—Property, Plant and Equipment to our consolidated financial statements in Item 8 of Part II of this report.

ITEM 3. LEGAL PROCEEDINGS

The information contained under the subheadings "Pending Matters" and "Other Proceedings and Disputes" in Note 17—Commitments, Contingencies and Other Items to our consolidated financial statements included in Item 8 of Part II of this report is incorporated herein by reference.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is listed on the New York Stock Exchange ("NYSE") and the Berlin Stock Exchange and is traded under the symbol CTL and CYT, respectively.

At February 22, 2019, there were approximately 99,000 stockholders of record, although there were significantly more beneficial holders of our common stock.

As described in greater detail in "Risk Factors" in Item 1A of Part I of this report, the declaration and payment of dividends is at the discretion of our Board of Directors, and will depend upon our financial results, cash requirements, future prospects and other factors deemed relevant by our Board of Directors.

Issuer Purchases of Equity Securities

The following table contains information about shares of our previously-issued common stock that we withheld from employees upon vesting of their stock-based awards during the fourth quarter of 2018 to satisfy the related tax withholding obligations:

Period	Total Number of Shares Withheld for Taxes	Average Price Paid Per Share
October 2018	19,346	\$ 21.08
November 2018	185,616	20.88
December 2018	105,114	17.57
Total	310,076	

Equity Compensation Plan Information

See Item 12 of this report.

ITEM 6. SELECTED FINANCIAL DATA

The following tables of selected consolidated financial data should be read in conjunction with, and are qualified by reference to, our consolidated financial statements and notes thereto in Item 8 of Part II and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of this report.

The tables of selected financial data shown below are derived from our audited consolidated financial statements, which include the operating results, cash flows and financial condition of Level 3 beginning November 1, 2017. These historical results are not necessarily indicative of results that you can expect for any future period.

The following table summarizes selected financial information from our consolidated statements of operations.

	Years Ended December 31, ⁽¹⁾				
	2018 ⁽²⁾⁽³⁾⁽⁴⁾⁽⁵⁾	2017 ⁽³⁾⁽⁴⁾⁽⁵⁾	2016 ⁽⁴⁾⁽⁵⁾	2015 ⁽⁵⁾	2014 ⁽⁶⁾
	(Dollars in millions, except per share amounts and shares in thousands)				
Operating revenue	\$23,443	17,656	17,470	17,900	18,031
Operating expenses	22,873	15,647	15,137	15,321	15,674
Operating income	\$570	2,009	2,333	2,579	2,357
(Loss) income before income tax expense	\$(1,563)	540	1,020	1,316	1,110
Net (loss) income	\$(1,733)	1,389	626	878	772
Basic (loss) earnings per common share	\$(1.63)	2.21	1.16	1.58	1.36
Diluted (loss) earnings per common share	\$(1.63)	2.21	1.16	1.58	1.36
Dividends declared per common share	\$2.16	2.16	2.16	2.16	2.16
Weighted average basic common shares outstanding	1,065,866	627,808	539,549	554,278	568,435
Weighted average diluted common shares outstanding	1,065,866	628,693	540,679	555,093	569,739

See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of (1) Operations" in Item 7 of Part II of this report and in our preceding annual reports on Form 10-K for a discussion of unusual items affecting the results for each of the years presented.

(2) During 2018, we recorded a non-cash, non-tax-deductible goodwill impairment charge of \$2.7 billion for goodwill attributed to our consumer segment.

The enactment of the Tax Cuts and Jobs Act in December 2017 resulted in a re-measurement of our deferred tax (3) assets and liabilities at the new federal corporate tax rate of 21%. The re-measurement resulted in tax expense of \$92 million and a tax benefit of approximately \$1.1 billion for 2018 and 2017, respectively.

(4) During 2018, 2017 and 2016, we incurred Level 3 acquisition-related expenses of \$393 million, \$271 million and \$52 million, respectively. For additional information, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Acquisition of Level 3" and Note 2—Acquisition of Level 3 to our consolidated financial statements in Item 8 of Part II of this report.

(5) During 2018, 2017, 2016 and 2015, we recognized an incremental \$171 million, \$186 million, \$201 million and \$215 million, respectively, of revenue associated with the Federal Communications Commission ("FCC") Connect America Fund Phase II support program, as compared to revenue received under the previous interstate USF program.

(6) During 2014, we recognized a \$60 million tax benefit associated with a deduction for the tax basis for worthless stock in a wholly-owned foreign subsidiary and a \$63 million pension settlement charge.

Selected financial information from our consolidated balance sheets is as follows:

	As of December 31,				
	2018	2017	2016	2015	2014
	(Dollars in millions)				
Net property, plant and equipment ⁽¹⁾	\$26,408	26,852	17,039	18,069	18,433
Goodwill ⁽¹⁾⁽²⁾	28,031	30,475	19,650	20,742	20,755
Total assets ⁽³⁾	70,256	75,611	47,017	47,604	49,103
Total long-term debt ⁽³⁾⁽⁴⁾	36,061	37,726	19,993	20,225	20,503
Total stockholders' equity	19,828	23,491	13,399	14,060	15,023

(1) During 2016, as a result of our then pending sale of our colocation business and data centers, we reclassified \$1.1 billion in net property, plant and equipment and \$1.1 billion of goodwill to assets held for sale which is included in other current assets on our consolidated balance sheet. See Note 3—Sale of Data Centers and Colocation Business to our consolidated financial statements in Item 8 of Part II of this report, for additional information.

(2) During 2018, we recorded a non-cash, non-tax-deductible goodwill impairment charge of \$2.7 billion for goodwill attributed to our consumer segment.

(3) In 2015, we adopted both ASU 2015-03 "Simplifying the Presentation of Debt Issuance Costs" and ASU 2015-17 "Balance Sheet Classification of Deferred Taxes" by retrospectively applying the requirements of the ASUs to our previously issued consolidated financial statements. The adoption of both ASU 2015-03 and ASU 2015-17 reduced total assets by \$1.0 billion and \$1.3 billion in each year for the two years ended December 31, 2014, respectively, and ASU 2015-03 reduced total long-term debt by \$168 million and \$157 million in each year for the two years ended December 31, 2014, respectively.

(4) Total long-term debt includes current maturities of long-term debt and capital lease obligations of \$305 million for the year ended December 31, 2016 associated with assets held for sale. For additional information on our total long-term debt, see Note 6—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of this report. For total contractual obligations, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Future Contractual Obligations" in Item 7 of Part II of this report.

Selected financial information from our consolidated statements of cash flows is as follows:

	Years Ended December 31,				
	2018	2017	2016	2015	2014
	(Dollars in millions)				
Net cash provided by operating activities	\$7,032	3,878	4,608	5,153	5,188
Net cash used in investing activities	(3,078)	(8,871)	(2,994)	(2,853)	(3,077)
Net cash (used in) provided by financing activities	(4,023)	5,356	(1,518)	(2,301)	(2,151)
Payments for property, plant and equipment and capitalized software	(3,175)	(3,106)	(2,981)	(2,872)	(3,047)

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

All references to "Notes" in this Item 7 of Part II refer to the Notes to Consolidated Financial Statements included in Item 8 of Part II of this report. Certain statements in this report constitute forward-looking statements. See "Special Note Regarding Forward-Looking Statements" in Item 1 of Part I of this report for factors relating to these statements and "Risk Factors" in Item 1A of Part I of this report for a discussion of certain risk factors applicable to our business, financial condition, results of operations, liquidity or prospects.

Overview

We are an international facilities-based communications company engaged primarily in providing a broad array of integrated services to our residential and business customers. With approximately 450,000 route miles of fiber optic cable globally, we believe we are among the largest providers of communications services to domestic and global enterprise customers and the third largest wireline telecommunications company in the United States. We provide services in over 60 countries, with most of our revenue being derived in the United States.

At December 31, 2018, we served 4.8 million consumer broadband subscribers. Our methodology for counting consumer broadband subscribers may not be comparable to those of other companies. We no longer report or discuss access lines as a key operating metric given the significant migration in our industry from legacy services to IP-enabled services.

Acquisition of Level 3

On November 1, 2017, CenturyLink, Inc. ("CenturyLink") acquired Level 3 Communications, Inc. ("Level 3") through successive merger transactions, including a merger of Level 3 with and into a merger subsidiary, which survived such merger as our indirect wholly-owned subsidiary under the name of Level 3 Parent, LLC.

During the year ended December 31, 2018, we recognized \$391 million of integration-related expenses associated with our activities related to the Level 3 acquisition. During 2018, we also recognized \$2 million in merger-related transaction costs, including investment banker and legal fees.

Our consolidated financial statements include the accounts of CenturyLink and its majority owned subsidiaries, including Level 3 beginning on November 1, 2017. Due to the significant size of the acquisition, direct comparison of our results of operations for the periods ending on or after December 31, 2017 to prior periods are less meaningful than usual.

As a result of the acquisition, Level 3's assets and liabilities have been revalued and recorded at their fair value. The assignment of estimated fair value requires a significant amount of judgment. The use of fair value measures affects the comparability of our post-acquisition financial information and may make it more difficult to predict earnings in future periods. We completed our final fair value determinations during the fourth quarter 2018. Our final fair value determinations were different than those preliminary values reflected in our consolidated financial statements at December 31, 2017 and resulted in an increase in goodwill of \$340 million and an increase to other noncurrent assets offset by a decrease in customer relationships during 2018.

In the discussion that follows, we refer to the business that we operated prior to the Level 3 acquisition as "Legacy CenturyLink", and we refer to the incremental business activities that we now operate as a result of the Level 3 acquisition as "Legacy Level 3."

For additional information about our acquisition of Level 3, see (i) Note 2—Acquisition of Level 3 to our consolidated financial statements in Item 8 of Part II of this report and (ii) the documents we filed with the SEC on February 13, 2017, November 1, 2017 and January 16, 2018.

Sale of Data Centers and Colocation Business

On May 1, 2017, we sold our data centers and colocation business to a consortium led by BC Partners, Inc. and Medina Capital ("the Purchaser") in exchange for pre-tax cash proceeds of \$1.8 billion and a minority stake in the limited partnership that owns the consortium's newly-formed global secure infrastructure company, Cyxtera Technologies. As part of the transaction, the Purchaser acquired 57 of our data centers and assumed our capital lease obligations, which amounted to \$294 million on May 1, 2017, related to the divested properties.

Our colocation business generated revenue (excluding revenue from affiliates) of \$210 million from January 1, 2017 through May 1, 2017, and \$622 million for the year ended December 31, 2016 (a small portion of which has been retained by us).

This transaction did not meet the accounting requirements for a sale-leaseback transaction as described in ASC 840-40, Leases - Sale-Leaseback Transaction. Under the failed-sale-leaseback accounting model, we are deemed under GAAP to still own certain real estate assets sold to the Purchaser.

After factoring in the costs to sell the data centers and colocation business, excluding the impacts from the failed-sale-leaseback accounting treatment, the sale resulted in a \$20 million gain as a result of the aggregate value of the consideration we received exceeding the carrying value of the assets sold and liabilities assumed. Based on the fair market values of the failed-sale-leaseback assets, the failed-sale-leaseback accounting treatment resulted in a loss of \$102 million as a result of the requirement to treat a certain amount of the pre-tax cash proceeds from the sale of the assets as though it were the result of a financing obligation. The combined net loss of \$82 million is included in selling, general and administrative expenses in our consolidated statement of operations for the year ended December 31, 2017.

Effective with the January 1, 2019 implementation date of the new accounting standard for Leases (ASU 2016-02), this particular accounting treatment will no longer be applicable to our May 1, 2017 divestiture transaction. Consequently, the above-described real estate assets and corresponding financing obligation will be derecognized as of January 1, 2019 from our future consolidated balance sheets resulting in an increase of \$115 million to stockholder's equity.

See Note 3—Sale of Data Centers and Colocation Business for additional information on the sale and Note 1—Background And Summary Of Significant Accounting Policies for discussion of the impact of implementing ASU 2016-02 to our consolidated financial statements in Item 8 of Part II of this report.

Segments

At December 31, 2018, we had the following two segments:

Business Segment. Under our business segment, we provide our products and services to large domestic and global enterprises, small and medium businesses, federal, state and local governments and wholesale customers, including other communication providers. Our products and services offered to these customers include our IP and Data Services suite of products, which includes VPN and hybrid networking, Ethernet and IP services; Transport and Infrastructure, which includes wavelengths and private line, dark fiber, colocation and data center services, and professional services; Voice Services, which includes local, long-distance, toll-free and unified communications services; and IT and Managed services, all of which are described further under "Products and Services"; and

Consumer Segment. Under our consumer segment, we provide our products and services to residential customers. Our products and services offered to these customers include our broadband, local and long-distance voice, video and

other ancillary services.

See Note 15—Segment Information to our consolidated financial statements in Item 8 of Part II of this report for additional information.

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Results of Operations

The following table summarizes the results of our consolidated operations for the years ended December 31, 2018, 2017 and 2016:

	Years Ended December 31,		
	2018 (1)(2)(3)	2017 ⁽²⁾⁽³⁾	2016 ⁽³⁾
	(Dollars in millions except per share amounts)		
Operating revenue	\$23,443	17,656	17,470
Operating expenses	22,873	15,647	15,137
Operating income	570	2,009	2,333
Other expense, net	2,133	1,469	1,313
Income tax expense (benefit)	170	(849)	394
Net (loss) income	\$(1,733)	1,389	626
Basic (loss) earnings per common share	\$(1.63)	2.21	1.16
Diluted (loss) earnings per common share	\$(1.63)	2.21	1.16

(1) During 2018, we recorded a non-cash, non-tax-deductible goodwill impairment charge of \$2.7 billion for goodwill attributed to our consumer segment.

(2) The enactment of the Tax Cuts and Jobs Act in December 2017 resulted in a re-measurement of our deferred tax assets and liabilities at the new federal corporate tax rate of 21%. The re-measurement resulted in tax expense of \$92 million and a tax benefit of approximately \$1.1 billion for 2018 and 2017, respectively.

(3) During 2018, 2017 and 2016, we incurred acquisition-related expenses of \$393 million, \$271 million and \$52 million, respectively. For additional information, see "Acquisition of Level 3" above and Note 2—Acquisition of Level 3 to our consolidated financial statements in Item 8 of Part II of this report.

For over a decade, we have experienced revenue declines, excluding the impact of acquisitions during the period, primarily due to declines in private line customers, switched access rates and minutes of use. To partially mitigate these revenue declines, we remain focused on efforts to, among other things:

• promote long-term relationships with our customers through bundling of integrated services;

• increase the capacity, speed and usage of our networks;

• provide a wide array of diverse services, including enhanced or additional services that may become available in the future due to, among other things, advances in technology or improvements in our infrastructure;

• provide our premium services to a higher percentage of our customers;

• pursue acquisitions of additional assets if available at attractive prices;

• increase prices on our products and services if and when practicable; and

• market our products and services to new customers.

Operating Revenue

We categorize our products, services and revenue among the following five categories:

IP and Data Services, which include primarily VPN data networks, Ethernet, IP, video (including our facilities-based video services and Vyvx broadcast services) and other ancillary services;

Transport and Infrastructure, which include broadband, private line (including business data services), data center facilities and services, including cloud, hosting and application management solutions, wavelength, equipment sales and professional services, network security services and other ancillary services;

Voice and Collaboration, which includes primarily local and long distance voice, including wholesale voice, and other ancillary services;

IT and Managed Services, which include information technology services and managed services, which may be purchased in conjunction with our other network services; and

Regulatory Revenue, which consist of (i) Universal Service Fund ("USF"), Connect America Fund ("CAF") and other support payments designed to reimburse us for various costs related to certain telecommunications services and (ii) other operating revenue from the leasing and subleasing of space, none of which is included in our segment revenue.

For more detailed information, see "Products and Services" in Item I of this report.

The following tables summarize our consolidated operating revenue recorded under each of our five above described revenue categories:

	Years Ended		Increase /	%
	December 31,	December 31,	(Decrease)	Change
	2018	2017		
	(Dollars in millions)			
IP and Data Services ⁽¹⁾	\$7,279	4,083	3,196	78 %
Transport and Infrastructure ⁽²⁾	8,248	6,345	1,903	30 %
Voice and Collaboration ⁽³⁾	6,572	5,844	728	12 %
IT and Managed Services ⁽⁴⁾	621	652	(31)	(5) %
Regulatory Revenue ⁽⁵⁾	723	732	(9)	(1) %
Total operating revenue	\$23,443	17,656	5,787	33 %

	Years Ended		Increase /	%
	December 31,	December 31,	(Decrease)	Change
	2017	2016		
	(Dollars in millions)			
IP and Data Services ⁽¹⁾	\$4,083	3,418	665	19 %
Transport and Infrastructure ⁽²⁾	\$6,345	6,583	(238)	(4) %
Voice and Collaboration ⁽³⁾	5,844	6,124	(280)	(5) %
IT and Managed Services ⁽⁴⁾	652	641	11	2 %
Regulatory Revenue ⁽⁵⁾	732	704	28	4 %
Total operating revenue	\$17,656	17,470	186	1 %

(1) Includes primarily VPN data network, Ethernet, IP, video and ancillary revenue.

(2) Includes primarily broadband, private line (including business data services), colocation and data centers, wavelength and ancillary revenue.

(3) Includes local, long-distance and other ancillary revenue.

(4) Includes IT services and managed services revenue.

(5) Includes CAF Phase I, CAF Phase II, federal and state USF support revenue, sublease rental income and failed-sale leaseback income.

Our total operating revenue increased by \$5.8 billion, or 33%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017 due to the inclusion of \$6.7 billion in Legacy Level 3 post-acquisition operating revenue in our consolidated operating revenue. Total operating revenue for Legacy CenturyLink decreased by \$935 million for the year ended December 31, 2018 as compared to the year ended December 31, 2017. The Legacy CenturyLink decline in total operating revenue is primarily due to lower voice and collaboration, transport and infrastructure and IP and data services revenue. The decrease in voice and collaboration was due to continued decreases in revenue from our traditional voice telecommunications services. The decrease in transport and infrastructure reflects the decrease in volumes from our colocation business sale, reduced sales volume of private line (including business data services) services, which were partially offset with an increase in broadband and managed security services. The decrease in IP and data services was primarily due to a decrease in retail revenue, partially offset by an increase in VPN data network services.

Total operating revenue increased by \$186 million, or 1% for the year ended December 31, 2017 as compared to the year ended December 31, 2016 due to the inclusion of \$1.4 billion in post-acquisition Legacy Level 3 operating revenue in our 2017 consolidated operating revenue. Total operating revenue for Legacy CenturyLink decreased by \$1.2 billion for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The decline in total operating revenue reflects the continuing loss of access lines, loss of long-distance revenue primarily due to the displacement of traditional wireline telephone services by other competitive products and services, including data and wireless communication services, and reductions in the volume of our private line (including business data services) services. Our total operating revenue for the year ended December 31, 2017 were also impacted by the May 1, 2017 sale of our data centers and colocation business, which resulted in a reduction of colocation revenue of \$396 million for the year ended December 31, 2017 as compared to the prior year period.

Further analysis of our segment operating revenue and trends impacting our performance are provided below in "Segment Results."

Operating Expenses

Our current definitions of operating expenses are as follows:

Cost of services and products (exclusive of depreciation and amortization) are expenses incurred in providing products and services to our customers. These expenses include: employee-related expenses directly attributable to operating and maintaining our network (such as salaries, wages, benefits and professional fees); facilities expenses (which include third-party telecommunications expenses we incur for using other carriers' networks to provide services to our customers); rents and utilities expenses; equipment sales expenses (such as data integration and modem expenses); costs owed to universal service funds (which are federal and state funds that are established to promote the availability of telecommunications services to all consumers at reasonable and affordable rates, among other things, and to which we are often required to contribute); and other expenses directly related to our operations; and

Selling, general and administrative expenses are corporate overhead and other operating expenses. These expenses include: employee-related expenses (such as salaries, wages, internal commissions, benefits and professional fees) directly attributable to selling products or services and employee-related expenses for administrative functions; marketing and advertising; property and other operating taxes and fees; external commissions; litigation expenses associated with general matters; bad debt expense; and other selling, general and administrative expenses.

These expense classifications may not be comparable to those of other companies.

The following tables summarize our operating expenses:

	Years Ended		Increase / (Decrease)	% Change
	December 31, 2018	2017		
(Dollars in millions)				
Cost of services and products (exclusive of depreciation and amortization)	\$10,862	8,203	2,659	32 %
Selling, general and administrative	4,165	3,508	657	19 %
Depreciation and amortization	5,120	3,936	1,184	30 %
Impairment of goodwill	2,726	—	2,726	nm
Total operating expenses	\$22,873	15,647	7,226	46 %
	Years Ended		Increase / (Decrease)	% Change
	December 31, 2017	2016		
(Dollars in millions)				
Cost of services and products (exclusive of depreciation and amortization)	\$8,203	7,774	429	6 %
Selling, general and administrative	3,508	3,447	61	2 %
Depreciation and amortization	3,936	3,916	20	1 %
Total operating expenses	\$15,647	15,137	510	3 %

Percentages greater than 200% and comparisons between positive and negative values or to/from zero values are considered not meaningful.

Cost of Services and Products (exclusive of depreciation and amortization)

Cost of services and products (exclusive of depreciation and amortization) increased by \$2.7 billion, or 32%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017. The increase in costs of services and products (exclusive of depreciation and amortization) was attributable to the inclusion of \$3.2 billion Legacy Level 3 post-acquisition costs (net of intercompany eliminations) in our consolidated costs of services and products (exclusive of depreciation and amortization). Costs of services and products (exclusive of depreciation and amortization) for Legacy CenturyLink decreased \$588 million, or 8%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017. The decrease was primarily due to reductions in salaries and wages and employee related expenses from lower headcount, reduced overtime, lower real estate and power expenses and a decline in content costs for Prism TV.

Cost of services and products (exclusive of depreciation and amortization) increased by \$429 million, or 6%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The increase in costs of services and products (exclusive of depreciation and amortization) was attributable to the inclusion of \$690 million in post-acquisition Legacy Level 3 costs (net of intercompany eliminations) in our consolidated costs of services and products (exclusive of depreciation and amortization). Costs of services and products (exclusive of depreciation and amortization) for Legacy CenturyLink decreased by \$261 million, or 3%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The decrease in cost of services and products (exclusive of depreciation and amortization) was primarily due to reductions in salaries and wages and employee benefits from lower headcount and healthcare costs, lower real estate and power expenses from the sale of the data centers and colocation business, and reduced customer premises equipment costs due to a decrease in sales of customer premises equipment and USF rates, which were partially offset by increases in facility costs.

Selling, General and Administrative

Selling, general and administrative expenses increased by \$657 million, or 19%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017. The increase in selling, general and administrative expenses was attributable to the inclusion of \$1.1 billion Legacy Level 3 post-acquisition costs (net of intercompany eliminations) in our consolidated selling, general and administrative expenses. Selling, general and administrative expenses decreased by \$444 million, or 14%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017. The decrease was primarily due to (i) reductions in salaries and wages and employee related expenses from lower headcount, (ii) reduced overtime, professional fees, bad debt and marketing expenses and (iii) a loss on sale of data centers in 2017.

Selling, general and administrative expenses increased by \$61 million, or 2%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The increase in selling, general and administrative expenses was primarily attributable to the inclusion of \$253 million in post-acquisition Legacy Level 3 expenses (net of intercompany eliminations) in our consolidated selling, general and administrative expenses. Legacy CenturyLink's selling, general and administrative expenses decreased by \$192 million, or 6%, primarily due to (i) reductions in salaries and wages and employee benefits from lower headcount, (ii) reduced healthcare, external commissions and bad debt expenses and (iii) losses recognized from the sale of our data centers and colocation business and the related failed-sale-leaseback as further described in Note 3—Sale of Data Centers and Colocation Business to our consolidated financial statements in Item 8 of Part II of this report and increases in transaction and integration costs associated with the Level 3 acquisition.

Depreciation and Amortization

The following tables provide detail of our depreciation and amortization expense:

	Years Ended		Increase / (Decrease)	% Change
	December 31, 2018	2017		
	(Dollars in millions)			
Depreciation	\$3,339	2,710	629	23 %
Amortization	1,781	1,226	555	45 %
Total depreciation and amortization	\$5,120	3,936	1,184	30 %

	Years Ended		Increase / (Decrease)	% Change
	December 31, 2017	2016		
	(Dollars in millions)			
Depreciation	\$2,710	2,691	19	1 %
Amortization	1,226	1,225	1	— %
Total depreciation and amortization	\$3,936	3,916	20	1 %

Annual depreciation expense is impacted by several factors, including changes in our depreciable cost basis, changes in our estimates of the remaining economic life of certain network assets, the addition of new plant (including from the acquisition of Level 3) and the divestiture of plant (including from sale of our data centers and colocation business). Depreciation expense increased by \$629 million, or 23%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017, primarily due to the inclusion of \$763 million Legacy Level 3 post-acquisition depreciation expense in our consolidated depreciation expense, which was partially offset by lower Legacy CenturyLink depreciation expense. Depreciation expense increased by \$19 million, or 1%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The increase in depreciation expense for the year ended December 31, 2017 was primarily attributable to the inclusion of \$143 million in post-acquisition Legacy Level 3 depreciation expense in our consolidated depreciation expense. Legacy CenturyLink's depreciation expense was lower due to full depreciation and retirement of certain plant previously placed in service. Additionally, we ceased depreciating property, plant and equipment assets of our colocation business when we entered into the agreement to sell that business in late 2016. Absent the sale, we estimate that we would have recorded additional depreciation expense of \$54 million from January 1, 2017 through May 1, 2017 related to the conveyed property. These decreases were partially offset by an increase in depreciation expense attributable to new plant placed in service since January 1, 2016. As a result of not meeting sale-leaseback accounting requirements, prior to January 1, 2019 we are deemed under GAAP to still own certain real estate assets sold to Cyxtera; therefore, we are required to reflect a portion of the real estate assets on our consolidated balance sheet and depreciate these assets over their useful lives. As further described in Note 3—Sale of Data Centers and Colocation Business, of the \$91 million increase in depreciation expense on these real estate assets, \$44 million is not expected to recur in future periods.

Amortization expense increased by \$555 million, or 45%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017 and increased by \$1 million, or less than 1%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The increase in amortization expense for the year ended December 31, 2018 and December 31, 2017 was primarily attributable to the inclusion of \$659 million and \$139 million, respectively, in post-acquisition Legacy Level 3 amortization expense in our consolidated amortization expense. Legacy CenturyLink's amortization expense was lower for both periods primarily due to the use of accelerated amortization for a portion of our customer relationship assets and our entry into an agreement to sell our data centers and colocation business. The effect of using an accelerated amortization method results in an incremental decline in expense each period as the intangible assets amortize. In 2017, we ceased amortizing the intangible assets of our colocation business when we entered into the agreement to sell that business. Absent the sale, we estimate that we would have recorded additional amortization expense of \$13 million from January 1, 2017 through May 1, 2017, related to the conveyed intangible assets. In addition, amortization of capitalized software was lower in both periods due to software becoming fully amortized faster than new software was acquired or developed.

Impairment of Goodwill

At October 31, 2018, we estimated the fair value of our five reporting units, which we determined to be consumer, medium and small business, enterprise, international and global accounts and wholesale and indirect, by considering both a market approach and a discounted cash flow method. The market approach method includes the use of comparable multiples of publicly traded companies whose services are comparable to ours. The discounted cash flow method is based on the present value of projected cash flows and a terminal value, which represents the expected normalized cash flows of the reporting units beyond the cash flows from the discrete projection period. We reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2018 and concluded that the indicated control premium of approximately 0.1% was reasonable based on recent transactions in the market place.

As of October 31, 2018, based on our assessment performed with respect to these reporting units as described above, we concluded that the estimated fair value of our consumer reporting unit was less than our carrying value of equity for such unit by approximately \$2.7 billion. As a result, we recorded a non-cash, non-tax-deductible goodwill impairment charge of \$2.7 billion for goodwill assigned to our consumer segment during the fourth quarter of 2018.

After the impairment charge described above, the estimated fair value of equity for our consumer segment equals the carrying value of equity for such segment.

Other Consolidated Results

The following tables summarize our total other expense, net and income tax expense (benefit):

	Years Ended		Increase /	%
	December 31,		(Decrease)	Change
	2018	2017		
	(Dollars in millions)			
Interest expense	\$(2,177)	(1,481)	696	47 %
Other income, net	44	12	32	nm
Total other expense, net	\$(2,133)	(1,469)	664	45 %
Income tax expense (benefit)	\$170	(849)	1,019	nm
	Years Ended		Increase /	%
	December 31,		(Decrease)	Change
	2017	2016		
	(Dollars in millions)			
Interest expense	\$(1,481)	(1,318)	163	12 %
Other income, net	12	5	7	140 %
Total other expense, net	\$(1,469)	(1,313)	156	12 %
Income tax (benefit) expense	\$(849)	394	(1,243)	nm

Percentages greater than 200% and comparisons between positive and negative values or to/from zero values are considered not meaningful.

Interest Expense

Interest expense increased by \$696 million, or 47%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017. The increase in interest expense was primarily due to our issuance and assumption of debt in conjunction with the acquisition of Level 3. Interest expense increased by \$163 million, or 12%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The increase in interest expense was primarily due to (i) the issuance of \$7.9 billion of term loans in 2017 for the purpose of providing funding for the Level 3 acquisition, (ii) the assumption of Level 3's debt upon the consummation of the acquisition of Level 3, which accounted for \$80 million in post-acquisition interest expense and (iii) the recognition of imputed interest expense resulting from the failed-sale-leaseback as further described in Note 3—Sale of Data Centers and Colocation Business.

Other Income, Net

Other income, net reflects certain items not directly related to our core operations, including our share of income from partnerships we do not control, interest income, gains and losses from non-operating asset dispositions, foreign currency gains and losses and components of net periodic pension and postretirement benefit costs. Other income, net increased by \$32 million, for the year ended December 31, 2018 as compared to the year ended December 31, 2017. This increase in other income, net was primarily due to a decrease in pension service charges in 2018. Other income, net increased by \$7 million, or 140%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. This increase in other income, net was primarily due to a reduction in the loss on early retirement of debt, an increase in interest income from the \$6 billion Term Loan B funds held in escrow and income generated from our services agreements with Cyxtera, which was substantially offset by a lower expected return on assets in 2017 for our pension and post-retirement plans. The expected return on assets for our pension and post-retirement plans was lower in 2017 as compared to 2016, which resulted in us recording pension and post-retirement expense in 2017 as compared to recording pension and post-retirement income in 2016.

Income Tax Expense (Benefit)

The enactment of the Tax Cuts and Jobs Act in December 2017 resulted in a re-measurement of our deferred tax assets and liabilities at the new federal corporate tax rate of 21%. The re-measurement resulted in a tax benefit of approximately \$1.1 billion recorded in the fourth quarter of 2017, which was the predominant factor contributing to our recognition of an \$849 million income tax benefit for 2017, versus income tax expense of \$394 million in the prior year. For the years ended December 31, 2018, 2017 and 2016, our effective income tax rate was (10.9)%, (157.2)% and 38.6%, respectively. The effective tax rate for the year ended December 31, 2018 reflects a \$572 million unfavorable impact of the non-deductible goodwill impairment as well as the current year unfavorable impact of purchase price accounting adjustments resulting from the Level 3 acquisition and from the tax reform impact of those adjustments of \$92 million. The 2018 unfavorable impacts are partially offset by the tax benefit of a 2017 tax loss carryback to 2016 of \$142 million. The effective tax rate for the year ended December 31, 2017 reflects the benefit from the re-measurement of deferred taxes as noted above, a \$27 million tax expense related to the sale of our data centers and colocation business and a \$32 million tax impact of non-deductible transaction costs related to the Level 3 acquisition. The effective tax rate for the year ended December 31, 2016 reflects a tax impact of \$18 million from an intercompany dividend payment from one of our foreign subsidiaries to its domestic parent company that was made as part of our corporate restructuring in preparation for the sale of our colocation business. See Note 14—Income Taxes to our consolidated financial statements in Item 8 of Part II of this report and "Critical Accounting Policies and Estimates—Income Taxes" below for additional information.

Segment Results

The results for our business and consumer segments are summarized below for the years ended December 31, 2018, 2017 and 2016:

	Years Ended December 31,		
	2018	2017	2016
	(Dollars in millions)		
Total segment revenue	\$22,720	16,924	16,766
Total segment expenses	12,269	9,390	9,081
Total segment adjusted EBITDA	\$10,451	7,534	7,685
Total margin percentage	46	% 45	% 46
Business segment:			
Revenue	\$17,349	11,220	10,704
Expenses	10,076	6,847	6,391
Adjusted EBITDA	\$7,273	4,373	4,313
Margin percentage	42	% 39	% 40
Consumer segment:			
Revenue	\$5,371	5,704	6,062
Expenses	2,193	2,543	2,690
Adjusted EBITDA	\$3,178	3,161	3,372
Margin percentage	59	% 55	% 56

Products and Services

In connection with our acquisition of Level 3 on November 1, 2017, we revised the way we categorize our products and services and now report our related revenue under the following categories: IP and data services, transport and infrastructure, voice and collaboration, IT and managed services and regulatory revenue. As a result of organization changes made in January 2019, we are making certain changes to revenue reporting categories in 2019 in our business and consumer segments to align with how the business is being managed as discussed further below.

We offer our customers the ability to bundle together several products and services. We believe our customers value the convenience and price discounts associated with receiving multiple services through a single company.

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Business Segment

The operations of our business segment have been impacted by several significant trends, including those described below:

Revenue. Our mix of total business segment revenue continues to migrate from traditional wireline voice services to newer, lower cost and more technologically advanced products and services as our small, medium and enterprise business, wholesale and government customers increasingly demand integrated data, broadband, hosting and voice services. Our Ethernet-based services in the wholesale market face competition from cable companies and competitive fiber-based telecommunications providers. We anticipate continued pricing pressure for our colocation services as our competitors continue to expand their enterprise colocation operations. In recent years, our competitors, as well as several large, diversified technology companies, have made substantial investments in cloud computing. This expansion in competitive cloud computing offerings has led to increased pricing pressure, a migration towards lower-priced cloud-based services and enhanced competition for contracts, and we expect these trends to continue. Customers' demand for new technology has also increased the number of competitors offering services similar to ours. Price compression from each of these above-mentioned competitive pressures has negatively impacted the operating margins of certain business product and service offerings, and we expect this trend to continue. Our traditional wireline products and services revenue have been, and we expect they will continue to be, adversely affected by access line losses and price compression. In particular, our access, local services and long-distance revenue have been, and we expect will continue to be, adversely affected by customer migration to more technologically advanced services, a substantial increase in the use of non-voice communications, industry consolidation and price compression caused by regulation and rate reductions. For example, many of our business segment customers are substituting cable, wireless and Voice over Internet Protocol ("VoIP") services for traditional voice telecommunications services, resulting in continued access revenue loss. Demand for our private line services (including business data services) continues to decline due to our customers' optimization of their networks, industry consolidation and technological migration to higher-speed services. Although our traditional wireline services generally face fewer direct competitors than certain of our newer, lower cost more advanced products and services, customer migration and, to a lesser degree, price compression from competitive pressures have negatively impacted our traditional wireline revenue and the operating margins of these services. We expect this trend to continue. We expect both equipment sales and professional services revenue and the related costs will fluctuate from year to year as this offering tends to be more sensitive than others to changes in the economy and in spending trends of our federal, state and local government customers, many of whom have experienced substantial budget cuts over the past several years, with the possibility of additional future budget cuts.

Expenses. Our operating costs also impact the operating margins of all of our above-mentioned services, but to a lesser extent than price compression and customer disconnects. These operating costs include employee costs, sales commissions, software costs on selected services, installation costs and third-party facility costs. We believe increases in operating costs have generally had a greater impact on the operating margins of some of our newer, more technologically advanced services as compared to our traditional wireline services, principally because those newer services rely more heavily upon the above-listed support functions. Operating costs, such as installation costs and third-party facility costs, have also negatively impacted the operating margins of our traditional wireline products and services, but to a lesser extent than customer loss, customer migration and price compression.

Operating efficiencies. We continue to evaluate our segment operating structure and focus. This involves balancing our workforce in response to our workload requirements, productivity improvements and changes in industry, competitive, technological and regulatory conditions, while achieving operational efficiencies and improving our processes through automation. However, our ongoing efforts to increase revenue will continue to require that we incur higher costs in some areas. We also expect our business segment to benefit indirectly from enhanced efficiencies in our company-wide network operations.

The following tables summarize the results of operations from our business segment:

	Business Segment			
	Years Ended		Increase / (Decrease)	% Change
	December 31, 2018	2017		
	(Dollars in millions)			
Segment revenue:				
IP and Data Services ⁽¹⁾	\$6,971	3,682	3,289	89 %
Transport and Infrastructure ⁽²⁾	5,356	3,569	1,787	50 %
Voice and Collaboration ⁽³⁾	4,401	3,317	1,084	33 %
IT and Managed Services ⁽⁴⁾	621	652	(31)	(5) %
Total segment revenue	17,349	11,220	6,129	55 %
Segment expenses:				
Total expenses	10,076	6,847	3,229	47 %
Segment adjusted EBITDA	\$7,273	4,373	2,900	66 %
Segment margin percentage	42 %	39 %		

	Business Segment			
	Years Ended		Increase / (Decrease)	% Change
	December 31, 2017	2016		
	(Dollars in millions)			
Segment revenue:				
IP and Data Services ⁽¹⁾	\$3,682	2,957	725	25 %
Transport and Infrastructure ⁽²⁾	3,569	3,807	(238)	(6) %
Voice and Collaboration ⁽³⁾	3,317	3,299	18	1 %
IT and Managed Services ⁽⁴⁾	652	641	11	2 %
Total segment revenue	11,220	10,704	516	5 %
Segment expenses:				
Total expenses	6,847	6,391	456	7 %
Segment adjusted EBITDA	\$4,373	4,313	60	1 %
Segment margin percentage	39 %	40 %		

(1) Includes primarily VPN data network, Ethernet, IP and ancillary revenue.

(2) Includes primarily broadband, private line (including business data services), colocation and data centers, wavelength and ancillary revenue.

(3) Includes local, long-distance and other ancillary revenue.

(4) Includes IT services and managed services revenue.

Segment Revenue

Business segment revenue increased by \$6.1 billion, or 55%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017 due to the inclusion of \$6.7 billion in Legacy Level 3 post-acquisition business segment revenue in our consolidated business segment revenue. Business segment revenue for Legacy CenturyLink decreased by \$571 million for the year ended December 31, 2018 compared to the year ended December 31, 2017. The decline in Legacy CenturyLink business segment revenue for year ended December 31, 2018 is primarily due to lower transport and infrastructure and voice and collaboration revenue services. The transport and infrastructure decrease was primarily due to reductions in private line (including business data services) revenue while the decrease in voice and collaboration was due to continued decreases in revenue from our traditional voice telecommunications services.

Business segment revenue increased by \$516 million for the year ended December 31, 2017 as compared to the year ended December 31, 2016 due to the inclusion of \$1.4 billion in post-acquisition Legacy Level 3 business segment revenue in our consolidated business segment revenue. Business segment revenue for Legacy CenturyLink decreased by \$874 million for the year ended December 31, 2017 compared to the year ended December 31, 2016. The decline in business segment revenue for year ended December 31, 2017 is attributable to a reduction in access lines and lower volumes of long-distance and access services resulting from the competitive and technological factors noted above and to reductions in the volume of private line (including business data services) services. Our business segment revenue for the year ended December 31, 2017 was also impacted by the May 1, 2017 sale of our data centers and colocation business, which resulted in a reduction of colocation revenue of \$396 million for the year ended December 31, 2017 as compared to the prior year period.

The following tables summarize the results of operations from our business segment by customer sales channel:

	Business Segment			
	Years Ended		Increase / (Decrease)	%Change
	December 31, 2018	2017		
	(Dollars in millions)			
Segment revenue by customer sales channel:				
Medium and small business	\$3,429	3,114	315	10 %
Enterprise	5,217	3,269	1,948	60 %
International and global accounts	3,657	1,377	2,280	166 %
Wholesale and indirect	5,046	3,289	1,757	53 %
Colocation	—	171	(171)	(100)%
Total segment revenue by customer sales channel:	\$17,349	11,220	6,129	55 %

	Business Segment			
	Years Ended		Increase / (Decrease)	%Change
	December 31, 2017	2016		
	(Dollars in millions)			
Segment revenue by customer sales channel:				
Medium and small business	3,114	3,127	(13)	— %
Enterprise	3,269	2,841	428	15 %
International and global accounts	1,377	973	404	42 %
Wholesale and indirect	3,289	3,232	57	2 %
Colocation	171	531	(360)	(68)%
Total segment revenue by customer sales channel:	\$11,220	10,704	516	5 %

In 2019, we intend to make the following reporting changes for the business segment. The indirect channel, which primarily targets small to medium-sized enterprises, will move from the Wholesale and Indirect Business unit to the Small and Medium Business unit. The company is also moving State and Local Government customers from the Small and Medium Business unit to the Enterprise Business unit to gain efficiencies by managing all government customers in a single organization.

In addition, the new reporting structure reflects changes made to customer assignments between all five customer-facing business units.

Segment Expenses

Business segment expenses increased by \$3.2 billion, or 47%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017, primarily due to the inclusion of \$3.7 billion in Legacy Level 3 post-acquisition business segment expenses in our consolidated business segment expenses. Business segment expenses for Legacy CenturyLink decreased by \$504 million for the year ended December 31, 2018 compared to the year ended December 31, 2017. The decline in business segment expenses for Legacy CenturyLink was primarily due to decreased salaries and wages from lower headcount, a reduction of expenses generated by our colocation business and decreased Level 3 pre-acquisition expenses paid by CenturyLink during the first 10 months of 2017. Business segment expenses for Legacy CenturyLink increased by \$456 million, or 7%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016 primarily due to the inclusion of \$749 million in post-acquisition Legacy Level 3 business segment expenses in our consolidated business segment expenses. Business segment expenses for Legacy CenturyLink decreased by \$293 million for the year ended December 31, 2017 as compared to the year ended December 31, 2016 primarily due to decreases in salaries and wages and employee benefits from lower headcount, real estate and power costs due to the sale of the data centers and colocation business, marketing and advertising expenses and network expense. These decreases were partially offset by an increase in facility costs.

Segment Adjusted EBITDA

Business segment adjusted EBITDA increased by \$2.9 billion, or 66%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017 due to the inclusion of Legacy Level 3 post-acquisition business segment adjusted EBITDA of \$3.0 billion. Business segment adjusted EBITDA increased by \$60 million, or 1%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016 primarily due to the inclusion of \$641 million in post-acquisition Legacy Level 3 business segment adjusted EBITDA. The decrease of \$581 million in Legacy CenturyLink business segment adjusted EBITDA for the year ended December 31, 2017 was due to the loss of customers, lower service volumes and the loss of income generated by our colocation business.

Consumer Segment

The operations of our consumer segment have been impacted by several significant trends, including those described below:

Revenue. In order to remain competitive and attract additional residential broadband subscribers, we believe it is important to continually increase our broadband network's scope and connection speeds. As a result, we continue to invest in our broadband network, which allows for the delivery of higher-speed broadband services to a greater number of customers. We compete in a maturing broadband market in which most consumers already have broadband services and growth rates in new subscribers have slowed or declined. Moreover, as described further in Item 1A of Part I of this report, certain of our competitors continue to provide broadband services at generally higher average transmission speeds than ours or through advanced wireless data service offerings, both of which we believe have impacted the competitiveness of certain of our broadband offerings in certain of our markets. Our voice revenue has been, and we expect they will continue to be, adversely affected by access line losses and lower long-distance voice service volumes. Intense competition and product substitution continue to drive our access line losses. For example, many consumers are substituting cable and wireless voice services and electronic mail, texting and social networking non-voice services for traditional voice telecommunications services. We expect our video revenue to continue to decline, particularly due to our decision to discontinue active marketing of our facilities-based video services in light of competitive pressures and escalating content costs. The demand for new technology has increased the number of competitors offering services similar to ours. Price compression and new technology from our competitors have negatively impacted the operating margins of our newer, more technologically advanced products and services. We expect that these factors will continue to negatively impact our business. As a result of the expected loss of higher margin services associated with access lines, we continue to offer our customers service bundling and other product promotions to help mitigate this trend, as described below. Customer migration and price compression from competitive pressures have not only negatively impacted our traditional wireline services revenue, but they have also negatively impacted the operating margins of these services and we expect this trend to continue.

Additionally, we plan to make changes to the service type reporting to make it easier for investors to evaluate changes to consumer product revenue.

We plan to report consumer revenue in the following categories: broadband; voice; regulatory (includes CAF II and other support funds); and other, which includes retail video and other miscellaneous services.

Expenses. Operating costs also impact the operating margins of these services. These operating costs include employee costs, marketing and advertising expenses, sales commissions, TV content costs and installation costs. We believe increases in operating costs have generally had a greater impact on our operating margins of our newer, more technologically advanced products and services as compared to our traditional wireline services, principally because our newer, more technologically advanced products and services rely more heavily upon the above-listed operating expenses. Operating costs, such as installation costs and facility costs, have also negatively impacted the operating margins of our traditional wireline products and services, but to a lesser extent than customer migration and price compression. Operating costs also tend to impact our traditional wireline products and services margins to a lesser extent than our newer, more technologically advanced products and services as noted above.

Service bundling and product promotions. We offer our customers the ability to bundle multiple products and services. These customers can bundle broadband services with other services such as local voice, video and long-distance. While we believe our bundled service offerings can help retain customers, they also tend to lower our profit margins in the consumer segment due to the related discounts; and

Operating efficiencies. We continue to evaluate our segment operating structure and focus. This involves balancing our workforce in response to our workload requirements, productivity improvements and changes in industry,

competitive, technological and regulatory conditions. We also expect our consumer segment to benefit indirectly from enhanced efficiencies in our company-wide network operations.

The following tables summarize the results of operations from our consumer segment:

	Consumer Segment			
	Years Ended		Increase / (Decrease)	% Change
	December 31, 2018	2017		
	(Dollars in millions)			
Segment revenue:				
IP and Data Services ⁽¹⁾	\$308	401	(93)	(23)%
Transport and Infrastructure ⁽²⁾	2,892	2,776	116	4 %
Voice and Collaboration ⁽³⁾	2,171	2,527	(356)	(14)%
Total segment revenue	5,371	5,704	(333)	(6)%
Segment expenses:				
Total expenses	2,193	2,543	(350)	(14)%
Segment adjusted EBITDA	\$3,178	3,161	17	1 %
Segment margin percentage	59 %	55 %		

	Consumer Segment			
	Years Ended		Increase / (Decrease)	% Change
	December 31, 2017	2016		
	(Dollars in millions)			
Segment revenue:				
IP and Data Services ⁽¹⁾	\$401	461	(60)	(13)%
Transport and Infrastructure ⁽²⁾	2,776	2,776	—	— %
Voice and Collaboration ⁽³⁾	2,527	2,825	(298)	(11)%
Total segment revenue	5,704	6,062	(358)	(6)%
Segment expenses:				
Total expenses	2,543	2,690	(147)	(5)%
Segment adjusted EBITDA	\$3,161	3,372	(211)	(6)%
Segment margin percentage	55 %	56 %		

(1)Includes retail video revenue (including our facilities-based video revenue).

(2)Includes primarily broadband and equipment sales and professional services revenue.

(3)Includes local, long-distance and other ancillary revenue.

Segment Revenue

Consumer segment revenue decreased by \$333 million, or 6%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017 and by \$358 million, or 6%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The decline in consumer segment services revenue during each year was primarily due to lower local and long-distance voice service volumes associated with access line losses resulting from the competitive and technological factors noted above and a decrease in the number of Prism TV customers.

Segment Expenses

Consumer segment expenses decreased by \$350 million, or 14%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017. The decrease in our consumer segment expenses was primarily due to lower salaries and wages from a reduction in headcount, decreases in marketing expenses and lower network expense in response to a smaller customer base. Consumer segment expenses decreased by \$147 million, or 5%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. This decrease in our consumer segment expenses was primarily due to decreases in salaries and wages and employee benefits from lower headcount, external commissions and USF surcharges from rate decreases, which were partially offset by increases in marketing and advertising expenses.

Segment Adjusted EBITDA

Consumer segment adjusted EBITDA increased by \$17 million, or 1%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017. The increase in our consumer segment adjusted EBITDA was due predominantly to decreased segment expenses related to reduction in headcount, lower marketing and network expenses. Consumer segment adjusted EBITDA decreased \$211 million, or 6%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The decline in our consumer segment adjusted EBITDA was primarily due to loss of customers and increases in the costs associated with Prism TV.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with accounting principles that are generally accepted in the United States. The preparation of these consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of our assets, liabilities, revenue and expenses. We have identified certain policies and estimates as critical to our business operations and the understanding of our past or present results of operations related to (i) business combinations, (ii) goodwill, customer relationships and other intangible assets; (iii) property, plant and equipment; (iv) pension and post-retirement benefits; (v) loss contingencies and litigation reserves and (vi) income taxes. These policies and estimates are considered critical because they had a material impact, or they have the potential to have a material impact, on our consolidated financial statements and because they require us to make significant judgments, assumptions or estimates. We believe that the estimates, judgments and assumptions made when accounting for the items described below were reasonable, based on information available at the time they were made. However, there can be no assurance that actual results will not differ from those estimates.

Business Combination

We have accounted for our acquisition of Level 3 on November 1, 2017, under the acquisition method of accounting, whereby the tangible and separately identifiable intangible assets acquired and liabilities assumed are recognized at their fair values at the acquisition date. The portion of the purchase price in excess of the fair value of the net tangible and separately identifiable intangible assets acquired represents goodwill. The fair value and resulting assignment of the purchase price related to our acquisition of Level 3 involved significant estimates and judgments by our management. In arriving at the fair values of assets acquired and liabilities assumed, we considered the following generally accepted valuation approaches: the cost approach, income approach and market approach. Our estimates also included assumptions about projected growth rates, cost of capital, effective tax rates, tax amortization periods, technology life cycles, customer attrition rates, the regulatory and legal environment and industry and economic trends. For additional information about our acquisition of Level 3, see Note 2—Acquisition of Level 3 to our consolidated financial statements in Item 8 of Part II of this report.

Goodwill, Customer Relationships and Other Intangible Assets

We amortize customer relationships primarily over an estimated life of 7 to 15 years, using either the sum-of-years-digits or the straight-line methods, depending on the customer retention patterns for the type of customer at the companies we acquire. We amortize capitalized software using the straight-line method over estimated lives ranging up to 7 years, except for approximately \$237 million of our capitalized software costs, which represents costs to develop an integrated billing and customer care system which is amortized using the straight-line method over a 20-year period. We annually review the estimated lives and methods used to amortize our other intangible assets, primarily capitalized software. The amount of future amortization expense may differ materially from current amounts, depending on the results of our annual reviews.

Our goodwill was derived from numerous acquisitions where the purchase price exceeded the fair value of the net assets acquired.

We are required to reassign goodwill to reporting units each time we reorganize our internal reporting structure which causes a change in the composition of our reporting units. We assign goodwill to the reporting units using a relative fair value approach. We utilize the trailing twelve-months earnings before interest, taxes, depreciation and amortization as our allocation methodology as we believe that it represents a reasonable proxy for the fair value of the operations being reorganized. The use of other fair value assignment methods could result in materially different results. For additional information on our segments, see Note 15—Segment Information to our consolidated financial statements in Item 8 of Part II of this report.

We are required to assess goodwill for impairment at least annually, or more frequently, if an event occurs or circumstances change that would indicate an impairment may have occurred. We are required to write-down the value of goodwill in periods in which the carrying value of equity exceeds the fair value of equity. Our reporting units are not discrete legal entities with discrete full financial statements. Our assets and liabilities are employed in and relate to the operations of our reporting units. Therefore, the equity carrying value and future cash flows must be estimated each time a goodwill impairment analysis is performed on a reporting unit. As a result, our assets, liabilities and cash flows are assigned to reporting units using reasonable and consistent allocation methodologies. Certain estimates, judgments and assumptions are required to perform these assignments. We believe these estimates, judgments and assumptions to be reasonable, but changes in any of these can significantly affect each reporting unit's equity carrying value and future cash flows utilized for our goodwill impairment test. We consider both a market approach and a discounted cash flow method which are weighted equally. The market approach method includes the use of comparable multiples of publicly traded companies whose services are comparable to ours and the discounted cash flow method uses a market participant's weighted average cost of capital. Our annual assessment date for testing goodwill impairment is October 31.

As of October 31, 2018, we assessed goodwill for impairment for our five reporting units, which we determined to be consumer, medium and small business, enterprise, international and global accounts, and wholesale and indirect. We determined that the carrying value of our consumer reporting unit's equity was substantially above its estimated fair value of equity by approximately \$2.7 billion. As a result, we recorded a non-cash, non-tax-deductible goodwill impairment charge of \$2.7 billion for goodwill assigned to our consumer reporting unit during the fourth quarter of 2018.

As of October 31, 2018, based on our assessment performed with respect to our four reporting units included in our business segment, the estimated fair value of our equity exceeded our carrying value of equity for our medium and small business, enterprise, international and global accounts and wholesale and indirect by 2%, 11%, 30% and 5%, respectively. After the impairment charge described above, the estimated fair value of equity for our consumer reporting unit equals the carrying value of equity for such unit.

For additional information on our goodwill balances by segment, see Note 4—Goodwill, Customer Relationships and Other Intangible Assets to our consolidated financial statements in Item 8 of Part II of this report.

As a result of the reporting unit changes we made in January 2019, we intend to perform a goodwill impairment analysis during the first quarter of 2019. We may also be required to assess our goodwill for impairment before our next required assessment date of October 31, 2019 under certain circumstances, including any failure to meet our forecasted future operating results or any significant increases in our weighted average cost of capital. In addition, we cannot assure you that adverse conditions will not trigger future goodwill impairment assessments or impairment charges. A number of factors, many of which we cannot control, could affect our financial condition, operating results and business prospects and could cause our actual results to differ from the estimates and assumptions we employed in our goodwill impairment assessment. These factors include, but are not limited to, (i) weakening in the overall economy or in any of the markets in which we operate; (ii) a significant decline in our stock price and resulting market capitalization as a result of an adverse change to our overall business operations; (iii) changes in the discount rate we use in our testing; (iv) successful efforts by our competitors to gain market share in our markets; (v) adverse changes as a result of regulatory or legislative actions; (vi) a significant adverse change in our legal affairs or in the overall business climate; and (vii) recognition of a goodwill impairment loss in the financial statements of one or more of our subsidiaries that are a component of our segments. For additional information, see "Risk Factors" in Item 1A of Part I of this report. We will continue to monitor certain events that impact our operations to determine if an interim assessment of goodwill impairment should be performed prior to the next required assessment date of October 31, 2019.

Property, Plant and Equipment

Property, plant and equipment acquired in connection with our acquisitions was recorded based on its estimated fair value as of its acquisition date, plus the estimated value of any associated legally or contractually required asset retirement obligation. Purchased and constructed property, plant and equipment is recorded at cost, plus the estimated value of any associated legally or contractually required asset retirement obligation. Renewals and betterments of plant and equipment are capitalized while repairs, as well as renewals of minor items, are charged to operating expense. Depreciation of property, plant and equipment is provided on the straight-line method specific unit or group method using class or overall group rates and specific asset life. The group method provides for the recognition of the remaining net investment, less anticipated net salvage value, over the remaining useful life of the assets. This method requires the periodic revision of depreciation rates.

Normal retirements of property, plant and equipment are charged against accumulated depreciation, with no gain or loss recognized. We depreciate such property on the straight-line method over estimated service lives ranging from 3 to 45 years.

We perform annual internal reviews to evaluate the reasonableness of the depreciable lives for our property, plant and equipment. Our reviews utilize models that take into account actual usage, physical wear and tear, replacement history, assumptions about technology evolution and, in certain instances, actuarially determined probabilities to estimate the remaining life of our asset base.

Due to rapid changes in technology and the competitive environment, determining the estimated economic life of telecommunications plant and equipment requires a significant amount of judgment. We regularly review data on utilization of equipment, asset retirements and salvage values to determine adjustments to our depreciation rates. The effect of a hypothetical one year increase or decrease in the estimated remaining useful lives of our property, plant and equipment would have decreased depreciation expense by approximately \$410 million annually or increased depreciation expense by approximately \$530 million annually, respectively.

Pension and Post-retirement Benefits

We sponsor a noncontributory qualified defined benefit pension plan (referred to as our qualified pension plan) for a substantial portion of our employees. In addition to this tax-qualified pension plan, we also maintain several

non-qualified pension plans for certain eligible highly compensated employees. We also maintain post-retirement benefit plans that provide health care and life insurance benefits for certain eligible retirees. On November 1, 2017, we assumed Level 3's pension and post-retirement plans, and certain obligations associated with these plans. Due to the insignificant impact of these plans on our consolidated financial statements, we have excluded them from the following pension and post-retirement benefits disclosures for 2018 and 2017.

In 2018, approximately 55% of the qualified pension plan's January 1, 2018 net actuarial loss balance of \$2.9 billion was subject to amortization as a component of net periodic expense over the average remaining service period of participating employees expected to receive benefits, which ranges from 8 to 9 years for the plan. The other 45% of the qualified pension plan's beginning net actuarial loss balance was treated as indefinitely deferred during 2018. The entire beginning net actuarial loss of \$248 million for the post-retirement benefit plans was treated as indefinitely deferred during 2018.

In 2017, approximately 58% of the qualified pension plan's January 1, 2017 net actuarial loss balance of \$3.1 billion was subject to amortization as a component of net periodic expense over the average remaining service period of participating employees expected to receive benefits, which ranges from 9 to 10 years for the plan. The other 42% of the qualified pension plan's beginning net actuarial loss balance was treated as indefinitely deferred during 2017. The entire beginning net actuarial loss of \$137 million for the post-retirement benefit plans was treated as indefinitely deferred during 2017.

In 2016, approximately 53% of the qualified pension plan's January 1, 2016 net actuarial loss balance of \$2.8 billion was subject to amortization as a component of net periodic expense over the average remaining service period of participating employees expected to receive benefits, which ranges from 9 to 10 years for the plan. The other 47% of the qualified pension plan's beginning net actuarial loss balance was treated as indefinitely deferred during 2016. The entire beginning net actuarial loss of \$147 million for the post-retirement benefit plans was treated as indefinitely deferred during 2016.

In computing our pension and post-retirement health care and life insurance benefit obligations, our most significant assumptions are the discount rate and mortality rates. In computing our periodic pension and post-retirement benefit expense, our most significant assumptions are the discount rate and the expected rate of return on plan assets.

The discount rate for each plan is the rate at which we believe we could effectively settle the plan's benefit obligations as of the end of the year. We selected each plan's discount rate based on a cash flow matching analysis using hypothetical yield curves from U.S. corporate bonds rated high quality and projections of the future benefit payments that constitute the projected benefit obligation for the plans. This process establishes the uniform discount rate that produces the same present value of the estimated future benefit payments as is generated by discounting each year's benefit payments by a spot rate applicable to that year. The spot rates used in this process are derived from a yield curve created from yields on the 60th to 90th percentile of U.S. high quality bonds.

Mortality rates help predict the expected life of plan participants and are based on historical demographic studies by the Society of Actuaries ("SOA"). The SOA publishes new mortality rates (mortality tables and projection scales) on a regular basis which reflect updates to projected life expectancies in North America. Historically, we have adopted the new projection tables immediately after publication. In 2017, we adopted the revised mortality tables and projection scale released by the SOA, which decreased the projected benefit obligation of our benefit plans by \$113 million. In 2016, we adopted the revised mortality table and projection scale released by the SOA, which decreased the projected benefit obligation of our benefit plans by \$268 million. The change in the projected benefit obligation of our benefit plans was recognized as part of the net actuarial loss and is included in accumulated other comprehensive loss, a portion of which is subject to amortization over the remaining estimated life of plan participants, which was approximately 17 years as of December 31, 2018.

The expected rate of return on plan assets is the long-term rate of return we expect to earn on the plans' assets in the future, net of administrative expenses paid from plan assets. The rate of return is determined by the strategic allocation of plan assets and the long-term risk and return forecast for each asset class. The forecasts for each asset class are generated primarily from an analysis of the long-term expectations of various third-party investment management organizations to which we then add a factor of 50 basis points to reflect the benefit we expect to result from our active management of the assets. The expected rate of return on plan assets is reviewed annually and revised, as necessary, to

reflect changes in the financial markets and our investment strategy.

To compute the expected return on pension and post-retirement benefit plan assets, we apply an expected rate of return to the fair value of the pension plan assets and to the fair value of the post-retirement benefit plan assets adjusted for contribution timing and for projected benefit payments to be made from the plan assets. Annual market volatility for these assets (higher or lower than expected return) is reflected in the net actuarial losses.

Changes in any of the above factors could significantly impact operating expenses in the consolidated statements of operations and other comprehensive income (loss) in the consolidated statements of comprehensive income as well as the value of the liability and accumulated other comprehensive loss of stockholders' equity on our consolidated balance sheets. The expected return on plan assets is reflected as a reduction to our pension and post-retirement benefit expense.

Loss Contingencies and Litigation Reserves

We are involved in several material legal proceedings, as described in more detail in Note 17—Commitments, Contingencies and Other Items to our consolidated financial statements in Item 8 of Part II of this report. We periodically assess potential losses in relation to these and other pending or threatened tax and legal matters. For matters not related to income taxes, if a loss is considered probable and the amount can be reasonably estimated, we recognize an expense for the estimated loss. To the extent these estimates are more or less than the actual liability resulting from the resolution of these matters, our earnings will be increased or decreased accordingly. If the differences are material, our consolidated financial statements could be materially impacted.

For matters related to income taxes, if we determine in our judgment that the impact of an uncertain tax position is more likely than not to be sustained upon audit by the relevant taxing authority, then we recognize in our financial statements a benefit for the largest amount that is more likely than not to be sustained. No portion of an uncertain tax position will be recognized if we determine in our judgment that the position has less than a 50% likelihood of being sustained. Though the validity of any tax position is a matter of tax law, the body of statutory, regulatory and interpretive guidance on the application of the law is complex and often ambiguous. Because of this, whether a tax position will ultimately be sustained may be uncertain.

Income Taxes

Our provision for income taxes includes amounts for tax consequences deferred to future periods. We record deferred income tax assets and liabilities reflecting future tax consequences attributable to tax credit carryforwards, differences between the financial statement carrying value of assets and liabilities and the tax basis of those assets and liabilities and tax net operating loss carryforwards, or NOLs. Deferred taxes are computed using enacted tax rates expected to apply in the year in which the differences are expected to affect taxable income. The effect on deferred income tax assets and liabilities of a change in tax rate is recognized in earnings in the period that includes the enactment date.

The measurement of deferred taxes often involves the exercise of considerable judgment related to the realization of tax basis. Our deferred tax assets and liabilities reflect our assessment that tax positions taken in filed tax returns and the resulting tax basis are more likely than not to be sustained if they are audited by taxing authorities. Assessing tax rates that we expect to apply and determining the years when the temporary differences are expected to affect taxable income requires judgment about the future apportionment of our income among the states in which we operate. Any changes in our practices or judgments involved in the measurement of deferred tax assets and liabilities could materially impact our financial condition or results of operations.

In connection with recording deferred income tax assets and liabilities, we establish valuation allowances when necessary to reduce deferred income tax assets to amounts that we believe are more likely than not to be realized. We evaluate our deferred tax assets quarterly to determine whether adjustments to our valuation allowance are appropriate in light of changes in facts or circumstances, such as changes in tax law, interactions with taxing authorities and developments in case law. In making this evaluation, we rely on our recent history of pre-tax earnings. We also rely on our forecasts of future earnings and the nature and timing of future deductions and benefits represented by the deferred tax assets, all which involve the exercise of significant judgment. At December 31, 2018, we established a valuation allowance of \$1.3 billion primarily related to foreign and state NOLs, as it is more likely than not that these NOLs will expire unused. If forecasts of future earnings and the nature and estimated timing of future deductions and

benefits change in the future, we may determine that a valuation allowance for certain deferred tax assets is appropriate, which could materially impact our financial condition or results of operations. See Note 14—Income Taxes to our consolidated financial statements in Item 8 of Part II of this report for additional information.

Liquidity and Capital Resources

Overview of Sources and Uses of Cash

We are a holding company that is dependent on the capital resources of our subsidiaries to satisfy our parent company liquidity requirements. Several of our significant operating subsidiaries have borrowed funds either on a standalone basis or as part of a separate restricted group with certain of its subsidiaries or affiliates. The terms of the instruments governing the indebtedness of these borrowers or borrowing groups may restrict our ability to access their accumulated cash. In addition, our ability to access the liquidity of these and other subsidiaries may be limited by tax and legal considerations and other factors.

At December 31, 2018, we held cash and cash equivalents of \$488 million and we had approximately \$1.6 billion of borrowing capacity available under our revolving credit facility. We had approximately \$108 million of cash and cash equivalents outside the United States at December 31, 2018. We currently believe we have the ability to repatriate cash and cash equivalents into the United States without paying or accruing U.S. taxes, other than the possible payment of the Deemed Repatriation Transition Tax discussed elsewhere herein and other limited exceptions. We do not currently intend to repatriate to the United States any of our foreign cash and cash equivalents from operating entities outside of Latin America. We have no material restrictions on our ability to repatriate to the United States foreign cash and cash equivalents.

Our executive officers and our Board of Directors periodically review our sources and potential uses of cash in connection with our annual budgeting process. Generally speaking, our principal funding source is cash from operating activities, and our principal cash requirements include operating expenses, capital expenditures, income taxes, debt repayments, dividends, periodic stock repurchases, periodic pension contributions and other benefits payments. As discussed further below, the amount of cash we paid in 2018 for retiree healthcare benefits increased substantially compared to prior periods. We currently expect that our cash paid for retiree healthcare benefits in 2019 will remain flat.

Based on our current capital allocation objectives, during 2019 we project expending approximately \$3.5 billion to \$3.8 billion (excluding integration capital) of cash for capital investment in property, plant and equipment and approximately \$1.1 billion of cash for dividends on our common stock (based on the assumptions described below under "Dividends"). At December 31, 2018, we had debt maturities of \$400 million, scheduled debt principal payments of \$164 million and capital lease and other fixed payments of \$88 million, each due during 2019. Each of the expenditures is described further below.

We will continue to monitor our future sources and uses of cash, and anticipate that we will make adjustments to our capital allocation strategies when, as and if determined by our Board of Directors. We typically use our revolving credit facility as a source of liquidity for operating activities and our other cash requirements.

For additional information, see "Risk Factors—Risks Affecting Our Liquidity and Capital Resources".

Capital Expenditures

We incur capital expenditures on an ongoing basis in order to enhance and modernize our networks, compete effectively in our markets, expand and improve our service offerings. We evaluate capital expenditure projects based on a variety of factors, including expected strategic impacts (such as forecasted impact on revenue growth, productivity, expenses, service levels and customer retention) and our expected return on investment. The amount of capital investment is influenced by, among other things, demand for our services and products, cash flow generated by operating activities, cash required for other purposes and regulatory considerations (such as our CAF Phase II infrastructure buildout requirements). Based on current circumstances, we estimate that our total capital expenditures

for 2019 will be approximately \$3.5 billion to \$3.8 billion, inclusive of CAF Phase II related capital expenditures, but excluding integration capital.

Our capital expenditures continue to be focused on keeping the network operating efficiently and supporting new service developments. For more information on our capital spending, see "Historical Information—Investing Activities" below and Item 1 of Part 1 of this report.

Debt and Other Financing Arrangements

Subject to market conditions, we expect to continue to issue debt securities from time to time in the future to refinance a substantial portion of our maturing debt, including issuing Qwest Corporation and Level 3 Financing, Inc. debt securities to refinance their maturing debt to the extent feasible. The availability, interest rate and other terms of any new borrowings will depend on the ratings assigned by credit rating agencies, among other factors.

Following the closing of our acquisition of Level 3, the rating agencies took action on the ratings of the debt in the table below. Generally, the agencies downgraded ratings of the CenturyLink, Inc. debt from previous levels as they indicated they intended to at the time of the announcement of the transaction. Additionally, immediately following the Level 3 acquisition, Moody's Investors Service, Inc. and Standard and Poor's placed such ratings on negative outlook while Fitch Ratings placed them on stable outlook. As for the Level 3 debt, Moody's Investors Service, Inc. upgraded the unsecured debt and affirmed the rating of the secured debt, with all ratings placed on negative outlook. Standard and Poor's and Fitch Ratings affirmed all previous Level 3 ratings with stable outlook.

On February 14, 2019, Standard and Poor's revised its outlook on all CenturyLink, Inc. credit ratings from negative to stable. As of the date of this report, the credit ratings for the senior unsecured debt of CenturyLink, Inc., Qwest Corporation, Level 3 Parent, LLC and Level 3 Financing, Inc. were as follows:

Borrower	Moody's Investors Service, Inc.	Standard & Poor's	Fitch Ratings
CenturyLink, Inc.:			
Unsecured	B2	B+	BB
Secured	Ba3	BBB-	BB+
Qwest Corporation:			
Unsecured	Ba2	BBB-	BB+
Level 3 Parent, LLC:			
Unsecured	B1	B+	BB-
Level 3 Financing, Inc.			
Unsecured	Ba3	BB	BB
Secured	Ba1	BBB-	BBB-

Our credit ratings are reviewed and adjusted from time to time by the rating agencies. Any future downgrades of the senior unsecured or secured debt ratings of us or our subsidiaries could impact our access to debt capital or further raise our borrowing costs. See "Risk Factors—Risks Affecting our Liquidity and Capital Resources" in Item 1A of Part I of this report.

Net Operating Loss Carryforwards

As of December 31, 2018, CenturyLink had approximately \$7.3 billion of net operating loss carryforwards. ("NOLs"), which for U.S. federal income tax purposes can be used to offset future taxable income. These NOLs are primarily related to federal NOLs we acquired through the Level 3 acquisition on November 1, 2017, and are subject to limitations under Section 382 of the Internal Revenue Code ("Code") and related U.S. Treasury Department regulations. On February 13, 2019, we entered into a Section 382 rights agreement designed to safeguard our ability to use those NOLs. Assuming that we can continue using these NOLs in the amounts projected, we expect to significantly reduce our federal cash taxes for the next several years. The amounts of our near-term future tax payments will depend upon many factors, including our future earnings and tax circumstances and results of any corporate tax reform. Based on current laws and our current estimates of 2019 earnings, we estimate our cash income tax liability related to 2019 will be approximately \$100 million.

We cannot assure you that we will be able to use these NOL carryforwards fully. See "Risk Factors—Risks Relating to Our November 2017 Acquisition of Level 3—We cannot assure you, whether, when or in what amounts we will be able to use Level 3's net operating loss carryforwards" in Item 1A of Part I of this report.

Dividends

We currently expect to continue our current practice of paying quarterly cash dividends in respect of our common stock subject to our Board of Directors' discretion to modify or terminate this practice at any time and for any reason without prior notice. Following a reduction announced on February 13, 2019, our current quarterly common stock dividend rate is \$0.25 per share, as approved by our Board of Directors, which we believe is a dividend rate per share which enables us to balance our multiple objectives of managing our business, investing in the business, de-leveraging our balance sheet and returning a substantial portion of our cash to our shareholders. Assuming continued payment during 2019 at this rate of \$0.25 per share, our average total dividend paid each quarter would be approximately \$274 million based on our current number of outstanding shares (assuming no increases or decreases in the number of shares, except in connection with the vesting of currently outstanding equity awards). See Risk Factors—Risks Affecting Our Business" in Item 1A of Part I of this report.

Revolving Facilities and Other Debt Instruments

To substantially fund our acquisition of Level 3, on June 19, 2017, one of our affiliates entered into a credit agreement (the "2017 CenturyLink Credit Agreement") providing for \$10.2 billion in senior secured credit facilities, consisting of a new \$2.0 billion revolving credit facility (which replaced our 2012 credit facility upon consummation of the Level 3 acquisition) and \$7.9 billion of term loan facilities, of which approximately \$6.0 billion were funded into escrow on such date, and \$1.945 billion of which were funded upon the closing of the acquisition on November 1, 2017. On November 1, 2017, CenturyLink, Inc., among other things, (i) assumed all rights and obligations under the 2017 CenturyLink Credit Agreement, (ii) borrowed \$400 million under the new \$2.0 billion revolving credit facility and (iii) received \$6.0 billion of Term Loan B loan proceeds from escrow. On January 29, 2018, the 2017 CenturyLink Credit Agreement was amended to increase the borrowing capacity of the new revolving credit facility from \$2.0 billion to \$2.2 billion, and to increase the borrowing capacity under one of the term loan tranches by \$132 million. For additional information, see (i) Note 6—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of this report and (ii) our current reports on Form 8-K filed with the SEC on June 20, 2017 and November 1, 2017.

On November 1, 2017, we also amended our uncommitted revolving letter of credit facility to secure the facility and to permit us to draw up to \$225 million of letters of credit thereunder. At December 31, 2018, we had \$97 million of letters of credit outstanding under this facility.

For information on the terms and conditions of other debt instruments of ours and our subsidiaries, including financial and operating covenants, see Note 6—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of this report.

Future Contractual Obligations

The following table summarizes our estimated future contractual obligations as of December 31, 2018:

	2019	2020	2021	2022	2023	2024 and thereafter	Total
	(Dollars in millions)						
Long-term debt ⁽¹⁾⁽²⁾	\$607	1,189	3,115	5,283	2,096	23,503	35,793
Interest on long-term debt and capital leases ⁽²⁾	2,123	2,056	1,949	1,728	1,493	12,710	22,059
Data centers obligation ⁽³⁾	86	29	—	—	—	—	115
Operating leases	675	443	355	279	241	969	2,962
Right-of-way agreements	157	134	112	120	115	755	1,393
Purchase commitments ⁽⁴⁾	322	185	140	53	35	186	921
Post-retirement benefit obligation ⁽⁵⁾	87	84	80	75	70	538	934
Non-qualified pension obligations ⁽⁵⁾	5	5	5	4	5	18	42
Asset retirement obligations	23	29	16	10	14	98	190
Total future contractual obligations ⁽⁶⁾	\$4,085	4,154	5,772	7,552	4,069	38,777	64,409

(1) Includes current maturities and capital lease obligations, but excludes unamortized discounts and premiums, net, unamortized debt issuance costs and data center obligation.

Actual principal and interest paid in all years may differ due to future refinancing of outstanding debt or issuance of new debt. Interest on our floating rate debt was calculated for all years using the rates effective at December 31, 2018. See Note 17—Commitments, Contingencies and Other Items to our consolidated financial statements in Item 8 of Part II of this report for additional information regarding the future commitments for capital leases related to our colocation operations.

Future minimum payments of principal, interest and executory costs less future imputed lease income on certain of the real estate assets associated with the data centers obligation. See Note 3—Sale of Data Centers and Colocation Business to our consolidated financial statements in Item 8 of Part II of this report.

We have various long-term, non-cancelable purchase commitments for advertising and promotion services, including advertising and marketing at sports arenas and other venues and events. We also have purchase commitments with third-party vendors for operating, installation and maintenance services for facilities. In addition, we have service-related commitments with various vendors for data processing, technical and software support services. Future payments under certain service contracts will vary depending on our actual usage. In the table above, we estimated payments for these service contracts based on estimates of the level of services we expect to receive.

(5) Reflects only the portion of total obligation that is contractual in nature. See Note 6 below.

(6) The table is limited solely to contractual payment obligations and does not include:

- contingent liabilities;

- our open purchase orders as of December 31, 2018. These purchase orders are generally issued at fair value, and are generally cancelable without penalty;

- other long-term liabilities, such as accruals for legal matters and other taxes that are not contractual obligations by nature. We cannot determine with any degree of reliability the years in which these liabilities might ultimately settle; cash funding requirements for qualified pension benefits payable to certain eligible current and future retirees.

- Benefits paid by our qualified pension plan are paid through a trust. Cash funding requirements for this trust are not included in this table as we are not able to reliably estimate required contributions to this trust. Our funding projections are discussed further below;

- certain post-retirement benefits payable to certain eligible current and future retirees. Not all of our post-retirement benefit obligation amount is a contractual obligation and only the portion that we believe is a contractual obligation is reported in the table. See additional information on our benefits plans in Note 10—Employee Benefits to our consolidated financial statements in Item 8 of Part II of this report;

contract termination fees. These fees are non-recurring payments, the timing and payment of which, if any, is uncertain. In the ordinary course of business and to optimize our cost structure, we enter into contracts with terms greater than one year to use the network facilities of other carriers and to purchase other goods and services. Our contracts to use other carriers' network facilities generally have no minimum volume requirements and pricing is based upon volumes and usage. In the normal course of business, we do not believe payment of these fees is likely; service level commitments to our customers, the violation of which typically results in service credits rather than cash payments; and

potential indemnification obligations to counterparties in certain agreements entered into in the normal course of business. The nature and terms of these arrangements vary.

For information on debt that we assumed or incurred in connection with consummating the Level 3 acquisition, see "Risk Factors" in Item 1A of Part I of this report and Note 6—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of this report.

Pension and Post-retirement Benefit Obligations

We are subject to material obligations under our existing defined benefit pension plans and post-retirement benefit plans. At December 31, 2018, the accounting unfunded status of our qualified and non-qualified defined benefit pension plans and qualified post-retirement benefit plans was \$1.6 billion and \$3.0 billion, respectively. See Note 10—Employee Benefits to our consolidated financial statements in Item 8 of Part II of this report for additional information about our pension and post-retirement benefit arrangements.

Benefits paid by our qualified pension plan are paid through a trust that holds all of the plan's assets. Based on current laws and circumstances, we do not expect any contributions to be required for our qualified pension plan during 2019. The amount of required contributions to our qualified pension plan in 2020 and beyond will depend on a variety of factors, most of which are beyond our control, including earnings on plan investments, prevailing interest rates, demographic experience, changes in plan benefits and changes in funding laws and regulations. We occasionally make voluntary contributions in addition to required contributions. We made a voluntary contribution of \$500 million to the trust for our qualified pension plan during 2018. Based on current circumstances, we do not anticipate making a voluntary contribution to the trust for our qualified pension plan in 2019.

Substantially all of our post-retirement health care and life insurance benefits plans are unfunded. Several trusts hold assets that have been used to help cover the health care costs of certain retirees. As of December 31, 2018, assets in the post-retirement trusts had been substantially depleted and had a fair value of only \$18 million (a portion of which was comprised of investments with restricted liquidity), which has significantly limited our ability to continue paying benefits from the trusts. Benefits not paid from the trusts are expected to be paid directly by us with available cash. As described further in Note 10—Employee Benefits to our consolidated financial statements in Item 8 of Part II of this report, aggregate benefits paid by us under these plans (net of participant contributions and direct subsidy receipts) were \$249 million, \$237 million and \$129 million for the years ended December 31, 2018, 2017 and 2016, respectively, while the amounts paid from the trust were \$4 million, \$31 million and \$145 million, respectively. For additional information on our expected future benefits payments for our post-retirement benefit plans, please see Note 10—Employee Benefits to our consolidated financial statements in Item 8 of Part II in this report.

For 2018 and 2019, our expected annual long-term rates of return were 6.5% and 4.0% for the pension plan trust assets and post-retirement plans' trust assets, respectively, based on the assets held and net of expected fees and administrative costs. However, actual returns could be substantially different.

Connect America Fund

As a result of accepting CAF Phase II support payments, we must meet certain specified infrastructure buildout requirements in 33 states over the next several years. In order to meet these specified infrastructure buildout requirements, we may be obligated to make substantial capital expenditures. See "Capital Expenditures" above.

For additional information on the FCC's CAF order and the USF program, see "Business—Regulation" in Item 1 of Part I of this report and see "Risk Factors—Risks Affecting Our Liquidity and Capital Resources" in Item 1A of Part I of this report.

Historical Information

The following tables summarize our consolidated cash flow activities:

	Years Ended		Increase /
	December 31,		(Decrease)
	2018	2017	
	(Dollars in millions)		
Net cash provided by operating activities	\$7,032	3,878	3,154
Net cash used in investing activities	(3,078)	(8,871)	(5,793)
Net cash (used in) provided by financing activities	(4,023)	5,356	9,379
	Years Ended		Increase /
	December 31,		(Decrease)
	2017	2016	
	(Dollars in millions)		
Net cash provided by operating activities	\$3,878	4,608	(730)
Net cash used in investing activities	(8,871)	(2,994)	5,877
Net cash provided by (used in) financing activities	5,356	(1,518)	(6,874)

Operating Activities

Net cash provided by operating activities increased by \$3.2 billion for the year ended December 31, 2018 as compared to the year ended December 31, 2017 primarily due to \$2.4 billion in cash generated by Level 3 in addition to a positive variance in net (loss) income after adjusting for non-cash items for impairment of goodwill and other assets and depreciation and deferred income taxes offset with a reduction in retirement benefits. Net cash provided by operating activities decreased by \$730 million for the year ended December 31, 2017 as compared to the year ended December 31, 2016 primarily due to a negative variance in net income adjusted for non-cash items and from negative variances in the changes in accounts payable, other current assets and liabilities, net and other noncurrent assets and liabilities, net, which were partially offset with a positive variance in the change in accounts receivable. For additional information about our operating results, see "Results of Operations" above.

Investing Activities

Net cash used in investing activities decreased by \$5.8 billion for the year ended December 31, 2018 as compared to the year ended December 31, 2017 and increased by \$5.9 billion for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The change in investing activities for both periods is primarily due to cash paid for the acquisition of Level 3 on November 1, 2017, which was partially offset with the cash proceeds from the May 2017 sale of our data centers and colocation business.

Financing Activities

Net cash used in financing activities increased by \$9.4 billion for the year ended December 31, 2018 as compared to the year ended December 31, 2017 and decreased by \$6.9 billion for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The change in financing activities for both periods was primarily due cash received from net proceeds from issuance of new debt in 2017 relating to the acquisition of Level 3.

See Note 6—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of this report, for information regarding indebtedness incurred or repaid by CenturyLink or its affiliates on our outstanding debt securities.

Other Matters

Recent Tax Changes

On December 22, 2017, the Tax Cuts and Jobs Act (the "Act") was signed into law. The Act reduced the U.S. corporate income tax rate from a maximum of 35% to 21% for all corporations, effective January 1, 2018, and made certain changes to U.S. taxation of income earned by foreign subsidiaries, capital expenditures and various other items.

As a result of the reduction in the U.S. corporate income tax rate from 35% to 21%, we provisionally re-measured our net deferred tax liabilities at December 31, 2017 and recognized a tax benefit of approximately \$1.1 billion in our consolidated statement of operations for the year ended December 31, 2017. As a result of finalizing our provisional amount recorded in 2017, we recorded a reduction to this amount of \$92 million in 2018. Based on current circumstances, we do not expect to experience a material near term reduction in the amount of cash income taxes paid by us from the Act due to utilization of net operating loss carryforwards. However, we anticipate that the provisions of the Act may reduce our cash income taxes in future years.

The Act imposed a one-time repatriation tax on certain earnings of foreign subsidiaries. We have completed our analysis of the impact of the one-time repatriation tax, and concluded that we do not have a tax liability under this provision.

During 2018, we accelerated a significant amount of tax deductions into 2017. The accelerated tax deductions resulted in a 2017 net operating loss for tax purposes, a portion of which was carried back to 2016 to generate a cash refund of \$392 million, which was received in the third quarter of 2018. Additionally, we received a \$314 million refund in the second quarter of 2018 related to 2017 federal income taxes.

For a more detailed description of the Act and its impact on us, please see Note 14—Income Taxes to the accompanying consolidated financial statements included in Item 8.

Other

We have cash management arrangements with certain of our principal subsidiaries, in which substantial portions of the subsidiaries' cash is regularly advanced to us. Although we periodically repay these advances to fund the subsidiaries' cash requirements throughout the year, at any given point in time we may owe a substantial sum to our subsidiaries under these advances, which, in accordance with generally accepted accounting principles, are eliminated in consolidation and therefore not recognized on our consolidated balance sheets.

We also are involved in various legal proceedings that could substantially impact our financial position. See Note 17—Commitments, Contingencies and Other Items to our consolidated financial statements in Item 8 of Part II of this report for the current status of such legal proceedings.

Market Risk

As of December 31, 2018, we are exposed to market risk from changes in interest rates on our variable rate long-term debt obligations and fluctuations in certain foreign currencies. We seek to maintain a favorable mix of fixed and variable rate debt in an effort to limit interest costs and cash flow volatility resulting from changes in rates.

Management periodically reviews our exposure to interest rate fluctuations and periodically implements strategies to manage the exposure. From time to time, we have used derivative instruments to (i) lock-in or swap our exposure to changing variable interest rates for fixed interest rates or (ii) to swap obligations to pay fixed interest rates for variable

interest rates. As of December 31, 2018, we had no such instruments outstanding. We have established policies and procedures for risk assessment and the approval, reporting and monitoring of derivative instrument activities. As of December 31, 2018, we did not hold or issue derivative financial instruments for trading or speculative purposes.

As further discussed in Note 6—Long-Term Debt and Credit Facilities, on June 19, 2017, and on November 1, 2017, we borrowed substantial sums under a credit agreement dated June 19, 2017 with various lending institutions to provide a substantial amount of the funding for the Level 3 acquisition. As further noted in Note 6—Long-Term Debt and Credit Facilities, loans under the term loan facilities and new revolving credit facility under the June 19, 2017 credit agreement bear interest at floating rates. Based on debt outstanding at December 31, 2018, a hypothetical increase in 100 basis points in LIBOR relative to this debt would decrease our annual pre-tax earnings by \$132 million. On February 15, 2019, we executed a swap transaction that reduces our floating rate debt exposure by \$2.5 billion. For additional information see Note 6—Long-Term Debt and Credit Facilities to our consolidated financial statements in Item 8 of Part II of this report.

We conduct a portion of our business in currencies other than the U.S. dollar, the currency in which our consolidated financial statements are reported. Accordingly, our operating results could be adversely affected by foreign currency exchange rate volatility relative to the U.S. dollar. Our European subsidiaries and certain Latin American subsidiaries use the local currency as their functional currency, as the majority of their revenue and purchases are transacted in their local currencies. Certain Latin American countries previously designated as highly inflationary economies use the U.S. dollar as their functional currency. Although we continue to evaluate strategies to mitigate risks related to the effect of fluctuations in currency exchange rates, we will likely recognize gains or losses from international transactions. Changes in foreign currency rates could adversely affect our operating results.

Certain shortcomings are inherent in the method of analysis presented in the computation of exposures to market risks. Actual values may differ materially from those disclosed by us from time to time if market conditions vary from the assumptions used in the analyses performed. These analyses only incorporate the risk exposures that existed at December 31, 2018.

Off-Balance Sheet Arrangements

As of the date of this report, we have no special purpose or limited purpose entities that provide off-balance sheet financing, liquidity, or market or credit risk support and we do not engage in leasing, hedging or other similar activities that expose us to any significant liabilities that are not (i) reflected on the face of the consolidated financial statements, (ii) disclosed in Note 17—Commitments, Contingencies and Other Items to our consolidated financial statements in Item 8 of Part II of this report, or in the Future Contractual Obligations table included in this Item 7 of Part II above, or (iii) discussed under the heading "Market Risk" above.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The information in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Market Risk" in Item 7 of Part II of this report is incorporated herein by reference.

ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors

CenturyLink, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of CenturyLink, Inc. and subsidiaries (the Company) as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive (loss) income, cash flows, and stockholders' equity for each of the years in the three-year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 11, 2019 expressed an adverse opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company's auditor since 1977.

Shreveport, Louisiana

March 11, 2019

Report of Independent Registered Public Accounting Firm
To the Stockholders and Board of Directors CenturyLink, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited CenturyLink, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, because of the effect of the material weaknesses, described below, on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive (loss) income, cash flows, and stockholders' equity for each of the years in the three-year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements), and our report dated March 11, 2019 expressed an unqualified opinion on those consolidated financial statements.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. Material weaknesses have been identified related to (i) ineffective design and operation of process level controls over the fair value measurement of certain assets acquired and liabilities assumed in a business combination, which arose because the Company did not conduct an effective risk assessment to identify and assess changes needed to process level controls resulting from the business combination, did not clearly assign responsibility for controls over the fair value measurements, and did not maintain effective information and communication processes to ensure the necessary information was available to personnel on a timely basis so they could fulfill their control responsibilities related to the fair value measurements; and (ii) ineffective design and operation of process level controls over the existence and accuracy of revenue transactions, which arose because the Company did not conduct an effective risk assessment to identify risks of material misstatement related to revenue transactions, and included in management's assessment.

The material weaknesses were considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2018 consolidated financial statements, and this report does not affect our report on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance

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regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP
Shreveport, Louisiana
March 11, 2019

CENTURYLINK, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2018	2017	2016
	(Dollars in millions, except per share amounts and shares in thousands)		
OPERATING REVENUE	\$23,443	17,656	17,470
OPERATING EXPENSES			
Cost of services and products (exclusive of depreciation and amortization)	10,862	8,203	7,774
Selling, general and administrative	4,165	3,508	3,447
Depreciation and amortization	5,120	3,936	3,916
Goodwill impairment	2,726	—	—
Total operating expenses	22,873	15,647	15,137
OPERATING INCOME	570	2,009	2,333
OTHER (EXPENSE) INCOME			
Interest expense	(2,177)	(1,481)	(1,318)
Other income, net	44	12	5
Total other expense, net	(2,133)	(1,469)	(1,313)
INCOME (LOSS) BEFORE INCOME TAX EXPENSE	(1,563)	540	1,020
Income tax expense (benefit)	170	(849)	394
NET (LOSS) INCOME	\$(1,733)	1,389	626
BASIC AND DILUTED (LOSS) EARNINGS PER COMMON SHARE			
BASIC	\$(1.63)	2.21	1.16
DILUTED	\$(1.63)	2.21	1.16
WEIGHTED AVERAGE COMMON SHARES OUTSTANDING			
BASIC	1,065,866	627,808	539,549
DILUTED	1,065,866	628,693	540,679
See accompanying notes to consolidated financial statements.			

CENTURYLINK, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME

	Years Ended		
	December 31,		
	2018	2017	2016
	(Dollars in millions)		
NET (LOSS) INCOME	\$(1,733)	1,389	626
OTHER COMPREHENSIVE (LOSS) INCOME:			
Items related to employee benefit plans:			
Change in net actuarial gain (loss), net of (\$45), \$(60) and \$113 tax	133	83	(168)
Change in net prior service credit, net of \$(3), \$(4) and \$(4) tax	9	8	6
Foreign currency translation adjustment and other, net of \$50, \$(17) and \$— tax	(201)	31	(21)
Other comprehensive (loss) income	(59)	122	(183)
COMPREHENSIVE (LOSS) INCOME	\$(1,792)	1,511	443

See accompanying notes to consolidated financial statements.

CENTURYLINK, INC.
CONSOLIDATED BALANCE SHEETS

	As of December 31,	
	2018	2017
	(Dollars in millions and shares in thousands)	
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	\$ 488	551
Restricted cash - current	4	5
Accounts receivable, less allowance of \$142 and \$164	2,398	2,557
Assets held for sale	12	140
Other	918	941
Total current assets	3,820	4,194
NET PROPERTY, PLANT AND EQUIPMENT		
Property, plant and equipment	53,267	51,204
Accumulated depreciation	(26,859)	(24,352)
Net property, plant and equipment	26,408	26,852
GOODWILL AND OTHER ASSETS		
Goodwill	28,031	30,475
Restricted cash	26	31
Customer relationships, net	8,911	10,876
Other intangible assets, net	1,868	1,897
Other, net	1,192	1,286
Total goodwill and other assets	40,028	44,565
TOTAL ASSETS	\$ 70,256	75,611
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Current maturities of long-term debt	\$ 652	443
Accounts payable	1,933	1,555
Accrued expenses and other liabilities		
Salaries and benefits	1,104	890
Income and other taxes	337	370
Interest	316	363
Other	357	344
Advance billings and customer deposits	832	892
Total current liabilities	5,531	4,857
LONG-TERM DEBT	35,409	37,283
DEFERRED CREDITS AND OTHER LIABILITIES		
Deferred income taxes, net	2,527	2,413
Benefit plan obligations, net	4,319	5,178
Other	2,642	2,389
Total deferred credits and other liabilities	9,488	9,980
COMMITMENTS AND CONTINGENCIES (Note 17)		
STOCKHOLDERS' EQUITY		
Preferred stock — non-redeemable, \$25.00 par value, authorized 2,000 and 2,000 shares, issued and outstanding 7 and 7 shares	—	—
Common stock, \$1.00 par value, authorized 1,600,000 and 1,600,000 shares, issued and outstanding 1,080,167 and 1,069,169 shares	1,080	1,069
Additional paid-in capital	22,852	23,314

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Accumulated other comprehensive loss	(2,461)	(1,995)
(Accumulated deficit) retained earnings	(1,643)	1,103	
Total stockholders' equity	19,828		23,491	
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	\$ 70,256		75,611	

See accompanying notes to consolidated financial statements.

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CENTURYLINK, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended		
	December 31,		
	2018	2017	2016
	(Dollars in millions)		
OPERATING ACTIVITIES			
Net (loss) income	\$(1,733)	1,389	626
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Depreciation and amortization	5,120	3,936	3,916
Impairment of goodwill and other assets	2,746	—	13
Deferred income taxes	522	(931)	6
Loss on the sale of data centers and colocation business	—	82	—
Provision for uncollectible accounts	153	176	192
Net long-term debt issuance costs and premium amortization	13	9	2
Net loss on early retirement of debt	7	5	27
Share-based compensation	186	111	80
Changes in current assets and liabilities:			
Accounts receivable	25	31	(266)
Accounts payable	124	(123)	109
Accrued income and other taxes	75	54	(43)
Other current assets and liabilities, net	127	(614)	92
Retirement benefits	(667)	(202)	(152)
Changes in other noncurrent assets and liabilities, net	329	(174)	(18)
Other, net	5	129	24
Net cash provided by operating activities	7,032	3,878	4,608
INVESTING ACTIVITIES			
Payments for property, plant and equipment and capitalized software	(3,175)	(3,106)	(2,981)
Cash paid for Level 3 acquisition, net of \$2.3 billion cash acquired	—	(7,289)	—
Proceeds from sale of property and intangible assets	158	1,529	30
Other, net	(61)	(5)	(43)
Net cash used in investing activities	(3,078)	(8,871)	(2,994)
FINANCING ACTIVITIES			
Net proceeds from issuance of long-term debt	130	8,398	2,161
Proceeds from financing obligation (Note 3)	—	356	—
Payments of long-term debt	(1,936)	(1,963)	(2,462)
Net proceeds (payments) on credit facility and revolving line of credit	145	35	(40)
Dividends paid	(2,312)	(1,453)	(1,167)
Other, net	(50)	(17)	(10)
Net cash (used in) provided by financing activities	(4,023)	5,356	(1,518)
Net (decrease) increase in cash, cash equivalents and restricted cash	(69)	363	96
Cash, cash equivalents and restricted cash at beginning of period	587	224	128
Cash, cash equivalents and restricted cash at end of period	\$518	587	224
Supplemental cash flow information:			
Income taxes received (paid), net	\$674	(392)	(397)
Interest paid (net of capitalized interest of \$53, \$78 and \$54)	\$(2,138)	(1,401)	(1,301)
Cash, cash equivalents and restricted cash:			
Cash and cash equivalents	\$488	551	222
Restricted cash - current	4	5	—

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Restricted cash - noncurrent	26	31	2
Total	\$518	587	224

See accompanying notes to consolidated financial statements.

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CENTURYLINK, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Years Ended December 31,		
	2018	2017	2016
	(Dollars in millions except per share amounts)		
COMMON STOCK			
Balance at beginning of period	\$1,069	547	544
Issuance of common stock to acquire Level 3, including replacement of Level 3's share-based compensation awards	—	517	—
Issuance of common stock through dividend reinvestment, incentive and benefit plans	11	5	3
Balance at end of period	1,080	1,069	547
ADDITIONAL PAID-IN CAPITAL			
Balance at beginning of period	23,314	14,970	15,178
Issuance of common stock to acquire Level 3, including replacement of Level 3's share-based compensation awards	(2)	9,462	—
Issuance of common stock through dividend reinvestment, incentive and benefit plans	—	—	7
Shares withheld to satisfy tax withholdings	(56)	(20)	(15)
Share-based compensation and other, net	187	79	79
Dividends declared	(586)	(1,177)	(279)
Acquisition of additional minority interest in a subsidiary	(5)	—	—
Balance at end of period	22,852	23,314	14,970
ACCUMULATED OTHER COMPREHENSIVE LOSS			
Balance at beginning of period	(1,995)	(2,117)	(1,934)
Cumulative effect of adoption of ASU 2018-02, Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income	(407)	—	—
Other comprehensive (loss) income	(59)	122	(183)
Balance at end of period	(2,461)	(1,995)	(2,117)
RETAINED EARNINGS (ACCUMULATED DEFICIT)			
Balance at beginning of period	1,103	(1)	272
Net (loss) income	(1,733)	1,389	626
Cumulative effect of adoption of ASU 2018-02, Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income	407	—	—
Cumulative net effect of adoption of ASU 2014-09, Revenue from Contracts with Customers, net of \$(119), \$— and \$— tax	338	—	—
Cumulative effect of adoption of ASU 2016-09, Improvements to Employee Share-Based Payment Accounting	—	3	—
Dividends declared	(1,758)	(288)	(899)
Balance at end of period	(1,643)	1,103	(1)
TOTAL STOCKHOLDERS' EQUITY	\$19,828	23,491	13,399
DIVIDENDS DECLARED PER COMMON SHARE	\$2.16	2.16	2.16
See accompanying notes to consolidated financial statements.			

CENTURYLINK, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

References in the Notes to "CenturyLink," "we," "us", the "Company", and "our" refer to CenturyLink, Inc. and its consolidated subsidiaries, unless the content otherwise requires and except in Note 6, where such references refer solely to CenturyLink, Inc. References in the Notes to "Level 3" refer to Level 3 Communications, Inc. prior to our acquisition thereof and to its successor-in-interest Level 3 Parent, LLC after such acquisition, unless the context otherwise requires.

(1) Background and Summary of Significant Accounting Policies

General

We are an international facilities-based communications company engaged primarily in providing a broad array of integrated services to our residential and business customers.

On November 1, 2017, we acquired Level 3 Communications, Inc. ("Level 3") in a cash and stock transaction. See Note 2—Acquisition of Level 3 for additional information. On May 1, 2017, we sold our data centers and colocation business to a consortium of private equity purchasers for a combination of cash and equity. See Note 3—Sale of Data Centers and Colocation Business for additional information.

Basis of Presentation

The accompanying consolidated financial statements include our accounts and the accounts of our subsidiaries in which we have a controlling interest. These subsidiaries include Level 3 on and after November 1, 2017. Intercompany amounts and transactions with our consolidated subsidiaries have been eliminated. In connection with our acquisition of Level 3, we acquired its deconsolidated Venezuela subsidiary and due to exchange restrictions and other conditions we have assigned no value to this subsidiary's assets. Additionally, we have excluded this subsidiary from our consolidated financial statements.

To simplify the overall presentation of our consolidated financial statements, we report immaterial amounts attributable to noncontrolling interests in certain of our subsidiaries as follows: (i) income attributable to noncontrolling interests in other income, net, (ii) equity attributable to noncontrolling interests in additional paid-in capital and (iii) cash flows attributable to noncontrolling interests in other, net financing activities.

We reclassified certain prior period amounts to conform to the current period presentation, including the categorization of our revenue and our segment reporting for 2018, 2017 and 2016. See Note 15—Segment Information for additional information. These changes had no impact on total operating revenue, total operating expenses or net (loss) income for any period.

Summary of Significant Accounting Policies

Use of Estimates

Our consolidated financial statements are prepared in accordance with U.S. generally accepted accounting principles. These accounting principles require us to make certain estimates, judgments and assumptions. We believe that the estimates, judgments and assumptions we make when accounting for specific items and matters, including, but not limited to, revenue recognition, revenue reserves, network access costs, network access cost dispute reserves, investments, long-term contracts, customer retention patterns, allowance for doubtful accounts, depreciation, amortization, asset valuations, internal labor capitalization rates, recoverability of assets (including deferred tax assets), impairment assessments, pension, post-retirement and other post-employment benefits, taxes, certain liabilities and other provisions and contingencies, are reasonable, based on information available at the time they are made.

These estimates, judgments and assumptions can materially affect the reported amounts of assets, liabilities and components of stockholders' equity as of the dates of the consolidated balance sheets, as well as the reported amounts of revenue, expenses and components of cash flows during the periods presented in our other consolidated financial statements. We also make estimates in our assessments of potential losses in relation to threatened or pending tax and legal matters. See Note 14—Income Taxes and Note 17—Commitments, Contingencies and Other Items for additional information.

For matters not related to income taxes, if a loss is considered probable and the amount can be reasonably estimated, we recognize an expense for the estimated loss. If we have the potential to recover a portion of the estimated loss from a third party, we make a separate assessment of recoverability and reduce the estimated loss if recovery is also deemed probable.

For matters related to income taxes, if we determine that the impact of an uncertain tax position is more likely than not to be sustained upon audit by the relevant taxing authority, then we recognize a benefit for the largest amount that is more likely than not to be sustained. No portion of an uncertain tax position will be recognized if the position has less than a 50% likelihood of being sustained. Interest is recognized on the amount of unrecognized benefit from uncertain tax positions.

For all of these and other matters, actual results could differ materially from our estimates.

Revenue Recognition

We earn most of our consolidated revenue from contracts with customers, primarily through the provision of telecommunications and other services. Revenue from contracts with customers is accounted for under Accounting Standards Codification ("ASC") 606. We also earn revenue from leasing arrangements (primarily fiber capacity agreements) and governmental subsidy payments, neither of which are accounted for under ASC 606.

Revenue is recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to receive in exchange for those goods or services. Revenue is recognized based on the following five-step model:

1. Identification of the contract with a customer;
2. Identification of the performance obligations in the contract;
3. Determination of the transaction price;
4. Allocation of the transaction price to the performance obligations in the contract; and
5. Recognition of revenue when, or as, we satisfy a performance obligation.

We provide an array of communications services to residential and business customers, including local voice, VPN, Ethernet, data, broadband, private line (including special access), network access, transport, voice, information technology, video and other ancillary services. We provide these services to a wide range of businesses, including global/international, enterprise, wholesale, government, small and medium business customers. Certain contracts also include the sale of equipment, which is not significant to our business.

We recognize revenue for services when we provide the applicable service or when control is transferred. Recognition of certain payments received in advance of services being provided is deferred. These advance payments include certain activation and certain installation charges. If the activation and installation charges are not separate performance obligations, we recognize them as revenue over the actual or expected contract term using historical experience, which ranges from one year to seven years depending on the service. In most cases, termination fees or other fees on existing contracts that are negotiated in conjunction with new contracts are deferred and recognized over the new contract term.

For access services, we generally bill fixed monthly charges one month in advance to customers and recognize revenue as service is provided over the contract term in alignment with the customer's receipt of service. For usage and other ancillary services, we generally bill in arrears and recognize revenue as usage or delivery occurs.

In certain cases, customers may be permitted to modify their contracts. We evaluate the change in scope or price to identify whether the modification should be treated as a separate contract, whether the modification is a termination of the existing contract and creation of a new contract, or if it is a change to the existing contract.

Customer contracts are evaluated to determine whether the performance obligations are separable. If the performance obligations are deemed separable and separate earnings processes exist, the total transaction price that we expect to receive with the customer is allocated to each performance obligation based on its relative standalone selling price. The revenue associated with each performance obligation is then recognized as earned.

We periodically sell optical capacity on our network. These transactions are structured as indefeasible rights of use, commonly referred to as IRUs, which are the exclusive right to use a specified amount of capacity or fiber for a specified term, typically 10 to 20 years. In most cases, we account for the cash consideration received on transfers of optical capacity as ASC 606 revenue which we recognize ratably over the term of the agreement. Cash consideration received on transfers of dark fiber is adjusted for the time value of money and is accounted for as non-ASC 606 lease revenue, which we also recognize ratably over the term of the agreement. We do not recognize revenue on any contemporaneous exchanges of our optical capacity assets for other non-owned optical capacity assets.

In connection with offering products and services provided to the end user by third-party vendors, we review the relationship between us, the vendor and the end user to assess whether revenue should be reported on a gross or net basis. In assessing whether revenue should be reported on a gross or net basis, we consider whether we act as a principal in the transaction and control the goods and services used to fulfill the performance obligations associated with the transaction.

We have service level commitments pursuant to contracts with certain of our customers. To the extent that such service levels are not achieved or are otherwise disputed due to performance or service issues or other service interruptions or conditions, we will estimate the amount of credits to be issued and record a corresponding reduction to revenue in the period that the service level commitment was not met.

Customer payments are made based on billing schedules included in our customer contracts, which is typically on a monthly basis.

We defer (i.e. capitalize) incremental contract acquisition and fulfillment costs and recognize (or amortize) such costs over the average customer life. Our deferred contract costs for our customers have average amortization periods of approximately 30 months for consumer and up to 49 months for business. These deferred costs are monitored every period to reflect any significant change in assumptions.

See Note 5—Revenue Recognition for additional information.

USF Surcharges, Gross Receipts Taxes and Other Surcharges

In determining whether to include in our revenue and expenses the taxes and surcharges collected from customers and remitted to government authorities, including USF surcharges, sales, use, value added and some excise taxes, we assess, among other things, whether we are the primary obligor or principal taxpayer for the taxes assessed in each jurisdiction where we do business. In jurisdictions where we determine that we are the principal taxpayer, we record the surcharges on a gross basis and include them in our revenue and costs of services and products. In jurisdictions where we determine that we are merely a collection agent for the government authority, we record the taxes on a net basis and do not include them in our revenue and costs of services and products.

Advertising Costs

Costs related to advertising are expensed as incurred and included in selling, general and administrative expenses in our consolidated statements of operations. Our advertising expense was \$98 million, \$218 million and \$216 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Legal Costs

In the normal course of our business, we incur costs to hire and retain external legal counsel to advise us on regulatory, litigation and other matters. We expense these costs as the related services are received.

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Income Taxes

We file a consolidated federal income tax return with our eligible subsidiaries. The provision for income taxes consists of an amount for taxes currently payable, an amount for tax consequences deferred to future periods and adjustments to our liabilities for uncertain tax positions. We record deferred income tax assets and liabilities reflecting future tax consequences attributable to tax net operating loss carryforwards ("NOLs"), tax credit carryforwards and differences between the financial statement carrying value of assets and liabilities and the tax basis of those assets and liabilities. Deferred taxes are computed using enacted tax rates expected to apply in the year in which the differences are expected to affect taxable income. The effect on deferred income tax assets and liabilities of a change in tax rate is recognized in earnings in the period that includes the enactment date.

We establish valuation allowances when necessary to reduce deferred income tax assets to the amounts that we believe are more likely than not to be recovered. Each quarter we evaluate the need to retain all or a portion of the valuation allowance on our deferred tax assets. See Note 14—Income Taxes for additional information.

Cash and Cash Equivalents

Cash and cash equivalents include highly liquid investments that are readily convertible into cash and are not subject to significant risk from fluctuations in interest rates. As a result, the value at which cash and cash equivalents are reported in our consolidated financial statements approximates their fair value. In evaluating investments for classification as cash equivalents, we require that individual securities have original maturities of ninety days or less and that individual investment funds have dollar-weighted average maturities of ninety days or less. To preserve capital and maintain liquidity, we invest with financial institutions we deem to be of sound financial condition and in high quality and relatively risk-free investment products. Our cash investment policy limits the concentration of investments with specific financial institutions or among certain products and includes criteria related to credit worthiness of any particular financial institution.

Book overdrafts occur when checks have been issued but have not been presented to our controlled disbursement bank accounts for payment. Disbursement bank accounts allow us to delay funding of issued checks until the checks are presented for payment. Until the issued checks are presented for payment, the book overdrafts are included in accounts payable on our consolidated balance sheet. This activity is included in the operating activities section in our consolidated statements of cash flows.

Restricted Cash and Securities

Restricted cash and securities consists primarily of cash and investments that serve to collateralize our outstanding letters of credit and certain performance and operating obligations. Restricted cash and securities are recorded as current or non-current assets in the consolidated balance sheets depending on the duration of the restriction and the purpose for which the restriction exists. Restricted securities are stated at cost which approximates fair value as of December 31, 2018 and 2017.

Accounts Receivable and Allowance for Doubtful Accounts

Accounts receivable are recognized based upon the amount due from customers for the services provided or at cost for purchased and other receivables less an allowance for doubtful accounts. The allowance for doubtful accounts receivable reflects our best estimate of probable losses inherent in our receivable portfolio determined on the basis of historical experience, specific allowances for known troubled accounts and other currently available evidence. We generally consider our accounts past due if they are outstanding over 30 days. Our collection process varies by the customer segment, amount of the receivable, and our evaluation of the customer's credit risk. Our past due accounts are written off against our allowance for doubtful accounts when collection is considered to be not probable. Any

recoveries of accounts previously written off are generally recognized as a reduction in bad debt expense in the period received. The carrying value of accounts receivable net of the allowance for doubtful accounts approximates fair value. Accounts receivable balances acquired in a business combination are recorded at fair value for all balances receivable at the acquisition date and at the invoiced amount for those amounts invoiced after the acquisition date.

Property, Plant and Equipment

We record property, plant and equipment acquired in connection with our acquisitions based on its estimated fair value as of its acquisition date plus the estimated value of any associated legally or contractually required retirement obligations. We record purchased and constructed property, plant and equipment at cost, plus the estimated value of any associated legally or contractually required retirement obligations. The majority of our property, plant and equipment is depreciated using the straight-line group method, but certain of our assets are depreciated using the straight-line method over their estimated useful lives of the specific asset. Under the straight-line group method, assets dedicated to providing telecommunications services (which comprise the majority of our property, plant and equipment) that have similar physical characteristics, use and expected useful lives are pooled for purposes of depreciation and tracking. The equal life group procedure is used to establish each pool's average remaining useful life. Generally, under the straight-line group method, when an asset is sold or retired in the course of normal business activities, the cost is deducted from property, plant and equipment and charged to accumulated depreciation without recognition of a gain or loss. A gain or loss is recognized in our consolidated statements of operations only if a disposal is unusual. Leasehold improvements are amortized over the shorter of the useful lives of the assets or the expected lease term. Expenditures for maintenance and repairs are expensed as incurred. Interest is capitalized during the construction phase of network and other internal-use capital projects. Employee-related costs for construction of network and other internal use assets are also capitalized during the construction phase. Property, plant and equipment supplies used internally are carried at average cost, except for significant individual items for which cost is based on specific identification.

We perform annual internal reviews to evaluate the reasonableness of the depreciable lives for our property, plant and equipment. Our reviews utilize models that take into account actual usage, physical wear and tear, replacement history, assumptions about technology evolution and, in certain instances, actuarially determined probabilities to estimate the remaining useful life of our asset base. Our remaining useful life assessments assess the possible loss in service value of assets that may precede the physical retirement. Assets shared among many customers may lose service value as those customers reduce their use of the asset. However, the asset is not retired until all customers no longer utilize the asset and we determine there is no alternative use for the asset.

We have asset retirement obligations associated with the legally or contractually required removal of a limited group of property, plant and equipment assets from leased properties and the disposal of certain hazardous materials present in our owned properties. When an asset retirement obligation is identified, usually in association with the acquisition of the asset, we record the fair value of the obligation as a liability. The fair value of the obligation is also capitalized as property, plant and equipment and then amortized over the estimated remaining useful life of the associated asset. Where the removal obligation is not legally binding, the net cost to remove assets is expensed in the period in which the costs are actually incurred.

Capitalized labor associated with employees and contract labor working on capital projects were approximately \$569 million, \$559 million and \$524 million for the years ended December 31, 2018, 2017 and 2016.

We review long-lived tangible assets for impairment whenever facts and circumstances indicate that the carrying amounts of the assets may not be recoverable. For assessment purposes, long-lived assets are grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities, absent a material change in operations. An impairment loss is recognized only if the carrying amount of the asset group is not recoverable and exceeds its estimated fair value. Recoverability of the asset group to be held and used is assessed by comparing the carrying amount of the asset group to the estimated undiscounted future net cash flows expected to be generated by the asset group. If the asset group's carrying value is not recoverable, we recognize an impairment charge for the amount by which the carrying amount of the asset group exceeds its estimated fair value.

Goodwill, Customer Relationships and Other Intangible Assets

Intangible assets arising from business combinations, such as goodwill, customer relationships, capitalized software, trademarks and trade names, are initially recorded at estimated fair value. We amortize customer relationships primarily over an estimated life of 7 to 15 years, using either the sum-of-years-digits or the straight-line methods, depending on the type of customer. We amortize capitalized software using the straight-line method over estimated lives ranging up to 7 years, except for approximately \$237 million of our capitalized software costs, which represents costs to develop an integrated billing and customer care system which is amortized using the straight-line method over a 20-year period. We amortize our other intangible assets using the sum-of-years-digits or straight-line method over an estimated life of 4 to 20 years. Other intangible assets not arising from business combinations are initially recorded at cost. Where there are no legal, regulatory, contractual or other factors that would reasonably limit the useful life of an intangible asset, we classify the intangible asset as indefinite-lived and such intangible assets are not amortized.

Internally used software, whether purchased or developed by us, is capitalized and amortized using the straight-line method over its estimated useful life. We have capitalized certain costs associated with software such as costs of employees devoting time to the projects and external direct costs for materials and services. Costs associated with software to be used for internal purposes are expensed until the point at which the project has reached the development stage. Subsequent additions, modifications or upgrades to internal-use software are capitalized only to the extent that they allow the software to perform a task it previously did not perform. Software maintenance, data conversion and training costs are expensed in the period in which they are incurred. We review the remaining economic lives of our capitalized software annually. Capitalized software is included in other intangible assets, net, in our consolidated balance sheets.

Our long-lived intangible assets, other than goodwill, with indefinite lives are assessed for impairment annually, or, under certain circumstances, more frequently, such as when events or changes in circumstances indicate there may be an impairment. These assets are carried at the estimated fair value at the time of acquisition and assets not acquired in acquisitions are recorded at historical cost. However, if their estimated fair value is less than the carrying amount, we recognize an impairment charge for the amount by which the carrying amount of these assets exceeds their estimated fair value.

We are required to assess goodwill for impairment at least annually, or more frequently, if an event occurs or circumstances change that would indicate an impairment may have occurred. We are required to write-down the value of goodwill in periods in which the recorded carrying value of equity exceeds the fair value of equity. Our reporting units are not discrete legal entities with discrete full financial statements. Therefore, the equity carrying value and future cash flows is assessed each time a goodwill impairment assessment is performed on a reporting unit. To do so, we assign our assets, liabilities and cash flows to reporting units using reasonable and consistent allocation methodologies, which entail various estimates, judgments and assumptions. We believe these estimates, judgments and assumptions to be reasonable, but changes in any of these can significantly affect each reporting unit's equity carrying value and future cash flows utilized for our goodwill impairment assessment.

We are required to reassign goodwill to reporting units each time we reorganize our internal reporting structure which causes a change in the composition of our reporting units. Goodwill is reassigned to the reporting units using a relative fair value approach. When the fair value of a reporting unit is available, we allocate goodwill based on the relative fair value of the reporting units. When fair value is not available, we utilize the earnings before interest, taxes, depreciation and amortization of each reporting unit as our allocation methodology based on our view that it represents a reasonable proxy for the fair value of the operations being reorganized.

As of October 31, 2018, we assessed goodwill for impairment for our five reporting units, which we determined to be consumer, medium and small business, enterprise, international and global accounts, and wholesale and indirect. We

determined that the estimated fair value of our consumer reporting unit's equity was substantially below our carrying value of equity. As a result, we recorded a non-cash, non-tax-deductible goodwill impairment charge of \$2.7 billion for goodwill assigned to our consumer reporting unit during the fourth quarter of 2018.

Subsequent Event

As a result of organizational changes made in January 2019, we are making changes to our revenue reporting categories in 2019 to align them with how the business is managed. Our indirect channel, which primarily targets small to medium-sized enterprises, will move from the wholesale and indirect business unit. We are also moving state and local government customers from the small and medium business unit to the enterprise business unit to gain efficiencies by managing all government customers in a single organization. In addition, the new reporting structure reflects changes made to customer assignments between all five customer-facing business units.

We are making changes to the service-type reporting to make it easier for management and investors to evaluate changes to consumer product revenue. We plan to report consumer revenue in the following categories: broadband; voice; regulatory (includes CAF II and other support funds); and other, which includes retail video and other miscellaneous services. We plan to maintain the structure of our business segment, with minor modifications.

As a result of the organization changes noted above, we will perform a goodwill impairment analysis during the first quarter of 2019. The goodwill impairment analysis has not been completed at the time of this report and any goodwill impairment is not reasonably estimable.

See Note 4—Goodwill, Customer Relationships and Other Intangible Assets for additional information.

Pension and Post-Retirement Benefits

We recognize the funded status of our defined benefit and post-retirement plans as an asset or a liability on our consolidated balance sheet. Each year's actuarial gains or losses are a component of our other comprehensive income (loss), which is then included in our accumulated other comprehensive loss. Pension and post-retirement benefit expenses are recognized over the period in which the employee renders service and becomes eligible to receive benefits. We make significant assumptions (including the discount rate, expected rate of return on plan assets, mortality and health care trend rates) in computing the pension and post-retirement benefits expense and obligations. Note 10—Employee Benefits for additional information.

Foreign Currency

Local currencies of foreign subsidiaries are the functional currencies for financial reporting purposes except for certain foreign subsidiaries, primarily in Latin America. For operations outside the United States that have functional currencies other than the U.S. dollar, assets and liabilities are translated to U.S. dollars at period-end exchange rates, and revenue, expenses and cash flows are translated using average monthly exchange rates. A significant portion of our non-United States subsidiaries have either the British pound, the euro or the Brazilian real as the functional currency, each of which experienced significant fluctuations against the U.S. dollar during the years ended December 31, 2018, 2017 and 2016. Foreign currency translation gains and losses are recognized as a component of accumulated other comprehensive loss in stockholders' equity and in the consolidated statements of comprehensive income (loss) in accordance with accounting guidance for foreign currency translation. We consider the majority of our investments in our foreign subsidiaries to be long-term in nature. Our foreign currency transaction gains (losses), including where transactions with our non-United States subsidiaries are not considered to be long-term in nature, are included within other income, net on the consolidated statements of operations.

Common Stock

At December 31, 2018, we had 4 million unissued shares of CenturyLink, Inc. common stock reserved for acquisitions. In addition, we had 30 million shares authorized for future issuance under our equity incentive plans.

Preferred Stock

Holders of outstanding CenturyLink, Inc. preferred stock are entitled to receive cumulative dividends, receive preferential distributions equal to \$25 per share plus unpaid dividends upon CenturyLink, Inc.'s liquidation and vote as a single class with the holders of common stock.

Section 382 Rights Plan

On February 13, 2019, we adopted a Section 382 Rights Plan to protect our U.S. federal net operating loss carryforwards from certain Internal Revenue Code Section 382 limitations. Under the plan, one preferred stock purchase right was distributed for each share of our outstanding common stock as of the close of business on February 25, 2019, and those rights currently trade in tandem with the common stock until they expire or detach under the plan. This plan was designed to deter trading that would result in a change of control (as defined in Code Section 382), and therefore protect our ability to use our historical federal net operating losses in the future.

Dividends

The declaration and payment of dividends is at the discretion of our Board of Directors.

Recently Adopted Accounting Pronouncements

During 2018, we adopted Accounting Standards Update (“ASU”) 2014-09, “Revenue from Contracts with Customers”, ASU 2018-02, “Income Statement-Reporting Comprehensive Income: Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income”, ASU 2016-16, “Intra-Entity Transfers of Assets Other Than Inventory”, ASU 2017-04, "Simplifying the Test for Goodwill Impairment" and ASU 2018-14, "Compensation-Retirement Benefits-Defined Benefit Plans-General: Disclosure Framework-Changes to the Disclosure Requirements for Defined Benefit Plans".

Each of these is described further below.

Revenue Recognition

In May 2014, the FASB issued ASU 2014-09 which replaces virtually all existing generally accepted accounting principles on revenue recognition with a principles-based approach for determining revenue recognition using a new five step model. The core principle of ASU 2014-09 is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU 2014-09 also includes new accounting principles related to the deferral and amortization of contract acquisition and fulfillment costs.

We adopted the new revenue recognition standard under the modified retrospective transition method. During the year ended December 31, 2018, we recorded a cumulative catch-up adjustment that increased our retained earnings by \$338 million, net of \$119 million of income taxes.

See Note 5—Revenue Recognition for additional information.

Comprehensive Loss

In February 2018, the FASB issued ASU 2018-02 provides an option to reclassify stranded tax effects within accumulated other comprehensive loss to retained earnings in each period in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Cuts and Jobs Act (the "Act") (or portion thereof) is recorded. If an entity elects to reclassify the income tax effects of the Act, the amount of that reclassification shall include the effect of the change in the U.S. federal corporate income tax rate on the gross deferred tax amounts and related valuation allowances, if any, at the date of enactment of the Act related to items remaining in accumulated other comprehensive loss. The effect of the change in the U.S. federal corporate income tax rate on gross valuation allowances that were originally charged to income from continuing operations shall not be included. ASU 2018-02 is effective January 1, 2019, but early adoption is permitted and should be applied either in the period of adoption or retrospectively to each

period (or periods) in which the effect of the change in the U.S. federal corporate income tax rate in the Act is recognized. We early adopted and applied ASU 2018-02 in the first quarter of 2018. The adoption of ASU 2018-02 resulted in a \$407 million increase to retained earnings and in accumulated other comprehensive loss. See Note 20—Accumulated Other Comprehensive Loss for additional information.

Income Taxes

In October 2016, the FASB issued ASU 2016-16, "Intra-Entity Transfers of Assets Other Than Inventory" ("ASU 2016-16"). ASU 2016-16 eliminates the current prohibition on the recognition of the income tax effects on the transfer of assets among our subsidiaries. After adoption of ASU 2016-16, the income tax effects associated with these asset transfers, except for the transfer of inventory, will be recognized in the period the asset is transferred versus the current deferral and recognition upon either the sale of the asset to a third party or over the remaining useful life of the asset. We adopted ASU 2016-16 on January 1, 2018. The adoption of ASU 2016-16 did not have a material impact to our consolidated financial statements.

Goodwill Impairment

In January 2017, the FASB issued ASU 2017-04, "Simplifying the Test for Goodwill Impairment" ("ASU 2017-04"). ASU 2017-04 simplifies the impairment testing for goodwill by changing the measurement for goodwill impairment. Under current rules, we are required to compute the fair value of goodwill to measure the impairment amount if the carrying value of a reporting unit exceeds its fair value. Under ASU 2017-04, the goodwill impairment charge will equal the excess of the reporting unit carrying value above its fair value, limited to the amount of goodwill assigned to the reporting unit.

We elected to early adopt the provisions of ASU 2017-04 as of October 1, 2018. We applied ASU 2017-04 to determine the impairment of \$2.7 billion recorded during the fourth quarter of 2018. See Note 4 - Goodwill, Customer Relationships and Other Intangible Assets for additional information.

Retirement Benefits

In August 2018, the FASB issued ASU 2018-14, "Compensation-Retirement Benefits-Defined Benefit Plans-General: Disclosure Framework-Changes to the Disclosure Requirements for Defined Benefit Plans" ("ASU 2018-14"). ASU 2018-14 eliminates requirements for certain disclosures that are not considered cost beneficial, clarifies certain required disclosures and adds additional disclosures under defined benefit pension plans and other postretirement plans. We adopted this guidance during the fourth quarter 2018. The adoption of ASU 2018-14 did not have a material impact to our consolidated financial statements.

Recently Issued Accounting Pronouncements

Financial Instruments

In June 2016, the FASB issued ASU 2016-13, "Measurement of Credit Losses on Financial Instruments" ("ASU 2016-13"). The primary impact of ASU 2016-13 for us is a change in the model for the recognition of credit losses related to our financial instruments from an incurred loss model, which recognized credit losses only if it was probable that a loss had been incurred, to an expected loss model, which requires our management team to estimate the total credit losses expected on the portfolio of financial instruments. We are currently reviewing the requirements of the standard and evaluating the impact on our consolidated financial statements.

We are required to adopt the provisions of ASU 2016-13 effective January 1, 2020, but could elect to early adopt the provisions as of January 1, 2019. We expect to adopt ASU 2016-13 on January 1, 2020 and recognize the impacts through a cumulative adjustment to retained earnings as of the date of adoption.

Leases

In February 2016, the FASB issued ASU 2016-02, “Leases” (“ASU 2016-02”), and associated ASUs related to ASU 842, Leases, which require organizations that lease assets to recognize on the balance sheet the assets and liabilities for the rights and obligations created by those leases. In addition, the new guidance will require disclosures to help investors and other financial statement users better understand the amount, timing and uncertainty of cash flows arising from leases. For leases where we are a lessee, the presentation and measurement of the assets and liabilities will depend on each lease’s classification as either a finance or operating lease. For leases where we are a lessor, the accounting remains largely unchanged from current U.S. GAAP but does contain some targeted improvements to align with the new revenue recognition guidance issued in 2014 (ASC 606). The new standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018.

We have a cross-functional team in place to evaluate and implement the new guidance and we have substantially completed the implementation of third-party software solutions to facilitate compliance with accounting and reporting requirements. The team continues to review existing lease arrangements and has collected and loaded a significant portion of our lease portfolio into the software. We continue to enhance accounting systems and update business processes and controls related to the new guidance for leases. Collectively, these activities are expected to facilitate our ability to meet the new accounting and disclosure requirements upon adoption in the first quarter of 2019.

ASU 2016-02 requires a modified retrospective transition approach, applying the new standard to all leases existing at the date of initial adoption. An entity may choose to use either (1) the effective date or (2) the beginning of the earliest comparative period presented in the financial statements at the date of initial application. We will apply the transition requirements at the January 1, 2019 effective date by showing a cumulative effect adjustment in the first quarter of 2019, rather than restating any prior periods. In addition, we will elect the package of practical expedients permitted under the transition guidance, which does not require reassessment of prior conclusions related to contracts containing a lease, lease classification and initial direct lease costs. As an accounting policy election, we will exclude short-term leases (term of 12 months or less) from the balance sheet presentation and will account for non-lease and lease components in a contract as a single lease component for most asset classes.

We are in the process of completing our adoption of ASU 2016-02, including reviewing our lease portfolio, completing the implementation and testing of the third-party software solution and exercising internal controls over adoption and implementation of ASU 2016-02. Therefore, the estimated impact on our consolidated balance sheet cannot currently be determined. However, we expect the adoption of ASU 2016-02 will have a material impact on our consolidated balance sheet through the recognition of right of use assets and lease liabilities for our operating leases. The impact to our consolidated statements of operations and consolidated statements of cash flows is not expected to be material. We believe the new standard will have no impact on our debt covenant compliance under our current agreements.

We currently lease real estate, vehicles, dark fiber and a wide variety of equipment. In addition, deferred gains of approximately \$115 million arising from prior period sales-leaseback transactions, which under prior accounting rules would have been recognized on our operating statements over an average period of three years, will be reflected through an adjustment to retained earnings on our balance sheet as of January 1, 2019.

Upon implementing ASU 2016-02, accounting for the failed sale leaseback will no longer be applicable based on our facts and circumstances, and the real estate assets and corresponding financing obligation will be derecognized from our consolidated financial statements. Please see Note 3—Sale of Data Centers and Colocation Business for additional information on the accounting for the failed-sale-leaseback. The elimination of the failed leaseback will result in the following increase (decrease) to our balance sheet at January 1, 2019:

Balance Sheet (Dollars
in

	millions)
Property, plant and equipment	\$ (409)
Deferred rent	(3)
Long-term debt	(558)
Deferred income taxes	37
Stockholder's equity	115

(2) Acquisition of Level 3

On November 1, 2017, CenturyLink acquired Level 3 through successive merger transactions, including a merger of Level 3 with and into a merger subsidiary, which survived such merger as our indirect wholly-owned subsidiary under the name of Level 3 Parent, LLC. We entered into this acquisition to, among other things, realize certain strategic benefits, including enhanced financial and operational scale, market diversification and an enhanced combined network. As a result of the acquisition, Level 3 shareholders received \$26.50 per share in cash and 1.4286 shares of CenturyLink common stock, with cash paid in lieu of fractional shares, for each outstanding share of Level 3 common stock they owned at closing, subject to certain limited exceptions. We issued this consideration with respect to all of the outstanding common stock of Level 3, with the exception of shares held by the dissenting common shareholders. Upon closing, CenturyLink shareholders owned approximately 51% and former Level 3 shareholders owned approximately 49% of the combined company.

In addition, each outstanding Level 3 restricted stock unit award granted prior to April 1, 2014 or granted to an outside director of Level 3 was converted into \$26.50 in cash and 1.4286 shares of CenturyLink common stock (and cash in lieu of fractional shares) with respect to each Level 3 share covered by such award (the "Converted RSU Awards"). Each outstanding Level 3 restricted stock unit award granted on or after April 1, 2014 (other than those granted to outside directors of Level 3) was converted into a CenturyLink restricted stock unit award using a conversion ratio of 2.8386 to 1 as determined in accordance with a formula set forth in the merger agreement ("the Continuing RSU Awards").

The aggregate consideration of \$19.6 billion is based on:

the 517.3 million shares of CenturyLink's common stock (including those issued in connection with the Converted RSU Awards) issued to consummate the acquisition and the closing stock price of CenturyLink common stock at October 31, 2017 of \$18.99;

a combination of (i) the cash consideration of \$26.50 per share on the 362.1 million common shares of Level 3 issued and outstanding as of October 31, 2017, (ii) the cash consideration of \$1 million paid on the Converted RSUs awards; and (iii) the estimated value of \$136 million the Continuing RSU Awards, which represents the pre-combination portion of Level 3's share-based compensation awards replaced by CenturyLink;

\$60 million for the dissenting common shares issued and outstanding as of October 31, 2017; and

our assumption at closing of approximately \$10.6 billion of Level 3's long-term debt.

The aggregate cash payments required to be paid on or about the closing date were funded with the proceeds of \$7.945 billion of term loans and \$400 million of funds borrowed under our new revolving credit facility together with other available funds, which included \$1.825 billion borrowed from Level 3 Parent, LLC. For additional information regarding CenturyLink's financing of the Level 3 acquisition see Note 6—Long-Term Debt and Credit Facilities.

We have recognized the assets and liabilities of Level 3 based on the fair value of the acquired tangible and intangible assets and assumed liabilities of Level 3 as of November 1, 2017, the consummation date of the acquisition, with the excess aggregate consideration recorded as goodwill. The estimation of such fair values and the estimation of lives of depreciable tangible assets and amortizable intangible assets required significant judgment. We completed our final fair value determination during the fourth quarter of 2018. Our final fair value determinations were different than those reflected in our consolidated financial statements at December 31, 2017.

In connection with receiving approval from the U.S. Department of Justice to complete the Level 3 acquisition we agreed to divest (i) certain Level 3 network assets in three metropolitan areas and (ii) 24 strands of dark fiber connecting 30 specified city-pairs across the United States. All of the metro network assets were classified as assets held for sale on our consolidated balance sheet as of December 31, 2017.

All of those assets were sold by December 31, 2018. The proceeds from these sales were included in the proceeds from sale of property, plant and equipment in our consolidated statements of cash flows. No gain or loss was recognized with these transactions.

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As of October 31, 2018, the aggregate consideration exceeds the aggregate estimated fair value of the acquired assets and assumed liabilities by \$11.2 billion, which we have recognized as goodwill. The goodwill is attributable to strategic benefits, including enhanced financial and operational scale, market diversification and leveraged combined networks that we expect to realize. None of the goodwill associated with this acquisition is deductible for income tax purposes.

The following is our assignment of the aggregate consideration:

	Adjusted November 1, 2017 Balance as of December 31, 2017 (Dollars in millions)	Purchase Price Adjustments	Adjusted November 1, 2017 Balance as of October 31, 2018
Cash, accounts receivable and other current assets ⁽¹⁾	\$3,317	(26)	3,291
Property, plant and equipment	9,311	157	9,468
Identifiable intangible assets ⁽²⁾			
Customer relationships	8,964	(533)	8,431
Other	391	(13)	378
Other noncurrent assets	782	216	998
Current liabilities, excluding current maturities of long-term debt	(1,461)	(32)	(1,493)
Current maturities of long-term debt	(7)	—	(7)
Long-term debt	(10,888)	—	(10,888)
Deferred revenue and other liabilities	(1,629)	(114)	(1,743)
Goodwill	10,837	340	11,177
Total estimated aggregate consideration	\$19,617	(5)	19,612

⁽¹⁾ Includes accounts receivable, which had a gross contractual value of \$884 million on November 1, 2017 and October 31, 2018.

⁽²⁾ The weighted-average amortization period for the acquired intangible assets is approximately 12.0 years.

On the acquisition date, we assumed Level 3's contingencies. For more information on our contingencies, see Note 17—Commitments, Contingencies and Other Items.

Acquisition-Related Expenses

We have incurred acquisition-related expenses related to our acquisition of Level 3. The table below summarizes our acquisition-related expenses, which consist of integration-related expenses, including severance and retention compensation expenses, and transaction-related expenses:

	Years Ended December 31, 2018	2017
	(Dollars in millions)	
Transaction-related expenses	\$ 2	174
Integration-related expenses	391	97

Total acquisition-related expenses \$ 393 271

At December 31, 2018, we had incurred cumulative acquisition-related expenses of \$716 million for Level 3. The total amounts of these expenses are included in our selling, general and administrative expenses.

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Level 3 incurred transaction-related expenses of \$47 million on the date of acquisition. This amount is not included in our results of operations.

(3) Sale of Data Centers and Colocation Business

On May 1, 2017, we sold our data centers and colocation business to a consortium led by BC Partners, Inc. and Medina Capital in exchange for cash and a minority stake in the limited partnership that owns the consortium's newly-formed global secure infrastructure company, Cyxtera Technologies ("Cyxtera").

At the closing of this sale, we received pre-tax cash proceeds of \$1.8 billion, and we valued our minority stake at \$150 million, which was based upon the total amount of equity contributions to the limited partnership on the date made. Due to the sale and related restructuring actions we have taken regarding certain subsidiaries involved in the data centers and colocation business, we have estimated a cumulative current tax impact relating to the sale totaling \$65 million, \$18 million of which was accrued in 2016 and \$47 million of which was accrued in 2017.

In connection with our sale of the data centers and colocation business to Cyxtera, we agreed to lease back from Cyxtera a portion of the data center space to provide data hosting services to our customers. Because we have continuing involvement in the business through our minority stake in Cyxtera's parent, we did not meet the requirements for a sale-leaseback transaction as described in ASC 840-40, Leases - Sale-Leaseback Transactions. Under the failed-sale-leaseback accounting model, we were deemed under GAAP to still own certain real estate assets sold to Cyxtera, which we continued to reflect on our consolidated balance sheet and depreciate over the assets' remaining useful life. We also treated a certain amount of the pre-tax cash proceeds from the sale of the assets as though it were the result of a financing obligation on our consolidated balance sheet, and our consolidated results of operations included imputed revenue associated with the portion of the real estate assets that we did not lease back and imputed interest expense on the financing obligation. A portion of the rent payments under our leaseback arrangement with Cyxtera were recognized as a reduction of the financing obligation, resulting in lower recognized rent expense than the amounts actually paid each period.

The following table reflects the assets sold to and the liabilities assumed by Cyxtera on May 1, 2017, including the impact of failed-sale-leaseback:

	Dollars in millions
Goodwill	\$ 1,142
Property, plant and equipment	1,051
Other intangible assets	249
Other assets	66
Less assets not removed as a result of the failed-sale-leaseback	(526)
Total net amount of assets derecognized	\$ 1,982
Capital lease obligations	\$ 294
Other liabilities	274
Less imputed financing obligations from the failed-sale-leaseback	(628)
Total net imputed liabilities recognized	\$ (60)

In addition, the failed-sale-leaseback accounting treatment had the following effects on our consolidated results of operations for the years ended December 31, 2018 and 2017:

	Positive (Negative) Impact to Net Income December 31, 2018 2017 (Dollars in millions)	
Increase in revenue	\$74	49
Decrease in cost of sales	22	15
Increase in loss on sale of business included in selling, general and administrative expense	—	(102)
Increase in depreciation expense (one-time)	—	(44)
Increase in depreciation expense (ongoing)	(69)	(47)
Increase in interest expense	(55)	(39)
Decrease in income tax expense	7	65
Decrease in net income	\$(21)	(103)

After factoring in the costs to sell the data centers and colocation business, excluding the impact from the failed-sale-leaseback accounting treatment, the sale resulted in a \$20 million gain as a result of the aggregate value of the proceeds we received exceeding the carrying value of the assets sold and liabilities assumed. Based on the fair market values of the failed-sale-leaseback assets, the failed-sale-leaseback accounting treatment resulted in a loss of \$102 million as a result of the requirement to treat a certain amount of the pre-tax cash proceeds from the sale of the assets as though it were the result of a financing obligation. The combined net loss of \$82 million was included in selling, general and administrative expenses in our consolidated statement of operations for the year ended December 31, 2017. The sale also resulted in a significant capital loss carryforward, which was entirely offset by a valuation allowance due to our determination that we are not likely to be able to utilize this carryforward prior to its expiration.

We evaluated our minority stake in the limited partnership and determined that we were not the primary beneficiary of the entity. As a result, we classified our \$150 million investment in the limited partnership in other assets on our consolidated balance sheet as of December 31, 2018 and 2017. In addition to our investment, we have a \$3 million payable to Cyxtera, classified in other accrued liabilities on our consolidated balance sheet as of December 31, 2018. We had a receivable for \$10 million and \$49 million, classified in other current assets on our consolidated balance sheet as of December 31, 2018 and 2017, respectively as a result of amounts charged for the lease of data center space. We will continue to have an ongoing obligation to Cyxtera related to our lease of data center space from them. During the year ended December 31, 2018, we paid rent to Cyxtera totaling \$132 million. From May 1, 2017 through December 31, 2017, we paid rent to Cyxtera totaling \$80 million.

Effective November 3, 2016, which is the date we entered into the agreement to sell our data centers and colocation business, we ceased recording depreciation of the property, plant and equipment to be sold and amortization of the business's intangible assets in accordance with applicable accounting rules. Otherwise, we estimate that we would have recorded additional depreciation and amortization expense of \$67 million from January 1, 2017 through May 1, 2017.

Upon adopting ASU 2016-02, accounting for the failed sale leaseback will no longer be applicable based on our facts and circumstances, and the real estate assets and corresponding financing obligation will be derecognized from our consolidated financial statements. Please see "Leases" (ASU 2016-02) in Note 1— Background and Summary of

Significant Accounting Policies for additional information on the impact the new lease standard will have on the accounting for the failed-sale-leaseback.

(4) Goodwill, Customer Relationships and Other Intangible Assets

Goodwill, customer relationships and other intangible assets consisted of the following:

	As of December 31,	
	2018	2017
	(Dollars in millions)	
Goodwill	\$28,031	30,475
Customer relationships, less accumulated amortization of \$8,492 and \$7,096	\$8,911	10,876
Indefinite-life intangible assets	\$269	269
Other intangible assets subject to amortization:		
Capitalized software, less accumulated amortization of \$2,616 and \$2,294	\$1,468	1,469
Trade names, less accumulated amortization of \$61 and \$31	131	159
Total other intangible assets, net	\$1,868	1,897

Our goodwill was derived from numerous acquisitions where the purchase price exceeded the fair value of the net assets acquired (including the acquisition described in Note 2—Acquisition of Level 3). At December 31, 2018, the net carrying amounts of goodwill, customer relationships and other intangibles assets included \$19.1 billion as a result of our Level 3 acquisition. As of December 31, 2018, the weighted average remaining useful lives of the intangible assets acquired in the acquisition of Level 3 was approximately 11 years in total, approximately 11 years for customer relationships, 3 years for capitalized software and 4 years for trade names.

Total amortization expense for intangible assets for the years ended December 31, 2018, 2017 and 2016 was \$1.8 billion, \$1.2 billion and \$1.2 billion, respectively. As of December 31, 2018, the gross carrying amount of goodwill, customer relationships, indefinite-life and other intangible assets was \$50.0 billion.

We estimate that total amortization expense for intangible assets for the years ending December 31, 2019 through 2023 will be as follows:

(Dollars in millions)	
2019	\$ 1,691
2020	1,589
2021	1,156
2022	985
2023	893

We assess our goodwill and other indefinite-lived intangible assets for impairment annually, or, under certain circumstances, more frequently, such as when events or changes in circumstances indicate there may be impairment. We are required to write down the value of goodwill only when our assessment determines the recorded amount of goodwill exceeds the fair value. Our annual impairment assessment date for goodwill is October 31, at which date we assessed our reporting units, which were consumer, medium and small business, enterprise, international and global accounts, and wholesale and indirect. Our annual impairment assessment date for indefinite-lived intangible assets other than goodwill is December 31.

Our reporting units are not discrete legal entities with discrete full financial statements. Our assets and liabilities are employed in and relate to the operations of multiple reporting units. For each reporting unit, we compare its estimated fair value of equity to its carrying value of equity that we assign to the reporting unit. If the estimated fair value of the reporting unit is greater than the carrying value, we conclude that no impairment exists. If the estimated fair value of the reporting unit is less than the carrying value, we record an impairment equal to the excess amount.

At October 31, 2018, we estimated the fair value of our five above-mentioned reporting units by considering both a market approach and a discounted cash flow method. The market approach method includes the use of comparable multiples of publicly traded companies whose services are comparable to ours. The discounted cash flow method is based on the present value of projected cash flows and a terminal value, which represents the expected normalized cash flows of the reporting units beyond the cash flows from the discrete projection period. We reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2018 and concluded that the indicated control premium of approximately 0.1% was reasonable based on recent transactions in the market place. As of October 31, 2018, based on our assessment performed with respect to these reporting units as described above, we concluded that the estimated fair value of our consumer reporting unit was less than our carrying value of equity by approximately \$2.7 billion. As a result, we recorded a non-cash, non-tax-deductible goodwill impairment charge of \$2.7 billion for goodwill assigned to our consumer reporting unit during the fourth quarter of 2018. In addition, based on our assessments performed, we concluded that the goodwill for our four remaining reporting units was not impaired as of October 31, 2018.

As of October 31, 2018, based on our assessment performed with respect to our four reporting units included in our business segment, the estimated fair value of our equity exceeded our carrying value of equity for our medium and small business, enterprise, international and global accounts and wholesale and indirect by 2%, 11%, 30% and 5%, respectively. After the impairment charge described above, the estimated fair value of equity for our consumer reporting unit equals the carrying value of equity for such unit.

As of October 31, 2017, based on our assessments performed, we concluded that our goodwill for our then three reporting units was not impaired as of this date.

We completed our qualitative assessment of our indefinite-lived intangible assets other than goodwill as of December 31, 2018 and 2017 and concluded it is more likely than not that our indefinite-lived intangible assets are not impaired; thus, no impairment charge was recorded in 2018 or 2017.

The following table shows the rollforward of goodwill assigned to our reportable segments from December 31, 2016 through December 31, 2018.

	Business	Consumer	Total
	(Dollars in millions)		
As of December 31, 2016 ⁽¹⁾	\$9,372	10,278	19,650
Purchase accounting and other adjustments	10,825	—	10,825
As of December 31, 2017 ⁽¹⁾	20,197	10,278	30,475
Purchase accounting and other adjustments ⁽²⁾⁽³⁾	250	32	282
Impairment	—	(2,726)	(2,726)
As of December 31, 2018	\$20,447	7,584	\$28,031

(1) Goodwill is net of accumulated impairment losses of \$1.1 billion that related to our former hosting segment now included in our business segment.

(2) We allocated \$32 million of Level 3 goodwill to consumer as we expect the consumer segment to benefit from synergies resulting from the business combination.

(3) Includes \$58 million decrease due to effect of foreign currency exchange rate change.

As of December 31, 2018, our goodwill has been allocated to our reporting units as follows:

	(Dollars in millions)
Medium and small business	\$ 5,193
Enterprise	5,222
International and global accounts	3,596
Wholesale and indirect	6,436
Total business segment	20,447
Consumer	7,584
Total goodwill	\$ 28,031

For additional information on our segments, see Note 15—Segment Information.

(5) Revenue Recognition

Comparative Results

The following tables present our reported results under ASC 606 and a reconciliation to results using the historical accounting method:

	Year Ended December 31, 2018		
	Reported Balances	Impact ASC 605 of ASC 606	Historical Adjusted Balances
	(Dollars in millions, except per share amounts and shares in thousands)		
Operating revenue	\$23,443	39	23,482
Cost of services and products (exclusive of depreciation and amortization)	10,862	22	10,884
Selling, general and administrative	4,165	71	4,236
Interest expense	2,177	(9)	2,168
Income tax expense	170	(12)	158
Net loss	(1,733)	(33)	(1,766)
BASIC AND DILUTED LOSS PER COMMON SHARE			
BASIC	\$(1.63)	(0.03)	(1.66)
DILUTED	\$(1.63)	(0.03)	(1.66)
WEIGHTED-AVERAGE COMMON SHARES OUTSTANDING			
BASIC	1,065,866	—	1,065,866
DILUTED	1,065,866	—	1,065,866

The following table presents a reconciliation of certain consolidated balance sheet captions under ASC 606 to the balance sheet results using the historical accounting method:

	As of December 31, 2018		
	Reported Balance	Impact ASC 605 of ASC 606	Historical Adjusted Balances
	(Dollars in millions)		
Other current assets	\$918	(172)	746
Other long-term assets, net	1,060	(112)	948
Deferred revenue	2,375	71	2,446
Deferred income taxes, net	2,395	(131)	2,264
Other long-term liabilities	1,099	147	1,246
Accumulated deficit	(1,643)	(371)	(2,014)

Disaggregated Revenue by Service Offering

The following tables provide disaggregation of revenue from contracts with customers based on service offerings for the year ended December 31, 2018, respectively. It also shows the amount of revenue that is not subject to ASC 606, but is instead governed by other accounting standards.

	Year Ended December 31, 2018		
	Total Revenue	Adjustments for Non-ASC 606 Revenue ⁽⁸⁾	Total Revenue from Contracts with Customers
(Dollars in millions)			
Business segment			
IP and Data Services ⁽¹⁾	\$6,971	—	6,971
Transport and Infrastructure ⁽²⁾	5,356	(569)	4,787
Voice and Collaboration ⁽³⁾	4,401	—	4,401
IT and Managed Services ⁽⁴⁾	621	—	621
Total business segment revenue	17,349	(569)	16,780
Consumer segment			
IP and Data Services ⁽⁵⁾	308	(33)	275
Transport and Infrastructure ⁽⁶⁾	2,892	(213)	2,679
Voice and Collaboration ⁽³⁾	2,171	—	2,171
Total consumer segment revenue	5,371	(246)	5,125
Non-segment revenue			
Regulatory Revenue ⁽⁷⁾	723	(723)	—
Total non-segment revenue	723	(723)	—
Total revenue	\$23,443	(1,538)	21,905

Timing of Revenue

Goods and services transferred at a point in time	\$ 230
Services performed over time	21,675
Total revenue from contracts with customers	\$ 21,905

(1) Includes primarily VPN data network, Ethernet, IP, video and ancillary revenue.

(2) Includes primarily broadband, private line (including business data services), colocation and data centers, wavelength and ancillary revenue.

(3) Includes local, long-distance and other ancillary revenue.

(4) Includes IT services and managed services revenue.

(5) Includes retail video revenue (including our facilities-based video revenue).

(6) Includes primarily broadband and equipment sales and professional services revenue.

(7) Includes CAF Phase I, CAF Phase II, federal and state USF support revenue, sublease rental income and failed-sale leaseback income.

(8) Includes regulatory revenue, lease revenue, sublease rental income, revenue from fiber capacity lease arrangements and failed sale leaseback income, which are not within the scope of ASC 606.

Customer Receivables and Contract Balances

The following table provides balances of customer receivables, contract assets and contract liabilities as of December 31, 2018 and January 1, 2018:

	December 31, 2018	January 1, 2018
	(Dollars in millions)	
Customer receivables ⁽¹⁾	\$2,346	2,504
Contract liabilities	860	904
Contract assets	140	145

(1) Gross customer receivables of \$2.5 billion and \$2.7 billion, net of allowance for doubtful accounts of \$132 million and \$155 million, at December 31, 2018 and January 1, 2018, respectively.

Contract liabilities are consideration we have received from our customers or billed in advance of providing goods or services promised in the future. We defer recognizing this consideration as revenue until we have satisfied the related performance obligation to the customer. Contract liabilities include recurring services billed one month in advance and installation and maintenance charges that are deferred and recognized over the actual or expected contract term, which ranges from one to seven years depending on the service. Contract liabilities are included within deferred revenue in our consolidated balance sheet.

The following table provides information about revenue recognized for the year ended December 31, 2018:

	(Dollars in millions)
Revenue recognized in the period from:	
Amounts included in contract liability at the beginning of the period (January 1, 2018)	\$ 295
Performance obligations satisfied in previous periods	—

Performance Obligations

As of December 31, 2018, our estimated revenue expected to be recognized in the future related to performance obligations associated with customer contracts that are unsatisfied (or partially satisfied) is approximately \$6.9 billion. We expect to recognize approximately 83% of this revenue through 2021, with the balance recognized thereafter.

We do not disclose the value of unsatisfied performance obligations for contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed (for example, uncommitted usage or non-recurring charges associated with professional or technical services to be completed), or contracts that are classified as leasing arrangements that are not subject to ASC 606.

Contract Costs

The following table provides changes in our contract acquisition costs and fulfillment costs:

Year Ended December 31, 2018	Fulfillment Costs
Acquisition Costs	

	(Dollars in millions)	
Beginning of period balance	\$268	133
Costs incurred	226	146
Amortization	(172)	(92)
End of period balance	\$322	187

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Acquisition costs include commission fees paid to employees as a result of obtaining contracts. Fulfillment costs include third party and internal costs associated with the provision, installation and activation of telecommunications services to customers, including labor and materials consumed for these activities.

Deferred acquisition and fulfillment costs are amortized based on the transfer of services on a straight-line basis over the average customer life of 30 months for consumer customers and 12 to 60 months for business customers and amortized fulfillment costs are included in cost of services and products and amortized acquisition costs are included in selling, general and administrative expenses in our consolidated statement of operations. The amount of these deferred costs that are anticipated to be amortized in the next twelve months are included in other current assets on our consolidated balance sheets. The amount of deferred costs expected to be amortized beyond the next twelve months is included in other non-current assets on our consolidated balance sheets. Deferred acquisition and fulfillment costs are assessed for impairment on an annual basis.

(6) Long-Term Debt and Credit Facilities

The following chart reflects the consolidated long-term debt of CenturyLink, Inc. and its subsidiaries, including unamortized discounts and premiums and unamortized debt issuance costs, but excluding intercompany debt:

	Interest Rates ⁽¹⁾	Maturities	As of December 31,	
			2018	2017
			(Dollars in millions)	
Senior Secured Debt: ⁽²⁾				
CenturyLink, Inc.				
2017 Revolving Credit Facility ⁽³⁾	5.130% - 7.250%	2022	\$ 550	405
Term Loan A	5.272%	2022	1,622	1,575
Term Loan A-1	5.272%	2022	351	370
Term Loan B	5.272%	2025	5,940	6,000
Subsidiaries:				
Level 3 Financing, Inc.				
Tranche B 2024 Term Loan ⁽⁴⁾	4.754%	2024	4,611	4,611
Embarq Corporation subsidiaries				
First mortgage bonds	7.125% - 8.375%	2023 - 2025	138	151
Senior Notes and Other Debt:				
CenturyLink, Inc.				
Senior notes	5.625% - 7.650%	2019 - 2042	8,036	8,125
Subsidiaries:				
Level 3 Financing, Inc.				
Senior notes	5.125% - 6.125%	2021 - 2026	5,315	5,315
Level 3 Parent, LLC				
Senior notes	5.750%	2022	600	600
Qwest Corporation				
Senior notes	6.125% - 7.750%	2021 - 2057	5,956	7,294
Term loan	4.530%	2025	100	100
Qwest Capital Funding, Inc.				
Senior notes	6.875% - 7.750%	2021 - 2031	697	981
Embarq Corporation and subsidiary				
Senior note	7.995%	2036	1,485	1,485
Other	9.000%	2019	150	150
Capital lease and other obligations	Various	Various	801	891
Unamortized (discounts) premiums and other, net			(8) 23
Unamortized debt issuance costs			(283) (350)
Total long-term debt			36,061	37,726
Less current maturities			(652) (443)
Long-term debt, excluding current maturities			\$ 35,409	37,283

(1) As of December 31, 2018.

(2) See the remainder of this Note for a description of certain parent or subsidiary guarantees and liens securing this debt.

(3) The aggregate amount outstanding on our 2017 revolving credit facility at December 31, 2018 was \$550 million with a weighted-average interest rate of 5.322%. These amounts typically change on a regular basis.

(4) The Tranche B 2024 Term Loan had an interest rate of 4.754% as of December 31, 2018 and 3.557% as of December 31, 2017.

Debt of CenturyLink, Inc. and its Subsidiaries

At December 31, 2018, most of our outstanding consolidated debt had been incurred by CenturyLink, Inc. or one of the following four other primary borrowers or “borrowing groups,” each of which has borrowed funds either on a standalone basis or as part of a separate restricted group with certain of its subsidiaries:

Qwest Corporation;

Qwest Capital Funding, Inc. (including its parent guarantor, Qwest Communications International Inc.);

Embarq Corporation; and

Level 3 Parent, LLC (including its finance subsidiary, Level 3 Financing, Inc.).

Each of these borrowers or borrowing groups has entered into one or more credit agreements with certain financial institutions or other institutional lenders, or issued senior notes. Certain of these debt instruments are described further below.

2017 CenturyLink Credit Agreement

In connection with financing its acquisition of Level 3 on November 1, 2017, CenturyLink, Inc. caused its wholly-owned subsidiary, CenturyLink Escrow, LLC, to enter into a credit agreement on June 19, 2017 (the “2017 CenturyLink Credit Agreement”) with, among others, Bank of America, N.A., as administrative agent and collateral agent, currently providing for \$10.245 billion in senior secured credit facilities (the “2017 Senior Secured Credit Facilities”). As amended in early 2018, these facilities currently consist of the following:

a \$2.168 billion revolving credit facility (“2017 Revolving Credit Facility”), with 18 lenders, each with allocations ranging from \$36.4 million to \$167.8 million;

a \$1.707 billion senior secured Term Loan A credit facility, with 18 lenders, each with commitments ranging from \$28.6 million to \$132.2 million;

a \$370 million senior secured Term Loan A-1 credit facility with CoBank, ACB; and

a \$6.0 billion senior secured Term Loan “B” credit facility, the proceeds of which were fully pre-funded to us, net of a discount, into escrow on June 19, 2017 and released to us on November 1, 2017.

Loans under the Term Loan A and A-1 facilities and the 2017 Revolving Credit Facility bear interest at a rate equal to, at our option, the London Interbank Offered Rate (“LIBOR”) or the alternative base rate (each as defined in the 2017 CenturyLink Credit Agreement) plus an applicable margin between 2.25% to 3.00% per annum for LIBOR loans and 1.25% to 2.00% per annum for alternative base rate loans, depending on our then current total leverage ratio.

Borrowings under the Term Loan B facility bore interest at 1.375% per annum through July 18, 2017 and at 2.75% per annum thereafter through November 1, 2017. Subsequent to November 1, 2017, borrowings under the Term Loan B facility have borne interest at LIBOR plus 2.75% per annum. Loans under each of the term loan facilities require certain specified quarterly amortization payments and certain specified mandatory prepayments in connection with certain asset sales and debt issuances and out of excess cash flow, among other things, subject in each case to certain significant exceptions.

The 2017 Revolving Credit Facility and borrowings under the Term Loan A and A-1 facilities will mature on November 1, 2022. Borrowings under the Term Loan B facility will mature on January 31, 2025.

On November 1, 2017, CenturyLink, Inc. assumed all rights and obligations under the 2017 CenturyLink Credit Agreement, including the right to borrow funds under the 2017 Revolving Credit Facility on the terms and conditions specified in the 2017 CenturyLink Credit Agreement.

All of CenturyLink, Inc.'s obligations under the 2017 Senior Secured Credit Facilities are guaranteed by certain of its subsidiaries. The guarantees by certain of those guarantors are secured by a first priority security interest in substantially all assets (including certain subsidiaries stock) directly owned by them, subject to certain exceptions and limitations.

A portion of the 2017 Revolving Credit Facility in an amount not to exceed \$100 million is available for swingline loans, and a portion in an amount not to exceed \$400 million is available for the issuance of letters of credit.

CenturyLink, Inc. is permitted under the 2017 CenturyLink Credit Agreement to request certain incremental borrowings subject to the satisfaction of various conditions and to certain other limitations. Any incremental borrowings would be subject to the same terms and conditions under the 2017 CenturyLink Credit Agreement.

Term Loans and Certain Other Debt of Subsidiaries

Qwest Corporation

In 2015, Qwest Corporation entered into a term loan in the amount of \$100 million with CoBank, ACB. The outstanding unpaid principal amount of this term loan plus any accrued and unpaid interest is due on February 20, 2025. Interest is paid at least quarterly based upon either the London Interbank Offered Rate ("LIBOR") or the base rate (as defined in the credit agreement) plus an applicable margin between 1.50% to 2.50% per annum for LIBOR loans and 0.50% to 1.50% per annum for base rate loans depending on Qwest Corporation's then current senior unsecured long-term debt rating. At both December 31, 2018 and 2017, the outstanding principal balance on this term loan was \$100 million.

Level 3 Financing, Inc.

At December 31, 2018 and 2017, Level 3 Financing, Inc. owed \$4.611 billion under the Tranche B 2024 Term Loan, which matures on February 22, 2024. The Tranche B 2024 Term Loan carries an interest rate, in the case of base rate borrowings, equal to (i) the greater of the Prime Rate, the Federal Funds Effective Rate plus 50 basis points, or LIBOR plus 100 basis points (with all such terms and calculations as defined or further specified in the applicable credit agreement) plus (ii) 1.25% per annum. Any Eurodollar borrowings under the Tranche B 2024 Term Loan bear interest at LIBOR plus 2.25% per annum.

The Tranche B 2024 Term Loan requires certain specified mandatory prepayments in connection with certain asset sales and other transactions, subject to certain significant exceptions. The obligations of Level 3 Financing, Inc. under the Tranche B 2024 Term Loan are, subject to certain exceptions, secured by certain assets of Level 3 Parent, LLC and certain of its material domestic telecommunication subsidiaries. Also, Level 3 Parent, LLC and certain of its subsidiaries have guaranteed the obligations of Level 3 Financing, Inc. under the Tranche B 2024 Term Loan. Level 3 Communications, LLC and its material domestic subsidiaries guarantee and pledge certain of their assets to secure the obligations of Level 3 Financing, Inc. under the Tranche B 2024 Term Loan.

Embarq Subsidiaries

At December 31, 2018 and 2017, one of our Embarq subsidiaries had outstanding first mortgage bonds. This first mortgage bond is secured by substantially all of the property, plant and equipment of the issuing subsidiary.

Revolving Letters of Credit

We use various financial instruments in the normal course of business. These instruments include letters of credit, which are conditional commitments issued on our behalf in accordance with specified terms and conditions.

CenturyLink, Inc. maintains an uncommitted \$225 million revolving letter of credit facility separate from the letter of credit facility included in the 2017 Revolving Credit Facility noted above. Letters of credit issued under this facility are backed by credit enhancements in the form of secured guarantees issued by certain CenturyLink subsidiaries. As of December 31, 2018 and 2017, CenturyLink, Inc.'s outstanding letters of credit under this credit facility totaled \$97 million and \$104 million, respectively.

As of December 31, 2018, Level 3 Parent, LLC had outstanding letters of credit or other similar obligations of approximately \$30 million of which \$24 million is collateralized by cash that is reflected on the consolidated balance sheets in restricted cash and securities.

As of December 31, 2017, Level 3 Parent, LLC had outstanding letters of credit or other similar obligations of approximately \$36 million of which \$30 million is collateralized by cash that is reflected on the consolidated balance sheets in restricted cash and securities.

Senior Notes

CenturyLink, Inc., Level 3 Financing, Inc., Level 3 Parent, LLC, Qwest Corporation, Qwest Capital Funding, Inc. and Embarq Corporation have each issued unsecured senior notes. All of these notes carry fixed interest rates and all principal is due on the notes' respective maturity dates, which rates and maturity dates are summarized in the table above. The senior notes issued by Level 3 Financing, Inc. are guaranteed by its parent, Level 3 Parent, LLC and another of its affiliates. The senior notes issued by Qwest Capital Funding, Inc. are guaranteed by its parent, Qwest Communications International Inc. Except for a limited number of senior notes issued by Qwest Corporation, the issuer generally can redeem the notes, at its option, in whole or in part, (i) pursuant to a fixed schedule of pre-established redemption prices, (ii) pursuant to a "make whole" redemption price or (iii) under certain other specified limited conditions. Under certain circumstances in connection with a "change of control" of CenturyLink, Inc., it will be required to make an offer to repurchase each series of these senior notes (other than two of its older series of notes) at a price of 101% of the principal amount redeemed, plus accrued and unpaid interest. Also, under certain circumstances in connection with a "change of control" of Level 3 Parent, LLC, it, as well as Level 3 Financing, Inc., will be required to make an offer to repurchase each series of its outstanding senior notes at a price of 101% of the principal amount redeemed, plus accrued and unpaid interest.

New Issuances

As described above under "2017 CenturyLink Credit Agreement", on June 19, 2017, CenturyLink, Inc. caused one of its wholly-owned subsidiaries to enter into the 2017 CenturyLink Credit Agreement currently providing for \$10.2 billion of senior secured credit facilities. Upon the execution of the 2017 CenturyLink Credit Agreement, the \$6.0 billion Term Loan B credit facility was fully funded. On November 1, 2017, CenturyLink, Inc. assumed the obligations and borrowed additional sums under such credit agreement.

On April 27, 2017, Qwest Corporation issued \$575 million aggregate principal amount of 6.75% Notes due 2057 and, on May 5, 2017, issued an additional \$85 million aggregate principal amount of such notes pursuant to an over-allotment option in exchange for aggregate net proceeds, after deducting underwriting discounts and other expenses, of \$638 million. All of the 6.75% Notes are senior unsecured obligations and may be redeemed by Qwest Corporation, in whole or in part, on or after June 15, 2022, at a redemption price equal to 100% of the principal amount redeemed plus accrued and unpaid interest to the redemption date.

Repayments

2018

During 2018, CenturyLink and its affiliates redeemed approximately \$1.7 billion in debt securities, which primarily included approximately \$174 million of Qwest Capital Financing 6.5% Notes due 2018, approximately \$164 million of Qwest Corporation 7.5% Notes due 2051, approximately \$925 million of Qwest Corporation 7.0% Notes due 2052 and approximately \$250 million of Qwest 7.25% Notes due 2035.

2017

As described above under “2017 CenturyLink Credit Agreement”, on November 1, 2017, CenturyLink, Inc. repaid the outstanding principal amount of \$319 million under its 2012 term loan.

During 2017, subsidiaries of Embarq Corporation paid at maturity the \$72 million principal amount and accrued and unpaid interest due under their 8.77% Notes. CenturyLink, Inc. paid at maturity the \$350 million principal and accrued and unpaid interest due under its 5.15% Notes. Qwest Corporation redeemed \$125 million aggregate principal amount of the remaining \$288 million of its 7.5% Notes due 2051. Qwest Corporation redeemed all \$500 million of its 6.5% Notes due 2017. CenturyLink, Inc. paid at maturity the \$500 million principal and accrued and unpaid interest due under its 6.00% Notes.

Long-Term Debt Maturities

Set forth below is the aggregate principal amount of our long-term debt (excluding unamortized discounts and premiums, net and unamortized debt issuance costs) maturing during the following years:

	(Dollars in millions) ⁽¹⁾
2019	\$ 652
2020	1,205
2021	3,115
2022	5,283
2023	2,096
2024 and thereafter	23,503
Total long-term debt	\$ 35,854

In Note 3—Sale of Data Centers and Colocation Business, we describe an imputed financing obligation. The amount outstanding on that imputed financing obligation at December 31, 2018 was \$558 million. The aggregate maturities (1) of long-term debt do not include \$499 million of this obligation, which prior to the end of the lease term on April 30, 2020, will be derecognized along with the remaining net book value of the associated real estate assets.

Interest Expense

Interest expense includes interest on total long-term debt. The following table presents the amount of gross interest expense, net of capitalized interest:

	Years Ended December 31,		
	2018	2017	2016
	(Dollars in millions)		
Interest expense:			
Gross interest expense	\$2,230	1,559	1,372
Capitalized interest	(53)	(78)	(54)
Total interest expense	\$2,177	1,481	1,318

Covenants

CenturyLink, Inc.

With respect to the Term Loan A and A-1 facilities and the 2017 Revolving Credit Facility, the 2017 CenturyLink Credit Agreement requires us to maintain (i) a maximum total leverage ratio of not more than 5.00 to 1.00 until

November 1, 2019 and 4.75 to 1.00 thereafter and (ii) a minimum consolidated interest coverage ratio of at least 2.00 to 1.00, with such ratios being determined and calculated in the manner described in the 2017 CenturyLink Credit Agreement.

The 2017 Senior Secured Credit Facilities contain various representations and warranties and extensive affirmative and negative covenants. Such covenants include, among other things and subject to certain significant exceptions, restrictions on our ability to declare or pay dividends, repurchase stock, repay certain other indebtedness, create liens, incur additional indebtedness, make investments, engage in transactions with its affiliates, dispose of assets and merge or consolidate with any other person.

The senior notes of CenturyLink, Inc. were issued under an indenture dated March 31, 1994. This indenture restricts our ability to (i) incur, issue or create liens upon the property of CenturyLink, Inc. and (ii) consolidate with or merge into, or transfer or lease all or substantially all of our assets to any other party. The indenture does not contain any provisions that are impacted by our credit ratings or that restrict the issuance of new securities in the event of a material adverse change to us. However, as indicated above under "Senior Notes", CenturyLink, Inc. will be required to offer to purchase certain of its long-term debt securities issued under this indenture under certain circumstances in connection with a "change of control" of CenturyLink, Inc.

Level 3 Companies

The term loan and senior notes of Level 3 Parent, LLC and Level 3 Financing, Inc. contain various representations and extensive affirmative and negative covenants. Such covenants include, among other things and subject to certain significant exceptions, restrictions on their ability to declare or pay dividends, repay certain other indebtedness, create liens, incur additional indebtedness, make investments, engage in transactions with their affiliates, dispose of assets and merge or consolidate with any other person. Also, as indicated above under "Senior Notes", Level 3 Parent, LLC, as well as Level 3 Financing, Inc., will be required to offer to purchase certain of its long-term debt securities under certain circumstances in connection with a "change of control" of Level 3 Parent, LLC.

Qwest Companies

Under its term loan, Qwest Corporation must maintain a debt to EBITDA (earnings before interest, taxes, depreciation and amortization, as defined in such term loan documentation) ratio of not more than 2.85:1.0, as of the last day of each fiscal quarter for the four quarters then ended. The term loan also contains a negative pledge covenant, which generally requires Qwest Corporation to secure equally and ratably any advances under the term loan if it pledges assets or permit liens on its property for the benefit of other debtholders.

The senior notes of Qwest Corporation were issued under indentures dated April 15, 1990 and October 15, 1999. These indentures contain restrictions on the incurrence of liens and the consummation of certain transactions substantially similar to the above-described covenants in CenturyLink, Inc.'s March 31, 1994 indenture (but contain no mandatory repurchase provisions). The senior notes of Qwest Capital Funding, Inc. were issued under an indenture dated June 29, 1998 containing terms substantially similar to those set forth in Qwest Corporation's indentures.

Embarq

Embarq's senior note was issued pursuant to an indenture dated as of May 17, 2006. While Embarq is generally prohibited from creating liens on its property unless its senior notes are secured equally and ratably, Embarq can create liens on its property without equally and ratably securing its senior notes so long as the sum of all indebtedness so secured does not exceed 15% of Embarq's consolidated net tangible assets. The indenture also contains restrictions on the consummation of certain transactions substantially similar to CenturyLink, Inc.'s above-described covenants (but without mandatory repurchase provision), as well as certain customary covenants to maintain properties and pay all taxes and lawful claims.

Impact of Covenants

The debt covenants applicable to CenturyLink, Inc. and its subsidiaries could materially adversely affect their ability to operate or expand their respective businesses, to pursue strategic transactions, or to otherwise pursue their plans and strategies. The covenants of the Level 3 companies may significantly restrict the ability of CenturyLink, Inc. to receive cash from the Level 3 companies, to distribute cash from the Level 3 companies to other of CenturyLink, Inc.'s affiliated entities, or to enter into other transactions among CenturyLink, Inc.'s wholly-owned entities.

Certain of the debt instruments of CenturyLink, Inc. and its subsidiaries contain cross payment default or cross acceleration provisions. When present, these provisions could have a wider impact on liquidity than might otherwise arise from a default or acceleration of a single debt instrument.

The ability of CenturyLink, Inc. and its subsidiaries to comply with the financial covenants in their respective debt instruments could be adversely impacted by a wide variety of events, including unforeseen contingencies, many of which are beyond their control.

Compliance

At December 31, 2018, CenturyLink, Inc. believes it and its subsidiaries were in compliance with the provisions and financial covenants contained in their respective material debt agreements in all material respects.

Guarantees

CenturyLink, Inc. does not guarantee the debt of any unaffiliated parties, but, as noted above, certain of its largest subsidiaries guarantee (i) its debt and letters of credit outstanding under its 2017 CenturyLink Credit Agreement and its \$225 million revolving letter of credit facility and (ii) the outstanding term loans or senior notes issued by certain other subsidiaries. As further noted above, several of the subsidiaries guaranteeing these obligations have pledged substantially all of their assets to secure their respective guarantees.

Subsequent Event

On February 15, 2019, the Company entered into an aggregate \$2.5 billion in floating-to-fixed interest rate swap agreements with five banks. Under the terms of the agreements, each month, CenturyLink will receive payments equivalent to the 1-month LIBOR from each of the five banks. Also, under the terms of the agreements, CenturyLink will pay to each bank a fixed-rate of 2.47926% monthly, with the first payment due April 30, 2019. The agreements are effective March 31, 2019 and mature on March 31, 2022.

(7) Accounts Receivable

The following table presents details of our accounts receivable balances:

	As of	
	December 31,	
	2018	2017
	(Dollars in millions)	
Trade and purchased receivables	\$2,094	2,245
Earned and unbilled receivables	425	436
Other	21	40
Total accounts receivable	2,540	2,721
Less: allowance for doubtful accounts	(142)	(164)

Accounts receivable, less allowance \$2,398 2,557

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We are exposed to concentrations of credit risk from residential and business customers within our local service area, business customers outside of our local service area and from other telecommunications service providers. We generally do not require collateral to secure our receivable balances. We have agreements with other telecommunications service providers whereby we agree to bill and collect on their behalf for services rendered by those providers to our customers within our local service area. We purchase accounts receivable from other telecommunications service providers primarily on a recourse basis and include these amounts in our accounts receivable balance. We have not experienced any significant loss associated with these purchased receivables.

The following table presents details of our allowance for doubtful accounts:

	Beginning Balance	Additions	Deductions	Ending Balance
	(Dollars in millions)			
2018	\$164	153	(175)	142
2017	178	176	(190)	164
2016	152	192	(166)	178

(8) Property, Plant and Equipment

Net property, plant and equipment is composed of the following:

	Depreciable Lives	As of December 31,	
		2018	2017
		(Dollars in millions)	
Land	N/A	\$871	883
Fiber, conduit and other outside plant ⁽¹⁾	15-45 years	23,936	22,798
Central office and other network electronics ⁽²⁾	3-10 years	18,736	18,538
Support assets ⁽³⁾	3-30 years	8,020	7,586
Construction in progress ⁽⁴⁾	N/A	1,704	1,399
Gross property, plant and equipment		53,267	51,204
Accumulated depreciation		(26,859)	(24,352)
Net property, plant and equipment		\$26,408	26,852

(1)Fiber, conduit and other outside plant consists of fiber and metallic cable, conduit, poles and other supporting structures.

(2)Central office and other network electronics consists of circuit and packet switches, routers, transmission electronics and electronics providing service to customers.

(3)Support assets consist of buildings, cable landing stations, data centers, computers and other administrative and support equipment.

(4)Construction in progress includes inventory held for construction and property of the aforementioned categories that has not been placed in service as it is still under construction.

We recorded depreciation expense of \$3.3 billion, \$2.7 billion and \$2.7 billion for the years ended December 31, 2018, 2017 and 2016, respectively.

Asset Retirement Obligations

At December 31, 2018, our asset retirement obligations balance was primarily related to estimated future costs of removing equipment from leased properties and estimated future costs of properly disposing of asbestos and other hazardous materials upon remodeling or demolishing buildings. Asset retirement obligations are included in other long-term liabilities on our consolidated balance sheets.

As of the Level 3 acquisition date, we recorded liabilities to reflect our fair values of Level 3's asset retirement obligations. Our fair value estimates were determined using discounted cash flow method.

The following table provides asset retirement obligation activity:

	Years Ended		
	December 31,		
	2018	2017	2016
	(Dollars in millions)		
Balance at beginning of year	\$115	95	91
Accretion expense	10	6	6
Liabilities assumed in acquisition of Level 3 ⁽¹⁾	58	45	—
Liabilities settled	(14)	(3)	(2)
Liabilities transferred to Cyxtera	—	(20)	—
Change in estimate	21	(8)	—
Balance at end of year	\$190	115	95

(1) The liabilities assumed during 2018 relate to purchase price adjustments during the year.

During 2018, we revised our estimates for the cost of removal of network equipment, tanks, and asbestos remediation resulting in a \$21 million change in estimate of our asset retirement obligation. The 2018 and 2017 change in estimates are offset to gross property, plant and equipment.

(9) Severance and Leased Real Estate

Periodically, we reduce our workforce and accrue liabilities for the related severance costs. These workforce reductions result primarily from the progression or completion of our post-acquisition integration plans, increased competitive pressures, cost reduction initiatives, process improvements through automation and reduced workload demands due to the loss of customers purchasing certain services.

We report severance liabilities within accrued expenses and other liabilities - salaries and benefits in our consolidated balance sheets and report severance expenses in selling, general and administrative expenses in our consolidated statements of operations. As described in Note 15—Segment Information, we do not allocate these severance expenses to our segments.

We have recognized liabilities to reflect our estimates of the fair values of the existing lease obligations for real estate which we have ceased using, net of estimated sublease rentals. As of the Level 3 acquisition date, we recorded liabilities to reflect the fair values of the existing lease obligations for real estate for which we had ceased using, net of estimated sublease rentals. Our fair value estimates were determined using discounted cash flow methods. We recognize expense to reflect accretion of the discounted liabilities and periodically we adjust the expense when our actual subleasing experience differs from our initial estimates. We report the current portion of liabilities for ceased-use real estate leases in accrued expenses and other liabilities-other and report the noncurrent portion in deferred credits and other liabilities-other in our consolidated balance sheets. We report the related expenses in selling, general and administrative expenses in our consolidated statements of operations. At December 31, 2018, the current and noncurrent portions of our leased real estate accrual were \$24 million and \$86 million, respectively. The remaining lease terms range from less than one year to 12.0 years, with a weighted average of 6.7 years.

Changes in our accrued liabilities for severance expenses and leased real estate were as follows:

	Severance	Real Estate
	(Dollars in millions)	
Balance at December 31, 2016	\$98	67
Accrued to expense	42	4
Liabilities assumed in acquisition of Level 3	1	4
Payments, net	(108)	(13)
Reversals and adjustments	—	2
Balance at December 31, 2017	33	64
Accrued to expense	205	70
Payments, net	(151)	(24)
Balance at December 31, 2018	\$87	110

(10) Employee Benefits

Pension, Post-Retirement and Other Post-Employment Benefits

We sponsor various defined benefit pension plans (qualified and non-qualified) which, in the aggregate, cover a substantial portion of our employees including legacy CenturyLink, legacy Qwest Communications International Inc. ("Qwest") and legacy Embarq employees. Pension benefits for participants of the CenturyLink Combined Pension Plan ("Combined Pension Plan") who are represented by a collective bargaining agreement are based on negotiated schedules. All other participants' pension benefits are based on each individual participant's years of service and compensation. We also maintain non-qualified pension plans for certain current and former highly compensated employees. We maintain post-retirement benefit plans that provide health care and life insurance benefits for certain eligible retirees. We also provide other post-employment benefits for certain eligible former employees. We use a December 31 measurement date for all our plans.

Pension Benefits

In connection with the acquisition of Level 3 Communications, Inc. on November 1, 2017, we assumed defined benefit pension plans sponsored by various Level 3 companies for their employees. Based on a valuation analysis, we recognized a \$20 million liability on November 1, 2017 for the unfunded status of the Level 3 pension plans. The net unfunded status recognized on our balance sheets at December 31, 2018 and 2017 was \$11 million and \$20 million, respectively, representing liabilities of \$144 million and \$167 million, and assets of \$133 million and \$147 million, respectively. Due to the insignificant impact of these pension plans on our consolidated financial statements, we have predominantly excluded them from the remaining employee benefit disclosures in this Note.

United States funding laws require a company with a pension shortfall to fund the annual cost of benefits earned in addition to a seven-year amortization of the shortfall. Our funding policy for our Combined Pension Plan is to make contributions with the objective of accumulating ample assets to pay all qualified pension benefits when due under the terms of the plan. The accounting unfunded status of our qualified pension plan was \$1.6 billion and \$2.0 billion as of December 31, 2018 and 2017, respectively.

We made a voluntary cash contribution to our qualified pension plan of \$500 million and \$100 million in 2018 and 2017, respectively, and paid \$5 million of benefits directly to participants of our non-qualified pension plans in both 2018 and 2017, respectively. Based on current laws and circumstances, we are not required to make any contributions to our qualified pension plan in 2019. We currently do not expect to make a voluntary contribution to the trust for our qualified pension plan in 2019. We estimate that in 2019 we will pay \$5 million of benefits directly to participants of

our non-qualified pension plans.

As previously mentioned, we sponsor unfunded non-qualified pension plans for certain current and former highly-compensated employees. The net unfunded status of our non-qualified pension plans was \$52 million and \$58 million for the years ended December 31, 2018 and 2017, respectively. Due to the insignificant impact of these pension plans on our consolidated financial statements, we have predominantly excluded them from the remaining employee benefit disclosures in this Note.

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Post-Retirement Benefits

In connection with our acquisition of Level 3 Communications, Inc. on November 1, 2017, we assumed post-retirement benefit plans sponsored by Level 3 Communications, L.L.C. and Continental Level 3, Inc. for certain of its current and former employees. Based on a valuation analysis, we recognized less than \$1 million in liability for the unfunded status of Level 3's post-retirement benefit plans. Though largely unfunded, these post-retirement plans, in the aggregate, are immaterial to our consolidated financial statements. Due to the insignificant amount of these post-retirement plans, we have predominantly excluded them from the remaining employee benefit disclosures in this Note.

Our post-retirement benefit plans provide post-retirement benefits to qualified retirees and allow (i) eligible employees retiring before certain dates to receive benefits at no or reduced cost and (ii) eligible employees retiring after certain dates to receive benefits on a shared cost basis. The post-retirement benefits not paid by the trusts are funded by us and we expect to continue funding these post-retirement obligations as benefits are paid. The accounting unfunded status of our qualified post-retirement benefit plan was \$3.0 billion and \$3.4 billion as of December 31, 2018 and 2017, respectively.

Assets in the post-retirement trusts were substantially depleted as of December 31, 2016; however, we continue to pay certain post-retirement benefits through the trusts. No contributions were made to the post-retirement trusts in 2018 and 2017. Benefits not paid from the trusts are expected to be paid directly by us with available cash. In 2018, we paid \$249 million of post-retirement benefits, net of participant contributions and direct subsidies. In 2019, we expect to pay \$270 million of post-retirement benefits, net of participant contributions and direct subsidies. The increase in anticipated post-retirement benefit payments is the result of increased utilization coupled with a continued rise in the cost of care.

We expect our health care cost trend rate to range from 5.0% to 7.0% in 2019, 5.0% to 6.5% in 2020 and grading to 4.50% by 2025. Our post-retirement benefit cost, for certain eligible legacy Qwest retirees and certain eligible legacy CenturyLink retirees, is capped at a set dollar amount. Therefore, those health care benefit obligations are not subject to increasing health care trends after the effective date of the caps.

Expected Cash Flows

The Combined Pension Plan payments, post-retirement health care benefit payments and premiums, and life insurance premium payments are either distributed from plan assets or paid by us. The estimated benefit payments provided below are based on actuarial assumptions using the demographics of the employee and retiree populations and have been reduced by estimated participant contributions.

	Combined Pension Plan	Post-Retirement Benefit Plans	Medicare Part D Subsidy Receipts
	(Dollars in millions)		
Estimated future benefit payments:			
2019	\$966	277	(7)
2020	938	269	(7)
2021	916	261	(7)
2022	891	252	(7)
2023	867	243	(6)
2024 - 2028	3,971	1,065	(26)

Net Periodic Benefit Expense

We utilize a full yield curve approach in connection with estimating the service and interest components of net periodic benefit expense by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flow.

The actuarial assumptions used to compute the net periodic benefit expense for our Combined Pension Plan and post-retirement benefit plans are based upon information available as of the beginning of the year, as presented in the following table.

	Combined Pension Plan			Post-Retirement Benefit Plans			
	2018	2017	2016	2018	2017	2016	
Actuarial assumptions at beginning of year:							
Discount rate	3.14% - 3.69%	3.25% - 4.14%	3.34% - 4.46%	4.26	% 3.90	% 4.15	%
Rate of compensation increase	3.25	% 3.25	% 3.25	% N/A	N/A	N/A	
Expected long-term rate of return on plan assets ⁽¹⁾	6.50	% 6.50	% 7.00	% 4.00	% 5.00	% 7.00	%
Initial health care cost trend rate	N/A	N/A	N/A	7.00% / 5.00%	7.00% / 5.00%	5.00% / 5.25%	
Ultimate health care cost trend rate	N/A	N/A	N/A	4.50	% 4.50	% 4.50	%
Year ultimate trend rate is reached	N/A	N/A	N/A	2025	2025	2025	

N/A - Not applicable

(1) Rates are presented net of projected fees and administrative costs.

Net periodic benefit (income) expense for our combined pension plan includes the following components:

	Combined Pension Plan		
	Years Ended December 31,		
	2018	2017	2016
	(Dollars in millions)		
Service cost	\$66	63	64
Interest cost	392	409	425
Expected return on plan assets	(685)	(666)	(733)
Special termination benefits charge	15	—	13
Recognition of prior service credit	(8)	(8)	(8)
Recognition of actuarial loss	178	204	174
Net periodic pension benefit (income) expense	\$(42)	2	(65)

Net periodic benefit expense for our post-retirement benefit plans includes the following components:

Post-Retirement Plans

	Years Ended		
	December 31,		
	2018	2017	2016
	(Dollars in millions)		
Service cost	\$18	18	19
Interest cost	97	100	111
Expected return on plan assets	(1)	(2)	(7)
Special termination benefits charge	—	—	3
Recognition of prior service cost	20	20	20
Net periodic post-retirement benefit expense	\$134	136	146

We report service costs for our Combined Pension Plan and post-retirement benefit plans in cost of services and products and selling, general and administrative expenses in our consolidated statements of operations for the years ended December 31, 2018, 2017 and 2016. Additionally, a portion of the service cost is also allocated to certain assets under construction, which are capitalized and reflected as part of property, plant and equipment in our consolidated balance sheets. The remaining components of net periodic benefit expense (income) are reported in other income, net in our consolidated statements of operations. As a result of ongoing efforts to reduce our workforce, we recognized a one-time charge in 2018 of \$15 million for special termination benefit enhancements paid to certain eligible employees upon voluntary retirement.

Benefit Obligations

The actuarial assumptions used to compute the funded status for the plans are based upon information available as of December 31, 2018 and 2017 and are as follows:

	Combined Pension Plan		Post-Retirement Benefit Plans	
	December 31, 2018	2017	December 31, 2018	2017
Actuarial assumptions at end of year:				
Discount rate	4.29 %	3.57 %	4.26 %	3.53 %
Rate of compensation increase	3.25 %	3.25 %	N/A	N/A
Initial health care cost trend rate	N/A	N/A	7.00% / 5.00%	7.00% / 5.00%
Ultimate health care cost trend rate	N/A	N/A	4.50 %	4.50 %
Year ultimate trend rate is reached	N/A	N/A	2025	2025

N/A - Not applicable

In 2018, 2017 and 2016, we adopted the revised mortality tables and projection scales released by the Society of Actuaries, which decreased the projected benefit obligation of our benefit plans by \$38 million, \$113 million and \$268 million, respectively. The change in the projected benefit obligation of our benefit plans was recognized as part of the net actuarial (gain) loss and is included in accumulated other comprehensive loss, a portion of which is subject to amortization over the remaining estimated life of plan participants, which was approximately 8 to 9 years as of December 31, 2018.

The following tables summarize the change in the benefit obligations for the Combined Pension Plan and post-retirement benefit plans:

	Combined Pension Plan		
	Years Ended December 31,		
	2018	2017	2016
	(Dollars in millions)		
Change in benefit obligation			
Benefit obligation at beginning of year	\$ 13,064	13,244	13,287
Service cost	66	63	64
Interest cost	392	409	425
Plan amendments	—	—	2
Special termination benefits charge	15	—	13
Actuarial (gain) loss	(765)	586	487
Benefits paid by company	—	—	—
Benefits paid from plan assets	(1,178)	(1,238)	(1,034)
Benefit obligation at end of year	\$ 11,594	13,064	13,244

	Post-Retirement Benefit Plans		
	Years Ended		
	December 31,		
	2018	2017	2016
	(Dollars in millions)		
Change in benefit obligation			
Benefit obligation at beginning of year	\$3,375	3,413	3,567
Service cost	18	18	19
Interest cost	97	100	111
Participant contributions	54	54	57
Direct subsidy receipts	8	7	5
Special termination benefits charge	—	—	3
Plan Amendment	(36)	—	—
Actuarial (gain) loss	(224)	112	(13)
Benefits paid by company	(311)	(298)	(191)
Benefits paid from plan assets	(4)	(31)	(145)
Benefit obligation at end of year	\$2,977	3,375	3,413

Our aggregate benefit obligation as of December 31, 2018, 2017 and 2016 was \$14.8 billion, \$16.5 billion and \$16.7 billion, respectively.

Plan Assets

We maintain plan assets for our Combined Pension Plan and certain post-retirement benefit plans. The following tables summarize the change in the fair value of plan assets for the Combined Pension Plan and post-retirement benefit plans:

	Combined Pension Plan		
	Years Ended December 31,		
	2018	2017	2016
	(Dollars in millions)		
Change in plan assets			
Fair value of plan assets at beginning of year	\$11,060	10,892	11,072
Return on plan assets	(349)	1,306	754
Employer contributions	500	100	100
Benefits paid from plan assets	(1,178)	(1,238)	(1,034)
Fair value of plan assets at end of year	\$10,033	11,060	10,892

	Post-Retirement Benefit Plans		
	Years Ended		
	December 31,		
	2018	2017	2016
	(Dollars in millions)		
Change in plan assets			
Fair value of plan assets at beginning of year	\$23	53	193
Return on plan assets	(1)	1	5
Benefits paid from plan assets	(4)	(31)	(145)
Fair value of plan assets at end of year	\$18	23	53

The expected rate of return on plan assets is the long-term rate of return we expect to earn on the plans' assets, net of administrative expenses paid from plan assets. It is determined annually based on the strategic asset allocation and the long-term risk and return forecast for each asset class.

Combined Pension Plan: Our investment objective for the qualified pension plan assets is to achieve an attractive risk-adjusted return over time that will provide for the payment of benefits and minimize the risk of large losses. We employ a liability-aware investment strategy designed to reduce the volatility of pension assets relative to pension liabilities. This strategy is evaluated frequently and is expected to evolve over time with changes in the funded status and other factors. Approximately 31% of plan assets is targeted to long-duration investment grade bonds and interest rate sensitive derivatives and 29% is targeted to assets expected to outperform the liability with moderate funded status risk. Approximately 26% is targeted to public equities and 14% is targeted to private market investments. At the beginning of 2019, our expected annual long-term rate of return on pension assets before consideration of administrative expenses is assumed to be 7.0%. Projected PBGC (Pension Benefit Guaranty Corporation) premium rates reduce the annual long-term expected return net of administrative expenses to 6.5%.

The short term and long term interest crediting rates during 2018 for cash balance components of the Combined Pension Plan 2018 were 3.25% and 4.00%, respectively.

Post-Retirement Benefit Plans: Our investment objective for the post-retirement benefit plans' assets is to achieve an attractive risk-adjusted return and minimize the risk of large losses over the expected life of the assets. At the beginning of 2019, our expected annual long-term rate of return on post-retirement benefit plan assets is assumed to be 4.0%.

Permitted investments: Plan assets are managed consistent with the restrictions set forth by the Employee Retirement Income Security Act of 1974, as amended.

Derivative instruments: Derivative instruments are used to reduce risk as well as provide return. The gross notional exposure of the derivative instruments directly held by the pension benefit plan is shown below. The notional amount of the derivatives corresponds to market exposure but does not represent an actual cash investment. Our post-retirement plans were not invested in derivative instruments for the years ended December 31, 2018 or 2017.

	Gross Notional Exposure Combined Pension Plan Years Ended December 31, 2018 2017 (Dollars in millions)	
Derivative instruments:		
Exchange-traded U.S. equity futures	\$ 300	256
Exchange-traded Treasury and other interest rate futures	3,901	1,830
Interest rate swaps	83	137
Credit default swaps	66	100
Equity index swaps	—	1
Foreign exchange forwards	295	293
Options	192	259

Fair Value Measurements: Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between independent and knowledgeable parties who are willing and able to transact for an asset or liability at the measurement date. We use valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs when determining fair value and then we rank the estimated values based on the reliability of the inputs used following the fair value hierarchy set forth by the FASB. For

additional information on the fair value hierarchy, see Note 13—Fair Value of Financial Instruments.

At December 31, 2018, we used the following valuation techniques to measure fair value for assets. There were no changes to these methodologies during 2018:

Level 1—Assets were valued using the closing price reported in the active market in which the individual security was traded.

Level 2—Assets were valued using quoted prices in markets that are not active, broker dealer quotations, net asset value of shares held by the plans and other methods by which all significant inputs were observable at the measurement date.

Level 3—Assets were valued using unobservable inputs in which little or no market data exists as reported by the respective institutions at the measurement date.

The tables below present the fair value of plan assets by category and the input levels used to determine those fair values at December 31, 2018. It is important to note that the asset allocations do not include market exposures that are gained with derivatives. Investments include dividend and interest receivables, pending trades and accrued expenses.

	Fair Value of Combined Pension Plan Assets at December 31, 2018			
	Level 1	Level 2	Level 3	Total
	(Dollars in millions)			
Investment grade bonds (a)	\$458	1,393	—	\$1,851
High yield bonds (b)	—	277	7	284
Emerging market bonds (c)	151	181	—	332
U.S. stocks (e)	764	2	2	768
Non-U.S. stocks (f)	601	—	—	601
Private debt (i)	—	—	15	15
Multi-asset strategies (l)	342	—	—	342
Derivatives (m)	7	(2)	—	5
Cash equivalents and short-term investments (n)	3	907	—	910
Total investments, excluding investments valued at NAV	\$2,326	2,758	24	5,108
Investments valued at NAV				4,925
Total pension plan assets				\$10,033
	Fair Value of Post-Retirement Plan Assets at December 31, 2018			
	Level 1	Level 2	Level 3	Total
	(Dollars in millions)			
Total investments, excluding investments valued at NAV	\$ —	—	—	—
Investments valued at NAV				18
Total post-retirement plan assets				\$ 18

The tables below present the fair value of plan assets by category and the input levels used to determine those fair values at December 31, 2017. It is important to note that the asset allocations do not include market exposures that are gained with derivatives. Investments include dividend and interest receivable, pending trades and accrued expenses.

Fair Value of Combined Pension Plan Assets at December 31, 2017				
	Level 1	Level 2	Level 3	Total
(Dollars in millions)				
Investment grade bonds (a)	\$432	1,315	—	\$1,747
High yield bonds (b)	—	575	7	582
Emerging market bonds (c)	217	219	1	437
U.S. stocks (e)	1,030	2	3	1,035
Non-U.S. stocks (f)	706	—	—	706
Private debt (i)	—	—	15	15
Multi-asset strategies (l)	440	—	—	440
Derivatives (m)	2	—	—	2
Cash equivalents and short-term investments (n)	—	476	1	477
Total investments, excluding investments valued at NAV	\$2,827	2,587	27	5,441
Investments valued at NAV				5,619
Total pension plan assets				\$11,060
Fair Value of Post-Retirement Plan Assets at December 31, 2017				
	Level 1	Level 2	Level 3	Total
(Dollars in millions)				
U.S. stocks (e)	1	—	—	1
Total investments, excluding investments valued at NAV	\$ 1	—	—	1
Investments valued at NAV				22
Total post-retirement plan assets				\$ 23

The table below presents the fair value of plan assets valued at NAV by category for our pension and post-retirement plans at December 31, 2018 and 2017.

	Fair Value of Plan Assets Valued at NAV			
	Combined		Post-Retirement	
	Pension Plan		Benefit Plans at	
	at		December 31,	
	2018	2017	2018	2017
	(Dollars in millions)			
Investment grade bonds (a)	\$109	163	—	—
High yield bonds (b)	388	483	—	—
Emerging market bonds (c)	—	14	—	—
Diversified strategies (d)	—	538	—	—
U.S. stocks (e)	150	73	—	—
Non-U.S. stocks (f)	500	627	—	—
Emerging market stocks (g)	75	98	—	—
Private equity (h)	347	460	6	10
Private debt (i)	452	374	1	1
Market neutral hedge funds (j)	746	769	—	—
Directional hedge funds (j)	512	636	—	—
Real estate (k)	821	903	—	1
Multi-asset strategies (l)	763	424	—	—
Cash equivalents and short-term investments (n)	62	57	11	10
Total investments valued at NAV	\$4,925	5,619	18	22

The plans' assets are invested in various asset categories utilizing multiple strategies and investment managers. Interests in commingled funds are valued using the net asset value ("NAV") per unit of each fund. The NAV reported by the fund manager is based on the market value of the underlying investments owned by each fund, minus its liabilities, divided by the number of shares outstanding. Commingled funds can be redeemed at NAV, generally within a year of the financial statement date. Investments in private funds, primarily limited partnerships, represent long-term commitments with a fixed maturity date and are also valued at NAV. The plan has unfunded commitments related to certain private fund investments, which in aggregate are not material to the plan. Valuation inputs for these private fund interests are generally based on assumptions and other information not observable in the market. The assumptions and valuation methodologies of the pricing vendors, account managers, fund managers and partnerships are monitored and evaluated for reasonableness. Below is an overview of the asset categories, the underlying strategies and valuation inputs used to value the assets in the preceding tables:

(a) Investment grade bonds represent investments in fixed income securities as well as commingled bond funds comprised of U.S. Treasury securities, agencies, corporate bonds, mortgage-backed securities, asset-backed securities and commercial mortgage-backed securities. Treasury securities are valued at the bid price reported in the active market in which the security is traded and are classified as Level 1. The valuation inputs of other investment grade bonds primarily utilize observable market information and are based on a spread to U.S. Treasury securities and consider yields available on comparable securities of issuers with similar credit ratings. The primary observable inputs include references to the new issue market for similar securities, the secondary trading markets and dealer quotes. Option adjusted spread models are utilized to evaluate securities such as asset backed securities that have early redemption features. These securities are classified as Level 2.

(b) High yield bonds represent investments in below investment grade fixed income securities as well as commingled high yield bond funds. The valuation inputs for the securities primarily utilize observable market information and are

based on a spread to U.S. Treasury securities and consider yields available on comparable securities of issuers with similar credit ratings. These securities are primarily classified as Level 2. Securities whose valuation inputs are not based on observable market information are classified as Level 3.

(c) Emerging market bonds represent investments in securities issued by governments and other entities located in developing countries as well as registered mutual funds and commingled emerging market bond funds. The valuation inputs for the securities utilize observable market information and are primarily based on dealer quotes or a spread relative to the local government bonds. The registered mutual fund is classified as Level 1 while individual securities are primarily classified as Level 2. Securities whose valuation inputs are not based on observable market information are classified as Level 3.

(d) Diversified strategies represent an investment in a commingled fund that primarily has exposures to global government, corporate and inflation linked bonds, global stocks and commodities. This asset category includes investments in a registered mutual fund which is classified at Level 1. The valuation inputs utilize observable market information including published prices for exchange traded securities, bid prices for government bonds, and spreads and yields available for comparable fixed income securities with similar credit ratings.

(e) U.S. stocks represent investments in stocks of U.S. based companies as well as commingled U.S. stock funds. The valuation inputs for U.S. stocks are based on the last published price reported on the major stock market on which the securities are traded and are primarily classified as Level 1. Securities whose valuation inputs are not based on observable market information are classified as Level 3.

(f) Non-U.S. stocks represent investments in stocks of companies based in developed countries outside the U.S. as well as commingled funds. The valuation inputs for non-U.S. stocks are based on the last published price reported on the major stock market on which the securities are traded and are primarily classified as Level 1.

(g) Emerging market stocks represent investments in commingled funds comprised of stocks of companies located in developing markets. The commingled funds are valued at NAV based on the market value of the underlying investments using the same valuation inputs described previously for individual stocks.

(h) Private equity represents non-public investments in domestic and foreign buy out and venture capital funds. Private equity funds are primarily structured as limited partnerships and are valued according to the valuation policy of each partnership, subject to prevailing accounting and other regulatory guidelines. The partnerships are valued at NAV using valuation methodologies that consider a range of factors, including but not limited to the price at which investments were acquired, the nature of the investments, market conditions, trading values on comparable public securities, current and projected operating performance, and financing transactions subsequent to the acquisition of the investments. These valuation methodologies involve a significant degree of judgment.

(i) Private debt represents non-public investments in distressed or mezzanine debt funds and pension group insurance contracts. Pension group insurance contracts are valued based on actuarial assumptions, and are classified as Level 3. Mezzanine debt instruments are debt instruments that are subordinated to other debt issues and may include embedded equity instruments such as warrants. Private debt funds are primarily structured as limited partnerships and are valued at NAV according to the valuation policy of each partnership, subject to prevailing accounting and other regulatory guidelines. The valuation of underlying fund investments are based on factors including the issuer's current and projected credit worthiness, the security's terms, reference to the securities of comparable companies, and other market factors. These valuation methodologies involve a significant degree of judgment.

(j) Market neutral hedge funds hold investments in a diversified mix of instruments that are intended in combination to exhibit low correlations to market fluctuations. These investments are typically combined with futures to achieve uncorrelated excess returns over various markets. Directional hedge funds—This asset category represents investments that may exhibit somewhat higher correlations to market fluctuations than the market neutral hedge funds. Investments in hedge funds include both direct investments and investments in diversified funds of funds. Hedge funds are valued at NAV based on the market value of the underlying investments which include publicly traded equity and fixed income securities and privately negotiated debt securities. The hedge funds are valued by third party

administrators using the same valuation inputs previously described.

(k) Real estate represents investments in commingled funds and limited partnerships that invest in a diversified portfolio of real estate properties. These investments are valued at NAV according to the valuation policy of each fund or partnership, subject to prevailing accounting and other regulatory guidelines. The valuation inputs of the underlying properties are generally based on third-party appraisals that use comparable sales or a projection of future cash flows to determine fair value.

(l) Multi-asset strategies represent broadly diversified strategies that have the flexibility to tactically adjust exposures to different asset classes through time. This asset category includes investments in a registered mutual fund which is classified as Level 1 and a commingled fund which is valued at NAV based on the market value of the underlying investments.

(m) Derivatives include exchange traded futures contracts which are classified as Level 1, as well as privately negotiated over the counter swaps and options that are valued based on the change in interest rates or a specific market index and are classified as Level 2. The market values represent gains or losses that occur due to fluctuations in interest rates, foreign currency exchange rates, security prices, or other factors.

(n) Cash equivalents and short-term investments represent investments that are used in conjunction with derivatives positions or are used to provide liquidity for the payment of benefits or other purposes. The valuation inputs of securities are based on a spread to U.S. Treasury Bills, the Federal Funds Rate, or London Interbank Offered Rate and consider yields available on comparable securities of issuers with similar credit ratings and are primarily classified as Level 2. The commingled funds are valued at NAV based on the market value of the underlying investments using the same valuation inputs described above.

Concentrations of Risk: Investments, in general, are exposed to various risks, such as significant world events, interest rate, credit, foreign currency and overall market volatility risk. These risks are managed by broadly diversifying assets across numerous asset classes and strategies with differing expected returns, volatilities and correlations. Risk is also broadly diversified across numerous market sectors and individual companies. Financial instruments that potentially subject the plans to concentrations of counterparty risk consist principally of investment contracts with high quality financial institutions. These investment contracts are typically collateralized obligations and/or are actively managed, limiting the amount of counterparty exposure to any one financial institution. Although the investments are well diversified, the value of plan assets could change materially depending upon the overall market volatility, which could affect the funded status of the plans.

The table below presents a rollforward of the pension plan assets valued using Level 3 inputs:

	Combined Pension Plan Assets Valued Using Level 3 Inputs					
	High Yield Bonds	Emerging Market Bonds	U.S. Stocks	Private Debt	Cash	Total
	(Dollars in millions)					
Balance at December 31, 2016	\$ 11	—	—	—	—	11
Net transfers	(1)	—	—	14	—	13
Acquisitions	2	1	—	1	1	5
Dispositions	(5)	—	3	—	—	(2)
Balance at December 31, 2017	7	1	3	15	1	27
Dispositions	—	—	(2)	—	(1)	(3)
Actual return on plan assets	—	(1)	1	—	—	—
Balance at December 31, 2018	\$ 7	—	2	15	—	24

Certain gains and losses are allocated between assets sold during the year and assets still held at year-end based on transactions and changes in valuations that occurred during the year. These allocations also impact our calculation of net acquisitions and dispositions.

For the year ended December 31, 2018, the investment program produced actual losses on qualified pension and post-retirement plan assets of \$350 million as compared to expected returns of \$686 million for a difference of \$1.0 billion. For the year ended December 31, 2017, the investment program produced actual gains on qualified pension

and post-retirement plan assets of \$1.3 billion as compared to the expected returns of \$668 million for a difference of \$639 million. The short-term annual returns on plan assets will almost always be different from the expected long-term returns and the plans could experience net gains or losses, due primarily to the volatility occurring in the financial markets during any given year.

Unfunded Status

The following table presents the unfunded status of the Combined Pension Plan and post-retirement benefit plans:

	Combined Pension Plan		Post-Retirement Benefit Plans	
	Years Ended December 31, 2018	Years Ended December 31, 2017	Years Ended December 31, 2018	Years Ended December 31, 2017
	(Dollars in millions)			
Benefit obligation	\$(11,594)	(13,064)	(2,977)	(3,375)
Fair value of plan assets	10,033	11,060	18	23
Unfunded status	(1,561)	(2,004)	(2,959)	(3,352)
Current portion of unfunded status	—	—	(252)	(262)
Non-current portion of unfunded status	\$(1,561)	(2,004)	(2,707)	(3,090)

The current portion of our post-retirement benefit obligations is recorded on our consolidated balance sheets in accrued expenses and other current liabilities-salaries and benefits.

Accumulated Other Comprehensive Loss-Recognition and Deferrals

The following table presents cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2017, items recognized as a component of net periodic benefits expense in 2018, additional items deferred during 2018 and cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2018. The items not recognized as a component of net periodic benefits expense have been recorded on our consolidated balance sheets in accumulated other comprehensive loss:

	As of and for the Years Ended December 31,				
	2017	Recognition of Net Periodic Benefits Expense	Deferrals	Net Change in AOCL	2018
	(Dollars in millions)				
Accumulated other comprehensive loss:					
Pension plans:					
Net actuarial (loss) gain	\$(2,892)	179	(260)	(81)	(2,973)
Prior service benefit (cost)	54	(8)	—	(8)	46
Deferred income tax benefit (expense) ⁽¹⁾	1,107	(418)	65	(353)	754
Total pension plans	(1,731)	(247)	(195)	(442)	(2,173)
Post-retirement benefit plans:					
Net actuarial (loss) gain	(250)	—	257	257	7
Prior service (cost) benefit	(107)	20	—	20	(87)
Deferred income tax benefit (expense) ⁽²⁾	122	(37)	(63)	(100)	22
Total post-retirement benefit plans	(235)	(17)	194	177	(58)
Total accumulated other comprehensive loss	\$(1,966)	(264)	(1)	(265)	(2,231)

(1) Amounts currently recognized in net periodic benefits expense include \$375 million of benefit arising from the adoption of ASU 2018-02. See Note 1— Background and Summary of Significant Accounting Policies for further detail.

(2) Amounts currently recognized in net periodic benefits expense include \$32 million arising from the adoption of ASU 2018-02. See Note 1— Background and Summary of Significant Accounting Policies for further detail.

The following table presents cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2016, items recognized as a component of net periodic benefits expense in 2017, additional items deferred during 2017 and cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2016. The items not recognized as a component of net periodic benefits expense have been recorded on our consolidated balance sheets in accumulated other comprehensive loss:

	As of and for the Years Ended December 31,				
	2016	Recognition of Net Periodic Benefits Expense (Dollars in millions)	Deferrals	Net Change in AOCL	2017
Accumulated other comprehensive loss:					
Pension plans:					
Net actuarial (loss) gain	\$(3,148)	205	51	256	(2,892)
Prior service benefit (cost)	62	(8)	—	(8)	54
Deferred income tax benefit (expense)	1,191	(72)	(12)	(84)	1,107
Total pension plans	(1,895)	125	39	164	(1,731)
Post-retirement benefit plans:					
Net actuarial (loss) gain	(137)	—	(113)	(113)	(250)
Prior service (cost) benefit	(127)	20	—	20	(107)
Deferred income tax benefit (expense)	102	(7)	27	20	122
Total post-retirement benefit plans	(162)	13	(86)	(73)	(235)
Total accumulated other comprehensive loss	\$(2,057)	138	(47)	91	(1,966)

Medicare Prescription Drug, Improvement and Modernization Act of 2003

We sponsor post-retirement health care plans with several benefit options that provide prescription drug benefits that we deem actuarially equivalent to or exceeding Medicare Part D. We recognize the impact of the federal subsidy received under the Medicare Prescription Drug, Improvement and Modernization Act of 2003 in the calculation of our post-retirement benefit obligation and net periodic post-retirement benefit expense.

Other Benefit Plans

Health Care and Life Insurance

We provide health care and life insurance benefits to essentially all of our active employees. We are largely self-funded for the cost of the health care plan. Our health care benefit expense for current employees was \$434 million, \$341 million and \$399 million for the years ended December 31, 2018, 2017 and 2016, respectively. Union-represented employee benefits are based on negotiated collective bargaining agreements. Employees contributed \$142 million, \$128 million and \$127 million for the years ended December 31, 2018, 2017 and 2016, respectively. Our group basic life insurance plans are fully insured and the premiums are paid by us.

401(k) Plans

We sponsor qualified defined contribution plans covering substantially all of our employees. Under these plans, employees may contribute a percentage of their annual compensation up to certain maximums, as defined by the plans and by the Internal Revenue Service ("IRS"). Currently, we match a percentage of employee contributions in cash. At December 31, 2018 and 2017, the assets of the plans included approximately 12 million shares and 7 million shares, respectively, of our common stock all of which were the result of the combination of previous employer match and participant directed contributions. We recognized expenses related to these plans of \$93 million, \$77 million and \$79 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Upon the November 1, 2017 closing of our acquisition of Level 3, we assumed various defined contribution plans covering substantially all eligible employees of Level 3. On December 31, 2017, we merged the Level 3 Communications, Inc. 401(k) Plan into the CenturyLink Dollar & Sense 401(k) Plan. The resulting plan covers substantially all eligible non-represented employees of the combined company in the US.

Deferred Compensation Plans

We sponsored non-qualified deferred compensation plans for various groups that included certain of our current and former highly compensated employees. The value of liabilities related to these plans was not significant.

(11) Share-based Compensation

We maintain an equity incentive program that allows our Board of Directors (through its Compensation Committee or our Chief Executive Officer as its delegate) to grant incentives to certain employees and outside directors in one or more forms, including: incentive and non-qualified stock options, stock appreciation rights, restricted stock awards, restricted stock units and market and performance shares. Stock options generally expire ten years from the date of grant.

Acquisition of Level 3

Upon the November 1, 2017 acquisition of Level 3, and pursuant to the terms of the merger agreement, we assumed certain of Level 3's share-based compensation awards, which were converted to settle in shares of CenturyLink common stock. Specifically:

each outstanding Level 3 restricted stock unit award granted prior to April 1, 2014 or granted to an outside director of Level 3 was converted into \$26.50 in cash and 1.4286 shares of our common stock (and cash in lieu of fractional shares) with respect to each Level 3 share covered by such award (the "Converted RSU Awards"); and

each outstanding Level 3 restricted stock unit award granted on or after April 1, 2014 (other than these granted to outside directors of Level 3) was converted into a CenturyLink restricted stock unit award using a conversion ratio of 2.8386 to 1 as determined in accordance with a formula set forth in the merger agreement (the "Continuing RSU Awards").

The aggregate fair value of the replaced Level 3 awards was \$239 million, of which \$103 million was attributable to service performed prior to the acquisition date and was included in the cost of the acquisition. The fair value of CenturyLink shares was determined based on the \$18.99 closing price of our common stock on November 1, 2017. The remaining \$137 million of the preliminary aggregate fair value of the replaced Level 3 awards was attributable to post-acquisition period and is being recognized as compensation expense, net of estimated forfeitures, over the remaining 1 to 2 year vesting period.

Stock Options

The following table summarizes activity involving stock option awards for the year ended December 31, 2018:

	Number of Options	Weighted- Average Exercise Price
	(in thousands)	
Outstanding and Exercisable at December 31, 2017	1,022	\$ 27.41
Exercised	(178)	22.49
Forfeited/Expired	(301)	30.25
Outstanding and Exercisable at December 31, 2018	543	27.46

The aggregate intrinsic value of our options outstanding and exercisable at December 31, 2018 was less than \$1 million. The weighted-average remaining contractual term for such options was 1.12 years.

During 2018, we received net cash proceeds of \$4 million in connection with our option exercises. The tax benefit realized from these exercises was less than \$1 million. The total intrinsic value of options exercised for the years ended December 31, 2018, 2017 and 2016, was less than \$1 million each year.

Restricted Stock Awards and Restricted Stock Unit Awards

For equity based restricted stock and restricted stock unit awards that contain only service conditions for vesting (time-based awards), we calculate the award fair value based on the closing price of CenturyLink common stock on the accounting grant date. We also grant equity-based awards that contain service conditions as well as additional market or performance conditions. For awards having both service and market conditions, the award fair value is calculated using Monte-Carlo simulations. Awards with service as well as market or performance conditions specify a target number of shares for the award, although each recipient ultimately has the opportunity to receive between 0% and 200% of the target number of shares. For awards with service and market conditions, the percentage received is based on our total shareholder return over the three-year service period versus that of selected peer companies. For awards with service and performance conditions, the percentage received depends upon the attainment of two financial performance targets during the three-year service period.

The following table summarizes activity involving restricted stock and restricted stock unit awards for the year ended December 31, 2018:

	Number of Shares	Weighted- Average Grant Date Fair Value
	(in thousands)	
Non-vested at December 31, 2017	19,774	\$ 21.90
Granted ⁽¹⁾	9,657	17.02
Vested	(9,275)	20.87
Forfeited	(3,097)	22.12
Non-vested at December 31, 2018	17,059	19.65

(1) Shares granted whose related performance conditions were not finalized at December 31, 2018, were excluded from this figure.

During 2017, we granted 5.2 million shares of restricted stock and restricted stock unit awards at a weighted-average price of \$22.02. During 2016, we granted 3.6 million shares of restricted stock and restricted stock unit awards at a weighted-average price of \$30.83. The total fair value of restricted stock that vested during 2018, 2017 and 2016, was \$169 million, \$60 million and \$47 million, respectively.

Compensation Expense and Tax Benefit

We recognize compensation expense related to our market and performance share-based awards with graded vesting that only have a service condition on a straight-line basis over the requisite service period for the entire award. Total compensation expense for all share-based payment arrangements for the years ended December 31, 2018, 2017 and 2016, was \$185 million, \$111 million and \$80 million, respectively. Our tax benefit recognized in the consolidated statements of operations for our share-based payment arrangements for the years ended December 31, 2018, 2017 and 2016, was \$46 million, \$28 million and \$31 million, respectively. At December 31, 2018, there was \$215 million of total unrecognized compensation expense related to our share-based payment arrangements, which we expect to recognize over a weighted-average period of 1.7 years.

(12) (Loss) Earnings Per Common Share

Basic and diluted (loss) earnings per common share for the years ended December 31, 2018, 2017 and 2016 were calculated as follows:

	Years Ended December 31,		
	2018	2017	2016
	(Dollars in millions, except per share amounts, shares in thousands)		
Loss income (Numerator):			
Net (loss) income	\$(1,733)	1,389	626
Net (loss) income applicable to common stock for computing basic earnings per common share	(1,733)	1,389	626
Net (loss) income as adjusted for purposes of computing diluted earnings per common share	\$(1,733)	1,389	626
Shares (Denominator):			
Weighted average number of shares:			
Outstanding during period	1,078,409	635,576	545,946
Non-vested restricted stock	(12,543)	(7,768)	(6,397)
Weighted average shares outstanding for computing basic earnings per common share	1,065,866	627,808	539,549
Incremental common shares attributable to dilutive securities:			
Shares issuable under convertible securities	—	10	10
Shares issuable under incentive compensation plans	—	875	1,120
Number of shares as adjusted for purposes of computing diluted (loss) earnings per common share	1,065,866	628,693	540,679
Basic (loss) earnings per common share	\$(1.63)	2.21	1.16
Diluted (loss) earnings per common share ⁽¹⁾	\$(1.63)	2.21	1.16

⁽¹⁾ For the year ended December 31, 2018, we excluded from the calculation of diluted loss per share 4.6 million shares potentially issuable under incentive compensation plans or convertible securities, as their effect, if included, would have been anti-dilutive.

Our calculation of diluted (loss) earnings per common share excludes shares of common stock that are issuable upon exercise of stock options when the exercise price is greater than the average market price of our common stock. We also exclude unvested restricted stock awards that are antidilutive as a result of unrecognized compensation cost. Such shares averaged 2.7 million, 4.7 million and 3.3 million for 2018, 2017 and 2016, respectively.

(13) Fair Value of Financial Instruments

Our financial instruments consist of cash, cash equivalents and restricted cash, accounts receivable, accounts payable and long-term debt, excluding capital lease and other obligations. Due to their short-term nature, the carrying amounts of our cash, cash equivalents and restricted cash, accounts receivable and accounts payable approximate their fair values.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between independent and knowledgeable parties who are willing and able to transact for an asset or liability at the measurement date. We use valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs when determining fair value and then we rank the estimated values based on the reliability of the inputs used following the fair value hierarchy set forth by the FASB.

We determined the fair values of our long-term debt, including the current portion, based on quoted market prices where available or, if not available, based on discounted future cash flows using current market interest rates.

The three input levels in the hierarchy of fair value measurements are defined by the FASB generally as follows:

Input Level Description of Input

Level 1 Observable inputs such as quoted market prices in active markets.

Level 2 Inputs other than quoted prices in active markets that are either directly or indirectly observable.

Level 3 Unobservable inputs in which little or no market data exists.

The following table presents the carrying amounts and estimated fair values of our long-term debt, excluding capital lease and other obligations, as well as the input level used to determine the fair values indicated below:

		As of December 31, 2018	As of December 31, 2017		
	Input Level	Carrying Amount	Fair Value	Carrying Amount	Fair Value
(Dollars in millions)					
Liabilities-Long-term debt, excluding capital lease and other obligations	2	\$35,260	32,915	36,835	36,402

(14) Income Taxes

On December 22, 2017, the Tax Cuts and Jobs Act (the "Act") was signed into law. The Act reduces the U.S. corporate income tax rate from a maximum of 35% to 21% for all corporations, effective January 1, 2018, and makes certain changes to U.S. taxation of income earned by foreign subsidiaries, capital expenditures, interest expense and various other items.

As a result of the reduction in the U.S. corporate income tax rate from 35% to 21%, we re-measured our net deferred tax liabilities at December 31, 2017 and recognized a provisional tax benefit of approximately \$1.1 billion in our consolidated statement of operations for the year ended December 31, 2017. As a result of finalizing our provisional amount recorded in 2017, we recorded a reduction to this amount for purchase price accounting adjustments resulting from the Level 3 acquisition and the tax reform impact on those adjustments of \$92 million in 2018.

The Act also includes certain anti-abuse and base erosion provisions that may impact the amounts of U.S. tax that we pay with respect to income earned by our foreign subsidiaries. We have completed our analysis of the impact of the one-time repatriation tax and concluded that we do not have a tax liability under this provision. We have also completed our analysis of the anti-abuse and base erosion provisions and have recorded a tax expense of \$11 million related to global intangible low-taxed income provisions of the Act and do not have a liability in relation to base

erosion and anti-abuse tax provisions of the Act.

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Years Ended
December 31,
2018 2017 2016
(Dollars in
millions)

Income tax expense (benefit) was as follows:

Federal			
Current	\$(576)	82	335
Deferred	734	(988)	5
State			
Current	(22)) 21	27
Deferred	52	16	8
Foreign			
Current	36	22	26
Deferred	(54)) (2)) (7)
Total income tax expense (benefit)	\$170	(849)	394

Years Ended
December 31,
2018 2017 2016
(Dollars in
millions)

Income tax (benefit) expense was allocated as follows:

Income tax (benefit) expense in the consolidated statements of operations:

Attributable to income	\$170	(849)	394
Stockholders' equity:			
Compensation expense for tax purposes in excess of amounts recognized for financial reporting purposes	—	—	(2)
Tax effect of the change in accumulated other comprehensive loss	(2)) 81	(109)

The following is a reconciliation from the statutory federal income tax rate to our effective income tax rate:

	Years Ended December 31,		
	2018	2017	2016
	(Percentage of pre-tax income)		
Statutory federal income tax rate	21.0 %	35.0 %	35.0 %
State income taxes, net of federal income tax benefit	(1.5)%	3.9 %	2.3 %
Impairment of goodwill	(36.6)%	— %	— %
Change in liability for unrecognized tax position	1.3 %	1.0 %	0.2 %
Tax reform	(5.9)%	(209.8)%	— %
Net foreign income taxes	1.8 %	(0.7)%	0.1 %
Foreign dividend paid to a domestic parent company	— %	0.2 %	1.8 %
Research and development credits	0.9 %	(1.4)%	(0.6)%
Tax impact on sale of data centers and colocation business	— %	5.0 %	— %
Tax benefit of net operating loss carryback	9.1 %	— %	— %
Level 3 acquisition transaction costs	— %	6.0 %	— %
Other, net	(1.0)%	3.6 %	(0.2)%
Effective income tax rate	(10.9)%	(157.2)%	38.6 %

The effective tax rate for the year ended December 31, 2018 reflects a \$572 million unfavorable impact of the non-deductible goodwill impairment and a \$92 million unfavorable impact due to finalizing the impacts of tax reform. Partially offsetting these amounts is a \$142 million benefit generated by a loss carryback to 2016. The effective tax rate for the year ended December 31, 2017 reflects the benefit of approximately \$1.1 billion from the re-measurement of deferred taxes as noted above, a \$27 million tax expense related to the sale of our colocation business and \$32 million tax impact of non-deductible transaction costs related to the Level 3 acquisition. The effective tax rate for the year ended December 31, 2016 reflects a tax impact of \$18 million from an intercompany dividend payment from one of our foreign subsidiaries to its domestic parent company that was made as part of our corporate restructuring in preparation for the sale of our colocation business.

The tax effects of temporary differences that gave rise to significant portions of the deferred tax assets and deferred tax liabilities were as follows:

	As of	
	December 31,	2017
	2018	
	(Dollars in millions)	
Deferred tax assets		
Post-retirement and pension benefit costs	\$1,111	1,321
Net operating loss carryforwards	3,445	3,951
Other employee benefits	162	112
Other	553	714
Gross deferred tax assets	5,271	6,098
Less valuation allowance	(1,331)	(1,341)
Net deferred tax assets	3,940	4,757
Deferred tax liabilities		
Property, plant and equipment, primarily due to depreciation differences	(3,011)	(2,935)
Goodwill and other intangible assets	(3,303)	(3,785)
Other	(23)	(16)
Gross deferred tax liabilities	(6,337)	(6,736)
Net deferred tax liability	\$(2,397)	(1,979)

Of the \$2.4 billion and \$2.0 billion net deferred tax liability at December 31, 2018 and 2017, respectively, \$2.5 billion and \$2.4 billion is reflected as a long-term liability and \$131 million and \$434 million is reflected as a net noncurrent deferred tax asset at December 31, 2018 and 2017, respectively.

At December 31, 2018, we had federal NOLs of \$7.3 billion, net of limitations of Section 382 of the Internal Revenue Code ("Section 382") and uncertain tax positions, for U.S. federal income tax purposes. If unused, the NOLs will expire between 2022 and 2037. The U.S. federal net operating loss carryforwards expire as follows:

Expiring December 31,	Amount (Dollars in millions)
2022	\$ 1,043
2023	1,440
2024	1,402
2025	1,042
2026	1,525
2027	375
2028	637
2029	645
2030	671
2031	732
2032	348
2033	238
2037	2,715
NOLs per return	12,813
Uncertain tax positions	(5,526)
Financial NOLs	\$ 7,287

At December 31, 2018 we had state net operating loss carryforwards of \$19 billion (net of uncertain tax positions). We also had foreign NOL carryforwards of \$6 billion. At December 31, 2018, we had federal tax credits of \$52 million. Our acquisitions of Level 3, Qwest and SAVVIS, Inc. caused "ownership changes" within the meaning of Section 382 for the acquired companies. As a result, our ability to use these NOLs and tax credits are subject to annual limits imposed by Section 382. Despite this, we expect to use substantially all of these tax attributes to reduce our future federal tax liabilities, although the timing of that use will depend upon our future earnings and future tax circumstances.

We establish valuation allowances when necessary to reduce the deferred tax assets to amounts we expect to realize. As of December 31, 2018, a valuation allowance of \$1.3 billion was established as it is more likely than not that this amount of net operating loss, capital loss and tax credit carryforwards will not be utilized prior to expiration. Our valuation allowance at December 31, 2018 and 2017 is primarily related to foreign and state NOL carryforwards. This valuation allowance decreased by \$10 million during 2018, primarily due to the impact of foreign exchange rate adjustments and state law changes.

A reconciliation of the change in our gross unrecognized tax benefits (excluding both interest and any related federal benefit) from January 1 to December 31 for 2018 and 2017 is as follows:

	2018	2017
	(Dollars in millions)	
Unrecognized tax benefits at beginning of year	\$40	16
Assumed in the acquisition of Level 3	—	18
Tax position of prior periods netted against deferred tax assets	1,338	2
Increase in tax positions taken in the current year	4	1
Increase in tax positions taken in the prior year	211	3
Decrease due to payments/settlements	(1) —
Decrease from the lapse of statute of limitations	(2) —
Decrease due to the reversal of tax positions taken in a prior year	(3) —
Unrecognized tax benefits at end of year	\$1,587	40

The total amount (including both interest and any related federal benefit) of unrecognized tax benefits that, if recognized, would impact the effective income tax rate was \$256 million and \$66 million at December 31, 2018 and 2017, respectively.

Our policy is to reflect interest expense associated with unrecognized tax benefits in income tax expense. We had accrued interest (presented before related tax benefits) of approximately \$17 million and \$56 million at December 31, 2018 and 2017, respectively.

We, or at least one of our subsidiaries, file income tax returns in the U.S. federal jurisdiction and various states and foreign jurisdictions. With few exceptions, we are no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years before 2003. The Internal Revenue Service and state and local taxing authorities reserve the right to audit any period where net operating loss carryforwards are available.

Based on our current assessment of various factors, including (i) the potential outcomes of these ongoing examinations, (ii) the expiration of statute of limitations for specific jurisdictions, (iii) the negotiated settlement of certain disputed issues, and (iv) the administrative practices of applicable taxing jurisdictions, it is reasonably possible that the related unrecognized tax benefits for uncertain tax positions previously taken may decrease by up to \$12 million within the next 12 months. The actual amount of such decrease, if any, will depend on several future developments and events, many of which are outside our control.

(15) Segment Information

At December 31, 2018, we had the following two segments:

Business Segment. Under our business segment, we provide our products and services to large domestic and global enterprises, small and medium businesses, federal, state and local governments and wholesale customers, including other communication providers. Our products and services offered to these customers include our IP and Data Services suite of products, which includes VPN and hybrid networking, Ethernet and IP services; Transport and Infrastructure, which includes wavelengths and private line, dark fiber, colocation and data center services, and professional services; Voice Services, which includes local, long-distance, toll-free and unified communications services; and IT and Managed services, all of which are described further under "Products and Services"; and

Consumer Segment. Under our consumer segment, we provide our products and services to residential customers. Our products and services offered to these customers include our broadband, local and long-distance voice, video and other ancillary services.

The following table summarizes our segment results for 2018, 2017 and 2016 based on the segment categorization we were operating under at December 31, 2018.

	Years Ended December 31,			
	2018	2017	2016	
	(Dollars in millions)			
Total segment revenue	\$22,720	16,924	16,766	
Total segment expenses	12,269	9,390	9,081	
Total segment adjusted EBITDA	\$10,451	7,534	7,685	
Total margin percentage	46	% 45	% 46	%
Business segment:				
Revenue	\$17,349	11,220	10,704	
Expenses	10,076	6,847	6,391	
Adjusted EBITDA	\$7,273	4,373	4,313	
Margin percentage	42	% 39	% 40	%
Consumer segment:				
Revenue	\$5,371	5,704	6,062	
Expenses	2,193	2,543	2,690	
Adjusted EBITDA	\$3,178	3,161	3,372	
Margin percentage	59	% 55	% 56	%

Product and Service Categories

We categorize our products, services and revenue among the following five categories:

• **IP and Data Services**, which include primarily VPN data networks, Ethernet, IP, video (including our facilities-based video services, CDN services and Vyvx broadcast services) and other ancillary services;

• **Transport and Infrastructure**, which include broadband, private line (including business data services), data center facilities and services, including cloud, hosting and application management solutions, wavelength, equipment sales and professional services, network security services, dark fiber services and other ancillary services;

• **Voice and Collaboration**, which includes primarily local and long-distance voice, including wholesale voice, and other ancillary services;

• **IT and Managed Services**, which include information technology services and managed services, which may be purchased in conjunction with our other network services; and

• **Regulatory Revenue**, which consist of (i) Universal Service Fund ("USF"), Connect America Fund ("CAF") and other support payments designed to reimburse us for various costs related to certain telecommunications services and (ii) other operating revenue from the leasing and subleasing of space, none of which is included in our segment revenue.

Our operating revenue for our products and services are presented as follows for the years ended December 31, 2018, 2017 and 2016:

	Years Ended December 31,		
	2018	2017	2016
	(Dollars in millions)		
Business segment			
IP and Data Services ⁽¹⁾	\$ 6,971	3,682	2,957
Transport and Infrastructure ⁽²⁾	5,356	3,569	3,807
Voice and Collaboration ⁽³⁾	4,401	3,317	3,299
IT and Managed Services ⁽⁴⁾	621	652	641
Total business segment revenue	17,349	11,220	10,704
Consumer segment			
IP and Data Services ⁽⁵⁾	308	401	461
Transport and Infrastructure ⁽⁶⁾	2,892	2,776	2,776
Voice and Collaboration ⁽³⁾	2,171	2,527	2,825
Total consumer segment revenue	5,371	5,704	6,062
Non-segment revenue			
Regulatory Revenue ⁽⁷⁾	723	732	704
Total non-segment revenue	723	732	704
Total revenue	\$ 23,443	17,656	17,470

(1) Includes primarily VPN data network, Ethernet, IP and ancillary revenue.

(2) Includes primarily broadband, private line (including business data services), colocation and data centers, wavelength and ancillary revenue.

(3) Includes local, long-distance and other ancillary revenue.

(4) Includes IT services and managed services revenue.

(5) Includes retail video revenue (including our facilities-based video revenue).

(6) Includes primarily broadband and equipment sales and professional services revenue.

(7) Includes CAF Phase I, CAF Phase II, federal and state USF support revenue, sublease rental income and failed-sale leaseback income.

We recognize revenue in our consolidated statements of operations for certain USF surcharges and transaction taxes that we bill to our customers. Our consolidated statements of operations also reflect the offsetting expense for the amounts we remit to the government agencies. The total amount of such surcharges and transaction taxes that we included in revenue aggregated to \$952 million, \$601 million and \$572 million for the years ended December 31, 2018, 2017 and 2016, respectively. These USF surcharges, where we record revenue, and transaction taxes are assigned to the product and service categories of each segments based on the underlying revenue. We also act as a collection agent for certain other USF and transaction taxes that we are required by government agencies to bill our customers, for which we do not record any revenue or expense because we only act as a pass-through agent.

Allocations of Revenue and Expenses

Our segment revenue includes all revenue from our business and consumer segments as described in more detail above. Our segment revenue is based upon each customer's classification. We report our segment revenue based upon all services provided to that segment's customers. Our segment expenses include specific expenses incurred as a direct result of providing services and products to segment customers, along with selling, general and administrative expenses that are (i) directly associated with specific segment customers or activities, and (ii) allocated expenses which include network expenses, facilities expenses and other expenses such as fleet and real estate expenses. We do not assign depreciation and amortization expense or impairments to our segments, as the related assets and capital expenditures are centrally managed and are not monitored by or reported to the CODM by segment. Generally speaking, severance expenses, restructuring expenses and certain centrally managed administrative functions (such as finance, information technology, legal and human resources) are not assigned to our segments. Interest expense is also excluded from segment results because we manage our financing on a consolidated basis and have not allocated assets or debt to specific segments. Other income and expense items are not monitored as a part of our segment operations and are therefore excluded from our segment results.

The following table reconciles total segment adjusted EBITDA to net (loss) income for the years ended December 31, 2018, 2017 and 2016:

	Years Ended December 31,		
	2018	2017	2016
	(Dollars in millions)		
Total segment adjusted EBITDA	\$ 10,451	7,534	7,685
Regulatory Revenue	723	732	704
Depreciation and amortization	(5,120)	(3,936)	(3,916)
Impairment of goodwill	(2,726)	—	—
Other operating expenses	(2,758)	(2,321)	(2,140)
Total other expenses, net	(2,133)	(1,469)	(1,313)
Income (loss) before income tax expense	(1,563)	540	1,020
Income tax (expense) benefit	(170)	849	(394)
Net (loss) income	\$(1,733)	1,389	626

We do not have any single customer that provides more than 10% of our consolidated total operating revenue.

The assets we hold outside of the U.S. represent less than 10% of our total assets. Revenue from sources outside of the U.S. is responsible for less than 10% of our total operating revenue.

(16) Quarterly Financial Data (Unaudited)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
(Dollars in millions, except per share amounts)					
2018					
Operating revenue	\$ 5,945	5,902	5,818	5,778	23,443
Operating income (loss)	750	767	894	(1,841)	570
Net income (loss)	115	292	272	(2,412)	(1,733)
Basic earnings (loss) per common share	0.11	0.27	0.25	(2.26)	(1.63)
Diluted earnings (loss) per common share	0.11	0.27	0.25	(2.26)	(1.63)
2017					
Operating revenue	\$ 4,209	4,090	4,034	5,323	17,656
Operating income	631	367	487	524	2,009
Net income	163	17	92	1,117	1,389
Basic earnings per common share	0.30	0.03	0.17	1.26	2.21
Diluted earnings per common share	0.30	0.03	0.17	1.26	2.21

During the fourth quarter of 2018, we recorded a non-cash, non-tax-deductible goodwill impairment charge of \$2.7 billion for goodwill assigned to our consumer segment.

During the first quarter of 2018, we recognized \$71 million of expenses related to our acquisition of Level 3 followed by acquisition-related expenses of \$162 million, \$43 million and \$117 million in the second, third and fourth quarters of 2018, respectively.

During the first quarter of 2017, we recognized \$10 million of expenses related to our acquisition of Level 3 followed by acquisition-related expenses of \$18 million, \$37 million and \$206 million in the second, third and fourth quarters of 2017, respectively. During the first quarter of 2017, depreciation and amortization expense of \$50 million was not recognized on colocation assets held for sale. During the second quarter, we recognized a combined loss of \$119 million resulting from the sale of the colocation business and data centers and the accounting treatment of the failed-sale-leaseback. During the second quarter of 2017, we recognized a one-time depreciation charge of \$44 million related to the failed-sale-leaseback accounting. During the third and fourth quarters of 2017, we recognized \$44 million and \$20 million, respectively, of interest expense related to CenturyLink, Inc.'s \$6 billion secured term loan utilized in the acquisition of Level 3. In the fourth quarter of 2017, we recognized a tax benefit of approximately \$1.1 billion due to the change in the federal corporate tax rate from 35% to 21%.

(17) Commitments, Contingencies and Other Items

We are subject to various claims, legal proceedings and other contingent liabilities, including the matters described below, which individually or in the aggregate could materially affect our financial condition, future results of operations or cash flows. As a matter of course, we are prepared to both litigate these matters to judgment as needed, as well as to evaluate and consider reasonable settlement opportunities.

Irrespective of its merits, litigation may be both lengthy and disruptive to our operations and could cause significant expenditure and diversion of management attention. We review our litigation accrual liabilities on a quarterly basis, but in accordance with applicable accounting guidelines only establish accrual liabilities when losses are deemed probable and reasonably estimable and only revise previously-established accrual liabilities when warranted by changes in circumstances, in each case based on then-available information. As such, as of any given date we could have exposure to losses under proceedings as to which no liability has been accrued or as to which the accrued liability is inadequate. Amounts accrued for our litigation and non-income tax contingencies at December 31, 2018 aggregated to approximately \$123 million and are included in other current liabilities and other liabilities in our consolidated balance sheet as of such date. The establishment of an accrual does not mean that actual funds have been set aside to satisfy a given contingency. Thus, the resolution of a particular contingency for the amount accrued could have no effect on our results of operations but nonetheless could have an adverse effect on our cash flows.

In this Note, when we refer to a class action as "putative" it is because a class has been alleged, but not certified in that matter.

Shareholder Class Action Suits

CenturyLink and certain members of the CenturyLink Board of Directors have been named as defendants in a putative shareholder class action lawsuit filed on January 11, 2017 in the 4th Judicial District Court of the State of Louisiana, Ouachita Parish, captioned Jeffery Tomasulo v. CenturyLink, Inc., et al. The complaint asserts, among other things, that the members of CenturyLink's Board allegedly breached their fiduciary duties to the CenturyLink shareholders in approving the Level 3 merger agreement and, more particularly, that: the consideration that CenturyLink agreed to pay to Level 3 stockholders in the transaction is allegedly unfairly high; the CenturyLink directors allegedly had conflicts of interest in negotiating and approving the transaction; and the disclosures set forth in our preliminary joint proxy statement/prospectus filed in December 2016 are insufficient in that they allegedly fail to contain material information concerning the transaction. The complaint seeks, among other things, a declaration that the members of the CenturyLink Board have breached their fiduciary duties, corrective disclosure, rescissory or other damages and equitable relief, including rescission of the transaction. In February 2017, the parties entered into a memorandum of understanding providing for the settlement of the lawsuit. In January 2019, the court approved the settlement and entered final judgment. An objector filed an appeal, and that appeal is pending. The costs of the settlement are not material to our consolidated financial statements.

CenturyLink and certain CenturyLink board members and officers were named as defendants in a putative shareholder class action lawsuit filed on June 12, 2018 in the Boulder County District Court of the state of Colorado, captioned Houser et al. v. CenturyLink, et al. The complaint asserts claims on behalf of a putative class of former Level 3 shareholders who became CenturyLink shareholders as a result of the transaction. It alleges that the proxy statement provided to the Level 3 shareholders failed to disclose material information of several kinds, including information about strategic revenue, customer loss rates, and customer account issues, among other items. The complaint seeks damages, costs and fees, rescission, rescissory damages, and other equitable relief.

Switched Access Disputes

Subsidiaries of CenturyLink, Inc. are among hundreds of companies involved in an industry-wide dispute, raised in nearly 100 federal lawsuits (filed between 2014 and 2016) that have been consolidated in the United States District Court for the Northern District of Texas for pretrial procedures. The disputes relate to switched access charges that local exchange carriers ("LECs") collect from interexchange carriers ("IXCs") for IXCs' use of LEC's access services. In the lawsuits, IXCs, including Sprint Communications Company L.P. ("Sprint") and various affiliates of Verizon Communications Inc. ("Verizon"), assert that federal and state laws bar LECs from collecting access charges when IXCs exchange certain types of calls between mobile and wireline devices that are routed through an IXC. Some of these IXCs have asserted claims seeking refunds of payments for access charges previously paid and relief from future

access charges.

In November 2015, the federal court agreed with the LECs and rejected the IXCs' contention that federal law prohibits these particular access charges, and also allowed the IXCs to refile state-law claims. Since then, many of the LECs and IXCs have filed revised pleadings and additional motions, which remain pending. Separately, some of the defendants, including CenturyLink, Inc.'s LECs, have petitioned the FCC to address these issues on an industry-wide basis.

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Our subsidiaries include both IXCs and LECs which respectively pay and assess significant amounts of the charges in question. The outcome of these disputes and lawsuits, as well as any related regulatory proceedings that could ensue, are currently not predictable.

State Tax Suits

Several Missouri municipalities have, beginning in May 2012, asserted claims alleging underpayment of taxes against CenturyLink, Inc. and several of its subsidiaries in a number of proceedings filed in the Circuit Court of St. Louis County, Missouri. These municipalities are seeking, among other things, declaratory relief regarding the application of business license and gross receipts taxes and back taxes from 2007 to the present, plus penalties and interest. In a February 2017 ruling in connection with one of these pending cases, the court entered an order awarding plaintiffs \$4 million and broadening the tax base on a going-forward basis. We have appealed that ruling. In a June 2017 ruling in connection with another one of these pending cases, the court made findings which, if not overturned, will result in a tax liability to us well in excess of the contingent liability we have established. In due course, we plan to appeal that decision. We continue to vigorously defend against these claims.

Billing Practices Suits

In June 2017, a former employee filed an employment lawsuit against us claiming that she was wrongfully terminated for alleging that we charged some of our retail customers for products and services they did not authorize. Starting shortly thereafter and continuing since then, and based in part on the allegations made by the former employee, several legal proceedings have been filed.

In June 2017, *McLeod v. CenturyLink*, a putative consumer class action, was filed against us in the U.S. District Court for the Central District of California alleging that we charged some of our retail customers for products and services they did not authorize. A number of other complaints asserting similar claims have been filed in other federal and state courts, as well. The lawsuits assert claims including fraud, unfair competition, and unjust enrichment. Also in June 2017, *Craig v. CenturyLink, Inc., et al.*, a putative securities investor class action, was filed in U.S. District Court for the Southern District of New York, alleging that we failed to disclose material information regarding improper sales practices, and asserting federal securities law claims. A number of other cases asserting similar claims have also been filed.

Beginning June 2017, we also received several shareholder derivative demands addressing related topics. In August 2017, the Board of Directors formed a special litigation committee of outside directors to address the allegations of impropriety contained in the shareholder derivative demands. In April 2018, the special litigation committee concluded its review of the derivative demands and declined to take further action. Since then, derivative cases were filed. Two of these cases, *Castagna v. Post* and *Pinsly v. Post*, were filed in Louisiana state court in the Fourth Judicial District Court for the Parish of Ouachita. The remaining derivative cases were filed in federal court in Louisiana and Minnesota. These cases have been brought on behalf of CenturyLink against certain current and former officers and directors of the Company and seek damages for alleged breaches of fiduciary duties.

The consumer putative class actions, the securities investor putative class actions, and the federal derivative actions have been transferred to the U.S. District Court for the District of Minnesota for coordinated and consolidated pretrial proceedings as *In Re: CenturyLink Sales Practices and Securities Litigation*.

In July 2017, the Minnesota state attorney general filed *State of Minnesota v. CenturyTel Broadband Services LLC, et al.* in the Anoka County Minnesota District Court, alleging claims of fraud and deceptive trade practices relating to improper consumer sales practices. The suit seeks an order of restitution on behalf of all CenturyLink customers, civil penalties, injunctive relief, and costs and fees. Additionally, we have received and responded to information requests and inquiries from other states.

Peruvian Tax Litigation

In 2005, the Peruvian tax authorities ("SUNAT") issued tax assessments against one of our Peruvian subsidiaries asserting \$26 million of additional income tax withholding and value-added taxes ("VAT"), penalties and interest for calendar years 2001 and 2002 on the basis that the Peruvian subsidiary incorrectly documented its importations. After taking into account the developments described below, as well as the accrued interest and foreign exchange effects, we believe the total amount of exposure is \$11 million at December 31, 2018.

We challenged the assessments via administrative and then judicial review processes. In October 2011, the highest administrative review tribunal (the "Tribunal") decided the central issue underlying the 2002 assessments in SUNAT's favor. We appealed the Tribunal's decision to the first judicial level, which decided the central issue in favor of Level 3. SUNAT and we filed cross-appeals with the court of appeal. In May 2017, the court of appeal issued a decision reversing the first judicial level. In June 2017, we filed an appeal of the decision to the Supreme Court of Justice, the final judicial level. Oral argument was held before the Supreme Court of Justice in October 2018. A decision on this case is pending.

In October 2013, the Tribunal decided the central issue underlying the 2001 assessments in SUNAT's favor. We appealed that decision to the first judicial level in Peru, which decided the central issue in favor of SUNAT. In June 2017, we filed an appeal with the court of appeal. In November 2017, the court of appeals issued a decision affirming the first judicial level and we filed an appeal of the decision to the Supreme Court of Justice. That appeal is pending.

Brazilian Tax Claims

In December 2004, March 2009, April 2009 and July 2014, the São Paulo state tax authorities issued tax assessments against one of our Brazilian subsidiaries for the Tax on Distribution of Goods and Services ("ICMS") with respect to revenue from leasing certain assets (in the case of the December 2004, March 2009 and July 2014 assessments) and revenue from the provision of Internet access services (in the case of the April 2009 and July 2014 assessments), by treating such activities as the provision of communications services, to which the ICMS tax applies. In September 2002, July 2009 and May 2012, the Rio de Janeiro state tax authorities issued tax assessments to the same Brazilian subsidiary on similar issues.

We have filed objections to these assessments, arguing that the lease of assets and the provision of Internet access are not communication services subject to ICMS. The objections to the September 2002, December 2004 and March 2009 assessments were rejected by the respective state administrative courts, and we have appealed those decisions to the judicial courts. In October 2012 and June 2014, we received favorable rulings from the lower court on the December 2004 and March 2009 assessments regarding equipment leasing, but those rulings are subject to appeal by the state. No ruling has been obtained with respect to the September 2002 assessment. The objections to the April and July 2009 and May 2012 assessments are still pending final administrative decisions. The July 2014 assessment was confirmed during the fourth quarter of 2014 at the first administrative level, and we appealed this decision to the second administrative level.

We are vigorously contesting all such assessments in both states and, in particular, view the assessment of ICMS on revenue from equipment leasing to be without merit. These assessments, if upheld, could result in a loss of up to \$37 million at December 31, 2018 in excess of the accruals established for these matters.

Qui Tam Action

Level 3 was notified in late 2017 of a qui tam action pending against Level 3 Communications, Inc. and others in the United States District Court for the Eastern District of Virginia, captioned United States of America ex rel., Stephen Bishop v. Level 3 Communications, Inc. et al. The original qui tam complaint was filed under seal on November 26, 2013, and an amended complaint was filed under seal on June 16, 2014. The court unsealed the complaints on October 26, 2017.

The amended complaint alleges that Level 3, principally through two former employees, submitted false claims and made false statements to the government in connection with two government contracts. The relator seeks damages in this lawsuit of approximately \$50 million, subject to trebling, plus statutory penalties, pre-and-post judgment interest, and attorney's fees. The case is currently stayed.

Level 3 is evaluating its defenses to the claims. At this time, Level 3 does not believe it is probable Level 3 will incur a material loss. If, contrary to its expectations, the plaintiff prevails in this matter and proves damages at or near \$50 million, and is successful in having those damages trebled, the outcome could have a material adverse effect on our results of operations in the period in which a liability is recognized and on our cash flows for the period in which any damages are paid.

Several people, including two former Level 3 employees were indicted in the United States District Court for the Eastern District of Virginia on October 3, 2017, and charged with, among other things, accepting kickbacks from a subcontractor, who was also indicted, for work to be performed under a prime government contract. Of the two former employees, one entered into a plea agreement, and the other is deceased. Level 3 is fully cooperating in the government's investigations in this matter.

Other Proceedings, Disputes and Contingencies

From time to time, we are involved in other proceedings incidental to our business, including patent infringement allegations, administrative hearings of state public utility commissions relating primarily to our rates or services, actions relating to employee claims, various tax issues, environmental law issues, grievance hearings before labor regulatory agencies and miscellaneous third party tort actions.

We are currently defending several patent infringement lawsuits asserted against us by non-practicing entities, many of which are seeking substantial recoveries. These cases have progressed to various stages and one or more may go to trial in the coming 24 months if they are not otherwise resolved. Where applicable, we are seeking full or partial indemnification from our vendors and suppliers. As with all litigation, we are vigorously defending these actions and, as a matter of course, are prepared to litigate these matters to judgment, as well as to evaluate and consider all reasonable settlement opportunities.

We are subject to various foreign, federal, state and local environmental protection and health and safety laws. From time to time, we are subject to judicial and administrative proceedings brought by various governmental authorities under these laws. Several such proceedings are currently pending, but none is reasonably expected to exceed \$100,000 in fines and penalties.

The outcome of these other proceedings described under this heading is not predictable. However, based on current circumstances, we do not believe that the ultimate resolution of these other proceedings, after considering available defenses and any insurance coverage or indemnification rights, will have a material adverse effect on us.

The ultimate outcome of the above-described matters may differ materially from the outcomes anticipated, estimated, projected or implied by us in certain of our statements appearing above in this Note, and proceedings currently viewed as immaterial by us may ultimately materially impact us.

Environmental Contingencies

In connection with our largely historical operations, we have responded to or been notified of potential environmental liability at approximately 200 properties. We are engaged in addressing or have liquidated environmental liabilities at many of those properties. We could potentially be held liable, jointly, or severally, and without regard to fault, for the costs of investigation and remediation of these sites. The discovery of additional environmental liabilities or changes in existing environmental requirements could have a material adverse effect on our business.

Capital Leases

We lease certain facilities and equipment under various capital lease arrangements. Depreciation of assets under capital leases is included in depreciation and amortization expense in our consolidated statements of operations. Payments on capital leases are included in repayments of long-term debt, including current maturities in our consolidated statements of cash flows.

The tables below summarize our capital lease activity:

Years Ended December 31,

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	2018	2017	2016
	(Dollars in millions)		
Assets acquired through capital leases	\$ 25	35	45
Depreciation expense	51	50	70
Cash payments towards capital leases	48	48	58

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	As of December 31,	
	2018	2017
	(Dollars in millions)	
Assets included in property, plant and equipment	\$ 427	420
Accumulated depreciation	180	154

The future annual minimum payments under capital lease arrangements as of December 31, 2018 were as follows:

	Future Minimum Payments (Dollars in millions)
Capital lease obligations:	
2019	\$ 51
2020	36
2021	23
2022	21
2023	20
2024 and thereafter	183
Total minimum payments	334
Less: amount representing interest and executory costs	(100)
Present value of minimum payments	234
Less: current portion	(38)
Long-term portion	\$ 196

Operating Lease Income

CenturyLink leases various IRUs, office facilities, switching facilities and other network sites to third parties under operating leases. Lease and sublease income is included in operating revenue in the consolidated statements of operations.

For the years ended December 31, 2018, 2017 and 2016, our gross rental income was \$882 million, \$766 million and \$734 million, respectively.

Right-of-Way and Operating Lease Expense

CenturyLink leases various equipment, office facilities, retail outlets, switching facilities and other network sites. These leases, with few exceptions, provide for renewal options and escalations that are either fixed or based on the consumer price index. Any rent abatements, along with rent escalations, are included in the computation of rent expense calculated on a straight-line basis over the lease term. The lease term for most leases includes the initial non-cancelable term plus any term under renewal options that are reasonably assured. For the years ended December 31, 2018, 2017 and 2016, our gross rental expense was \$875 million, \$550 million and \$482 million, respectively. We also received sublease rental income for the years ended December 31, 2018, 2017 and 2016 of \$21 million, \$13 million and \$12 million, respectively.

At December 31, 2018, our future rental commitments for Right-of-Way agreements and operating leases were as follows:

	Right-of-Way Agreements	Operating Leases	Total
	(Dollars in millions)		
2019	157	675	832
2020	134	443	577
2021	112	355	467
2022	120	279	399
2023	115	241	356
2024 and thereafter	755	969	1,724
Total future minimum payments ⁽¹⁾	1,393	2,962	4,355

(1) Minimum payments have not been reduced by minimum sublease rentals of \$101 million due in the future under non-cancelable subleases.

Purchase Commitments

We have several commitments primarily for marketing activities and support services from a variety of vendors to be used in the ordinary course of business totaling \$921 million at December 31, 2018. Of this amount, we expect to purchase \$322 million in 2019, \$325 million in 2020 through 2021, \$88 million in 2022 through 2023 and \$186 million in 2024 and thereafter. These amounts do not represent our entire anticipated purchases in the future, but represent only those items for which we were contractually committed as of December 31, 2018.

(18) Other Financial Information

Other Current Assets

The following table presents details of other current assets in our consolidated balance sheets:

	As of December 31,	
	2018	2017
	(Dollars in millions)	
Prepaid expenses	\$ 307	294
Income tax receivable	82	258
Materials, supplies and inventory	120	128
Contract assets	134	—
Contract acquisition costs and deferred activation and installation charges	167	128
Other	108	133
Total other current assets	\$ 918	941

Selected Current Liabilities

Current liabilities reflected in our consolidated balance sheets include accounts payable and other current liabilities as follows:

	As of December 31,	
	2018	2017
	(Dollars in millions)	
Accounts payable	\$ 1,933	1,555
Other current liabilities:		
Accrued rent	\$ 45	34
Legal contingencies	30	45
Other	282	265
Total other current liabilities	\$ 357	344

Included in accounts payable at December 31, 2018 and 2017, were (i) \$86 million and \$36 million, respectively, representing book overdrafts and (ii) \$434 million and \$225 million, respectively, associated with capital expenditures.

(19) Labor Union Contracts

As of December 31, 2018, approximately 26% of our employees were members of various bargaining units represented by the Communication Workers of America ("CWA") and the International Brotherhood of Electrical Workers ("IBEW"). We believe that relations with our employees continue to be generally good. Approximately 1% of our employees were subject to collective bargaining agreements that expired prior to December 31, 2018 and are currently being renegotiated. Approximately 2% of our employees are subject to collective bargaining agreements that are scheduled to expire in 2019.

(20) Accumulated Other Comprehensive Loss

Information Relating to 2018

The table below summarizes changes in accumulated other comprehensive loss recorded on our consolidated balance sheet by component for the year ended December 31, 2018:

	Pension Plans	Post-Retirement Benefit Plans	Foreign Currency Translation Adjustment and Other	Total
	(Dollars in millions)			
Balance at December 31, 2017	\$(1,731)	(235)	(29)	(1,995)
Other comprehensive loss before reclassifications	(195)	194	(201)	(202)
Amounts reclassified from accumulated other comprehensive loss	128	15	—	143
Net current-period other comprehensive (loss) income	(67)	209	(201)	(59)
Cumulative effect of adoption of ASU 2018-02, Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income	(375)	(32)	—	(407)
Balance at December 31, 2018	\$(2,173)	(58)	(230)	(2,461)

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The table below presents further information about our reclassifications out of accumulated other comprehensive loss by component for the year ended December 31, 2018:

Year Ended December 31, 2018	Decrease (Increase) in Net Loss (Dollars in millions)	Affected Line Item in Consolidated Statement of Operations
Amortization of pension & post-retirement plans ⁽¹⁾		
Net actuarial loss	\$ 178	Other income, net
Prior service cost	12	Other income, net
Total before tax	190	
Income tax benefit	(47)	Income tax expense (benefit)
Net of tax	\$ 143	

(1)See Note 10—Employee Benefits for additional information on our net periodic benefit (expense) income related to our pension and post-retirement plans.

Information Relating to 2017

The table below summarizes changes in accumulated other comprehensive loss recorded on our consolidated balance sheet by component for the year ended December 31, 2017:

	Pension Plans	Post-Retirement Benefit Plans	Foreign Currency Translation Adjustment and Other	Total
(Dollars in millions)				
Balance at December 31, 2016	\$(1,895)	(162)	(60)	(2,117)
Other comprehensive income (loss) before reclassifications	39	(86)	31	(16)
Amounts reclassified from accumulated other comprehensive loss	125	13	—	138
Net current-period other comprehensive income (loss)	164	(73)	31	122
Balance at December 31, 2017	\$(1,731)	(235)	(29)	(1,995)

The table below presents further information about our reclassifications out of accumulated other comprehensive loss by component for the year ended December 31, 2017:

Year Ended December 31, 2017	Decrease (Increase) in Net Income (Dollars in millions)	Affected Line Item in Consolidated Statement of Operations
Amortization of pension & post-retirement plans ⁽¹⁾		
Net actuarial loss	\$ 205	Other income, net
Prior service cost	12	Other income, net
Total before tax	217	
Income tax benefit	(79)	Income tax expense (benefit)
Net of tax	\$ 138	

(1)See Note 10—Employee Benefits for additional information on our net periodic benefit (expense) income related to our pension and post-retirement plans.

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(21) Dividends

Our Board of Directors declared the following dividends payable in 2018 and 2017:

Date Declared	Record Date	Dividend Per Share	Total Amount (in millions)	Payment Date
November 14, 2018	11/26/2018	\$ 0.540	\$ 586	12/7/2018
August 21, 2018	8/31/2018	0.540	584	9/14/2018
May 23, 2018	6/4/2018	0.540	588	6/15/2018
February 21, 2018	3/5/2018	0.540	586	3/16/2018
November 14, 2017	11/27/2017	0.540	577	12/11/2017
August 22, 2017	9/5/2017	0.540	296	9/15/2017
May 24, 2017	6/5/2017	0.540	297	6/16/2017
February 21, 2017	3/3/2017	0.540	295	3/17/2017

The declaration of dividends is solely at the discretion of our Board of Directors, which may change or terminate our dividend practice at any time for any reason without prior notice. On March 1, 2019, our Board of Directors declared a quarterly cash dividend of \$0.25 per share.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Disclosure controls and procedures (as defined in Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934 (the “Exchange Act”)) are designed to provide reasonable assurance that the information required to be (i) recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms and (ii) accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost benefit relationship of possible controls and procedures.

Based on their most recent evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2018, our Company’s disclosure controls and procedures were not effective as a result of the material weaknesses in our internal control over financial reporting described below.

Notwithstanding the material weaknesses described below, our management, including our chief executive officer and chief financial officer, believes that the audited consolidated financial statements contained in this Annual Report on Form 10-K fairly present, in all material respects, our financial condition, results of operations and cash flows for the fiscal years presented in conformity with U.S. generally accepted accounting principles. In addition, the material weaknesses described below did not result in the restatements of any of our audited or unaudited consolidated financial statements or disclosures for any previously reported periods.

Changes in Internal Control over Financial Reporting

During the fourth quarter 2018, we identified a deficiency that existed earlier in the year in the design of process controls over manual journal entries. Specifically, we had not designed and implemented controls to ensure all manual journal entries were reviewed. Although this control deficiency did not result in a misstatement in our consolidated financial statements, it created a reasonable possibility that a material misstatement would not have

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been prevented or detected on a timely basis. Therefore we concluded the deficiency represented a material weakness in our internal control over financial reporting.

Upon identification of the deficiency, management designed and implemented a new journal entry module into our enterprise resource planning (ERP) system with certain configuration and automated workflow controls that we believe, together with newly-designed and implemented monitoring controls, sufficiently remediated the material weakness prior to December 31, 2018.

Except for the remediation of the manual journal entry material weakness discussed above, and the two additional material weaknesses disclosed below, there were no changes in our internal control over financial reporting during the quarter ended December 31, 2018 that materially affected, or that we believe are reasonably likely to materially affect, our internal control over financial reporting.

Internal Control Over Financial Reporting

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act). Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States. Our system of internal control over financial reporting includes policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles and that receipts and expenditures are being made only in accordance with authorizations of our management and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our consolidated financial statements.

Our management, under the oversight of our principal executive officer and principal financial officer, and Audit Committee, assessed the effectiveness of our internal control over financial reporting as of December 31, 2018 using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal control - An Integrated Framework ("2013 Framework"). In connection with this assessment, we identified material weaknesses in internal control over financial reporting as of December 31, 2018. A material weakness is defined as a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. As a result of this assessment, management concluded that two material weaknesses existed as described below.

• Ineffective design and operation of process level internal controls over the fair value measurement of certain assets acquired and liabilities assumed from Level 3.

These deficiencies arose because (i) we did not conduct an effective risk assessment to identify and assess changes we needed to make to our financial reporting and process level controls, related to fair value measurement of assets acquired and liabilities assumed in the transaction with Level 3, (ii) we did not clearly assign responsibility for the design, implementation, and operation of controls over the fair value measurements and (iii) we did not maintain effective information and communication processes to ensure the right information was available to personnel on a timely basis so they could fulfill their control responsibilities related to the fair value measurements.

• Ineffective design and operation of certain process level internal controls over the existence and accuracy of revenue transactions.

These deficiencies arose because we did not conduct an effective risk assessment to identify risks of material misstatement related to the existence and accuracy of revenue transactions.

The deficiencies led to material misstatements in the valuation of assets acquired and liabilities assumed in the acquisition of Level 3 that were corrected prior to the issuance of the consolidated financial statements as of and for the year ended December 31, 2018 set out in this annual report on Form 10-K. However, the misstatements did not result in the need to restate any of our audited or unaudited consolidated financial statements or disclosures filed for any previously reported period, but did result in minor adjustments to the consolidated balance sheet as of December 31, 2018 included in our press release in the Form 8-K furnished on February 13, 2019. The deficiencies also led to other immaterial misstatements that were not corrected in the valuation of assets acquired and liabilities assumed in the acquisition and in revenue. These control deficiencies created a reasonable possibility that material misstatements to the consolidated financial statements would not be prevented or detected on a timely basis. Therefore, we concluded they represented material weaknesses and our internal control over financial reporting was not effective as of December 31, 2018.

Our independent registered public accounting firm, KPMG LLP, who audited the consolidated financial statements included in this annual report, has issued an adverse opinion on the effectiveness of our internal control over financial reporting as of December 31, 2018. KPMG LLP's report appears on page 82 of this annual report on Form 10-K.

Remediation Plans

We are taking several steps to remediate the material weaknesses identified above. These steps include the following:

We plan to implement continuous risk assessment processes that are designed to identify and assess changes that could significantly impact our internal control over financial reporting environment and risks of material misstatement related to the revenue recognition process.

We plan to ensure the effective design, implementation and operation of sufficient process level controls over the valuation of assets acquired and liabilities assumed in business combinations by developing written procedures and controls on accounting for business combinations. Additionally, we plan to assign responsibility for financial reporting and internal controls and will endeavor to ensure there are effective communication processes in place so individuals assigned with the overall responsibility to operate these process level controls understand their roles and expectations as it relates to designing, implementing and operating process level controls for future business combinations.

We plan to design and implement sufficient additional process level control activities over the existence and accuracy of revenue transactions.

We plan to execute our plans to remediate the material weaknesses identified above as soon as feasible. We will test the ongoing effectiveness of the new controls and will consider the material weakness remediated after the new controls operate effectively for a sufficient period of time. There is no assurance, however, that these measures will remediate the material weakness or ensure that our internal controls over financial reporting will be effective in the future.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Item 10 is incorporated by reference to the Proxy Statement.

ITEM 11. EXECUTIVE COMPENSATION

The information required by Item 11 is incorporated by reference to the Proxy Statement.

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ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Equity Compensation Plan Information

The following table provides information as of December 31, 2018 about our equity compensation plans under which Common Shares are authorized for issuance:

	Number of securities to be issued upon exercise of outstanding options and rights (a)	Weighted-average exercise price of outstanding options and rights (b)	Number of securities remaining available for future issuance under plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by shareholders	4,995,518	(1) \$ —	(2) 33,814,844
Equity compensation plans not approved by shareholders ⁽³⁾	6,161,469	27.46	—
Totals	11,156,987	(1) \$ 27.46	(2) 33,814,844

These amounts include restricted stock units, some of which represent the difference between the number of shares (1) of restricted stock subject to market conditions granted at target and the maximum possible payout for these awards. Depending on performance, the actual share payout of these awards may range between 0-200% of target.

(2) The amounts in column (a) include restricted stock units, which do not have an exercise price. Consequently, those awards were excluded from the calculation of this exercise price.

(3) These amounts represent common shares to be issued upon exercise or vesting of equity awards that were assumed in connection with certain acquisitions.

The balance of the information required by Item 12 is incorporated by reference to the Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information required by Item 13 is incorporated by reference to the Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by Item 14 is incorporated by reference to the Proxy Statement.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

Exhibits identified in parentheses below are on file with the SEC and are incorporated herein by reference. All other exhibits are provided as part of this electronic submission.

Exhibit Number	Description
3.1	<u>Amended and Restated Articles of Incorporation of CenturyLink, Inc., as amended through May 23, 2012 (incorporated by reference to Exhibit 3.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on May 30, 2012).</u>
3.2	<u>Articles of Amendment of Articles of Incorporation setting forth the rights and preferences of the Series CC Junior Participating Preferred Shares, dated as of February 13, 2019 (incorporated by reference to Exhibit 3.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on February 14, 2019).</u>
3.3	<u>Bylaws of CenturyLink, Inc., as amended and restated through August 24, 2017 (incorporated by reference to Exhibit 3.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on August 24, 2017).</u>
4.1	<u>Form of common stock certificate (incorporated by reference to Exhibit 4.10 of CenturyLink, Inc.'s Registration Statement on Form S-3 filed with the Securities and Exchange Commission on March 2, 2012 (Registration No. 333-179888)).</u>
4.2	<u>Section 382 Rights Agreement by and between CenturyLink, Inc. and Computershare Trust Company, N.A., dated as of February 13, 2019 (incorporated by reference to Exhibit 4.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on February 14, 2019).</u>
4.3	Instrument relating to Credit Agreement assumed by CenturyLink, Inc. on November 1, 2017. <u>Credit Agreement, dated as of June 19, 2017, by and among CenturyLink Escrow, LLC and the lenders and a. agents named therein (incorporated by reference to Exhibit 10.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on June 20, 2017).</u> <u>Incremental Assumption Agreement, dated as of January 29, 2018, by and among CenturyLink, Inc. and the lenders and agents named therein (incorporated by reference to Exhibit 4.2(b) of CenturyLink, Inc.'s annual b. report on Form 10-K for the year ended December 31, 2017 (File No. 001-07784) filed with the Securities and Exchange Commission on March 1, 2018).</u>
4.4	Instruments relating to CenturyLink, Inc.'s public senior debt. ⁽¹⁾ Indenture, dated as of March 31, 1994, by and between Century Telephone Enterprises, Inc. (currently a. named CenturyLink, Inc.) and Regions Bank (successor-in-interest to First American Bank & Trust of Louisiana), as Trustee. Form of 7.2% Senior Notes, Series D, due 2025 (incorporated by reference to Exhibit 4.27 of (i). CenturyLink, Inc.'s annual report on Form 10-K for the year ended December 31, 1995 (File No. 001-07784) filed with the Securities and Exchange Commission on March 18, 1996). Form of 6.875% Debentures, Series G, due 2028, (incorporated by reference to Exhibit 4.9 of (ii). CenturyLink, Inc.'s annual report on Form 10-K for the year ended December 31, 1997 (File No. 001-07784) filed with the Securities and Exchange Commission on March 16, 1998). <u>Fifth Supplemental Indenture, dated as of September 21, 2009, by and between CenturyTel, Inc. (currently named CenturyLink, Inc.) and Regions Bank, as Trustee, designating and outlining the terms and conditions b. of CenturyLink's 7.60% Senior Notes, Series P, due 2039 and 6.15% Senior Notes, Series Q, due 2019 (incorporated by reference to Exhibit 4.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on September 22, 2009).</u> (i).

Form of 7.60% Senior Notes, Series P, due 2039 and 6.15% Senior Notes, Series Q, due 2019 (incorporated by reference to Exhibit A to Exhibit 4.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on September 22, 2009).

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- Sixth Supplemental Indenture, dated as of June 16, 2011, by and between CenturyLink, Inc. and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 6.45% Senior Notes, Series S, due 2021 (incorporated by reference to Exhibit 4.2 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on June 16, 2011).
- (i). Form of 6.45% Senior Notes, Series S, due 2021 (incorporated by reference to Exhibit A to Exhibit 4.2 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on June 16, 2011).
- Seventh Supplemental Indenture, dated as of March 12, 2012, by and between CenturyLink, Inc. and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 5.80% Senior Notes, Series T, due 2022 and 7.65% Senior Notes, Series U, due 2042 (incorporated by reference to Exhibit 4.1 of CenturyLink's Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on March 12, 2012).
- (i). Form of 5.80% Senior Notes, Series T, due 2022 and 7.65% Senior Notes, Series U, due 2042 (incorporated by reference to Exhibit A to Exhibit 4.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on March 12, 2012).
- Eighth Supplemental Indenture, dated as of March 21, 2013, by and between CenturyLink, Inc. and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 5.625% Senior Notes, Series V, due 2020 (incorporated by reference to Exhibit 4.1 of CenturyLink's Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on March 21, 2013).
- (i). Form of 5.625% Senior Notes, Series V, due 2020 (incorporated by reference to Exhibit A to Exhibit 4.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on March 21, 2013).
- Ninth Supplemental Indenture, dated as of November 27, 2013, by and between CenturyLink, Inc. and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 6.75% Senior Notes, Series W, due 2023 (incorporated by reference to Exhibit 4.1 of CenturyLink's Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on November 27, 2013).
- (i). Form of 6.75% Senior Notes, Series W, due 2023 (incorporated by reference to Exhibit A to Exhibit 4.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on November 27, 2013).
- Tenth Supplemental Indenture, dated as of March 19, 2015, by and between CenturyLink, Inc. and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 5.625% Senior Notes, Series X, due 2025 (incorporated by reference to Exhibit 4.2 of CenturyLink's Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on March 19, 2015).
- (i). Form of 5.625% Senior Notes, Series X, due 2025 (incorporated by reference to Exhibit A to Exhibit 4.2 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on March 19, 2015).
- Eleventh Supplemental Indenture, dated as of April 6, 2016, by and between CenturyLink, Inc. and Regions Bank, as Trustee, designating and outlining the terms and conditions of CenturyLink's 7.5% Senior Notes, Series Y, due 2024 (incorporated by reference to Exhibit 4.2 of CenturyLink's Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on April 6, 2016).
- (i). Form of 7.5% Senior Notes, Series Y, due 2024 (incorporated by reference to Exhibit A to Exhibit 4.2 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on April 6, 2016).

4.5 Instruments relating to indebtedness of Qwest Communications International, Inc. and its subsidiaries.⁽¹⁾

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- Indenture, dated as of April 15, 1990, by and between The Mountain States Telephone and Telegraph Company (currently named Qwest Corporation) and The First National Bank of Chicago (incorporated by
a. reference to Exhibit 4.2 of Qwest Corporation's annual report on Form 10-K for the year ended December 31, 2002 (File No. 001-03040) filed with the Securities and Exchange Commission on January 13, 2004).
- First Supplemental Indenture, dated as of April 16, 1991, by and between U S WEST Communications, Inc. (currently named Qwest Corporation) and The First National Bank of Chicago
(i). (incorporated by reference to Exhibit 4.3 of Qwest Corporation's annual report on Form 10-K for the year ended December 31, 2002 (File No. 001-03040) filed with the Securities and Exchange Commission on January 13, 2004).
- Indenture, dated as of April 15, 1990, by and between Northwestern Bell Telephone Company (predecessor to Qwest Corporation) and The First National Bank of Chicago (incorporated by reference to Exhibit 4.5(b)
b. of CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended March 31, 2012 (File No. 001-07784) filed with the Securities and Exchange Commission on May 10, 2012).
- First Supplemental Indenture, dated as of April 16, 1991, by and between U S WEST Communications, Inc. (currently named Qwest Corporation) and The First National Bank of Chicago
(i). (incorporated by reference to Exhibit 4.3 of Qwest Corporation's annual report on Form 10-K for the year ended December 31, 2002 (File No. 001-03040) filed with the Securities and Exchange Commission on January 13, 2004).
- Indenture, dated as of June 29, 1998, by and among U S WEST Capital Funding, Inc. (currently named Qwest Capital Funding, Inc.), U S WEST, Inc. (predecessor to Qwest Communications International Inc.)
c. and The First National Bank of Chicago, as trustee (incorporated by reference to Exhibit 4(a) of U S WEST, Inc.'s Current Report on Form 8-K (File No. 001-14087) filed with the Securities and Exchange Commission on November 18, 1998).
- First Supplemental Indenture, dated as of June 30, 2000, by and among U S WEST Capital Funding, Inc. (currently named Qwest Capital Funding, Inc.), U S WEST, Inc. (predecessor to Qwest Communications International Inc.) and Bank One Trust Company, N.A., as trustee (incorporated by
(i). reference to Exhibit 4.10 of Qwest Communications International Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2000 (File No. 001-15577) filed with the Securities and Exchange Commission on August 11, 2000).
- Indenture, dated as of October 15, 1999, by and between US West Communications, Inc. (currently named Qwest Corporation) and Bank One Trust Company, N.A., as trustee (incorporated by reference to
d. Exhibit 4(b) of Qwest Corporation's annual report on Form 10-K for the year ended December 31, 1999 (File No. 001-03040) filed with the Securities and Exchange Commission on March 3, 2000).
- Eighth Supplemental Indenture, dated as of September 21, 2011, by and between Qwest Corporation and U.S. Bank National Association (incorporated by reference to Exhibit 4.9 of Qwest Corporation's
(i). Form 8-A (File No. 001-03040) filed with the Securities and Exchange Commission on September 20, 2011).
- Ninth Supplemental Indenture, dated as of October 4, 2011, by and between Qwest Corporation and U.S. Bank National Association (incorporated by reference to Exhibit 4.1 of Qwest Corporation's
(ii). Current Report on Form 8-K (File No. 001-03040) filed with the Securities and Exchange Commission on October 4, 2011).
- Tenth Supplemental Indenture, dated as of April 2, 2012, by and between Qwest Corporation and U.S. Bank National Association (incorporated by reference to Exhibit 4.11 of Qwest Corporation's
(iii). Form 8-A (File No. 001-03040) filed with the Securities and Exchange Commission on March 30, 2012).
- (iv). Eleventh Supplemental Indenture, dated as of June 25, 2012, by and between Qwest Corporation and U.S. Bank National Association (incorporated by reference to Exhibit 4.12 of Qwest Corporation's

- Form 8-A (File No. 001-03040) filed with the Securities and Exchange Commission on June 22, 2012).
Twelfth Supplemental Indenture, dated as of May 23, 2013, by and between Qwest Corporation and
(v). U.S. Bank National Association (incorporated by reference to Exhibit 4.13 of Qwest Corporation's
Form 8-A (File No. 001-03040) filed with the Securities and Exchange Commission on May 22, 2013).

Exhibit Number	Description
	<u>Thirteenth Supplemental Indenture, dated as of September 29, 2014, by and between Qwest Corporation and U.S. Bank National Association (incorporated by reference to Exhibit 4.14 of Qwest Corporation's Form 8-A (File No. 001-03040) filed with the Securities and Exchange Commission on September 26, 2014).</u>
(vi).	<u>Fourteenth Supplemental Indenture, dated as of September 21, 2015, by and between Qwest Corporation and U.S. Bank National Association (incorporated by reference to Exhibit 4.15 of Qwest Corporation's Form 8-A (File No. 001-03040) filed with the Securities and Exchange Commission on September 21, 2015).</u>
(vii).	<u>Fifteenth Supplemental Indenture, dated as of January 29, 2016, by and between Qwest Corporation and U.S. Bank National Association (incorporated by reference to Exhibit 4.16 of Qwest Corporation's Form 8-A (File No. 001-03040) filed with the Securities and Exchange Commission on January 29, 2016).</u>
(viii).	<u>Sixteenth Supplemental Indenture, dated as of August 22, 2016, by and between Qwest Corporation and U.S. Bank National Association (incorporated by reference to Exhibit 4.17 of Qwest Corporation's Form 8-A (File No. 001-03040) filed with Securities and Exchange Commission on August 22, 2016).</u>
(ix).	<u>Seventeenth Supplemental Indenture dated as of April 27, 2017, by and between Qwest Corporation and U.S. Bank National Association (incorporated by reference to Exhibit 4.18 of Qwest Corporation's Form 8-A (File No. 03040) filed with the Securities and Exchange Commission on April 27, 2017.</u>
(x).	<u>Credit Agreement, dated as of February 20, 2015, by and among Qwest Corporation, the several lenders from time to time parties thereto, and CoBank, ACB, as administrative agent (incorporated by reference to Exhibit 4.5 of Qwest Corporation's Annual Report on Form 10-K for the year ended December 31, 2014 (File No. 001-03040) filed with the Securities and Exchange Commission on February 27, 2015).</u>
e.	
4.6	Instruments relating to indebtedness of Embarq Corporation. ⁽¹⁾ <u>Indenture, dated as of May 17, 2006, by and between Embarq Corporation and J.P. Morgan Trust Company, National Association, a national banking association, as trustee (incorporated by reference to Exhibit 4.1 of Embarq Corporation's Current Report on Form 8-K (File No. 001-32732) filed with the Securities and Exchange Commission on May 18, 2006).</u>
a.	
	<u>7.995% Global Note due 2036 of Embarq Corporation (incorporated by reference to Exhibit 4.4 to Embarq Corporation's annual report on Form 10-K for the year ended December 31, 2006 (File No. 001-32372) filed with the Securities and Exchange Commission on March 9, 2007).</u>
b.	
4.7	Instruments relating to indebtedness of Level 3 Communications, Inc. and its subsidiaries. ⁽¹⁾ <u>Indenture, dated as of November 14, 2013, by and between Level 3 Communications, Inc., as Guarantor, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee,</u>
a.	<u>relating to the 6.125% Senior Notes due 2021 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 18, 2013).</u>
	<u>Supplemental Indenture, dated as of March 14, 2014, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to Level 3 Communications,</u>
(i).	<u>LLC's unconditioned, unsecured guarantee of the 6.125% Senior Notes due 2021 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on March 17, 2014).</u>
(ii).	<u>Supplemental Indenture, dated as of March 14, 2014, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC</u>

of the 6.125% Senior Notes due 2021 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.2 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on March 17, 2014).

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- (iii). Supplemental Indenture, dated as of November 22, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of November 14, 2013, governing the 6.125% Senior notes due 2021 (incorporated by reference to Exhibit 4.7 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 28, 2016).
- (iv). Supplemental Indenture, dated as of November 1, 2017, among Level 3 Communications, Inc., as guarantor, Level 3 Financing, Inc., as issuer, Level 3 Parent, LLC (f/k/a WWG Merger Sub LLC) and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of November 14, 2013, governing the 6.125% Senior Notes due 2021 (incorporated by referenced to Exhibit 4.7 to the Registrant's Current Report on Form 8-K (file no. 001-35134) dated November 1, 2017).
- Indenture, dated as of August 12, 2014, by and between Level 3 Escrow II, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee, relating to the 5.375% Senior Notes due 2022 of Level b. 3 Escrow II, Inc. (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on August 14, 2014).
- (i). Securities Assumption Supplemental Indenture, dated as of October 31, 2014, by and between Level 3 Escrow II, Inc., Level 3 Financing, Inc., Level 3 Communications, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to Level 3 Financing, Inc.'s unconditional assumption of all of Level 3 Escrow II, Inc.'s obligations under the 5.375% Senior Notes due 2022 (incorporated by reference to Exhibit 4.2 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 5, 2014).
- (ii). Supplemental Indenture, dated as of October 31, 2013, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 5.375% Senior Notes due 2022 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.3 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 5, 2014).
- (iii). Supplemental Indenture, dated as of November 22, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of August 12, 2014, governing the 5.375% Senior Notes due 2022 (incorporated by reference to Exhibit 4.6 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 28, 2016).
- (iv). Supplemental Indenture, dated as of November 22, 2016, among Level 3 Communications, LLC as guarantor, Level 3 Communications, Inc., as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of August 12, 2014, governing the 5.375% Senior Notes due 2022 (incorporated by reference to Exhibit 4.6 to the Registrant's Current Report on Form 8-K (file no. 001-35134) dated November 28, 2016).
- c. Indenture, dated as of December 1, 2014, by and between Level 3 Communications, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the 5.75% Senior Notes due 2022 of Level 3 Communications, Inc. (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on December 2, 2014).
- (i). Supplemental Indenture, dated as of November 22, 2016, by and between Level 3 Communications, Inc., and The Bank of New York Mellon Trust Company, N.A., amending the Indenture dated as of

December 1, 2014, governing the 5.75% Senior Notes due 2022 (incorporated by reference to Exhibit 4.8 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 28, 2016).

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Indenture, dated as of January 29, 2015, by and between Level 3 Communications, Inc., as Guarantor, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee, relating to the 5.625% Senior Notes due 2023 of Level Financing, Inc. (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on January 30, 2015).

- (i). Supplemental Indenture, dated as of June 3, 2015, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to Level 3 Communications, LLC's unconditioned, unsecured guarantee of the 5.625% Senior Notes due 2023 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on June 4, 2015).
- (ii). Supplemental Indenture, dated as of June 3, 2015, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 5.625% Senior Notes due 2023 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.2 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on June 4, 2015).

- (iii). Supplemental Indenture, dated as of November 22, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of January 29, 2015 governing the 5.625% Senior Notes due 2023 (incorporated by reference to Exhibit 4.5 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 28, 2016).

- (iv). Supplemental Indenture, dated as of November 1, 2017, among Level 3 Communications, Inc. as guarantor, Level 3 Financing, Inc., as issuer, Level 3 Parent, LLC (f/k/a WWG Merger Sub LLC) and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of January 29, 2015 governing the 5.625% Senior Notes due 2023 (incorporated by reference to Exhibit 4.5 of the Registrant's Current Report on Form 8-K (file no. 001-35134) dated November 1, 2017).

Indenture, dated as of April 28, 2015, by and between Level 3 Communications, Inc., as Guarantor, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee, relating to the 5.125% Senior Notes due 2023 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on April 30, 2015).

- (i). Supplemental Indenture, dated as of September 1, 2015, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to Level 3 Communications, LLC's unconditioned, unsecured guarantee of the 5.125% Senior Notes due 2023 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on September 2, 2015).

- (ii). Supplemental Indenture, dated as of September 1, 2015, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 5.125% Senior Notes due 2023 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.3 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on September 2, 2015).

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- (iii). Supplemental Indenture, dated as of November 22, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of April 28, 2015 governing the 5.125% Senior Notes due 2023 (incorporated by reference to Exhibit 4.3 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 28, 2016).
- (iv). Supplemental Indenture, dated as of November 1, 2017, among Level 3 Communications, Inc. as guarantor, Level 3 Financing, Inc., as issuer, Level 3 Parent, LLC (f/k/a WWG Merger Sub LLC) and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of April 28, 2015 governing the 5.375% Senior Notes due 2025 (incorporated by reference to Exhibit 4.4 to the Registrant's Current Report on Form 8-K (file no. 001-35134) dated November 1, 2017).
- f. Indenture, dated as of April 28, 2015, by and between Level 3 Communications, Inc., as Guarantor, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee, relating to the 5.375% Senior Notes due 2025 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.2 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on April 30, 2015).
- (i). Supplemental Indenture, dated as of September 1, 2015, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to Level 3 Communications, Inc.'s unconditioned, unsecured guarantee of the 5.375% Senior Notes due 2025 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.2 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on September 2, 2015).
- (ii). Supplemental Indenture, dated as of September 1, 2015, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 5.375% Senior Notes due 2025 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.4 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on September 2, 2015).
- (iii). Supplemental Indenture, dated as of November 22, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of April 28, 2015 governing the 5.375% Senior Notes due 2025 (incorporated by reference to Exhibit 4.4 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 28, 2016).
- (iv). Supplemental Indenture, dated as of November 1, 2017, among Level 3 Communications, Inc. as guarantor, Level 3 Financing, Inc., as issuer, Level 3 Parent, LLC (f/k/a WWG Merger Sub LLC) and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of April 28, 2015 governing the 5.125% Senior Notes due 2023 (incorporated by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K (file no. 001-35134) dated November 1, 2017).
- g. Indenture, dated as of November 13, 2015, by and between Level 3 Communications, Inc., as Guarantor, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee, relating to the 5.375% Senior Notes due 2024 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 13, 2015).

Exhibit Number	Description
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- Supplemental Indenture, dated as of February 8, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to Level 3 Communications, LLC's unconditioned, unsecured guarantee of the 5.375% Senior Notes due 2024 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on February 8, 2016).
- (i).
- Supplemental Indenture, dated as of February 8, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 5.375% Senior Notes due 2024 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.2 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on February 8, 2016).
- (ii).
- Supplemental Indenture, dated as of November 22, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of November 13, 2015 governing the 5.375% Senior Notes due 2024 (incorporated by reference to Exhibit 4.2 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 28, 2016).
- (iii).
- Supplemental Indenture, dated as of November 1, 2017, among Level 3 Communications, Inc. as guarantor, Level 3 Financing, Inc., as issuer, Level 3 Parent, LLC (f/k/a WWG Merger Sub LLC) and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of November 13, 2015 governing the 5.375% Senior Notes due 2024 (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K (file no. 001-35134) dated November 1, 2017).
- (iv).
- Indenture, dated as of March 22, 2016, by and between Level 3 Communications, Inc., as Guarantor, Level 3 Financing, Inc., as Issuer, and The Bank of New York Mellon Trust Company, N.A., as Trustee, relating to the 5.25% Senior Notes due 2026 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on March 22, 2016).
- h.
- Supplemental Indenture, dated as of September 16, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to Level 3 Communications, LLC's unconditioned, unsecured guarantee of the 5.25% Senior Notes due 2026 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.1 to Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on September 16, 2016).
- (i).
- Supplemental Indenture, dated as of September 16, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, relating to the subordination in any bankruptcy, liquidation or winding up proceeding of the guarantee by Level 3 Communications, LLC of the 5.25% Senior Notes due 2026 of Level 3 Financing, Inc. (incorporated by reference to Exhibit 4.2 to Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on September 16, 2016).
- (ii).
- Supplemental Indenture, dated as of November 22, 2016, by and between Level 3 Communications, Inc., as guarantor, Level 3 Communications, LLC, as guarantor, Level 3 Financing, Inc., as issuer, and The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of
- (iii).

March 22, 2016 governing the 5.25% Senior Notes due 2026 (incorporated by reference to Exhibit 4.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on November 28, 2016).

Exhibit Number	Description
	<p><u>Supplemental Indenture, dated as of November 1, 2017, among Level 3 Communications, Inc. as guarantor, Level 3 Financing, Inc., as issuer, Level 3 Parent, LLC (f/k/a WWG Merger Sub LLC) and (iv). The Bank of New York Mellon Trust Company, N.A., as trustee, amending the Indenture dated as of March 22, 2016 governing the 5.25% Senior Notes due 2026 (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K (file no. 001-35134) dated November 1, 2017).</u></p> <p><u>Twelfth Amendment Agreement to the Amended and Restated Credit Agreement, dated as of February 22, 2017, by and between Level 3 Communications, Inc., Level 3 Financing, Inc., the Lenders party thereto and Merrill Lynch Capital Corporation (incorporated by reference to Exhibit 10.1 of Level 3 Communications, Inc.'s Current Report on Form 8-K (File No. 001-35134) filed with the Securities and Exchange Commission on February 27, 2017), including the Amended and Restated Loan Proceeds Notes issued on the same date by Level 3 Communications, LLC to Level 3 Financing, Inc. (incorporated by reference to Exhibit 10.2 and 10.3 of Level 3 Communications, Inc.'s Current Report on Form 8-K (file No. 001-35134) filed with the Securities and Exchange Commission on February 27, 2017).</u></p>
4.8	<p>Certain intercompany debt instruments.</p> <p><u>Revolving Promissory Note, dated as of April 2, 2012 pursuant to which Embarq Corporation may borrow from an affiliate of CenturyLink, Inc. up to \$2.5 billion on a revolving basis (incorporated by reference to Exhibit 4.7(a) of CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2012 (File No. 001-07784) filed with the Securities and Exchange Commission on August 9, 2012), as amended and restated by the Amended and Restated Revolving Promissory Note, dated as of September 30, 2017, by and between Embarq Corporation and an affiliate of CenturyLink, Inc.*</u></p> <p><u>Revolving Promissory Note, dated as of April 18, 2012, pursuant to which Qwest Corporation may borrow from an affiliate of CenturyLink, Inc. up to \$1.0 billion on a revolving basis (incorporated by reference to Exhibit 4.7(b) of CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2012 (File No. 001-07784) filed with the Securities and Exchange Commission on August 9, 2012), as amended and restated by the Amended and Restated Revolving Promissory Note, dated as of September 30, 2017, by and between Qwest Corporation and an affiliate of CenturyLink, Inc.*</u></p> <p><u>Revolving Promissory Note, dated as of September 27, 2012, pursuant to which Qwest Communications International, Inc. may borrow from an affiliate of CenturyLink, Inc. up to \$3.0 billion on a revolving basis (incorporated by reference to Exhibit 4.8 of Qwest Communications International Inc.'s Quarterly Report on Form 10-Q for the period ended September 30, 2012 (File No. 001-15577) filed with the Securities and Exchange Commission on November 13, 2012), as amended and restated by the Amended and Restated Revolving Promissory Note, dated as of September 30, 2017, by and between Qwest Communications International Inc. and an affiliate of CenturyLink, Inc.*</u></p>
10.1+	<p><u>CenturyLink 2011 Equity Incentive Plan, as amended through May 18, 2016 (incorporated by reference to Appendix A of CenturyLink, Inc.'s Proxy Statement for its 2016 Annual Meeting of Shareholders (File No. 001-07784) filed with the Securities and Exchange Commission on April 5, 2016).</u></p> <p><u>Form of Restricted Stock Agreement for non-management directors used since 2011 (incorporated by reference to Exhibit 10.1(a) (ii) of CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2011 (File No. 001-07784) filed with the Securities and Exchange Commission on August 9, 2011).</u></p> <p><u>Form of Restricted Stock Agreement for executive officers used for annual recurring grants since May 2013 (incorporated by reference to Exhibit 10.2(i) (iii) of CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2013 (File No. 001-07784) filed with the Securities and Exchange Commission on August 8, 2013).</u></p> <p><u>Form of Restricted Stock Agreement for special retention award grants made to certain executive officers on June 1, 2017 (incorporated by reference to Exhibit 10.1(iii) of CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2017 (File No. 001-07784) filed with the Securities and Exchange Commission on August 8, 2017).</u></p>

Exhibit Number	Description
(iv)*	<u>Form of Restricted Stock Agreement for special integration award grants made to certain executive officers on June 1, 2017 (incorporated by reference to Exhibit 10.1(iv) of CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2017 (File No. 001-07784) filed with the Securities and Exchange Commission on August 8, 2017).</u>
(v)*	<u>Form of Restricted Stock Agreement for annual time-based equity grants to certain executive officers in 2018 (not including Jeffrey K. Storey).</u>
(vi)*	<u>Form of Restricted Stock Agreement for annual performance-based equity grants to certain executive officers in 2018 (not including Jeffrey K. Storey).</u>
10.2+	<u>CenturyLink 2018 Equity Incentive Plan (incorporated by reference to Appendix A of CenturyLink, Inc.'s Proxy Statement for its 2018 Annual Meeting of Shareholders (File No. 001-07784) filed with the SEC on April 12, 2018).</u>
(i).	<u>Form of Restricted Stock Agreement for annual equity grants to non-management directors in 2018 (incorporated by reference to Exhibit 10.1A to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (File No. 001-07784) filed with the SEC on August 9, 2018).</u>
(ii).	<u>Form of RSU Agreement for annual time-based equity grant to Jeffrey K. Storey on May 23, 2018 (incorporated by reference to Exhibit 10.1B to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (File No. 001-07784) filed with the SEC on August 9, 2018).</u>
(iii).	<u>Form of RSU Agreement for annual performance-based equity grant to Jeffrey K. Storey on May 23, 2018 (incorporated by reference to Exhibit 10.1C to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (File No. 001-07784) filed with the SEC on August 9, 2018).</u>
(iv).	<u>Restricted Stock Agreement for time-based portion of 2018 promotion equity grant to Jeffrey K. Storey on May 23, 2018 (incorporated by reference to Exhibit 10.1D to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (File No. 001-07784) filed with the SEC on August 9, 2018).</u>
(v).	<u>Restricted Stock Agreement for performance-based portion of 2018 promotion equity grant to Jeffrey K. Storey on May 23, 2018 (incorporated by reference to Exhibit 10.1E to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (File No. 001-07784) filed with the SEC on August 9, 2018).</u>
(vi).	<u>Restricted Stock Agreement for performance-based retention grant to Sunit S. Patel on June 1, 2018 (incorporated by reference to Exhibit 10.1F to CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2018 (File No. 001-07784) filed with the SEC on August 9, 2018).</u>
10.3+*	<u>Supplemental Dollars & Sense Plan, 2014 Restatement, effective January 1, 2014.</u>
10.4+	<u>Supplemental Defined Benefit Pension Plan, effective as of January 1, 2012 (incorporated by reference to Exhibit 10.5 of CenturyLink, Inc.'s annual report on Form 10-K for the year ended December 31, 2011 (File No. 001-07784) filed with the Securities and Exchange Commission on February 28, 2012).</u>
10.5+	<u>2015 Executive Officer Short-Term Incentive Program (incorporated by reference to Exhibit A of CenturyLink's 2015 Proxy Statement on Form 14A (File No. 001-07784) filed with the Securities and Exchange Commission on April 8, 2015).</u>

Exhibit Number	Description
10.6+	<p><u>Key Employee Incentive Compensation Plan, dated as of January 1, 1984, as amended and restated as of November 16, 1995 (incorporated by reference to Exhibit 10.1(f) of CenturyLink, Inc.'s annual report on Form 10-K for the year ended December 31, 1995 (File No. 001-07784) filed with the Securities and Exchange Commission on March 18, 1996) and amendment thereto dated as of November 21, 1996 (incorporated by reference to Exhibit 10.1(f) of CenturyLink, Inc.'s annual report on Form 10-K for the year ended December 31, 1996 (File No. 001-07784) filed with the Securities and Exchange Commission on March 17, 1997), amendment thereto dated as of February 25, 1997 (incorporated by reference to Exhibit 10.2 of</u></p>

CenturyLink, Inc.'s
Quarterly Report
on Form 10-Q for
the period ended
March 31, 1997
(File
No. 001-07784)
filed with the
Securities and
Exchange
Commission on
May 8,
1997), amendment
thereto dated as of
April 25, 2001
(incorporated by
reference to
Exhibit 10.2 of
CenturyLink, Inc.'s
Quarterly Report
on Form 10-Q for
the period ended
March 31, 2001
(File
No. 001-07784)
filed with the
Securities and
Exchange
Commission on
May 15,
2001), amendment
thereto dated as of
April 17, 2000
(incorporated by
reference to
Exhibit 10.3(a) of
CenturyLink, Inc.'s
annual report on
Form 10-K for the
year ended
December 31, 2001
(File
No. 001-07784)
filed with the
Securities and
Exchange
Commission on
March 15,
2002) and
amendment thereto
dated as of

- February 27, 2007
(incorporated by
reference to
Exhibit 10.1 of
CenturyLink, Inc.'s
Quarterly Report
on Form 10-Q for
the period ended
June 30, 2007 (File
No. 001-07784)
filed with the
Securities and
Exchange
Commission on
August 8, 2007).
Form of
Indemnification
Agreement entered
into between
CenturyLink, Inc.
and each of its
directors as of
February 24, 2016
(incorporated by
reference to
Exhibit 10.1 of
CenturyLink, Inc.'s
Current Report on
Form 8-K (File
No. 001-07784)
filed with the
Securities and
Exchange
Commission on
February 29, 2016).
- 10.7+
- 10.8+ Form of
Indemnification
Agreement entered
into between
CenturyLink, Inc.
and each of its
officers as of
February 24, 2016
(incorporated by
reference to
Exhibit 10.2 of
CenturyLink, Inc.'s
Current Report on
Form 8-K (File
No. 001-07784)
filed with the

- Securities and Exchange Commission on February 29, 2016).
- 10.9+* Change of Control Agreement by and between Jeffrey K. Storey and CenturyLink, Inc. Change of Control Agreement, effective January 1, 2011, by and between Glen F. Post, III and CenturyLink, Inc. (incorporated by reference to Exhibit 10.11 of CenturyLink, Inc.'s annual report on Form 10-K for the year ended December 31, 2010 (File No. 001-07784) filed with the Securities and Exchange Commission on March 1, 2011).
- 10.10+ Form of Change of Control Agreement, effective January 1, 2011 between CenturyLink, Inc. and each of its other executive officers (incorporated by reference to Exhibit 10.12 of CenturyLink, Inc.'s annual report on Form 10-K for the year ended December 31, 2010 (File No. 001-07784) filed with the Securities and
- 10.11+ Form of Change of Control Agreement, effective January 1, 2011 between CenturyLink, Inc. and each of its other executive officers (incorporated by reference to Exhibit 10.12 of CenturyLink, Inc.'s annual report on Form 10-K for the year ended December 31, 2010 (File No. 001-07784) filed with the Securities and

- Exchange Commission on March 1, 2011).
Amended and Restated CenturyLink Executive Severance Plan, effective October 10, 2017 (including, as Exhibit E thereto, the Legacy Level 3
10.12+* Key Executive Severance Plan, as assumed by CenturyLink, Inc. effective November 1, 2017 (covering certain Legacy Level 3 employees through October 31, 2019)).
- 10.13+ Amended and Restated CenturyLink, Inc. Bonus Life Insurance Plan for Executive Officers, dated as of April 3, 2008 (incorporated by reference to Exhibit 10.4 of CenturyLink, Inc.'s Quarterly Report on Form 10-Q for the period ended March 31, 2008 (File No. 001-07784) filed with the Securities and Exchange Commission on May 7, 2008) and First Amendment thereto (incorporated by reference to Exhibit 10.13 of CenturyLink, Inc.'s

Quarterly Report on Form 10-Q for the period ended September 30, 2010 (File No. 001-07784) filed with the Securities and Exchange Commission on November 5, 2010).

10.14+ Form of integration award grant letter, dated June 1, 2017, entered into between CenturyLink, Inc. and certain officers (incorporated by reference to Exhibit 10.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on June 1, 2017).

10.15+ Offer letter between CenturyLink, Inc. and Jeffrey K. Storey, effective May 23, 2018 (incorporated by reference to Exhibit 10.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784), filed with the SEC on May 25, 2018, which amended, restated and superseded the offer letter between CenturyLink, Inc. and Jeffrey K.

Storey, effective April 27, 2017 (incorporated by reference to Exhibit 10.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on November 1, 2017).
Offer letter between CenturyLink, Inc. and Sunit S. Patel, effective June 1, 2017 (incorporated by reference to Exhibit 10.2 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on November 1, 2017).

10.16+

Exhibit Number	Description
10.17+	<u>Offer letter between CenturyLink, Inc. and Indraneel Dev. effective November 6, 2018 (incorporated by reference to Exhibit 10.1 of CenturyLink, Inc.'s Current Report on Form 8-K (File No. 001-07784) filed with the SEC on November 7, 2018)</u>
10.18+	<u>Legacy Qwest Deferred Compensation Plan for Nonemployee Directors, as amended and restated. Amendment to Deferred Compensation Plan for Nonemployee Directors (incorporated by reference to Exhibit 10.2 of Qwest Communications International Inc.'s Current Report on Form 8-K (File No. 001-15577) filed with the Securities and Exchange Commission on December 16, 2005 and Exhibit 10.8 to Qwest Communication International Inc.'s Quarterly Report on Form 10-Q for the period ended</u>

- September 30, 2008
(File
No. 001-15577)
filed with the
Securities and
Exchange
Commission on
October 29, 2008)
and Amendment
No. 2011-1 to
Deferred
Compensation Plan
for Nonemployee
Directors
(incorporated by
reference to
Exhibit 10.15(c) of
CenturyLink, Inc.'s
annual report for
the year ended
December 31, 2011
(File
No. 001-07784)
filed with the
Securities and
Exchange
Commission on
February 28, 2012).
Level 3
Communications,
Inc. Stock Incentive
Plan, as amended
and restated
through October
31, 2017
(incorporated by
reference to Exhibit
10.19+ 10.3 of
CenturyLink, Inc.'s
Current Report on
Form 8-K (File No.
001-07784) filed
with the Securities
and Exchange
Commission on
November 1, 2017)
10.20 Shareholder Rights
Agreement, dated
as of October 31,
2016, by and
between

- CenturyLink, Inc. and STT Crossing Ltd. (incorporated by reference to Exhibit 10.2 of CenturyLink's Current Report on Form 8-K (File No. 001-07784) filed with the Securities and Exchange Commission on November 3, 2016); as amended by the Assignment and Assumption Agreement, dated as of February 5, 2018, by and among STT Crossing Ltd., Everitt Investments Pte.Ltd., Aranda Investments Pte.Ltd., and CenturyLink, Inc. (incorporated by reference to Exhibit 99.3 to Amendment No. 1 to a statement of beneficial ownership of common shares of CenturyLink, Inc. on Schedule 13D filed with the SEC by Singapore Technologies Telemedia Pte. Ltd. on February 7, 2018)
- 21* Subsidiaries of CenturyLink, Inc. Independent
- 23* Registered Public Accounting Firm Consent
- 31.1* Certification of the Chief Executive Officer of CenturyLink, Inc.

- pursuant to
Section 302 of the
Sarbanes-Oxley
Act of 2002.
Certification of the
Chief Financial
Officer of
CenturyLink, Inc.
- 31.2* pursuant to
Section 302 of the
Sarbanes-Oxley
Act of 2002.
Certification of the
Chief Executive
Officer and Chief
Financial Officer of
CenturyLink, Inc.
- 32* pursuant to
Section 906 of the
Sarbanes-Oxley
Act of 2002.
- 101* Financial
statements from the
annual report on
Form 10-K of
CenturyLink, Inc.
for the period
ended December
31, 2018, formatted
in XBRL: (i) the
Consolidated
Statements of
Operations, (ii) the
Consolidated
Statements of
Comprehensive
Income (Loss),
(iii) the
Consolidated
Balance Sheets,
(iv) the
Consolidated
Statements of Cash
Flows, (v) the
Consolidated
Statements of
Stockholders'
Equity and (vi) the
Notes to
Consolidated
Financial

Statements.

*Exhibit filed herewith.

+Indicates a management contract or compensatory plan or arrangement.

Certain of the items in Sections 4.4, 4.5, 4.6 and 4.7 (i) omit supplemental indentures or other instruments governing debt that has been retired, or (ii) refer to trustees who may have been replaced, acquired or affected by similar changes. In accordance with Item 601(b) (4) (iii) (A) of Regulation S-K, copies of certain instruments defining the rights of holders of certain of our long-term debt are not filed herewith. Pursuant to this regulation, we hereby agree to furnish a copy of any such instrument to the SEC upon request.

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ITEM 16. SUMMARY OF BUSINESS AND FINANCIAL INFORMATION

Not applicable.

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this annual report to be signed on its behalf by the undersigned thereunto duly authorized.

CenturyLink, Inc.

Date: March 11, 2019 By: /s/ Eric J. Mortensen

Eric J. Mortensen

Senior Vice President - Controller (Principal Accounting Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this annual report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

/s/ Jeff K. Storey	Chief Executive Officer and Director	March 11, 2019
Jeff K. Storey		
/s/ Harvey Perry	Chairman of the Board	March 11, 2019
Harvey Perry		
/s/ W. Bruce Hanks	Vice Chairman of the Board	March 11, 2019
W. Bruce Hanks		
/s/ Indraneel Dev	Executive Vice President and Chief Financial Officer	March 11, 2019
Indraneel Dev		
/s/ Eric J. Mortensen	Senior Vice President - Controller (Principal Accounting Officer)	March 11, 2019
Eric J. Mortensen		
/s/ Martha H. Bejar	Director	March 11, 2019
Martha H. Bejar		
/s/ Virginia Boulet	Director	March 11, 2019
Virginia Boulet		
/s/ Peter C. Brown	Director	March 11, 2019
Peter C. Brown		
/s/ Kevin P. Chilton	Director	March 11, 2019
Kevin P. Chilton		
/s/ Steven T. Clontz	Director	March 11, 2019
Steven T. Clontz		
/s/ T. Michael Glenn	Director	March 11, 2019
T. Michael Glenn		
/s/ Mary L. Landrieu	Director	March 11, 2019
Mary L. Landrieu		

/s/ Glen F. Post, III Director March 11, 2019
Glen F. Post, III
/s/ Michael J. Roberts Director March 11, 2019
Michael J. Roberts
/s/ Laurie A. Siegel Director March 11, 2019
Laurie A. Siegel