



2450 N Street, NW
Washington, D.C. 20037
(202) 295-4200

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD ON MAY 1, 2019**

The Annual Meeting of Stockholders of Cogent Communications Holdings, Inc., a Delaware corporation (the "Company"), will be held on May 1, 2019, at 9:00 a.m., local time, at the Company's offices at 2450 N Street, NW, Washington, D.C. 20037, for the following purposes:

1. To elect seven directors to hold office until the next annual meeting of stockholders or until their respective successors have been elected or appointed.
2. To vote on the ratification of the appointment by the Audit Committee of Ernst & Young LLP as the independent registered public accountants for the Company for the fiscal year ending December 31, 2019.
3. To approve an amendment to the Company's 2017 Incentive Award Plan to increase the number of shares available for issuance by 1.2 million shares.
4. To hold an advisory vote to approve named executive officer compensation.
5. To transact such other business as may properly come before the Annual Meeting and any adjournment or postponement thereof.

The foregoing matters are described in more detail in the enclosed Proxy Statement.

The Board of Directors has fixed March 8, 2019 as the record date for determining stockholders entitled to vote at the Annual Meeting of Stockholders.

The Company's Proxy Statement is attached hereto. Financial and other information about the Company is contained in the enclosed 2018 Annual Report to Stockholders for the fiscal year ended December 31, 2018.

You are cordially invited to attend the meeting in person. Your participation in these matters is important, regardless of the number of shares you own. Whether or not you expect to attend in person, we urge you to complete, sign, date and return the enclosed proxy card as promptly as possible in the enclosed envelope. If you choose to attend the meeting you may then vote in person if you so desire, even though you may have executed and returned the proxy. Any stockholder who executes such a proxy may revoke it at any time before it is exercised. A proxy may be revoked at any time before it is exercised by delivering written notice of revocation to the Company, Attention: Ried Zulager; by delivering a duly executed proxy bearing a later date to the Company; or by attending the Annual Meeting and voting in person.

By Order of the Board of Directors,

A handwritten signature in black ink, appearing to read "Ried Zulager", followed by a long horizontal line extending to the right.

Ried Zulager, *Secretary*

Washington, D.C.
March 22, 2019

COGENT COMMUNICATIONS HOLDINGS, INC.

**Important Notice Regarding the Availability of Proxy Materials for the
Stockholder Meeting to Be Held at 9:00 a.m., May 1, 2019**

The proxy statement and annual report to stockholders (Form 10-K) are available at:
<http://www.cogentco.com/en/about-cogent/investor-relations/reports>.

The materials available at the website are the proxy statement and annual report to stockholders (Form 10-K).

The annual stockholder meeting of the stockholders of Cogent Communications Holdings, Inc. (“Cogent” or the “Company”) will be held at 9:00 a.m. on May 1, 2019 at Cogent’s offices at 2450 N Street, NW, Washington, D.C. 20037. The matters to be covered are noted below:

1. Election of directors;
2. Ratification of appointment of Ernst & Young LLP as independent registered public accountants for the fiscal year ending December 31, 2019;
3. To approve an amendment to the Company’s 2017 Incentive Award Plan to increase the number of shares available for issuance by 1.2 million shares;
4. Advisory vote to approve named executive officer compensation; and
5. Other matters as may properly come before the meeting.

The Board of Directors of Cogent recommends voting FOR the election of each director nominee named in Proposal 1—Election of Directors, FOR Proposal 2—Ratification of Appointment of Ernst & Young LLP as Independent Registered Public Accountants for the Fiscal Year Ending December 31, 2019, FOR Proposal 3—Approval of an Amendment to the Company’s 2017 Incentive Award Plan to Increase the Number of Shares Available for Issuance by 1.2 Million Shares, and FOR Proposal 4—Advisory Vote to Approve Named Executive Officer Compensation.

You are cordially invited to attend the meeting in person. Your participation in these matters is important, regardless of the number of shares you own. Whether or not you expect to attend in person, we urge you to complete, sign, date and return the enclosed proxy card as promptly as possible in the enclosed envelope. If you choose to attend the meeting you may then vote in person if you so desire, even though you may have executed and returned the proxy. Any stockholder who executes such a proxy may revoke it at any time before it is exercised. A proxy may be revoked at any time before it is exercised by delivering written notice of revocation to the Company, Attention: Ried Zulager; by delivering a duly executed proxy bearing a later date to the Company; or by attending the Annual Meeting and voting in person.



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PROXY STATEMENT

The Board of Directors (the “Board”) of Cogent Communications Holdings, Inc. (referred to herein as the “Company,” “Cogent,” “we,” “us,” or “our”), a Delaware corporation, is soliciting your proxy on the proxy card enclosed with this Proxy Statement. Your proxy will be voted at the Annual Meeting of Stockholders (the “Annual Meeting”) to be held on May 1, 2019, at 9:00 a.m., local time, at the Company’s offices at 2450 N Street, NW, Washington, D.C. 20037, and any adjournment or postponement thereof. This Proxy Statement, the accompanying proxy card and the 2018 Annual Report to Stockholders are first being mailed to stockholders on or about March 22, 2019.

VOTING SECURITIES

Voting Rights and Outstanding Shares

Only stockholders of record on the books of the Company as of 5:00 p.m., March 8, 2019 (the “Record Date”), will be entitled to vote at the Annual Meeting. At the close of business on the Record Date, the outstanding voting securities of the Company consisted of 46,403,048 shares of common stock, par value \$0.001 per share.

Holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders. Votes cast by proxy or in person at the Annual Meeting will be tabulated by the Inspector of Elections with the assistance of the Company’s transfer agent. The Inspector will also determine whether or not a quorum is present. In general, our bylaws (the “Bylaws”) provide that a quorum consists of a majority of the shares issued and outstanding and entitled to vote, the holders of which are present in person or represented by proxy. Broker non-votes (which occur when a brokerage firm has not received voting instructions from the beneficial owner on a non-routine matter, as defined under applicable rules and as discussed in greater detail below) and abstentions are counted for purposes of determining whether a quorum is present.

Except in very limited circumstances, the affirmative vote of a majority of the shares having voting power present in person or represented by proxy at a duly held meeting at which a quorum is present is required under the Bylaws for approval of proposals presented to stockholders.

Proxies

The shares represented by the proxies received, properly dated and executed and not revoked will be voted at the Annual Meeting in accordance with the instructions of the stockholders. A proxy may be revoked at any time before it is exercised by:

- delivering written notice of revocation to the Company, Attention: Ried Zulager;
- delivering a duly executed proxy bearing a later date to the Company; or
- attending the Annual Meeting and voting in person.

Any proxy that is returned using the form of proxy enclosed and which is not marked as to a particular item will be voted “FOR” the election of each director nominee, “FOR” the ratification of the appointment by the Audit Committee of the Board (the “Audit Committee”) of Ernst &

Young LLP as independent registered public accountants, “FOR” the approval of an amendment to the Company’s 2017 Incentive Award Plan to increase the number of shares available for issuance by 1.2 million shares, and “FOR” the non-binding approval of the compensation of the named executive officers.

Proposals 1, 3 and 4 are matters considered non-routine under applicable rules. A broker or other nominee cannot vote on these non-routine matters without specific voting instructions, and therefore there may be broker non-votes on these proposals.

Proposal 2 is a matter considered routine under applicable rules. A broker or other nominee may generally vote on routine matters without specific voting instructions, and therefore no broker non-votes are expected to exist in connection with Proposal 2.

Broker non-votes will not be deemed to have voting power and thus will have no effect on voting. However, abstentions will be treated as present and having voting power, and accordingly will have the effect of a negative vote for purposes of determining the approval of Proposals 1, 2, 3 and 4.

The Company believes that the tabulation procedures to be followed by the Inspector are consistent with the general statutory requirements in Delaware concerning voting of shares and determination of a quorum.

The cost of soliciting proxies will be borne by the Company. In addition, the Company may reimburse brokerage firms and other persons representing beneficial owners of shares for their expenses in forwarding solicitation materials to such beneficial owners. Proxies may also be solicited by certain of the Company’s directors, officers and regular employees, without additional compensation, personally or by telephone or e-mail.

PROPOSAL NO. 1
ELECTION OF DIRECTORS

Seven directors are to be elected at the Annual Meeting to serve until their respective successors are elected and qualified. Nominees for election to the Board shall be approved by the affirmative vote of the holders of a majority of shares of our common stock present in person or represented by proxy at the Annual Meeting.

In the event any nominee is unable or unwilling to serve as a nominee, the proxies may be voted for the balance of those nominees named and for any substitute nominee designated by the present Board or the proxy holders to fill such vacancy, or for the balance of those nominees named without nomination of a substitute. The Board has no reason to believe that any of the persons named will be unable or unwilling to serve as a nominee or as a director if elected.

Set forth below is certain information concerning the seven directors of the Company nominated to be elected at the Annual Meeting:

Dave Schaeffer, age 62, founded our Company in August 1999 and is our Chairman of the Board, Chief Executive Officer and President. Prior to founding the Company, Mr. Schaeffer was the founder of Pathnet, Inc., a broadband telecommunications provider, where he served as Chief Executive Officer from 1995 until 1997 and as Chairman from 1997 until 1999. Mr. Schaeffer has been a director since 1999. Mr. Schaeffer serves as both Chairman and Chief Executive Officer (“CEO”) because he is the founder of the Company and has successfully led the Company and the Board since the Company was founded. For this reason he has been nominated to continue serving on the Board. Since 2014, Mr. Schaeffer has been a director of CyberArk Software Ltd. (NASDAQ: CYBR), a publicly traded Israeli company.

Steven D. Brooks, age 67, has served on our Board since October 2003. Mr. Brooks is a private investor. He was Managing Partner of BCP Capital Management from 1999 to 2009. From 1997 until 1999, Mr. Brooks headed the technology industry mergers and acquisition practice at Donaldson, Lufkin & Jenrette. Previously, Mr. Brooks held a variety of positions in the investment banking and private equity fields, including: Head of Global Technology Banking at Union Bank of Switzerland, Managing Partner of Corporate Finance at Robertson Stephens, founder and Managing Partner of West Coast technology investment banking at Alex Brown & Sons, and Principal at Rainwater, Inc., a private equity firm in Fort Worth, Texas. Mr. Brooks has been nominated to continue serving on the Board because of his extensive experience with firms such as Cogent and with public market activities of such companies. Having been involved with the Company since its early days he also brings extensive historical perspective to the Board.

Timothy Weingarten, age 43, has served on our Board since October 2003. Mr. Weingarten is currently a Product Manager at Pinterest. Prior to Pinterest, he was the co-founder & CEO of ShopTAP Inc. Prior to founding ShopTAP Inc., he was the Chairman and CEO of Visage Mobile. He is also a former General Partner of Worldview Technology Partners—an early stage venture capital fund. From 1996 to 2000, Mr. Weingarten was a member of the telecom equipment research group at Robertson Stephens and Company. Mr. Weingarten has been nominated to continue serving on the Board because of his extensive knowledge of the U.S. venture capital-backed companies making use of the Internet. The Board values this insight because Cogent’s future growth depends to a great extent on the uses made of the Internet.

Richard T. Liebhaber, age 83, has served on our Board since March 2006. Mr. Liebhaber was with IBM from 1954 to 1985, where he held a variety of positions. Subsequently, he served as executive vice president and member of the management committee at MCI Communications, and served on the board of directors of MCI from 1992 to 1995. From 1995 to 2001, Mr. Liebhaber served as managing director at Veronis, Suhler & Associates, a New York media merchant banking firm. Mr. Liebhaber has

been nominated to continue serving on the Board because of his extensive operational experience with telecommunications companies.

D. Blake Bath, age 56, has served on our Board since November 2006. He is currently engaged in philanthropic concerns. He is a board member and Treasurer of the Protestant Episcopal Cathedral Foundation in Washington, D.C., and a board member and the treasurer of the Bethesda-Chevy Chase Educational Foundation. From 2006 to 2016 he was the Chief Executive Officer of Bay Bridge Capital Management, LLC, an investment firm in Bethesda, MD. From 1996 until 2006, Mr. Bath was Managing Director at Lehman Brothers and, as a senior equity research analyst for Lehman Brothers, was Lehman's lead analyst covering wireline and wireless telecommunications services. Prior to joining Lehman Brothers he was the primary telecommunications analyst at Sanford C. Bernstein from 1992 to 1996. From 1989 to 1992 he was an analyst in the Strategic Planning and Corporate Finance organizations at MCI Communications. Mr. Bath has been nominated to continue serving on the Board because of his wide experience with the telecommunications industry which allows him to contribute a broad perspective to discussions about the Company's future activities and its place in the current competitive landscape.

Marc Montagner, age 57, has served on our Board since April 2010. He is currently Chief Financial Officer at Endurance International Group Holdings, Inc. (NASDAQ: EIGI), which position he has held since September of 2015. He was previously Chief Financial Officer at LightSquared from 2012 until August 2015. Previously, he had been Executive Vice President of Strategy, Development and Distribution at LightSquared. On May 14, 2012, LightSquared filed for reorganization under Chapter 11 of the U.S. Bankruptcy Code. Prior to joining LightSquared in February of 2009, Mr. Montagner was Managing Director and Co-Head of the Global Telecom, Media and Technology Merger and Acquisition Group at Banc of America Securities. Until August of 2006, he was Senior Vice President, Corporate Development and M&A with the Sprint Nextel Corporation. Prior to this, Mr. Montagner had the same responsibilities with Nextel Communications. Prior to 2002, Mr. Montagner was a Managing Director in the Media and Telecom Group at Morgan Stanley. Prior to joining Morgan Stanley, Mr. Montagner worked for France Télécom in New York where he was Head of Corporate Development for North America. Mr. Montagner has been nominated to the Board due to his extensive experience in the telecommunications industry, specifically with respect to operational, financial and strategic matters.

Lewis H. Ferguson III, age 74, has served on our Board since October 2018. From 2011 to 2018 he served two terms as a board member of the Public Company Accounting Oversight Board ("PCAOB"), the oversight body for auditors of U.S. public companies. Mr. Ferguson served as Vice-Chair and Chair of the International Forum of Independent Audit Regulators, the international coordinating body of more than 50 independent audit regulators throughout the world, from 2012 to 2015. Mr. Ferguson also served as the first general counsel of the PCAOB from 2004 to 2007. Prior to his service at the PCAOB, Mr. Ferguson was a partner at the law firm of Williams & Connolly, LLP from 1979 to 1993 and 1998 to 2003, and at the law firm of Gibson, Dunn & Crutcher, LLP ("Gibson Dunn") from 2007 to 2011. Mr. Ferguson has at various times served on the boards of seven companies, two public and five private. The two public companies were Wright Medical Technologies (1994 to 1997) and Cogent Communications Group, Inc., a predecessor of the Company (2007 to 2009). Mr. Ferguson has been nominated to the Board due to his extensive experience with audit matters, corporate finance, and corporate governance.

Unless marked otherwise, proxies received will be voted "FOR" the election of each of the nominees named above.

Recommendation of the Board of Directors:

The Board recommends a vote "FOR" the election of all nominees named above.

PROPOSAL NO. 2
RATIFICATION OF APPOINTMENT OF ERNST & YOUNG LLP AS INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS

The Audit Committee of the Board has appointed Ernst & Young LLP as the Company's independent registered public accountants for the fiscal year ending December 31, 2019. Services provided to the Company and its subsidiaries by Ernst & Young LLP in fiscal years 2017 and 2018 are described under "Relationship with Independent Registered Public Accountants—Fees and Services of Ernst & Young LLP," below.

We are asking our stockholders to ratify the appointment of Ernst & Young LLP as our independent registered public accountants. Although ratification is not required by the Bylaws or otherwise, the Board is submitting the appointment of Ernst & Young LLP to our stockholders for ratification as a matter of good corporate practice.

Representatives of Ernst & Young LLP will be available by telephone at the Annual Meeting to respond to appropriate questions and will have the opportunity to make a statement if they desire to do so.

The affirmative vote of the holders of a majority of shares of our common stock present in person or represented by proxy at the Annual Meeting will be required for ratification. The Board recommends that stockholders vote "FOR" ratification of the appointment of Ernst & Young LLP as the Company's independent registered public accountants for fiscal year 2019. Unless marked otherwise, proxies received will be voted "FOR" the ratification of the appointment of Ernst & Young LLP as the Company's independent registered public accountants for fiscal year 2019.

In the event stockholders do not ratify the appointment, the appointment may be reconsidered by the Audit Committee and the Board. The Company believes that neither the Audit Committee nor the Board is obliged to make any such reconsideration under Delaware law, the rules of the stock exchange on which the Company is listed, or the rules promulgated by the Securities and Exchange Commission ("SEC") that frame certain specific obligations of the members of all public company audit committees with respect to the selection of independent registered public accountants. Even if the appointment is ratified, the Audit Committee may, in its discretion, appoint a different independent registered public accounting firm at any time during the year if it determines that such a change would be in the best interests of the Company and its stockholders.

Recommendation of the Board of Directors:

The Board recommends a vote "FOR" the ratification of the appointment of Ernst & Young LLP as the Company's independent registered public accountants for fiscal year 2019.

PROPOSAL NO. 3
APPROVAL OF AN AMENDMENT TO THE COMPANY'S 2017 INCENTIVE AWARD PLAN TO INCREASE THE NUMBER OF SHARES AVAILABLE FOR ISSUANCE BY 1.2 MILLION SHARES

The Board of Directors has approved, subject to stockholder approval, an amendment increasing the number of shares available for issuance under the 2017 Incentive Award Plan by 1.2 million (1,200,000) shares. As of December 31, 2018, there were only 154,977 shares remaining available for issuance under the 2017 Incentive Award Plan. As noted in the Compensation Discussion & Analysis below, we use equity compensation as an integral part of our compensation program by linking the personal interests of our employees and directors to the Company's success. Without this share increase the Company will be limited in its ability to attract, motivate and retain talented employees and non-employee directors, align employee and stockholder interests, link employee compensation with company performance and maintain a culture based on employee stock ownership.

Burn Rate

The “burn rate” at which the Company has awarded stock and options to employees, including the named executive officers, in the last three years is set out below. The “burn rate” is the sum of stock and option awards granted divided by the number of weighted average common shares used in our basic earnings per share calculation.

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>TOTAL</u>	<u>AVERAGE</u>
Options granted	78	81	73	232	77
Shares granted	496	500	358	1,354	451
TOTAL	574	581	431	1,586	529
Weighted average shares—basic EPS	45,280				
Burn rate—1 year	1.27%				
Burn rate—3 year average	1.17%				

The affirmative vote of the holders of a majority of shares of our common stock present in person or represented by proxy at the Annual Meeting will be required to approve the amendment increasing the number of shares available for issuance under the Company’s 2017 Incentive Award Plan. If this Proposal 3 is not approved by our stockholders, the 1,200,000 shares will not be added to those that remain available for issuance under the plan.

The principal features of the 2017 Incentive Award Plan are summarized below. The summary below is qualified by reference to the full text of the 2017 Incentive Award Plan, which is included as *Appendix A* to this Proxy Statement, and the amendment to the 2017 Incentive Award Plan, which is included as *Appendix B*.

Key Features of the 2017 Incentive Award Plan

- *No liberal share recycling.* The 2017 Incentive Award Plan does not permit the recycling of shares used to satisfy the exercise price of options or used to satisfy tax withholding.
- *Minimum vesting requirements.* Stock awards (non-options or stock appreciation rights) that vest on the basis of time are not permitted, other than in the event of death, disability, retirement or change in control, to vest earlier than the following schedule: (a) no vesting prior to the first anniversary of the date of grant, (b) no more than 1/3 vested on the first anniversary of the date of grant, (c) no more than 2/3 vested on the second anniversary of the date of grant, and (d) full vesting may not occur prior to the third anniversary of the date of grant. All other awards are prohibited from vesting earlier than the first anniversary of the date of grant. Up to 5% of the available shares under the plan may be issued without regard to these vesting conditions.
- *Stockholder approval is required for repricing.* The 2017 Incentive Award Plan prohibits the repricing of outstanding stock options and stock appreciation rights and the cancellation of any outstanding stock options or stock appreciation rights that have an exercise or strike price greater than the then-current fair market value of our common stock in exchange for cash or other stock awards without prior stockholder approval.
- *Stockholder approval is required for additional shares.* The 2017 Incentive Award Plan does not contain an “evergreen” provision. Stockholder approval is required for the addition of shares to the plan.
- *No liberal change of control definition.* The change of control definition in the 2017 Incentive Award Plan is not a “liberal” definition, meaning that no awards are triggered based solely on

the signing of a transaction. An actual change of control transaction must occur in order for the change of control provisions of the plan to be triggered.

- *No discounted stock options or stock appreciation rights.* All stock options and stock appreciation rights granted under the 2017 Incentive Award Plan must have an exercise or strike price equal to or greater than the fair market value of our common stock on the date the stock option or stock appreciation right is granted.
- *Material amendments require stockholder approval.* The 2017 Incentive Award Plan requires stockholder approval for any material changes.
- *Annual limit on individual awards.* The 2017 Incentive Award Plan limits awards to any single participant in any one year to 750,000 shares and \$10,000,000 in cash-based awards.
- *Annual limit on non-employee director awards.* The sum of the value of stock-based awards and cash-based awards paid to a non-employee director may not exceed \$500,000 (indexed for inflation) in any one year.
- *Dividend equivalents may only be paid upon vesting of the underlying award.* The 2017 Incentive Award Plan permits dividend equivalents to be accrued on unvested stock awards but such dividend equivalents are only payable upon vesting and are forfeited if the underlying award fails to vest.

Summary of the 2017 Incentive Award Plan

General. The purpose of the plan is to promote the success of the business and enhance the Company's value by linking the personal interests of employees, consultants and non-employee directors to its success and by providing these individuals with an incentive for outstanding performance. The plan provides for the grant of incentive stock options, nonqualified stock options, restricted stock, restricted stock units, stock appreciation rights, dividend equivalent rights, performance-based awards, deferred stock, stock payments and other stock-based awards (collectively, the "Awards").

Shares Subject to the 2017 Incentive Award Plan. When adopted, the 2017 Incentive Award Plan provided for the issuance of up to 1,200,000 shares. As of February 28, 2019 of these all but approximately 140,000 shares have been issued, set aside to support options, or issued but remain unvested. If adopted the proposed amendment to the plan will add 1,200,000 shares to that amount. In addition, shares granted under prior plans that are forfeited, lapse unexercised or fail to vest will be available for issuance. There were approximately 171,000 shares that could be acquired by the exercise of options and 1,165,000 unvested restricted shares that remain outstanding under our plans that potentially could be added to the number of available shares under the 2017 Incentive Award Plan, if such options or restricted shares were forfeited or lapsed.

On March 8, 2019, the closing price of a share of our common stock as reported by the NASDAQ Global Select Market was \$48.76.

Administration. Our Compensation Committee (the "Administrator") administers the 2017 Incentive Award Plan. The Administrator is authorized to determine the individuals who will receive Awards (the "participants"), the terms and conditions of such Awards, the types of Awards to be granted, the number of shares to be subject to each Award, the price of the Awards granted, payment terms and payment methods applicable to each Award. The Administrator is also authorized to establish, adopt or revise rules relating to the administration of the 2017 Incentive Award Plan. The Administrator may delegate its authority to grant or amend Awards with respect to participants other than senior executive officers subject to Section 16 of the Exchange Act, employees covered by

Section 162(m) of the Internal Revenue Code or the officers to whom the authority to grant or amend Awards has been delegated.

Eligibility. Awards may be granted to individuals who are then employees, consultants or non-employee directors of our company or one of our subsidiaries, unless otherwise indicated. As of February 1, 2019, we had 986 employees and seven directors, six of whom were non-employee directors.

Awards. Each Award is set forth in a separate award agreement with the person receiving the Award. The award agreement indicates the type, terms and conditions of the Award.

- *Nonqualified Stock Options.* Nonqualified stock options provide for the right to purchase shares of our common stock at a specified price, which may not be less than the market price of our common stock on the date of grant of the option. Nonqualified stock options may be granted for any term specified in the applicable Award agreement that does not exceed ten years and usually become exercisable in one or more installments after the grant date, subject to vesting conditions which may include continued employment or service with us, satisfaction of performance targets and/or other conditions. The option exercise price may be paid in: (i) cash; (ii) shares of our common stock held for a minimum period of time as may be established by the Administrator; (iii) a broker assisted cash-less exercise; (iv) other property acceptable to the Administrator; or (v) any combination of the above.
- *Incentive Stock Options.* Incentive stock options are designed in a manner intended to comply with the provisions of Section 422 of the Internal Revenue Code, and are subject to specified restrictions contained in the Internal Revenue Code. Incentive stock options have an exercise price of not less than 100% of the fair market value of the underlying share on the date of grant (or if granted to certain individuals who own or are deemed to own at least 10% of the total combined voting power of all of our classes of stock (“10% stockholders”), then such exercise price may not be less than 110% of the fair market value of our common stock on the date of grant). Only employees are eligible to receive incentive stock options, and incentive stock options may not have a term of more than ten years (or five years in the case of incentive stock options granted to 10% stockholders). Vesting conditions may apply to incentive stock options as determined by the Administrator and may include continued employment with us, satisfaction of performance targets and/or other conditions.
- *Restricted Stock.* Restricted stock may be granted to any eligible individual and made subject to such restrictions as may be determined by the Administrator. Typically, restricted stock may be forfeited for no consideration or repurchased by us if the conditions or restrictions on vesting are not met, and may not be sold or otherwise transferred to third parties until restrictions are removed or expire. Recipients of restricted stock, unlike recipients of options, may have voting rights and may receive dividends, if any; however, any such dividends will not be paid until the restrictions lapse.
- *Restricted Stock Units.* Restricted stock units may be awarded to any eligible individual, typically without payment of consideration or for a nominal purchase price, but typically subject to vesting conditions including continued employment or pre-established performance targets. Shares of common stock underlying restricted stock units are not issued until the restricted stock units have vested. Recipients of restricted stock units will have no voting or dividend rights with respect to the underlying shares prior to the time when the shares are issued.
- *Stock Appreciation Rights.* Stock appreciation rights typically will provide for payments to the holder based upon increases in the price of our common stock over the base price of the stock appreciation rights. Similar to nonqualified stock options, stock appreciation rights typically become exercisable in one or more installments after the grant date, subject to vesting conditions, which may include continued employment or service with us, satisfaction of

performance targets and/or other conditions. The Administrator may elect to pay stock appreciation rights in cash, in common stock or in a combination of both.

- *Dividend Equivalents.* Dividend equivalents represent the value of the dividends, if any, per share paid by us, calculated with reference to the number of shares covered by an Award. Dividend equivalents may be settled in cash or shares and at such times as determined by the Administrator, subject to certain restrictions set forth in the 2017 Incentive Award Plan. Dividend equivalents may only be paid upon the vesting of the underlying award.
- *Performance Awards.* Performance awards are denominated in cash or shares of our common stock and are linked to satisfaction of performance targets established by the Administrator. Any Awards that were intended to meet the requirements of “qualified performance based compensation” and therefore be deductible under Section 162(m) of the Internal Revenue Code, granted prior to November 2, 2018, would have had performance targets based on those set forth below under “Performance Criteria”.
- *Stock Payments.* Participants may receive stock payments in the manner determined by the Administrator from time to time. Such Awards may be based upon the achievement of specific performance targets determined by the Administrator on the date the stock payment is made or anytime thereafter.
- *Deferred Stock.* Deferred stock typically is awarded without payment of consideration and is subject to vesting conditions, including satisfaction of performance targets. Like restricted stock, deferred stock may not be sold, or otherwise transferred until the vesting conditions are removed or expire. Unlike restricted stock, deferred stock is not actually issued until the deferred stock award has vested. Recipients of deferred stock also will have no voting or dividend rights prior to the time when the vesting conditions are met and the deferred stock is delivered.
- *Other Awards.* Other performance share awards, performance stock unit awards and stock-based awards may be granted under the 2017 Incentive Award Plan. The right to vest in these awards generally will be based upon achievement of specific performance targets and these awards may generally be paid in cash or in common stock or in a combination of both.

Performance Criteria. Awards may be made subject to our achievement of the level specified by the Administrator for one or more of the following performance goals: net earnings or losses (either before or after one or more of the following: (i) interest, (ii) taxes, (iii) depreciation, (iv) amortization and (v) non-cash equity-based compensation expense), gross or net sales or revenue or sales or revenue growth, net income (either before or after taxes), adjusted net income, operating earnings or profit (either before or after taxes), cash flow (including, but not limited to, operating cash flow and free cash flow), return on assets, return on capital (or invested capital) and cost of capital, return on stockholders’ equity, total stockholder return, return on sales, gross or net profit or operating margin, costs, reductions in costs and cost control measures, expenses, working capital, earnings or loss per share, adjusted earnings or loss per share, price per share or dividends per share (or appreciation in and/or maintenance of such price or dividends), regulatory achievements or compliance (including, without limitation, regulatory body approval for commercialization of a product), implementation or completion of critical projects, market share, economic value, productivity, expense margins, operating efficiency and customer satisfaction, any of which may be measured either in absolute terms or as compared to any incremental increase or decrease or as compared to results of a peer group or to market performance indicators or indices. The Administrator may provide that one or more objectively determinable adjustments be made to these performance goals.

Limitations on Terms of Grants. Absent approval of the stockholders, no option or stock appreciation right may be amended to reduce the per share exercise price of shares subject to such

option or stock appreciation right below the per share exercise price as of the date the option or stock appreciation right is granted, and except as permitted by the 2017 Incentive Award Plan with respect to changes in capital structure, no option or stock appreciation right may be granted in exchange for, or in connection with, the cancellation or surrender of an option or stock appreciation right having a higher per share exercise price, nor may an option or stock appreciation right be exchanged for restricted stock. Restricted Stock and restricted stock units that do not vest on the basis of meeting performance targets shall not vest at a rate that would cause the following vesting schedule to be exceeded: no vesting prior to the first anniversary of the grant; no more than 1/3 vested on the first anniversary of the grant; no more than 2/3 vested on the second anniversary of the grant; and full vesting not occurring prior to the end of the third year. All other Awards shall not vest prior to the first anniversary of the date the Award is granted. In addition, no individual participant may receive Awards under the 2017 Incentive Award Plan in excess of 750,000 shares or \$10,000,000 in cash-based awards during any calendar year, and no non-employee director may receive Awards under the 2017 Incentive Award Plan in excess of \$500,000 in total value (cash plus grant date fair value of equity awards), as adjusted for inflation, in any one calendar year. However, up to 5% of the shares available under the 2017 Incentive Award Plan may be granted without regard to these vesting limitations.

Certain Transactions. In the event of certain transactions and events affecting our common stock or the share price of our common stock, such as stock dividends, stock splits, mergers, acquisitions, spin-offs, recapitalizations, consolidations and other corporate transactions, or changes in applicable law, the Administrator has broad discretion to make proportionate adjustments to reflect changes with respect to: (i) the terms and conditions of any outstanding Awards, (ii) the aggregate number and type of shares subject to the 2017 Incentive Award Plan and (iii) the grant and exercise price per share for any outstanding Awards granted pursuant to the 2017 Incentive Award Plan to prevent the dilution or enlargement of intended benefits and/or facilitate such transactions or events or give effect to such changes in applicable law. In the event of a change in control where the acquirer does not assume or replace Awards granted under the 2017 Incentive Award Plan, such Awards will be subject to accelerated vesting so that 100% of such Awards will become vested and exercisable or payable and all forfeiture restrictions will lapse, as applicable. Award agreements may also provide for accelerated vesting or payment, as applicable, upon certain events.

Awards Not Transferable. Generally, the Awards may not be assigned, transferred or otherwise disposed other than by will or by laws of descent and distribution. The Administrator may allow Awards other than incentive stock options to be transferred for estate or tax planning purposes to members of the holder's family, charitable institutions or trusts for the benefit of family members.

Amendment and Termination of the 2017 Incentive Award Plan. The Administrator may terminate, amend or modify the plan. However, stockholder approval of any amendment to the plan will be obtained (i) to the extent necessary and desirable to comply with any applicable law, regulation or stock exchange rule, (ii) for any amendment to the plan that increases the number of shares available under the plan (other than any adjustment as provided by the plan with respect to changes in capital structure), or (iii) for any amendment to the plan that permits the Administrator to extend the exercise period of an option or stock appreciation right beyond ten years from the date of grant. Absent approval of the stockholders, no option or stock appreciation right may be amended to reduce the per share exercise price of shares subject to such option or stock appreciation right below the per share exercise price as of the date the option or stock appreciation right is granted, and except as permitted by the plan with respect to changes in capital structure, no option or stock appreciation right may be granted in exchange for, or in connection with, the cancellation or surrender of an option or stock appreciation right having a higher per share exercise price, nor may an option or stock appreciation right be exchanged for restricted stock. If not terminated earlier by the Administrator, the plan expires ten years after the most recent date the plan was approved by our stockholders.

U.S. Federal Income Tax Consequences. The tax consequences of the 2017 Incentive Award Plan under current federal law are summarized in the following discussion. This discussion is limited to the general tax principles applicable to the plan, and is intended for general information only. Non-U.S., state, and local income taxes are not discussed. Tax laws are complex and subject to change and may vary depending on individual circumstances and from locality to locality. The tax information summarized is not tax advice.

Nonqualified Stock Options. For federal income tax purposes, an optionee generally will not recognize taxable income at the time a non-qualified stock option is granted under the plan. The optionee will recognize ordinary income, and the Company generally will be entitled to a deduction, upon the exercise of a non-qualified stock option. The amount of income recognized (and the amount generally deductible by the Company) generally will be equal to the excess, if any, of the fair market value of the shares at the time of exercise over the aggregate exercise price paid for the shares, regardless of whether the exercise price is paid in cash, shares or other property. An optionee's basis for the stock for purposes of determining his or her gain or loss upon a subsequent disposition of the shares generally will be the fair market value of the stock on the date of exercise of the non-qualified stock option, and any subsequent gain or loss will generally be taxable as capital gain or loss.

Incentive Stock Options. An optionee generally will not recognize taxable income either at the time an incentive stock option is granted or when it is exercised. However, the amount by which the fair market value of the shares at the time of exercise exceeds the exercise price will be an "item of tax preference" to the optionee for purposes of alternative minimum tax. Generally, upon the sale or other taxable disposition of the shares acquired upon exercise of an incentive stock option, the optionee will recognize taxable income. If shares acquired upon the exercise of an incentive stock option are held for the longer of two years from the date of grant or one year from the date of exercise, the gain or loss (in an amount equal to the difference between the fair market value on the date of sale and the exercise price) upon disposition will be treated as a long-term capital gain or loss, and the company will not be entitled to any deduction. If this holding period is not met and the stock is sold for a gain, then the difference between the option price and the fair market value of the stock on the date of exercise will be taxed as ordinary income and any gain over that will be eligible for long- or short-term capital gain treatment. If the holding period is not met and the shares are disposed of for less than the fair market value on the date of exercise, then the amount of ordinary income is limited to the excess, if any, of the amount realized over the exercise price paid. The Company generally will be entitled to a deduction in the amount of any ordinary income recognized by the optionee.

Stock Appreciation Rights. No taxable income is generally recognized upon the receipt of a stock appreciation right. Upon exercise of a stock appreciation right, the cash or the fair market value of the shares received generally will be taxable as ordinary income in the year of such exercise. The Company generally will be entitled to a compensation deduction for the same amount which the recipient recognizes as ordinary income.

Restricted Stock. A participant to whom restricted stock is issued generally will not recognize taxable income upon such issuance and the Company generally will not then be entitled to a deduction, unless an election is made by the participant under Section 83(b) of the Internal Revenue Code. However, when restrictions on shares of restricted stock lapse, such that the shares are no longer subject to a substantial risk of forfeiture, the participant generally will recognize ordinary income and the Company generally will be entitled to a deduction for an amount equal to the excess of the fair market value of the shares on the date such restrictions lapse over the purchase price thereof. If an election is made under Section 83(b) of the Internal Revenue Code, then the participant generally will recognize ordinary income on the date of issuance equal to the excess, if any, of the fair market value of the shares on that date over the purchase price therefor and the Company will be entitled to a deduction for the same amount.

Restricted Stock Unit. A participant will generally not recognize taxable income upon the grant of a restricted stock unit. However, when the shares are delivered to the participant, the value of such shares at that time will be taxable to the participant as ordinary income. Generally, the Company will be entitled to a deduction for an amount equal to the amount of ordinary income recognized by the participant.

Deferred Stock. A participant will generally not recognize taxable income upon the grant of deferred stock. However, when the shares are delivered to the participant, the value of such shares at that time will be taxable to the participant as ordinary income. Generally, the Company will be entitled to a deduction for an amount equal to the amount of ordinary income recognized by the participant.

Stock Payments. A participant will recognize taxable ordinary income on the fair market value of the stock delivered as payment of bonuses or other compensation under the Plan, and, generally, the Company will be entitled to a corresponding deduction.

Performance Awards. A participant who has been granted a performance award (either performance unit or stock) generally will not recognize taxable income at the time of grant, and the Company will not be entitled to a deduction at that time. When an award is paid, whether in cash or shares, the Participant generally will recognize ordinary income, and the Company will be entitled to a corresponding deduction.

Section 162(m) Limitation. Generally, Section 162(m) of the Code disallows public companies a tax deduction for federal income tax purposes of remuneration in excess of \$1 million paid to their chief executive officer and each of the three other most highly-compensated executive officers (other than their chief financial officer) whose compensation is required to be disclosed to our stockholders under the Exchange Act in any taxable year. The exemption from Section 162(m)'s deduction limit for performance-based compensation has been repealed, effective for taxable years beginning after December 31, 2017, such that compensation paid to our chief executive officer, chief financial officer and each of the three other most highly compensated executive officers in excess of \$1 million will not be deductible unless it qualifies for transition relief applicable to certain arrangements in place as of November 2, 2017.

New Plan Benefits

There are currently approximately 986 employees and six non-employee directors who would be eligible to receive awards under the 2017 Incentive Award Plan. The number of Awards that an employee may receive under the 2017 Incentive Award Plan is in the discretion of the Compensation Committee, and no final determination has been made as to the type or amount of awards that will be granted in the future to specific individuals. However it is expected that awards made in 2019 will be very similar to the awards made in 2018 and described in tables in the Compensation Discussion and Analysis. No estimate of awards in subsequent years can be provided.

Equity Compensation Plan

The following table provides certain information as of December 31, 2018 about our common stock that may be issued under our 2017 Incentive Award Plan:

Plan Category	Number of Securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of Securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders	323,524	\$41.08	154,977
Equity compensation plans not approved by security holders	0	0	—
Total	323,524	\$41.08	154,977

Recommendation of the Board of Directors:

The Board recommends a vote “FOR” the increase of 1.2 million (1,200,000) shares in the number of shares available under the 2017 Incentive Award Plan.

PROPOSAL NO. 4 ADVISORY VOTE TO APPROVE NAMED EXECUTIVE OFFICER COMPENSATION

In accordance with the requirements of Section 14A of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), we are asking stockholders to approve the following non-binding advisory resolution at the Annual Meeting:

RESOLVED that the compensation paid to the Company’s named executive officers, as disclosed pursuant to Item 402 of Regulation S-K, including the Compensation Discussion and Analysis, compensation tables and narrative discussion is hereby APPROVED.

The affirmative vote of the holders of a majority of our shares of our common stock present in person or represented by proxy at the Annual Meeting will be required for approval.

Because the vote is advisory, it will not be binding upon the Board. However, the Board values stockholders’ opinions and the Compensation Committee will take into account the outcome of the advisory vote when considering future executive compensation decisions. The Board has adopted a policy of providing for annual advisory votes from stockholders to approve named executive officer compensation. The next such vote will occur at the 2020 Annual Meeting of Stockholders.

In 2018, our stockholders did not approve the advisory vote on the compensation of our named executive officers. The vote on this was as follows: FOR: 20,289,284 shares; AGAINST: 20,550,186 shares; ABSTAIN: 58,247 shares; and 2,495,950 broker non-votes.

In an effort to better understand the reasons behind the vote, in September 2018, we issued an invitation to all of our shareholders to attend a meeting with our independent members of our Board of Directors to discuss, among other items, the Say-on-Pay vote and our executive compensation practices. Shareholders could participate in person, via internet webcast and through an audio dial-in. The meeting, which was held in October 2018, was attended by more than 100 individuals representing our institutional shareholders and sell-side analysts.

At the meeting with our independent directors, without management present, the directors specifically asked the shareholders if they had concerns with our executive compensation practices. No

concerns were raised on that topic. Investors did raise other concerns with the independent directors, such as succession planning, among other topics.

As a result of this meeting, and based on the fact that no shareholders expressed specific concerns regarding our executive compensation practices to our independent directors, the Board of Directors continues to believe that our CEO's compensation is reasonable and appropriate in light of the following factors:

- Our CEO, Mr. Schaeffer, founded the Company and has successfully led us for more than 19 years. He is intimately involved in all aspects of our business and his knowledge of the Company and marketplace in which it operates is unequalled and cannot be replaced;
- Our executive compensation program is designed to provide long-term incentives over multi-year time horizons and links a substantial portion of our executive officers' overall compensation to the value of our common stock;
- In 2018, all of our CEO's target total direct compensation opportunity was "at risk" and a significant portion of this compensation opportunity was performance-based; and
- More than half of our CEO's long-term incentive compensation opportunity in 2018 was performance-based and all of his direct compensation was at risk.

Our executive compensation program is designed to attract, reward, and retain highly talented executives to achieve our corporate goals and to align the interests of our executive officers with the long-term interests of our stockholders. It aims to be simple and effective, and to link the compensation of our executive officers to our performance. It reflects the size, scope, and success of our business, as well as the responsibilities of our executive officers.

Our Board of Directors urges stockholders to carefully read the "Compensation Discussion and Analysis" section of this Proxy Statement, which describes in more detail our executive compensation philosophy, policies, and practices, as well as the Summary Compensation Table and other related compensation tables and the accompanying narrative discussion.

We value the opinions of our stockholders and will continue to consider the outcome of future Say-on-Pay votes, as well as feedback received throughout the year, when making compensation decisions for our executive officers.

Recommendation of the Board of Directors:

Our Board of Directors recommends a vote "FOR" the resolution set forth above thereby approving the compensation of the named executive officers as described in the Compensation Discussion and Analysis, Summary Compensation Table and related tables, and the accompanying narrative discussion as set forth in this Proxy Statement.

THE BOARD OF DIRECTORS AND COMMITTEES

The Board of Directors met six times during 2018 and there were two actions by written consent. Each director attended at least 75% of the meetings of the Board. Each director attended at least 75% of the meetings of the committees of the Board of which he was a member. The independent directors met four times. All of the directors attended the annual meeting of stockholders. During 2018, the Board had a standing Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee.

Mr. Schaeffer serves as CEO and Chairman of the Board. He is the founder of the Company and owns approximately 9% of the Company's stock. His dual role was established more than 19 years ago when he founded the Company. The Board believes that, at the Company's current stage of growth, the Board is best served by a chairman who is involved with the Company on a full-time basis, fully knowledgeable of both the Company's financial and operational workings, and is therefore able to bring great depth of knowledge about the Company to this role. The Board does not have a designated lead independent director.

The Board's role in the Company is to provide general oversight of strategy and operations. As part of its oversight of operations, it reviews the performance of the Company and the risks involved in the operations of the Company. The Board and the Audit Committee receive regular reports on the status of the Company's internal controls and each has reviewed key operational risks. The Board's risk oversight role has no effect on its leadership structure as all directors, other than Mr. Schaeffer, are independent directors and therefore have no conflict that might discourage critical review.

Nominating and Corporate Governance Committee

We established our Nominating and Corporate Governance Committee of the Board (the "Nominating and Governance Committee") in April 2005. During all of 2018, the members of this committee were Messrs. Brooks (Chairman) and Montagner, each of whom are independent members of our Board. Our Board has adopted a charter governing the activities of the Nominating and Corporate Governance Committee. The charter of the Nominating and Corporate Governance Committee may be found on the Company's website under the tab "About Cogent; Investor Relations; Corporate Governance" at www.cogentco.com. Pursuant to its charter, the Nominating and Corporate Governance Committee's tasks include assisting the Board in identifying individuals qualified to become Board members, recommending to the Board director nominees to fill vacancies in the membership of the Board as they occur and, prior to each annual meeting of stockholders, recommending director nominees for election at such meeting.

The Nominating and Corporate Governance Committee seeks diversity of perspective in considering the membership of the Board. It does not have precise measures for the optimal range and type of diversity desirable. Instead, it and the Board seek candidates with a range of experience. Board candidates are considered based upon various criteria, such as skills, knowledge, perspective, broad business judgment and leadership, relevant specific industry or regulatory affairs knowledge, business creativity and vision, experience, and any other factors appropriate in the context of an assessment of the committee's understood needs of the Board at that time. In addition, the Nominating and Corporate Governance Committee considers whether the individual satisfies criteria for independence as may be required by applicable regulations and personal integrity and judgment. Accordingly, the Company seeks to attract and retain highly qualified directors who have sufficient time to attend to their substantial duties and responsibilities to the Company.

The Nominating and Corporate Governance Committee has the sole authority to retain, compensate, and terminate any search firm or firms to be used in connection with the identification, assessment, and/or engagement of directors and director candidates. No such firm has been retained by the Company in the past.

The Nominating and Corporate Governance Committee considers proposed nominees whose names are submitted to it by stockholders; however, it does not have a formal process for that consideration. The Company has not to date adopted a formal process because it believes that the informal consideration process has been adequate. The committee intends to review periodically whether a more formal policy should be adopted. If a stockholder wishes to suggest a proposed name for committee consideration, the stockholder should comply with the provisions of the Company's Bylaws, including, without limitation, sending the name of that nominee and related personal

information to the Nominating and Corporate Governance Committee, in care of our Secretary, at least three months before the next annual meeting to ensure meaningful consideration by the Nominating and Corporate Governance Committee. See “Stockholder Proposals” for Bylaw requirements for nominations.

The Nominating and Corporate Governance Committee had one formal meeting in 2018. All meetings and activities of the Nominating and Corporate Governance Committee were held in conjunction with a meeting of the full Board to accommodate the views of all members of the Board concerning its membership and constitution.

Audit Committee

The Audit Committee is established in accordance with Section 3(a)(58)(A) of the Exchange Act. During all of 2018 the members of this committee were Messrs. Liebhaber (Chairman), Bath and Montagner, each of whom is independent as the term “independence” is defined in the applicable listing standards of Nasdaq Marketplace Rules and Rule 10A-3 under the Exchange Act. The Board has determined that each of Messrs. Liebhaber, Bath and Montagner qualifies as a financial expert, as that term is defined in the Exchange Act. The responsibilities of this Audit Committee include:

- the appointment, compensation, retention and oversight of our independent registered public accountants;
- reviewing with our independent registered public accountants the plans and results of the audit engagement;
- pre-approving professional services provided by our independent registered public accountants;
- reviewing our critical accounting policies, our Annual and Quarterly reports on Forms 10-K and 10-Q, and our earnings releases;
- reviewing the independence of our independent registered public accountants; and
- reviewing the adequacy of our internal accounting controls and overseeing our ethics program.

The Audit Committee met four times during 2018. The charter of the Audit Committee may be found under the tab “About Cogent; Investor Relations; Corporate Governance” at www.cogentco.com.

Audit Committee Report

To the Board of Directors:

We have reviewed and discussed with management the Company’s audited consolidated financial statements as of and for the year ended December 31, 2018.

We have discussed with the independent registered public accountants, Ernst & Young LLP, the matters required to be discussed with us by the American Institute of Certified Public Accountants, the Securities and Exchange Commission, the Nasdaq Stock Market and the Public Company Accounting Oversight Board, including those required by the Auditing Standard No. 1301, Communications with Audit Committees, as amended.

We have received and reviewed the letter from Ernst & Young LLP required by the Public Company Accounting Oversight Board, and have discussed with Ernst & Young LLP their independence, including the written disclosures and letter required by Rule 3526 of the Public Company Accounting Oversight Board.

Based on the reviews and discussions referred to above, we recommended to the Board of Directors that the audited consolidated financial statements referred to above be included in the

Company's Annual Report on Form 10-K for the year ended December 31, 2018 for filing with the Securities and Exchange Commission. The Board of Directors caused the Form 10-K to be so filed.

Audit Committee:
Richard T. Liebhaber
Marc Montagner
D. Blake Bath

The material in this report is being furnished and shall not be deemed "filed" with the Securities and Exchange Commission for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liability of that section, nor shall the material in this section be deemed to be "soliciting material" or incorporated by reference in any registration statement or other document filed with the Securities and Exchange Commission under the Securities Act of 1933, as amended, or the Exchange Act, except as otherwise expressly stated in such filing.

Compensation Committee

During 2018 the membership of the Compensation Committee consisted of Messrs. Bath, Brooks, Liebhaber, Montagner, and Weingarten, each of whom is independent as the term "independence" is defined in the applicable listing standards of the Nasdaq Marketplace Rules. The Compensation Committee does not have a chairman. The Compensation Committee is responsible for determining the compensation for our executive officers and other employees, and administering our compensation programs. The Compensation Committee had one formal meeting in 2018. Salary and equity compensation awards for all of the executive officers and key employees of the Company were considered during these meetings and Mr. Schaeffer was absent from any discussions concerning his compensation. The charter of the Compensation Committee is available under the tab "About Cogent; Investor Relations; Corporate Governance" at www.cogentco.com.

Stockholder Communication with Board Members

The Company has not to date developed formal processes by which stockholders may communicate directly to directors. It believes that an informal process has served it well, especially given the very substantial amount of its stock held by institutional investors. In the past several institutional investors communicated with the Board and CEO. The investor communications were addressed by direct communications with representatives of the investors. Accordingly, the Board considers that an effective and well-established traditional means of receiving communications from stockholders currently exists. However, to further encourage communication with stockholders, the Company held a meeting in October 2018 to which all stockholders were invited to attend and engage in discussions with the Board and management. For CEO compensation matters, the CEO was not present so any discussion could be had with the independent members of the Board. In view of the SEC disclosure requirements relating to this issue, the Nominating and Corporate Governance Committee may consider development of more specific procedures. Until any other procedures are developed and posted on the Company's corporate website at www.cogentco.com, any communications to the Board should be sent to it in care of our Secretary.

Code of Ethics

The Company has adopted a code of ethics that applies to its principal executive officer, principal financial officer, and controller. This code of ethics may be found on the Company's website under the tab "About Cogent; Investor Relations; Corporate Governance" at www.cogentco.com. The Company intends to satisfy the disclosure requirements regarding an amendment to or waiver from a provision of the code of ethics by posting such information on its website.

Board Member Attendance at Annual Meetings

The Company encourages all of its directors to attend the Annual Meeting of Stockholders. All of the directors attended the 2018 Annual Meeting. The Company generally holds a Board meeting coincident with the Annual Meeting to minimize director travel obligations and facilitate their attendance at the Annual Meeting.

Director Independence

Nasdaq Marketplace Rules require that a majority of the Board be independent. No director qualifies as independent unless the Board determines that the director has no direct or indirect relationship with the Company that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In assessing the independence of its members, the Board examined the commercial, industrial, banking, consulting, legal, accounting, charitable and familial relationships of each member. The Board's inquiry extended to both direct and indirect relationships with the Company. Based upon both detailed written submissions by its members and discussions regarding the facts and circumstances pertaining to each member, considered in the context of applicable Nasdaq Marketplace Rules, the Board has determined that all of the directors nominated for election, other than Mr. Schaeffer, are independent.

EXECUTIVE OFFICERS AND SIGNIFICANT EMPLOYEES

Set forth below is certain information concerning the executive officers and significant employees of the Company. Biographical information on Mr. Schaeffer is included under "Proposal 1—Election of Directors."

Thaddeus G. Weed, age 57, joined us in 2000 and served as Vice President and Controller until May 2004 when he became our Chief Financial Officer and Treasurer. From 1997 to 1999, Mr. Weed served as Senior Vice President of Finance and Treasurer at Transaction Network Services, Inc. where Mr. Weed undertook a broad range of financial management responsibilities. From 1987 to 1997, Mr. Weed was employed at Arthur Andersen LLP where he served as Senior Audit Manager.

Robert N. Beury, Jr., age 65, joined us in 2000 and serves as Chief Legal Officer (Vice President and General Counsel) and Assistant Secretary. Prior to joining us, Mr. Beury served as Deputy General Counsel of Iridium LLC, a mobile satellite service provider, from 1994 to 2000. From 1987 to 1994, Mr. Beury was General Counsel of Virginia's Center for Innovative Technology, a non-profit corporation set up to develop the high tech industry in Virginia.

R. Brad Kummer, age 70, joined us in 2000 and serves as Vice President of Optical Transport Engineering and Chief Technology Officer. Mr. Kummer spent the 25 years prior to joining us at Lucent Technologies (formerly Bell Laboratories), where he served in a variety of research and development and business development roles relating to optical fibers and systems. In his most recent work at Lucent, he was responsible for optical fiber systems engineering for long haul and metropolitan dense wavelength division multiplexing systems.

Timothy G. O'Neill, age 63, joined us in 2001 and serves as the Vice President of Field Engineering, Construction and Network Operations. He is responsible for network operation, construction and maintenance. From 1999 to 2001, Mr. O'Neill was employed at @Link Networks, Inc. where he served as Chief Network Officer. While at @Link Networks, Inc., Mr. O'Neill was responsible for engineering, implementing and operating a network for Internet access and Layer 2 services.

Bryant Hird "Guy" Banks, age 54, joined us in 2000 and serves as Vice President of Real Estate. Prior to joining us, Mr. Banks held positions with various affiliates of Security Capital Group Incorporated, including the positions of Vice President of Land Acquisition and Vice President of Development for CWS Communities Trust.

Henry W. Kilmer, age 50, joined us in 2011 and serves as Vice President of IP Engineering. Prior to joining us, Mr. Kilmer held positions with UUNET (now Verizon), Sprint, Digex/Intermedia and Metromedia Fiber Networks/Abovenet where he was Senior Vice President of Engineering and Operations. Most recently, Mr. Kilmer was President of Terrapin Communications, Inc., a small consulting firm that focused on network consulting and technical strategy development for companies like GPX, Airband, and Switch and Data (now part of Equinix).

James Bubeck, age 52, was appointed as our Chief Revenue Officer and Vice President of Global Sales in October 2015. Mr. Bubeck has served in the sales organization of Cogent in various capacities since May of 2000, most recently, since 2007, as Vice President of Central Region Sales, based in Chicago. From 1996 to 2000 he was a sales manager for MCI's internet network business, which was subsequently divested to Cable and Wireless due to the merger of MCI and Worldcom.

COMPENSATION DISCUSSION AND ANALYSIS

This Compensation Discussion and Analysis describes the compensation program for our Principal Executive Officer, our Principal Financial Officer, and the next three most highly compensated Executive Officers of the Company during 2018 (the "Named Executive Officers"). During 2018, these individuals were:

- Dave Schaeffer, our Founder and Chief Executive Officer (our "CEO");
- Thaddeus G. Weed, our Chief Financial Officer (our "CFO");
- Robert N. Beury, Jr., our Chief Legal Officer;
- Timothy G. O'Neill, our Vice President of Field Engineering, Construction, and Network Operations; and
- James Bubeck, our Chief Revenue Officer and Vice President of Global Sales.

This Compensation Discussion and Analysis describes the material elements of our executive compensation program during 2018. It also provides an overview of our executive compensation philosophy and objectives. Finally, it analyzes how and why we arrived at the specific compensation decisions for our executive officers, including the Named Executive Officers, for 2018, including the key factors that the Compensation Committee considered in determining their compensation. We note that, at this time as well as during all of 2018, the functions of the Compensation Committee were largely undertaken by the independent members of our Board of Directors (the "Board").

Executive Summary

2018 Executive Compensation Highlights

The Compensation Committee took the following key actions with respect to the compensation of the Named Executive Officers for 2018:

- **Base Salaries**—With the exception of our CEO, who receives no annual base salary, increased their annual base salaries by 2% in common with all employees.
- **Annual Incentive Compensation for CEO**—Based on achievement of 48% of our revenue growth target and 62% of our adjusted EBITDA growth target for 2018, made an annual incentive award in the amount of \$274,448 to our CEO;
- **Annual Commission for Chief Revenue Officer**—Based on achievement of 99% of his revenue target for 2018, made a commission payment in the amount of \$98,548 to Mr. Bubeck; and
- **Long-Term Incentive Compensation**—Granted long-term incentive compensation opportunities in the form of time-based restricted stock awards, which vest in 2021, and performance-based

restricted stock awards, which are to be earned based on our performance over a multi-year period through the end of 2021.

Pay-for-Performance Discussion

We view our executive compensation practices as an avenue to communicate our goals and standards of conduct and a means to reward our executive officers for their achievements. We believe our executive compensation program is reasonable, competitive, and appropriately balances the goals of attracting, motivating, rewarding, and retaining our executive officers and, therefore, that it promotes stability in our leadership.

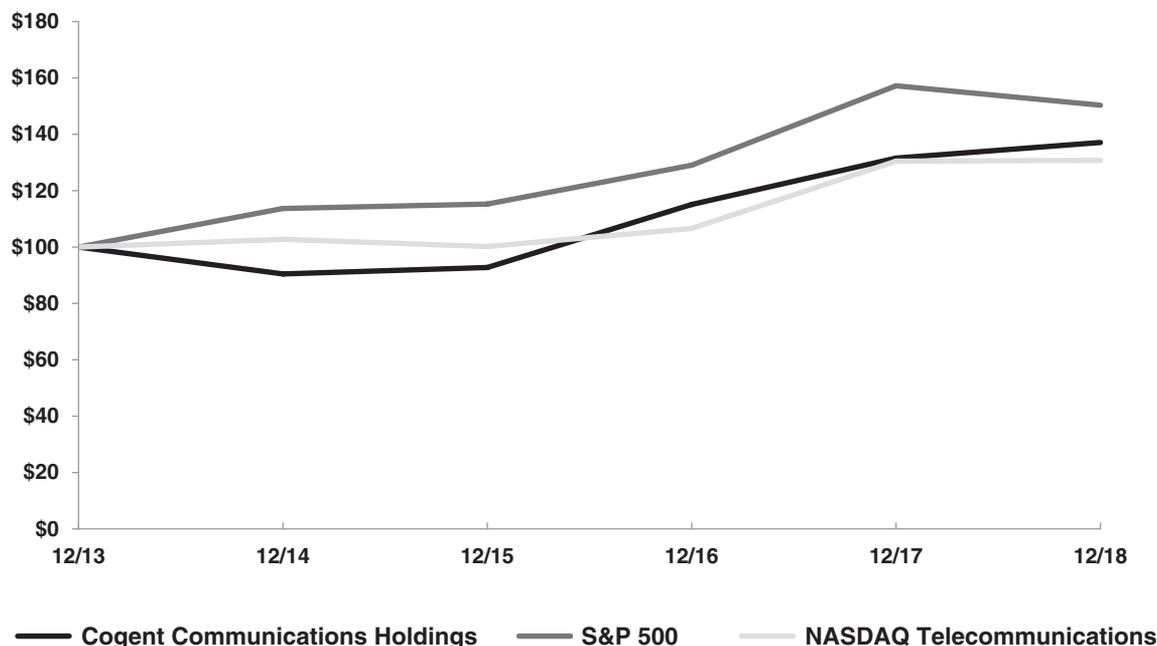
To ensure our executive officers' interests are aligned with those of our stockholders and to motivate and reward individual initiative and effort, currently a substantial portion of their target annual total direct compensation opportunity is delivered in the form of equity awards and, therefore, "at-risk." Further, in the case of our CEO, all of his cash compensation opportunity for 2018 was performance-based.

We believe that long-term incentive compensation opportunities in the form of equity awards are a key incentive for our CEO, as well as our other executive officers, to drive long-term growth in stockholder value. To ensure that we remain faithful to our compensation philosophy, the Board evaluates the relationship between the reported values of the equity awards granted to our executive officers, the amount of compensation realizable (and, ultimately, realized) from such awards in subsequent years, and our total stockholder return over this period.

We believe that our focused emphasis on the use of long-term incentive compensation as the key element of our executive officers' target total direct compensation opportunities has enabled us to maintain a strong alignment of our executive officers' and stockholders' interests and has resulted in the above-market performance of our common stock as illustrated below.

The following graph compares the cumulative five-year total stockholder return on our common stock with the cumulative total returns of the Standard & Poor's 500 Index and the NASDAQ Telecommunications Index (the "NTI"). The graph tracks the performance of a \$100 investment in our common stock and in each index (with the reinvestment of all dividends) from December 31, 2013 through December 31, 2018.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*
Among Cogent Communications Holdings, the S&P 500 Index
and the NASDAQ Telecommunications Index



* \$100 invested on 12/31/13 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.

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	12/13	12/14	12/15	12/16	12/17	12/18
Cogent Communications Holdings	100.00	90.47	92.75	115.11	131.57	137.11
S&P 500	100.00	113.69	115.26	129.05	157.22	150.33
NASDAQ Telecommunications	100.00	102.75	100.20	106.61	130.48	130.76

The stock price performance included in this graph is not necessarily indicative of future stock price performance.

2018 Stockholder Advisory Vote on Named Executive Officer Compensation

At our 2018 Annual Meeting our stockholders did not approve the advisory vote on our named executive officer compensation, or “Say-on-Pay.” In an effort to better understand the reasons behind the vote, in September 2018, we issued an invitation to all of our shareholders to attend a meeting with our independent members of our Board of Directors to discuss, among other items, the Say-on-Pay vote and our executive compensation practices. Shareholders could participate in person, via internet webcast or through an audio dial-in. The meeting, which was held in October 2018, was attended by more than 100 individuals representing our shareholders and sell-side analysts.

At the meeting with our independent directors, without management present, the directors specifically asked the shareholders if they had concerns with our executive compensation practices. No concerns were raised on that topic. Investors did raise other concerns with the independent directors, such as succession planning, among other topics.

As a result of this meeting, and based on the fact that no shareholders expressed specific concerns regarding our executive compensation practices to our independent directors, the Board of Directors continues to believe that our CEO’s compensation is reasonable and appropriate.

The majority of our CEO's target total direct compensation opportunity for 2018 consisted of his annual incentive compensation opportunity and his performance-based restricted stock award. When combined with his time-based restricted stock award, his entire target total direct compensation opportunity for 2018 was comprised of "variable," at-risk pay elements.

We value the opinions of our stockholders and will continue to consider the outcome of future Say-on-Pay votes, as well as feedback received throughout the year, when making compensation decisions for our executive officers.

Executive Compensation Policies and Practices

We endeavor to maintain sound executive compensation policies and practices, including compensation-related corporate governance standards, consistent with our executive compensation philosophy. During 2018, we maintained the following executive compensation policies and practices, including both policies and practices we have implemented to drive performance and policies and practices that either prohibit or minimize behaviors that we do not believe serve our stockholders' long-term interests:

What We Do

- ***Maintain an Independent Compensation Committee.*** The Compensation Committee consists solely of independent directors who establish our compensation practices.
- ***Retain an Independent Compensation Advisor.*** The Compensation Committee has engaged its own compensation consultant to provide information, analysis, and other advice on executive compensation independent of management.
- ***Annual Executive Compensation Review.*** At least once each year, the Board conducts a review of our compensation strategy.
- ***Compensation At-Risk.*** Our executive compensation program is designed so that a significant portion of our executive officer's compensation is "at risk" based on corporate performance, because it is equity-based, to align the interests of our executive officers and stockholders.
- ***Annual Compensation-Related Risk Assessment.*** The Board considers our compensation-related risk profile to ensure that our compensation-related risks do not create inappropriate or excessive risk and are not reasonably likely to have a material adverse effect on the Company.
- ***Multi-year Vesting Requirements.*** To align the interests of our executive officers and stockholders, the equity awards granted to our executive officers vest or are earned over multi-year periods.
- ***Compensation Recovery ("Clawback") Policy.*** We have adopted a compensation recovery ("clawback") policy that enables the Board to recover incentive compensation from our CEO and our other executive officers in the event of an accounting restatement resulting from misconduct.
- ***Stock Ownership Policy.*** We have adopted a stock ownership policy for our CEO and the members of the Board under which they must accumulate and maintain, consistent with the terms of the guidelines, shares of our common stock.
- ***Conduct an Annual Stockholder Advisory Vote on Named Executive Officer Compensation.*** We conduct an annual stockholder advisory vote on the compensation of the Named Executive Officers. The Board considers the voting results of this advisory vote during the course of its deliberations and also separately seeks to engage on executive compensation matters with our stockholders.

What We Do Not Do

- **No Guaranteed Bonuses.** We do not provide guaranteed bonuses to our executive officers. Only our CEO and Chief Revenue Officer are eligible to receive cash bonuses, which are entirely performance-based. Our other executive officers are not eligible for cash bonuses.
- **No Defined Benefit Retirement Plans.** We do not currently offer, nor do we have plans to offer, defined benefit pension plans or any non-qualified deferred compensation plans or arrangements to our executive officers other than the plans and arrangements that are available to all employees. Our executive officers are eligible to participate in our Section 401(k) retirement plan on the same basis as our other employees.
- **No Hedging or Pledging.** We prohibit our employees, including our executive officers, and the members of the Board from hedging our equity securities and from pledging our equity securities on a non-recourse basis.
- **No Tax Payments on Perquisites.** We do not provide any tax reimbursement payments (including “gross-ups”) on any perquisites or other personal benefits.
- **No Excise Tax Payments on Future Post-Employment Compensation Arrangements.** We do not provide any excise tax reimbursement payments (including “gross-ups”) on payments or benefits contingent upon a change in control of the Company.
- **No Special Welfare or Health Benefits.** We do not provide our executive officers with any welfare or health benefit programs, other than participation in the broad-based employee programs, such as medical, dental and vision benefits, medical and dependent care flexible spending accounts, health savings accounts, long-term and short-term disability insurance, and basic life insurance coverage.
- **No Stock Option Re-pricing.** We do not permit options to purchase shares of our common stock to be re-priced to a lower exercise price without the approval of our stockholders.

Executive Compensation Philosophy and Program Design

Compensation Philosophy

Our philosophy is to compensate all of our employees, including our executive officers, in a manner that reflects the competitive value of their skills and experience in the marketplace, to pay our sales force and sales management substantial cash commissions based upon revenue generated, and to tie the compensation of our senior executive officers to the value of our common stock through the grant of restricted stock awards that vest or are earned over multi-year periods.

We believe that the success of our philosophy is demonstrated by our record of revenue growth and increased profitability, our stable and capable leadership, and our equity appreciation.

Program Design

We structure the annual compensation of our executive officers, including the Named Executive Officers, using two principal elements: base salary and long-term incentive compensation opportunities in the form of equity awards. In addition, the two executive officers who are most directly responsible for driving our revenue growth—our CEO and Chief Revenue Officer—are also eligible to receive annual cash incentive awards based on our performance against pre-established financial objectives.

Executive Compensation Program Governance

Role of the Compensation Committee

The Compensation Committee, which is composed entirely of independent directors, is responsible for determining compensation for our executive officers and other employees, and administering our compensation programs. In 2018, the functions of the Compensation Committee were undertaken by the independent members of the Board, with the exception of Mr. Ferguson.

Accordingly, in 2018, the Board had overall responsibility for overseeing our compensation and benefits policies generally, overseeing, evaluating, and approving the compensation plans, policies, and programs applicable to our CEO as well as our other executive officers, determining and overseeing the process of evaluating our CEO's performance, and overseeing the preparation of, reviewing, and approving this Compensation Discussion and Analysis.

The Board's practice of developing and maintaining compensation arrangements that are competitive includes a balance between retaining the best possible talent and maintaining a reasonable and responsible cost structure.

When selecting and setting the amount of each compensation element, the Board considers the following factors:

- our performance against the financial and operational objectives established by the Board;
- each individual executive officer's skills, experience, and qualifications relative to other similarly situated executives in the competitive market;
- the scope of each executive officer's role compared to other similarly situated executives in the competitive market;
- the performance of each individual executive officer, based on a subjective assessment of his or her contributions to our overall performance, ability to lead his or her business unit or function, and work as part of a team, all of which reflect our core values;
- compensation parity among our executive officers; and
- our financial performance relative to our peers.

These factors provide the framework for compensation decision-making and final decisions regarding the compensation opportunity for each executive officer. No single factor is determinative in setting pay levels, nor was the impact of any factor on the determination of pay levels quantifiable.

Role of Management

In discharging its responsibilities, the Board works with members of our management, including our CEO. Management assists the Board by providing information on Company and individual performance, market data, and management's perspective and recommendations on compensation matters. The Board solicits and reviews our CEO's recommendations and proposals with respect to adjustments to annual cash compensation, long-term incentive compensation opportunities, program structures, and other compensation-related matters for our executive officers. The Board reviews and discusses these recommendations and proposals with our CEO and uses them as one factor in determining and approving the compensation for our executive officers. In setting the compensation of our CEO, he recuses himself from all discussions regarding his own compensation.

Role of Compensation Consultant

In May 2016, the Compensation Committee engaged Compensia, a national compensation consulting firm, to serve as its compensation advisor. During 2018, Compensia provided the following services:

- assisted with the development of a compensation peer group, provided competitive market data based on the compensation peer group for our executive officer positions and evaluated how the compensation we pay our executive officers compares both to our performance and to how the companies in our compensation peer group compensate their executives;
- reviewed and analyzed the base salary levels and annual and long-term incentive compensation opportunities of our executive officers; and
- reviewed our executive compensation disclosure, including the Compensation Discussion and Analysis.

In 2018, Compensia provided no services to us other than the consulting services to the Compensation Committee. The Compensation Committee has reviewed the objectivity and independence of the advice provided by Compensia to the Compensation Committee on executive compensation matters and determined that Compensia is independent and that its work did not raise any conflicts of interest.

Competitive Positioning

Compensia developed and recommended a compensation peer group to be used as a reference for understanding the market for executive talent when making future compensation decisions for our executive officers. Compensia determined our compensation peer group by focusing on U.S.-based, publicly traded companies in the following technology industry sectors: telecommunications, Internet, and software. Compensia then selected companies that were similar to us relative to our size, using the following criteria:

- similar revenue size—~0.5x to ~2.0x our last four fiscal quarter revenue of approximately \$400 million (~\$200 million to \$830 million); and
- similar market capitalization—~0.3x to ~3.0x our market capitalization of \$1.8 billion (~\$535 million to \$5.4 billion).

The Board took into consideration Compensia's recommended peer group of 16 communications and technology companies for purposes of comparing our executive compensation levels and practices against the competitive market. The companies comprising this compensation peer group were as follows:

8x8	InterDigital
ATN International	Iridium Communications
Consolidated Communications	J2 Global
Cornerstone OnDemand	RingCentral
FireEye	Shenandoah Communications
General Communications	Stamps.com
Gogo	TrueCar
GTT Communications	Vonage Holdings

The Board does not believe that it is appropriate to make compensation decisions, whether regarding base salaries or long-term incentive compensation, upon any type of benchmarking. However, the Board believes that information regarding the compensation practices at other companies is useful in at least two respects. First, the Board recognizes that our compensation policies and practices must

be competitive in the marketplace. Second, this information is useful in assessing the reasonableness and appropriateness of individual executive compensation elements and of our overall executive compensation packages. This information is only one of several factors that the Board considers, however, in making its decisions with respect to the compensation of our executive officers.

The Board intends to review our compensation peer group at least annually and make adjustments to its composition, taking into account changes in both our business and the businesses of the companies in the compensation peer group.

Individual Compensation Elements

For 2018, our executive compensation program consisted of the following three principal elements:

- base salary (except for our CEO, whose base salary was replaced with an annual cash incentive compensation opportunity in 2015);
- long-term incentive compensation in the form of time-based restricted stock awards and performance-based restricted stock awards; and
- sales commissions for our Chief Revenue Officer and Vice President of Global Sales.

Other than the annual cash incentive compensation opportunity for our CEO and the sales commission opportunity for our Chief Revenue Officer and Vice President of Global Sales, we did not provide any of our executive officers with an annual incentive opportunity in 2018.

Base Salary

Base salary represents the fixed portion of the compensation of our executive officers and is an important element of compensation intended to attract and retain highly talented individuals.

Generally, we establish the initial base salaries of our executive officers through arm's-length negotiation at the time we hire the individual executive officer, taking into account his or her position, qualifications, experience, prior salary level, and the base salaries of our other executive officers. Thereafter, the Board reviews the base salaries of our executive officers from time to time and makes adjustments to base salaries as it determines to be necessary or appropriate.

It is the general policy of the Board to provide our executive officers with the same general salary increase granted to all employees each year. Consistent with this policy, in 2018, our executive officers, including the Named Executive Officers (other than our CEO), received the same 2% base salary increase as our other employees.

Our CEO has not received a base salary for several years and, accordingly, did not receive a base salary in 2018.

Annual Incentive Compensation

Except for our CEO and our Chief Revenue Officer, annual incentive compensation in the form of cash bonuses has not been a part of our executive compensation program. This policy continued in effect in 2018.

Incentive Compensation Opportunity for Our CEO

As in 2017, our CEO was eligible to receive an annual cash incentive award based on our ability to improve our financial performance year over year as measured by two equally weighted metrics: increases in revenue and increases in adjusted earnings before interest, taxes, depreciation, and amortization ("Adjusted EBITDA").

For purposes of his 2018 incentive compensation opportunity, our CEO was to receive a cash award in the amount of \$250,000 if our revenue growth for the year equaled or exceeded by 15% our prior year total and, separately, an additional cash award in the amount of \$250,000 if our Adjusted EBITDA growth for the year equaled or exceeded by 20% our prior year total. If the growth of these performance metrics was less than the target level specified, he would receive a proportionally smaller amount.

Our revenue grew 7.2% from 2017 to 2018 and our Adjusted EBITDA grew 12.3% from 2017 to 2018. Based on the framework the Board had established for determining his annual cash incentive award, this translated to a cash award in the amount of \$120,293 for the revenue metric and a cash award in the amount of \$154,155 for the Adjusted EBITDA metric, or an aggregate annual cash incentive award in the amount of \$274,448.

Incentive Compensation Opportunity for Chief Revenue Officer

In addition, due to the importance of his position in driving revenue and, therefore, stockholder value, Mr. Bubeck was eligible to receive monthly commissions based our revenue for each month of 2018. Since revenue growth is critical to our success, the Board believes that it is important to directly link a significant portion of Mr. Bubeck's target total direct compensation opportunity to achieving our monthly revenue targets.

At the beginning of 2018, monthly revenue targets for Mr. Bubeck for the year and his target commission opportunity for the year were established. Mr. Bubeck's monthly commissions were determined by measuring our actual net new revenue for each month against the preestablished revenue target for that month, with the resulting percentage multiplied by his target commission opportunity. In 2018, approximately one-third of his target total cash compensation opportunity was tied to the achievement of these revenue targets.

For 2018, Mr. Bubeck achieved 99% of his revenue target for the year. Accordingly, he received \$98,548 of his target commission opportunity of \$100,000 based on his monthly performance against his targets.

Long-Term Incentive Compensation

We believe that the strongest alignment of executive and stockholder interests arises from their common ownership of our equity securities. Accordingly, the Board allocates the largest portion of our executive officer's target total direct compensation opportunity to long-term incentive compensation in the form of equity awards. The Board believes that equity awards provide an effective means for focusing our executive officers, including the Named Executive Officers, on driving increased stockholder value over a multi-year period, provides a meaningful reward for appreciation in our stock price and long-term value creation, and motivates them to remain employed with us.

Over the last several years, the long-term incentive compensation opportunities of our executive officers, including the Named Executive Officers, have been delivered in the form of restricted stock awards. As noted above, these awards have represented approximately 96% of our CEO's target total direct compensation opportunity, and, on average, 68% of the target total direct compensation opportunity of our other executive officers.

As with their other compensation elements, the Board determines the amount of long-term incentive compensation for our executive officers as part of its annual compensation review and, after taking into consideration the competitive market environment, the recommendations of our CEO (except with respect to his own equity award), the proportion of our total shares of common stock outstanding used for annual employee long-term incentive compensation awards (our "burn rate"), and the other factors described above.

In February 2018, the Board granted a combination of time-based restricted stock awards and performance-based restricted stock awards to our executive officers, including the Named Executive Officers. The equity awards granted to the Named Executive Officers for 2018 were as follows:

<u>Named Executive Officer</u>	<u>Time-Based Restricted Stock Awards (# of shares)</u>	<u>Time-Based Restricted Stock Awards (grant date fair value)</u>	<u>Performance-Based Restricted Stock Awards (# of shares)</u>	<u>Performance-Based Restricted Stock Awards (grant date fair value)</u>	<u>Aggregate Grant Date Fair Value</u>
Mr. Schaeffer	84,000	\$3,775,800	105,000	\$3,635,100	\$7,410,900
Mr. Weed	19,400	\$ 872,030	4,850	\$ 218,008	\$1,090,038
Mr. Beury	9,600	\$ 431,520	2,400	\$ 107,880	\$ 539,400
Mr. O’Neil	9,600	\$ 431,520	2,400	\$ 107,880	\$ 539,400
Mr. Bubeck	9,600	\$ 431,520	2,400	\$ 107,880	\$ 539,400

Stock was valued based on the closing price of \$44.95 per share on the grant date of February 21, 2018 except for performance grant of 105,000 shares to Mr. Schaeffer which was valued via an appraised value of \$34.62 per share since they are based upon market conditions.

Equity Awards Granted to Our CEO

Time-Based Restricted Stock Award. The shares of our common stock subject to the time-based restricted stock award granted to our CEO vest in equal monthly increments of 7,000 shares each commencing on January 1, 2021 and ending on December 1, 2021.

Performance-Based Restricted Stock Award. The shares of our common stock subject to the performance-based restricted stock award granted to our CEO are to be earned (if at all) based on our absolute total stockholder return (“TSR”) as measured over a performance period commencing on April 1, 2018 and ending on December 31, 2021. In the event that our TSR for the performance period is positive, then the number of shares of our common stock earned with respect to the award will be determined by dividing our TSR by the TSR of the Nasdaq Telecommunications Index (the “NTI”) for the performance period and multiplying that percentage by 84,000 (the target number of shares subject to the performance-based restricted stock award); provided, however, that the maximum number of shares of our common stock that may be earned pursuant to the performance-based restricted stock award may not exceed 105,000 shares. If our TSR for the performance period is zero or negative, then no shares of our common stock will be earned. Any shares of our common stock subject to the performance-based restricted stock award that are not earned at the end of the performance period will be forfeited and canceled. For purposes of the performance-based restricted stock award, our “TSR” is to be calculated by comparing an amount invested in the Company to the same amount invested in the NTI at the beginning of the performance period with all dividends reinvested during the performance. In calculating our TSR, the average market price of our common stock for the 20 trading days prior to the measurement date will be used.

In addition, our CEO’s restricted stock awards made in 2018 are eligible for accelerated vesting as follows:

- **Death or disability**—Upon a termination of employment due to death or disability, all of the unvested time-based restricted stock and 84,000 shares of performance-based restricted stock will vest.
- **Retirement**—Upon a termination of employment due to retirement, all of the unvested time-based restricted stock and, upon expiration of the performance period, the actual number of shares of our common stock earned based on our actual performance for the performance period based will vest.

- Termination of employment—In the event that our CEO’s employment is terminated entitling him to severance under the terms of his employment agreement either prior to or more than six months after a change in control of the Company, then the number of shares of restricted stock award that he would have vested in had he remained employed during the severance period (which will be determined based on the number of months used to calculate severance under his employment agreement) will vest and, upon expiration of the performance period, the actual number of shares of our common stock earned based on our actual performance for the performance period based, prorated based on the number of days elapsed from the beginning of the performance period through the last day of his applicable severance period, will vest.
- Change in control—Immediately prior to a change in control of the Company, the performance period for the performance-based restricted stock award will end and the number of shares of such performance based stock that he earns will be determined based on our TSR through such date provided he remains employed with us through January 1, 2022; provided, however, that he will be considered to have earned such number of shares if during the six months following the change in control of the Company, his employment is terminated without cause or he terminates his employment for good reason, a “double trigger”.

Equity Awards Granted to Other Named Executive Officers

Time-Based Restricted Stock Awards. The time-based restricted stock granted in 2018 to the other Named Executive Officers vests in equal quarterly increments of shares each on March 1, June 1, September 1, and December 1, 2021.

Performance-Based Restricted Stock Awards. The performance-based restricted stock granted to the other Named Executive Officers are to be earned (if at all) on December 1, 2021, based on the attainment of customer satisfaction goals as determined and evaluated in the discretion of the Compensation Committee.

In addition, the restricted stock granted to the other Named Executive Officers will be eligible for accelerated vesting as follows:

- Death, disability, retirement, or change in control—Upon a termination of employment due to death, disability, or retirement and upon a change in control of the Company (even if not accompanied by a termination of employment), all of the unvested shares of time-based restricted stock and performance-based restricted stock will vest.
- Other termination of employment—In the event of a termination of employment entitling the Named Executive Officer to severance under the terms of his employment agreement, the number of shares of time-based restricted stock that he would have vested in had he remained employed during the severance period (which will be determined based on the number of months used to calculate severance under his employment agreement) will vest, and, upon expiration of the performance period, the performance-based stock will vest based on actual performance for the performance period prorated based on the number of days elapsed from the beginning of the performance period through the last day of his applicable severance period.

In the event of a termination of employment other than as provided in the foregoing paragraphs, the Named Executive Officer will forfeit any unvested time-based restricted stock and performance-based restricted stock.

Welfare and Health Benefits

We have established a tax-qualified Section 401(k) retirement plan for all employees. Currently, we match contributions made to the plan by our employees, including our executive officers, up to 2% of their compensation. We intend for the plan to qualify under Section 401(a) of the Internal Revenue

Code (the “Code”) so that contributions by employees to the plan, and income earned on plan contributions, are not taxable to employees until withdrawn from the plan.

In addition, we provide other benefits to our executive officers, including the Named Executive Officers, on the same basis as all of our full-time employees. These benefits include medical, dental and vision benefits (paid for on a shared basis by the employee and the company), medical and dependent care flexible spending accounts, health savings accounts, short-term and long-term disability insurance, and basic life insurance coverage.

We design our employee benefits programs to be affordable and competitive in relation to the market, as well as compliant with applicable laws and practices. We adjust our employee benefits programs as needed based upon regular monitoring of applicable laws and practices and the competitive market.

Perquisites and Other Personal Benefits

Perquisites or other personal benefits are not a component of our executive compensation program. Accordingly, we do not provide perquisites or other personal benefits to our executive officers, including the Named Executive Officers.

In the future, we may provide perquisites or other personal benefits in limited circumstances. All future practices with respect to perquisites or other personal benefits will be approved and subject to periodic review by the Board.

Employment Agreements

We have entered into written employment agreements with each of the Named Executive Officers (other than Mr. Bubeck).

Each of these employment agreements provides for “at will” employment. These agreements also set forth the rights and responsibilities of each party and protect both parties’ interests in the event of a termination of employment by providing the executive officer with the opportunity to receive certain post-employment payments and benefits in the event of certain terminations of employment, including following a change in control of the Company. Finally, these employment agreements prohibit the executive officer from engaging, directly or indirectly, in competition with us or disclosing our confidential information or business practices. These post-employment compensation arrangements are described in more detail in the discussion entitled “Post-Employment Compensation” below.

For information on the specific terms and conditions of the employment agreements of the Named Executive Officers, see the discussion of “Employment Agreements and Potential Post-Employment Compensation Arrangements” in this Proxy Statement.

Post-Employment Compensation

We believe that having in place reasonable and competitive post-employment compensation arrangements are essential to attracting and retaining highly qualified executive officers. Our post-employment compensation arrangements are designed to provide reasonable compensation to executive officers who leave the Company under certain circumstances to facilitate their transition to new employment.

In determining payment and benefit levels under the various circumstances triggering the post-employment compensation provisions of our executive officers’ employment agreements, the Board has drawn a distinction between voluntary terminations of employment and terminations of employment for cause, and terminations of employment without cause or as a result of a change in control of the Company. Payment in the latter circumstances has been deemed appropriate in light of

the benefits to us described above, as well as the likelihood that the executive officer's departure is due, at least in part, to circumstances not within his or her control. In contrast, we believe that payments are not appropriate in the event of a termination of employment for cause or a voluntary resignation.

In addition, the written agreements for the equity awards granted to the Named Executive Officers contain provisions covering a change in control of the Company. We believe that these arrangements are designed to align the interests of management and stockholders when considering the long-term future for the Company. The primary purpose of these arrangements is to keep our most senior executive officers focused on pursuing all corporate transaction activity that is in the best interests of our stockholders. Specifically, these agreements provide that:

- the unvested restricted stock awards granted to our executive officers, including the Named Executive Officers, prior to 2017 vest in full upon a change in control of the Company; and
- in the case of our CEO, beginning with the equity awards granted to him in 2017, the vesting of such awards will accelerate only if, in the event of a change in control of the Company, there is also a subsequent involuntary loss of employment by him (a so-called "double-trigger" arrangement). The majority of his unvested restricted stock is now subject to this provision.

The written agreements for the equity awards granted to the Named Executive Officers also provide for accelerated vesting upon their death, disability, or retirement.

We have no arrangements with the Named Executive Officers providing for excise tax payments (or "gross-ups") relating to a change in control of the Company.

For information on the post-employment compensation arrangements for the Named Executive Officer, as well as an estimate of the potential payments and benefits payable under these arrangements as of the end of 2018, see "Employment Agreements and Potential Post-Employment Compensation Arrangements" in this Proxy Statement.

Other Compensation Policies and Practices

Stock Ownership Policy

We have adopted a stock ownership policy for our CEO and the members of the Board to align their interests with the interests of our stockholders. This policy provides that:

- our CEO is required to own that number of shares of our common stock with a market value equal to ten times his annual cash compensation or \$3 million, whichever is greater; and
- the members of the Board are required to own that number of shares of our common stock with a market value equal to twice the value of their annual equity awards.

Until such time as our CEO and the members of the Board have satisfied their specified ownership level, they are required to hold all shares of our common stock earned pursuant to the equity awards granted to them in connection with their employment or service, as applicable.

As of December 31, 2018, each of the individuals subject to our stock ownership policy satisfied his or her stock ownership requirement. Mr. Ferguson joined the board in October 2018 and is currently accruing stock to meet the ownership requirement.

Compensation Recovery ("Clawback") Policy

To further align the interests of our executive officers and stockholders and promote good governance practices, we have adopted a compensation recovery ("clawback") policy providing that, in the event of a financial restatement resulting from misconduct, the Board will seek repayment of all

cash-based incentive compensation or performance-based equity awards erroneously paid or granted to our CEO and any of such executive officers based on the original financial statements if the amount paid or awarded would have been lower had they been based on the restated financial statements.

Hedging, Derivatives, and Pledging Policies

Our Hedging and Derivatives Policy prohibits our employees, including our executive officers, and the members of the Board from hedging our securities and from entering into a derivative contract involving our securities (except for ownership of options to purchase shares of our common stock granted in connection with employment). Among the investment vehicles that are subject to this prohibition are:

- puts, calls, and futures contracts involving our securities whether covered or not;
- swaps involving our securities;
- forward contracts involving our securities;
- shorting our securities; and
- pledging our securities to secure a non-recourse loan

Tax and Accounting Considerations

Deductibility of Executive Compensation

Generally, Section 162(m) of the Code disallows public companies a tax deduction for federal income tax purposes of remuneration in excess of \$1 million paid to their chief executive officer and each of the three other most highly compensated executive officers (other than their chief financial officer) whose compensation is required to be disclosed to our stockholders under the Exchange Act in any taxable year. Remuneration in excess of \$1 million may only be deducted if it is “performance-based compensation” within the meaning of Section 162(m) or qualifies for one of the other exemptions from the deduction limit.

The exemption from Section 162(m)’s deduction limit for performance-based compensation has been repealed, effective for taxable years beginning after December 31, 2017, such that compensation paid to our chief executive officer, chief financial officer and each of the three other most highly compensated executive officers in excess of \$1 million will not be deductible unless it qualifies for transition relief applicable to certain arrangements in place as of November 2, 2017.

Accounting for Stock-Based Compensation

We follow the Financial Accounting Standard Board’s Accounting Standards Codification Topic 718 (“FASB ASC Topic 718”) for our stock-based compensation awards. FASB ASC Topic 718 requires us to measure the compensation expense for all share-based payment awards made to our employees and members of the Board, including restricted stock awards, based on the grant date “fair value” of these awards. This calculation is performed for accounting purposes and reported in the executive compensation tables required by the federal securities laws, even though the recipient of the awards may never realize any value from their awards.

2018 Summary Compensation Table

The following table sets forth the cash and non-cash compensation paid or incurred on our behalf to our Chief Executive Officer, our principal financial officer, and each of our three other most highly compensated executive officers, or our Named Executive Officers, whose annual compensation equaled or exceeded \$100,000 for the three years ended December 31, 2018.

Name	Principal Position	Year	Salary	Bonus	GRANT DATE VALUE Stock Awards(a)	Non Equity Incentive Plan Compensation(c)	All other Compensation(b)	TOTAL
Dave Schaeffer . . .	CEO	2018	\$ 0	\$0	\$7,410,900(d)	\$274,448	\$5,500	\$7,690,848
		2017	\$ 0	\$0	\$7,168,350(g)	\$263,337	\$5,400	\$7,437,087
		2016	\$ 0	\$0	\$6,626,600(h)	\$335,660	\$4,840	\$6,967,100
Thaddeus Weed . . .	CFO	2018	\$309,997	\$0	\$1,090,038(e)		\$5,500	\$1,405,535
		2017	\$303,919	\$0	\$1,050,631(i)		\$5,400	\$1,359,950
		2016	\$275,000	\$0	\$ 945,265(j)		\$5,300	\$1,225,565
Robert Beury	Chief Legal Officer	2018	\$305,442	\$0	\$ 539,400(f)		\$5,500	\$ 850,342
		2017	\$299,453	\$0	\$ 519,900(k)		\$5,400	\$ 824,753
		2016	\$272,000	\$0	\$ 467,760(l)		\$5,300	\$ 745,060
Timothy O'Neill . .	VP	2018	\$299,495	\$0	\$ 539,400(f)		\$5,500	\$ 844,395
		2017	\$293,623	\$0	\$ 519,900(k)		\$5,400	\$ 818,923
		2016	\$267,000	\$0	\$ 467,760(l)		\$5,300	\$ 740,060
James Bubeck . . .	Chief Revenue Officer	2018	\$229,221	\$0	\$ 539,400(f)	\$ 98,548	\$5,500	\$ 872,669
		2017	\$224,726	\$0	\$ 519,900(k)	\$ 98,158	\$5,400	\$ 848,184
		2016	\$204,000	\$0	\$ 467,760(l)	\$ 99,220	\$5,300	\$ 776,280

- (a) Amounts represent the grant date fair value of stock awards computed in accordance with FASB Accounting Standards Codification 718. For additional information regarding the assumptions used in determining these values, see Note 8 to our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018.
- (b) Consists of employer matching amounts contributed to the Company's 401(k) defined contribution plan.
- (c) Consists of cash compensation earned for performance against financial targets. See text above for a description of the criteria.
- (d) Consist of a restricted stock award of 189,000 shares made on February 21, 2018 of which 84,000 shares were valued at \$44.95 per share and 105,000 shares were valued via an appraised value at \$34.62 per share since they are based upon market conditions. Up to 105,000 shares vest on January 1, 2022 subject to certain performance conditions as described in the text above and 84,000 shares vest monthly at 7,000 per month in 2021.
- (e) Consist of a restricted stock award of 24,250 shares made on February 21, 2018 valued at \$44.95 per share of which 4,850 shares vest on December 1, 2021 subject to certain performance conditions as described in the text above and 4,850 shares vest quarterly beginning on March 1, 2021 to December 1, 2021.
- (f) Consist of a restricted stock award of 12,000 shares made on February 21, 2018 valued at \$44.95 per share of which 2,400 shares vest on December 1, 2021 subject to certain performance conditions as described in the text above and 2,400 shares vest quarterly beginning on March 1, 2011 to December 1, 2021.
- (g) Consist of a restricted stock award of 189,000 shares made on May 3, 2017 of which 84,000 shares were valued at \$43.33 per share and 105,000 shares were valued via an appraised value at \$33.61 per share since they are based upon market conditions. Up to 105,000 shares vest on January 1, 2021 subject to certain performance conditions as described in the text above and 84,000 shares vest monthly at 7,000 per month in 2020.
- (h) Consist of a restricted stock award of 170,000 shares made on May 4, 2016 valued at \$38.98 per share of which 50,000 shares vest on March 1, 2020 subject to certain performance conditions as described in the text above and 120,000 shares vest monthly at 10,000 per month in 2019.
- (i) Consist of a restricted stock award of 24,250 shares made on May 3, 2017 valued at \$43.33 per share of which 4,250 shares vest on December 1, 2020 subject to certain performance conditions as described in the text above and 5,000 shares vest quarterly beginning on March 1, 2020 to December 1, 2020.
- (j) Consist of a restricted stock award of 24,250 shares made on May 4, 2016 valued at \$38.98 per share of which 4,250 shares vest on December 31, 2019 subject to certain performance conditions as described in the text above and 5,000 shares vest quarterly beginning on March 1, 2019 to December 1, 2019.
- (k) Consist of a restricted stock award of 12,000 shares made on May 3, 2017 valued at \$43.33 per share of which 2,400 shares vest on December 1, 2020 subject to certain performance conditions as described in the text above and 2,400 shares vest quarterly beginning on March 1, 2010 to December 1, 2020.

- (l) Consist of a restricted stock award of 12,000 shares made on May 4, 2016 valued at \$38.98 per share of which 2,400 shares vest on December 31, 2019 subject to certain performance conditions as described in the text above and 2,400 shares vest quarterly beginning on March 1, 2019 to December 1, 2019.

2018 Grants of Plan-Based Awards Table

The following table provides information with regard to the grants of plan-based awards to each Named Executive Officer during our fiscal year ended December 31, 2018.

Mr. Schaeffer's performance-based cash bonus is based on the growth of the Company's revenue and EBITDA, as adjusted. If the revenue growth equals or exceeds 15%, he will receive \$250,000, and, separately, if EBITDA, as adjusted, growth equals or exceeds 20%, he will received \$250,000. If the growth of the performance measures is less than the amount specified, he would receive a proportionally lesser amount. For example, if revenue growth equaled 7.5% and EBITDA growth equaled 15%, he would be paid 50% of \$250,000 or \$125,000 of the revenue growth bonus and 75% of \$250,000 or \$187,500 of the EBITDA growth bonus.

Mr. Bubeck's commission is based on sales as measured by revenue. If the revenue generated by the entire sales organization for a particular month is 100% of Mr. Bubeck's revenue quota, he will receive 100% of \$8,333 for that month. If the percentage is more or less than 100% then he receives a proportionally greater or lesser amount. For example if revenue were at 50% of his quota for the month, then he would be paid 50% of \$8,333 or \$4,167 for the month. If revenue were 200% of his quota he would receive \$16,667 for the month.

Name	Grant Date	NOTES	Estimated Future Payouts Under Non-Equity Incentive Plan Awards			All Other Stock Awards: Number of Shares of Stock or Units	Grant Date Fair Value of Stock and Option Awards(a)
			Threshold (\$)	Target (\$)	Maximum (\$)		
Dave Schaeffer	2/21/2018	(b)(e)	—	\$500,000	\$500,000	189,000	\$7,410,900
Thaddeus Weed	2/21/2018	(c)				24,250	\$1,090,038
Robert Beury	2/21/2018	(d)				12,000	\$ 539,400
Timothy O'Neil	2/21/2018	(d)				12,000	\$ 539,400
James Bubeck	2/21/2018	(d)(f)	—	\$100,000	unlimited	12,000	\$ 539,400

FOOTNOTES

- (a) Except as otherwise noted, amounts represent the grant date fair value of stock awards computed in accordance with FASB Accounting Standards Codification 718. For additional information regarding the assumptions used in determining these values, see Note 8 to our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018.
- (b) Consist of a restricted stock award of 189,000 shares made on February 21, 2018 of which 84,000 shares were valued at \$44.95 per share and 105,000 shares were valued via an appraised value at \$34.62 per share since they are based upon market conditions. Up to 105,000 shares vest on January 1, 2022 subject to certain performance conditions as described in the text above and 84,000 shares vest monthly at 7,000 per month in 2021.
- (c) Consist of a restricted stock award of 24,250 shares made on February 21, 2018 valued at \$44.95 per share of which 4,850 shares vest on December 1, 2021 subject to certain performance conditions as described in the text above and 4,850 shares vest quarterly beginning on March 1, 2021 to December 1, 2021.

- (d) Consist of a restricted stock award of 12,000 shares made on February 21, 2018 valued at \$44.95 per share of which 2,400 shares vest on December 1, 2021 subject to certain performance conditions as described in the text above and 2,400 shares vest quarterly beginning on March 1, 2011 to December 1, 2021.
- (e) Mr. Schaeffer's annual cash award is based on achieving revenue and EBITDA, as adjusted, targets as described in the text above.
- (f) While in theory Mr. Bubeck's commission is unlimited it is in practice limited by the Company's ability to accept and install service for new customers. The performance measures of this annual commission are described in the text above.

2018 Outstanding Equity Awards at Fiscal Year End Table

The following table shows the information regarding the stock options and stock awards held by our named executive officers on December 31, 2018.

Name	OPTION AWARDS				STOCK AWARDS			
	Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)(a)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)(i)
Dave Schaeffer	(b)				170,000	\$7,685,700		
	(c)				189,000	\$8,544,690		
	(d)				189,000	\$8,544,690		
Thaddeus Weed	(e)				24,250	\$1,096,343		
	(f)				24,250	\$1,096,343		
	(g)				24,250	\$1,096,343		
James Bubeck	(h)				1,250	\$ 56,513		
	(i)				12,000	\$ 542,520		
	(j)				12,000	\$ 542,520		
	(k)				12,000	\$ 542,520		
Robert Beury	(i)				12,000	\$ 542,520		
	(j)				12,000	\$ 542,520		
	(k)				12,000	\$ 542,520		
Timothy O'Neill	(i)				12,000	\$ 542,520		
	(j)				12,000	\$ 542,520		
	(k)				12,000	\$ 542,520		

FOOTNOTES

- (a) Valued using the closing market price of our common stock on December 31, 2018—\$45.21
- (b) 50,000 shares vest on March 1, 2020 subject to certain performance conditions and 120,000 shares vest monthly at 10,000 per month in 2019.
- (c) Up to 105,000 shares vest on January 1, 2021 subject to certain performance conditions as described in the text above and 84,000 shares vest monthly at 7,000 per month in 2020.
- (d) Up to 105,000 shares vest on January 1, 2022 subject to certain performance conditions as described in the text above and 84,000 shares vest monthly at 7,000 per month in 2021.
- (e) 4,250 shares vest on December 31, 2019 subject to certain performance conditions and 5,000 shares vest quarterly beginning on March 1, 2019 to December 1, 2019.
- (f) 4,850 shares vest on December 1, 2020 subject to certain performance conditions and 4,850 shares vest quarterly beginning on March 1, 2020 to December 1, 2020.
- (g) 4,850 shares vest on December 1, 2021 subject to certain performance conditions and 4,850 shares vest quarterly beginning on March 1, 2021 to December 1, 2021.
- (h) 313 shares vest each quarter from April 1, 2019 until October 1, 2019.

- (i) Shares vest 2,400 on December 31, 2019 subject to certain performance conditions and 2,400 shares vest quarterly beginning on March 1, 2019 to December 1, 2019.
- (j) 2,400 shares vest on December 1, 2020 subject to certain performance conditions as described in the text above and 2,400 shares vest quarterly beginning on March 1, 2010 to December 1, 2020.
- (k) 2,400 shares vest on December 1, 2021 subject to certain performance conditions as described in the text above and 2,400 shares vest quarterly beginning on March 1, 2011 to December 1, 2021.

2018 Option Exercises and Stock Vested Table

The following table shows information regarding option exercises by our named executive officers during the fiscal year ended December 31, 2018, and the value of stock awards at the time of vesting for stock awards that vested during the year.

<u>Name</u>	<u>Option Awards</u>		<u>Stock Awards</u>	
	<u>Number of Shares Acquired on Exercise</u>	<u>Value Realized On Exercise</u>	<u>Number of Shares Acquired on Vesting</u>	<u>Value Realized On Vesting</u>
Dave Schaeffer			220,000	\$10,412,700
Thaddeus Weed			18,000	\$ 886,230
James Bubeck			1,527	\$ 75,353
Robert Beury			12,000	\$ 590,820
Timothy O'Neill			12,000	\$ 590,820

Employment Agreements and Potential Post-Employment Compensation Arrangements

Dave Schaeffer Employment Agreement. Mr. Schaeffer has an employment agreement that provides for his services as our Chief Executive Officer. He also receives all of our standard employee benefits. If he is discharged without cause or resigns for “good reason,” he is entitled to a lump sum amount equal to his annual salary at the time and continuation of his benefits for one year (subject to the same employee contribution for benefits as when he was employed). Under the terms of the restricted stock awards that have been granted to him in the event of death, disability, or retirement, 100% of his then-unvested restricted stock awards will vest immediately. For restricted stock grants made prior to 2017 vesting accelerates upon a change in control. For restricted stock grants made in or after 2017 vesting accelerates upon a change in control only if he is discharged (“double trigger”). In the event of a change in control, the total dollar value of the restricted stock that immediately vests will not exceed three times his annual compensation. Had his employment been terminated without cause or had he resigned for “good reason” on December 31, 2018, he would have received no cash payment because he is not currently receiving a salary. He would have continued to vest in his restricted stock awards during his one-year severance period and would have vested in certain other awards after the end of that severance period. “Good reason” for resignation includes removal from his position as CEO or failure to elect him as chairman of the Board of Directors. The value of his post-employment compensation is shown in the table below.

Thaddeus G. Weed Employment Agreement. Mr. Weed has an employment agreement under which he serves as Chief Financial Officer and Treasurer. In the event that his employment with us is terminated without cause or he resigns for good reason, the agreement entitles him to twelve months of salary and continuation of benefits for twelve months (subject to the same employee contribution for benefits as when he was employed). Under the terms of the grants of restricted stock he is also entitled to continued vesting of his restricted stock during his severance period. In the event of death, disability, retirement, or a change in control, he becomes fully vested in his restricted stock; provided that, in the event of a change in control, the total dollar value of the restricted stock that immediately vests shall not exceed three times his annual compensation. In the event of a change in control resulting in his termination without cause or resignation for good reason, 100% of his then-restricted stock will vest immediately and he will receive his severance payment as a lump sum. The value of his post-employment compensation is shown in the table below.

Robert N. Beury, Jr. Employment Agreement. Mr. Beury's employment agreement entitles him to twelve months of salary and twelve months of benefits (subject to the same employee contribution for benefits as when he was employed) in the event that his employment with us is terminated without cause or he resigns for good reason. Under the terms of the grants of restricted stock, he is also entitled to continued vesting of his restricted stock during his severance period. In the event of death, disability, retirement, or a change in control, the vesting of his restricted stock accelerates so that he will be 100% vested; provided that, in the event of a change in control, the total dollar value of the restricted stock that immediately vests shall not exceed three times his annual compensation. In the event of a change in control resulting in his termination without cause or resignation for good reason, 100% of his then-restricted stock will vest immediately and he will receive his severance payment as a lump sum. The value of his post-employment compensation is shown in the table below.

Timothy G. O'Neill Employment Agreement. Timothy O'Neill's employment agreement provides that in the event his employment with us is terminated without cause or he resigns for good reason he will receive six months' salary and continuation of benefits for six months (subject to the same employee contribution for benefits as when he was employed). Under the terms of the grants of restricted stock he is also entitled to continued vesting of his restricted stock during his severance period. In the event of death, disability, retirement, or a change in control the vesting of his restricted stock accelerates so that he will be 100% vested; provided that, in the event of a change in control, the total dollar value of the restricted stock that immediately vests shall not exceed three times his annual compensation. In the event of a change in control resulting in his termination without cause or resignation for good reason, 100% of his then-restricted stock will vest immediately and he will receive his severance payment as a lump sum. The value of his post-employment compensation is shown in the table below.

James Bubeck. Mr. Bubeck does not have an employment agreement with us that provides for severance. In the event of death, disability, retirement, or a change in control, the vesting of his restricted stock accelerates so that he will be 100% vested; provided that, in the event of a change in control, the total dollar value of the restricted stock that immediately vests shall not exceed three times his annual compensation. The value of his post-employment compensation is shown in the table below.

The table below shows the compensation that would have been received by each named executive officer in the event of termination without cause, change in control, and termination without cause upon a change in control as of December 31, 2018. Stock is valued at the closing price on December 31, 2018—\$45.21.

		<u>Termination without cause</u>	<u>Change of control</u>	<u>Termination without cause upon a change of control</u>
Dave Schaeffer	Cash	\$ —	\$ —	\$ —
	Stock vesting	\$13,378,695	\$7,685,700	\$23,278,523
	Total	\$13,378,695	\$7,685,700	\$23,278,523
Thaddeus Weed	Cash	\$ 303,920	\$ —	\$ 303,920
	Stock vesting	\$ 1,371,349	\$3,289,028	\$ 3,289,028
	Total	\$ 1,675,269	\$3,289,028	\$ 3,592,948
Robert Beury	Cash	\$ 299,469		\$ 299,469
	Stock vesting	\$ 678,606	\$1,953,072	\$ 1,953,072
	Total	\$ 978,075	\$1,953,072	\$ 2,252,541
Tim O’Neill	Cash	\$ 146,812		\$ 146,812
	Stock vesting	\$ 284,927	\$1,519,056	\$ 1,519,056
	Total	\$ 431,739	\$1,519,056	\$ 1,665,868
James Bubeck	Cash	\$ —	\$ —	\$ —
	Stock vesting	\$ 75,621	\$1,250,057	\$ 1,250,057
	Total	\$ 75,621	\$1,250,057	\$ 1,250,057

CEO Pay Ratio

For 2018, the total compensation of our median employee calculated in the same manner as our CEO’s as set forth in the Summary Compensation Table above was \$80,376. The total compensation of the CEO was \$7,690,848. The ratio of the two was 96:1. Our median employee was determined as of December 31, 2018 by calculating the total compensation of each employee other than the CEO and determining the median. Total compensation includes salary, commissions, and the grant date value of stock awards made in 2018. Compensation of employees outside the U.S. was converted to dollars using 2018 exchange rates.

DIRECTOR COMPENSATION

Our non-employee Board members were compensated in 2018 as follows for their services:

- 7,000 shares of our common stock issued in increments of 1,750 shares per quarter, and
- \$1,000 per in-person Board meeting.
- Reimbursement of travel expenses.

The following table shows the amounts earned or paid in 2018.

2018 Director Compensation Table

	<u>Fees Earned in Cash</u>	<u>Stock Awards(a)</u>	<u>TOTAL</u>
Blake Bath	\$3,000	\$345,608	\$348,608
Steven Brooks	\$4,000	\$345,608	\$349,608
Richard Liebhaber	\$5,000	\$345,608	\$350,608
Marc Montagner	\$3,000	\$345,608	\$348,608
Timothy Weingarten	\$3,000	\$345,608	\$348,608
Lewis Ferguson	\$2,000	\$ 96,933	\$ 98,933

The compensation of David Schaeffer, who is a director and our Chief Executive Officer is disclosed in the Summary Compensation Table, above, and is therefore not shown in the Director Compensation table. He does not receive compensation for serving as a director.

- (a) Amounts represent the grant date fair value of stock awards computed in accordance with FASB Accounting Standards Codification 718. For additional information regarding the assumptions used in determining these values, see Note 8 to our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018.

COMPENSATION COMMITTEE REPORT

The Compensation Committee of the Board is responsible for determining compensation for the Company’s executive officers and other employees, and administering the 2017 Incentive Award Plan and the 2004 Incentive Award Plan (although no new grants are issued under that plan), the Company’s management bonus plan and other compensation programs. The committee reviewed and discussed the Compensation, Discussion and Analysis with management and based on that review and discussion, recommended its inclusion in this Proxy Statement.

Compensation Committee:

Blake Bath	Steven Brooks	Lewis H. Ferguson III
Richard Liebhaber	Marc Montagner	Timothy Weingarten

The material in this report is being furnished and shall not be deemed “filed” with the Securities and Exchange Commission for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or otherwise subject to the liability of that section, nor shall the material in this section be deemed to be “soliciting material” or incorporated by reference in any registration statement or other document filed with the Securities and Exchange Commission under the Securities Act of 1933, as amended, or the Exchange Act, except as otherwise expressly stated in such filing.

RISK ASSESSMENT IN COMPENSATION PROGRAMS

The Board and the Compensation Committee have reviewed and considered all of our compensation policies and practices and does not believe that our compensation policies and practices create risks that are reasonably likely to have a material adverse effect on the Company.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

During 2018:

- none of the members of the Compensation Committee was an officer (or former officer) or employee of the Company or any of its subsidiaries;
- none of the members of the Compensation Committee entered into (or agreed to enter into) any transaction or series of transactions with the Company or any of its subsidiaries in which the amount involved exceeds \$120,000;
- none of the Company's executive officers served on the compensation committee (or another board committee with similar functions) of any entity where one of that entity's executive officers served on the Company's Compensation Committee;
- none of the Company's executive officers was a director of another entity where one of that entity's executive officers served on the Company's Compensation Committee; and
- none of the Company's executive officers served on the compensation committee (or another board committee with similar functions) of another entity where one of that entity's executive officers served as a director on the Company's Board of Directors.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table provides summary information regarding beneficial ownership of our outstanding capital stock, based on information available to the Company as of February 28, 2019, for:

- each person or group who beneficially owns more than 5% of our capital stock on a fully diluted basis;
- each of the executive officers named in the Summary Compensation Table;
- each of our directors and nominees to become a director; and
- all of our directors and executive officers as a group.

Beneficial ownership of shares is determined under the rules of the SEC and generally includes any shares over which a person exercises sole or shared voting or investment power. Except as indicated by footnote, and subject to applicable community property laws, each person identified in the table possesses sole voting and investment power with respect to all shares of common stock held by them. The information has been compiled by the Company from reports filed with the SEC and other information available to the Company. Shares of common stock that will vest or are subject to options currently exercisable or exercisable within the period 60 days after February 28, 2019, are deemed outstanding for calculating the percentage of outstanding shares of the person holding these options, but are not deemed outstanding for calculating the percentage of any other person.

Unless otherwise noted, the address for each director and executive officer is c/o Cogent Communications Holdings, Inc., 2450 N Street, NW, 4th Floor, Washington, D.C. 20037. The shares of stock to which this table applies are shares of common stock. The Company has no other class of stock.

<u>Name and Address of Beneficial Owner</u>	<u>Amount Owned</u>	<u>Percent of Class</u>
BlackRock, Inc.(1) 55 East 52 nd Street, New York, NY 10055	6,865,395	14.79%
Renaissance Technologies LLC(2) 800 Third Avenue, New York, NY 10022	3,413,600	7.35%
The Vanguard Group, Inc.(3) 100 Vanguard Blvd, Malvern, PA 19355	4,575,342	9.85%
Directors and Officers:		
Dave Schaeffer(4)	4,220,340	9.09%
Timothy Weingarten(5)	24,611	*
Steven Brooks(5)	31,650	*
Richard Liebhaber(5)	75,545	*
Blake Bath(5)	28,425	*
Marc Montagner(5)	48,500	*
Lewis Ferguson(5)	4,450	*
Thaddeus Weed(6)	75,750	*
Robert Beury(6)	43,640	*
James Bubeck(6)	38,092	*
Timothy O'Neill(6)	42,452	*
Directors and executive officers as a group (13 persons)(7)	4,723,895	10.17%

* Denotes less than 1% ownership.

- (1) BlackRock, Inc. has sole voting power over 6,570,947 shares of our common stock and sole dispositive power over 6,865,395 shares of our common stock. The information herein regarding this stockholder is derived from such stockholder's Schedule 13G/A filed with the SEC on January 24, 2019.
- (2) Renaissance Technologies LLC reports sole voting power over 3,404,295 shares of our common stock, sole dispositive power over 3,405,695 shares of our common stock and shared dispositive power over 7,905 shares of our common stock on behalf of both Renaissance Technologies LLC and Renaissance Technologies Holdings Corporation. Renaissance Technologies Holdings Corporation owns the majority of shares of Renaissance Technologies LLC and therefore beneficially owns the same shares. The information herein regarding this stockholder is derived from such stockholder's Schedule 13G/A filed with the SEC on February 13, 2019.
- (3) The Vanguard Group, Inc. reports sole voting power over 86,562 shares of our common stock and sole dispositive power over 4,482,809 shares of our common stock, shared voting power over 9,900 shares of our common stock and shared dispositive power over 92,533 shares of our common stock. Vanguard Fiduciary Trust Company ("VFTC"), a wholly-owned subsidiary of The Vanguard Group, Inc., is the beneficial owner of 82,633 shares of our common stock outstanding as a result of serving as investment manager of collective trust accounts. Vanguard Investments Australia, Ltd. ("VIA"), a wholly-owned subsidiary of The Vanguard Group, Inc., is the beneficial owner of 13,829 shares of our common stock outstanding as a result of its serving as investment manager of Australian investment offerings. The information herein regarding this stockholder is derived from such stockholder's Schedule 13G/A filed with the SEC on February 11, 2019.

- (4) Includes 4,220,340 shares of common stock. Includes 528,000 shares of restricted stock that may be voted but remain subject to certain vesting provisions. Of the shares owned, 3,516,619 shares remain pledged as security for full recourse loans.
- (5) As of February 28, 2019, of the shares owned in the table for Mr. Weingarten, 1,750 shares are not yet vested. As of February 28, 2019, of the shares owned in the table for Mr. Brooks, 1,750 shares are not yet vested. As of February 28, 2019, of the shares owned in the table for Mr. Liebhaber, 1,750 shares are not yet vested. As of February 28, 2019, of the shares owned in the table for Mr. Bath, 1,750 shares are not yet vested. As of February 28, 2019, of the shares owned in the table for Mr. Montagner, 1,750 shares are not yet vested and all shares are pledged pursuant to a credit line with his broker . As of February 28, 2019, of the shares owned in the table for Mr. Ferguson, 1,750 shares are not yet vested.
- (6) Consists of common stock (not all of which is vested). Also includes performance shares with voting rights, granted in years 2017 and 2018 respectively. The grant of 2017 performance shares was disclosed in the Company's Current Report on Form 8-K dated May 3, 2017. These performance shares will vest in years 2020 and 2021, respectively. As of February 28, 2019, of the shares shown in the table for Mr. Beury, 36,000 shares are not yet vested. As of February 28, 2019, of the shares shown in the table for Mr. Weed, 72,750 shares are not yet vested. As of February 28, 2019, of the shares shown in the table for Mr. O'Neill, 36,000 shares are not yet vested. As of February 28, 2019, of the shares shown in the table for Mr. Bubeck, 36,938 shares are not yet vested.
- (7) Consists of Dave Schaeffer, Timothy Weingarten, Steven Brooks, Richard T. Liebhaber, D. Blake Bath, Marc Montagner, Lewis Ferguson, Robert Beury, James Bubeck, Thaddeus Weed, R. Brad Kummer, Timothy O'Neill and Henry Kilmer. As of February 28, 2019, of the shares shown in the table, Mr. Kummer owns 54,440 shares of the Company's common stock; 36,000 of the shares are not yet vested. As of February 28, 2019, of the shares shown in the table, Mr. Kilmer owns 36,000 shares of Company's common stock, which are not yet vested.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Employment Agreements

We have employment agreements with most of our named executive officers as described in “Employment Agreements and Potential Post Employment Compensation Arrangements.”

Our Headquarters Lease

In April 2015, the Company entered into a lease agreement for its headquarters building with Sodium LLC, whose owner is the Company’s Chief Executive Officer, Dave Schaeffer. The Company moved into the headquarters building in May 2015. The fixed annual rent for the new headquarters building is \$1.0 million per year plus an allocation of taxes and utilities. The lease term is for five years and is cancelable by the Company upon 60 days’ notice. The Company’s Audit Committee reviewed and approved the lease as a related party transaction. We believe that the lease is on the terms at least as favorable to us as could have been obtained from an unaffiliated third party. The Company paid \$1.7 million in 2018, \$1.6 million in 2017, and \$1.7 million in 2016 for rent and related costs (including taxes and utilities) for this lease.

Mr. Montagner is a Named Executive Officer of a Customer

In August of 2015, Mr. Montagner, a director of the Company and a member of our Audit Committee and Compensation Committee, became the Chief Financial Officer at Endurance International Group Holdings, Inc. (NASDAQ: EIGI). Endurance International was a customer of Cogent prior to August of 2015. The total amount paid to Cogent by Endurance International and its subsidiaries in 2018 was \$227,314. The services provided to Endurance International are standard services that the Company provides to other customers. The Board has concluded that Mr. Montagner does not have a material interest in these transactions and that he remains an independent director.

Approval of Related Party Transactions

The Audit Committee is responsible for reviewing, approving or ratifying any transaction in which the Company and any of our directors, director nominees, executive officers, 5% stockholders and their immediate family members are participants and in which such persons have a direct or indirect material interest as provided under SEC rules. The company does not have a written policy for reviewing these transactions. However, in the course of reviewing potential related person transactions, the Audit Committee considers the nature of the related person’s interest in the transaction; the presence of standard prices, rates or charges or terms otherwise consistent with arm’s length dealings with unrelated third parties; the materiality of the transaction to each party; the reasons for the Company entering into the transaction with the related person; the potential effect of the transaction on the status of a director as an independent, outside or disinterested director or committee member; and any other factors the Audit Committee may deem relevant. In the case of the headquarters lease described above the Audit Committee reviewed information on comparable leases in making its determination to approve the lease.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires the Company’s officers and directors, and persons who own more than ten percent of a registered class of the Company’s stock to file reports of ownership and changes in ownership with the SEC. Officers, directors and greater than ten percent stockholders are required by SEC regulation to furnish the Company with copies of all Section 16(a) reports they file. Based on its records and other information, the Company believes that all Section 16(a) filing requirements applicable to its directors and executive officers for 2018 were timely met.

RELATIONSHIP WITH INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS

The Audit Committee reappointed Ernst & Young LLP as the independent registered public accounting firm to audit our financial statements for the fiscal year ending December 31, 2018. In making this appointment, the Audit Committee considered whether the audit and non-audit services Ernst & Young LLP provides are compatible with maintaining the independence of our outside auditors. The Audit Committee has adopted a policy that sets forth the manner in which the Audit Committee will review and approve all services to be provided by Ernst & Young LLP before the firm is retained.

Representatives of Ernst & Young LLP will not be present at the Annual Meeting but are expected to be available by telephone to respond to appropriate questions and will have the opportunity to make a statement if they desire to do so.

Fees and Services of Ernst & Young LLP

The following table summarizes fees billed to us by Ernst & Young LLP for fiscal years 2017 and 2018; all services were pre-approved by the Audit Committee:

(in thousands)

<u>Service</u>	<u>2017</u>	<u>2018</u>
Audit Fees(1)	\$1,872	\$1,883
Audit-Related Fees	\$ —	\$ —
Tax Fees(2)	\$ 83	\$ 59
All Other Fees	\$ —	\$ —
TOTAL	<u>\$1,955</u>	<u>\$1,942</u>

(1) Fees for audit services include fees associated with the annual audit, the review of the financial statements included in our quarterly reports on Form 10-Q, professional services associated with the Company's issuance of debt, and statutory audits (in jurisdictions where required).

(2) Tax fees include professional services related to tax compliance and tax planning.

All services performed by Ernst & Young LLP were pre-approved by the Audit Committee in accordance with its pre-approval policy. The policy describes the audit, audit-related, tax and other services permitted to be performed by the independent registered public accountants, subject to the Audit Committee's prior approval of the services and fees. On an annual basis, the Audit Committee will review and provide pre-approval for certain types of services that may be provided by the independent registered public accountants without obtaining specific pre-approval from the Audit Committee. If a type of service to be provided has not received pre-approval during this annual process, it will require specific pre-approval by the Audit Committee. Any proposed services exceeding pre-approved cost levels or budgeted amounts will also require separate pre-approval by the Audit Committee.

STOCKHOLDER PROPOSALS

Stockholders who wish to submit a proposal to be included in the Proxy Statement for the 2020 Annual Meeting of Stockholders may do so by following the procedures in Rule 14a-8 under the Exchange Act. To be eligible for inclusion, a stockholder must submit their proposal by November 23, 2019 to Ried Zulager, Secretary, Cogent Communications Holdings, Inc., 2450 N Street NW, 4th Floor, Washington, D.C. 20037. The proposal must comply with the SEC's proxy rules.

Additionally, the Company's Bylaws provide that stockholders desiring to nominate a director or bring any other business before the stockholders at an annual meeting must notify the Secretary of the Company thereof in writing during the period 120 to 90 days before the first anniversary of the date of the preceding year's annual meeting or, if the date of the annual meeting is more than 30 days before or more than 70 days after such anniversary date, notice by the stockholder to be timely must be so delivered during the period 120 to 90 days before such annual meeting or 10 days following the day on which public announcement of the date of such meeting is first made by the Company. These stockholder notices must set forth certain information specified in the Bylaws. For information about the required information, see "Annual Meeting of Stockholders" in the Meetings of Stockholders section of the Bylaws.

OTHER MATTERS

The Board knows of no other business that will be presented to the Annual Meeting. If any other business is properly brought before the Annual Meeting, proxies in the enclosed form will be voted in respect thereof in accordance with the judgments of the persons voting the proxies.

It is important that the proxies be returned promptly and that your shares are represented. Stockholders are urged to sign, date and promptly return the enclosed proxy card in the enclosed envelope.

A copy of the Company's 2018 Annual Report to Stockholders accompanies this Proxy Statement. **The Company has filed an Annual Report on Form 10-K for its fiscal year ended December 31, 2018 (the "Form 10-K") with the SEC. Stockholders may obtain, free of charge, a copy of the Form 10-K by writing to Cogent Communications Holdings, Inc., 2450 N Street, NW, 4th Floor, Washington, D.C. 20037, Attn: Investor Relations.** Stockholders may also obtain a copy of the Form 10-K by accessing the Company's website at www.cogentco.com under the tab "About Cogent; Investor Relations; Reports."

Householding of Proxies

The SEC has adopted rules that permit companies and intermediaries such as brokers to satisfy delivery requirements for annual reports and proxy statements with respect to two or more stockholders sharing the same address by delivering a single annual report and/or proxy statement addressed to those stockholders. This process, which is commonly referred to as "householding," potentially provides extra convenience for stockholders and cost savings for companies. We and some brokers household annual reports and proxy materials, delivering a single annual report and/or proxy materials to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders.

The Company will promptly deliver, upon written or oral request by such stockholder, a separate copy of the annual report and proxy statement to a stockholder at a shared address to which a single copy of the documents was delivered. To request individual copies for each stockholder in your household, please contact our Investor Relations department by e-mail at investor.relations@cogentco.com, by mail to Cogent Communication, Inc., 2450 N Street, NW, 4th Floor, Washington, D.C. 20037, Attn: Investor Relations, or by phone at 202-295-4274. To ask that only one set of the documents be mailed to your household, please contact your bank, broker or other nominee or, if you are a stockholder of record, please call our transfer agent, Computershare Shareholder Services, at (877) 498-8861 from within the United States and Canada or +1 (781)-575-2725 outside the United States and Canada, or by mail to Cogent Communications

c/o Computershare Investor Service, P.O. Box 50500, Louisville, KY 40233-5000. The transfer agent also has the following website: www.computershare.com/investor.

By Order of the Board of Directors

A handwritten signature in black ink, appearing to read 'Ried Zulager', followed by a long horizontal line extending to the right.

Ried Zulager, *Secretary*

Washington, D.C.
March 22, 2019

Appendix A

COGENT COMMUNICATIONS HOLDINGS, INC. 2017 INCENTIVE AWARD PLAN

ARTICLE 1.

PURPOSE

The purpose of the Cogent Communications 2017 Incentive Award Plan (as it may be amended or restated from time to time, the “*Plan*”) is to promote the success and enhance the value of Cogent Communications Holdings, Inc. (the “*Company*”) by linking the individual interests of the members of the Board, Employees, and Consultants to those of Company stockholders and by providing such individuals with an incentive for outstanding performance to generate superior returns to Company stockholders. The Plan is further intended to provide flexibility to the Company in its ability to motivate, attract, and retain the services of members of the Board, Employees, and Consultants upon whose judgment, interest, and special effort the successful conduct of the Company’s operation is largely dependent.

ARTICLE 2.

DEFINITIONS AND CONSTRUCTION

Wherever the following terms are used in the Plan they shall have the meanings specified below, unless the context clearly indicates otherwise. The singular pronoun shall include the plural where the context so indicates.

2.1 “*Administrator*” shall mean the entity that conducts the general administration of the Plan as provided in Article 12. With reference to the duties of the Committee under the Plan which have been delegated to one or more persons pursuant to Section 12.6, or as to which the Board has assumed, the term “*Administrator*” shall refer to such person(s) unless the Committee or the Board has revoked such delegation or the Board has terminated the assumption of such duties.

2.2 “*Applicable Accounting Standards*” shall mean Generally Accepted Accounting Principles in the United States, International Financial Reporting Standards or such other accounting principles or standards as may apply to the Company’s financial statements under United States federal securities laws from time to time.

2.3 “*Applicable Law*” shall mean any applicable law, including without limitation: (a) provisions of the Code, the Securities Act, the Exchange Act and any rules or regulations thereunder; (b) corporate, securities, tax or other laws, statutes, rules, requirements or regulations, whether federal, state, local or foreign; and (c) rules of any securities exchange or automated quotation system on which the Shares are listed, quoted or traded.

2.4 “*Award*” shall mean an Option, a Stock Appreciation Right, a Restricted Stock award, a Restricted Stock Unit award, an Other Stock or Cash Based Award or a Dividend Equivalent award, which may be awarded or granted under the Plan.

2.5 “*Award Agreement*” shall mean any written notice, agreement, terms and conditions, contract or other instrument or document evidencing an Award, including through electronic medium, which shall contain such terms and conditions with respect to an Award as the Administrator shall determine consistent with the Plan.

2.6 “*Award Limit*” shall mean with respect to Awards that shall be payable in Shares or in cash, as the case may be, the respective limit set forth in Section 3.2.

2.7 “Board” shall mean the Board of Directors of the Company.

2.8 “Change in Control” shall mean and includes each of the following

(a) A transaction or series of transactions (other than an offering of Common Stock to the general public through a registration statement filed with the Securities and Exchange Commission) whereby any “person” or related “group” of “persons” (as such terms are used in Sections 13(d) and 14(d)(2) of the Exchange Act) directly or indirectly acquires beneficial ownership (within the meaning of Rules 13d-3 and 13d-5 under the Exchange Act) of securities of the Company possessing more than 50% of the total combined voting power of the Company’s securities outstanding immediately after such acquisition; *provided, however*, that the following acquisitions shall not constitute a Change in Control: (i) any acquisition by the Company or any of its Subsidiaries; (ii) any acquisition by an employee benefit plan maintained by the Company or any of its Subsidiaries, (iii) any acquisition which complies with Sections 2.8(b)(i), 2.8(b)(ii) or 2.8(b)(iii); or (iv) in respect of an Award held by a particular Holder, any acquisition by the Holder or any group of persons including the Holder (or any entity controlled by the Holder or any group of persons including the Holder); or

(b) The consummation by the Company (whether directly involving the Company or indirectly involving the Company through one or more intermediaries) of (x) a merger, consolidation, reorganization, or business combination, (y) a sale or other disposition of all or substantially all of the Company’s assets in any single transaction or series of related transactions or (z) the acquisition of assets or stock of another entity, in each case other than a transaction:

(i) which results in the Company’s voting securities outstanding immediately before the transaction continuing to represent (either by remaining outstanding or by being converted into voting securities of the Company or the person that, as a result of the transaction, controls, directly or indirectly, the Company or owns, directly or indirectly, all or substantially all of the Company’s assets or otherwise succeeds to the business of the Company (the Company or such person, the “*Successor Entity*”)) directly or indirectly, at least a majority of the combined voting power of the Successor Entity’s outstanding voting securities immediately after the transaction, and

(ii) after which no person or group beneficially owns voting securities representing 50% or more of the combined voting power of the Successor Entity; *provided, however*, that no person or group shall be treated for purposes of this Section 2.8(b)(ii) as beneficially owning 50% or more of the combined voting power of the Successor Entity solely as a result of the voting power held in the Company prior to the consummation of the transaction; and

(iii) after which at least a majority of the members of the board of directors (or the analogous governing body) of the Successor Entity were Board members at the time of the Board’s approval of the execution of the initial agreement providing for such transaction; or

(c) The date which is 10 business days prior to the completion of a liquidation or dissolution of the Company.

Notwithstanding the foregoing, if a Change in Control constitutes a payment event with respect to any Award (or any portion of an Award) that provides for the deferral of compensation that is subject to Section 409A, to the extent required to avoid the imposition of additional taxes under Section 409A, the transaction or event described in subsection (a), (b) or (c) with respect to such Award (or portion thereof) shall only constitute a Change in Control for purposes of the payment timing of such Award if such transaction also constitutes a “change in control event,” as defined in Treasury Regulation Section 1.409A-3(i)(5).

The Administrator shall have full and final authority, which shall be exercised in its sole discretion, to determine conclusively whether a Change in Control has occurred pursuant to the above definition, the date of the occurrence of such Change in Control and any incidental matters relating thereto; provided that any exercise of authority in conjunction with a determination of whether a Change in Control is a “change in control event” as defined in Treasury Regulation Section 1.409A-3(i)(5) shall be consistent with such regulation.

2.9 “*Code*” shall mean the Internal Revenue Code of 1986, as amended from time to time, together with the regulations and official guidance promulgated thereunder, whether issued prior or subsequent to the grant of any Award.

2.10 “*Committee*” shall mean the Compensation Committee of the Board, or another committee or subcommittee of the Board or the Compensation Committee of the Board described in Article 12 hereof.

2.11 “*Common Stock*” shall mean the common stock of the Company, par value \$0.001 per share.

2.12 “*Company*” shall have the meaning set forth in Article 1.

2.13 “*Consultant*” shall mean any consultant or adviser engaged to provide services to the Company or any Subsidiary who qualifies as a consultant or advisor under the applicable rules of the Securities and Exchange Commission for registration of shares on a Form S-8 Registration Statement.

2.14 “*Covered Employee*” shall mean any Employee who is, or could become, a “covered employee” within the meaning of Section 162(m) of the Code.

2.15 “*Director*” shall mean a member of the Board, as constituted from time to time.

2.16 “*Director Limit*” shall have the meaning set forth in Section 4.6.

2.17 “*Disability*” means the Participant qualifies to receive long-term disability payments under the Company’s long-term disability insurance program, as it may be amended from time to time.

2.18 “*Dividend Equivalent*” shall mean a right to receive the equivalent value (in cash or Shares) of dividends paid on Shares, awarded under Section 10.2.

2.19 “*DRO*” shall mean a “domestic relations order” as defined by the Code or Title I of the Employee Retirement Income Security Act of 1974, as amended from time to time, or the rules thereunder.

2.20 “*Effective Date*” shall mean the date the Plan is adopted by the Board, subject to approval of the Plan by the Company’s stockholders.

2.21 “*Eligible Individual*” shall mean any person who is an Employee, a Consultant or a Non-Employee Director, as determined by the Administrator.

2.22 “*Employee*” shall mean any officer or other employee (as determined in accordance with Section 3401(c) of the Code and the Treasury Regulations thereunder) of the Company or of any Subsidiary.

2.23 “*Equity Restructuring*” shall mean a nonreciprocal transaction between the Company and its stockholders, such as a stock dividend, stock split, spin-off, rights offering or recapitalization through a large, nonrecurring cash dividend, that affects the number or kind of Shares (or other securities of the Company) or the share price of Common Stock (or other securities) and causes a change in the per-share value of the Common Stock underlying outstanding Awards.

2.24 “*Exchange Act*” shall mean the Securities Exchange Act of 1934, as amended from time to time.

2.25 “*Expiration Date*” shall have the meaning given to such term in Section 13.1(c).

2.26 “*Fair Market Value*” means, as of any given date, the value of a Share determined as follows:

(a) If the Common Stock is (i) listed on any established securities exchange (such as the New York Stock Exchange, the NASDAQ Capital Market, the NASDAQ Global Market and the NASDAQ Global Select Market), (ii) listed on any national market system or (iii) quoted or traded on any automated quotation system, its Fair Market Value shall be the closing sales price for a Share as quoted on such exchange or system for such date or, if there is no closing sales price for a Share on the date in question, the closing sales price for a Share on the last preceding date for which such quotation exists, as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable;

(b) If the Common Stock is not listed on an established securities exchange, national market system or automated quotation system, but the Common Stock is regularly quoted by a recognized securities dealer, its Fair Market Value shall be the mean of the high bid and low asked prices for such date or, if there are no high bid and low asked prices for a Share on such date, the high bid and low asked prices for a Share on the last preceding date for which such information exists, as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable; or

(c) If the Common Stock is neither listed on an established securities exchange, national market system or automated quotation system nor regularly quoted by a recognized securities dealer, its Fair Market Value shall be established by the Administrator in good faith.

2.27 “*Full Value Award*” shall mean any Award that is settled in Shares other than: (a) an Option, (b) a Stock Appreciation Right or (c) any other Award for which the Holder pays the intrinsic value existing as of the date of grant (whether directly or by forgoing a right to receive a payment from the Company or any Subsidiary).

2.28 “*Greater Than 10% Stockholder*” shall mean an individual then owning (within the meaning of Section 424(d) of the Code) more than 10% of the total combined voting power of all classes of stock of the Company or any subsidiary corporation (as defined in Section 424(f) of the Code) or parent corporation thereof (as defined in Section 424(e) of the Code).

2.29 “*Holder*” shall mean a person who has been granted an Award.

2.30 “*Incentive Stock Option*” shall mean an Option that is intended to qualify as an incentive stock option and conforms to the applicable provisions of Section 422 of the Code.

2.31 “*Non-Employee Director*” shall mean a Director of the Company who is not an Employee.

2.32 “*Non-Qualified Stock Option*” shall mean an Option that is not an Incentive Stock Option or which is designated as an Incentive Stock Option but does not meet the applicable requirements of Section 422 of the Code.

2.33 “*Option*” shall mean a right to purchase Shares at a specified exercise price, granted under Article 6. An Option shall be either a Non-Qualified Stock Option or an Incentive Stock Option; *provided, however*, that Options granted to Non-Employee Directors and Consultants shall only be Non-Qualified Stock Options.

2.34 “*Option Term*” shall have the meaning set forth in Section 6.4.

2.35 “*Organizational Documents*” shall mean, collectively, (a) the Company’s Certificate of Incorporation, Bylaws or other similar organizational documents relating to the creation and governance of the Company, and (b) the Committee’s charter or other similar organizational documentation relating to the creation and governance of the Committee.

2.36 “*Other Stock or Cash Based Award*” shall mean a cash payment, cash bonus award, stock payment, stock bonus award, performance award or incentive award that is paid in cash, Shares or a combination of both, awarded under Section 10.1, which may include, without limitation, deferred stock, deferred stock units, performance awards, retainers, committee fees, and meeting-based fees.

2.37 “*Performance-Based Compensation*” shall mean any compensation that is intended to qualify as “performance-based compensation” as described in Section 162(m)(4)(C) of the Code.

2.38 “*Performance Criteria*” shall mean the criteria (and adjustments) that the Administrator selects for an Award for purposes of establishing the Performance Goal or Performance Goals for a Performance Period, determined as follows:

(a) The Performance Criteria that shall be used to establish Performance Goals are limited to the following: (i) net earnings or losses (either before or after one or more of the following: (A) interest, (B) taxes, (C) depreciation, (D) amortization and (E) non-cash equity-based compensation expense); (ii) gross or net sales or revenue or sales or revenue growth; (iii) net income (either before or after taxes); (iv) adjusted net income; (v) operating earnings or profit (either before or after taxes); (vi) cash flow (including, but not limited to, operating cash flow and free cash flow); (vii) return on assets; (viii) return on capital (or invested capital) and cost of capital; (ix) return on stockholders’ equity; (x) total stockholder return; (xi) return on sales; (xii) gross or net profit or operating margin; (xiii) costs, reductions in costs and cost control measures; (xiv) expenses; (xv) working capital; (xvi) earnings or loss per share; (xvii) adjusted earnings or loss per share; (xviii) price per share or dividends per share (or appreciation in and/or maintenance of such price or dividends); (xix) regulatory achievements or compliance (including, without limitation, regulatory body approval for commercialization of a product); (xx) implementation or completion of critical projects; (xxi) market share; (xxii) economic value, (xxiii) productivity, (xxiv) expense margins, (xxv) operating efficiency and (xxvi) customer satisfaction, any of which may be measured either in absolute terms or as compared to any incremental increase or decrease or as compared to results of a peer group or to market performance indicators or indices.

(b) The Administrator, in its sole discretion, may provide that one or more objectively determinable adjustments shall be made to one or more of the Performance Goals. Such adjustments may include, but are not limited to, one or more of the following: (i) items related to a change in Applicable Accounting Standards; (ii) items relating to financing activities; (iii) expenses for restructuring or productivity initiatives; (iv) other non-operating items; (v) items related to acquisitions; (vi) items attributable to the business operations of any entity acquired by the Company during the Performance Period; (vii) items related to the sale or disposition of a business or segment of a business; (viii) items related to discontinued operations that do not qualify as a segment of a business under Applicable Accounting Standards; (ix) items attributable to any stock dividend, stock split, combination or exchange of stock occurring during the Performance Period; (x) any other items of significant income or expense which are determined to be appropriate adjustments; (xi) items relating to unusual or extraordinary corporate transactions, events or developments, (xii) items related to amortization of acquired intangible assets; (xiii) items that are outside the scope of the Company’s core, on-going business activities; (xiv) items related to acquired in-process research and development; (xv) items relating to changes in tax laws; (xvi) items relating to major licensing or partnership arrangements; (xvii) items relating to asset impairment charges; (xviii) items relating to gains or losses for litigation, arbitration and contractual settlements; (xix) items attributable to expenses incurred in connection with a reduction in force or early retirement initiative; (xx) items relating to foreign exchange or currency transactions and/or fluctuations; or (xxi) items relating to any other unusual or nonrecurring events or changes in Applicable Law, Applicable Accounting Standards or business conditions. For all Awards intended to qualify as Performance-Based Compensation, such determinations shall be

made within the time prescribed by, and otherwise in compliance with, Section 162(m) of the Code.

2.39 “*Performance Goals*” shall mean, for a Performance Period, one or more goals established in writing by the Administrator for the Performance Period based upon one or more Performance Criteria. Depending on the Performance Criteria used to establish such Performance Goals, the Performance Goals may be expressed in terms of overall Company performance or the performance of a Subsidiary, division, business unit, or an individual. The achievement of each Performance Goal shall be determined, to the extent applicable, with reference to Applicable Accounting Standards.

2.40 “*Performance Period*” shall mean one or more periods of time, which may be of varying and overlapping durations, as the Administrator may select, over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Holder’s right to, vesting of, and/or the payment in respect of, an Award.

2.41 “*Permitted Transferee*” shall mean, with respect to a Holder, any “family member” of the Holder, as defined in the General Instructions to Form S-8 Registration Statement under the Securities Act (or any successor form thereto), or any other transferee specifically approved by the Administrator after taking into account Applicable Law.

2.42 “*Plan*” shall have the meaning set forth in Article 1.

2.43 “*Prior Plans*” shall mean the Cogent Communications Holdings, Inc. 2004 Incentive Award Plan, as amended by the Board of Directors through April 17, 2014, as such plan may be amended from time to time.

2.44 “*Program*” shall mean any program adopted by the Administrator pursuant to the Plan containing the terms and conditions intended to govern a specified type of Award granted under the Plan and pursuant to which such type of Award may be granted under the Plan.

2.45 “*Restricted Stock*” shall mean Common Stock awarded under Article 8 that is subject to certain restrictions and may be subject to risk of forfeiture or repurchase.

2.46 “*Restricted Stock Units*” shall mean the right to receive Shares awarded under Article 9.

2.47 “*Section 409A*” shall mean Section 409A of the Code and the Department of Treasury regulations and other interpretive guidance issued thereunder, including, without limitation, any such regulations or other guidance that may be issued after the Effective Date.

2.48 “*Securities Act*” shall mean the Securities Act of 1933, as amended.

2.49 “*Shares*” shall mean shares of Common Stock.

2.50 “*Stock Appreciation Right*” shall mean an Award entitling the Holder (or other person entitled to exercise pursuant to the Plan) to exercise all or a specified portion thereof (to the extent then exercisable pursuant to its terms) and to receive from the Company an amount determined by multiplying the difference obtained by subtracting the exercise price per share of such Award from the Fair Market Value on the date of exercise of such Award by the number of Shares with respect to which such Award shall have been exercised, subject to any limitations the Administrator may impose.

2.51 “*SAR Term*” shall have the meaning set forth in Section 6.4.

2.52 “*Subsidiary*” shall mean any entity (other than the Company), whether domestic or foreign, in an unbroken chain of entities beginning with the Company if each of the entities other than the last entity in the unbroken chain beneficially owns, at the time of the determination, securities or interests representing at least fifty percent (50%) of the total combined voting power of all classes of securities or interests in one of the other entities in such chain.

2.53 “*Substitute Award*” shall mean an Award granted under the Plan in connection with a corporate transaction, such as a merger, combination, consolidation or acquisition of property or stock, in any case, upon the assumption of, or in substitution for, outstanding equity awards previously granted by a company or other entity; *provided, however*, that in no event shall the term “Substitute Award” be construed to refer to an award made in connection with the cancellation and repricing of an Option or Stock Appreciation Right.

2.54 “*Termination of Service*” shall mean:

(a) As to a Consultant, the time when the engagement of a Holder as a Consultant to the Company or a Subsidiary is terminated for any reason, with or without cause, including, without limitation, by resignation, discharge, death or retirement, but excluding terminations where the Consultant simultaneously commences or remains in employment or service with the Company or any Subsidiary.

(b) As to a Non-Employee Director, the time when a Holder who is a Non-Employee Director ceases to be a Director for any reason, including, without limitation, a termination by resignation, failure to be elected, death or retirement, but excluding terminations where the Holder simultaneously commences or remains in employment or service with the Company or any Subsidiary.

(c) As to an Employee, the time when the employee-employer relationship between a Holder and the Company or any Subsidiary is terminated for any reason, including, without limitation, a termination by resignation, discharge, death, disability or retirement; but excluding terminations where the Holder simultaneously commences or remains in employment or service with the Company or any Subsidiary.

The Administrator, in its sole discretion, shall determine the effect of all matters and questions relating to any Termination of Service, including, without limitation, whether a Termination of Service has occurred, whether a Termination of Service resulted from a discharge for cause and all questions of whether particular leaves of absence constitute a Termination of Service; *provided, however*, that, with respect to Incentive Stock Options, unless the Administrator otherwise provides in the terms of any Program, Award Agreement or otherwise, or as otherwise required by Applicable Law, a leave of absence, change in status from an employee to an independent contractor or other change in the employee-employer relationship shall constitute a Termination of Service only if, and to the extent that, such leave of absence, change in status or other change interrupts employment for the purposes of Section 422(a)(2) of the Code and the then-applicable regulations and revenue rulings under said Section. For purposes of the Plan, a Holder’s employee-employer relationship or consultancy relations shall be deemed to be terminated in the event that the Subsidiary employing or contracting with such Holder ceases to remain an Subsidiary following any merger, sale of stock or other corporate transaction or event (including, without limitation, a spin-off).

ARTICLE 3.

SHARES SUBJECT TO THE PLAN

3.1 Number of Shares.

(a) Subject to adjustment as provided in Section 3.1(b) and Section 13.2, the aggregate number of Shares which may be issued or transferred pursuant to Awards under the Plan is (i) 1,200,000 Shares plus (ii) any Shares subject to awards under the Prior Plan which after the Effective Date are forfeited or lapse unexercised or are settled in cash or are not issued under the Prior Plan; *provided*, that, subject to adjustment as provided in Section 13.2, no more than a total of 1,200,000 Shares shall be authorized for grant as Incentive Stock Options. After the Effective Date, no awards may be granted

under any Prior Plan, however, any awards under any Prior Plan that are outstanding as of the Effective Date shall continue to be subject to the terms and conditions of such Prior Plan.

(b) If (i) any Shares subject to an Award are forfeited or expire or an Award is settled for cash (in whole or in part), or (ii) after May 3, 2017 any Shares subject to an award under any Prior Plan are forfeited or expire or an award under any Prior Plan is settled for cash (in whole or in part), the Shares subject to such Award or award under the Prior Plan shall, to the extent of such forfeiture, expiration or cash settlement, again be available for Awards under the Plan, in accordance with Section 3.1(d) below. Notwithstanding anything to the contrary contained herein, the following Shares shall not be added to the Shares authorized for grant under Section 3.1(a) and shall not be available for future grants of Awards: (i) Shares tendered by a Holder or withheld by the Company in payment of the exercise price of an Option; (ii) Shares tendered by the Holder or withheld by the Company to satisfy any tax withholding obligation with respect to an Award; (iii) Shares subject to a Stock Appreciation Right that are not issued in connection with the stock settlement of the Stock Appreciation Right on exercise thereof; and (iv) Shares purchased on the open market by the Company with the cash proceeds received from the exercise of Options. Any Shares repurchased by the Company under Section 8.4 at the same price paid by the Holder so that such Shares are returned to the Company shall again be available for Awards. The payment of Dividend Equivalents in cash in conjunction with any outstanding Awards shall not be counted against the Shares available for issuance under the Plan. Notwithstanding the provisions of this Section 3.1(b), no Shares may again be optioned, granted or awarded if such action would cause an Incentive Stock Option to fail to qualify as an incentive stock option under Section 422 of the Code.

(c) Substitute Awards shall not reduce the Shares authorized for grant under the Plan. Additionally, in the event that a company acquired by the Company or any Subsidiary or with which the Company or any Subsidiary combines has shares available under a pre-existing plan approved by stockholders and not adopted in contemplation of such acquisition or combination, the shares available for grant pursuant to the terms of such pre-existing plan (as adjusted, to the extent appropriate, using the exchange ratio or other adjustment or valuation ratio or formula used in such acquisition or combination to determine the consideration payable to the holders of common stock of the entities party to such acquisition or combination) may be used for Awards under the Plan and shall not reduce the Shares authorized for grant under the Plan; provided that Awards using such available Shares shall not be made after the date awards or grants could have been made under the terms of the pre-existing plan, absent the acquisition or combination, and shall only be made to individuals who were not employed by or providing services to the Company or its Subsidiaries immediately prior to such acquisition or combination.

3.2 Limitation on Number of Shares Subject to Awards. Notwithstanding any provision in the Plan to the contrary, and subject to Section 13.2, the maximum aggregate number of Shares with respect to one or more Awards that may be granted to any one person during any calendar year shall be 750,000 and the maximum aggregate amount of cash that may be paid in cash to any one person during any calendar year with respect to one or more Awards payable in cash shall be \$10,000,000. To the extent required by Section 162(m) of the Code, Shares subject to Awards which are canceled shall continue to be counted against the Award Limit.

3.3 Award Vesting Limitations. Notwithstanding any other provision of the Plan to the contrary, but subject to this Section 3.3 and Section 13.2 of the Plan, Awards granted under the Plan shall vest no earlier than the first anniversary of the date the Award is granted; *provided, however*, that, notwithstanding the foregoing, Awards that result in the issuance of an aggregate of up to 5% of the shares of Common Stock available pursuant to Section 3.1(a) may be granted to any one or more Eligible Individuals without respect to such minimum vesting provisions; and *provided, further*, that, notwithstanding the foregoing, Full Value Awards (other than those that vest based on achievement of performance targets) shall vest at a rate that would not exceed the following vesting schedule: (a) no

vesting prior to the first anniversary of the date of grant, (b) no more than $\frac{1}{3}$ vested on the first anniversary of the date of grant, (c) no more than $\frac{2}{3}$ vested on the second anniversary of the date of grant and (d) full vesting not occurring prior to the end of the third anniversary of the date of grant. Nothing in this Section 3.3 shall preclude the Administrator from taking action, in its sole discretion, to accelerate the vesting of any Award in connection with or following a Holder's death, disability, retirement or the consummation of a Change in Control.

ARTICLE 4.

GRANTING OF AWARDS

4.1 *Participation.* The Administrator may, from time to time, select from among all Eligible Individuals, those to whom an Award shall be granted and shall determine the nature and amount of each Award, which shall not be inconsistent with the requirements of the Plan. No Eligible Individual or other Person shall have any right to be granted an Award pursuant to the Plan and neither the Company nor the Administrator is obligated to treat Eligible Individuals, Holders or any other persons uniformly. Participation by each Holder in the Plan shall be voluntary and nothing in the Plan or any Program shall be construed as mandating that any Eligible Individual or other Person shall participate in the Plan.

4.2 *Award Agreement.* Each Award shall be evidenced by an Award Agreement that sets forth the terms, conditions and limitations for such Award as determined by the Administrator in its sole discretion (consistent with the requirements of the Plan and any applicable Program). Award Agreements evidencing Awards intended to qualify as Performance-Based Compensation shall contain such terms and conditions as may be necessary to meet the applicable provisions of Section 162(m) of the Code. Award Agreements evidencing Incentive Stock Options shall contain such terms and conditions as may be necessary to meet the applicable provisions of Section 422 of the Code.

4.3 *Limitations Applicable to Section 16 Persons.* Notwithstanding any other provision of the Plan, the Plan, and any Award granted or awarded to any individual who is then subject to Section 16 of the Exchange Act, shall be subject to any additional limitations set forth in any applicable exemptive rule under Section 16 of the Exchange Act (including Rule 16b-3 of the Exchange Act and any amendments thereto) that are requirements for the application of such exemptive rule. To the extent permitted by Applicable Law, the Plan and Awards granted or awarded hereunder shall be deemed amended to the extent necessary to conform to such applicable exemptive rule.

4.4 *At-Will Service.* Nothing in the Plan or in any Program or Award Agreement hereunder shall confer upon any Holder any right to continue in the employ of, or as a Director or Consultant for, the Company or any Subsidiary, or shall interfere with or restrict in any way the rights of the Company and any Subsidiary, which rights are hereby expressly reserved, to discharge any Holder at any time for any reason whatsoever, with or without cause, and with or without notice, or to terminate or change all other terms and conditions of employment or engagement, except to the extent expressly provided otherwise in a written agreement between the Holder and the Company or any Subsidiary.

4.5 *Foreign Holders.* Notwithstanding any provision of the Plan or applicable Program to the contrary, in order to comply with the laws in countries other than the United States in which the Company and its Subsidiaries operate or have Employees, Non-Employee Directors or Consultants, or in order to comply with the requirements of any foreign securities exchange or other Applicable Law, the Administrator, in its sole discretion, shall have the power and authority to: (a) determine which Subsidiaries shall be covered by the Plan; (b) determine which Eligible Individuals outside the United States are eligible to participate in the Plan; (c) modify the terms and conditions of any Award granted to Eligible Individuals outside the United States to comply with Applicable Law (including, without limitation, applicable foreign laws or listing requirements of any foreign securities exchange); (d) establish subplans and modify exercise procedures and other terms and procedures, to the extent

such actions may be necessary or advisable; *provided, however*, that no such subplans and/or modifications shall increase the share limitation contained in Section 3.1, the Award Limit or the Director Limit; and (e) take any action, before or after an Award is made, that it deems advisable to obtain approval or comply with any necessary local governmental regulatory exemptions or approvals or listing requirements of any foreign securities exchange.

4.6 *Non-Employee Director Awards.* Notwithstanding any provision to the contrary in the Plan, the sum of the grant date fair value of equity-based Awards and the amount of any cash-based Awards granted or fees otherwise payable to a Non-Employee Director during any calendar year shall not exceed \$500,000 (which amount will be increased (or decreased) cumulative each year by the annual inflation rate as reported by the Consumer Price Index for All Urban Consumers) (the “*Director Limit*”).

ARTICLE 5.

PROVISIONS APPLICABLE TO AWARDS INTENDED TO QUALIFY AS PERFORMANCE-BASED COMPENSATION

5.1 *Purpose.* The Administrator may, in its sole discretion, (a) determine whether an Award is intended to qualify as Performance-Based Compensation and (b) at any time after any such determination, alter such intent for any or no reason. If the Administrator, in its sole discretion, decides to grant an Award that is intended to qualify as Performance-Based Compensation (other than an Option or Stock Appreciation Right), then the provisions of this Article 5 shall control over any contrary provision contained in the Plan or any applicable Program; *provided that*, if after such decision the Administrator alters such intention for any reason, the provisions of this Article 5 shall no longer control over any other provision contained in the Plan or any applicable Program. The Administrator, in its sole discretion, may (i) grant Awards to Eligible Individuals that are based on Performance Criteria or Performance Goals or any such other criteria and goals as the Administrator shall establish, but that do not satisfy the requirements of this Article 5 and that are not intended to qualify as Performance-Based Compensation and (ii) subject any Awards intended to qualify as Performance-Based Compensation to additional conditions and restrictions unrelated to any Performance Criteria or Performance Goals (including, without limitation, continued employment or service requirements) to the extent such Awards otherwise satisfy the requirements of this Article 5 with respect to the Performance Criteria and Performance Goals applicable thereto. Unless otherwise specified by the Administrator at the time of grant, the Performance Criteria with respect to an Award intended to be Performance-Based Compensation payable to a Covered Employee shall be determined on the basis of Applicable Accounting Standards.

5.2 *Procedures with Respect to Performance-Based Awards.* To the extent necessary to comply with the requirements of Section 162(m)(4)(C) of the Code, with respect to any Award which is intended to qualify as Performance-Based Compensation, no later than 90 days following the commencement of any Performance Period or any designated fiscal period or period of service (or such earlier time as may be required under Section 162(m) of the Code), the Administrator shall, in writing, (a) designate one or more Eligible Individuals, (b) select the Performance Criteria applicable to the Performance Period, (c) establish the Performance Goals, and amounts of such Awards, as applicable, which may be earned for such Performance Period based on the Performance Criteria, and (d) specify the relationship between Performance Criteria and the Performance Goals and the amounts of such Awards, as applicable, to be earned by each Covered Employee for such Performance Period. Following the completion of each Performance Period, the Administrator shall certify in writing whether and the extent to which the applicable Performance Goals have been achieved for such Performance Period. In determining the amount earned under such Awards, the Administrator (i) shall, unless otherwise provided in an Award Agreement, have the right to reduce or eliminate the amount payable at a given level of performance to take into account additional factors that the Administrator may deem relevant,

including the assessment of individual or corporate performance for the Performance Period, but (ii) shall in no event have the right to increase the amount payable for any reason.

5.3 *Payment of Performance-Based Awards.* Unless otherwise provided in the applicable Program or Award Agreement and only to the extent otherwise permitted by Section 162(m) of the Code, as to an Award that is intended to qualify as Performance-Based Compensation, the Holder must be employed by the Company or a Subsidiary throughout the Performance Period. Unless otherwise provided in the applicable Program or Award Agreement, a Holder shall be eligible to receive payment pursuant to such Awards for a Performance Period only if and to the extent the Performance Goals for such Performance Period are achieved.

5.4 *Additional Limitations.* Notwithstanding any other provision of the Plan and except as otherwise determined by the Administrator, any Award which is granted to an Eligible Individual and is intended to qualify as Performance-Based Compensation shall be subject to any additional limitations set forth in Section 162(m) of the Code or any regulations or rulings issued thereunder that are requirements for qualification as Performance-Based Compensation, and the Plan and the applicable Program and Award Agreement shall be deemed amended to the extent necessary to conform to such requirements.

ARTICLE 6.

GRANTING OF OPTIONS AND STOCK APPRECIATION RIGHTS

6.1 *Granting of Options and Stock Appreciation Rights to Eligible Individuals.* The Administrator is authorized to grant Options and Stock Appreciation Rights to Eligible Individuals from time to time, in its sole discretion, on such terms and conditions as it may determine, which shall not be inconsistent with the Plan.

6.2 *Qualification of Incentive Stock Options.* The Administrator may grant Options intended to qualify as Incentive Stock Options only to employees of the Company, any of the Company's present or future "parent corporations" or "subsidiary corporations" as defined in Sections 424(e) or (f) of the Code, respectively, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code. No person who qualifies as a Greater Than 10% Stockholder may be granted an Incentive Stock Option unless such Incentive Stock Option conforms to the applicable provisions of Section 422 of the Code. To the extent that the aggregate fair market value of stock with respect to which "incentive stock options" (within the meaning of Section 422 of the Code, but without regard to Section 422(d) of the Code) are exercisable for the first time by a Holder during any calendar year under the Plan, and all other plans of the Company and any parent corporation or subsidiary corporation thereof (as defined in Section 424(e) and 424(f) of the Code, respectively), exceeds \$100,000, the Options shall be treated as Non-Qualified Stock Options to the extent required by Section 422 of the Code. The rule set forth in the immediately preceding sentence shall be applied by taking Options and other "incentive stock options" into account in the order in which they were granted and the fair market value of stock shall be determined as of the time the respective options were granted. Any interpretations and rules under the Plan with respect to Incentive Stock Options shall be consistent with the provisions of Section 422 of the Code. Neither the Company nor the Administrator shall have any liability to a Holder, or any other Person, (a) if an Option (or any part thereof) which is intended to qualify as an Incentive Stock Option fails to qualify as an Incentive Stock Option or (b) for any action or omission by the Company or the Administrator that causes an Option not to qualify as an Incentive Stock Option, including without limitation, the conversion of an Incentive Stock Option to a Non-Qualified Stock Option or the grant of an Option intended as an Incentive Stock Option that fails to satisfy the requirements under the Code applicable to an Incentive Stock Option.

6.3 *Option and Stock Appreciation Right Exercise Price.* The exercise price per Share subject to each Option and Stock Appreciation Right shall be set by the Administrator, but shall not be less than 100% of the Fair Market Value of a Share on the date the Option or Stock Appreciation Right, as applicable, is granted (or, as to Incentive Stock Options, on the date the Option is modified, extended or renewed for purposes of Section 424(h) of the Code). In addition, in the case of Incentive Stock Options granted to a Greater Than 10% Stockholder, such price shall not be less than 110% of the Fair Market Value of a Share on the date the Option is granted (or the date the Option is modified, extended or renewed for purposes of Section 424(h) of the Code). Notwithstanding the foregoing, in the case of an Option or Stock Appreciation Right that is a Substitute Award, the exercise price per share of the Shares subject to such Option or Stock Appreciation Right, as applicable, may be less than the Fair Market Value per share on the date of grant; *provided* that the exercise price of any Substitute Award shall be determined in accordance with the applicable requirements of Section 424 and 409A of the Code.

6.4 *Option and SAR Term.* The term of each Option (the “*Option Term*”) and the term of each Stock Appreciation Right (the “*SAR Term*”) shall be set by the Administrator in its sole discretion; *provided, however*, that the Option Term or SAR Term, as applicable, shall not be more than (a) ten (10) years from the date the Option or Stock Appreciation Right, as applicable, is granted to an Eligible Individual (other than a Greater Than 10% Stockholder), or (b) five (5) years from the date an Incentive Stock Option is granted to a Greater Than 10% Stockholder. Except as limited by the requirements of Section 409A or Section 422 of the Code and regulations and rulings thereunder or the first sentence of this Section 6.4 and without limiting the Company’s rights under Section 11.7, the Administrator may extend the Option Term of any outstanding Option or the SAR Term of any outstanding Stock Appreciation Right, and may extend the time period during which vested Options or Stock Appreciation Rights may be exercised, in connection with any Termination of Service of the Holder or otherwise, and may amend, subject to Section 11.7 and 13.1, any other term or condition of such Option or Stock Appreciation Right relating to such Termination of Service of the Holder or otherwise.

6.5 *Option and SAR Vesting.* The period during which the right to exercise, in whole or in part, an Option or Stock Appreciation Right vests in the Holder shall be set by the Administrator and set forth in the applicable Award Agreement, subject to Section 3.3. Unless otherwise determined by the Administrator in the Award Agreement, the applicable Program or by action of the Administrator following the grant of the Option or Stock Appreciation Right, (a) no portion of an Option or Stock Appreciation Right which is unexercisable at a Holder’s Termination of Service shall thereafter become exercisable and (b) the portion of an Option or Stock Appreciation Right that is unexercisable at a Holder’s Termination of Service shall automatically expire thirty (30) days following such Termination of Service.

6.6 *Substitution of Stock Appreciation Rights.* The Administrator may provide in the applicable Program or Award Agreement evidencing the grant of an Option that the Administrator, in its sole discretion, shall have the right to substitute a Stock Appreciation Right for such Option at any time prior to or upon exercise of such Option; *provided* that such Stock Appreciation Right shall be exercisable with respect to the same number of Shares for which such substituted Option would have been exercisable, and shall also have the same exercise price, vesting schedule and remaining term as the substituted Option.

ARTICLE 7.

EXERCISE OF OPTIONS AND STOCK APPRECIATION RIGHTS

7.1 *Exercise and Payment.* An exercisable Option or Stock Appreciation Right may be exercised in whole or in part. However, an Option or Stock Appreciation Right shall not be exercisable with respect to fractional Shares and the Administrator may require that, by the terms of the Option or Stock Appreciation Right, a partial exercise must be with respect to a minimum number of Shares. Payment of the amounts payable with respect to Stock Appreciation Rights pursuant to this Article 7 shall be in cash, Shares (based on its Fair Market Value as of the date the Stock Appreciation Right is exercised), or a combination of both, as determined by the Administrator.

7.2 *Manner of Exercise.* All or a portion of an exercisable Option or Stock Appreciation Right shall be deemed exercised upon delivery of all of the following to the Secretary of the Company, the stock plan administrator of the Company or such other person or entity designated by the Administrator, or his, her or its office, as applicable:

(a) A written or electronic notice complying with the applicable rules established by the Administrator stating that the Option or Stock Appreciation Right, or a portion thereof, is exercised. The notice shall be signed or otherwise acknowledge electronically by the Holder or other person then entitled to exercise the Option or Stock Appreciation Right or such portion thereof;

(b) Such representations and documents as the Administrator, in its sole discretion, deems necessary or advisable to effect compliance with Applicable Law.

(c) In the event that the Option shall be exercised pursuant to Section 11.3 by any person or persons other than the Holder, appropriate proof of the right of such person or persons to exercise the Option or Stock Appreciation Right, as determined in the sole discretion of the Administrator; and

(d) Full payment of the exercise price and applicable withholding taxes for the Shares with respect to which the Option or Stock Appreciation Right, or portion thereof, is exercised, in a manner permitted by the Administrator in accordance with Sections 11.1 and 11.2.

7.3 *Notification Regarding Disposition.* The Holder shall give the Company prompt written or electronic notice of any disposition of Shares acquired by exercise of an Incentive Stock Option which occurs within (a) two years from the date of granting (including the date the Option is modified, extended or renewed for purposes of Section 424(h) of the Code) such Option to such Holder, or (b) one year after the date of transfer of such Shares to such Holder. Such notice shall specify the date of such disposition or other transfer and the amount realized, in cash, other property, assumption of indebtedness or other consideration, by the Holder in such disposition or other transfer.

ARTICLE 8.

AWARD OF RESTRICTED STOCK

8.1 *Award of Restricted Stock.* The Administrator is authorized to grant Restricted Stock to Eligible Individuals, and shall determine the terms and conditions, including the restrictions applicable to each award of Restricted Stock, which terms and conditions shall not be inconsistent with the Plan or any applicable Program, and may impose such conditions on the issuance of such Restricted Stock as it deems appropriate. The Administrator shall establish the purchase price, if any, and form of payment for Restricted Stock; *provided, however*, that if a purchase price is charged, such purchase price shall be no less than the par value, if any, of the Shares to be purchased, unless otherwise permitted by Applicable Law. In all cases, legal consideration shall be required for each issuance of Restricted Stock to the extent required by Applicable Law.

8.2 *Rights as Stockholders.* Subject to Section 8.4, upon issuance of Restricted Stock, the Holder shall have, unless otherwise provided by the Administrator, all the rights of a stockholder with respect to said Shares, subject to the restrictions in the Plan, any applicable Program and/or the applicable Award Agreement, including the right to receive all dividends and other distributions paid or made with respect to the Shares to the extent such dividends and other distributions have a record date that is on or after the date on which the Holder to whom such Restricted Stock are granted becomes the record holder of such Restricted Stock; *provided, however*, that, in the sole discretion of the Administrator, any extraordinary distributions with respect to the Shares may be subject to the restrictions set forth in Section 8.3. In addition, with respect to a share of Restricted Stock subject to vesting conditions, dividends which are paid prior to vesting shall be paid out to the Holder only if, when and to the extent that the vesting conditions are subsequently satisfied and the share of Restricted Stock vests.

8.3 *Restrictions.* All shares of Restricted Stock (including any shares received by Holders thereof with respect to shares of Restricted Stock as a result of stock dividends, stock splits or any other form of recapitalization) shall be subject to such restrictions and vesting requirements as the Administrator shall provide in the applicable Program or Award Agreement, subject to Section 3.3. By action taken after the Restricted Stock is issued, the Administrator may, on such terms and conditions as it may determine to be appropriate, accelerate the vesting of such Restricted Stock by removing any or all of the restrictions imposed by the terms of the applicable Program or Award Agreement.

8.4 *Repurchase or Forfeiture of Restricted Stock.* Except as otherwise determined by the Administrator, if no price was paid by the Holder for the Restricted Stock, upon a Termination of Service during the applicable restriction period, the Holder's rights in invested Restricted Stock then subject to restrictions shall lapse, and such Restricted Stock shall be surrendered to the Company and cancelled without consideration on the date of such Termination of Service. If a price was paid by the Holder for the Restricted Stock, upon a Termination of Service during the applicable restriction period, the Company shall have the right to repurchase from the Holder the unvested Restricted Stock then subject to restrictions at a cash price per share equal to the price paid by the Holder for such Restricted Stock or such other amount as may be specified in the applicable Program or Award Agreement. Notwithstanding the foregoing, except as otherwise provided by Section 3.3, the Administrator, in its sole discretion, may provide that upon certain events, including, without limitation, a Change in Control, the Holder's death, retirement or disability or any other specified Termination of Service or any other event, the Holder's rights in unvested Restricted Stock then subject to restrictions shall not lapse, such Restricted Stock shall vest and cease to be forfeitable and, if applicable, the Company shall cease to have a right of repurchase.

8.5 *Section 83(b) Election.* If a Holder makes an election under Section 83(b) of the Code to be taxed with respect to the Restricted Stock as of the date of transfer of the Restricted Stock rather than as of the date or dates upon which the Holder would otherwise be taxable under Section 83(a) of the Code, the Holder shall be required to deliver a copy of such election to the Company promptly after filing such election with the Internal Revenue Service along with proof of the timely filing thereof with the Internal Revenue Service.

ARTICLE 9.

AWARD OF RESTRICTED STOCK UNITS

9.1 *Grant of Restricted Stock Units.* The Administrator is authorized to grant Awards of Restricted Stock Units to any Eligible Individual selected by the Administrator in such amounts and subject to such terms and conditions as determined by the Administrator.

9.2 *Term.* Except as otherwise provided herein, the term of a Restricted Stock Unit award shall be set by the Administrator in its sole discretion.

9.3 *Purchase Price.* The Administrator shall specify the purchase price, if any, to be paid by the Holder to the Company with respect to any Restricted Stock Unit award; *provided, however,* that value of the consideration shall not be less than the par value of a Share, unless otherwise permitted by Applicable Law.

9.4 *Vesting of Restricted Stock Units.* At the time of grant, the Administrator shall specify the date or dates on which the Restricted Stock Units shall become fully vested and nonforfeitable, and may specify such conditions to vesting as it deems appropriate, including, without limitation, vesting based upon the Holder's duration of service to the Company or any Subsidiary, one or more Performance Criteria, Company performance, individual performance or other specific criteria, in each case on a specified date or dates or over any period or periods, as determined by the Administrator, subject to Section 3.3.

9.5 *Maturity and Payment.* At the time of grant, the Administrator shall specify the maturity date applicable to each grant of Restricted Stock Units, which shall be no earlier than the vesting date or dates of the Award and may be determined at the election of the Holder (if permitted by the applicable Award Agreement); *provided* that, except as otherwise determined by the Administrator, and subject to compliance with Section 409A, in no event shall the maturity date relating to each Restricted Stock Unit occur following the later of (a) the 15th day of the third month following the end of calendar year in which the applicable portion of the Restricted Stock Unit vests; or (b) the 15th day of the third month following the end of the Company's fiscal year in which the applicable portion of the Restricted Stock Unit vests. On the maturity date, the Company shall, in accordance with the applicable Award Agreement and subject to Section 11.4(f), transfer to the Holder one unrestricted, fully transferable Share for each Restricted Stock Unit scheduled to be paid out on such date and not previously forfeited, or in the sole discretion of the Administrator, an amount in cash equal to the Fair Market Value of such Shares on the maturity date or a combination of cash and Common Stock as determined by the Administrator.

9.6 *Payment upon Termination of Service.* An Award of Restricted Stock Units shall only be payable while the Holder is an Employee, a Consultant or a member of the Board, as applicable; *provided, however,* that the Administrator, in its sole discretion, may provide (in an Award Agreement or otherwise) that a Restricted Stock Unit award may be paid subsequent to a Termination of Service in certain events, including a Change in Control, the Holder's death, retirement or disability or any other specified Termination of Service.

ARTICLE 10.

AWARD OF OTHER STOCK OR CASH BASED AWARDS AND DIVIDEND EQUIVALENTS

10.1 *Other Stock or Cash Based Awards.* The Administrator is authorized to (a) grant Other Stock or Cash Based Awards, including awards entitling a Holder to receive Shares or cash to be delivered immediately or in the future, to any Eligible Individual and (b) determine whether such Other Stock or Cash Based Awards shall be Performance-Based Compensation. Subject to the provisions of the Plan and any applicable Program, the Administrator shall determine the terms and conditions of each Other Stock or Cash Based Award, including the term of the Award, any exercise or purchase price, performance goals, including the Performance Criteria, transfer restrictions, vesting conditions and other terms and conditions applicable thereto, which shall be set forth in the applicable Award Agreement, subject to Section 3.3. Other Stock or Cash Based Awards may be paid in cash, Shares, or a combination of cash and Shares, as determined by the Administrator, and may be available as a form of payment in the settlement of other Awards granted under the Plan, as stand-alone payments, as a part of a bonus, deferred bonus, deferred compensation or other arrangement, and/or as payment in lieu of compensation to which an Eligible Individual is otherwise entitled.

10.2 *Dividend Equivalents.* Dividend Equivalents may be granted by the Administrator, either alone or in tandem with another Award, based on dividends declared on the Common Stock, to be credited as of dividend payment dates during the period between the date the Dividend Equivalents are granted to a Holder and the date such Dividend Equivalents terminate or expire, as determined by the Administrator. Such Dividend Equivalents shall be converted to cash or additional Shares by such formula and at such time and subject to such restrictions and limitations as may be determined by the Administrator. In addition, Dividend Equivalents shall be paid out to the Holder only if, when and to the extent that such Awards vest. The value of dividends and other distributions payable with respect to Awards that do not vest shall be forfeited.

ARTICLE 11.

ADDITIONAL TERMS OF AWARDS

11.1 *Payment.* The Administrator shall determine the method or methods by which payments by any Holder with respect to any Awards granted under the Plan shall be made, including, without limitation: (a) cash or check, (b) Shares (including, in the case of payment of the exercise price of an Award, Shares issuable pursuant to the exercise of the Award) or Shares held for such minimum period of time as may be established by the Administrator, in each case, having a Fair Market Value on the date of delivery equal to the aggregate payments required, (c) delivery of a written or electronic notice that the Holder has placed a market sell order with a broker acceptable to the Company with respect to Shares then issuable upon exercise or vesting of an Award, and that the broker has been directed to pay a sufficient portion of the net proceeds of the sale to the Company in satisfaction of the aggregate payments required; *provided* that payment of such proceeds is then made to the Company upon settlement of such sale, (d) other form of legal consideration acceptable to the Administrator in its sole discretion, or (e) any combination of the above permitted forms of payment. Notwithstanding any other provision of the Plan to the contrary, no Holder who is a Director or an “executive officer” of the Company within the meaning of Section 13(k) of the Exchange Act shall be permitted to make payment with respect to any Awards granted under the Plan, or continue any extension of credit with respect to such payment, with a loan from the Company or a loan arranged by the Company in violation of Section 13(k) of the Exchange Act.

11.2 *Tax Withholding.* The Company or any Subsidiary shall have the authority and the right to deduct or withhold, or require a Holder to remit to the Company, an amount sufficient to satisfy federal, state, local and foreign taxes (including the Holder’s FICA, employment tax or other social security contribution obligation) required by law to be withheld with respect to any taxable event concerning a Holder arising as a result of the Plan or any Award. The Administrator may, in its sole discretion and in satisfaction of the foregoing requirement, allow a Holder to satisfy such obligations by any payment means described in Section 11.1 hereof, including without limitation, by allowing such Holder to have the Company or any Subsidiary withhold Shares otherwise issuable under an Award (or allow the surrender of Shares). The number of Shares which may be so withheld or surrendered shall be no greater than the number of Shares which have a fair market value on the date of withholding or repurchase equal to the aggregate amount of such liabilities based on the maximum statutory withholding rates in such Holder’s applicable jurisdiction for federal, state, local and foreign income tax and payroll tax purposes that are applicable to such supplemental taxable income. The Administrator shall determine the fair market value of the Shares, consistent with applicable provisions of the Code, for tax withholding obligations due in connection with a broker-assisted cashless Option or Stock Appreciation Right exercise involving the sale of Shares to pay the Option or Stock Appreciation Right exercise price or any tax withholding obligation.

11.3 *Transferability of Awards.*

(a) Except as otherwise provided in Sections 11.3(b) and 11.3(c):

(i) No Award under the Plan may be sold, pledged, assigned or transferred in any manner other than (A) by will or the laws of descent and distribution or (B) subject to the consent of the Administrator, pursuant to a DRO, unless and until such Award has been exercised or the Shares underlying such Award have been issued, and all restrictions applicable to such Shares have lapsed;

(ii) No Award or interest or right therein shall be liable for or otherwise subject to the debts, contracts or engagements of the Holder or the Holder's successors in interest or shall be subject to disposition by transfer, alienation, anticipation, pledge, hypothecation, encumbrance, assignment or any other means whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitable proceedings (including bankruptcy) unless and until such Award has been exercised, or the Shares underlying such Award have been issued, and all restrictions applicable to such Shares have lapsed, and any attempted disposition of an Award prior to satisfaction of these conditions shall be null and void and of no effect, except to the extent that such disposition is permitted by Section 11.3(a)(i); and

(iii) During the lifetime of the Holder, only the Holder may exercise any exercisable portion of an Award granted to such Holder under the Plan, unless it has been disposed of pursuant to a DRO. After the death of the Holder, any exercisable portion of an Award may, prior to the time when such portion becomes unexercisable under the Plan or the applicable Program or Award Agreement, be exercised by the Holder's personal representative or by any person empowered to do so under the deceased Holder's will or under the then-applicable laws of descent and distribution.

(b) Notwithstanding Section 11.3(a), the Administrator, in its sole discretion, may determine to permit a Holder or a Permitted Transferee of such Holder to transfer an Award other than an Incentive Stock Option (unless such Incentive Stock Option is intended to become a Nonqualified Stock Option) to any one or more Permitted Transferees of such Holder, subject to the following terms and conditions: (i) an Award transferred to a Permitted Transferee shall not be assignable or transferable by the Permitted Transferee other than (A) to another Permitted Transferee of the applicable Holder or (B) by will or the laws of descent and distribution or, subject to the consent of the Administrator, pursuant to a DRO; (ii) an Award transferred to a Permitted Transferee shall continue to be subject to all the terms and conditions of the Award as applicable to the original Holder (other than the ability to further transfer the Award to any Person other than another Permitted Transferee of the applicable Holder); and (iii) the Holder (or transferring Permitted Transferee) and the receiving Permitted Transferee shall execute any and all documents requested by the Administrator, including, without limitation documents to (A) confirm the status of the transferee as a Permitted Transferee, (B) satisfy any requirements for an exemption for the transfer under Applicable Law and (C) evidence the transfer. In addition, and further notwithstanding Section 11.3(a), hereof, the Administrator, in its sole discretion, may determine to permit a Holder to transfer Incentive Stock Options to a trust that constitutes a Permitted Transferee if, under Section 671 of the Code and other Applicable Law, the Holder is considered the sole beneficial owner of the Incentive Stock Option while it is held in the trust.

(c) Notwithstanding Section 11.3(a), a Holder may, in the manner determined by the Administrator, designate a beneficiary to exercise the rights of the Holder and to receive any distribution with respect to any Award upon the Holder's death. A beneficiary, legal guardian, legal representative, or other person claiming any rights pursuant to the Plan is subject to all terms and conditions of the Plan and any Program or Award Agreement applicable to the Holder and any additional restrictions deemed necessary or appropriate by the Administrator. If the Holder is married or a domestic partner in a domestic partnership qualified under Applicable Law and resides in a

community property state, a designation of a person other than the Holder's spouse or domestic partner, as applicable, as the Holder's beneficiary with respect to more than 50% of the Holder's interest in the Award shall not be effective without the prior written or electronic consent of the Holder's spouse or domestic partner. If no beneficiary has been designated or survives the Holder, payment shall be made to the person entitled thereto pursuant to the Holder's will or the laws of descent and distribution. Subject to the foregoing, a beneficiary designation may be changed or revoked by a Holder at any time; *provided* that the change or revocation is delivered in writing to the Administrator prior to the Holder's death.

11.4 *Conditions to Issuance of Shares.*

(a) The Administrator shall determine the methods by which Shares shall be delivered or deemed to be delivered to Holders. Notwithstanding anything herein to the contrary, the Company shall not be required to issue or deliver any certificates or make any book entries evidencing Shares pursuant to the exercise of any Award, unless and until the Administrator has determined, with advice of counsel, that the issuance of such Shares is in compliance with Applicable Law and the Shares are covered by an effective registration statement or applicable exemption from registration. In addition to the terms and conditions provided herein, the Administrator may require that a Holder make such reasonable covenants, agreements and representations as the Administrator, in its sole discretion, deems advisable in order to comply with Applicable Law.

(b) All share certificates delivered pursuant to the Plan and all Shares issued pursuant to book entry procedures are subject to any stop-transfer orders and other restrictions as the Administrator deems necessary or advisable to comply with Applicable Law. The Administrator may place legends on any share certificate or book entry to reference restrictions applicable to the Shares (including, without limitation, restrictions applicable to Restricted Stock).

(c) The Administrator shall have the right to require any Holder to comply with any timing or other restrictions with respect to the settlement, distribution or exercise of any Award, including a window-period limitation, as may be imposed in the sole discretion of the Administrator.

(d) No fractional Shares shall be issued and the Administrator, in its sole discretion, shall determine whether cash shall be given in lieu of fractional Shares or whether such fractional Shares shall be eliminated by rounding down.

(e) The Company, in its sole discretion, may (i) retain physical possession of any stock certificate evidencing Shares until any restrictions thereon shall have lapsed and/or (ii) require that the stock certificates evidencing such Shares be held in custody by a designated escrow agent (which may but need not be the Company) until the restrictions thereon shall have lapsed, and that the Holder deliver a stock power, endorsed in blank, relating to such Shares.

(f) Notwithstanding any other provision of the Plan, unless otherwise determined by the Administrator or required by Applicable Law, the Company shall not deliver to any Holder certificates evidencing Shares issued in connection with any Award and instead such Shares shall be recorded in the books of the Company (or, as applicable, its transfer agent or stock plan administrator).

11.5 *Forfeiture and Claw-Back Provisions.* All Awards (including any proceeds, gains or other economic benefit actually or constructively received by a Holder upon any receipt or exercise of any Award or upon the receipt or resale of any Shares underlying the Award and any payments of a portion of an incentive-based bonus pool allocated to a Holder) shall be subject to the provisions of any claw-back policy implemented by the Company, including, without limitation, any claw-back policy adopted to comply with the requirements of Applicable Law, including, without limitation, the Dodd-Frank Wall Street Reform and Consumer Protection Act and any rules or regulations promulgated thereunder, whether or not such claw-back policy was in place at the time of grant of an Award, to the extent set forth in such claw-back policy and/or in the applicable Award Agreement.

11.6 *Prohibition on Repricing.* Subject to Section 13.2, the Administrator shall not, without the approval of the stockholders of the Company, (a) authorize the amendment of any outstanding Option or Stock Appreciation Right to reduce its price per Share, or (b) cancel any Option or Stock Appreciation Right in exchange for cash or another Award when the Option or Stock Appreciation Right price per Share exceeds the Fair Market Value of the underlying Shares.

11.7 *Amendment of Awards.* Subject to Applicable Law, the Administrator may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or settlement, and converting an Incentive Stock Option to a Non-Qualified Stock Option. The Holder's consent to such action shall be required unless (a) the Administrator determines that the action, taking into account any related action, would not materially and adversely affect the Holder, or (b) the change is otherwise permitted under the Plan (including, without limitation, under Section 13.2 or 13.10).

11.8 *Data Privacy.* As a condition of receipt of any Award, each Holder explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of personal data as described in this Section 11.8 by and among, as applicable, the Company and its Subsidiaries for the exclusive purpose of implementing, administering and managing the Holder's participation in the Plan. The Company and its Subsidiaries may hold certain personal information about a Holder, including but not limited to, the Holder's name, home address and telephone number, date of birth, social security or insurance number or other identification number, salary, nationality, job title(s), any shares of stock held in the Company or any of its Subsidiaries, details of all Awards, in each case, for the purpose of implementing, managing and administering the Plan and Awards (the "Data"). The Company and its Subsidiaries may transfer the Data amongst themselves as necessary for the purpose of implementation, administration and management of a Holder's participation in the Plan, and the Company and its Subsidiaries may each further transfer the Data to any third parties assisting the Company and its Subsidiaries in the implementation, administration and management of the Plan. These recipients may be located in the Holder's country, or elsewhere, and the Holder's country may have different data privacy laws and protections than the recipients' country. Through acceptance of an Award, each Holder authorizes such recipients to receive, possess, use, retain and transfer the Data, in electronic or other form, for the purposes of implementing, administering and managing the Holder's participation in the Plan, including any requisite transfer of such Data as may be required to a broker or other third party with whom the Company or any of its Subsidiaries or the Holder may elect to deposit any Shares. The Data related to a Holder will be held only as long as is necessary to implement, administer, and manage the Holder's participation in the Plan. A Holder may, at any time, view the Data held by the Company with respect to such Holder, request additional information about the storage and processing of the Data with respect to such Holder, recommend any necessary corrections to the Data with respect to the Holder or refuse or withdraw the consents herein in writing, in any case without cost, by contacting his or her local human resources representative. The Company may cancel Holder's ability to participate in the Plan and, in the Administrator's discretion, the Holder may forfeit any outstanding Awards if the Holder refuses or withdraws his or her consents as described herein. For more information on the consequences of refusal to consent or withdrawal of consent, Holders may contact their local human resources representative.

ARTICLE 12.

ADMINISTRATION

12.1 *Administrator.* The Committee shall administer the Plan (except as otherwise permitted herein). To the extent necessary to comply with Rule 16b-3 of the Exchange Act, and with respect to Awards that are intended to be Performance-Based Compensation, including Options and Stock Appreciation Rights, then the Committee shall take all action with respect to such Awards, and the individuals taking such action shall consist solely of two or more Non-Employee Directors, each of

whom is intended to qualify as both a “non-employee director” as defined by Rule 16b-3 of the Exchange Act or any successor rule and an “outside director” for purposes of Section 162(m) of the Code. Additionally, to the extent required by Applicable Law, each of the individuals constituting the Committee shall be an “independent director” under the rules of any securities exchange or automated quotation system on which the Shares are listed, quoted or traded. Notwithstanding the foregoing, any action taken by the Committee shall be valid and effective, whether or not members of the Committee at the time of such action are later determined not to have satisfied the requirements for membership set forth in this Section 12.1 or the Organizational Documents. Except as may otherwise be provided in the Organizational Documents or as otherwise required by Applicable Law, (a) appointment of Committee members shall be effective upon acceptance of appointment, (b) Committee members may resign at any time by delivering written or electronic notice to the Board and (c) vacancies in the Committee may only be filled by the Board. Notwithstanding the foregoing, (i) the full Board, acting by a majority of its members in office, shall conduct the general administration of the Plan with respect to Awards granted to Non-Employee Directors and, with respect to such Awards, the terms “Administrator” as used in the Plan shall be deemed to refer to the Board and (ii) the Board or Committee may delegate its authority hereunder to the extent permitted by Section 12.6.

12.2 Duties and Powers of Administrator. It shall be the duty of the Administrator to conduct the general administration of the Plan in accordance with its provisions. The Administrator shall have the power to interpret the Plan, all Programs and Award Agreements, and to adopt such rules for the administration, interpretation and application of the Plan and any Program as are not inconsistent with the Plan, to interpret, amend or revoke any such rules and to amend the Plan or any Program or Award Agreement; *provided* that the rights or obligations of the Holder of the Award that is the subject of any such Program or Award Agreement are not materially and adversely affected by such amendment, unless the consent of the Holder is obtained or such amendment is otherwise permitted under Section 11.5 or Section 13.10. In its sole discretion, the Board may at any time and from time to time exercise any and all rights and duties of the Committee in its capacity as the Administrator under the Plan except with respect to matters which under Rule 16b-3 under the Exchange Act or any successor rule, or Section 162(m) of the Code, or any regulations or rules issued thereunder, or the rules of any securities exchange or automated quotation system on which the Shares are listed, quoted or traded are required to be determined in the sole discretion of the Committee.

12.3 Action by the Administrator. Unless otherwise established by the Board, set forth in any Organizational Documents or as required by Applicable Law, a majority of the Administrator shall constitute a quorum and the acts of a majority of the members present at any meeting at which a quorum is present, and acts approved in writing by all members of the Administrator in lieu of a meeting, shall be deemed the acts of the Administrator. Each member of the Administrator is entitled to, in good faith, rely or act upon any report or other information furnished to that member by any officer or other employee of the Company or any Subsidiary, the Company’s independent certified public accountants, or any executive compensation consultant or other professional retained by the Company to assist in the administration of the Plan.

12.4 Authority of Administrator. Subject to the Organizational Documents, any specific designation in the Plan and Applicable Law, the Administrator has the exclusive power, authority and sole discretion to:

- (a) Designate Eligible Individuals to receive Awards;
- (b) Determine the type or types of Awards to be granted to each Eligible Individual (including, without limitation, any Awards granted in tandem with another Award granted pursuant to the Plan);
- (c) Determine the number of Awards to be granted and the number of Shares to which an Award will relate;

(d) Determine the terms and conditions of any Award granted pursuant to the Plan, including, but not limited to, the exercise price, grant price, purchase price, any Performance Criteria or performance criteria, any restrictions or limitations on the Award, any schedule for vesting, lapse of forfeiture restrictions or restrictions on the exercisability of an Award, and accelerations or waivers thereof, and any provisions related to non-competition and claw-back and recapture of gain on an Award, based in each case on such considerations as the Administrator in its sole discretion determines; *provided, however,* that the Administrator shall not have the authority to accelerate the vesting of any Award other than for death, Disability or upon the consummation of a Change in Control; and *provided, further,* that the Administrator shall not have the authority to accelerate the vesting or waive the forfeiture of any Performance-Based Awards;

(e) Determine whether, to what extent, and under what circumstances an Award may be settled in, or the exercise price of an Award may be paid in cash, Shares, other Awards, or other property, or an Award may be canceled, forfeited, or surrendered;

(f) Prescribe the form of each Award Agreement, which need not be identical for each Holder;

(g) Decide all other matters that must be determined in connection with an Award;

(h) Establish, adopt, or revise any Programs, rules and regulations as it may deem necessary or advisable to administer the Plan;

(i) Interpret the terms of, and any matter arising pursuant to, the Plan, any Program or any Award Agreement; and

(j) Make all other decisions and determinations that may be required pursuant to the Plan or as the Administrator deems necessary or advisable to administer the Plan.

12.5 Decisions Binding. The Administrator's interpretation of the Plan, any Awards granted pursuant to the Plan, any Program or any Award Agreement and all decisions and determinations by the Administrator with respect to the Plan are final, binding and conclusive on all Persons.

12.6 Delegation of Authority. The Board or Committee may from time to time delegate to a committee of one or more members of the Board or one or more officers of the Company the authority to grant or amend Awards or to take other administrative actions pursuant to this Article 12; *provided, however,* that in no event shall an officer of the Company be delegated the authority to grant Awards to, or amend Awards held by, the following individuals: (a) individuals who are subject to Section 16 of the Exchange Act, (b) Covered Employees with respect to Awards intended to constitute Performance Based Compensation, or (c) officers of the Company (or Directors) to whom authority to grant or amend Awards has been delegated hereunder; *provided, further,* that any delegation of administrative authority shall only be permitted to the extent it is permissible under any Organizational Documents and Applicable Law (including, without limitation, Section 162(m) of the Code). Any delegation hereunder shall be subject to the restrictions and limits that the Board or Committee specifies at the time of such delegation or that are otherwise included in the applicable Organizational Documents, and the Board or Committee, as applicable, may at any time rescind the authority so delegated or appoint a new delegatee. At all times, the delegatee appointed under this Section 12.6 shall serve in such capacity at the pleasure of the Board or the Committee, as applicable, and the Board or the Committee may abolish any committee at any time and re-vest in itself any previously delegated authority.

ARTICLE 13.

MISCELLANEOUS PROVISIONS

13.1 *Amendment, Suspension or Termination of the Plan.*

(a) Except as otherwise provided in Section 13.1(b), the Plan may be wholly or partially amended or otherwise modified, suspended or terminated at any time or from time to time by the Board; *provided* that, except as provided in Section 11.5 and Section 13.10, no amendment, suspension or termination of the Plan shall, without the consent of the Holder, materially and adversely affect any rights or obligations under any Award theretofore granted or awarded, unless the Award itself otherwise expressly so provides.

(b) Notwithstanding Section 13.1(a), the Board may not, except as provided in Section 13.2, take any of the following actions without approval of the Company's stockholders given within twelve (12) months before or after such action: (i) increase the limit imposed in Section 3.1 on the maximum number of Shares which may be issued under the Plan or the Award Limit, (ii) reduce the price per share of any outstanding Option or Stock Appreciation Right granted under the Plan or take any action prohibited under Section 11.6, or (iii) cancel any Option or Stock Appreciation Right in exchange for cash or another Award in violation of Section 11.6.

(c) No Awards may be granted or awarded during any period of suspension or after termination of the Plan, and notwithstanding anything herein to the contrary, in no event may any Award be granted under the Plan after the tenth (10th) anniversary of the earlier of (i) the date on which the Plan was adopted by the Board or (ii) the date the Plan was approved by the Company's stockholders (such anniversary, the "*Expiration Date*"). Any Awards that are outstanding on the Expiration Date shall remain in force according to the terms of the Plan, the applicable Program and the applicable Award Agreement.

13.2 *Changes in Common Stock or Assets of the Company, Acquisition or Liquidation of the Company and Other Corporate Events.*

(a) In the event of any stock dividend, stock split, combination or exchange of shares, merger, consolidation or other distribution (other than normal cash dividends) of Company assets to stockholders, or any other change affecting the shares of the Company's stock or the share price of the Company's stock other than an Equity Restructuring, the Administrator may make equitable adjustments, if any, to reflect such change with respect to: (i) the aggregate number and kind of Shares that may be issued under the Plan (including, but not limited to, adjustments of the limitations in Section 3.1 on the maximum number and kind of Shares which may be issued under the Plan, and adjustments of the Award Limit); (ii) the number and kind of Shares (or other securities or property) subject to outstanding Awards; (iii) the terms and conditions of any outstanding Awards (including, without limitation, any applicable performance targets or criteria with respect thereto); and (iv) the grant or exercise price per share for any outstanding Awards under the Plan. Any adjustment affecting an Award intended as Performance-Based Compensation shall be made consistent with the requirements of Section 162(m) of the Code unless otherwise determined by the Administrator.

(b) In the event of any transaction or event described in Section 13.2(a) or any unusual or nonrecurring transactions or events affecting the Company, any Subsidiary of the Company, or the financial statements of the Company or any Subsidiary, or of changes in Applicable Law or Applicable Accounting Standards, the Administrator, in its sole discretion, and on such terms and conditions as it deems appropriate, either by the terms of the Award or by action taken prior to the occurrence of such transaction or event, is hereby authorized to take any one or more of the following actions whenever the Administrator determines that such action is appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan or with

respect to any Award under the Plan, to facilitate such transactions or events or to give effect to such changes in Applicable Law or Applicable Accounting Standards:

(i) To provide for the termination of any such Award in exchange for an amount of cash and/or other property with a value equal to the amount that would have been attained upon the exercise of such Award or realization of the Holder's rights (and, for the avoidance of doubt, if as of the date of the occurrence of the transaction or event described in this Section 13.2 the Administrator determines in good faith that no amount would have been attained upon the exercise of such Award or realization of the Holder's rights, then such Award may be terminated by the Company without payment);

(ii) To provide that such Award be assumed by the successor or survivor corporation, or a parent or subsidiary thereof, or shall be substituted for by similar options, rights or awards covering the stock of the successor or survivor corporation, or a parent or subsidiary thereof, with appropriate adjustments as to the number and kind of shares and applicable exercise or purchase price, in all cases, as determined by the Administrator;

(iii) To make adjustments in the number and type of Shares of the Company's stock (or other securities or property) subject to outstanding Awards, and/or in the terms and conditions of (including the grant or exercise price), and the criteria included in, outstanding Awards and Awards which may be granted in the future;

(iv) To provide that such Award shall be exercisable or payable or fully vested with respect to all Shares covered thereby, notwithstanding anything to the contrary in the Plan or the applicable Program or Award Agreement;

(v) To replace such Award with other rights or property selected by the Administrator; and/or

(vi) To provide that the Award cannot vest, be exercised or become payable after such event.

(c) In connection with the occurrence of any Equity Restructuring, and notwithstanding anything to the contrary in Sections 13.2(a) and 13.2(b):

(i) The number and type of securities subject to each outstanding Award and the exercise price or grant price thereof, if applicable, shall be equitably adjusted (and the adjustments provided under this Section 13.2(c)(i) shall be nondiscretionary and shall be final and binding on the affected Holder and the Company); and/or

(ii) The Administrator shall make such equitable adjustments, if any, as the Administrator, in its sole discretion, may deem appropriate to reflect such Equity Restructuring with respect to the aggregate number and kind of Shares that may be issued under the Plan (including, but not limited to, adjustments of the limitation in Section 3.1 on the maximum number and kind of Shares which may be issued under the Plan, and adjustments of the Award Limit).

(d) The Administrator, in its sole discretion, may include such further provisions and limitations in any Award, agreement or certificate, as it may deem equitable and in the best interests of the Company that are not inconsistent with the provisions of the Plan.

(e) Unless otherwise determined by the Administrator, no adjustment or action described in this Section 13.2 or in any other provision of the Plan shall be authorized to the extent it would (i) with respect to Awards which are granted to Covered Employees and are intended to qualify as Performance-Based Compensation, cause such Award to fail to so qualify as Performance-Based Compensation, (ii) cause the Plan to violate Section 422(b)(1) of the Code, (iii) result in short-swing profits liability under Section 16 of the Exchange Act or violate the exemptive conditions of Rule 16b-3 of the Exchange Act, or (iv) cause an Award to fail to be exempt from or comply with Section 409A.

(f) The existence of the Plan, any Program, any Award Agreement and/or the Awards granted hereunder shall not affect or restrict in any way the right or power of the Company or the stockholders of the Company to make or authorize any adjustment, recapitalization, reorganization or other change in the Company's capital structure or its business, any merger or consolidation of the Company, any issue of stock or of options, warrants or rights to purchase stock or of bonds, debentures, preferred or prior preference stocks whose rights are superior to or affect the Common Stock or the rights thereof or which are convertible into or exchangeable for Common Stock, or the dissolution or liquidation of the Company, or any sale or transfer of all or any part of its assets or business, or any other corporate act or proceeding, whether of a similar character or otherwise.

13.3 *Approval of Plan by Stockholders.* The Plan shall be submitted for the approval of the Company's stockholders within twelve (12) months after the date of the Board's initial adoption of the Plan. Awards may be granted or awarded prior to such stockholder approval; *provided* that such Awards shall not be exercisable, shall not vest and the restrictions thereon shall not lapse and no Shares shall be issued pursuant thereto prior to the time when the Plan is approved by the Company's stockholders; and *provided, further*, that if such approval has not been obtained at the end of said twelve (12) month period, all Awards previously granted or awarded under the Plan shall thereupon be canceled and become null and void. If the Plan is not approved by the Company's stockholders, (i) it will not become effective, (ii) no Awards shall be granted thereunder, and (iii) the Amended 2004 Plan will continue in full force and effect in accordance with its terms. Upon the approval of the Plan by the Company's stockholders, any awards outstanding under the Amended 2004 Plan as of the date of such approval shall remain outstanding and, if applicable, exercisable pursuant to the terms of such individual grants.

13.4 *No Stockholders Rights.* Except as otherwise provided herein or in an applicable Program or Award Agreement, a Holder shall have none of the rights of a stockholder with respect to Shares covered by any Award until the Holder becomes the record owner of such Shares.

13.5 *Paperless Administration.* In the event that the Company establishes, for itself or using the services of a third party, an automated system for the documentation, granting or exercise of Awards, such as a system using an internet website or interactive voice response, then the paperless documentation, granting or exercise of Awards by a Holder may be permitted through the use of such an automated system.

13.6 *Effect of Plan upon Other Compensation Plans.* The adoption of the Plan shall not affect any other compensation or incentive plans in effect for the Company or any Subsidiary. Nothing in the Plan shall be construed to limit the right of the Company or any Subsidiary: (a) to establish any other forms of incentives or compensation for Employees, Directors or Consultants of the Company or any Subsidiary, or (b) to grant or assume options or other rights or awards otherwise than under the Plan in connection with any proper corporate purpose including without limitation, the grant or assumption of options in connection with the acquisition by purchase, lease, merger, consolidation or otherwise, of the business, stock or assets of any corporation, partnership, limited liability company, firm or association.

13.7 *Compliance with Laws.* The Plan, the granting and vesting of Awards under the Plan and the issuance and delivery of Shares and the payment of money under the Plan or under Awards granted or awarded hereunder are subject to compliance with all Applicable Law (including but not limited to state, federal and foreign securities law and margin requirements), and to such approvals by any listing, regulatory or governmental authority as may, in the opinion of counsel for the Company, be necessary or advisable in connection therewith. Any securities delivered under the Plan shall be subject to such restrictions, and the person acquiring such securities shall, if requested by the Company, provide such assurances and representations to the Company as the Company may deem necessary or desirable to assure compliance with all Applicable Law. The Administrator, in its sole discretion, may take whatever actions it deems necessary or appropriate to effect compliance with Applicable Law,

including, without limitation, placing legends on share certificates and issuing stop-transfer notices to agents and registrars. Notwithstanding anything to the contrary herein, the Administrator may not take any actions hereunder, and no Awards shall be granted, that would violate Applicable Law. To the extent permitted by Applicable Law, the Plan and Awards granted or awarded hereunder shall be deemed amended to the extent necessary to conform to Applicable Law.

13.8 *Titles and Headings, References to Sections of the Code or Exchange Act.* The titles and headings of the Sections in the Plan are for convenience of reference only and, in the event of any conflict, the text of the Plan, rather than such titles or headings, shall control. References to sections of the Code or the Exchange Act shall include any amendment or successor thereto.

13.9 *Governing Law.* The Plan and any Programs and Award Agreements hereunder shall be administered, interpreted and enforced under the internal laws of the State of Delaware without regard to conflicts of laws thereof or of any other jurisdiction.

13.10 *Section 409A.* To the extent that the Administrator determines that any Award granted under the Plan is subject to Section 409A, the Plan, the Program pursuant to which such Award is granted and the Award Agreement evidencing such Award shall incorporate the terms and conditions required by Section 409A. In that regard, to the extent any Award under the Plan or any other compensatory plan or arrangement of the Company or any of its Subsidiaries is subject to Section 409A, and such Award or other amount is payable on account of a Participant's Termination of Service (or any similarly defined term), then (a) such Award or amount shall only be paid to the extent such Termination of Service qualifies as a "separation from service" as defined in Section 409A, and (b) if such Award or amount is payable to a "specified employee" as defined in Section 409A then to the extent required in order to avoid a prohibited distribution under Section 409A, such Award or other compensatory payment shall not be payable prior to the earlier of (i) the expiration of the six-month period measured from the date of the Participant's Termination of Service, or (ii) the date of the Participant's death. To the extent applicable, the Plan, the Program and any Award Agreements shall be interpreted in accordance with Section 409A. Notwithstanding any provision of the Plan to the contrary, in the event that following the Effective Date the Administrator determines that any Award may be subject to Section 409A, the Administrator may (but is not obligated to), without a Holder's consent, adopt such amendments to the Plan and the applicable Program and Award Agreement or adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take any other actions, that the Administrator determines are necessary or appropriate to (A) exempt the Award from Section 409A and/or preserve the intended tax treatment of the benefits provided with respect to the Award, or (B) comply with the requirements of Section 409A and thereby avoid the application of any penalty taxes under Section 409A. The Company makes no representations or warranties as to the tax treatment of any Award under Section 409A or otherwise. The Company shall have no obligation under this Section 13.10 or otherwise to take any action (whether or not described herein) to avoid the imposition of taxes, penalties or interest under Section 409A with respect to any Award and shall have no liability to any Holder or any other person if any Award, compensation or other benefits under the Plan are determined to constitute non-compliant, "nonqualified deferred compensation" subject to the imposition of taxes, penalties and/or interest under Section 409A.

13.11 *Unfunded Status of Awards.* The Plan is intended to be an "unfunded" plan for incentive compensation. With respect to any payments not yet made to a Holder pursuant to an Award, nothing contained in the Plan or any Program or Award Agreement shall give the Holder any rights that are greater than those of a general creditor of the Company or any Subsidiary.

13.12 *Indemnification.* To the extent permitted under Applicable Law and the Organizational Documents, each member of the Administrator shall be indemnified and held harmless by the Company from any loss, cost, liability, or expense that may be imposed upon or reasonably incurred by

such member in connection with or resulting from any claim, action, suit, or proceeding to which he or she may be a party or in which he or she may be involved by reason of any action or failure to act pursuant to the Plan and against and from any and all amounts paid by him or her in satisfaction of judgment in such action, suit, or proceeding against him or her; *provided* he or she gives the Company an opportunity, at its own expense, to handle and defend the same before he or she undertakes to handle and defend it on his or her own behalf. The foregoing right of indemnification shall not be exclusive of any other rights of indemnification to which such persons may be entitled pursuant to the Organizational Documents, as a matter of law, or otherwise, or any power that the Company may have to indemnify them or hold them harmless.

13.13 *Relationship to other Benefits.* No payment pursuant to the Plan shall be taken into account in determining any benefits under any pension, retirement, savings, profit sharing, group insurance, welfare or other benefit plan of the Company or any Subsidiary except to the extent otherwise expressly provided in writing in such other plan or an agreement thereunder.

13.14 *Expenses.* The expenses of administering the Plan shall be borne by the Company and its Subsidiaries.

Appendix B
FIRST AMENDMENT TO
COGENT COMMUNICATIONS HOLDINGS, INC.
2017 INCENTIVE AWARD PLAN

THIS FIRST AMENDMENT (this “*First Amendment*”) to the Cogent Communications Holdings, Inc. 2017 Incentive Award Plan is made and adopted by the Board of Directors (the “*Board*”) of Cogent Communications Holdings, Inc., a Delaware corporation (the “*Company*”), effective as of the date adopted by the Board, subject to the approval of the Company’s stockholders (the “*Effective Date*”). All capitalized terms used but not otherwise defined herein shall have the respective meanings ascribed to such terms in the Plan (as defined below).

RECITALS

WHEREAS, the Company maintains the Cogent Communications Holdings, Inc. 2017 Incentive Award Plan (as amended, the “*Plan*”);

WHEREAS, pursuant to Section 13.1(a) of the Plan, the Board has the authority to amend the Plan from time to time, including to increase the maximum aggregate number of shares of Common Stock available for issuance or transfer thereunder (the “*Share Limit*”), subject to approval of the Company’s stockholders within twelve (12) months of such amendment; and

WHEREAS, the Board believes it is in the best interests of the Company and its stockholders to amend the Plan to increase the Share Limit by 1,200,000 shares of Common Stock as set forth herein.

NOW, THEREFORE, BE IT RESOLVED, that the Plan is hereby amended as follows, effective as of the Effective Date, subject to approval of this First Amendment by the Company’s stockholders:

AMENDMENT

1. Section 3.1(a) of the Plan is hereby deleted and replaced in its entirety with the following:

“Subject to adjustment as provided in Section 3.1(b) and Section 13.2, the aggregate number of Shares which may be issued or transferred pursuant to Awards under the Plan is (i) 2,400,000 Shares plus (ii) any Shares subject to awards under the Prior Plan which after the Original Effective Date are forfeited or lapse unexercised or are settled in cash or are not issued under the Prior Plan; *provided*, that, subject to adjustment as provided in Section 13.2, no more than a total of 2,400,000 Shares shall be authorized for grant as Incentive Stock Options. After the Original Effective Date, no awards may be granted under any Prior Plan, however, any awards under any Prior Plan that are outstanding as of the Original Effective Date shall continue to be subject to the terms and conditions of such Prior Plan.”
2. For the avoidance of doubt, “*Effective Date*” as defined in Section 2.20 of the Plan shall mean “Effective Date” as defined in this First Amendment.
3. Add the following as new Section 2.37, and adjust the subsequent numbering accordingly:

““*Original Effective Date*” shall mean February 22, 2017, the date the Plan was first adopted by the Board, subject to approval by the Company’s stockholder.”
4. This First Amendment shall be and is hereby incorporated into and forms a part of the Plan.
5. Except as expressly provided herein, all terms and conditions of the Plan shall remain in full force and effect.