

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

FORM 10-Q

(Mark One)

☒ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended June 30, 2017
OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____
Commission file number 0-27512

CSG SYSTEMS INTERNATIONAL, INC.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

47-0783182
(I.R.S. Employer
Identification No.)

9555 Maroon Circle
Englewood, Colorado 80112
(Address of principal executive offices, including zip code)
(303) 200-2000
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

YES ☒ NO ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

YES ☒ NO ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐ (Do not check if a smaller reporting company)	Smaller reporting company	☐
Emerging growth company	☐		

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

YES ☐ NO ☒

Shares of common stock outstanding at July 31, 2017: 33,584,617

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FORM 10-Q for the Quarter Ended June 30, 2017
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CSG SYSTEMS INTERNATIONAL, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS - UNAUDITED
(in thousands, except per share amounts)

	June 30, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 125,111	\$ 126,351
Short-term investments	119,843	150,147
Total cash, cash equivalents and short-term investments	244,954	276,498
Trade accounts receivable:		
Billed, net of allowance of \$2,706 and \$3,080	197,486	208,930
Unbilled	37,353	30,828
Income taxes receivable	13,517	11,931
Other current assets	37,633	31,751
Total current assets	530,943	559,938
Non-current assets:		
Property and equipment, net of depreciation of \$129,475 and \$122,866	36,343	33,116
Software, net of amortization of \$104,252 and \$99,316	28,890	30,427
Goodwill	206,634	201,094
Client contracts, net of amortization of \$88,406 and \$96,723	38,089	40,675
Deferred income taxes	13,455	14,218
Other assets	10,040	12,411
Total non-current assets	333,451	331,941
Total assets	\$ 864,394	\$ 891,879
LIABILITIES, CURRENT PORTION OF LONG-TERM DEBT CONVERSION OBLIGATION AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term debt, net of unamortized discounts of zero and \$296	\$ 18,750	\$ 49,426
Client deposits	32,590	33,916
Trade accounts payable	29,982	35,118
Accrued employee compensation	50,314	65,341
Deferred revenue	57,865	45,064
Income taxes payable	423	822
Other current liabilities	18,960	22,342
Total current liabilities	208,884	252,029
Non-current liabilities:		
Long-term debt, net of unamortized discounts of \$20,652 and \$23,007	318,098	326,993
Deferred revenue	7,710	6,694
Income taxes payable	2,441	2,245
Deferred income taxes	100	99
Other non-current liabilities	12,035	12,618
Total non-current liabilities	340,384	348,649
Total liabilities	549,268	600,678
Current portion of long-term debt conversion obligation	-	39,841
Stockholders' equity:		
Preferred stock, par value \$.01 per share; 10,000 shares authorized; zero shares issued and outstanding	-	-
Common stock, par value \$.01 per share; 100,000 shares authorized; 33,700 and 32,261 shares outstanding	689	672
Common stock warrants; zero and 1,426 warrants vested; 1,425 and 2,851 issued	-	16,007
Additional paid-in capital	421,638	391,209
Treasury stock, at cost; 33,830 and 34,919 shares	(804,650)	(826,002)
Accumulated other comprehensive income (loss):		
Unrealized loss on short-term investments, net of tax	(12)	(159)
Cumulative foreign currency translation adjustments	(35,649)	(45,213)
Accumulated earnings	733,110	714,846
Total stockholders' equity	315,126	251,360
Total liabilities, current portion of long-term debt conversion obligation and stockholders' equity	\$ 864,394	\$ 891,879

The accompanying notes are an integral part of these condensed consolidated financial statements.

CSG SYSTEMS INTERNATIONAL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF INCOME - UNAUDITED
(in thousands, except per share amounts)

	Quarter Ended		Six Months Ended	
	June 30, 2017	June 30, 2016	June 30, 2017	June 30, 2016
Revenues:				
Cloud and related solutions	\$ 157,879	\$ 149,992	\$ 316,656	\$ 299,806
Software and services	15,896	21,152	30,954	40,330
Maintenance	18,938	19,108	37,573	36,342
Total revenues	<u>192,713</u>	<u>190,252</u>	<u>385,183</u>	<u>376,478</u>
Cost of revenues (exclusive of depreciation, shown separately below):				
Cloud and related solutions	77,286	70,195	153,338	136,428
Software and services	10,405	11,461	21,679	24,827
Maintenance	9,969	11,127	20,351	21,011
Total cost of revenues	<u>97,660</u>	<u>92,783</u>	<u>195,368</u>	<u>182,266</u>
Other operating expenses:				
Research and development	27,939	24,281	54,779	47,907
Selling, general and administrative	36,819	34,980	74,165	69,031
Depreciation	3,316	3,509	6,631	7,025
Restructuring and reorganization charges	2,731	5,325	2,979	(416)
Total operating expenses	<u>168,465</u>	<u>160,878</u>	<u>333,922</u>	<u>305,813</u>
Operating income	<u>24,248</u>	<u>29,374</u>	<u>51,261</u>	<u>70,665</u>
Other income (expense):				
Interest expense	(4,146)	(4,473)	(8,452)	(7,478)
Amortization of original issue discount	(625)	(1,136)	(1,513)	(2,794)
Interest and investment income, net	704	523	1,510	991
Loss on repurchase of convertible notes	-	(5,108)	-	(8,319)
Other, net	122	(1,895)	(153)	(2,686)
Total other	<u>(3,945)</u>	<u>(12,089)</u>	<u>(8,608)</u>	<u>(20,286)</u>
Income before income taxes	<u>20,303</u>	<u>17,285</u>	<u>42,653</u>	<u>50,379</u>
Income tax provision	<u>(8,722)</u>	<u>(6,448)</u>	<u>(10,835)</u>	<u>(18,038)</u>
Net income	<u>\$ 11,581</u>	<u>\$ 10,837</u>	<u>\$ 31,818</u>	<u>\$ 32,341</u>
Weighted-average shares outstanding:				
Basic	32,572	30,942	32,294	30,852
Diluted	32,996	32,811	32,795	33,241
Earnings per common share:				
Basic	\$ 0.36	\$ 0.35	\$ 0.99	\$ 1.05
Diluted	0.35	0.33	0.97	0.97

The accompanying notes are an integral part of these condensed consolidated financial statements.

CSG SYSTEMS INTERNATIONAL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME - UNAUDITED
(in thousands)

	Quarter Ended		Six Months Ended	
	June 30, 2017	June 30, 2016	June 30, 2017	June 30, 2016
Net income	\$ 11,581	\$ 10,837	\$ 31,818	\$ 32,341
Other comprehensive income (loss), net of tax:				
Foreign currency translation adjustments	5,225	(7,938)	9,564	(9,040)
Unrealized holding gains (losses) on short-term investments arising during period	103	(254)	147	657
Other comprehensive income (loss), net of tax	5,328	(8,192)	9,711	(8,383)
Total comprehensive income, net of tax	\$ 16,909	\$ 2,645	\$ 41,529	\$ 23,958

The accompanying notes are an integral part of these condensed consolidated financial statements.

CSG SYSTEMS INTERNATIONAL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS - UNAUDITED
(in thousands)

	Six Months Ended	
	June 30, 2017	June 30, 2016
Cash flows from operating activities:		
Net income	\$ 31,818	\$ 32,341
Adjustments to reconcile net income to net cash provided by operating activities-		
Depreciation	6,631	7,025
Amortization	14,418	13,040
Amortization of original issue discount	1,513	2,794
Asset impairment	2,147	-
(Gain) loss on short-term investments and other	(37)	3
Loss on repurchase of convertible notes	-	8,319
Gain on disposition of business operations	-	(6,611)
Deferred income taxes	1,725	78
Excess tax benefit of stock-based compensation awards	-	(3,440)
Stock-based compensation	11,644	12,086
Changes in operating assets and liabilities:		
Trade accounts receivable, net	7,796	5,705
Other current and non-current assets	(4,787)	(1,866)
Income taxes payable/receivable	(1,402)	(7,971)
Trade accounts payable and accrued liabilities	(19,266)	(18,758)
Deferred revenue	12,288	8,020
Net cash provided by operating activities	64,488	50,765
Cash flows from investing activities:		
Purchases of property and equipment	(18,738)	(8,863)
Purchases of short-term investments	(73,831)	(102,110)
Proceeds from sale/maturity of short-term investments	104,291	61,833
Acquisition of and investments in client contracts	(7,526)	(4,461)
Proceeds from the disposition of business operations	-	8,850
Net cash provided by (used in) investing activities	4,196	(44,751)
Cash flows from financing activities:		
Proceeds from issuance of common stock	846	715
Payment of cash dividends	(13,713)	(12,265)
Repurchase of common stock	(16,482)	(19,494)
Proceeds from long-term debt	-	230,000
Payments on long-term debt	(7,500)	(3,750)
Repurchase of convertible notes	-	(198,367)
Settlement of convertible notes	(34,771)	-
Payments of deferred financing costs	-	(6,744)
Excess tax benefit of stock-based compensation awards	-	3,440
Net cash used in financing activities	(71,620)	(6,465)
Effect of exchange rate fluctuations on cash	1,696	2,937
Net increase (decrease) in cash and cash equivalents	(1,240)	2,486
Cash and cash equivalents, beginning of period	126,351	132,631
Cash and cash equivalents, end of period	\$ 125,111	\$ 135,117
Supplemental disclosures of cash flow information:		
Cash paid during the period for-		
Interest	\$ 7,629	\$ 4,619
Income taxes	10,490	25,923

The accompanying notes are an integral part of these condensed consolidated financial statements.

CSG SYSTEMS INTERNATIONAL, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

1. GENERAL

We have prepared the accompanying unaudited condensed consolidated financial statements as of June 30, 2017 and December 31, 2016, and for the quarters and six months ended June 30, 2017 and 2016, in accordance with accounting principles generally accepted in the United States of America ("U.S.") ("GAAP") for interim financial information, and pursuant to the instructions to Form 10-Q and the rules and regulations of the Securities and Exchange Commission (the "SEC"). Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. In the opinion of our management, all adjustments (consisting only of normal recurring adjustments) considered necessary for a fair presentation of our financial position and operating results have been included. The unaudited Condensed Consolidated Financial Statements (the "Financial Statements") should be read in conjunction with the Consolidated Financial Statements and notes thereto, together with Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A"), contained in our Annual Report on Form 10-K for the year ended December 31, 2016 (our "2016 10-K"), filed with the SEC. The results of operations for the quarter and six months ended June 30, 2017 are not necessarily indicative of the expected results for the entire year ending December 31, 2017.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Use of Estimates in Preparation of Financial Statements. The preparation of the accompanying Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of our Financial Statements, and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

Cash and Cash Equivalents. We consider all highly liquid investments with original maturities of three months or less at the date of the purchase to be cash equivalents. As of June 30, 2017 and December 31, 2016, our cash equivalents consist primarily of institutional money market funds, commercial paper, and time deposits held at major banks.

As of June 30, 2017 and December 31, 2016, we had \$3.0 million and \$4.3 million, respectively, of restricted cash that serves to collateralize outstanding letters of credit. This restricted cash is included in cash and cash equivalents in our Condensed Consolidated Balance Sheets ("Balance Sheets" or "Balance Sheet").

Short-term Investments and Other Financial Instruments. Our financial instruments as of June 30, 2017 and December 31, 2016 include cash and cash equivalents, short-term investments, accounts receivable, accounts payable, and debt. Because of their short maturities, the carrying amounts of cash equivalents, accounts receivable, and accounts payable approximate their fair value.

Our short-term investments and certain of our cash equivalents are considered "available-for-sale" and are reported at fair value in our Balance Sheets, with unrealized gains and losses, net of the related income tax effect, excluded from earnings and reported in a separate component of stockholders' equity. Realized and unrealized gains and losses were not material in any period presented.

Primarily all short-term investments held by us as of June 30, 2017 and December 31, 2016 have contractual maturities of less than two years from the time of acquisition. Our short-term investments as of June 30, 2017 and December 31, 2016 consisted almost entirely of fixed income securities. Proceeds from the sale/maturity of short-term investments for the six months ended June 30, 2017 and 2016 were \$104.3 million and \$61.8 million, respectively.

The following table represents the fair value hierarchy based upon three levels of inputs, of which Levels 1 and 2 are considered observable and Level 3 is unobservable, for our financial assets and liabilities measured at fair value (in thousands):

	June 30, 2017			December 31, 2016		
	Level 1	Level 2	Total	Level 1	Level 2	Total
Assets:						
Cash equivalents:						
Money market funds	\$ 14,625	\$ —	\$ 14,625	\$ 6,531	\$ —	\$ 6,531
Commercial paper	—	17,866	17,866	—	24,826	24,826
Short-term investments:						
Corporate debt securities	—	96,858	96,858	—	109,140	109,140
U.S. government agency bonds	—	8,919	8,919	—	26,513	26,513
Asset-backed securities	—	14,066	14,066	—	14,494	14,494
Total	<u>\$ 14,625</u>	<u>\$ 137,709</u>	<u>\$ 152,334</u>	<u>\$ 6,531</u>	<u>\$ 174,973</u>	<u>\$ 181,504</u>

Valuation inputs used to measure the fair values of our money market funds and corporate equity securities were derived from quoted market prices. The fair values of all other financial instruments are based upon pricing provided by third-party pricing services. These prices were derived from observable market inputs.

We have chosen not to measure our debt at fair value, with changes recognized in earnings each reporting period. The following table indicates the carrying value (par value for convertible debt) and estimated fair value of our debt as of the indicated periods (in thousands):

	June 30, 2017		December 31, 2016	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Credit agreement (carrying value including current maturities)	\$ 127,500	\$ 127,500	\$ 135,000	\$ 135,000
2010 Convertible debt (par value)	—	—	34,722	74,795
2016 Convertible debt (par value)	230,000	248,688	230,000	258,175

The fair value for our credit agreement was estimated using a discounted cash flow methodology, while the fair value for our convertible debt was estimated based upon quoted market prices or recent sales activity, both of which are considered Level 2 inputs. See Note 4 for additional discussion regarding our convertible debt.

Accounting Pronouncements Adopted. In March 2016, the FASB issued ASU 2016-09, *Compensation – Stock Compensation* (Topic 718). This ASU simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. This ASU is effective for fiscal years beginning after December 15, 2016, with early adoption permitted. The methods of adoption for this ASU vary by amendment. We adopted this ASU in the first quarter of 2017, prospectively applying the guidance related to the recognition of excess tax benefits and tax deficiencies in the income statement and the presentation of excess tax benefits on the statement of cash flows. See Note 5 for further discussion of the impact of adopting this ASU.

Accounting Pronouncement Issued But Not Yet Effective. The FASB has issued ASU 2014-09, *Revenue from Contracts with Customers* (Topic 606). In August 2015, the FASB issued ASU 2015-14 *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date* which deferred the effective date of ASU 2014-09 for one year. In December 2016, the FASB issued ASU 2016-20 *Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers*. Collectively, this ASU is a single comprehensive model which supersedes nearly all existing revenue recognition guidance under U.S. GAAP. Under the new guidance, revenue is recognized when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services. The ASU also requires additional disclosure about the nature, amount, timing, and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. The accounting guidance is effective for annual and interim reporting periods in fiscal years beginning after December 15, 2017. Early adoption is permitted. An entity may choose to adopt this ASU either retrospectively or through a cumulative effect adjustment as of the start of the first period for which it applies the standard.

We are currently evaluating the impact this ASU will have to our accounting policies, business processes and potential differences in the timing and/or method of revenue recognition for our customer contracts. In conjunction with this evaluation, we are updating our policies to align with the new accounting guidance as well as evaluating our significant customer contracts to determine if the guidance will materially impact our existing portfolio of customer contracts. In addition, we will review new contracts entered into up until the adoption of the ASU. Based upon our initial evaluations, the adoption of this guidance is not expected to have a material impact on our consolidated financial statements. We currently intend to adopt the ASU in the first quarter of 2018, utilizing the cumulative effect approach.

In February 2016, the FASB issued ASU 2016-02, *Leases* (Topic 842). This ASU requires lessees to recognize a lease liability and a right-to-use asset for all leases, including operating leases, with a term greater than twelve months on its balance sheet. This ASU is effective in annual and interim periods in fiscal years beginning after December 15, 2018, with early adoption permitted, and requires a modified retrospective transition method. We are currently in the process of evaluating the impact this ASU will have on our Financial Statements. Currently, we plan to early adopt this ASU in the first quarter of 2018. Based on our initial evaluations, we believe the adoption of this standard will have a material impact on our consolidated balance sheet.

In October 2016, the FASB issued ASU 2016-16, *Income Taxes (Topic 740) Intra-Entity Transfers of Assets Other Than Inventory*. This ASU requires entities to recognize at the transaction date the income tax consequences of intercompany asset transfers. This ASU is effective in annual and interim periods in fiscal years beginning after December 15, 2017, with early adoption permitted, and requires a modified retrospective transition method. We are currently in the process of evaluating the impact that this new guidance will have on our Financial Statements.

3. LONG-LIVED ASSETS

Goodwill. The changes in the carrying amount of goodwill for the six months ended June 30, 2017, were as follows (in thousands):

January 1, 2017 balance	\$	201,094
Adjustments related to prior acquisitions		(30)
Effects of changes in foreign currency exchange rates		5,570
June 30, 2017 balance	\$	206,634

Other Intangible Assets. Our intangible assets subject to ongoing amortization consist primarily of client contracts and software. As of June 30, 2017 and December 31, 2016, the carrying values of these assets were as follows (in thousands):

	June 30, 2017			December 31, 2016		
	Gross Carrying Amount	Accumulated Amortization	Net Amount	Gross Carrying Amount	Accumulated Amortization	Net Amount
Client contracts	\$ 126,495	\$ (88,406)	\$ 38,089	\$ 137,398	\$ (96,723)	\$ 40,675
Software	133,142	(104,252)	28,890	129,743	(99,316)	30,427
Total	\$ 259,637	\$ (192,658)	\$ 66,979	\$ 267,141	\$ (196,039)	\$ 71,102

The total amortization expense related to intangible assets for the second quarters of 2017 and 2016 were \$6.4 million and \$6.0 million, respectively, and for the six months ended June 30, 2017 and 2016 were \$13.3 million and \$11.9 million, respectively. Based on the June 30, 2017 net carrying value of our intangible assets, the estimated total amortization expense for each of the five succeeding fiscal years ending December 31 are: 2017– \$26.9 million; 2018 – \$21.1 million; 2019 – \$14.3 million; 2020– \$7.4 million; and 2021 – \$3.2 million.

4. DEBT

Our long-term debt, as of June 30, 2017 and December 31, 2016, was as follows (in thousands):

	June 30, 2017	December 31, 2016
<i>Credit Agreement:</i>		
Term loan, due February 2020, interest at adjusted LIBOR plus 1.75% (combined rate of 3.05% at June 30, 2017)	\$ 127,500	\$ 135,000
Less - deferred financing costs	(2,874)	(3,489)
Term loan, net of unamortized discounts	124,626	131,511
\$200 million revolving loan facility, due February 2020, interest at adjusted LIBOR plus applicable margin	—	—
<i>Convertible Notes:</i>		
2016 Convertible Notes – Senior convertible notes; due March 15, 2036; cash interest at 4.25%	230,000	230,000
Less – unamortized original issue discount	(12,764)	(14,005)
Less – deferred financing costs	(5,014)	(5,513)
2016 Convertible Notes, net of unamortized discounts	212,222	210,482
2010 Convertible Notes – Senior subordinated convertible notes; due March 1, 2017; cash interest at 3.0%	—	34,722
Less – unamortized original issue discount	—	(272)
Less – deferred financing costs	—	(24)
2010 Convertible Notes, net of unamortized discounts	—	34,426
Total debt, net of unamortized discounts	336,848	376,419
Current portion of long-term debt, net of unamortized discounts	(18,750)	(49,426)
Long-term debt, net of unamortized discounts	\$ 318,098	\$ 326,993

Credit Agreement

During the six months ended June 30, 2017, we made \$7.5 million of principal repayments on our \$150 million aggregate principal five-year term loan (the “2015 Term Loan”). As of June 30, 2017, our interest rate on the 2015 Term Loan is 3.05% (adjusted LIBOR plus 1.75% per annum), effective through September 29, 2017, and our commitment fee on the unused \$200 million aggregate principal five-year revolving loan facility (the “2015 Revolver”) is 0.25%. As of June 30, 2017, we had no borrowing outstanding on our 2015 Revolver and had the entire \$200.0 million available to us.

Convertible Notes

2016 Convertible Notes. Upon conversion of the 2016 Convertible Notes, we will settle our conversion obligation by paying or delivering, as the case may be, cash, shares of our common stock, or a combination thereof, at our election. It is our current intent and policy to settle our conversion obligations as follows: (i) pay cash for 100% of the par value of the 2016 Convertible Notes that are converted; and (ii) to the extent the value of our conversion obligation exceeds the par value, we can satisfy the remaining conversion obligation in our common stock, cash or a combination thereof.

The 2016 Convertible Notes will be convertible at the option of the note holders upon the satisfaction of specified conditions and during certain periods. During the period from, and including, December 15, 2021 to the close of business on the business day immediately preceding March 15, 2022 and on or after December 15, 2035, holders may convert all or any portion of their 2016 Convertible Notes at the conversion rate then in effect at any time regardless of these conditions.

As a result of us increasing our dividend in March 2017 (see Note 8), the previous conversion rate for the 2016 Convertible Notes of 17.4699 shares of our common stock per \$1,000 principal amount of the 2016 Convertible Notes, which is equivalent to an initial conversion price of approximately \$57.24 per share of our common stock, has been adjusted to 17.4753 shares of our common stock per \$1,000 principal amount of the 2016 Convertible Notes, which is equivalent to an initial conversion price of approximately \$57.22 per share of our common stock.

Holders may require CSG to repurchase the 2016 Convertible Notes for cash on each of March 15, 2022, March 15, 2026, and March 15, 2031, or upon the occurrence of a fundamental change (as defined in the 2016 Convertible Notes Indenture) in each case at a purchase price equal to the principal amount thereof plus accrued and unpaid interest.

We may not redeem the 2016 Convertible Notes prior to March 20, 2020. On or after March 20, 2020, we may redeem for cash all or part of the 2016 Convertible Notes if the last reported sale price of our common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which CSG provides notice of redemption. On or after March 15, 2022, we may redeem for cash all or part of the 2016 Convertible Notes regardless of the sales price condition described in the preceding sentence. In each case, the redemption price will equal the principal amount of the 2016 Convertible Notes to be redeemed, plus accrued and unpaid interest.

As of June 30, 2017, none of the conversion features have been achieved, and thus, the 2016 Convertible Notes are not convertible by the holders.

2010 Convertible Notes. In March 2017, we settled our conversion obligation for the 2010 Convertible Notes as follows: (i) we paid cash of \$34.8 million for the remaining par value of the 2010 Convertible Notes; and (ii) delivered 694,240 shares of our common shares from treasury stock, to settle the \$28.8 million value of the conversion obligation in excess of the par value. See Note 8 for discussion of our equity transactions.

5. INCOME TAXES

The effective income tax rates for the second quarters and six months ended June 30, 2017 and 2016 were as follows:

Quarter Ended June 30,		Six Months Ended June 30,	
2017	2016	2017	2016
43%	37%	25%	36%

The lower rate for the six months ended June 30, 2017 reflects an approximately \$5 million net benefit received in the first quarter of 2017 resulting from Comcast’s exercise of 1.4 million vested stock warrants in January 2017, discussed below in Note 8. The stock warrants appreciated in value since their vesting, which resulted in an income tax benefit to us when exercised. Additionally, as discussed in Note 2, we adopted ASU 2016-09, *Compensation – Stock Compensation* (Topic 718) in the first quarter of 2017. This ASU requires a change in the recognition of excess tax benefits and tax deficiencies, related to share-based payment transactions, which were recorded in equity, and now are recorded discrete to the quarter incurred as a component of income tax expense in the income statement. Under the guidance of this ASU, we recognized an income tax benefit of approximately zero and approximately \$1 million, respectively, for the second quarter and six months ended June 30, 2017. It is expected to provide an approximately \$2 million benefit for the full year. For the full-year 2017 we are currently estimating an effective income tax rate of approximately 32%.

6. COMMITMENTS, GUARANTEES AND CONTINGENCIES

Warranties. We generally warrant that our solutions and related offerings will conform to published specifications, or to specifications provided in an individual client arrangement, as applicable. The typical warranty period is 90 days from the date of acceptance of the solution or offering. For certain service offerings we provide a limited warranty for the duration of the services provided. We generally warrant that services will be performed in a professional and workmanlike manner. The typical remedy for breach of warranty is to correct or replace any defective deliverable, and if not possible or practical, we will accept the return of the defective deliverable and refund the amount paid under the client arrangement that is allocable to the defective deliverable. Our contracts also generally contain limitation of damages provisions in an effort to reduce our exposure to monetary damages arising from breach of warranty claims. Historically, we have incurred minimal warranty costs, and as a result, do not maintain a warranty reserve.

Product and Services Indemnifications. Our arrangements with our clients generally include an indemnification provision that will indemnify and defend a client in actions brought against the client that claim our products and/or services infringe upon a copyright, trade secret, or valid patent. Historically, we have not incurred any significant costs related to such indemnification claims, and as a result, do not maintain a reserve for such exposure.

Claims for Company Non-performance. Our arrangements with our clients typically cap our liability for breach to a specified amount of the direct damages incurred by the client resulting from the breach. From time-to-time, these arrangements may also include provisions for possible liquidated damages or other financial remedies for our non-performance, or in the case of certain of our outsourced customer care and billing solutions, provisions for damages related to service level performance requirements. The service level performance requirements typically relate to system availability and timeliness of service delivery. As of June 30, 2017, we believe we have adequate reserves, based on our historical experience, to cover any reasonably anticipated exposure as a result of our nonperformance for any past or current arrangements with our clients.

Indemnifications Related to Officers and the Board of Directors. We have agreed to indemnify members of our Board of Directors (the “Board”) and certain of our officers if they are named or threatened to be named as a party to any proceeding by reason of the fact that they acted in such capacity. We maintain directors’ and officers’ (D&O) insurance coverage to protect against such losses. We have not historically incurred any losses related to these types of indemnifications, and are not aware of any pending or threatened actions or claims against any officer or member of our Board. As a result, we have not recorded any liabilities related to such indemnifications as of June 30, 2017. In addition, as a result of the insurance policy coverage, we believe these indemnification agreements are not significant to our results of operations.

Legal Proceedings. From time-to-time, we are involved in litigation relating to claims arising out of our operations in the normal course of business. We are not presently a party to any material pending or threatened legal proceedings.

7. EARNINGS PER COMMON SHARE

Basic and diluted earnings per common share ("EPS") amounts are presented on the face of the accompanying Income Statements.

No reconciliation of the basic and diluted EPS numerators is necessary as net income is used as the numerators for all periods presented. The reconciliation of the basic and diluted EPS denominators related to the common shares is included in the following table (in thousands):

	Quarter Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Basic weighted-average common shares	32,572	30,942	32,294	30,852
Dilutive effect of restricted common stock	424	602	501	667
Dilutive effect of 2010 Convertible Notes	-	907	-	1,403
Dilutive effect of Stock Warrants	-	360	-	319
Diluted weighted-average common shares	32,996	32,811	32,795	33,241

The Convertible Notes have a dilutive effect only in those quarterly periods in which our average stock price exceeds the current effective conversion price. The 2010 Convertible Notes were settled in March 2017 (see Note 4).

The Stock Warrants have a dilutive effect only in those quarterly periods in which our average stock price exceeds the exercise price of \$26.68 per warrant (under the treasury stock method), and are not subject to performance vesting conditions. All the vested Stock Warrants were exercised in January 2017 (see Note 8).

Potentially dilutive common shares related to non-participating unvested restricted stock excluded from the computation of diluted EPS, as the effect was antidilutive, were not material in any period presented.

8. STOCKHOLDERS' EQUITY AND EQUITY COMPENSATION PLANS

Stock Repurchase Program. We currently have a stock repurchase program, approved by our Board, authorizing us to repurchase our common stock from time-to-time as market and business conditions warrant (the "Stock Repurchase Program"). During the six months ended June 30, 2017 and 2016 we repurchased 0.3 million shares of our common stock for \$10.5 million (weighted-average price of \$41.00 per share) and 0.3 million shares of our common stock for \$9.5 million (weighted-average price of \$36.07 per share), respectively, under a SEC Rule 10b5-1 Plan.

As of June 30, 2017, the total remaining number of shares available for repurchase under the Stock Repurchase Program totaled 6.5 million shares.

Stock Repurchases for Tax Withholdings. In addition to the above mentioned stock repurchases, during the six months ended June 30, 2017 and 2016, we repurchased and then cancelled 0.2 million shares of common stock for \$6.3 million and 0.3 million shares of common stock for \$10.0 million, respectively, in connection with minimum tax withholding requirements resulting from the vesting of restricted common stock under our stock incentive plans.

Cash Dividends. During the second quarter of 2017, the Board approved a quarterly cash dividend of \$0.1975 per share of common stock, totaling \$6.7 million. During the second quarter of 2016, the Board approved a quarterly cash dividend of \$0.185 per share of common stock, totaling \$6.0 million. Dividends declared for the six months ended June 30, 2017 and 2016 totaled \$13.4 million and \$12.0 million, respectively.

Warrants. In 2014, in conjunction with the execution of an amendment to our current agreement with Comcast Corporation ("Comcast"), we issued stock warrants (the "Warrant Agreement") for the right to purchase up to approximately 2.9 million shares of our common stock (the "Stock Warrants") as an additional incentive for Comcast to convert customer accounts onto our Advanced Convergent Platform based on various milestones. The Stock Warrants have a 10-year term and an exercise price of \$26.68 per warrant.

Upon vesting, the Stock Warrants are recorded as a client incentive asset with the corresponding offset to stockholders' equity. The client incentive asset related to the Stock Warrants is amortized as a reduction in cloud and related solutions revenues over the remaining term of the Comcast amended agreement. As of June 30, 2017, we recorded a client incentive asset related to these Stock Warrants of \$16.0 million and have amortized \$6.6 million as a reduction in cloud and related solutions revenues. The remaining unvested Stock Warrants will be accounted for as client incentive assets in the period the performance conditions necessary for vesting have been met.

As of December 31, 2016, approximately 1.4 million Stock Warrants had vested. In January 2017, Comcast exercised approximately 1.4 million vested Stock Warrants, which we net share settled under the provisions of the Warrant Agreement (discussed further in Treasury Shares below). As of June 30, 2017, approximately 1.5 million Stock Warrants remain issued, none of which were vested.

Treasury Stock. In January 2017, we net share settled the exercise of 1.4 million vested Stock Warrants noted above by delivering 649,221 of our common shares from treasury stock, which had a fair value of \$31.5 million. The carrying value of the shares of treasury stock delivered was \$15.4 million (weighted-average price of \$23.66 per share). The difference between the carrying amount of the treasury shares and the \$16.0 million carrying amount of the common stock warrants was recorded as an adjustment to additional paid-in capital.

In March 2017, we net share settled the portion of the conversion obligation in excess of the par value related to our 2010 Convertible Notes by delivering 694,240 of our common shares from treasury stock. The carrying value of the shares of treasury stock delivered was \$16.5 million (weighted average price of \$23.71 per share). The difference between the carrying amount of the treasury shares and the \$28.8 million carrying amount of the conversion obligation on the settlement date was recorded as an adjustment to additional paid-in capital.

Stock-Based Awards. A summary of our unvested restricted common stock activity during the second quarter is as follows (shares in thousands):

	Quarter Ended June 30, 2017		Six Months Ended June 30, 2017	
	Shares	Weighted-Average Grant Date Fair Value	Shares	Weighted-Average Grant Date Fair Value
Unvested awards, beginning	1,419	\$ 34.90	1,394	\$ 31.26
Awards granted	2	40.55	475	39.49
Awards forfeited/cancelled	(11)	34.63	(20)	33.44
Awards vested	(19)	34.65	(458)	28.61
Unvested awards, ending	1,391	\$ 34.92	1,391	\$ 34.92

Included in the awards granted during the six months ended June 30, 2017 are performance-based awards for 0.1 million restricted common stock shares issued to members of executive management and certain key employees, which vest in equal installments over three years upon meeting either pre-established financial performance objectives or pre-established total shareholder return objectives. The performance-based awards become fully vested upon a change in control, as defined, and the subsequent involuntary termination of employment.

All other restricted common stock shares granted during the quarter and six months ended June 30, 2017 are time-based awards, which vest annually over four years with no restrictions other than the passage of time. Certain shares of the restricted common stock become fully vested upon a change in control, as defined, and the subsequent involuntary termination of employment.

We recorded stock-based compensation expense for the second quarters of 2017 and 2016 of \$6.0 million and \$5.6 million, respectively, and for the six months ended June 30, 2017 and 2016 of \$11.6 million and \$12.1 million, respectively.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The information contained in this MD&A should be read in conjunction with the Financial Statements and Notes thereto included in this Form 10-Q and the audited consolidated financial statements and notes thereto in our 2016 10-K.

Forward-Looking Statements

This report contains a number of forward-looking statements relative to our future plans and our expectations concerning our business and the industries we serve. These forward-looking statements are based on assumptions about a number of important factors, and involve risks and uncertainties that could cause actual results to differ materially from estimates contained in the forward-looking statements. Some of the risks that are foreseen by management are outlined within Part II Item 1A. Risk Factors of this report and in Part I Item 1A. Risk Factors of our 2016 10-K. Readers are strongly encouraged to review those sections closely in conjunction with MD&A.

Company Overview

We are one of the world's largest and most established providers of business support solutions, primarily serving the global communications industry. We have thirty-five years of expertise supporting communications service providers as their businesses have evolved from a single product offering to highly complex and competitive multi-product offerings, while also requiring increasingly differentiated, real-time, and personalized experiences for their customers.

Our proven experience and world-class solutions support the mission critical management of our clients' revenue, customer interactions, and digital ecosystem as they advance their video, voice, data, content, and digital services to consumers. Over the years, we have focused our research and development ("R&D") and acquisition investments on expanding our solution set to address the complex, transformative needs of service providers. Our broad and deep solutions help our clients be competitive in a dynamically evolving global business environment, respond to changing consumer demands, quickly launch new compelling product offerings, provide enhanced customer experiences through relevant and targeted interactions, and cost-effectively streamline and scale operations.

We generate approximately 70% of our revenues from the North American cable and satellite markets, approximately 20% of our revenues from wireline and wireless communication providers, and the remainder from a variety of other verticals, such as financial services, logistics, and transportation. Additionally, during the six months ended June 30, 2017 we generated approximately 85% of our revenues from the Americas region, approximately 9% of our revenues from the Europe, Middle East and Africa region, and approximately 6% of our revenues from the Asia Pacific region.

We are a S&P Small Cap 600 company.

Management Overview of Quarterly Results

Second Quarter Highlights. A summary of our results of operations for the second quarter of 2017, when compared to the second quarter of 2016, is as follows (in thousands, except per share amounts and percentages):

	Quarter Ended	
	June 30, 2017	June 30, 2016
Revenues	\$ 192,713	\$ 190,252
Operating Results:		
Operating income	24,248	29,374
Operating income margin	12.6%	15.4%
Diluted EPS	\$ 0.35	\$ 0.33
Supplemental Data:		
Restructuring and reorganization charges	\$ 2,731	\$ 5,325
Stock-based compensation (1)	5,974	5,461
Amortization of acquired intangible assets	1,734	2,215
Amortization of OID	625	1,136
Loss on repurchase of convertible notes	-	(5,108)

- (1) Stock-based compensation included in the table above excludes amounts that have been recorded in restructuring and reorganization charges.

Revenues. Our revenues for the second quarter of 2017 were \$192.7 million, a 1% increase when compared to revenues of \$190.3 million for the second quarter of 2016. The year-over-year increase in revenues is primarily attributed to the growth of our cloud and related solutions revenues, resulting primarily from the higher revenues from our recurring managed services arrangements and the conversion of customer accounts onto our cloud solutions over the past year, which more than offset the lower software and services revenues generated during the quarter.

Operating Results. Operating income for the second quarter of 2017 was \$24.2 million, or a 12.6% operating income margin percentage, compared to \$29.4 million, or a 15.4% operating income margin percentage for the second quarter of 2016, with the decreases in operating income and operating income margin percentage reflective of the increase in planned investments aimed at generating future long-term growth in our business. These increased expenditures are primarily within the following areas of our business: (i) our R&D efforts; (ii) our go-to-market programs; and (iii) the operating environments for our cloud solutions (e.g., resiliency, security, and capacity).

Diluted EPS. Diluted EPS for the second quarter of 2017 was \$0.35 compared to \$0.33 for the second quarter of 2016. The increase in diluted EPS can be mainly attributed to the loss on the repurchase of the 2010 Convertible Notes in the second quarter of 2016, with no corresponding amount in 2017.

Cash and Cash Flows. As of June 30, 2017, we had cash, cash equivalents and short-term investments of \$245.0 million, as compared to \$237.9 million as of March 31, 2017 and \$276.5 million as of December 31, 2016. Our cash flows from operating activities for the quarter ended June 30, 2017 were \$34.5 million. See the Liquidity section below for further discussion of our cash flows.

Significant Client Relationships

Charter/Time Warner. In connection with Charter Corporation Inc.'s ("Charter") acquisition of Time Warner Cable, Inc. ("Time Warner") in May 2016, the Time Warner Master Subscriber Management Agreement (the "Time Warner Agreement") was assigned to Charter. Our existing agreement with Charter ran through December 31, 2019. The Time Warner Agreement, which covered the Time Warner customer accounts serviced by CSG and now owned by Charter, was originally set to expire on March 31, 2017, but was extended for additional one-month periods through July 31, 2017, while the parties continued to finalize terms relating to a new long-term Charter Consolidated Master Subscriber Management System Agreement that would provide our products and services covering both Time Warner and Charter customer accounts under one master agreement.

On July 17, 2017, we entered into a new Consolidated CSG Master Subscriber Management System Agreement with Charter (the "New Agreement") which supersedes all previous agreements with Charter and Time Warner.

The key terms and conditions of the New Agreement are as follows:

- The New Agreement is effective August 1, 2017 and extends our contractual relationship with Charter (an additional two years), and additionally covers the Time Warner customer accounts serviced by CSG and now owned by Charter (an additional four-and-a-half years) through December 31, 2021. In addition, Charter has the option to extend the New Agreement for an additional one-year term.
- Consistent with the previous agreements, the fees to be generated under the New Agreement will be based primarily on monthly per unit charges for our cloud and related solution, and other various ancillary services. Certain of the per-unit fees include volume-based pricing tiers, and are subject to annual inflationary price escalators.
- The New Agreement includes incentives for Charter to convert additional customer accounts onto our Advanced Convergent Platform ("ACP") customer care and billing solution.
- The New Agreement includes minimum commitments for the number of Charter customer accounts to be serviced on ACP.
- The New Agreement contains certain rights and obligations of both parties, including the following key items: (i) the termination of the Agreement under certain conditions; (ii) various service level commitments; and (iii) remedies and limitation on liabilities associated with specified breaches of contractual obligations.

Under the New Agreement, we provided Charter with a pricing discount in-line with the extended contract term through December 31, 2021, and the roll out of additional products and services by Charter. As a result, we expect our revenues from Charter under the New Agreement to be relatively consistent on a go forward basis.

The anticipated revenue impact in both the near and long terms may vary depending on the actual level of products and services consumed by Charter. The revenue impact from the New Agreement is only an estimate and actual results may vary depending upon

a variety of factors. We undertake no duty to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

A copy of this amendment, with confidential information redacted, will be filed as an exhibit to CSG's Form 10-Q for the quarter ended September 30, 2017.

Client Concentration. A large percentage of our historical revenues have been generated from our largest clients, which are Comcast, Charter, and DISH Network Corporation ("DISH"). To provide a consistent basis of comparison, the Charter and Time Warner revenues and accounts receivable balances are combined in the following tables for all periods prior to the acquisition without adjustment.

Revenues from these clients represented the following percentages of our total revenues for the indicated periods:

	Quarter Ended		
	June 30, 2017	March 31, 2017	June 30, 2016
Comcast	27%	27%	25%
Charter/Time Warner (combined for all periods)	21%	21%	22%
DISH	11%	12%	14%

The percentages of net billed accounts receivable balances attributable to our largest clients as of the indicated dates were as follows:

	As of		
	June 30, 2017	March 31, 2017	December 31, 2016
Comcast	27%	26%	25%
Charter/Time Warner (combined for all periods)	24%	23%	24%
DISH	9%	10%	10%

See our 2016 10-K for additional discussion of our business relationships and contractual terms with Comcast, Charter, and DISH.

Risk of Client Concentration. We expect to continue to generate a significant percentage of our future revenues from our largest clients mentioned above. There are inherent risks whenever a large percentage of total revenues are concentrated with a limited number of clients. Should a significant client: (i) terminate or fail to renew their contracts with us, in whole or in part, for any reason; (ii) significantly reduce the number of customer accounts processed on our solutions, the price paid for our services, or the scope of services that we provide; or (iii) experience significant financial or operating difficulties, it could have a material adverse effect on our financial condition and results of operations.

Critical Accounting Policies

The preparation of our Financial Statements in conformity with accounting principles generally accepted in the U.S. requires us to select appropriate accounting policies, and to make judgments and estimates affecting the application of those accounting policies. In applying our accounting policies, different business conditions or the use of different assumptions may result in materially different amounts reported in our Financial Statements.

We have identified the most critical accounting policies that affect our financial position and the results of our operations. Those critical accounting policies were determined by considering the accounting policies that involve the most complex or subjective decisions or assessments. The most critical accounting policies identified relate to the following items: (i) revenue recognition; (ii) impairment assessments of goodwill and other long-lived assets; (iii) income taxes; and (iv) loss contingencies. These critical accounting policies, as well as our other significant accounting policies, are discussed in our 2016 10-K.

Results of Operations

Total Revenues. Total revenues for the: (i) second quarter of 2017 were \$192.7 million, a 1% increase when compared to \$190.3 million for the second quarter of 2016; and (ii) six months ended June 30, 2017 were \$385.2 million, a 2% increase when compared to \$376.5 million for the six months ended June 30, 2016. The year-over-year increase in revenues is primarily attributed to the growth of our cloud and related solutions revenues, resulting primarily from the higher revenues from our recurring managed services arrangements and the conversion of customer accounts onto ACP over the past year, which more than offset the lower software and services revenues generated during the quarter.

The components of total revenues, discussed in more detail below, are as follows (in thousands):

	Quarter Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Revenues:				
Cloud and related solutions	\$ 157,879	\$ 149,992	\$ 316,656	\$ 299,806
Software and services	15,896	21,152	30,954	40,330
Maintenance	18,938	19,108	37,573	36,342
Total revenues	\$ 192,713	\$ 190,252	\$ 385,183	\$ 376,478

We use the location of the client as the basis of attributing revenues to individual countries. Revenues by geographic regions for the second quarters and six months ended June 30, 2017 and 2016 were as follows (in thousands):

	Quarter Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Americas (principally the U.S.)	\$ 162,835	\$ 162,564	\$ 327,972	\$ 324,388
Europe, Middle East, and Africa	17,817	16,515	35,031	32,018
Asia Pacific	12,061	11,173	22,180	20,072
Total revenues	\$ 192,713	\$ 190,252	\$ 385,183	\$ 376,478

Cloud and Related Solutions Revenues. Cloud and related solutions revenues for the: (i) second quarter of 2017 were \$157.9 million, a 5% increase when compared to \$150.0 million for the second quarter of 2016; and (ii) six months ended June 30, 2017 were \$316.7 million, a 6% increase when compared to \$299.8 million for the six months ended June 30, 2016. The increases in cloud and related solutions revenues higher revenues from our recurring managed services arrangements and the conversion of over five million customer accounts onto ACP over the past twelve months, including approximately three million customer accounts during the second quarter and six months ended June 30, 2017.

Software and Services Revenues. Software and services revenues for the: (i) second quarter of 2017 were \$15.9 million, a 25% decrease when compared to \$21.2 million for the second quarter of 2016 and (ii) six months ended June 30, 2017 were \$31.0 million, a 23% decrease when compared to \$40.3 million for the six months ended June 30, 2016. The decreases in software and services revenues can be attributed mainly to continued low market demand for large transformational software and service deals and the shift in our focus towards more recurring revenue arrangements, which are included in our cloud and related solutions revenues. We continue to transition this part of our business into a more predictable recurring revenue model, with our managed services arrangements and delivery of our cloud-based solutions.

Maintenance Revenues. Maintenance revenues for the: (i) second quarter of 2017 were \$18.9 million, relatively consistent when compared to \$19.1 million for the second quarter of 2016; and (ii) six months ended June 30, 2017 were \$37.6 million, a 3% increase when compared to \$36.3 million for the six months ended June 30, 2016. These variances are due mainly to the timing of maintenance renewals and related revenue recognition.

Total Expenses. Our operating expenses for the: (i) second quarter of 2017 were \$168.5 million, a 5% increase when compared to \$160.9 million for the second quarter of 2016; and (ii) six months ended June 30, 2017 were \$333.9 million, a 9% increase when compared to \$305.8 million for the six months ended June 30, 2016. The year-over-year increase in total expenses is mainly due to the planned investments, discussed above.

The components of total expenses are discussed in more detail below.

Cost of Revenues. See our 2016 10-K for a description of the types of costs that are included in the individual line items for cost of revenues.

Cost of Cloud and Related Solutions (Exclusive of Depreciation). The cost of cloud and related solutions for the: (i) second quarter of 2017 increased 10% to \$77.3 million, from \$70.2 million for the second quarter of 2016; and (ii) six months ended June 30, 2017 were \$153.3 million, a 12% increase when compared to \$136.4 million for the six months ended June 30, 2016. These cost increases relate primarily to higher costs associated with the increase in revenues related to use of our ACP and related solutions, and growth in our managed services arrangements since last year. Total cloud and related solutions cost as a percentage of cloud and related solutions revenues for the: (i) second quarters of 2017 and 2016 were 49.0% and 46.8%, respectively; and (ii) six months ended June 30, 2017 and 2016 were 48.4% and 45.5%, respectively.

Cost of Software and Services (Exclusive of Depreciation). The cost of software and services for the: (i) second quarter of 2017 decreased 9% to \$10.4 million, from \$11.5 million for the second quarter of 2016; and (ii) six months ended June 30, 2017 were \$21.7 million, a 13% decrease when compared to \$ 24.8 million for the six months ended June 30, 2016. This decrease is reflective of the decrease in revenues as personnel and the related costs previously allocated to professional services projects were reassigned to other areas of the business. Total software and services cost as a percentage of our software and services revenues for the: (i) second quarters of 2017 and 2016 were 65.5% and 54.2%, respectively ; and (ii) six months ended June 30, 2017 and 2016 were 70.0% and 61.6%, respectively.

Variability in quarterly revenues and operating results are inherent characteristics of companies that sell software licenses and perform professional services. Our quarterly revenues for software licenses and professional services may fluctuate, depending on various factors, including the timing of executed contracts and revenue recognition, and the delivery of contracted solutions. However, the costs associated with software and professional services revenues are not subject to the same degree of variability (e.g., these costs are generally fixed in nature within a relatively short period of time), and thus, fluctuations in our cost of software and services as a percentage of our software and services revenues will likely occur between periods.

Cost of Maintenance (Exclusive of Depreciation). The cost of maintenance for the: (i) second quarter of 2017 was \$10.0 million, a 10% decrease when compared to \$11.1 million for the second quarter of 2016; and (ii) six months ended June 30, 2017 were \$20.4 million, a 3% decrease when compared to \$21.0 million for the six months ended June 30, 2016, with the decreases mainly due to lower amortization expense for certain technology assets. Total cost of maintenance as a percentage of our maintenance revenues for the: (i) second quarters of 2017 and 2016 were 52.6% and 58.2%, respectively ; and (ii) six months ended June 30, 2017 and 2016 were 54.2% and 57.8%, respectively.

R&D Expense . R&D expense for the: (i) second quarter of 2017 increased 15% to \$27.9 million, from \$24.3 million for the second quarter of 2016; and (ii) six months ended June 30, 2017 increased 14% to \$54.8 million, from \$47.9 million for the six months ended June 30, 2016. These increases are reflective of our heightened level of investment in 2017. As a percentage of total revenues, R&D expense for the second quarters of 2017 and 2016 were 14.5% and 12.8%, respectively.

Our R&D efforts are focused on the continued evolution of our solutions that enable service providers worldwide to provide a more personalized customer experience while introducing new digital products and services. This includes the continued investment in our cloud-based solutions (principally, around our Ascendon platform) aimed at improving a providers' time-to-market for new offerings, flexibility, scalability, and total cost of ownership.

Selling, General and Administrative ("SG&A") Expense . SG&A expense for the: (i) second quarter of 2017 was \$36.8 million, a 5% increase when compared to \$35.0 million for the second quarter of 2016; and (ii) six months ended June 30, 2017 were \$74.2 million, a 7% increase when compared to \$69.0 million for the six months ended June 30, 2016. These increases reflect an increased investment in our sales and marketing activities (principally, towards greater global sales coverage and Ascendon sales capabilities), system security, and employee programs. Our SG&A costs as a percentage of total revenues for the second quarters of 2017 and 2016 were 19.1% and 18.4%, respectively.

Restructuring and Reorganization Charges. Restructuring and reorganization charges for the: (i) second quarters of 2017 and 2016 were \$2.7 million and \$5.3 million, respectively; and (ii) six months ended June 30, 2017 and 2016 were \$3.0 million and (\$0.4) million, respectively. The second quarter 2017 restructuring and reorganization activities include asset impairment charges of \$2.1 million primarily due to the write-down of a note receivable related to the disposition of our Quaero business in 2013. The second quarter of 2016 restructuring and reorganization charges are primarily related to organizational realignments. For the six months ended June 30, 2016, these charges were offset by the \$6.6 million gain on the sale of our cyber-security business marketed under the Invotas brand.

Operating Income. Operating income for the: (i) second quarter of 2017 was \$24.2 million, or 12.6% of total revenues, compared to \$29.4 million, or 15.4% of total revenues for the second quarter of 2016; and (ii) six months ended June 30, 2017 were \$51.3 million, or 13.3% of total revenues, compared to \$70.7 million, or 18.8% of total revenues for the six months ended June 30, 2016. The decreases in operating income and operating income margin percentage are reflective of the increase in planned investments aimed at generating future long-term growth in our business, as discussed above.

Interest Expense. Interest expense for the: (i) second quarter of 2017 was \$4.1 million, a 7% decrease from \$4.5 million for the second quarter of 2016; and (ii) six months ended June 30, 2017 increased 13% to \$8.5 million, from \$7.5 million for the six months ended June 30, 2016. The changes in interest expense are mainly the result of the refinancing of our 2010 Convertible Debt in March 2016. The refinancing included the issuance of the 2016 Convertible Debt, resulting in the year-to-date increase to interest expense, and the utilization of those proceeds to reduce the 2010 Convertible Debt outstanding throughout 2016 until the final settlement in March 2017, resulting in a decrease in interest expense between the second quarters of 2017 and 2016.

Loss on Repurchase of Convertible Notes. Following completion of the issuance of the 2016 Convertible Notes in March 2016, we purchased \$106 million aggregate principal amount of the 2010 Convertible Notes during the six months ended June 30, 2016, for a

total purchase price of approximately \$198.4 million and recognized a loss on the repurchases of \$8.3 million.

Income Tax Provision . The effective income tax rates for the second quarters and six months ended June 30, 2017 and 2016 were as follows:

Quarter Ended June 30,		Six Months Ended June 30,	
2017	2016	2017	2016
43%	37%	25%	36%

The lower rate for the six months ended June 30, 2017 reflects an approximately \$5 million net benefit received in the first quarter of 2017 resulting from Comcast's exercise of 1.4 million vested stock warrants in January 2017 (see Note 8 to our Financial Statements for further discussion). The stock warrants appreciated in value since their vesting, which resulted in an income tax benefit to us when exercised. Additionally, as discussed in Note 2 to our Financial Statements, we adopted ASU 2016-09, *Compensation – Stock Compensation* (Topic 718) in the first quarter of 2017. This ASU requires a change in the recognition of excess tax benefits and tax deficiencies, related to share-based payment transactions, which were recorded in equity, and now are recorded discrete to the quarter incurred as a component of income tax expense in the income statement. Under the guidance of this ASU, we recognized an income tax benefit of approximately zero and approximately \$1 million, respectively, for the second quarter and six months ended June 30, 2017. For the full-year 2017 we are currently estimating an effective income tax rate of approximately 32%.

Liquidity

Cash and Liquidity

As of June 30, 2017, our principal sources of liquidity included cash, cash equivalents, and short-term investments of \$245.0 million, as compared to \$237.9 million as of March 31, 2017 and \$276.5 million as of as of December 31, 2016. We generally invest our excess cash balances in low-risk, short-term investments to limit our exposure to market and credit risks.

As part of our 2015 Credit Agreement, we have a \$200 million senior secured revolving loan facility with a syndicate of financial institutions that expires in February 2020. As of June 30, 2017, there were no borrowings outstanding on the 2015 Revolver. The 2015 Credit Agreement contains customary affirmative covenants and financial covenants. As of June 30, 2017, and the date of this filing, we believe that we are in compliance with the provisions of the 2015 Credit Agreement.

Our cash, cash equivalents, and short-term investment balances as of the end of the indicated periods were located in the following geographical regions (in thousands):

	June 30, 2017	December 31, 2016
Americas (principally the U.S.)	\$ 193,735	\$ 220,269
Europe, Middle East and Africa	42,907	46,941
Asia Pacific	8,312	9,288
Total cash, equivalents and short-term investments	\$ 244,954	\$ 276,498

We generally have ready access to substantially all of our cash, cash equivalents, and short-term investment balances, but may face limitations on moving cash out of certain foreign jurisdictions due to currency controls. As of June 30, 2017, we had \$3.0 million of cash restricted as to use primarily to collateralize outstanding letters of credit.

Cash Flows From Operating Activities

We calculate our cash flows from operating activities in accordance with GAAP, beginning with net income, adding back the impact of non-cash items or non-operating activity (e.g., depreciation, amortization, amortization of OID, impairments, deferred income taxes, stock-based compensation, etc.), and then factoring in the impact of changes in operating assets and liabilities. See our 2016 10-K for a description of the primary uses and sources of our cash flows from operating activities.

Our 2017 and 2016 net cash flows from operating activities, broken out between operations and changes in operating assets and liabilities, for the indicated quarterly periods are as follows (in thousands):

Cash Flows from Operating Activities:	Operations	Changes in Operating Assets and Liabilities	Net Cash Provided by (Used In) Operating Activities – Totals
2017:			
March 31	\$ 43,495	\$ (13,531)	\$ 29,964
June 30	26,364	8,160	34,524
Total	<u>\$ 69,859</u>	<u>\$ (5,371)</u>	<u>\$ 64,488</u>
2016:			
March 31	\$ 36,755	\$ (26,081)	\$ 10,674
June 30	28,880	11,211	40,091
Total	<u>\$ 65,635</u>	<u>\$ (14,870)</u>	<u>\$ 50,765</u>

Cash flows from operating activities for the first quarters of 2017 and 2016 reflect the negative impacts of the payment of the 2016 and 2015 year-end accrued employee incentive compensation in the first quarter subsequent to the year-end accrual for these items. In addition, cash flows from operations for the first quarter of 2016 were negatively impacted by a prospective change in the timing of payment terms for a key vendor related to postage costs.

We believe the above table illustrates our ability to generate recurring quarterly cash flows from our operations, and the importance of managing our working capital items. The variations in our net cash provided by operating activities are related mostly to the changes in our operating assets and liabilities (related mostly to fluctuations in timing at quarter-end of client payments and changes in accrued expenses), and generally over longer periods of time, do not significantly impact our cash flows from operations.

Significant fluctuations in key operating assets and liabilities between 2017 and 2016 that impacted our cash flows from operating activities are as follows:

Billed Trade Accounts Receivable

Management of our billed accounts receivable is one of the primary factors in maintaining consistently strong quarterly cash flows from operating activities. Our billed trade accounts receivable balance includes significant billings for several non-revenue items (primarily postage, sales tax, and deferred revenue items). As a result, we evaluate our performance in collecting our accounts receivable through our calculation of days billings outstanding (“DBO”) rather than a typical days sales outstanding (“DSO”) calculation.

Our gross and net billed trade accounts receivable and related allowance for doubtful accounts receivable (“Allowance”) as of the end of the indicated quarterly periods, and the related DBOs for the quarters then ended, are as follows (in thousands, except DBOs):

Quarter Ended	Gross	Allowance	Net Billed	DBOs
2017:				
March 31	\$ 198,135	\$ (2,824)	\$ 195,311	70
June 30	200,192	(2,706)	197,486	65
2016:				
March 31	\$ 185,297	\$ (3,647)	\$ 181,650	61
June 30	182,640	(3,726)	178,914	63

The increase in DBOs in the first quarter of 2017 is due to an increase in the average monthly net trade accounts receivable balances between quarters due primarily to the timing around certain recurring customer payments.

As a global provider of software and professional services, a portion of our accounts receivable balance relates to clients outside the U.S. As a result, this diversity in the geographic composition of our client base may adversely impact our DBOs as longer billing cycles (i.e., billing terms and cash collection cycles) are an inherent characteristic of international software and professional services transactions. For example, our ability to bill (i.e., send an invoice) and collect arrangement fees may be

dependent upon, among other things: (i) the completion of various client administrative matters, local country billing protocols and processes (including local cultural differences), and/or non-client administrative matters; (ii) us meeting certain contractual invoicing milestones; or (iii) the overall project status in certain situations in which we act as a subcontractor to another vendor on a project.

Unbilled Trade Accounts Receivable

Revenue earned and recognized prior to the scheduled billing date of an item is reflected as unbilled accounts receivable. Our unbilled accounts receivable as of the end of the indicated periods are as follows (in thousands):

	2017		2016	
March 31	\$	40,191	\$	39,236
June 30		37,353		34,518

The unbilled accounts receivable balances above are primarily the result of several transactions with various milestone and contractual billing dates which have not yet been reached. Unbilled accounts receivable are an inherent characteristic of certain software and professional services transactions and may fluctuate between quarters, as these type of transactions typically have scheduled invoicing terms over several quarters, as well as certain milestone billing events.

Accrued Employee Compensation

Accrued employee compensation decreased \$15.0 million to \$50.3 million as of June 30, 2017, from \$65.3 million as of December 31, 2016, due primarily to the payment of the 2016 employee incentive compensation that was fully accrued at December 31, 2016, offset to a certain degree by the accrual for the 2017 employee incentive compensation.

Deferred Revenue

Deferred revenue (current and non-current) increased \$13.8 million to \$65.6 million as of June 30, 2017, from \$51.8 million as of December 31, 2016, primarily as a result of annual recurring services that are typically billed in the first half of each year.

Cash Flows from Investing Activities

Our typical investing activities consist of purchases/sales of short-term investments, purchases of property and equipment, and investments in client contracts, which are discussed below.

Purchases/Sales of Short-term Investments. For the six months ended June 30, 2017 and 2016, we purchased \$73.8 million and \$102.1 million, respectively, and sold (or had mature) \$104.3 million and \$61.8 million, respectively, of short-term investments. We continually evaluate the appropriate mix of our investment of excess cash balances between cash equivalents and short-term investments in order to maximize our investment returns and will likely purchase and sell additional short-term investments in the future.

Property and Equipment/Client Contracts. Our capital expenditures for the six months ended June 30, 2017 and 2016, for property and equipment, and investments in client contracts were as follows (in thousands):

	Six Months Ended June 30,	
	2017	2016
Property and equipment	\$ 18,738	\$ 8,863
Client contracts	7,526	4,461

Our property and equipment expenditures for these periods consisted principally of investments in: (i) computer hardware, software, and related equipment; and (ii) statement production equipment.

Our investments in client contracts for the six months ended June 30, 2017 and 2016 relate primarily to: (i) cash incentives provided to clients to convert their customer accounts to, or retain their customer's accounts on, our managed services solutions; and (ii) direct and incremental costs incurred for conversion/set-up services related to long-term cloud solution arrangements where we are required to defer conversion/set-up services fees and recognize those fees as the related services are performed. For the six months ended June 30, 2017 and 2016 our: (i) investments in client contracts related to cash incentives were \$2.1 million and \$1.5 million, respectively; and (ii) the deferral of costs related to conversion/set-up services provided under long-term cloud solution contracts were \$5.4 million and \$3.0 million, respectively.

Proceeds from the Disposition of Business Operations. During the six months ended June 30, 2016, we received additional cash proceeds totaling \$8.9 million related to the sale of our cyber-security business marketed under the Invotas brand. The proceeds were contingent on a liquidation event, as defined in the sale agreement.

Cash Flows from Financing Activities

Our financing activities typically consist of activities associated with our common stock and our long-term debt.

Cash Dividends Paid on Common Stock. During the six months ended June 30, 2017 and 2016, the Board approved dividend payments totaling \$13.4 million and \$12.0 million, respectively. During the six months ended June 30, 2017 and 2016, we paid dividends of \$13.7 million and \$12.3 million, respectively (with the additional amounts attributed to dividends for incentive shares paid upon vesting).

Repurchase of Common Stock. During the six months ended June 30, 2017 and 2016, we repurchased 0.3 million shares of our common stock under the guidelines of our Stock Repurchase Program for \$10.5 million and \$9.5 million, respectively.

Outside of our Stock Repurchase Program, during the six months ended June 30, 2017 and 2016, we repurchased from our employees and then cancelled 0.2 million and 0.3 million shares, respectively, of our common stock in each period for \$6.3 million and \$10.0 million, respectively, in connection with minimum tax withholding requirements resulting from the vesting of restricted common stock under our stock incentive plans.

Long-term Debt. During the six months ended June 30, 2017, we settled our conversion obligation for the 2010 Convertible Notes as follows: (i) we paid cash of \$34.8 million for the remaining par value of the 2010 Convertible Notes; and (ii) delivered 694,240 of our common shares from treasury stock to settle the \$28.8 million conversion obligation in excess of par value.

During the six months ended June 30, 2016, we completed an offering of \$230 million of 4.25% senior subordinated convertible notes due March 15, 2036 (the “2016 Convertible Notes”), paid \$6.7 million of deferred financing costs, and repurchased \$106 million aggregate principal amount of the 2010 Convertible Notes for a total purchase price of \$198.4 million.

Additionally, during the six months ended June 30, 2017 and 2016, we made principal repayments of \$7.5 million and \$3.8 million, respectively.

See Note 4 to our Financial Statements for additional discussion of our long-term debt.

Capital Resources

The following are the key items to consider in assessing our sources and uses of capital resources:

Current Sources of Capital Resources.

- Cash, Cash Equivalents and Short-term Investments. As of June 30, 2017, we had cash, cash equivalents, and short-term investments of \$245.0 million, of which approximately 74% is in U.S. Dollars and held in the U.S. We have \$3.0 million of restricted cash, used primarily to collateralize outstanding letters of credit. For the remainder of the monies denominated in foreign currencies and/or located outside the U.S., we do not anticipate any material amounts being unavailable for use in running our business.
- Operating Cash Flows. As described in the Liquidity section above, we believe we have the ability to generate strong cash flows to fund our operating activities and act as a source of funds for our capital resource needs.
- Revolving Loan Facility. As of June 30, 2017, we had a \$200 million revolving loan facility, the 2015 Revolver, with a syndicate of financial institutions. As of June 30, 2017, we had no borrowing outstanding on our 2015 Revolver and had the entire \$200 million available to us. Our long-term debt obligations are discussed in more detail in Note 4 to our Financial Statements.

Uses/Potential Uses of Capital Resources. Below are the key items to consider in assessing our uses/potential uses of capital resources:

- Common Stock Repurchases. We have made repurchases of our common stock in the past under our Stock Repurchase Program. As of June 30, 2017, we had 6.5 million shares authorized for repurchase remaining under our Stock Repurchase Program. Our 2015 Credit Agreement places certain limitations on our ability to repurchase our common stock.

During the six months ended June 30, 2017, we repurchased 0.3 million shares of our common stock for \$10.5 million (weighted-average price of \$41.00 per share).

Under our Stock Repurchase Program, we may repurchase shares in the open market or a privately negotiated transaction, including through an ASR plan or under a SEC Rule 10b5-1 plan. The actual timing and amount of the share repurchases will be dependent on the then current market conditions and other business-related factors.

Outside of our Stock Repurchase Program, during the six months ended June 30, 2017, we repurchased from our employees and then cancelled 0.2 million shares of our common stock for \$6.3 million in connection with minimum tax withholding requirements resulting from the vesting of restricted common stock under our stock incentive plans.

Our common stock repurchases are discussed in more detail in Note 8 to our Financial Statements.

- Cash Dividends. During the six months ended June 30, 2017, the Board declared dividends totaling \$13.4 million. Going forward, we expect to pay cash dividends each year in March, June, September, and December, with the amount and timing subject to the Board's approval.
- Acquisitions. As part of our growth strategy, we are continually evaluating potential business and/or asset acquisitions and investments in market share expansion with our existing and potential new clients.
- Capital Expenditures. During the six months ended June 30, 2017, we spent \$18.7 million on capital expenditures. As of June 30, 2017, we have made no significant capital expenditure commitments.
- Investments in Client Contracts. In the past, we have provided incentives to new or existing clients to convert their customer accounts to, or retain their customer's accounts on, our customer care and billing solutions. During the six months ended June 30, 2017, we made investments in client contracts of \$7.5 million.

We have issued Stock Warrants with an exercise price of \$26.68 per warrant to Comcast for the right to purchase up to approximately 2.9 million shares of our common stock as an additional incentive for Comcast to convert new customer accounts to ACP. Once vested, Comcast may exercise the Stock Warrants and elect either physical delivery of common shares or net share settlement (cashless exercise). Alternatively, the exercise of the Stock Warrants may be settled with cash based solely on our approval, or if Comcast were to beneficially own or control in excess of 19.99% of the common stock or voting of the Company.

In January 2017, Comcast exercised 1.4 million vested Stock Warrants. We net share settled the exercise of the Stock Warrants by delivering 649,221 of our common shares from treasury stock, which had a fair value of \$31.5 million. As of June 30, 2017, approximately 1.5 million Stock Warrants remain issued, none of which are vested as of the date of this filing.

The Stock Warrants are discussed in more detail in Note 8 to our Financial Statements.

- Long-Term Debt. In March 2017, we settled our conversion obligation for the 2010 Convertible Notes as follows: (i) we paid cash of \$34.8 million for the remaining par value of the 2010 Convertible Notes; and (ii) delivered 694,240 of our common shares from treasury stock to settle the \$28.8 million conversion obligation in excess of par value. As of June 30, 2017, our long-term debt consisted of the following: (i) 2016 Convertible Notes with a par value of \$230 million; and (ii) 2015 Term Loan borrowings of \$127.5 million.

2016 Convertible Notes

During the next twelve months, there are no scheduled conversion triggers on our 2016 Convertible Notes. As a result, we expect our required debt service cash outlay during the next twelve months for the 2016 Convertible Notes to be limited to interest payments of \$9.8 million.

2015 Credit Agreement

Our 2015 Credit Agreement mandatory repayments and the cash interest expense (based upon current interest rates) for the next twelve months is \$18.8 million, and \$4.3 million, respectively. We have the ability to make prepayments on our 2015 Credit Agreement without penalty.

Our long-term debt obligations are discussed in more detail in Note 4 to our Financial Statements.

In summary, we expect to continue to have material needs for capital resources going forward, as noted above. We believe that our current cash, cash equivalents and short-term investments balances and our 2015 Revolver, together with cash expected to be generated in the future from our current operating activities, will be sufficient to meet our anticipated capital resource requirements for at least the next 12 months. We also believe we could obtain additional capital through other debt sources which may be available to us if deemed appropriate.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Market risk is the potential loss arising from adverse changes in market rates and prices. As of June 30, 2017, we are exposed to various market risks, including changes in interest rates, fluctuations and changes in the market value of our cash equivalents and short-term investments, and changes in foreign currency exchange rates. We have not historically entered into derivatives or other financial instruments for trading or speculative purposes.

Interest Rate Risk

Long-Term Debt. The interest rate on our 2016 Convertible Notes is fixed, and thus, as it relates to our convertible debt borrowings, we are not exposed to changes in interest rates.

The interest rates under our 2015 Credit Agreement are based upon an adjusted LIBOR rate plus an applicable margin, or an alternate base rate plus an applicable margin. Refer to Note 4 to our Financial Statements for further details of our long-term debt.

A hypothetical adverse change of 10% in the June 30, 2017 adjusted LIBOR rate would not have had a material impact upon our results of operations.

Market Risk

Cash Equivalents and Short-term Investments. Our cash and cash equivalents as of June 30, 2017 and December 31, 2016 were \$125.1 million and \$126.4 million, respectively. Certain of our cash balances are “swept” into overnight money market accounts on a daily basis, and at times, any excess funds are invested in low-risk, somewhat longer term, cash equivalent instruments and short-term investments. Our cash equivalents are invested primarily in institutional money market funds, commercial paper, and time deposits held at major banks. We have minimal market risk for our cash and cash equivalents due to the relatively short maturities of the instruments.

Our short-term investments as of June 30, 2017 and December 31, 2016 were \$119.8 million and \$150.1 million, respectively. Currently, we utilize short-term investments as a means to invest our excess cash only in the U.S. The day-to-day management of our short-term investments is performed by a large financial institution in the U.S., using strict and formal investment guidelines approved by our Board. Under these guidelines, short-term investments are limited to certain acceptable investments with: (i) a maximum maturity; (ii) a maximum concentration and diversification; and (iii) a minimum acceptable credit quality. At this time, we believe we have minimal liquidity risk associated with the short-term investments included in our portfolio.

Long-Term Debt. The fair value of our convertible debt is exposed to market risk. We do not carry our convertible debt at fair value but present the fair value for disclosure purposes (see Note 2 to our Financial Statements). Generally, the fair value of our convertible debt is impacted by changes in interest rates and changes in the price and volatility of our common stock. As of June 30, 2017, the fair value of the 2016 Convertible Notes was estimated at \$248.7 million, using quoted market prices.

Foreign Currency Exchange Rate Risk

Due to foreign operations around the world, our balance sheet and income statement are exposed to foreign currency exchange risk due to the fluctuations in the value of currencies in which we conduct business. While we attempt to maximize natural hedges by incurring expenses in the same currency in which we contract revenue, the related expenses for that revenue could be in one or more differing currencies than the revenue stream.

During the six months ended June 30, 2017, we generated approximately 88% of our revenues in U.S. dollars. We expect that, in the foreseeable future, we will continue to generate a very large percentage of our revenues in U.S. dollars.

As of June 30, 2017 and December 31, 2016, the carrying amounts of our monetary assets and monetary liabilities on the books of our non-U.S. subsidiaries in currencies denominated in a currency other than the functional currency of those non-U.S. subsidiaries are as follows (in thousands, in U.S. dollar equivalents):

	June 30, 2017		December 31, 2016	
	Monetary Liabilities	Monetary Assets	Monetary Liabilities	Monetary Assets
Pounds sterling	\$ (2)	\$ 1,196	\$ (18)	\$ 3,753
Euro	(313)	13,350	(135)	12,402
U.S. Dollar	(499)	21,238	(197)	20,248
Other	(5)	1,696	-	2,419
Totals	<u>\$ (819)</u>	<u>\$ 37,480</u>	<u>\$ (350)</u>	<u>\$ 38,822</u>

A hypothetical adverse change of 10% in the June 30, 2017 exchange rates would not have had a material impact upon our results of operations based on the monetary assets and liabilities as of June 30, 2017.

Item 4. Controls and Procedures

(a) Disclosure Controls and Procedures

As required by Rule 13a-15(b), our management, including the Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”), conducted an evaluation as of the end of the period covered by this report of the effectiveness of our disclosure controls and procedures as defined in Rule 13a-15(c). Based on that evaluation, the CEO and CFO concluded that our disclosure controls and procedures were effective as of the end of the period covered by this report.

(b) Internal Control Over Financial Reporting

As required by Rule 13a-15(d), our management, including the CEO and CFO, also conducted an evaluation of our internal control over financial reporting, as defined by Rule 13a-15(f), to determine whether any changes occurred during the quarter covered by this report that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, the CEO and CFO concluded that there has been no such change during the quarter covered by this report.

CSG SYSTEMS INTERNATIONAL, INC.
PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time-to-time, we are involved in litigation relating to claims arising out of our operations in the normal course of business. We are not presently a party to any material pending or threatened legal proceedings.

Item 1A. Risk Factors

A discussion of our risk factors can be found in Item 1A. Risk Factors in our 2016 Form 10-K. There were no material changes to the risk factors disclosed in our 2016 Form 10-K during the second quarter of 2017.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

The following table presents information with respect to purchases of company common stock made during the second quarter of 2017 by CSG Systems International, Inc. or any “affiliated purchaser” of CSG Systems International, Inc., as defined in Rule 10b-18(a)(3) under the Exchange Act.

Period	Total Number of Shares Purchased (1) (2)	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)	Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plan or Programs (2)
April 1 - April 30	44,142	\$ 37.14	43,700	6,572,067
May 1 - May 31	40,081	39.39	39,100	6,532,967
June 1 - June 30	50,294	40.96	46,000	6,486,967
Total	134,517	\$ 39.24	128,800	

(1) The total number of shares purchased that are not part of the Stock Repurchase Program represents shares purchased and cancelled in connection with stock incentive plans.

(2) See Note 8 to our Financial Statements for additional information regarding our share repurchases.

Item 3. Defaults Upon Senior Securities

None

Item 4. Mine Safety Disclosures

None

Item 5. Other Information

None

Item 6. Exhibits

The Exhibits filed or incorporated by reference herewith are as specified in the Exhibit Index.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Dated: August 4, 2017

CSG SYSTEMS INTERNATIONAL, INC.

/s/ Bret C. Griess

Bret C. Griess
President and Chief Executive Officer
(Principal Executive Officer)

/s/ Randy R. Wiese

Randy R. Wiese
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

/s/ Rolland B. Johns

Rolland B. Johns
Chief Accounting Officer
(Principal Accounting Officer)

**CSG SYSTEMS INTERNATIONAL, INC.
INDEX TO EXHIBITS**

Exhibit Number	Description
10.22AA*	Twenty-Fifth Amendment to the CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Comcast Cable Communications Management, LLC
10.22AB*	Twenty-Seventh Amendment to the CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Comcast Cable Communications Management, LLC
10.22AC*	Twenty-Eighth Amendment to the CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Comcast Cable Communications Management, LLC
10.22AD*	Twenty-Ninth Amendment to the CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Comcast Cable Communications Management, LLC
10.22AE*	Thirtieth Amendment to the CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Comcast Cable Communications Management, LLC
10.22AF*	Thirty-First Amendment to the CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Comcast Cable Communications Management, LLC
10.23AW*	Fifty-Eighth Amendment to the CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and DISH Network, L.L.C.
10.24BO*	One Hundred Eighteenth Amendment to the CSG Master Subscriber Management System Agreement Between CSG Systems, Inc. and Charter Communications Holding Company, LLC
10.24BP*	One Hundred Nineteenth Amendment to the CSG Master Subscriber Management System Agreement Between CSG Systems, Inc. and Charter Communications Holding Company, LLC
10.24BQ	One Hundred Twentieth Amendment to the CSG Master Subscriber Management System Agreement Between CSG Systems, Inc. and Charter Communications Holding Company, LLC.
10.24BR	One Hundred Twenty-First Amendment to the CSG Master Subscriber Management System Agreement Between CSG Systems, Inc. and Charter Communications Holding Company, LLC.
10.24BS*	One Hundred Twenty-Second Amendment to the CSG Master Subscriber Management System Agreement Between CSG Systems, Inc. and Charter Communications Holding Company, LLC.
10.24BT	One Hundred Twenty-Third Amendment to the CSG Master Subscriber Management System Agreement Between CSG Systems, Inc. and Charter Communications Holding Company, LLC.
10.24BU*	One Hundred Twenty-Fourth Amendment to the CSG Master Subscriber Management System Agreement Between CSG Systems, Inc. and Charter Communications Holding Company, LLC.
10.25CN*	One Hundredth Amendment to the Amended and Restated CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Charter Communications Holding Company, LLC
10.25CO*	One Hundred Second Amendment to the Amended and Restated CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Charter Communications Holding Company, LLC
10.25CP*	One Hundred Fourth Amendment to the Amended and Restated CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Charter Communications Holding Company, LLC
10.25CQ*	One Hundred Sixth Amendment to the Amended and Restated CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Charter Communications Holding Company, LLC
10.25CR*	One Hundred Eighth Amendment to the Amended and Restated CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Charter Communications Holding Company, LLC
10.25CS*	One Hundred Ninth Amendment to the Amended and Restated CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Charter Communications Holding Company, LLC
31.01	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.02	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

Exhibit Number	Description
32.01	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Portions of the exhibit have been omitted pursuant to an application for confidential treatment, and the omitted portions have been filed separately with the Commission.

TWENTY-FIFTH AMENDMENT
 TO THE
 CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
 BETWEEN
 CSG SYSTEMS, INC.
 AND
 COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC

THIS TWENTY-FIFTH AMENDMENT (the “Amendment”) is made by and between CSG Systems, Inc. (“CSG”) and Comcast Cable Communications Management, LLC (“Customer”). The Effective Date of this Amendment is the date last signed below. CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement (CSG document #2501940) with an effective date of March 1, 2013 (the “Agreement”) and now desire to amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the Parties, any subsequent reference to the Agreement between the Parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

CSG and Customer agree to the following:

- Customer desires to utilize, and CSG agrees to provide, the services of CSG’s resources to design , develop, and implement a new custom solution to suspend collection activities for Customer subscriber accounts with a ***** to assist Customer with its federal regulatory obligations.
- As of the Amendment Effective Date, Schedule F, Fees, Section IV. Ancillary Products and Services, Subsection A., titled “Ancillary services for Non-Rated Video and Non-Rated High-Speed Data and Residential Voice Services” is hereby amended to add a new Subsection 30., titled “***** Custom Solution,” as follows:

Description of Item/Unit of Measure	Frequency	Fee
30. Dispute Handling Custom Solution (Note 1)		
a) Production Support and Maintenance Fee (Note 2) (Note 3)	*****	\$*****
b) Application hosting fee (Note 4)	*****	\$*****

Note 1: Design, development and implementation services and lead times will be set forth in a mutually agreeable Statement of Work (CSG document number 4114305).

Note 2: Production support and maintenance (“Production Support”) will commence after the deployment of the ***** Custom Solution to production. Production Support is limited to ***** (**) ***** per *****. Additional fees will be charged for hours exceeding this ***** limit and will be set forth in a separate mutually agreeable Statement of Work or Letter of Authorization.

Note 3: The ***** Production Support and Maintenance Fee covers post deployment support, including answering functional questions and resolving Customer reported concerns, and CSG operating support and operating systems software licensing including maintenance of the billing system profiles that are restricted from entering the deferred credit. CSG will be responsible for resolution of ***** Custom Solution defects. Future enhancement and changes to the ***** Custom Solution will be set forth in a mutually agreeable Statement of Work. Future enhancements may include, but shall not be limited to, changing the ***** Custom Solution to operate with systems other than ACSR ®. Production Support is intended to address production issues only and does not include ***** or any ***** to the ***** Custom Solution required by the use of ***** , ***** , ***** , or ***** changes.

Note 4 : The application hosting fees contemplate *** (**) servers. If volume requires additional servers due to increased capacity or usage, as determined in CSG’s discretion, the Parties shall enter into a mutually agreeable Statement of Work and Amendment to add the servers and related fees. In the event Customer does not agree to the additional servers, Customer understands and acknowledges the functionality may be impacted. Multiple load servers are assumed to be required to handle the volume.

*** **Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.**

The fees set forth in the fee table above are subject to increase pursuant to Section 5.4, Adjustment to Fees, of the Agreement.

IN WITNESS WHEREOF the parties hereto have caused this Amendment to be executed by their duly authorized representatives.

**COMCAST CABLE COMMUNICATIONS
MANAGEMENT, LLC (“CUSTOMER”)**

CSG SYSTEMS, INC. (“CSG”)

By: /s/ Jeur Abeln

By: /s/ Gregory L. Cannon

Name: Jeur Abeln

Name: Gregory L. Cannon

Title: Senior Vice President Procurement

Title: SVP, Secretary & General Counsel

Date: 4-18-2017

Date: 2/17/17

TWENTY-SEVENTH AMENDMENT
TO THE
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC

THIS TWENTY-SEVENTH AMENDMENT (the "Amendment") is made by and between **CSG Systems, Inc.** ("CSG") and **Comcast Cable Communications Management, LLC** ("Customer"). The Effective Date of this Amendment is the date last signed below. CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement (CSG document #2501940) with an effective date of March 1, 2013 (the "Agreement") and now desire to amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the Parties, any subsequent reference to the Agreement between the Parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

WHEREAS, the Agreement, Schedule F, Fee Schedule, Section IV., Ancillary Products and Services, Subsection A., titled " Ancillary Services for Non-Rated Video and Non-Rated High-Speed Data and Residential Voice Services," Subsection 20., titled " Environment Refresh Process, " as more particularly described in t he Twentieth Amendment to the Agreement (CSG #4109237), includes Customer having access to one or more training system principal agents ("SPAs") in Customer's QAVA test environment; and

WHEREAS, Customer and CSG, pursuant to mutual discussions and agreement, desire to amend the Agreement to remove the additional requirement of CSG allowing Customer access to one or more new training system principal agents ("SPAs") in Customer's QAVA test environment.

NOW, THEREFORE, CSG and Customer agree to the following as of the Effective Date:

1. Customer and CSG agree to remove the following section from the Agreement:

Description of Item/Unit of Measure	Frequency	Fee
20. Environment Refresh Process (Note 2)		
a)Support/Maintenance Fees (per SPA) (Note 1)	*****	\$*****

Note 1: Design, development, set-up, configuration and implementation services and lead times will be set forth in a mutually agreeable Statement of Work.
Note 2: Customer may utilize the refresh capabilities up to a maximum of ***(*) times per *****. Any additional requests will require a mutually agreeable Statement of Work between the parties. Refreshes cannot be ***** to the *****.

2. Schedule F, Section IV., Ancillary Products and Services, Subsection A., titled " Ancillary Services for Non-Rated Video and Non-Rated High-Speed Data and Residential Voice Services," Subsection 20., is hereby amended to read " *Intentionally Left Blank* ".
3. CSG is no longer obligated to provide, and Customer is no longer obligated to pay CSG for the Fees related to the Environment Refresh Project. Any services related to the Environment Refresh Project actually rendered by CSG and accepted by Customer prior to the Effective Date of this Amendment shall be invoiced by CSG and paid for by Customer in accordance with the terms and conditions of the Agreement.

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

IN WITNESS WHEREOF the parties hereto have caused this Amendment to be executed by their duly authorized representatives.

COMCAST CABLE COMMUNICATIONS
MANAGEMENT, LLC ("CUSTOMER")

CSG SYSTEMS, INC. ("CSG")

By: /s/ Jeur Abeln

By: /s/ Gregory L. Cannon

Name: Jeur Abeln

Name: Gregory L. Cannon

Title: Senior Vice President Procurement

Title: SVP, Secretary & General Counsel

Date: 4-18-2017

Date: 4/3/17

TWENTY-EIGHTH AMENDMENT
 TO THE
 CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
 BETWEEN
 CSG SYSTEMS, INC.
 AND
 COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC

THIS TWENTY-EIGHTH AMENDMENT (the “Amendment”) is made by and between **CSG Systems, Inc.** (“CSG”) and **Comcast Cable Communications Management, LLC** (“Customer”). The Effective Date of this Amendment is the date last signed below. CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement (CSG document #2501940) with an effective date of March 1, 2013 (the “Agreement”), and now desire to amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the Parties, any subsequent reference to the Agreement between the Parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

CSG and Customer agree to the following as of the Effective Date:

1. Customer has requested and CSG has agreed to implement and install the CSG Foreign Exchange Interface for Customer’s Production and QAYA environments. CSG will develop and implement the CSG Foreign Exchange Interface pursuant to mutually agreed upon Statements of Work between CSG and Customer.
2. As of the Amendment Effective Date, Schedule E, Fees, Section IV, Ancillary Products and Services, Subsection A., titled “Ancillary services for Non-Rated Video and Non-Rated High-Speed Data and Residential Voice Services” is hereby amended to add a new Subsection 29, titled “CSG Foreign Exchange Interface,” as follows:

Description of Item/Unit of Measure	Frequency	Fee
29.CSG Foreign Exchange Interface		
1.***** Support and Maintenance Fee (Note 1) (Note 2) (Note 3)	*****	\$*****
2.Implementation Fees (Note 4)	***	*****

Note 1: For purposes of this Amendment, Foreign Exchange Interface (“Interface”) shall mean the CSG developed interface for use with Customer’s foreign exchange telephone number product named “*****” ***** is a Customer designed and developed system which shall be used by Customer to facilitate a ***** of ***** for ***** and ***** . CSG will provide the real time Interface to provide functionality for the transactions between CSG’s Advanced Convergent Platform Voice application (“ACPV”) and ***** The Interface will provide the necessary support functionality related to *****

Note 2 : In order to maintain operational efficiency of the environments, CSG will have timeout values regarding the Foreign Exchange Interface that will ensure the continuation of the order process when slow/no response situations occur. In the event of an error received from the CSG Foreign Exchange Interface, CSG will continue with the order process without Foreign Exchange data. In order for CSG to evaluate criteria, Customer shall provide CSG with a list of ***** coming from Customer’s ***** Customer will provide written notification of any changes to the error messages for evaluation by CSG.

Note 3 : SLBOS transactions shall be counted and invoiced in accordance with the CSG SmartLink® BOS Environment and Transactions Per Second (“TPS”) fees as outlined in Schedule F, Section II (Threshold Usage Items), Subsection A.3. (Adjusted SLBOS / ENI Transactions per Second (“TPS”) for New and Additional Subscribers).

Note 4 : Notwithstanding any restrictions set forth in the Agreement related to the use of the A***** , CSG and Customer agree to use the ***** as prescribed by Section 3.4(d) of the Agreement, for the first phase of implementation of the CSG Foreign Exchange Interface for Customer’s Production and QAYA environments (identified by projects ACPFTR-2848 and ACPFTR-3060). Upon the completion of the first phase of implementation of the CSG Foreign Exchange Interface, the ***** will be decremented by the appropriate number of hours. The fees for the second phase of implementation of CSG Foreign Exchange Interface shall be set forth in a mutually agreeable Statement of Work (“SOW”) between the parties (CSG document number 4115523).

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

The fees set forth in the fee table above are subject to increase pursuant to Section 5.4, Adjustment to Fees, of the Agreement.

THIS AMENDMENT is executed on the day and year last signed below ("Effective Date").

COMCAST CABLE COMMUNICATIONS
MANAGEMENT, LLC ("CUSTOMER")

CSG SYSTEMS, INC. ("CSG")

By: /s/ Jeur Abeln

By: /s/ Gregory L. Cannon

Name: Jeur Abeln

Name: Gregory L. Cannon

Title: Senior Vice President Procurement

Title: SVP, Secretary & General Counsel

Date: 6-28-2017

Date: 4/4/17

TWENTY-NINTH AMENDMENT
 TO THE
 CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
 BETWEEN
 CSG SYSTEMS, INC.
 AND
 COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC

THIS TWENTY-NINTH AMENDMENT (the “Amendment”) is made by and between **CSG Systems, Inc.** (“CSG”) and **Comcast Cable Communications Management, LLC** (“Customer”). Upon execution by both parties, this Amendment shall be effective January 28, 2017 (“Effective Date”). CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement (CSG document #2501940) with an effective date of March 1, 2013 (the “Agreement”) and now desire to amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the Parties, any subsequent reference to the Agreement between the Parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

Customer has requested, and CSG agrees to provide, a solution to support statement composition services Customer is receiving from Customer’s chosen third party service provider. As a result, CSG and Customer agree to the following as of the Effective Date:

1. As of the Amendment Effective Date, Schedule F, Fees, Section III., Direct Solutions (print and mail), Subsection I, titled “AESP Statement processing” is hereby amended to delete Note 4 of Subsection E, titled “Statement Composition Fee (per statement print suppressed) (**Note 4**)” in its entirety and replace with the following:

Note 4: The Statement Composition fee serves two purposes as further defined below:
 i. For Subscriber statements composed by CSG, the fee is assessed for Subscriber statements that have been composed where *****. This ***** is an ***** at the ***** where Customer may choose to ***** of the *****. CSG will only charge Customer for statements composed where printing is ***** for Customer’s ***** CSG shall ***** such **** for ***** where ***** is ***** for ***** that are *****. For clarity, the actual volume to be billed ***** will be the ***** between ***** total ***** less the total ***** of *****.
 ii. For Subscriber statements where composition is to be performed by Customer’s chosen third party vendor, and whereby CSG is providing an XML data feed to third party vendor, the fee is assessed for each Connected Subscriber where statement data has been included in the XML file.

2. As of the Amendment Effective Date, Schedule F, Fees, Section III., Direct Solutions (print and mail), shall be modified by adding a new subsection IX, entitled “Third Party Statement Composition Solution Fees” as follow:

Description of Item/Unit of Measure	Frequency
IX. Third Party Statement Composition Solution Fees (Note 29)	
1. Support and Maintenance Fee for the Initial Support Period (Note 30)	*****
2. Support and Maintenance Fee beyond the Initial Support Period (Note 31)	TBD
3. Implementation Fees (Note 32)	*****

Note 29: CSG will provide Customer with a support and maintenance solution (the “Third Party Statement Composition Solution”) for purposes of supporting the statement composition services being provided to Customer by a ***** Customer has chosen ***** as its initial vendor to provide statement composition services to Customer.
Note 30: For an initial period beginning ***** and ending ***** (“Initial Support Period”), Customer agrees to pay CSG for the Third Party Statement Composition Solution as set forth in mutually agreed upon Statements of Work entered into between CSG and Customer (CSG doc. #4113885 for the Atlanta market, #4114739 for the Central region and #4114740 for the Northeast and West regions) (collectively, the “SOWs”).

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

Note 31: To the extent Customer desires CSG to continue to providing the Third Party Statement Composition Solution beyond the Initial Support Period, CSG and Customer shall enter into a mutually agreed upon amendment to the Agreement addressing the terms and conditions including the associated fees upon which CSG will continue to provide the Third Party Statement Composition Solution to Customer ("Subsequent Amendment"). Absent CSG and Customer entering into the Subsequent Amendment, CSG shall not be obligated to provide the Third Party Statement Composition Solution to Customer beyond the Initial Support Period.
Note 32: All implementation fees for the Third Party Statement Composition Solution are set forth in the SOWs (as defined in Note 30 above).

3. As of the Amendment Effective Date, Schedule L, Performance Standards and Remedies, subsection a. Performance Standards (i) through (xiii), subsection (xii) Statement Mailing, (1), shall be deleted in its entirety and replaced with the following:

(xii) Statement Mailing

(1) Subscriber Statement mailings (as defined in Exhibit C-2), shall be completed and mailed as follows:

- a. Subscriber statements, composed by CSG, shall be completed and mailed *** ***** (****%) of the time within ***** (*) ***** following cycle completion, measured on a ***** basis. For the purposes of this Section, a ***** is ***** through ***** excluding national holidays. For purposes of this subsection, the term "national holidays" shall include: New Year's, Memorial Day, Independence Day, Labor Day, Thanksgiving (Thursday and Friday), and Christmas. In the event a holiday falls on a Saturday, such holiday is recognized on the prior Friday and if a holiday falls on a Sunday, it is recognized by the following Monday.
- b. Subscriber statements, where composition is to be performed by Customer's ***** , shall be completed and mailed *** ***** (****%) of the time within ***** (*) ***** following CSG's receipt of each accurate and complete file consisting of pre-composed statements for printing and mailing ("Statement File") from Customer's ***** , measured on a ***** basis. For the purposes of this Section, a ***** is ***** through ***** excluding national holidays. For purposes of this subsection, the term "national holidays" shall include: New Year's, Memorial Day, Independence Day, Labor Day, Thanksgiving (Thursday and Friday), and Christmas. In the event a holiday falls on a Saturday, such holiday is recognized on the prior Friday and if a holiday falls on a Sunday, it is recognized by the following Monday.

IN WITNESS WHEREOF, CSG and Customer cause this Amendment to be duly executed below.

COMCAST CABLE COMMUNICATIONS
MANAGEMENT, LLC ("CUSTOMER")

CSG SYSTEMS, INC. ("CSG")

By: /s/ Jeur Abeln

By: /s/ Gregory L. Cannon

Name: Jeur Abeln

Name: Gregory L. Cannon

Title: Senior Vice President Procurement

Title: SVP, Secretary & General Counsel

Date: 4-18-2017

Date: 4/4/17

THIRTIETH AMENDMENT
TO THE
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC

THIS THIRTIETH AMENDMENT (the "Amendment") is made by and between **CSG Systems, Inc .** ("CSG") and **Comcast Cable Communications Management, LLC** ("Customer"). The Effective Date of this Amendment is the date last signed below. CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement (CSG document #2501940) with an effective date of March 1, 2013 (the "Agreement"), and now desire to amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the Parties, any subsequent reference to the Agreement between the Parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

CSG and Customer agree to the following as of the Effective Date:

1. CSG desires to provide Customer, and Customer desires to receive from CSG, * ***** of*** (S*****) (the "*****"). As a result, *** to Customer's ***** and, except as described in Section 2 below, ***** the Mo*****.
2. CSG and Customer further agree as follows:

a. Should Customer and CSG enter into a written agreement in the form of an amendment to the Agreement or other document signed between the Parties on or before ***. *****, CSG shall provide the Print and Mail Services to Customer in accordance with the pricing agreed upon in the ***** which the parties would jointly decide and agree whether the *****.

b. For purposes of clarification, should Customer and CSG *** *****, then CSG would **** with the Customer's *****.

Signatures on Next Page

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

THIS AMENDMENT is executed on the day and year last signed below ("Effective Date").

COMCAST CABLE COMMUNICATIONS
MANAGEMENT, LLC ("CUSTOMER")

CSG SYSTEMS, INC. ("CSG")

By: /s/ Jeur Abeln

By: /s/ Gregory L. Cannon

Name: Jeur Abeln

Name: Gregory L. Cannon

Title: Senior Vice President Procurement

Title: SVP, Secretary & General Counsel

Date: 6-28-2017

Date: 5/30/17

THIRTY-FIRST AMENDMENT
TO THE
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC

THIS THIRTY-FIRST AMENDMENT (the “Amendment”) is made by and between **CSG Systems, Inc.** (“CSG”) and **Comcast Cable Communications Management, LLC** (“Customer”). Upon execution by both parties, this Amendment shall be effective June 1, 2017 (“Effective Date”). CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement (CSG document #2501940) with an effective date of March 1, 2013 (the “Agreement”) and now desire to amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the Parties, any subsequent reference to the Agreement between the Parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

CSG and Customer agree to the following:

WHEREAS, CSG is providing and Customer is using CSG’s Direct Solution (print and mail) services pursuant to the Agreement; and

WHEREAS, ***** have made changes to the ***** (*****) that CSG uses to provide ***** (*****) services to Customer *****

NOW THEREFORE, CSG and Customer agree, in order to prevent Customer ***** on *****, to ***** the ***** for the ***** (*****) and ***** as provided in this amendment as follows:

1. As of the Amendment Effective Date, Schedule F, Fees, Section III, Direct Solutions (print and mail), Subsection VII, titled “Paper and Envelopes: (Statements, Customer Letters and Past Due Notices” as previously amended by the Ninth Amendment to the Agreement (CSG document number 2504963) shall be deleted in its entirety and replaced with the following. The remainder of the foregoing Section III Direct Solutions (print and mail) of Schedule F, Fees shall remain unchanged:

III. Direct Solutions (print and mail)

Description of Item/Unit of Measure	Frequency	Fee
VII.Paper and Envelopes: (Statements, Customer Letters and Past Due Notices (Note 19) (Note 20)		
1. Paper – 8-1/2 x 11, 24#, plain white with one perforation (used for SmartColor Printing) (per page; this fee is tiered based upon ***** printed statement volume))		
• Up to ***** printed statements	*****	\$*****
• ***** printed statements	*****	\$*****
• ***** printed statements	*****	\$*****
• ***** and greater ***** printed statements	*****	\$*****
2. Carrier Envelope – CSG standard #10 envelope, 20# paper with one poly-covered pistol window (per envelope; this fee is tiered based upon ***** printed statement volume))		
• Up to ***** printed statements	*****	\$*****

Description of Item/Unit of Measure	Frequency	Fee
• ***** printed statements	*****	\$*****
• ***** printed statements	*****	\$*****
• ***** and greater ***** printed statements	*****	\$*****
3. Remit Envelope – CSG standard #9 envelope, 20# paper with one open window (per envelope; this fee is tiered based upon ***** printed statement volume))		
• Up to ***** printed statements	*****	\$*****
• ***** printed statements	*****	\$*****
• ***** printed statements	*****	\$*****
• ***** and greater ***** printed statements	*****	\$*****
4. Remit Envelope Credit (for remit envelopes omitted from Subscriber statements, this fee is tiered based upon ***** printed statement volume)		
• Up to ***** printed statements	*****	(\$*****)
• ***** printed statements	*****	(\$*****)
• ***** printed statements	*****	(\$*****)
• ***** and greater ***** printed statements	*****	(\$*****)
5. Remit Envelope Credit (for remit envelopes omitted from Customer Letters or Past Due Notices)		
• ***** printed statements	*****	(\$*****)
6. Other Paper and Envelopes	*** *****	****
7. Other Miscellaneous Shipping Materials (per item, per system principle)	*** *****	****
8. Custom Paper Set-up/Revision	*** *****	\$*****

Note 19: For invoicing purposes, ***** (***** ***** ***) as reflected in subsection VII.1 – VII.3 ***** to both (i) Section I, AESP Statement processing, subsection A, “Processing for AESP Statement Format” fee and (ii) Section II, Customer letter processing, subsection C, Enhanced customer letters, “First physical page” processing fee. Further, ***** as reflected in subsection VII.1. ***** to both (i) Section I, AESP Statement processing, subsection B, “Additional physical page” and (ii) Section II, Customer letter processing, subsection B, “Additional physical page for legacy customer letters” fee.

Note 20: For clarification purposes, ***** ***) grising from ***** reflected in subsections VII.1 through VII.5, ** ***** associated with the ***** However, if Customer ***** in subsections VII.1 through VII.3, Customer is ***** For illustrative purposes only, assume that Customer ***** with a ***** of \$*****. Based upon the ***** set forth in the above table, ***** that ***** by \$***** (***** *****), and Customer’s ***** will be \$*****. This ***** will appear on the ***** and Customer will *****.

The fees set forth in the fee table above are subject to increase pursuant to Section 5.4, Adjustment to Fees, of the Agreement.

IN WITNESS WHEREOF the parties hereto have caused this Amendment to be executed by their duly authorized representatives.

COMCAST CABLE COMMUNICATIONS
MANAGEMENT, LLC (“CUSTOMER”)

CSG SYSTEMS, INC. (“CSG”)

By: /s/ Jeur Abeln

By: /s/ Connie Keith

Name: Jeur Abeln

Name: Connie Keith

Title: Senior Vice President Procurement

Title: VP

Date: 6-16-2017

Date: 6-16-17

**FIFTY-EIGHTH AMENDMENT
TO THE
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
DISH NETWORK L.L.C.**

THIS FIFTY-EIGHTH AMENDMENT (this "**Amendment**") is made by and between **CSG Systems, Inc.**, a Delaware corporation ("**CSG**"), and **DISH Network L.L.C.**, a Colorado limited liability company ("**Customer**"). This Amendment shall be effective as of the date last signed below (the "**Effective Date**"). CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement (Document #2301656) effective as of January 1, 2010 (the "**Agreement**"), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

CSG and Customer agree as follows as of the Effective Date:

- I.** Customer and CSG hereby agree to extend the First Renewal Deadline (for clarity, the date by which Customer may exercise the First Renewal Option as provided in the Agreement) from June 30, 2017 to August 15, 2017. CSG and Customer hereby agree to amend the Agreement by deleting Section 18, "TERM," Subsection (d) entitled "First Renewal Option" in its entirety and replacing it with the following:

"(d) First Renewal Option. Prior to December 31, 2017, Customer shall have the option (the "**First Renewal Option**") in its sole discretion to extend the Processing Term for two (2) years through December 31, 2019 (the "**Renewal Period**") with written notice to CSG by ***** (the "*****")."

IN WITNESS WHEREOF the parties hereto have caused this Amendment to be executed by their duly authorized representatives.

DISH NETWORK L.L.C.

CSG SYSTEMS, INC.

By: /s/ Rob Dravenstott

By: /s/ Gregory L. Cannon

Name: Rob Dravenstott

Name: Gregory L. Cannon

Title: SVP and Chief Information Officer

Title: SVP, General Counsel & Secretary

Date: 5/15/17

Date: May 15, 2017

ONE HUNDRED EIGHTEENTH AMENDMENT
TO THE
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC

This One Hundred Eighteenth Amendment (the "Amendment") is made by and between **CSG Systems, Inc.** ("CSG"), and **Charter Communications Holding Company, LLC, as successor in interest to Time Warner Cable Inc.** ("Customer"). CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement executed March 13, 2003 (CSG document no. 1926320), and effective as of April 1, 2003, as amended (the "Agreement"), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment, shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

WHEREAS, pursuant to the Agreement, as more particularly described in that certain One Hundred Eighth Amendment to the Agreement, effective as of July 19, 2016 (CSG document no. 4111838) (the "108th Amendment"), and extended pursuant to that certain One Hundred Fourteenth Amendment effective as of January 17, 2017 (CSG document no. 4114078) (the "114th Amendment") and further extended pursuant to that certain One Hundred Fifteenth Amendment effective as of February 14, 2017 (CSG document no. 4114929), (the "115th Amendment") and that certain One Hundred Sixteenth Amendment effective as of March 9, 2017 (CSG document no. 4115066) (the "116th Amendment"), and, together with the 108th Amendment, the 114th Amendment and the 115th Amendment, (collectively, the "Amendments"), CSG and Customer agreed that the Connected Subscribers in the Charter Agreement (as defined in the Amendments) will be used for the purpose of determining the total number of Connected Subscribers, combined, under this Agreement and the Charter Agreement, for the limited purposes described therein for the period from ***** ** ****, through March 31, 2017 (the "***** Period"); and

WHEREAS, as a result of discussions between the parties, the parties agree to amend the terms of the ***** Period.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and for other good and valuable consideration, the receipt and sufficient of which is hereby acknowledged, CSG and Customer agree to the following as of the Effective Date.

- I. Upon execution of this Amendment and pursuant to the terms and conditions of the Agreement, which includes the Amendments, CSG and Customer agree that the ***** Period shall be amended such that the ***** Period shall commence as of ***** **, and shall continue through April 30, 2017 (the "Amended ***** Period").

[Signature Page Follows]

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

THIS AMENDMENT is executed as of the day and year last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC ("CUSTOMER") CSG SYSTEMS, INC. ("CSG")

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

Name: Mike Ciszek

Title: SVP, Billing Strat & Opns

Date: 3/31/17

By: /s/ Gregory L. Cannon

Name: Gregory L. Cannon

Title: SVP, Secretary & General Counsel

Date: 4/3/17

ONE HUNDRED NINETEENTH AMENDMENT
TO THE
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC

This One Hundred Nineteenth Amendment (the "Amendment") is made by and between **CSG Systems, Inc.** ("CSG"), and **Charter Communications Holding Company, LLC, as successor in interest to Time Warner Cable Inc.** ("Customer"). CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement executed March 13, 2003 (CSG document no. 1926320), and effective as of April 1, 2003, as amended (the "Agreement"), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment, shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

WHEREAS, pursuant to the Agreement, as more particularly described in that certain One Hundred Eighth Amendment to the Agreement, effective as of July 19, 2016 (CSG document no. 4111838) (the "108th Amendment"), and extended pursuant to that certain One Hundred Fourteenth Amendment effective as of January 17, 2017 (CSG document no. 4114078) (the "114th Amendment") and further extended pursuant to that certain One Hundred Fifteenth Amendment effective as of February 14, 2017 (CSG document no. 4114929), (the "115th Amendment"), that certain One Hundred Sixteenth Amendment effective as of March 9, 2017 (CSG document no. 4115066) (the "116th Amendment"), and that certain One Hundred Eighteenth Amendment effective as of April 3, 2017 (CSG document no. 4115586) (the "118th Amendment"), and, together with the 108th Amendment, the 114th Amendment, the 115th Amendment the 116th Amendment and the 118th Amendment, collectively, the "Amendments," CSG and Customer agreed that the Connected Subscribers in the Charter Agreement (as defined in the Amendments) will be used for the purpose of determining the total number of Connected Subscribers, combined, under this Agreement and the Charter Agreement, for the limited purposes described therein for the period from ***** ** ****, through April 30, 2017 (the "***** ***** ***** Period"); and

WHEREAS, as a result of discussions between the parties, the parties agree to amend the terms of the ***** ***** ***** Period.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and for other good and valuable consideration, the receipt and sufficient of which is hereby acknowledged, CSG and Customer agree to the following as of the Effective Date.

- I. Upon execution of this Amendment and pursuant to the terms and conditions of the Agreement, which includes the Amendments, CSG and Customer agree that the ***** ***** ***** Period shall be amended such that the ***** ***** ***** Period shall commence as of ***** ** ****, and shall continue through *** ** **** (the "Amended ***** ***** ***** Period").

[Signature Page Follows]

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

THIS AMENDMENT is executed as of the day and year last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC ("CUSTOMER")	CSG SYSTEMS, INC. ("CSG")
---	---------------------------

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

Name: Mike Ciszek

Title: SVP

Date: 4/25/17

By: /s/ Gregory L. Cannon

Name: Gregory L. Cannon

Title: SVP, Secretary & General Counsel

Date: 4/28/17

**ONE HUNDRED TWENTIETH AMENDMENT
TO THE
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC**

This **One Hundred Twentieth Amendment** (the "Amendment") is made by and between **CSG Systems, Inc.** ("CSG"), and **Charter Communications Holding Company, LLC, as successor in interest to Time Warner Cable Inc.** ("Customer"). CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement executed March 13, 2003 (CSG document no. 1926320), and effective as of April 1, 2003, as amended (the "Agreement"), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment, shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

CSG and Customer agree to the following as of the Effective Date:

1. The parties wish to extend the Agreement through **May 31, 2017**, in order to finalize terms of an agreement between the parties for the provision by CSG and consumption by Customer of the Products and Services currently made available under this agreement. Such agreement is identified as that certain "Charter Consolidated Master Subscriber Management System Agreement" to be agreed upon and executed by and between CSG and Customer (CSG document no. 4114281). Therefore, until such time the aforementioned agreement is executed, Section 1.2 of the Agreement entitled "Term" shall be deleted in its entirety and replaced with the following:

“ **1.2 Term.** Unless earlier terminated pursuant to Section 6, this Agreement shall remain in effect through 11:59 p.m. Mountain Time of **May 31, 2017** ("Initial Term"). Unless terminated earlier pursuant to Section 6 or pursuant to any other termination rights set forth in this Agreement or a relevant Statement of Work, the term of any specific license for the Products and the term for any specific Services to be provided shall be coterminous with this Agreement unless stated otherwise in the applicable Schedule, Addendum, prior or future amendment to this Agreement or relevant Statement of Work; subject, however, to the parties' respective termination rights with respect thereto under this Agreement and/or any applicable Statement of Work executed pursuant to this Agreement.”

THIS AMENDMENT is executed as of the day and year last signed below (the "Effective Date").

**CHARTER COMMUNICATIONS HOLDING
COMPANY, LLC ("CUSTOMER")**

CSG SYSTEMS, INC. ("CSG")

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

By: /s/ Gregory L. Cannon

Name: Mike Ciszek

Name: Gregory L. Cannon

Title: SVP

Title: SVP, Secretary & General Counsel

Date: 4/25/17

Date: 4/28/17

**ONE HUNDRED TWENTY-FIRST AMENDMENT
TO THE
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC**

This **One Hundred Twenty-first Amendment** (the "Amendment") is made by and between **CSG Systems, Inc.** ("CSG"), and **Charter Communications Holding Company, LLC, as successor in interest to Time Warner Cable Inc.** ("Customer"). CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement executed March 13, 2003 (CSG document no. 1926320), and effective as of April 1, 2003, as amended (the "Agreement"), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment, shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

CSG and Customer agree to the following as of the Effective Date:

1. The parties wish to extend the Agreement through **June 30, 2017**, in order to finalize terms of an agreement between the parties for the provision by CSG and consumption by Customer of the Products and Services currently made available under this agreement. Such agreement is identified as that certain "Charter Consolidated Master Subscriber Management System Agreement" to be agreed upon and executed by and between CSG and Customer (CSG document no. 4114281). Therefore, until such time the aforementioned agreement is executed, Section 1.2 of the Agreement entitled "Term" shall be deleted in its entirety and replaced with the following:

" **1.2 Term.** Unless earlier terminated pursuant to Section 6, this Agreement shall remain in effect through 11:59 p.m. Mountain Time of **June 30, 2017** ("Initial Term"). Unless terminated earlier pursuant to Section 6 or pursuant to any other termination rights set forth in this Agreement or a relevant Statement of Work, the term of any specific license for the Products and the term for any specific Services to be provided shall be coterminous with this Agreement unless stated otherwise in the applicable Schedule, Addendum, prior or future amendment to this Agreement or relevant Statement of Work; subject, however, to the parties' respective termination rights with respect thereto under this Agreement and/or any applicable Statement of Work executed pursuant to this Agreement."

THIS AMENDMENT is executed as of the day and year last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC ("CUSTOMER") **CSG SYSTEMS, INC. ("CSG")**

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

Name: SVP - Billing

Title: Mike Ciszek

Date: 5/30/17

By: /s/ Gregory L. Cannon

Name: Gregory L. Cannon

Title: SVP, Secretary & General Counsel

Date: 5/30/17

**ONE HUNDRED TWENTY-SECOND AMENDMENT
TO THE
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC**

This One Hundred Twenty-second Amendment (the “Amendment”) is made by and between **CSG Systems, Inc.** (“CSG”), and **Charter Communications Holding Company, LLC, as successor in interest to Time Warner Cable Inc.** (“Customer”). CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement executed March 13, 2003 (CSG document no. 1926320), and effective as of April 1, 2003, as amended (the “Agreement”), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment, shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

WHEREAS, pursuant to the Agreement, as more particularly described in that certain One Hundred Eighth Amendment to the Agreement, effective as of July 19, 2016 (CSG document no. 4111838) (the “108th Amendment”), and extended pursuant to that certain One Hundred Fourteenth Amendment effective as of January 17, 2017 (CSG document no. 4114078) (the “114th Amendment”) and further extended pursuant to that certain One Hundred Fifteenth Amendment effective as of February 14, 2017 (CSG document no. 4114929), (the “115th Amendment”), that certain One Hundred Sixteenth Amendment effective as of March 9, 2017 (CSG document no. 4115066) (the “116th Amendment”), that certain One Hundred Eighteenth Amendment effective as of April 3, 2017 (CSG document no. 4115586) (the “118th Amendment”), and that certain One Hundred Nineteenth Amendment effective as of April 28, 2017 (CSG document no. 4115858) (the “119th Amendment”), and, together with the 108th Amendment, the 114th Amendment, the 115th Amendment the 116th Amendment, the 118th Amendment, and the 119th Amendment (collectively, the “Amendments”), CSG and Customer agreed that the Connected Subscribers in the Charter Agreement (as defined in the Amendments) will be used for the purpose of determining the total number of Connected Subscribers, combined, under this Agreement and the Charter Agreement, for the limited purposes described therein for the period from ***** ** ****, through *** ** * (the “***** ***** ***** Period”); and

WHEREAS, as a result of discussions between the parties, the parties agree to amend the terms of the ***** ***** ***** Period; and

WHEREAS, pursuant to agreement of the parties, the ***** ***** ***** Period is granted by CSG to Customer in order for CSG and Customer to finalize terms of an agreement between the parties for provision by CSG and consumption by Customer of the Products and Services identified as that certain “Charter Consolidated Master Subscriber Management System Agreement” to be agreed upon and executed by and between CSG and Customer (CSG document no. 4114281).

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and for other good and valuable consideration, the receipt and sufficient of which is hereby acknowledged, CSG and Customer agree to the following as of the Effective Date.

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

1. Subject to execution by Customer of the Charter Consolidated Master Subscriber Management System Agreement on or before close of business **** ** ***, and upon execution by Customer and CSG of this Amendment and pursuant to the terms and conditions of the Agreement, which includes the Amendments, CSG and Customer agree that the ***** ***** Period shall be amended such that the ***** ***** Period shall commence as of ***** ** ***, and shall continue through **** ** *** (the "Amended ***** ***** Period"). In the event CSG and Customer have not executed the Charter Consolidated Master Subscriber Management System Agreement by **** ** ***, the Amended ***** ***** Period shall expire **** ** ***, and Customer shall be invoiced based upon volumes under the respective agreements for which CSG products and services are being provided.

THIS AMENDMENT is executed as of the day and year last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC ("CUSTOMER") CSG SYSTEMS, INC. ("CSG")

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

Name: SVP - Billing

Title: Mike Ciszek

Date: 5/30/17

By: /s/ Gregory L. Cannon

Name: Gregory L. Cannon

Title: SVP, Secretary & General Counsel

Date: 5/30/17

**ONE HUNDRED TWENTY-THIRD AMENDMENT
TO THE
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC**

This **One Hundred Twenty-third Amendment** (the "Amendment") is made by and between **CSG Systems, Inc.** ("CSG"), and **Charter Communications Holding Company, LLC**, as successor in interest to **Time Warner Cable Inc.** ("Customer"). CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement executed March 13, 2003 (CSG document no. 1926320), and effective as of April 1, 2003, as amended (the "Agreement"), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment, shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

CSG and Customer agree to the following as of the Effective Date:

1. The parties wish to extend the Agreement through **July 31, 2017**, in order to finalize terms of an agreement between the parties for the provision by CSG and consumption by Customer of the Products and Services currently made available under this agreement. Such agreement is identified as that certain "Charter Consolidated Master Subscriber Management System Agreement" to be agreed upon and executed by and between CSG and Customer (CSG document no. 4114281). Therefore, until such time the aforementioned agreement is executed, Section 1.2 of the Agreement entitled "Term" shall be deleted in its entirety and replaced with the following:

"**1.2 Term.** Unless earlier terminated pursuant to Section 6, this Agreement shall remain in effect through 11:59 p.m. Mountain Time of **July 31, 2017** ("Initial Term"). Unless terminated earlier pursuant to Section 6 or pursuant to any other termination rights set forth in this Agreement or a relevant Statement of Work, the term of any specific license for the Products and the term for any specific Services to be provided shall be coterminous with this Agreement unless stated otherwise in the applicable Schedule, Addendum, prior or future amendment to this Agreement or relevant Statement of Work; subject, however, to the parties' respective termination rights with respect thereto under this Agreement and/or any applicable Statement of Work executed pursuant to this Agreement."

THIS AMENDMENT is executed as of the day and year last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC ("CUSTOMER") **CSG SYSTEMS, INC. ("CSG")**

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

Name: Mike Ciszek

Title: SVP – Billing Strategy + Operations

Date: 6/28/2017

By: /s/ Gregory L. Cannon

Name: Gregory L. Cannon

Title: SVP, Secretary & General Counsel

Date: 6/29/17

ONE HUNDRED TWENTY-FOURTH AMENDMENT
TO THE
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC

This One Hundred Twenty-fourth Amendment (the “Amendment”) is made by and between **CSG Systems, Inc.** (“CSG”), and **Charter Communications Holding Company, LLC, as successor in interest to Time Warner Cable Inc.** (“Customer”). CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement executed March 13, 2003 (CSG document no. 1926320), and effective as of April 1, 2003, as amended (the “Agreement”), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment, shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

WHEREAS, pursuant to the Agreement, as more particularly described in that certain One Hundred Eighth Amendment to the Agreement, effective as of July 19, 2016 (CSG document no. 4111838) (the “108th Amendment”), and extended pursuant to that certain One Hundred Fourteenth Amendment effective as of January 17, 2017 (CSG document no. 4114078) (the “114th Amendment”) and further extended pursuant to that certain One Hundred Fifteenth Amendment effective as of February 14, 2017 (CSG document no. 4114929), (the “115th Amendment”), that certain One Hundred Sixteenth Amendment effective as of March 9, 2017 (CSG document no. 4115066) (the “116th Amendment”), that certain One Hundred Eighteenth Amendment effective as of April 3, 2017 (CSG document no. 4115586) (the “118th Amendment”), and that certain One Hundred Nineteenth Amendment effective as of April 28, 2017 (CSG document no. 4115858) (the “119th Amendment”), that One Hundred Twenty-second Amendment effective as of May 30, 2017 (CSG document no. 4116365) (the “124th Amendment”) and, together with the 108th Amendment, the 114th Amendment, the 115th Amendment the 116th Amendment, the 118th Amendment, the 119th Amendment and the 122nd Amendment (collectively, the “Amendments”), CSG and Customer agreed that the Connected Subscribers in the Charter Agreement (as defined in the Amendments) will be used for the purpose of determining the total number of Connected Subscribers, combined, under this Agreement and the Charter Agreement, for the limited purposes described therein for the period from ***** ** **, through **** ** ** (the “***** ** ** Period”); and

WHEREAS, as a result of discussions between the parties, the parties agree to amend the terms of the ***** ** ** Period; and

WHEREAS, pursuant to agreement of the parties, the ***** ** ** Period is granted by CSG to Customer in order for CSG and Customer to finalize terms of an agreement between the parties for provision by CSG and consumption by Customer of the Products and Services identified as that certain “Charter Consolidated Master Subscriber Management System Agreement” to be agreed upon and executed by and between CSG and Customer (CSG document no. 4114281).

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and for other good and valuable consideration, the receipt and sufficient of which is hereby acknowledged, CSG and Customer agree to the following as of the Effective Date.

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

1. Subject to execution by Customer of the Charter Consolidated Master Subscriber Management System Agreement on or before close of business **** * ***, and upon execution by Customer and CSG of this Amendment and pursuant to the terms and conditions of the Agreement, which includes the Amendments, CSG and Customer agree that the ***** ***** Period shall be amended such that the ***** ***** Period shall commence as of ***** ** ***, and shall continue through **** * *** (the "Amended ***** ***** Period"). In the event CSG and Customer have not executed the Charter Consolidated Master Subscriber Management System Agreement by **** * ***, the Amended ***** ***** Period shall expire **** * ***, and Customer shall be invoiced based upon volumes under the respective agreements for which CSG products and services are being provided.

THIS AMENDMENT is executed as of the day and year last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC ("CUSTOMER") CSG SYSTEMS, INC. ("CSG")

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

Name: Mike Ciszek

Title: SVP – Billing Strategy + Operations

Date: 6/28/2017

By: /s/ Gregory L. Cannon

Name: Gregory L. Cannon

Title: SVP, Secretary & General Counsel

Date: 6/29/17

**ONE HUNDREDTH AMENDMENT
TO
AMENDED AND RESTATED
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC**

This One Hundredth Amendment (the "Amendment") is made by and between **CSG Systems, Inc.**, a Delaware corporation ("CSG"), and **Charter Communications Holding Company, LLC**, a Delaware limited liability company ("Customer"). CSG and Customer entered into that certain Amended and Restated CSG Master Subscriber Management System Agreement dated February 9, 2009, as amended (the "Agreement"), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

WHEREAS, Customer has previously purchased and CSG has provided Precision eMail® for Customer's use, pursuant to the Agreement, as more particularly described in the Ninth Amendment to the Agreement executed by CSG and Customer as of January 10, 2010 (CSG document no. 2301479) (the "Ninth Amendment"); and

WHEREAS, Customer has previously requested and CSG has provided an ***** bundle level pursuant to the Agreement, as more particularly described in the Eighty-seventh Amendment executed by CSG and Customer as of June 9, 2016 (the "Eighty-seventh Amendment"); and

WHEREAS, Customer has requested and CSG has agreed to provide a ***** bundle level, pursuant to the terms of this Amendment.

NOW, THEREFORE, CSG and Customer agree to the following as of the Effective Date (defined below):

- 1. Customer has requested and CSG has agreed to provide an ***** bundle level at the rate of \$***** (the "Bundle Fee").**
- 2. Therefore, upon execution of this Amendment, CSG shall invoice Customer and Customer shall pay the Bundle Fee (as a ***** payment) and, further, CSG shall provide, pursuant to the terms of the Agreement, the ***** bundle level to Customer.**

[Signature Page Follows]

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

THIS AMENDMENT is executed on the days and year last signed below to be effective as of the date last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC ("CUSTOMER") CSG SYSTEMS, INC. ("CSG")

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

Name: SVP, Billing Strat & Opns

Title: Mike Ciszek

Date: 3/31/17

By: /s/ Gregory L. Cannon

Name: Gregory L. Cannon

Title: SVP, Secretary & General Counsel

Date: 4/3/17

**ONE HUNDRED SECOND AMENDMENT
TO AMENDED AND RESTATED
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC**

This One Hundred Second Amendment (the “Amendment”) is made by and between **CSG Systems, Inc.** , a Delaware corporation (“CSG”), and **Charter Communications Holding Company, LLC** , a Delaware limited liability company (“Customer”). CSG and Customer entered into that certain Amended and Restated CSG Master Subscriber Management System Agreement dated February 9, 2009, as amended (the “Agreement”), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

WHEREAS , pursuant to the Agreement, as more particularly described in that certain Eighty-ninth Amendment to the Agreement, effective as of July 19, 2016 (CSG document no. 4111836) (the “89th Amendment”), and extended pursuant to that certain Ninety-seventh Amendment to the Agreement, effective as of January 17, 2017 (CSG document no. 4114077) (the “97th Amendment”) and further extended pursuant to that certain Ninety-ninth Amendment to the Agreement effective as of February 14, 2017 (CSG document no. 4114930) (the “99th Amendment” and the One Hundred First Amendment to the Agreement effective as of March 9, 2017 (CSG document no. 4115064) (the “101st Amendment”) and, together with the 89th Amendment, the 97th Amendment, and the 101st Amendment (collectively, the “Amendments”), CSG and Customer agreed that the Connected Subscribers in the TWC Agreement (as defined in the Amendments) will be used for the purpose of determining the total number of Connected Subscribers, combined, under this Agreement and the TWC Agreement, for the limited purposes described therein for the period from ***** ** ****, through March 31, 2017 (the “***** Period”); and

WHEREAS , as a result of discussions between the parties, the parties agree to amend the terms of the ***** Period.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, CSG and Customer agree to the following as of the Effective Date.

1. Upon execution of this Amendment and pursuant to the terms and conditions of the Agreement, which includes the Amendments, CSG and Customer agree that the ***** Period shall be amended such that the ***** Period shall commence as of ***** ** ****, and shall continue through April 30, 2017 (the “Amended ***** Period”).

[Signature Page Follows]

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

THIS AMENDMENT is executed on the days and year last signed below to be effective as of the date last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC ("CUSTOMER") CSG SYSTEMS, INC. ("CSG")

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

Name: SVP, Billing Strat & Ops

Title: Mike Ciszek

Date: 3/31/2017

By: /s/ Gregory L. Cannon

Name: Gregory L. Cannon

Title: SVP, Secretary & General Counsel

Date: 4/3/17

ONE HUNDRED FOURTH AMENDMENT
TO AMENDED AND RESTATED
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC

This One Hundred Fourth Amendment (the “Amendment”) is made by and between **CSG Systems, Inc.** , a Delaware corporation (“CSG”), and **Charter Communications Holding Company, LLC** , a Delaware limited liability company (“Customer”). CSG and Customer entered into that certain Amended and Restated CSG Master Subscriber Management System Agreement dated February 9, 2009, as amended (the “Agreement”), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

WHEREAS , pursuant to the Agreement, as more particularly described in that certain Eighty-ninth Amendment to the Agreement, effective as of July 19, 2016 (CSG document no. 4111836) (the “89th Amendment”), and extended pursuant to that certain Ninety-seventh Amendment to the Agreement, effective as of January 17, 2017 (CSG document no. 4114077) (the “97th Amendment”) and further extended pursuant to that certain Ninety-ninth Amendment to the Agreement effective as of February 14, 2017 (CSG document no. 4114930) (the “99th Amendment”) and the One Hundred First Amendment to the Agreement effective as of March 9, 2017 (CSG document no. 4115064) (the “101st Amendment”) and the One Hundred Second Amendment to the Agreement effective as of April 3, 2017 (CSG document no. 4115586) (the “102nd Amendment”) and, together with the 89th Amendment, the 97th Amendment, the 101st Amendment and the 102nd Amendment (collectively, the “Amendments”), CSG and Customer agreed that the Connected Subscribers in the TWC Agreement (as defined in the Amendments) will be used for the purpose of determining the total number of Connected Subscribers, combined, under this Agreement and the TWC Agreement, for the limited purposes described therein for the period from ***** ** **, through ***** ** **, (the “***** ***** ***** Period”); and

WHEREAS , as a result of discussions between the parties, the parties agree to amend the terms of the ***** ***** ***** Period.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and for other good and valuable consideration, the receipt and sufficient of which is hereby acknowledged, CSG and Customer agree to the following as of the Effective Date.

1. Upon execution of this Amendment and pursuant to the terms and conditions of the Agreement, which includes the Amendments, CSG and Customer agree that the ***** ***** ***** Period shall be amended such that the ***** ***** ***** Period shall commence as of ***** ** **, and shall continue through *** ** ** (the “Amended ***** ***** ***** Period”).

[Signature Page Follows]

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

THIS AMENDMENT is executed on the days and year last signed below to be effective as of the date last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC ("CUSTOMER") CSG SYSTEMS, INC. ("CSG")

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

Name: SVP

Title: Mike Ciszek

Date: 4/25/17

By: /s/ Gregory L. Cannon

Name: Gregory L. Cannon

Title: SVP, Secretary & General Counsel

Date: 4/28/17

This One Hundred Sixth Amendment (the "Amendment") made by and between **CSG Systems, Inc.**, a Delaware corporation ("CSG"), and **Charter Communications Holding Company, LLC**, a Delaware limited liability company ("Customer"). CSG and Customer entered into that certain Amended and Restated CSG Master Subscriber Management System Agreement dated February 9, 2009, as amended (the "Agreement"), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

1. ***** fees associated with the following Products and Services (“***** Fee Products and Services”) shall continue to be invoiced by CSG on a ***** basis; however, beginning with the period of ***** through *****

*****, CSG will invoice the ***** fees associated with the ***** Fee Products and Services in a ***** invoice at the **** * **** * **** * **** *.

- a. ACP Commercial
- b. ACP Commercial Additional Capacity
- c. AOI
- d. DNIS AOI Solution
- e. Vantage
- f. Vantage Upgrade/Modification
- g. Workforce Express (WFX) Penguin API
- h. PDB Access
- i. Event Manager

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

2. Beginning in ***** of **** and continuing through the Term of the Agreement, CSG shall invoice Customer for the ***** fees associated with ***** Fee Products and Services in a ***** ***** at the **** * * * * * (on Customer's ***** invoice). CSG shall invoice Customer, and Customer shall pay CSG, in ***** of the ***** ***** period to which such ***** fees are applicable and each ***** ***** period shall be referred to as an "***** Fee Period". With respect to the initial ***** Fee Period (***** * * * * * through ***** * * * * *), CSG shall adjust the applicable invoice to reflect any ***** ***** that are due to Customer as the result of ***** fees previously invoiced by CSG or previously paid by Customer, which are applicable to the ***** Fee Products and Services for such period.
3. Attachment A attached hereto and incorporated herein by reference sets forth a schedule with an example calculation of the ***** fees CSG contemplates invoicing Customer with respect to the ***** ***** Fee Period. In the event of a discrepancy between CSG's actual invoice for the ***** ***** Fee Period and the example calculation of such fees reflected in Attachment A, CSG's actual invoice shall control.

THIS AMENDMENT is executed on the days and year last signed below to be effective as of the date last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC ("CUSTOMER") CSG SYSTEMS, INC. ("CSG")

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

Name: Mike Ciszek

Title: SVP, Billing Strat & Opns

Date: 6-9-17

By: /s/ Gregory L. Cannon

Name: Gregory L. Cannon

Title: SVP, Secretary & General Counsel

Date: June 12, 2017

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

ATTACHMENT A

Schedule with Example Calculation of the ~~*****~~ Fees

See Attached

ONE HUNDRED EIGHTH AMENDMENT
TO AMENDED AND RESTATED
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC

This One Hundred Eighth Amendment (the “Amendment”) is made by and between **CSG Systems, Inc.** , a Delaware corporation (“CSG”), and **Charter Communications Holding Company, LLC** , a Delaware limited liability company (“Customer”). CSG and Customer entered into that certain Amended and Restated CSG Master Subscriber Management System Agreement dated February 9, 2009, as amended (the “Agreement”), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

WHEREAS , pursuant to the Agreement, as more particularly described in that certain Eighty-ninth Amendment to the Agreement, effective as of July 19, 2016 (CSG document no. 4111836) (the “89th Amendment”), and extended pursuant to that certain Ninety-seventh Amendment to the Agreement, effective as of January 17, 2017 (CSG document no. 4114077) (the “97th Amendment”) and further extended pursuant to that certain Ninety-ninth Amendment to the Agreement effective as of February 14, 2017 (CSG document no. 4114930) (the “99th Amendment”), the One Hundred First Amendment to the Agreement effective as of March 9, 2017 (CSG document no. 4115064) (the “101st Amendment”), the One Hundred Second Amendment to the Agreement effective as of April 3, 2017 (CSG document no. 4115586) (the “102nd Amendment”) and the One Hundred Fourth Amendment to the Agreement effective as of April 28, 2017 (the “104th Amendment”), and, together with the 89th Amendment, the 97th Amendment, the 101st Amendment, the 102nd Amendment and the 104th Amendment (collectively, the “Amendments”), CSG and Customer agreed that the Connected Subscribers in the TWC Agreement (as defined in the Amendments) will be used for the purpose of determining the total number of Connected Subscribers, combined, under this Agreement and the TWC Agreement, for the limited purposes described therein for the period from ***** ******, through *** ** * (the “***** Period”); and

WHEREAS , as a result of discussions between the parties, the parties agree to amend the terms of the ***** Period; and

WHEREAS , pursuant to agreement of the parties, the ***** Period is granted by CSG to Customer in order for CSG and Customer to finalize terms of an agreement between the parties for provision by CSG and consumption by Customer of the Products and Services identified as that certain “Charter Consolidated Master Subscriber Management System Agreement” to be agreed upon and executed by and between CSG and Customer (CSG document no. 4114281).

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and for other good and valuable consideration, the receipt and sufficient of which is hereby acknowledged, CSG and Customer agree to the following as of the Effective Date.

- I. Subject to execution by Customer of the Charter Consolidated Master Subscriber Management System Agreement on or before close of business *****, and upon execution by Customer and CSG of this Amendment and pursuant to the terms and conditions of the Agreement, which includes the Amendments, CSG and Customer agree that the ***** Period shall be amended such that the
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*** **Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.**

***** ***** ***** Period shall commence as of ***** ** ***, and shall continue through **** ** *** (the “Amended ***** ***** ***** Period”). In the event CSG and Customer have not executed the Charter Consolidated Master Subscriber Management System Agreement by **** ** ***, the Amended ***** ***** ***** Period shall expire **** ** ***, and Customer shall be invoiced based upon volumes under the respective agreements for which CSG products and services are being provided.

THIS AMENDMENT is executed on the days and year last signed below to be effective as of the date last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC (“CUSTOMER”) **CSG SYSTEMS, INC. (“CSG”)**

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

Name: SVP - Billing

Title: Mike Ciszek

Date: 5/30/17

By: /s/ Gregory L. Cannon

Name: Gregory L. Cannon

Title: SVP, Secretary & General Counsel

Date: 5/30/17

ONE HUNDRED NINTH AMENDMENT
TO AMENDE AND RESTATED
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT
BETWEEN
CSG SYSTEMS, INC.
AND
CHARTER COMMUNICATIONS HOLDING COMPANY, LLC

This One Hundred Ninth Amendment (the “Amendment”) is made by and between **CSG Systems, Inc.** , a Delaware corporation (“CSG”), and **Charter Communications Holding Company, LLC** , a Delaware limited liability company (“Customer”). CSG and Customer entered into that certain Amended and Restated CSG Master Subscriber Management System Agreement dated February 9, 2009, as amended (the “Agreement”), and now desire to further amend the Agreement in accordance with the terms and conditions set forth in this Amendment. If the terms and conditions set forth in this Amendment shall be in conflict with the Agreement, the terms and conditions of this Amendment shall control. Any terms in initial capital letters or all capital letters used as a defined term but not defined in this Amendment shall have the meaning set forth in the Agreement. Upon execution of this Amendment by the parties, any subsequent reference to the Agreement between the parties shall mean the Agreement as amended by this Amendment. Except as amended by this Amendment, the terms and conditions set forth in the Agreement shall continue in full force and effect according to their terms.

WHEREAS , pursuant to the Agreement, as more particularly described in that certain Eighty-ninth Amendment to the Agreement, effective as of July 19, 2016 (CSG document no. 4111836) (the “89th Amendment”), and extended pursuant to that certain Ninety-seventh Amendment to the Agreement, effective as of January 17, 2017 (CSG document no. 4114077) (the “97th Amendment”) and further extended pursuant to that certain Ninety-ninth Amendment to the Agreement effective as of February 14, 2017 (CSG document no. 4114930) (the “99th Amendment”), the One Hundred First Amendment to the Agreement effective as of March 9, 2017 (CSG document no. 4115064) (the “101st Amendment”), the One Hundred Second Amendment to the Agreement effective as of April 3, 2017 (CSG document no. 4115586) (the “102nd Amendment”) and the One Hundred Fourth Amendment to the Agreement effective as of April 28, 2017 (the “104th Amendment”), the One Hundred Eighth Amendment to the Agreement effective as of May 30, 2017 (the “108th Amendment”) and, together with the 89th Amendment, the 97th Amendment, the 101st Amendment, the 102nd Amendment, the 104th Amendment and the 108th Amendment (collectively, the “Amendments”), CSG and Customer agreed that the Connected Subscribers in the TWC Agreement (as defined in the Amendments) will be used for the purpose of determining the total number of Connected Subscribers, combined, under this Agreement and the TWC Agreement, for the limited purposes described therein for the period from ***** ** **, through **** * ** (the “***** ** ** Period”); and

WHEREAS , as a result of discussions between the parties, the parties agree to amend the terms of the ***** ** ** Period; and

WHEREAS , pursuant to agreement of the parties, the ***** ** ** Period is granted by CSG to Customer in order for CSG and Customer to finalize terms of an agreement between the parties for provision by CSG and consumption by Customer of the Products and Services identified as that certain “Charter Consolidated Master Subscriber Management System Agreement” to be agreed upon and executed by and between CSG and Customer (CSG document no. 4114281).

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and for other good and valuable consideration, the receipt and sufficient of which is hereby acknowledged, CSG and Customer agree to the following as of the Effective Date.

- 1. Subject to execution by Customer of the Charter Consolidated Master Subscriber Management System Agreement on or before close of business **** * ** **, and upon execution by Customer and CSG of this Amendment and pursuant to the terms and conditions of the Agreement, which includes the Amendments, CSG and Customer

*** Confidential Treatment Requested and the Redacted Material has been separately filed with the Commission.

agree that the ***** Period shall be amended such that the ***** Period shall commence as of ***** , and shall continue through ***** (the “Amended ***** Period”). In the event CSG and Customer have not executed the Charter Consolidated Master Subscriber Management System Agreement by ***** , the Amended ***** Period shall expire ***** , and Customer shall be invoiced based upon volumes under the respective agreements for which CSG products and services are being provided.

THIS AMENDMENT is executed on the days and year last signed below to be effective as of the date last signed below (the "Effective Date").

CHARTER COMMUNICATIONS HOLDING COMPANY, LLC (“CUSTOMER”) CSG SYSTEMS, INC. (“CSG”)

By: Charter Communications, Inc., its Manager

By: /s/ Mike Ciszek

By: /s/ Gregory L. Cannon

Name: SVP – Billing Strategy + Operations

Name: Gregory L. Cannon

Title: Mike Ciszek

Title: SVP, Secretary & General Counsel

Date: 6/27/2017

Date: 6/29/17

**CERTIFICATIONS PURSUANT TO
SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, Bret C. Griess, certify that:

1. I have reviewed this report on Form 10-Q of CSG Systems International, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 4, 2017

/s/ Bret C. Griess
Bret C. Griess
President and Chief Executive Officer

**CERTIFICATIONS PURSUANT TO
SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, Randy R. Wiese, certify that:

1. I have reviewed this report on Form 10-Q of CSG Systems International, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 4, 2017

/s/ Randy R. Wiese
 Randy R. Wiese
 Executive Vice President and Chief Financial Officer

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

The certification set forth below is being submitted in connection with the Quarterly Report on Form 10-Q (the "Report") for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code.

Bret C. Griess, the Chief Executive Officer and Randy R. Wiese, the Chief Financial Officer of CSG Systems International Inc., each certifies that, to the best of his knowledge:

- (1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of CSG Systems International, Inc.

August 4, 2017

/s/ Bret C. Griess _____

Bret C. Griess
President and Chief Executive Officer

August 4, 2017

/s/ Randy R. Wiese _____

Randy R. Wiese
Executive Vice President and Chief Financial Officer