

**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 September 30, 2018

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.)

**6175 S. Willow Drive, 10<sup>th</sup> Floor**  
**Greenwood Village, Colorado 80111**  
(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 every Interactive Data File required to be submitted 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 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	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 November 2, 2018: 33,328,416

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**CSG SYSTEMS INTERNATIONAL, INC.**  
**CONDENSED CONSOLIDATED BALANCE SHEETS - UNAUDITED**  
(in thousands, except per share amounts)

	September 30, 2018	December 31, 2017
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 197,172	\$ 122,243
Short-term investments	2,130	139,117
Total cash, cash equivalents and short-term investments	199,302	261,360
Trade accounts receivable:		
Billed, net of allowance of \$4,182 and \$4,149	246,731	219,531
Unbilled	36,847	31,187
Income taxes receivable	7,452	13,839
Other current assets	38,706	28,349
Total current assets	529,038	554,266
Non-current assets:		
Property and equipment, net of depreciation of \$108,266 and \$123,126	78,265	44,651
Software, net of amortization of \$116,761 and \$108,986	31,953	26,906
Goodwill	210,697	210,080
Client contracts, net of amortization of zero and \$97,109	-	43,626
Acquired client contracts, net of amortization of \$81,286 and zero	39,863	-
Client contract costs, net of amortization of \$37,038 and zero	35,584	-
Deferred income taxes	11,011	14,057
Other assets	10,898	10,948
Total non-current assets	418,271	350,268
Total assets	\$ 947,309	\$ 904,534
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Current portion of long-term debt	\$ 7,500	\$ 22,500
Client deposits	36,079	31,053
Trade accounts payable	39,054	38,420
Accrued employee compensation	56,578	62,984
Deferred revenue	41,388	41,885
Income taxes payable	448	1,216
Other current liabilities	21,590	24,535
Total current liabilities	202,637	222,593
Non-current liabilities:		
Long-term debt, net of unamortized discounts of \$15,641 and \$18,264	353,109	309,236
Deferred revenue	13,578	12,346
Income taxes payable	2,372	2,415
Deferred income taxes	5,881	4,584
Other non-current liabilities	11,313	10,614
Total non-current liabilities	386,253	339,195
Total liabilities	588,890	561,788
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; 33,451 and 33,516 shares outstanding	693	689
Common stock warrants; 439 warrants vested; 1,425 issued	9,082	9,082
Additional paid-in capital	436,412	427,091
Treasury stock, at cost; 34,470 and 34,075 shares	(831,585)	(814,732)
Accumulated other comprehensive income (loss):		
Unrealized loss on short-term investments, net of tax	(7)	(88)
Cumulative foreign currency translation adjustments	(37,364)	(28,734)
Accumulated earnings	781,188	749,438
Total stockholders' equity	358,419	342,746
Total liabilities and stockholders' equity	\$ 947,309	\$ 904,534

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		Nine Months Ended	
	September 30, 2018	September 30, 2017	September 30, 2018	September 2017
<b>Revenues:</b>				
Cloud and related solutions	\$ 186,473	\$ 164,789	\$ 551,390	\$ 483,700
Software and services	14,283	15,726	39,573	40,100
Maintenance	12,299	18,680	36,829	50,000
Total revenues	<u>213,055</u>	<u>199,195</u>	<u>627,792</u>	<u>573,800</u>
<b>Cost of revenues (exclusive of depreciation, shown separately below):</b>				
Cloud and related solutions	95,092	79,856	277,212	233,000
Software and services	8,669	9,725	25,816	3,000
Maintenance	5,291	10,136	16,612	30,000
Total cost of revenues	<u>109,052</u>	<u>99,717</u>	<u>319,640</u>	<u>296,000</u>
<b>Other operating expenses:</b>				
Research and development	31,477	30,324	91,809	83,000
Selling, general and administrative	39,243	35,816	120,515	109,000
Depreciation	4,831	3,344	13,293	9,000
Restructuring and reorganization charges	2,799	1,618	7,028	4,000
Total operating expenses	<u>187,402</u>	<u>170,819</u>	<u>552,285</u>	<u>505,000</u>
Operating income	<u>25,653</u>	<u>28,376</u>	<u>75,507</u>	<u>78,800</u>
<b>Other income (expense):</b>				
Interest expense	(4,456)	(4,186)	(13,202)	(12,000)
Amortization of original issue discount	(671)	(634)	(1,984)	(2,000)
Interest and investment income, net	675	800	2,256	2,000
Loss on extinguishment of debt	-	-	(810)	-
Other, net	(709)	(970)	(347)	(3,000)
Total other	<u>(5,161)</u>	<u>(4,990)</u>	<u>(14,087)</u>	<u>(13,000)</u>
Income before income taxes	<u>20,492</u>	<u>23,386</u>	<u>61,420</u>	<u>65,800</u>
Income tax provision	(4,391)	(8,806)	(16,188)	(19,000)
Net income	<u>\$ 16,101</u>	<u>\$ 14,580</u>	<u>\$ 45,232</u>	<u>\$ 46,800</u>
<b>Weighted-average shares outstanding:</b>				
Basic	32,507	32,561	32,541	32,500
Diluted	32,806	32,901	32,939	32,500
<b>Earnings per common share:</b>				
Basic	\$ 0.50	\$ 0.45	\$ 1.39	\$ 1.44
Diluted	0.49	0.44	1.37	1.44

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)

	<u>Quarter Ended</u>		<u>Nine Months Ended</u>	
	<u>September 30, 2018</u>	<u>September 30, 2017</u>	<u>September 30, 2018</u>	<u>September 30, 2017</u>
Net income	\$ 16,101	\$ 14,580	\$ 45,232	\$ 46,398
Other comprehensive income, net of tax:				
Foreign currency translation adjustments	(109)	5,609	(8,630)	15,173
Unrealized holding gains on short-term investments arising during period	107	7	81	154
Other comprehensive income (loss), net of tax	(2)	5,616	(8,549)	15,327
Total comprehensive income, net of tax	<u>\$ 16,099</u>	<u>\$ 20,196</u>	<u>\$ 36,683</u>	<u>\$ 61,725</u>

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)

	<u>Nine Months Ended</u>	
	<u>September 30, 2018</u>	<u>September 30, 2017</u>
<b>Cash flows from operating activities:</b>		
Net income	\$ 45,232	\$ 46,398
Adjustments to reconcile net income to net cash provided by operating activities-		
Depreciation	13,293	9,975
Amortization	31,974	21,670
Amortization of original issue discount	1,984	2,147
Asset impairment	1,428	2,135
Gain on short-term investments and other	(65)	(76)
Loss on extinguishment of debt	810	-
Deferred income taxes	2,150	1,487
Stock-based compensation	14,805	16,659
Changes in operating assets and liabilities, net of acquired amounts:		
Trade accounts receivable, net	(15,952)	7,567
Other current and non-current assets	(21,763)	(1,788)
Income taxes payable/receivable	5,365	1,715
Trade accounts payable and accrued liabilities	(13,174)	(16,007)
Deferred revenue	7,182	10,940
Net cash provided by operating activities	<u>73,269</u>	<u>102,822</u>
<b>Cash flows from investing activities:</b>		
Purchases of software, property and equipment	(44,047)	(23,370)
Purchases of short-term investments	(53,285)	(116,203)
Proceeds from sale/maturity of short-term investments	190,467	150,768
Acquisition of and investments in business, net of cash acquired	(71,443)	-
Acquisition of and investments in client contracts	-	(10,082)
Net cash provided by investing activities	<u>21,692</u>	<u>1,113</u>
<b>Cash flows from financing activities:</b>		
Proceeds from issuance of common stock	1,701	1,259
Payment of cash dividends	(21,197)	(20,405)
Repurchase of common stock	(24,034)	(24,764)
Proceeds from long-term debt	150,000	-
Payments on long-term debt	(123,750)	(11,250)
Settlement of convertible notes	-	(34,771)
Payments of deferred financing costs	(1,490)	-
Net cash used in financing activities	<u>(18,770)</u>	<u>(89,931)</u>
Effect of exchange rate fluctuations on cash	<u>(1,262)</u>	<u>2,396</u>
Net increase in cash and cash equivalents	74,929	16,400
Cash and cash equivalents, beginning of period	122,243	126,351
Cash and cash equivalents, end of period	<u>\$ 197,172</u>	<u>\$ 142,751</u>
<b>Supplemental disclosures of cash flow information:</b>		
Cash paid during the period for-		
Interest	\$ 14,181	\$ 13,638
Income taxes	8,426	16,407

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 September 30, 2018 and December 31, 2017, and for the quarters and nine months ended September 30, 2018 and 2017, in accordance with accounting principles generally accepted (“GAAP”) in the United States of America (“U.S.”) 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 U.S. 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, 2017 (our “2017 10-K”), filed with the SEC. The results of operations for the quarter and nine months ended September 30, 2018 are not necessarily indicative of the expected results for the entire year ending December 31, 2018.

**2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

*Use of Estimates in Preparation of Financial Statements.* The preparation of the accompanying Financial Statements in conformity with U.S. 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.

*Revenue .* We adopted Topic 606 *Revenue from Contracts with Customers* (“ASC 606”) as of January 1, 2018 using the cumulative effect method and have applied ASC 606 to all contracts with clients that had not been completed as of the date of initial application. In conjunction with the adoption of ASC 606, we recorded a cumulative adjustment increasing beginning retained earnings (net of tax) by approximately \$7 million, primarily related to contracts that we were previously required to defer revenue as we did not have vendor specific objective evidence (“VSOE”) of fair value for certain undelivered elements. Since we adopted ASC 606 using the cumulative effect method, comparative information in our Financial Statements has not been adjusted and continues to be as previously reported.

The following tables summarize the impacts of adopting ASC 606 on our Financial Statements as of and for the quarter and nine months ended September 30, 2018 (in thousands, except per share amounts):

	As of September 30, 2018		
	As Reported	Adjustments	Balances without adoption of ASC 606
<b>Condensed Balance Sheet</b>			
Unbilled trade accounts receivable	\$ 36,847	\$ (533)	\$ 36,314
Other current assets	38,706	4,014	42,720
Client contracts, net of amortization	-	66,364	66,364
Acquired client contracts, net of amortization	39,863	(39,863)	-
Client contract costs, net of amortization	35,584	(35,584)	-
Other non-current assets	10,898	5,069	15,967
Other assets	785,411	-	785,411
Total assets (1)	<u>\$ 947,309</u>	<u>\$ (533)</u>	<u>\$ 946,776</u>
Deferred revenue	\$ 54,966	\$ 2,655	\$ 57,621
Deferred income taxes	5,881	8	5,889
Other liabilities	528,043	-	528,043
Total liabilities	<u>588,890</u>	<u>2,663</u>	<u>591,553</u>
Accumulated earnings	781,188	(3,196)	777,992
Other stockholders' equity	(422,769)	-	(422,769)
Total stockholders' equity	<u>358,419</u>	<u>(3,196)</u>	<u>355,223</u>
Total stockholders' equity and liabilities	<u>\$ 947,309</u>	<u>\$ (533)</u>	<u>\$ 946,776</u>

(1) See Note 3 for further discussion related to the reclassification of our client contracts and client contract costs.

Quarter Ended September 30, 2018			
Condensed Statement of Income	As Reported	Adjustments	Balances without adoption of ASC 606
Revenues:			
Cloud and related services (2)	\$ 186,473	\$ (6,162)	\$ 180,311
Software and services (2)	14,283	1,589	15,872
Maintenance (2)	12,299	5,217	17,516
Total revenues	213,055	644	213,699
Cost of revenues:			
Cloud and related services (2)	95,092	(4,544)	90,548
Software and services (2)	8,669	208	8,877
Maintenance (2)	5,291	4,336	9,627
Total cost of revenues	109,052	-	109,052
Other expenses	83,511	-	83,511
Income before income taxes	20,492	644	21,136
Income tax provision	(4,391)	(187)	(4,578)
Net income	\$ 16,101	\$ 457	\$ 16,558
Net income per diluted share	\$ 0.49	\$ 0.01	\$ 0.50

Nine Months Ended September 30, 2018			
Condensed Statement of Income	As Reported	Adjustments	Balances without adoption of ASC 606
Revenues:			
Cloud and related services (2)	\$ 551,390	\$ (19,294)	\$ 532,096
Software and services (2)	39,573	4,742	44,315
Maintenance (2)	36,829	15,542	52,371
Total revenues	627,792	990	628,782
Cost of revenues:			
Cloud and related services (2)	277,212	(15,542)	261,670
Software and services (2)	25,816	660	26,476
Maintenance (2)	16,612	13,938	30,550
Total cost of revenues	319,640	(944)	318,696
Other expenses	246,732	-	246,732
Income before income taxes	61,420	1,934	63,354
Income tax provision	(16,188)	(561)	(16,749)
Net income	\$ 45,232	\$ 1,373	\$ 46,605
Net income per diluted share	\$ 1.37	\$ 0.04	\$ 1.41

- (2) Adjustments are primarily related to software license products and related maintenance contracted as part of our cloud solutions contracts that were not capable of being distinct as a separate performance obligation under ASC 606 and are included in cloud solutions services in the quarter and nine months ended September 30, 2018. Costs associated with these products were also reclassified to cost of cloud solution services in the quarter and nine months ended September 30, 2018.



Condensed Statement of Cash Flows	As Reported	Adjustments	Balances without adoption of ASC 606
Net income	\$ 45,232	\$ 1,373	\$ 46,605
Adjustments to reconcile net income to net cash provided by operating activities -			
Amortization	31,974	(3,146)	28,828
Deferred income taxes	2,150	561	2,711
Other	32,255	-	32,255
Changes in operating assets and liabilities:			
Other current and non-current assets	(21,763)	10,231	(11,532)
Deferred revenue	7,182	(1,689)	5,493
Other	(23,761)	-	(23,761)
Net cash provided by operating activities	<u>73,269</u>	<u>7,330</u>	<u>80,599</u>
Cash flows from investing activities:			
Acquisition of and investments in client contracts	-	(7,330)	(7,330)
Other	21,692	-	21,692
Net cash provided by (used in) investing activities	<u>21,692</u>	<u>(7,330)</u>	<u>14,362</u>
Net cash used in financing activities	(18,770)	-	(18,770)
Effect of exchange rate fluctuations on cash	(1,262)	-	(1,262)
Net increase cash and cash equivalents	74,929	-	74,929
Cash and cash equivalents, beginning of period	122,243	-	122,243
Cash and cash equivalents, end of period	<u>\$ 197,172</u>	<u>\$ -</u>	<u>\$ 197,172</u>

As a result of adopting ASC 606, we have changed our accounting policies for revenue recognition as discussed in more detail below.

In summary, our revenue from client contracts is primarily related to our cloud and related solutions and, to a lesser degree, software and service and related maintenance arrangements, and is measured based on consideration specified within each of our contracts, excluding sales incentives and amounts collected on behalf of third parties, if any. We account for various products and services separately if they are distinct. A product or service, or group of products or services, is distinct if it is separately identifiable from other items in the context of the contract and if our client can benefit from the product or service on their own or with other resources that are readily available to that client. We recognize revenue when we satisfy our performance obligations by transferring control of a particular product or service, or group of products or services, to our clients, as described in more detail below. Taxes assessed on our products and services based on governmental authorities at the time of invoicing are excluded from our revenue.

#### Cloud and Related Solutions.

Our cloud and related solutions revenues relate to: (i) our software-as-a-service (“SaaS”), cloud-based, revenue management and digital monetization solutions, and various related ancillary services; and (ii) our managed services offering in which we operate software solutions (primarily our software solutions) on behalf of our clients.

We contract for our cloud-based solutions using long-term arrangements whose terms have typically ranged from three to five years. The long-term cloud-based arrangements include a series of multiple services delivered daily or monthly, to include such things as: (i) revenue and customer communications management services; (ii) business support services (e.g., workforce management tools, consumer credit verifications, etc.); (iii) content monetization and delivery functions; and (iv) customer statement invoice printing and mailing services. The fees for these services typically are billed to our clients monthly based upon actual monthly volumes and/or usage of services (e.g., the number of client customers maintained on our systems, the number of transactions processed on our systems, and/or the quantity and content of the monthly statements and mailings processed through our systems).

For cloud-based solution contracts, the total contract consideration (including impacts of discounts or incentives) is primarily variable dependent upon actual monthly volumes and/or usage of services; however, these contracts can also include ancillary fixed consideration in the form of one-time, monthly or annual fees. Although there may be multiple performance obligations, there is generally no allocation of value between the individual performance obligations as all are considered cloud and related solutions revenues that are recognized based on activities performed in each daily or monthly period.

We contract for managed services solutions using long-term arrangements whose terms have typically ranged from three to five years . Under managed services agreements, we may operate software products (primarily our software solutions) on behalf of our clients: (i) out of a client’s data center; (ii) out of a data center we own and operate; or (iii) out of a third-party data center we contract with for such services. Managed services can also include us providing other services, such as transitional services, fulfillment, remittance processing, operational consulting, back office, and end user billing services.

For managed services contracts, the total contract consideration is typically a fixed fee, but these contracts may also have variable fee components. The fees for these services typically are billed to our clients on a monthly basis. Unless managed services are included with a software license contract (as discussed further below), there is generally only one performance obligation and revenue is recognized for these arrangements on a ratable basis as the services are performed.

Fees related to set-up or implementation activities for both cloud-based solution and managed services contracts are deferred and recognized ratably over the related service period to which the activities relate.

Depending on the significance of variable consideration, number of products/services, complex pricing structures and long-term nature of these types of contracts, the judgments and estimates made in this area could have a significant effect on the amount and timing of revenues recognized in any period.

Prior to the adoption of ASC 606, we recognized revenue related to our cloud and related solutions contracts on a monthly basis as we provided the services. The adoption of ASC 606 did not result in any significant changes to the timing of revenue recognition related to these contracts.

#### Software and Services.

Our software and services revenues relate primarily to: (i) software license sales on either a perpetual or term license basis; and (ii) professional services to implement the software. Our software and services contracts are often contracted in bundled arrangements that include not only the software license and related implementation services, but can also include maintenance, managed services and/or additional professional services.

For our software arrangements, the total contract consideration is allocated between the separate performance obligations based on stand-alone selling prices for software licenses, cost plus applicable margin for services and established pricing for maintenance. The initial sale of software products generally requires significant production, modification or customization, such that the delivery of the software license and the related professional services required to implement the software represent one combined performance obligation that is satisfied over time based of hours worked (hours-based method). We are using hours worked on the project as the measure to determine progress toward completion as we believe it is the most appropriate metric to measure such progress. The software and services fees are generally billed to our clients on a milestone or date basis.

The determination of the performance obligations and allocation of value for software license arrangements require significant judgment. We generally determine stand-alone selling prices using pricing calculations (which include regional market factors) for our software license fees and maintenance, and cost-plus margins for services. Additionally, our use of an hours-based method of accounting for software license and other professional services performance obligations that are satisfied over time requires estimates of total project revenues and costs, along with the expected hours necessary to complete a project. Changes in estimates as a result of additional information or experience on a project as work progresses are inherent characteristics of this method of revenue recognition as we are exposed to various business risks in completing these types of performance obligations. The estimation process to support our hours-based recognition method is more difficult for projects of greater length and/or complexity. The judgments and estimates made in this area could: (i) have a significant effect on revenues recognized in any period by changing the amount and/or the timing of the revenue recognized; and/or (ii) impact the expected profitability of a project, including whether an overall loss on an arrangement has occurred. To mitigate the inherent risks in using this hours-based method, we track our performance on projects and reevaluate the appropriateness of our estimates as part of our monthly accounting cycle.

In certain instances, we sell software license volume upgrades, which provide our clients the right to use our software to process higher transaction volume levels. In these instances, we analyze the contract to determine if the volume upgrade is a separate performance obligation and if so, we recognize the value associated with the software license as revenue on the effective date of the volume upgrade.

A portion of our professional services revenues are contracted separately (e.g., business consulting services, etc.). Such contracts can either be on a fixed-price or time-and-materials basis. Revenues from fixed-price, professional service contracts are recognized using an hours-based method, as these professional services represent a performance obligation that is satisfied over time. Revenues from professional services contracts billed on a time-and-materials basis are recognized as the services are performed.

Prior to the adoption of ASC 606, we recognized revenue for our software arrangements under the guidelines of contract accounting as our software products required significant production, modification or customization and if we had VSOE of fair value for undelivered elements (e.g., maintenance), which we generally had, we would allocate a portion of the total arrangement fee to the undelivered element based on its VSOE of fair value, and the balance of the arrangement fee was recognized using the percentage-of-completion (“POC”) method of accounting.

#### Maintenance

Our maintenance revenue relates primarily to support of our software once it has been implemented. Maintenance revenues are recognized ratably over the software maintenance period as services are provided. Our maintenance consists primarily of client and product support, technical updates (e.g., bug fixes, etc.), and unspecified upgrades or enhancements to our software products. If specified upgrades or enhancements are offered in a contract, which is rare, they are accounted for as a separate performance obligation. Maintenance can be invoiced to our clients on a monthly, quarterly or annual basis.

#### Transaction Price Allocated to the Remaining Performance Obligations

As of September 30, 2018, our aggregate amount of the transaction price allocated to the remaining performance obligations is approximately \$527 million, which is made up of fixed fee consideration and guaranteed minimums expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied). We expect to recognize approximately 70% of this amount by the end of 2020, with the remaining amount recognized by the end of 2028. We have excluded from this amount variable consideration expected to be recognized in the future related to performance obligations that are unsatisfied (a practical expedient allowed under ASC 606). The majority of our future revenue is related to our cloud and related solution client contracts that include variable consideration dependent upon a series of monthly volumes and/or daily usage of services and have contractual terms ending from 2019 through 2028.

We have not disclosed transaction price allocation to remaining performance obligations or an explanation thereof of comparable amounts as of December 31, 2017 (a transitional practical expedient allowed under ASC 606).

#### Disaggregation of Revenue

In the following table, revenue is disaggregated by geographic region (using the location of the client as the basis of attributing revenues to the individual regions):

	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Americas (principally the U.S.)	\$ 180,489	\$ 169,880	\$ 530,609	\$ 497,852
Europe, Middle East, and Africa	21,723	15,980	64,135	51,011
Asia Pacific	10,843	13,335	33,048	35,515
Total revenues	<u>\$ 213,055</u>	<u>\$ 199,195</u>	<u>\$ 627,792</u>	<u>\$ 584,378</u>

*Billed and Unbilled Accounts Receivable.* Billed accounts receivable represents our unconditional rights to consideration. Once invoiced, our payment terms are generally between 30-60 days, and rarely do we have contracts with financing arrangements. Unbilled accounts receivable represents our rights to consideration for work completed but not billed. Unbilled accounts receivable is transferred to billed accounts receivable when the rights become unconditional which is generally at the time of invoicing.

The following table rolls forward our unbilled accounts receivable from December 31, 2017 to September 30, 2018 (in thousands):

	<u>Unbilled Receivables</u>
Beginning Balance, December 31, 2017	\$ 31,187
Cumulative effect adjustments	4,193
Reclassification - Adoption of ASC 606	(2,276)
Beginning Balance, January 1, 2018	\$ 33,104
Recognized during the period	168,198
Reclassified to receivables	(163,117)
Other	(1,338)
Ending Balance, September 30, 2018	<u>\$ 36,847</u>

*Deferred Revenue.* Deferred revenue represents consideration received from clients in advance of services being performed.

The following table rolls forward our deferred revenue from December 31, 2017 to September 30, 2018 (in thousands):

	<u>Deferred Revenue</u>	
Beginning Balance, December 31, 2017	\$	(54,231)
Cumulative effect adjustments		4,344
Reclassification - Adoption of ASC 606		2,276
Beginning Balance, January 1, 2018	\$	(47,611)
Revenue recognized that was included in deferred revenue at the beginning of the period		35,575
Consideration received in advance of services performed net of revenue recognized in the current period		(44,218)
Other		1,288
Ending Balance, September 30, 2018	<u>\$</u>	<u>(54,966)</u>

*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 September 30, 2018 and December 31, 2017, our cash equivalents consist primarily of institutional money market funds, commercial paper, and time deposits held at major banks.

As of September 30, 2018 and December 31, 2017, we had \$3.0 million and \$4.2 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 September 30, 2018 and December 31, 2017 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 September 30, 2018 and December 31, 2017 have contractual maturities of less than two years from the time of acquisition. Our short-term investments as of September 30, 2018 and December 31, 2017 consisted almost entirely of fixed income securities. Proceeds from the sale/maturity of short-term investments for the nine months ended September 30, 2018 and 2017 were \$190.5 million and \$150.8 million, respectively.

Our short-term investments as of September 30, 2018 and December 31, 2017 were \$2.1 million and \$139.1 million, respectively. The significant decrease in our short-term investments between periods is due primarily to the acquisition of Business Ink in February 2018 for approximately \$70 million and positioning of cash as of September 30, 2018 for the acquisition of Forte Payment Systems, Inc., which closed on October 1, 2018 for a purchase price of approximately \$85 million, (approximately \$80 million, net of cash acquired), less approximately \$13 million in cash subject to certain tax filings (see Note 5).

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):

	<u>September 30, 2018</u>			<u>December 31, 2017</u>		
	<u>Level 1</u>	<u>Level 2</u>	<u>Total</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Total</u>
<b>Assets:</b>						
<b>Cash equivalents:</b>						
Money market funds	\$ 14,828	\$ —	\$ 14,828	\$ 3,544	\$ —	\$ 3,544
Commercial paper	—	—	—	—	32,467	32,467
<b>Short-term investments:</b>						
Corporate debt securities	—	—	—	—	124,182	124,182
U.S. government agency bonds	—	1,542	1,542	—	1,547	1,547
Asset-backed securities	—	588	588	—	13,388	13,388
<b>Total</b>	<u>\$ 14,828</u>	<u>\$ 2,130</u>	<u>\$ 16,958</u>	<u>\$ 3,544</u>	<u>\$ 171,584</u>	<u>\$ 175,128</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):

	September 30, 2018		December 31, 2017	
	Carrying Value	Fair Value	Carrying Value	Fair Value
2015 Credit Agreement (carrying value including current maturities)	\$ —	\$ —	\$ 120,000	\$ 120,000
2018 Credit Agreement (carrying value including current maturities)	146,250	146,250	—	—
2016 Convertible debt (par value)	230,000	242,650	230,000	251,850

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 an amendment to our Credit Agreement.

*Equity Method Investment.* On July 30, 2018, we made a \$2 million investment for a 4% noncontrolling financial interest in a payment technology and services company that enables omni-channel digital payments in Latin America. We are accounting for this investment using the equity method in accordance with Topic 323 *Investments – Equity Method and Joint Ventures*. Accordingly, we recorded an initial investment of \$2.8 million which includes direct costs of acquiring the investment. We will record our share of earnings and losses in the investment on a one-quarter lag basis which will result in an adjustment to our initial investment during the quarter-ending December 31, 2018.

*Other Accounting Pronouncements Adopted.* 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 adopted this ASU in January 2018 and the adoption of this standard did not have a material impact on our Financial Statements.

*Accounting Pronouncement Issued But Not Yet Effective.* 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. An entity may choose to adopt this ASU either retrospectively or prospectively as of the start of the first period for which it applies the standard (the effective date method).

In 2018, we started the process of evaluating the impact this ASU on our accounting policies, business processes, and financial statements. We have formed a project team and started the process of lease identification, review, and data extraction for purposes of calculating the transition adjustment to be recorded on the effective date. In conjunction with these efforts, we are updating our policies to align with the new accounting guidance and our processes to ensure we properly account for new, existing, and modifications to leases subsequent to the adoption of the ASU. We continue to believe the adoption of this standard will have a material impact on our consolidated balance sheet. We currently intend to adopt the ASU in the first quarter of 2019, utilizing the effective date method of transition.

### 3. LONG-LIVED ASSETS

*Goodwill.* The changes in the carrying amount of goodwill for the nine months ended September 30, 2018, were as follows (in thousands):

January 1, 2018 balance	\$ 210,080
Business Ink acquisition	3,314
Effects of changes in foreign currency exchange rates	(2,697)
September 30, 2018 balance	<u>\$ 210,697</u>

See Note 5 for discussion regarding the Business Ink acquisition.

*Other Intangible Assets.* As part of the adoption of ASC 606, at January 1, 2018, we reclassified our investments in client contracts and capitalized costs related to conversion/set-up activities from “client contracts” to “client contract costs” on our Balance Sheet. As of September 30, 2018, our intangible assets subject to ongoing amortization consist of acquired client contracts and software. As of September 30, 2018 and December 31, 2017, the carrying values of our other intangible assets were as follows (in thousands):

	September 30, 2018			December 31, 2017		
	Gross Carrying Amount	Accumulated Amortization	Net Amount	Gross Carrying Amount	Accumulated Amortization	Net Amount
Investments in client contracts	\$ -	\$ -	\$ -	\$ 26,616	\$ (9,782)	\$ 16,834
Capitalized costs	-	-	-	26,811	(10,039)	16,772
Acquired client contracts	121,149	(81,286)	39,863	87,308	(77,288)	10,020
Total client contracts	121,149	(81,286)	39,863	140,735	(97,109)	43,626
Software	148,714	(116,761)	31,953	135,892	(108,986)	26,906
Total intangible assets	<u>\$ 269,863</u>	<u>\$ (198,047)</u>	<u>\$ 71,816</u>	<u>\$ 276,627</u>	<u>\$ (206,095)</u>	<u>\$ 70,532</u>

Other intangible assets as of September 30, 2018 include assets acquired in the Business Ink business acquisition (see Note 5).

The total amortization expense related to other intangible assets for the third quarters of 2018 and 2017 were \$4.6 million and \$6.7 million, respectively, and for the nine months ended September 30, 2018 and 2017 were \$13.4 million and \$20.0 million, respectively. Based on the September 30, 2018 net carrying value of our other intangible assets, the estimated total amortization expense for each of the five succeeding fiscal years ending December 31 are: 2018 – \$18.0 million; 2019 – \$16.1 million; 2020 – \$13.2 million; 2021– \$9.2 million; and 2022 – \$6.8 million.

*Client Contract Costs.* As of September 30, 2018, the carrying values of our contract cost assets, related to those contracts with a contractual term greater than one year, were as follows (in thousands):

	September 30, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net Amount
Client contract incentives (1)	\$ 28,366	\$ (18,053)	\$ 10,313
Capitalized costs (2)	37,313	(17,485)	19,828
Capitalized commission fees (3)	6,943	(1,500)	5,443
Total client contract costs	<u>\$ 72,622</u>	<u>\$ (37,038)</u>	<u>\$ 35,584</u>

The aggregate amortization related to our client contract costs include in our operations for the quarter and nine months ended September 30, 2018 was as follows (in thousands):

	Quarter Ended September 30,	Nine Months Ended September 30,
Client contract incentives (1)	\$ 2,781	\$ 8,272
Capitalized costs (2)	2,658	7,495
Capitalized commission fees (3)	583	1,518
Total client contract costs	<u>\$ 6,022</u>	<u>\$ 17,285</u>

- (1) Client contract incentives consist principally of incentives provided to new or existing clients to convert their customer accounts to, or retain their customer's account on, our outsourced solutions and are amortized ratably over the contract period to include renewal periods if applicable, which as of September 30, 2018, have termination dates that range from 2019 to 2025. The amortization of client contract incentives is reflected as a reduction in cloud and related solutions revenue in our Income Statement.
- (2) Capitalized costs are related to client conversion/set-up activities and direct material costs to fulfill long-term cloud-based or managed services arrangements. These costs are amortized over the contract period based on the transfer of goods or services to which the assets relate, which as of September 30, 2018 range from 2019 to 2023, and are included in cost of cloud and related solutions in our Income Statement.
- (3) Capitalized commission fees are incremental commissions paid as a result of obtaining a customer contract. These fees are amortized over the contract period based on the transfer of goods or services to which the assets relate, which as of September 30, 2018, range from 2019 to 2025, and are included in selling, general and administrative expenses in our Income Statement. Incremental commission fees incurred as a result of obtaining a customer contract are expensed when incurred if the amortization period of the asset that we otherwise would have recognized is one year or less (a practical expedient allowed under ASC 606).

#### 4. DEBT

Our long-term debt, as of September 30, 2018 and December 31, 2017, was as follows (in thousands):

	September 30, 2018	December 31, 2017
<i>2015 Credit Agreement:</i>		
Term loan, due February 2020, interest at adjusted LIBOR plus 1.75% (combined rate of 3.44% at December 31, 2017)	\$ —	\$ 120,000
Less - deferred financing costs	—	(2,274)
2015 term loan, net of unamortized discounts	—	117,726
\$200 million revolving loan facility, due February 2020, interest at adjusted LIBOR plus applicable margin	—	—
<i>2018 Credit Agreement:</i>		
Term loan, due March 2023, interest at adjusted LIBOR plus 1.5% (combined rate of 3.89% at September 30, 2018)	146,250	—
Less - deferred financing costs	(2,424)	—
2018 term loan, net of unamortized discounts	143,826	—
\$200 million revolving loan facility, due March 2023, 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	(9,503)	(11,487)
Less – deferred financing costs	(3,714)	(4,503)
2016 Convertible Notes, net of unamortized discounts	216,783	214,010
Total debt, net of unamortized discounts	360,609	331,736
Current portion of long-term debt, net of unamortized discounts	(7,500)	(22,500)
Long-term debt, net of unamortized discounts	<u>\$ 353,109</u>	<u>\$ 309,236</u>

## *Credit Agreement*

*2018 Credit Agreement.* On March 5, 2018, we entered into a new \$350 million credit agreement (the “2018 Credit Agreement”) with a consortium of banks to replace the 2015 Credit Agreement.

The 2018 Credit Agreement provides borrowings in the form of: (i) a \$150 million aggregate principal five-year term loan (the “2018 Term Loan”); and (ii) a \$200 million aggregate principal five-year revolving loan facility (the “2018 Revolver”). With the \$150 million proceeds from the 2018 Term Loan, we repaid the outstanding \$120 million balance of the term loan under the 2015 Credit Agreement, resulting in a net increase of available cash by \$30 million, a portion of which was used to pay certain fees and expenses in connection with the refinancing, and the remainder of which will be used for general corporate purposes.

The interest rates under the 2018 Credit Agreement are based upon our choice of an adjusted LIBOR rate plus an applicable margin of 1.50% - 2.50%, or an alternate base rate plus an applicable margin of 0.50% - 1.50%, with the applicable margin, depending on our then-net secured total leverage ratio. We will pay a commitment fee of 0.200% - 0.375% of the average daily unused amount of the 2018 Revolver, with the commitment fee rate also dependent upon our then-net secured total leverage ratio. The 2018 Credit Agreement includes mandatory repayments of the aggregate principal amount of the 2018 Term Loan (payable quarterly) for the first, second, third, fourth, and fifth years, with the remaining principal balance due at maturity. The 2018 Credit Agreement has no prepayment penalties and requires mandatory repayments under certain circumstances, including: (i) asset sales or casualty proceeds; and (ii) proceeds of debt or preferred stock issuances.

The 2018 Credit Agreement contains customary affirmative covenants. In addition, the 2018 Credit Agreement has customary negative covenants that places limits on our ability to: (i) incur additional indebtedness; (ii) create liens on its property; (iii) make investments; (iv) enter into mergers and consolidations; (v) sell assets; (vi) declare dividends or repurchase shares; (vii) engage in certain transactions with affiliates; and (viii) prepay certain indebtedness; and (ix) issue capital stock of subsidiaries. We must also meet certain financial covenants to include: (i) a maximum total leverage ratio; (ii) a maximum first-lien leverage ratio; and (iii) a minimum interest coverage ratio. In conjunction with the 2018 Credit Agreement, we entered into a security agreement in favor of Bank of America N.A, as collateral agent (the “Security Agreement”). Under the Security Agreement and 2018 Credit Agreement, certain of our domestic subsidiaries have guaranteed our obligations, and have pledged substantially all of our assets to secure the obligations under the 2018 Credit Agreement and such guarantees.

During the nine months ended September 30, 2018, we made \$3.8 million of principal repayments on our 2018 Credit Agreement. As of September 30, 2018, our interest rate on the 2018 Term Loan is 3.89% (adjusted LIBOR plus 1.50% per annum), effective through December 30, 2018, and our commitment fee on the 2018 Revolver is 0.20%. As of September 30, 2018, we had no borrowings outstanding on our 2018 Revolver and had the entire \$200.0 million available to us.

In conjunction with the closing of the 2018 Credit Agreement, we incurred financing costs of \$1.5 million. When combined with the remaining deferred financing costs of the 2015 Credit Agreement, financing costs of \$2.8 million have been deferred and are being amortized to interest expense using the effective interest method over the related term of the 2018 Credit Agreement. Additionally, as certain lenders from the 2015 Credit Agreement chose not to participate in the 2018 Credit Agreement syndication group, we wrote-off \$0.8 million of unamortized debt issuance costs and recognized a loss on extinguishment of that debt.

## *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 quarterly dividend in September 2018 (see Note 10), the previous conversion rate for the 2016 Convertible Notes of 17.5057 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 \$57.12 per share of our common stock, has been adjusted to 17.5173 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 \$57.09 per share of our common stock.



Holders may require us 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 Ind enture) 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 we provide 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 September 30, 2018, none of the conversion features have been achieved, and thus, the 2016 Convertible Notes are not convertible by the holders.

## 5. ACQUISITIONS

### *Business Ink*

On February 28, 2018, we acquired Business Ink for approximately \$70 million in cash. Business Ink is a company base d in Austin, Texas, with facilities in multiple locations. Business Ink provides outsourced, customized business communications services to the telecommunications, healthcare, financial services, utilities and government sectors across statements, email, mobile messaging and more. The acquisition extends the scale of our operations and platform capabilities, expands our customer base into new verticals, and further solidifies our customer communications footprint.

The following table summarizes the preliminary estimated fair values of the assets acquired and liabilities assumed at the date of acquisition (in thousands):

Current assets	\$	25,726
Fixed assets		13,337
Acquired client contracts		35,150
Acquired software		4,132
Goodwill		3,314
Non-current assets		148
Total assets acquired		<u>81,807</u>
Current liabilities		(11,586)
Non-current liabilities		(256)
Total liabilities assumed		<u>(11,842)</u>
Net assets acquired	\$	<u>69,965</u>

The above estimated fair values of assets acquired and liabilities assumed are considered provisional and are based on the information that was available as of the date of the Business Ink acquisition to estimate the fair value of assets acquired and liabilities assumed. We believe that information provides a reasonable basis for estimating the fair values of assets acquired and liabilities assumed, but we are waiting for additional information necessary to finalize those fair values. Thus, the provisional measurements of fair value set forth above are subject to change. During the nine-months ended September 30, 2018, we made certain adjustments, primarily to increase the value of the acquired client contracts by \$4.3 million. As a result of these adjustments, the amount allocated to goodwill decreased by \$0.2 million and \$4.7 million during the three and nine-months ended September 30, 2018, respectively. We expect to finalize the valuation and complete the purchase price allocation as soon as practicable, but not later than one year from the acquisition date.

The Business Ink goodwill has been assigned to our one reportable segment. The estimated lives assigned to the acquired client contracts and the acquired software assets range from approximately four months to fifteen years (weighted-average life of thirteen years), and four years, respectively. Amortization expense related to these acquired intangible assets is recognized based upon the pattern in which the economic benefits of the acquired intangible assets are expected to be received. The Business Ink goodwill and acquired intangible assets are deductible for income tax purposes.

The results of operations of Business Ink are included in the accompanying Condensed Consolidated Statements of Income for the period subsequent to the acquisition date. Pro forma information on our historical results of operations to reflect the acquisition of Business Ink is not presented as Business Ink's results of operations during prior periods are not significant to our results of operations.

On October 1, 2018, we acquired Forte Payment Systems, Inc. (“Forte”), a leading provider of advanced payment solutions headquartered in Allen, Texas. The acquisition of Forte accelerates our ability to offer a comprehensive suite of next generation payment solutions that enables service providers to provide a differentiated customer experience, while also strengthening our position in the revenue management and payments sector and allowing us to grow our footprint into new verticals. We acquired 100% of the equity of Forte for a purchase price of approximately \$85 million, (approximately \$80 million, net of cash acquired), and held back approximately \$13 million in cash subject to certain tax filings. The purchase agreement includes provisions for \$18.8 million of potential future earn-out payments over a four-year measurement period. The earn-out payments are tied to performance-based goals and a defined service period by the eligible recipients.

The results of Forte will be included in our results of operations for the period subsequent to the acquisition date. We have not completed the valuation analysis and calculations necessary to finalize the required purchase price allocations. In addition to goodwill, the final purchase price allocation may include allocations to intangible assets such as trademarks and trade names, developed technology, noncompetition agreements, and customer-related assets.

## 6. RESTRUCTURING AND REORGANIZATION CHARGES

During the third quarters of 2018 and 2017, we recorded restructuring and reorganization charges of \$2.8 million and \$1.6 million, respectively, and for the nine months ended September 30, 2018 and 2017, we recorded restructuring and reorganization charges of \$7.0 million and \$4.6 million, respectively.

Our restructuring activities during the nine months ended September 30, 2018 were primarily made up of the following:

- We reduced our workforce by approximately 70 employees as a result of organizational changes made to pursue global opportunities and efficiencies. As a result, we incurred restructuring charges related to involuntary terminations of \$3.5 million.
- We closed one of our print facilities. As a result, we incurred restructuring charges related to involuntary terminations and the impairment of assets of \$2.1 million.

The activity in the business restructuring and reorganization reserves during the nine months ended September 30, 2018 was as follows:

	Termination		Facilities		Other	Total
	Benefits		Abandonment			
January 1, 2018 balance	\$ 1,116		\$ 3,032		—	\$ 4,148
Charged to expense during period	3,788		1,541		1,699	7,028
Cash payments	(4,065)		(1,984)		—	(6,049)
Adjustment for asset impairment	—		—		(1,428)	(1,428)
Other	16		130		(271)	(125)
September 30, 2018 balance	\$ 855		\$ 2,719		\$ —	\$ 3,574

## 7. INCOME TAXES

The effective income tax rates for the third quarters and nine months ended September 30, 2018 and 2017 were as follows:

Quarter Ended September 30,		Nine Months Ended September 30,	
2018	2017	2018	2017
21%	38%	26%	30%

The effective income tax rate for the quarter and nine months ended September 30, 2018 reflects the impact of the U.S. Tax Cut and Jobs Act (the “Tax Reform Act”) that was passed into legislation in December 2017. The Tax Reform Act reduces the U.S. maximum rate of income taxation from 35% to 21% applicable to taxable years beginning after December 31, 2017. In December 2017, the SEC issued Staff Accounting Bulletin No. 118, *Income Tax Accounting Implications of the Tax Cuts and Jobs Act* (“SAB 118”), which allows us to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. As of September 30, 2018, we have not completed our accounting for the tax effects of the enactment of the Tax Reform Act; however, in

certain cases, specifically as follows, we made a reasonable estimate of: (i) the effects on its existing deferred tax balances; and (ii) the effects of the one-time mandatory repatriation tax. We recognized a provisional tax expense of \$2.3 million in the year ended December 31, 2017 associated with the items we could reasonably estimate. Due to the timing of the release of the Tax Reform Act, the complexity of the Tax Reform Act, and regulatory guidance that has recently been released and additional guidance expected to be released, we are still analyzing the Tax Reform Act and refining its calculations, which could potentially impact the measurement of our income tax balances. We expect to complete our analysis within the measurement period in accordance with SAB 118. During the third quarter of 2018, our estimated full-year 2018 effective income tax rate was reduced from 29% to 27% primarily due to a change in the estimate of research and development credits. The lower effective tax rate for the third quarter of 2018 reflects the full year-to-date impact of this reduction.

The lower effective income tax rate for the nine months ended September 30, 2017 reflects: (i) an approximately \$5 million net benefit resulting from Comcast Corporation's ("Comcast") exercise of 1.4 million vested stock warrants in January 2017, as the stock warrants appreciated in value since their vesting, resulting in an income tax benefit to us when exercised; and (ii) an approximately \$2 million benefit related to the adoption of ASU 2016-09, *Compensation – Stock Compensation* (Topic 718).

## 8. 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 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. Historically, we have not incurred significant costs associated with service level performance within our client contracts, and as a result, do not include estimates for potential credits or refunds related to service level performance in our contract consideration at the onset of the contract, but instead, account for credits or refunds as an adjustment to the transaction price of the contract as those events occur.

*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 September 30, 2018. 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.

## 9. 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 September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Basic weighted-average common shares	32,507	32,561	32,541	32,383
Dilutive effect of restricted common stock	156	340	235	442
Dilutive effect of Stock Warrants	143	-	163	-
Diluted weighted-average common shares	32,806	32,901	32,939	32,825

The Convertible Notes have a dilutive effect only in those quarterly periods in which our average stock price exceeds the current effective conversion price (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 (see Note 10).

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.

## 10. 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 nine months ended September 30, 2018 and 2017, we repurchased 0.4 million shares of our common stock for \$16.9 million (weighted-average price of \$42.71 per share) and 0.4 million shares of our common stock for \$15.6 million (weighted-average price of \$40.54 per share), respectively, under a SEC Rule 10b5-1 Plan.

As of September 30, 2018, the total remaining number of shares available for repurchase under the Stock Repurchase Program totaled 5.8 million shares.

*Stock Repurchases for Tax Withholdings.* In addition to the above-mentioned stock repurchases, during the nine months ended September 30, 2018 and 2017, we repurchased and then cancelled 0.2 million shares of common stock for \$7.2 million and 0.2 million shares of common stock for \$9.4 million, respectively, in connection with minimum tax withholding requirements resulting from the vesting of restricted common stock under our stock incentive plans.

*Stock Incentive Plan.* In May 2018, our stockholders approved an increase of 2.7 million shares authorized for issuance under the 2005 Stock Incentive Plan, from 18.7 million shares to 21.4 million shares.

*Cash Dividends.* During the third quarter of 2018, the Board approved a quarterly cash dividend of \$0.21 per share of common stock, totaling \$7.0 million. During the third quarter of 2017, the Board approved a quarterly cash dividend of \$0.1975 per share of common stock, totaling \$6.7 million. Dividends declared for the nine months ended September 30, 2018 and 2017 totaled \$21.2 million and \$20.0 million, respectively.

*Warrants.* In 2014, in conjunction with the execution of an amendment to our current agreement with 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 contract incentive asset with the corresponding offset to stockholders’ equity. The client contract 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 September 30, 2018 and December 31, 2017, we recorded a client contract incentive asset related to these Stock Warrants of \$25.1 million as of both periods and have recorded accumulated amortization related to these Stock Warrants of \$17.1 million and \$9.2 million, respectively. The remaining unvested

Stock Warrants will be accounted for as client contract incentive assets in the period the performance conditions necessary for vesting have been met.

As of September 30, 2018, approximately 1.4 million Stock Warrants remain issued, of which 0.4 million were vested.

*Stock-Based Awards.* A summary of our unvested restricted common stock activity during the quarter and nine months ended September 30, 2018 is as follows (shares in thousands):

	Quarter Ended September 30, 2018		Nine Months Ended September 30, 2018	
	Shares	Weighted- Average Grant Date Fair Value	Shares	Weighted- Average Grant Date Fair Value
Unvested awards, beginning	1,189	\$ 41.67	1,222	\$ 36.84
Awards granted	38	37.62	527	46.09
Awards forfeited/cancelled	(28)	39.95	(107)	40.12
Awards vested	(40)	37.96	(483)	34.55
Unvested awards, ending	1,159	\$ 41.70	1,159	\$ 41.70

Included in the awards granted during the nine months ended September 30, 2018 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 the first quarter of 2020 upon meeting certain pre-established financial performance objectives related to 2019 performance. The performance-based awards become fully vested upon a change in control, as defined, and the subsequent involuntary termination of employment.

The other restricted common stock shares granted during the nine months ended September 30, 2018 are primarily 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 third quarters of 2018 and 2017 of \$4.6 million and \$5.0 million, respectively, and for the nine months ended September 30, 2018 and 2017 of \$14.8 million and \$16.7 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 2017 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 2017 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 revenue management and digital monetization providers, primarily serving some of the most well-known communications, information, and content companies around the globe. We help our clients simplify the complexity of a rapidly changing business landscape, bringing more than thirty-five years of experience supporting the world's most respected service providers. We make their hardest decisions simpler and smarter as they work to evolve their businesses 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.

We offer revenue management, customer experience, and digital monetization solutions for every stage of the customer lifecycle so service providers can deliver an outstanding customer experience that adapts to their customers' rapidly changing demands. Our solutions are built on proven public and private cloud platforms, with out-of-the-box and managed service models that adapt to fit their unique business needs and enable the transformative change required to create personalized experiences that drive loyalty and retention.

Over the years, we have focused our research and development ("R&D") and acquisition investments on expanding our offerings in a timely and efficient manner to address the complex, transformative needs of service providers. Our scalable, modular, and flexible solutions combined with our domain expertise and our ability to effectively migrate clients to our solutions, provide the industry with proven solutions to improve their profitability and consumers' experiences. We have specifically architected our solutions to offer service providers a phased, incremental approach to transforming their businesses, thereby reducing the business interruption risk associated with this evolution.

We generate approximately 65% of our revenues from the North American cable and satellite markets, approximately 20% of our revenues from global wireline and wireless communication providers, and the remainder from a variety of other verticals, such as financial services, healthcare, logistics, and transportation. Additionally, during the nine months ended September 30, 2018 we generated approximately 85% of our revenues from the Americas region, approximately 10% of our revenues from the Europe, Middle East and Africa region, and approximately 5% of our revenues from the Asia Pacific region.

We are a S&P Small Cap 600 company.

### **Key Impact of U.S. Tax Cuts and Jobs Act**

On December 22, 2017, the U.S. Tax Cuts and Jobs Act (the "Tax Reform Act") was passed into legislation. The Tax Reform Act amends the Internal Revenue Code, reducing the corporate income tax rate, changing or eliminating certain income tax deductions and credits and provides sweeping change to how U.S. companies are taxed on their international operations. The Tax Reform Act is generally effective for tax years beginning after December 31, 2017; however, certain provisions of the Tax Reform Act had effective dates beginning in 2017.

The Tax Reform Act reduces the U.S. maximum rate of income taxation from 35% to 21% applicable to taxable years beginning January 1, 2018. We currently expect our effective income tax rate for the full year 2018 to be approximately 27%.

See Note 7 to our 2017 10-K for additional impacts of the Tax Reform Act.

### **Impact of New Revenue Accounting Pronouncement**

As discussed in Note 2 to our Financial Statements, in January 2018 we adopted ASC 606, a single comprehensive model which supersedes nearly all existing revenue recognition guidance under U.S. GAAP, utilizing the cumulative effect approach. 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.

In conjunction with the adoption of ASC 606, we recorded a cumulative adjustment increasing beginning retained earnings (net of tax) by approximately \$7 million, primarily related to contracts that we were required to defer revenue as we did not have VSOE for certain undelivered elements. We do not anticipate ASC 606 will have a material impact on our revenues in 2018 and beyond, as the new revenue accounting rules under ASC 606 are fairly consistent with our current policies and guidelines based on the nature of our client contracts.

As a result of adopting ASC 606, beginning in 2018, the following key reclassifications have occurred:

- Certain deferred contract costs that had been included in our client contracts and other current and non-current assets on our Balance Sheet were reclassified and presented separately as a non-current client contract asset, net of related amortization.
- Certain revenues and related costs previously recorded as software and services or maintenance on our Income Statement are now being classified as cloud and related solutions.
- Investments in client contracts on our Consolidated Statement of Cash Flows have been reclassified to operating activities from investing activities.

Since we adopted ASC 606 using the cumulative effect method, prior period comparative information in our Financial Statements have not been adjusted and continue to be as previously reported.

Refer to Note 2 for further detail and discussion regarding the adoption of ASC 606.

### **Acquisition Activity**

#### *Business Ink*

As discussed in Note 5 to our Financial Statements, on February 28, 2018 we acquired Business Ink, a multi-channel communications company based in Austin, Texas, for approximately \$70 million, excluding acquisition-related expenses. For the third quarter and nine months ended September 30, 2018, Business Ink contributed cloud and related solutions revenues of \$13.9 million and \$34.9 million, respectively, and was slightly dilutive to our year-to-date operating results when factoring in acquired amortization expense.

#### *Forte Payment Systems, Inc.*

As discussed in Note 5 to our Financial Statements, on October 1, 2018, we acquired Forte, a leading provider of advanced payment solutions headquartered in Allen, Texas. We acquired Forte for a purchase price of approximately \$85 million (\$80 million, net of cash acquired), and held back approximately \$13 million in cash subject to certain tax filings. This represents a purchase price approximately equal to Forte's 2018 projected revenues. In addition, the stock purchase agreement includes provisions for \$18.8 million of potential future earn-out payments over a four-year measurement period. At this time, for the remainder of 2018 we expect that Forte will contribute approximately \$20 million of revenues and be dilutive to our U.S. GAAP operating results, due to acquisition amortization and acquisition-related costs.

As we have not completed the valuation analysis and calculations necessary to finalize the required purchase price allocations, which may include allocations to goodwill and other intangible assets such as trademarks and trade names, developed technology, noncompetition agreements, and customer-related assets, the expected impact of the Forte acquisition is based on estimates for the amortization of acquired intangible assets. Because of the inherent uncertainties in making such estimates, the actual impact of Forte on our financial performance for 2018 and beyond may vary from our current expectations as we work through our integration efforts and complete the Forte purchase accounting. We undertake no duty to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.

## Management Overview of Quarterly Results

*Third Quarter Highlights.* A summary of our results of operations for the third quarter of 2018, when compared to the third quarter of 2017, is as follows (in thousands, except per share amounts and percentages):

	Quarter Ended	
	September 30, 2018	September 30, 2017
Revenues	\$ 213,055	\$ 199,195
Operating Results:		
Operating income	25,653	28,376
Operating income margin	12.0%	14.2%
Diluted EPS	\$ 0.49	\$ 0.44
Supplemental Data:		
Restructuring and reorganization charges	\$ 2,799	\$ 1,618
Acquisition-related costs	261	-
Stock-based compensation (1)	4,695	4,700
Amortization of acquired intangible assets	2,170	1,758
Amortization of OID	671	634

(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 third quarter of 2018 were \$213.1 million, a 7% increase when compared to revenues of \$199.2 million for the third quarter of 2017, with the increase mainly attributed to the acquisition of Business Ink on February 28, 2018.

*Operating Results.* Operating income for the third quarter of 2018 was \$25.7 million, or a 12.0% operating margin percentage, compared to \$28.4 million, or a 14.2% operating margin percentage for the third quarter of 2017, with the decrease in operating margin percentage reflective of costs associated with the integration of Business Ink and the continuation of planned investments aimed at generating future long-term growth in our business.

*Diluted EPS.* Diluted EPS for the third quarter of 2018 was \$0.49 compared to \$0.44 for the third quarter of 2017, with the increase primarily attributed to a lower effective income tax rate resulting primarily from the Tax Reform Act enacted in December 2017.

*Cash and Cash Flows.* As of September 30, 2018, we had cash, cash equivalents and short-term investments of \$199.3 million, as compared to \$186.4 million as of June 30, 2018 and \$261.4 million as of as of December 31, 2017. Our cash flows from operating activities for the quarter ended September 30, 2018 were \$47.1 million. See the Liquidity section below for further discussion of our cash flows.

## Significant Client Relationships

*Client Concentration.* A large percentage of our historical revenues have been generated from our largest clients, which are Comcast, Charter Corporation Inc. (“Charter”), and DISH Network Corporation (“DISH”).

Revenues from these clients for the indicated periods were as follows (in thousands, except percentages):

	Quarter Ended					
	September 30, 2018		June 30, 2018		September 30, 2017	
	Amount	% of Revenues	Amount	% of Revenues	Amount	% of Revenues
Comcast	\$ 55,287	26%	\$ 53,913	25%	\$ 56,186	28%
Charter	44,853	21%	45,183	21%	45,086	23%
DISH	19,614	9%	20,505	10%	21,520	11%



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

	As of		
	September 30, 2018	June 30, 2018	December 31, 2017
Comcast	27%	24%	26%
Charter	23%	30%	32%
DISH	6%	7%	8%

See our 2017 10-K for additional discussion of our business relationships and contractual terms with Comcast, Charter, and DISH.

**Comcast Contract Renewal.** Our current agreement with Comcast runs through June 30, 2019, with an option for Comcast to extend the agreement for two consecutive one-year terms by exercising the renewal options no later than January 1, 2019 for the first extension and January 1, 2020 for the second extension option. We are currently engaged in discussions with Comcast regarding contract renewal terms. Although we believe our operating relationship with Comcast is good, there can be no assurances around the timing and/or the terms of any renewal arrangements at this time. The Comcast agreement and related amendments, with confidential information redacted, is included in the exhibits to our periodic filings with the SEC.

**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 U.S. GAAP 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 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 2017 10-K.

### Results of Operations

**Total Revenues.** Total revenues for the: (i) third quarter of 2018 were \$213.1 million, a 7% increase when compared to \$199.2 million for the third quarter of 2017; and (ii) nine months ended September 30, 2018 were \$627.8 million, a 7% increase when compared to \$584.4 million for the nine months ended September 30, 2017. These increases in revenues can be mainly attributed to the following: (i) revenues from the Business Ink acquisition discussed above; and (ii) continued growth in our cloud solutions and managed services arrangements.

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

	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Revenues:				
Cloud and related solutions	\$ 186,473	\$ 164,789	\$ 551,390	\$ 481,445
Software and services	14,283	15,726	39,573	46,680
Maintenance	12,299	18,680	36,829	56,253
Total revenues	<u>\$ 213,055</u>	<u>\$ 199,195</u>	<u>\$ 627,792</u>	<u>\$ 584,378</u>

We use the location of the client as the basis of attributing revenues to individual countries. Revenues by geographic regions for the third quarters and nine months ended September 30, 2018 and 2017 were as follows (in thousands):

	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Americas (principally the U.S.)	\$ 180,489	\$ 169,880	\$ 530,609	\$ 497,852
Europe, Middle East, and Africa	21,723	15,980	64,135	51,011
Asia Pacific	10,843	13,335	33,048	35,515
Total revenues	\$ 213,055	\$ 199,195	\$ 627,792	\$ 584,378

*Cloud and Related Solutions Revenues.* Cloud and related solutions revenues for the: (i) third quarter of 2018 were \$186.5 million, a 13% increase when compared to \$164.8 million for the third quarter of 2017; and (ii) nine months ended September 30, 2018 were \$551.4 million, a 15% increase when compared to \$481.4 million for the nine months ended September 30, 2017. These increases in cloud and related solutions revenues for the quarter and nine months ended September 30, 2018 are mainly due to: (i) the revenues generated from the acquired Business Ink business of \$13.9 million and \$34.9 million, respectively; (ii) the application of ASC 606, which resulted in revenues of \$6.2 million and \$19.3 million, respectively, previously classified as software and services and maintenance revenues, now being classified as cloud and related solutions revenues; and (iii) the execution of and performance under additional managed services arrangements and the conversion of 1.5 million customer accounts onto ACP during the last six months of 2017.

*Software and Services Revenues.* Software and services revenues for the: (i) third quarter of 2018 were \$14.3 million, a 9% decrease when compared to \$15.7 million for the third quarter of 2017; and (ii) nine months ended September 30, 2018 were \$39.6 million, a 15% decrease when compared to \$46.7 million for the nine months ended September 30, 2017. The decreases in software and services revenues for the quarter and nine months ended September 30, 2018 can be attributed mainly to the shift in our focus towards managed services arrangements, which are included in our cloud and related solutions revenues, and the application of ASC 606, which resulted in revenues of \$1.6 million and \$4.7 million, respectively, previously classified as software and services now being classified as cloud and related solutions.

*Maintenance Revenues.* Maintenance revenues for the: (i) third quarter of 2018 were \$12.3 million, a 34% decrease when compared to \$18.7 million for the third quarter of 2017; and (ii) nine months ended September 30, 2018 were \$36.8 million, a 35% decrease when compared to \$56.3 million for the nine months ended September 30, 2017. These decreases in maintenance revenues for the quarter and nine months ended September 30, 2018 are primarily due to the application of ASC 606, which resulted in revenues of \$5.2 million and \$15.5 million, respectively, previously classified as maintenance now being classified as cloud and related solutions, with the remaining decrease attributed to the timing of maintenance renewals and related revenue recognition.

*Total Expenses.* Our operating expenses for the: (i) third quarter of 2018 were \$187.4 million, a 10% increase when compared to \$170.8 million for the third quarter of 2017; and (ii) nine months ended September 30, 2018 were \$552.3 million, a 9% increase when compared to \$504.7 million for the nine months ended September 30, 2017. These increases can be mainly attributed to the operating expenses of Business Ink included in our results for the third quarter and nine months ended September 30, 2018, to include acquisition amortization and acquisition-related costs, with the remaining increase reflective of our continued investment in the business.

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

*Cost of Revenues.* See our 2017 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) third quarter of 2018 increased 19% to \$95.1 million, from \$79.9 million for the third quarter of 2017; and (ii) nine months ended September 30, 2018 increased 19% to \$277.2 million, from \$233.2 million for the nine months ended September 30, 2017. These increases relate almost entirely to: (i) cloud and related solutions expense from the acquired Business Ink business; and (ii) the application of ASC 606, which resulted in \$4.5 million and \$15.5 million of costs for the third quarter and nine months ended September 30, 2018, previously classified as cost of software and services and maintenance, now being classified as cost of cloud and related solutions. Total cloud and related solutions cost as a percentage of cloud and related solutions revenues for the: (i) third quarters of 2018 and 2017 were 51.0% and 48.5%, respectively; and (ii) nine months ended September 30, 2018 and 2017 were 50.3% and 48.4%, respectively.

*Cost of Software and Services (Exclusive of Depreciation).* The cost of software and services for the: (i) third quarter of 2018 decreased 11% to \$8.7 million, from \$9.7 million for the third quarter of 2017; and (ii) nine months ended September 30, 2018 decreased 18% to \$25.8 million from \$31.4 million for the nine months ended September 30, 2017. These decreases are reflective of the decreases in revenue as personnel and the related costs previously allocated to professional services projects have been reassigned to other areas of the

business. Total software and services cost as a percentage of our software and services revenues for the: (i) third quarters of 2018 and 2017 were 60.7% and 61.8%, respectively; and (ii) nine months ended September 30, 2018 and 2017 were 65.2% and 67.3%, 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) third quarter of 2018 decreased 48% to \$5.3 million, from \$10.1 million for the third quarter of 2017; and (ii) nine months ended September 30, 2018 decreased 46% to \$16.6 million, from \$30.5 million for the nine months ended September 30, 2017 .

Total cost of maintenance as a percentage of our maintenance revenues for the: (i) third quarters of 2018 and 2017 were 43.0% and 54.3%, respectively; and (ii) nine months ended September 30, 2018 and 2017 were 45.1% and 54.2%, respectively . These decreases can be primarily attributed to the application of ASC 606, which resulted in \$4.3 million and \$13.9 million of costs for the third quarter and nine months ended September 30, 2018 , previously classified as maintenance, now being classified as cost of cloud and related solutions.

*R&D Expense .* R&D expense for the: (i) third quarter of 2018 increased 4% to \$31.5 million, from \$30.3 million for the third quarter of 2017; and (ii) nine months ended September 30, 2018 increased 8% to \$91.8 million, from \$85.1 million for the nine months ended September 30, 2017 . These increases are reflective of our heightened level of investment that began in early 2017. As a percentage of total revenues, R&D expense for the third quarters of 2018 and 2017 were approximately 15%.

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).

*Selling, General and Administrative (“SG&A”) Expense .* SG&A expense for the: (i) third quarter of 2018 increased 10% to \$39.2 million, from \$35.8 million for the third quarter of 2017; and (ii) nine months ended September 30, 2018 increased 10% to \$120.5 million, from \$110.0 million for the nine months ended September 30, 2017. These increases can be primarily attributed to the SG&A costs related to Business Ink, to include the \$2.4 million of acquisition-related costs incurred during the first quarter of 2018. Our SG&A costs as a percentage of total revenues for the third quarters of 2018 and 2017 were approximately 18%.

*Depreciation.* Depreciation expense for the: (i) third quarter of 2018 increased 44% to \$4.8 million, from \$3.3 million for the third quarter of 2017; and (ii) nine months ended September 30, 2018 increased 33% to \$13.3 million, from \$10.0 million for the nine months ended September 30, 2017. These increases can be primarily attributed to the increased level of capital expenditures we have made over the last twelve months, to include depreciation expense for the quarter and nine months ended September 30, 2018 of \$0.7 million and \$1.6 million, respectively, from the acquired Business Ink assets.

*Restructuring and Reorganization Charges .* Restructuring and reorganization charges for the: (i) third quarter of 2018 and 2017 were \$2.8 million and \$1.6 million, respectively; and (ii) nine months ended September 30, 2018 and 2017 were \$7.0 million and \$4.6 million, respectively. See Note 6 to our Financial Statements for further discussion regarding our restructuring and reorganization activities.

*Operating Income.* Operating income for the: (i) third quarter of 2018 was \$25.7 million, or 12.0% of total revenues, compared to \$28.4 million, or 14.2% of total revenues for the third quarter of 2017; and (ii) nine months ended September 30, 2018 was \$75.5 million, or 12.0% of total revenues, compared to \$79.6 million or 13.6% of total revenues for the nine months ended September 30, 2017 . These decreases in operating margin percentage can be mainly attributed to the costs associated with the acquisition and integration of Business Ink and our continued increase in planned investments in our business.

*Loss on Extinguishment of Debt.* In March 2018, we refinanced our 2015 Credit Agreement (see Note 4 to our Financial Statements). As a result, we incurred a loss of \$0.8 million related to the write-off of unamortized debt issuance costs.

*Income Tax Provision .* The effective income tax rates for the third quarters and nine months ended September 30, 2018 and 2017 were as follows:

Quarter Ended September 30,		Nine Months Ended September 30,	
2018	2017	2018	2017
21%	38%	26%	30%

The effective income tax rates for the quarter and nine months ended September 30, 2018 reflect the impact of the Tax Reform Act that was passed into legislation in December 2017. The Tax Reform Act reduces the U.S. maximum rate of income taxation from 35% to 21% applicable to taxable years beginning after December 31, 2017. During the third quarter of 2018, our estimated full-year 2018 effective income tax rate was reduced from 29% to 27% primarily due to a change in the estimate of R&D credits. The lower effective income tax rate for the third quarter of 2018 reflects the full year-to-date impact of this reduction.

The effective income tax rate for the nine months ended September 30, 2017 reflects: (i) an approximately \$5 million net benefit resulting from Comcast's exercise of 1.4 million vested stock warrants in January 2017, as the stock warrants appreciated in value since their vesting, resulting in an income tax benefit to us when exercised; and (ii) an approximately \$2 million benefit related to the adoption of ASU 2016-09, *Compensation-Stock Compensation* (Topic 718).

## Liquidity

### Cash and Liquidity

As of September 30, 2018, our principal sources of liquidity included cash, cash equivalents and short-term investments of \$199.3 million, as compared to \$186.4 million as of June 30, 2018 and \$261.4 million as of December 31, 2017. We generally invest our excess cash balances in low-risk, short-term investments to limit our exposure to market and credit risks.

During the first quarter of 2018, we refinanced our 2015 Credit Agreement primarily to extend the term of the loan from February 2020 to March 2023 and obtain a reduction in the interest rate and other fees. The 2018 Credit Agreement increased our liquidity and capital resources position by approximately \$30 million.

As part of our 2018 Credit Agreement, we have a \$200 million senior secured revolving loan facility with a syndicate of financial institutions that expires in March 2023. As of September 30, 2018, there were no borrowings outstanding on the 2018 Revolver. The 2018 Credit Agreement contains customary affirmative covenants and financial covenants. As of September 30, 2018, and the date of this filing, we believe that we are in compliance with the provisions of the 2018 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):

	September 30, 2018	December 31, 2017
Americas (principally the U.S.)	\$ 153,419	\$ 196,053
Europe, Middle East and Africa	38,030	48,030
Asia Pacific	7,853	17,277
Total cash, equivalents and short-term investments	<u>\$ 199,302</u>	<u>\$ 261,360</u>

Our short-term investments as of September 30, 2018 and December 31, 2017 were \$2.1 million and \$139.1 million, respectively. The significant decrease in our short-term investments between periods is due primarily to the acquisition of Business Ink in February 2018 for approximately \$70 million and positioning of cash as of September 30, 2018 for the acquisition of Forte, which closed on October 1, 2018 for a purchase price of approximately \$85 million (approximately \$80 million, net of cash acquired), less approximately \$13 million in cash subject to certain tax filings (see Note 5 to our Financial Statements for additional discussion of our acquisitions).

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 September 30, 2018, 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 U.S. 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, gain/loss from debt extinguishments, deferred income taxes, stock-based compensation, etc.), and then factoring in the impact of changes in operating assets and liabilities. See our 2017 10-K for a description of the primary uses and sources of our cash flows from operating activities.

Our 2018 and 2017 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):

	Operations	Changes in Operating Assets and Liabilities	Net Cash Provided by (Used In) Operating Activities – Totals
<b>Cash Flows from Operating Activities:</b>			
<b>2018:</b>			
March 31	\$ 38,247	\$ (8,392)	\$ 29,855
June 30	38,476	(42,117)	(3,641)
September 30	34,888	12,167	47,055
Total	<u>\$ 111,611</u>	<u>\$ (38,342)</u>	<u>\$ 73,269</u>
<b>2017:</b>			
March 31	\$ 43,495	\$ (13,531)	\$ 29,964
June 30	26,364	8,160	34,524
September 30	30,536	7,798	38,334
Total	<u>\$ 100,395</u>	<u>\$ 2,427</u>	<u>\$ 102,822</u>

Cash flows from operating activities for the first quarters of 2018 and 2017 reflect the negative impacts of the payment of the 2017 and 2016 year-end accrued employee incentive compensation in the first quarter subsequent to the year-end accrual for these items.

Cash flows from operating activities for the second quarter of 2018 was negatively impacted primarily by the increase in the accounts receivable balance mainly related to the timing of a recurring payment from a significant client that was delayed and received subsequent to quarter-end.

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. Variations in our net cash provided by operating activities are generally related 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 2018 and 2017 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
<b>2018:</b>				
March 31	\$ 217,018	\$ (3,967)	\$ 213,051	70
June 30	243,874	(3,961)	239,913	67
September 30	250,913	(4,182)	246,731	68
<b>2017:</b>				
March 31	\$ 198,135	\$ (2,824)	\$ 195,311	70
June 30	200,192	(2,706)	197,486	65
September 30	204,293	(2,456)	201,837	72

The increase in gross and net billed accounts receivable during 2018 is due to the addition of Business Ink’s accounts receivable and the timing around certain recurring client payments (from different clients) that were delayed at the end of the second and

third quarter. As these monthly payments were received subsequent to each quarter-end, they do not raise any collectability concerns. All other changes in our gross and net billed accounts receivable reflect the normal fluctuations in the timing of client payments at quarter-end, as evidenced by our relatively consistent DBO metric over the past several quarters. As of September 30, 2018, approximately 95% of our billed accounts receivable balance is less than 60 days past due.

As a global provider of software and professional services, a portion of our accounts receivable balance relates to clients outside the U.S. 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.

#### Other Current and Non-Current Assets

Other current and non-current assets increased \$10.3 million to \$49.6 million as of September 30, 2018, from \$39.3 million as of December 31, 2017, due primarily to the timing of payments of various prepaid items, mainly, prepaid software and hardware maintenance fees.

Additionally, as illustrated in Note 2 to our Financial Statements, as a result of the application of ASC 606, an additional \$10.2 million of client contract costs are now being included in operating activities as changes in other current and non-current assets for the nine months ended September 30, 2018. Prior to the adoption of ASC 606, these were included with investments in client contracts and included in investing activities.

#### ***Cash Flows from Investing Activities***

Our typical investing activities consist of purchases/sales of short-term investments and purchases of property and equipment, which are discussed below. Additionally, as discussed earlier, during the first quarter of 2018 we acquired Business Ink for \$68.6 million, net of cash acquired, and as discussed in Note 2 to our Financial Statements, made an investment in payment technology and services company for \$2.8 million, which is included in our cash flows from investing activities.

*Purchases/Sales of Short-term Investments.* For the nine months ended September 30, 2018 and 2017, we purchased \$53.3 million and \$116.2 million, respectively, and sold (or had mature) \$190.5 million and \$150.8 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.

*Software, Property and Equipment/Client Contracts.* Our capital expenditures for the nine months ended September 30, 2018 and 2017, for software, property and equipment, and investments in client contracts were as follows (in thousands):

	September 30,	
	2018	2017
Software, property and equipment	\$ 44,047	\$ 23,370
Client contracts	-	10,082

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

As a result of the application of ASC 606, \$7.3 million of investments in client contracts have been included in operating activities for the nine months ended September 30, 2018. Prior to the adoption of ASC 606, investments in client contracts were included in investing activities.

#### ***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 nine months ended September 30, 2018 and 2017, the Board approved dividend payments totaling \$21.2 million and \$20.0 million, respectively. During the nine months ended September 30, 2018 and 2017, we paid dividends of \$21.2 million and \$20.4 million, respectively (with the additional amounts attributed to dividends for incentive shares paid upon vesting).

*Repurchase of Common Stock.* During the nine months ended September 30, 2018 and 2017, we repurchased 0.4 million shares of our common stock in each period under the guidelines of our Stock Repurchase Program for \$16.8 million and \$15.6 million, respectively.

Outside of our Stock Repurchase Program, during the nine months ended September 30, 2018 and 2017, we repurchased from our employees and then cancelled 0.2 million shares of our common stock in each period for \$7.2 million and \$9.4 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 first quarter of 2018, we refinanced our 2015 Credit Agreement and as a result, we repaid the outstanding principal balance of \$120.0 million and borrowed \$150.0 million under the 2018 Credit Agreement, resulting in a net increase of available cash of \$30.0 million. As part of the refinancing, we paid \$1.5 million of deferred financing costs.

During the nine months ended September 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.

Additionally, during the nine months ended September 30, 2018 and 2017, we made principal repayments of \$3.8 million and \$11.3 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 September 30, 2018, we had cash, cash equivalents, and short-term investments of \$199.3 million, of which approximately 75% 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. As of September 30, 2018, we had positioned cash in preparation for the closing of the acquisition of Forte on October 1, 2018. Our acquisitions are discussed in more detail below and in Note 5 to our Financial Statements.
- 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.
- Long-Term Debt\Revolving Credit Facility. In March 2018, we refinanced our 2015 Credit Agreement and as a result, we repaid the outstanding term loan principal balance of \$120.0 million and borrowed \$150.0 million, resulting in a net increase in cash of \$30 million (the 2018 Credit Agreement). The 2018 Credit Agreement also includes a \$200 million revolving loan facility (2018 Revolver). As of September 30, 2018, we had no borrowing outstanding on our 2018 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 September 30, 2018, we had 5.8 million shares authorized for repurchase remaining under our Stock Repurchase Program. Our 2018 Credit Agreement places certain limitations on our ability to repurchase our common stock.

In September 2018, we announced an increase in our planned share repurchases of up to \$150 million under our Stock Repurchase Program over the next three years. Under our Stock Repurchase Program, we may repurchase shares in the open market or in privately negotiated transactions, including through an accelerated stock repurchase plan or under a SEC Rule 10b5-1 plan. The actual timing and amount of the share repurchases will be dependent on then current market conditions and other business-related factors over the next three years.

During the nine months ended September 30, 2018, we repurchased 0.4 million shares of our common stock for \$16.9 million (weighted-average price of \$42.71 per share).

Outside of our Stock Repurchase Program, during the nine months ended September 30, 2018, we repurchased from our employees and then cancelled 0.2 million shares of our common stock for \$7.2 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 10 to our Financial Statements.

- Cash Dividends. During the nine months ended September 30, 2018, the Board declared dividends totaling \$21.2 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. In February 2018, we acquired Business Ink, a privately-held multi-channel business communications company based in Austin, Texas for approximately \$70 million. The acquisition was funded from currently available cash.

On October 1, 2018, we acquired Forte, a leading provider of advanced payment solutions headquartered in Allen, Texas for a purchase price of approximately \$85 million, (approximately \$80 million, net of cash acquired), and held back approximately \$13 million in cash subject to certain tax filings. The purchase agreement includes provisions for \$18.8 million of potential future earn-out payments over a four-year measurement period. The earn-out payments are tied to performance-based goals and continued employment by the eligible recipients. The acquisition was funded from currently available cash.

Our acquisitions are discussed in more detail in Note 5 to our Financial Statements. 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.

- Equity Method Investment. On July 30, 2018, we made an investment of \$2.8 million for a 4% noncontrolling financial interest in a payment technology and services company that enables omni-channel digital payments in Latin America. See Note 2 to our Financial Statements for additional discussion.
- Capital Expenditures. During the nine months ended September 30, 2018, we spent \$44.0 million on capital expenditures. As of September 30, 2018, we had committed to purchase approximately \$9 million of equipment.
- Stock Warrants. We have issued Stock Warrants with an exercise price of \$26.68 per warrant to Comcast as an 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 our common stock or voting of the Company. As of September 30, 2018, approximately 1.4 million Stock Warrants are outstanding, of which 0.4 million are vested.

The Stock Warrants are discussed in more detail in Note 10 to our Financial Statements.

- Long-Term Debt. As discussed above, we refinanced our 2015 Credit Agreement in March 2018. As of September 30, 2018, our long-term debt consisted of the following: (i) 2016 Convertible Notes with a par value of \$230.0 million; and (ii) 2018 Credit Agreement term loan borrowings of \$146.3 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.

#### 2018 Credit Agreement

Our 2018 Credit Agreement mandatory repayments and the cash interest expense (based upon current interest rates) for the next twelve months is \$7.5 million, and \$6.1 million, respectively. We have the ability to make prepayments on our 2018 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 2018 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 twelve 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 September 30, 2018, 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 2018 Credit Agreement are based upon an adjusted LIBOR rate plus an applicable margin, or an alternate base rate plus an applicable margin. See Note 4 to our Financial Statements for further details of our long-term debt.

A hypothetical adverse change of 10% in the September 30, 2018 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 September 30, 2018 and December 31, 2017 were \$197.2 million and \$122.3 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 September 30, 2018 and December 31, 2017 were \$2.1 million and \$139.1 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. The significant decrease in short-term investments between periods is due primarily to the acquisition of Business Ink in February 2018 for approximately \$70 million and positioning of cash as of September 30, 2018 for the acquisition of Forte, which closed on October 1, 2018 for a purchase price of approximately \$85 million (\$80 million, net of cash acquired), less approximately \$13 million in cash subject to certain tax filings (see Note 5 to our Financial Statements for additional discussion of our acquisitions).

*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 September 30, 2018, the fair value of the 2016 Convertible Notes was estimated at \$242.7 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 nine months ended September 30, 2018, we generated approximately 87% 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 September 30, 2018 and December 31, 2017, 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):

	September 30, 2018		December 31, 2017	
	Monetary Liabilities	Monetary Assets	Monetary Liabilities	Monetary Assets
Pounds sterling	\$ (19)	\$ 1,694	\$ -	\$ 1,968
Euro	(248)	8,482	(257)	8,491
U.S. Dollar	(30)	19,410	(178)	19,354
Other	(12)	2,934	(9)	2,074
Totals	\$ (309)	\$ 32,520	\$ (444)	\$ 31,887

A hypothetical adverse change of 10% in the September 30, 2018 exchange rates would not have had a material impact upon our results of operations based on the monetary assets and liabilities as of September 30, 2018.

#### **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(e). 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 2017 Form 10-K. There were no material changes to the risk factors disclosed in our 2017 Form 10-K during the third quarter of 2018.

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

The following table presents information with respect to purchases of our common stock made during the third quarter of 2018 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)
July 1 - July 31	52,786	\$ 41.35	51,700	5,934,417
August 1 - August 31	45,087	37.88	42,300	5,892,117
September 1 - September 30	45,546	40.07	44,450	5,847,667
Total	<u>143,419</u>	<u>\$ 39.85</u>	<u>138,450</u>	

- (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 10 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.

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

<b>Exhibit Number</b>	<b>Description</b>
10.22AJ*	<a href="#"><u>Thirty-Fourth Amendment to the CSG Master Subscriber Management System Agreement between CSG System, Inc. and Comcast Cable Communications Management, LLC</u></a>
10.23BC*	<a href="#"><u>Sixty-Fifth Amendment to the CSG Master Subscriber Management System Agreement between CSG System, Inc. and DISH Network, LLC</u></a>
10.26O*	<a href="#"><u>Seventh Amendment to Consolidated CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Charter Communications Operating, LLC</u></a>
10.26P*	<a href="#"><u>Twelfth Amendment to Consolidated CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Charter Communications Operating, LLC</u></a>
10.26Q*	<a href="#"><u>Fourteenth Amendment to Consolidated CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Charter Communications Operating, LLC</u></a>
10.26R*	<a href="#"><u>Nineteenth Amendment to Consolidated CSG Master Subscriber Management System Agreement between CSG Systems, Inc. and Charter Communications Operating, LLC</u></a>
10.39	<a href="#"><u>CSG Systems, Inc. Wealth Accumulation Plan, as restated and amended effective December 6, 2017</u></a>
10.39A	<a href="#"><u>Adoption Agreement to CSG Systems, Inc. Wealth Accumulation Plan, executed September 13, 2018</u></a>
31.01	<a href="#"><u>Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u></a>
31.02	<a href="#"><u>Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u></a>
32.01	<a href="#"><u>Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u></a>
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.

## 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: November 9, 2018

CSG SYSTEMS INTERNATIONAL, INC.

/s/ Bret C. Griess

Bret C. Griess

President and Chief Executive Officer

(Principal Executive Officer)

/s/ Rolland B. Johns

Rolland B. Johns

Executive Vice President and Chief Financial Officer

(Principal Financial Officer)

/s/ Jerod L. Sands

Jerod L. Sands

Chief Accounting Officer

(Principal Accounting Officer)

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

**THIS THIRTY-FOURTH AMENDMENT** (the "Amendment") is made by and between **CSG Systems, Inc .** ("CSG") and **Comcast Cable Communications Management, LLC** ("Customer"). CSG and Customer entered into a certain CSG Master Subscriber Management System Agreement (CSG document no. 2501940), effective as of March 1, 2013, 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. This Amendment shall be effective as of the date last signed below (the "Effective Date").

**WHEREAS**, pursuant to the Agreement, CSG provides \*\*\*\* \*, including \*\*\*\* \*, to Customer; and

**WHEREAS**, \*\*\*\* \* have been implemented as an upgrade to Customer's current \*\*\*\* \*; and

**WHEREAS** , \*\*\*\* \* have been installed and replace Customer's previously existing \*\*\*\* \*.

**NOW, THEREFORE, CSG and Customer agree as follows:**

- 1. Schedule F.1, of the Agreement, " LISTING OF PRODUCTS AND SERVICES INCLUDED IN THE BSC," (i) Subsection X, "\*\*\*\* \*," and (ii) Subsection XI, "\*\*\*\* \*," shall be amended such that references therein to "\*\*\*\* \*" shall be deleted and replaced as "\*\*\*\* \*."**

**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: 7-11-2018

Date: May 4, 2018

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

THIS SIXTY-FIFTH 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 agree to the following as of the Effective Date of this Amendment :

1. Schedule A, "Services", Exhibit A-1, CCS Services, Section 7, entitled "Annual Support Hours ("ASH")", shall be deleted in its entirety and replaced with the following:

7. Annual Support Hours ("ASH") .

(a) During the Processing Term, CSG shall make available to Customer \*\*\*\*\* (\*\*\*\*\*) ASH hours per year. Any unused ASH will be forfeited at the end of each calendar year and Customer shall not be entitled to a refund of fees or credit in hours for any subsequent year.

(b) The Annual Support Hours are subject to the following terms and conditions:

(i) The hours expended by CSG in relation to, but not limited to, (A) \*\*\*\*\*, (B) \*\*\*\*\*, (C) \*\*\*\*\*, (D) \*\*\*\*\*, (E) \*\*\*\*\*, (F) \*\*\*\*\*, (G) \*\*\*\*\*, (H) \*\*\*\*\*, (I) \*\*\*\*\*, (J) \*\*\*\*\*, (K) \*\*\*\*\*, and (L) \*\*\*\*\* the Annual Support Hours allotment. For the avoidance of doubt, Annual Support Hours shall not be used for \*\*\*\*\* Unless otherwise provided, Annual Support Hours shall be performed at the then current ASH rate as provided in Schedule F. V. Technical Services subsection 2 (the "ASH Rate").

(ii) If Customer instead wishes to use any portion of the ASH for any other purpose including, but not limited to, those purposes listed below in this Section (b)(ii), said hours shall be converted and expended at the applicable tiered rate at that time for Professional Services provided in Schedule F. V. Technical Services subsection 1 (the "Professional Services Rate") and not at the ASH Rate. The conversion of ASH to Professional Services hours shall occur by \*\*\*\*\* by the \*\*\*\*\* and then \*\*\*\*\* For the avoidance of doubt, Annual Support Hours shall not be used for \*\*\*\*\* or the \*\*\*\*\*

- \*\*\*\*\* \*\*\*\*\*
- \*\*\*\*\* \*\*\*\*\*
- \*\*\*\*\* \*\*\*\*\*
- \*\*\*\*\* \*\*\*\*\*
- \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\*
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- \*\*\*\*\* \*\*\*\*\*
- \*\*\*\*\* \*\*\*\*\*

(iii) The fees for Annual Support Hours are set forth in Schedule F.

(iv) Requests are subject to CSG's reasonable and practicable business considerations.

2. Schedule A, "Services", Exhibit A-1, CCS Services, the existing introduction to Section 8, entitled "Enhanced Support Services" provided below shall be deleted in its entirety and replaced with the as amended introduction to Section 8 provided below.

Existing:

**8. Enhanced Support Services.** The following support services when performed by CSG shall be charged against Customer's monthly allotment of Annual Support Hours:

As Amended:

**8. Enhanced Support Services.** The following support services when performed by CSG shall be charged against Customer's yearly allotment of Annual Support Hours:

3. Schedule F, "FEES", CSG SERVICES, Section I., Processing, Section C., Listing of Products and Services to be provided to Customer by CSG in consideration of the Monthly Processing Fee, Note 3 under "CSG shall provide to Customer the following Products and Services in consideration of Customer's payment of the \*\*\*\*\* Processing Fee, with exceptions as noted:" shall be deleted in its entirety and replaced with the following:

3. CSG shall make available to Customer \*\*\*\*\* (\*\*\*\*\* ) \*\*\*\*\* ASH hours (subject to the terms set forth in Section 7 of EXHIBIT A-1 of this Agreement).

4. Schedule F, "FEES", CSG SERVICES, Section V., Technical Services shall be deleted in its entirety and replaced with the following:

**V. Technical Services**

All projects and the associated fees shall be set forth in a mutually agreed upon statement of work. Reimbursable Expenses are additional.

Description of Item/Unit of Measure	Frequency	Fee
<b>1. Professional Services (per ***** per *****) (Note 1)</b>		
• Tier 1 – up \$*****	*** *****	\$*****
• Tier 2 – \$***** to \$*****	*** *****	\$*****
• Tier 3 – \$***** to \$*****	*** *****	\$*****
• Tier 4 – ***** than \$*****	*** *****	\$*****
<b>2. Annual Support Hours (ASH) (per ***** per *****)</b>	*** *****	\$*****

**Note 1:** CSG shall provide the Professional Services at a tiered \*\*\*\*\* rate. The Professional Services tiers, as set forth in the table above, are intended to be incremental. For example, during each \*\*\*\*\* period, the first \$\*\*\*\*\* in Professional Services activity shall be invoiced on an \*\*\*\*\* rate of \$\*\*\*\*\*; Professional Service activity above \$\*\*\*\*\* shall be invoiced in accordance to the respective tier based on the accumulated \*\*\*\*\* spend to date. Professional Service tiers \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* of each \*\*\*\*\* \*\*\*\*\*. Section 4- INCREASE IN FEES of the Agreement shall apply to the Technical Services rates.



\*\*\* 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.

**DISH NETWORK L.L.C.**

**CSG SYSTEMS, INC.**

By: /s/ John W. Swieringa

By: /s/ Gregory L. Cannon

Name: John W. Swieringa

Name: Gregory L. Cannon

Title: EVP & COO

Title: SVP, Secretary & General Counsel

Date: 8/1/18

Date: 8/1/18

**SEVENTH AMENDMENT  
TO  
CONSOLIDATED  
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT  
BETWEEN  
CSG SYSTEMS, INC.  
AND  
CHARTER COMMUNICATIONS OPERATING, LLC**

**SCHEDULE AMENDMENT**

This **Seventh Amendment** (the "Amendment") is made by and between **CSG Systems, Inc.**, a Delaware corporation ("CSG"), and **Charter Communications Operating, LLC**, a Delaware limited liability company ("Customer"). CSG and Customer entered into that certain Consolidated CSG Master Subscriber Management System Agreement effective as of August 1, 2017 (CSG document no. 4114281), 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**, CSG and Customer acknowledge and agree the Agreement terminated several agreements between the Parties and subsequent to execution of the Agreement certain inadvertent clerical errors and/or omissions have been identified in the Agreement and, as a result, the Parties agree to amend the Agreement to correct such errors and/or omissions.

**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 (as defined below).

**1. The Parties agree to amend the Agreement to correct the following clerical errors or omissions identified subsequent to Agreement execution:**

- (a) **Section 1.3.** In order to properly reflect the inclusion of services provided in the Auto Check Refund Processing Agreement executed on January 17, 2001, and its resulting termination, the last sentence of Section 1.3 of the Agreement, "Termination of the Consolidated Agreements," is deleted in its entirety.
- (b) **Section 3.2.** To correctly reflect the agreed upon terms between the Parties, the second paragraph of Section 3.2 of the Agreement, "Technical Services," is deleted in its entirety.
- (c) **Exhibit C-4(a).** To correct a typo in Exhibit C-4(a), Module C, Section 2, "Modifications on the Consolidator Services," the last sentence is deleted and replaced as follows:

"CSG agrees to provide Customer with at least \*\*\*\*\* (\*\*\*) \*\*\*\*\* advance notice of any new releases of the Consolidator Services utilized by Customer or Users."

- (d) In order to properly reflect the earlier termination of CD-ROMs and DVDs as archival services to Customer, as such archival services are provided online:
-

- (i) **Schedule C, Exhibit C-2.** The last sentence of Section 9(a), "Document Archival," of Exhibit C-2, "Print and Mail Services," shall be deleted in its entirety; and
- (ii) **Schedule H, Exhibit H.1.** The last two sentences of Exhibit H.1, "The Services," subsection entitled "Standard Reports," shall be deleted in their entirety.

**2. The Parties agree to amend the Agreement to correct the following Schedule F clerical errors or omissions identified subsequent to Agreement execution:**

- (a) To correct a reference to \*\*\*\*\* (\*\*\*\*\*) \*\*\*\*\* \*\*\*\*\* \*\*\*\*\*, Section I, "Processing," subsection 1, "CSG Services," subsection C, "CSG Voice Shared Test Environment, Note 1, shall be deleted in its entirety and replaced with the following:

**C. CSG Voice Shared Test Environment**

Description of Item/Unit of Measure	Frequency	Fee
1.Implementation	*****	*****
2.Hardware for Customer's Citrix Environment	*****	*****
3.Support for Customer's Citrix Environment	*****	(Note 1)

**Note 1:** Ongoing \*\*\*\*\* operational and testing support for files (for purposes of this section C., "\*\*\*\*\* Support") shall be provided by utilizing \*\*\*\*\* (\*\*\*\*\*) \*\*\*\*\* per \*\*\*\*\* of Customer's Technical Services Hours referenced in Section 3.2 of the Agreement for a total of \*\*\*\*\* (\*\*\*\*\*) \*\*\*\*\* \*\*\*\*\* In the event such Technical Services Hours as provided in Section 3.2 are not available, because the hours allocated for the then-current calendar year have been used, CSG shall invoice Customer \*\*\*\*\* (\*\*\*\*\*) \*\*\*\*\* per \*\*\*\*\* at the \*\*\*\*\* prescribed by Section VII. A \*\*\*\*\* for \*\*\*\*\* Support. For clarification purposes, CSG shall \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* (\*\*\*\*\*) \*\*\*\*\* from the allocated Technical Services Hours for the \*\*\*\*\* Support Fees. The Technical Services Hours will be used for \*\*\*\*\* \*\*\*\*\* The \*\*\*\*\* support services do not include \*\*\*\*\* which \*\*\*\*\* that \*\*\*\*\* in \*\*\*\*\*; provided, however, that the Parties may \*\*\*\*\* through a change order or separate Statement of Work.

- (b) To correct the "per system principle" reference to include "\*\*\*\*\*" for Customer's InView Services, Section 1. CSG Services, subsection III. Payment Procurement, subsection A. Direct Solutions (Print and Mail), subsection 13., Document Archival – Statement Express API, Exact View API, InView (Note 31), subsection c., InView, subsection 1., shall be deleted in its entirety and replaced with the following:

Description of Item/Unit of Measure	Frequency	Fee
c. InView		
1.CSG InView Processing and Statement Image Storage for ***** (**) ***** (Standard Data Retention Period) (Note 24)		
i.Connected Subscribers (per *****)	*****	***** ** **
ii.Non-ACP Subscribers (per *****)	*****	\$*****

- (c) To add CD-ROM Originals Services for Customer's Legacy TWC properties, Section 1., CSG Services, subsection III., Payment Procurement, subsection A., Direct Solutions (Print and Mail), subsection 9., Other Print and Mail Ancillary Service Fees, shall be amended to add a new subsection f. CD-ROM Originals as follows:

Description of Item/Unit of Measure	Frequency	Fee
f. CD-ROM Originals (per *****)	*****	\$*****

- (d) To add InfoCast web reports and alerts that are available to Customer, Section 1., CSG Services, subsection V., Advanced Reporting, subsection C., InfoCast Files, shall be deleted in its entirety and replaced with the following:

C. InfoCast

Description of Item/Unit of Measure	Frequency	Fee
<b>1. InfoCast Files</b>		
a. Implementation (Note 1)	*** *****	\$*****
b. Multi-Schema InfoCast File Maintenance Fee (per ***** **, designated ***** **) (Note 2)	*****	\$*****
c. Single-Schema InfoCast File Maintenance Fee (per ***** **, per ***** **) (Note 2)	*****	\$*****
d. Restoration Fee (Note 3)	Per *****	\$*****
<b>2. InfoCast Web Reports/InfoCast Alerts (minimum \$***** per **, based on the ***** fees and ***** fees) (Note 4) (Note 5) (Note 7)</b>		
a. User License (per ***** **) (Note 6)	*****	\$****
b. Report Maintenance (Note 8)		
▪ Basic Reports (per *****/per ***** **)	*****	\$*****
▪ Advanced Reports (per *****/per ***** **)	*****	\$*****
c. InfoCast Alerts (per ***** **)	*****	\$****
d. Implementation (per ***** **)	** *****	\$*****

Note 1: Implementation services, which can include \*\*\*\*\* \*\*, shall be pursuant to a mutually agreed up certain Statement of Work. Reimbursable Expenses are additional.

Note 2: For purposes of the InfoCast Files, Multi-Schema shall mean a group of schemas to be designated by the Customer to be implemented and delivered collectively. If Customer elects to have a single schema implemented and delivered as a stand-alone item, such Single-Schema fee outlined in the table above shall apply.

Note 3: InfoCast Files may be restored by CSG, at Customer's request, from an archived directory for up to \*\*\*\*\* (\*\*\*) \*\*\*\*\* and are subject to the InfoCast File Restoration Fee, per \*\*\*\*\* \*\*.

Note 4: \*\*\*\*\* CSG will invoice Customer for its InfoCast web reports and alerts based \*\* \*\* identified in the \*\*\*\*\* \*\*, but only to the extent \*\*\*\*\* \*\* of the \*\*\*\*\* the \*\*\*\*\* described in \*\*\*\*\* (\*\*\*), and fees for User Administrative Changes from the \*\*\*\*\* \*\* of the \*\*\*\*\* \*\* of the \*\*\*\*\* \*\*, to the extent the number of User Administrative Changes \*\*\*\*\* \*\*, pursuant to \*\*\*\*\* (\*\*\*) \*\*.

Note 5: \*\*\*\*\* (\*) \*\*\*\*\* of \*\*\*\*\* \*\*. Contractual rates shall apply for storage in excess of \*\*\*\*\* (\*\*) \*\*\*\*\*.

Note 6: \*\*\*\*\* (\*\*) User Administration Changes per \*\*\*\*\* (from the \*\*\*\*\* \*\*) \*\* of the \*\*\*\*\* \*\* to the \*\*\*\*\* (\*\*\*) \*\* of the \*\*\*\*\* \*\*. User Administration Changes will be at the rate of \$\*\*\*\*\* per \*\*\*\*\* for User Administration Changes in \*\*\*\*\* \*\* (\*\*\*) \*\*.

Note 7: Customer may from time to time request that \*\* \*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\*. Each such \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\*. CSG will require \*\*\*\*\* (\*) \*\*\*\*\* \*\* to complete a \*\*\*\*\* \*\*\*\*\* request, such request shall be provided via a mutually agreed upon LOA.

(e) To add Hosting Services related to IDM Synchronization, Section 1., CSG Services, subsection X., Custom Implementation Services, subsection E., IDM Synchronization (Note 1), shall be amended to add a new subsection 3. Hosting Services (Note 3) as follows:

Description of Item/Unit of Measure	Frequency	Fee
<b>3. Hosting Services (Note 3)</b>		
a. Hardware, Software, Data Center and Storage Fees	*****	\$*****
b. Hardware and Software Support Fees	*****	\$*****

Note 3: For clarification purposes, Customer must use the IDM Synchronization in its environment in order for CSG to provide the Hosting Services in Subsection 3 above. Further, CSG and Customer agree upon termination or expiration of the Agreement, Customer shall cease its use of the IDM Synchronization provided in this Agreement.

\*\*\* 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/ Michael Ciszek

By: /s/ Gregory L. Cannon

Title: Michael Ciszek

Title: Gregory L. Cannon

Name: SVP - Billing Strategy + Ops

Name: SVP, Secretary & General Counsel

Date: 7/25/18

Date: 7/26/18

**TWELFTH AMENDMENT  
TO  
CONSOLIDATED  
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT  
BETWEEN  
CSG SYSTEMS, INC. AND CHARTER COMMUNICATIONS OPERATING, LLC**

**SCHEDULE AMENDMENT**

**This Twelfth Amendment** (the "Amendment") is made by and between **CSG Systems, Inc .**, a Delaware corporation ("CSG"), and **Charter Communications Operating, LLC** , a Delaware limited liability company ("Customer") . CSG and Customer entered into that certain Consolidated CSG Master Subscriber Management System Agreement effective as of August 1, 2017 (CSG document no. 4114281), 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. Upon execution by CSG and Customer, the effective date of this Amendment is January 23, 2018 (the "Effective Date").

**WHEREAS** , CSG provides via CSG's Affiliate, CSG Media, LLC ("Media"), certain proprietary content monetization and management software known as the "Ascendon System," which software is generally made available as a Software as a Service (commonly known as "SaaS");

**WHEREAS** , Customer has requested that CSG make available to Customer under the Agreement the Ascendon System and certain services and software related to the Ascendon System (as more specifically defined as "Ascendon SaaS Services" below); and

**WHEREAS** , the Parties are entering into this Amendment to prescribe the terms and conditions by which CSG shall make available to Customer the Ascendon System and Ascendon SaaS Services pursuant to one or more Ascendon Service Orders (as defined below) and/or Statements of Work.

**NOW THEREFORE** , in consideration of the mutual covenants and agreements herein contained, CSG and Customer agree to the following as of the Effective Date (defined above):

**1. Customer desires to use, and CSG agrees to provide the Ascendon System and Ascendon SaaS Services as described herein, under the Agreement. Therefore, upon execution of this Amendment, the following changes are hereby made to the Agreement:**

a) Schedule C, "Recurring Services," of the Agreement shall be amended to include the following:

Ascendon Services.....Exhibit C-12

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

b) Schedule C of the Agreement, entitled "RECURRING SERVICES" is hereby amended by adding Exhibit C- 1 2 , entitled " Ascendon Services ", in the form attached as Attachment A hereto, including the various Attachments attached thereto.

2. Further, upon execution of this Amendment and pursuant to the terms and conditions of the Agreement, Schedule F, "Fees," section of the Agreement entitled "CSG Services," is hereby amended by adding a new Section XII, entitled "Ascendon System and Ascendon Services", as follows:

CSG Services

XII. Ascendon System and Ascendon Services

Description of Item/Unit of Measure	Frequency	Fee
A.Ascendon SaaS Services (Note 1)	*** *****	*****
<b>B.Ascendon Technical Services</b>		
1.Startup/Implementation/Configuration (Note 2 and Note 3)	*** *****	*****
2.Ascendon Additional Services (Note 4)	*** *****	*****

**Note 1:** Customer's right to access and utilize the Ascendon System and Ascendon SaaS Services requires Customer to execute with CSG an Ascendon Service Order under this Agreement. The fees applicable to Customer's access to and use and CSG's provision of the Ascendon System and Ascendon SaaS Services are as set forth in each applicable Order Document executed by Customer and CSG and/or to the extent an Ascendon SaaS Service is integrated or made available with a Product or Service that is not the Ascendon System or Ascendon SaaS Services, the fees may also be included in another section of this Schedule F that corresponds to such Product or Service that is not the Ascendon System or Ascendon SaaS Services.

**Note 2:** Set-up and implementation fees for the Ascendon System and Ascendon SaaS Services shall be prescribed in one or more Statements of Work executed by the Parties.

**Note 3:** Technical Services provided by CSG in connection with the Ascendon System and Ascendon SaaS Services shall be provided at the applicable Technical Services hourly rate set forth in CSG Services, Section VII of Schedule F, unless otherwise agreed to by the Parties in writing.

**Note 4:** \*\*\*\*\* \* \* \* \* \*, CSG shall provide Customer Ascendon Additional Services at the applicable Technical Services hourly rate set forth in CSG Services, Section VII of Schedule F, unless otherwise agreed to by the Parties in writing, billable in \*\*\*\*\* (\*\*). \*\*\*\*\*

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

CHARTER COMMUNICATIONS HOLDING  
COMPANY, LLC ("CUSTOMER")

CSG SYSTEMS, INC. ("CSG")

**By: Charter Communications, Inc., its Manager**

By: /s/ Peter Agnavall

By: /s/ Gregory L. Cannon

Title: VP Spectrum Enterprise Video

Title: Gregory L. Cannon

Name: Peter Agnavall

Name: SVP, Secretary & General Counsel

Date: Sep 10, 2018

Date: 9/12/18

**ATTACHMENT A**

**Exhibit C-12**

**Ascendon Services**

**ARTICLE 1  
GENERAL**

**ARTICLE 1. GENERAL**

**1.1 Definitions.**

(a) Capitalized terms used but not defined in this Exhibit shall have the definitions set forth in the Agreement or Attachment 1.1(a). The Parties acknowledge the defined terms in this Exhibit, including Attachment 1.1(a), but not defined in the Agreement, shall apply solely to the Ascendon System and Ascendon Services.

(b) For purposes of applying the general terms and conditions of the Agreement to the Ascendon System and Ascendon Services prescribed in this Exhibit and any Order Document (defined below) executed hereunder, and after giving effect to the amendments and clarification of terms of the Agreement that apply to the Ascendon System and Ascendon Services as set forth in this Exhibit, the following definitional principles under the Agreement shall apply as follows with respect to the Ascendon System and Ascendon Services:

- (i) each reference in the Agreement to a Deliverable shall be deemed to include a reference to an identifiable work product to be delivered by CSG to Customer as specified in a Statement of Work executed pursuant to an Ascendon Service Order;
  - (ii) the Ascendon System shall be deemed a Product under the Agreement; provided such characterization (1) is only for purposes of applying the general terms and conditions of the Agreement and (2) shall not affect the characterization of the Ascendon System and the Ascendon Services performed in connection therewith as SaaS for tax purposes;
  - (iii) except as specifically provided in an Ascendon Service Order, a Consumer accessing the Ascendon System or using or receiving Ascendon SaaS Services shall not be deemed a Subscriber, Connected Subscriber or similar term for purposes of determining under the Agreement or any Statement of Work executed under the Agreement (x) applicable fees for any Products or Services other than the Ascendon System or Ascendon SaaS Services and/or (y) Customer's compliance with any minimum fee purchases or Subscriber commitments (e.g., Minimum Commitments, Subscriber Months, etc.) with respect to any Products or Services other than the Ascendon System or Ascendon SaaS Services;
  - (iv) each reference to Customer Intellectual Property shall be deemed to include Customer Applications (if any), Customer Integrations, Customer Content and Customer Site(s);
  - (v) each reference to Support Services shall be deemed a reference to Ascendon Support Services (as defined in Section 4.1 below); and
-



(vi) each reference to Updates shall be deemed a reference to Ascendon Updates (as defined in Section 4.1 below) .

**1.2 Scope and Conflict.** This Exhibit, including all Attachments and Schedules attached hereto, specifically applies to CSG's performance and/or provision, and Customer's use and receipt of the Ascendon System and Ascendon Services. Unless otherwise expressly provided in this Exhibit or an applicable Order Document (as defined below), in no event will any terms, conditions or fees set forth in this Exhibit or an applicable Order Document apply to CSG's or Customer's rights and obligations with respect to any Products or Services made available by CSG to Customer that are not the Ascendon System or Ascendon Services. Similarly, in no event will any terms or conditions set forth in this Exhibit or an applicable Order Document alter or modify the rights or remedies of Customer and/or CSG under the Agreement in the event of termination of the Agreement in its entirety or a particular Product or Service provided by CSG to Customer under the Agreement that are not the Ascendon System and/or Ascendon Services. Except as provided in this Exhibit or an applicable Order Document, all other terms of the Agreement which are not in conflict with this Exhibit or such Order Document shall be given full force and effect with respect to each Party's performance under the Agreement, as modified by this Exhibit and/or an Order Document. In the event of a conflict between the terms of the Agreement and the terms of this Exhibit, the terms of this Exhibit shall control and take precedence with respect to the provision and use of the Ascendon System and Ascendon Services. In the event of conflict between the terms of an Order Document and the terms of the Agreement and/or this Exhibit, the terms of the Order Document shall control and take precedence with respect to the provision and use of the Ascendon System and Ascendon Services.

**1.3 Ascendon Service Order .** This Exhibit and the applicable terms of the Agreement prescribe the general terms and conditions of CSG's performance and provision of the Ascendon SaaS Services to Customer. A Customer's right to access and utilize the Ascendon System and Ascendon SaaS Services requires Customer to execute with CSG an Ascendon Service Order under this Exhibit. Each Ascendon Service Order shall specify an "Order Term" (as defined in such Ascendon Service Order) and will continue in full force and effect, unless such Ascendon Service Order expires in accordance with its terms or is terminated earlier pursuant to Article 6 of the Agreement or Sections 6.1 or 6.2 or Attachment 4 of this Exhibit.

**1.4 Statements of Work .** In connection with Customer's deployment and use of the Ascendon System and Ascendon SaaS Services CSG shall provide certain Technical Services required by and described in one or more Statements(s) of Work, which the Parties may mutually agree to in writing from time to time. Each Statement of Work shall be consecutively numbered and titled based on (a) the Ascendon Service Order for which such Technical Services are to be performed and (b) the date such Statement of Work is executed. By way of example, the first Statement of Work executed under Ascendon Service Order No. 1 is titled "Statement of Work No. 1 to Ascendon Service Order No. 1" and the first Statement of Work executed under Ascendon Service Order No. 2 shall be titled "Statement of Work No. 1 to Ascendon Service Order No. 2", etc. Customer will pay CSG the fee(s) and, to the extent applicable, Reimbursable Expenses, for the Technical Services performed in accordance with a Statement of Work in the amount set forth in such Statement of Work.

**1.5 Payment Terms .** Customer acknowledges that CSG shall provide Customer invoices for the Ascendon Services independent from CSG's invoices for other CSG Products and Services that are not Ascendon Services. All fees and Reimbursable Expenses under any Ascendon Service Order or Statement of Work under an Ascendon Service Order will be paid in accordance with the Agreement .

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**1.6 Background Checks** . CSG represents and warrants that it has conducted criminal background checks on its personnel (whether management or employees (full-time, part-time and temporary)), and that none of those individuals who (a) have access to Consumer Information or Consumer Usage Data, or (b) will perform specific services for the direct benefit of Customer (which, for the avoidance of doubt does not include the performance of services with respect to the Ascendon Software or Ascendon Services of which Customer is but one of several CSG customers that may access or use such Ascendon Software or Ascendon Services) have been \*\*\*\*\* (\*). \*\*\*\*\* (\*\*\*\*\*). CSG shall remove from activities conducted on Customer's behalf, any individual whom CSG has knowledge has such a conviction. All background checks shall be conducted by CSG in a thorough manner by using reliable means and in accordance with applicable laws. CSG shall notify Customer immediately of any noncompliance with this Section, providing all details pertaining to such noncompliance (provided nothing in this Section 1.6 shall require CSG to identify any personal or personally identifiable information of its personnel, unless CSG requests a waiver of such non-compliance, in which case CSG shall provide Customer information sufficient to enable Customer to consider and make an informed decision with respect to such waiver). From time-to-time when an Order Document is in effect, Customer may request in writing that CSG certify to Customer that the criminal background checks have been performed in compliance with this Section 1.6 and to CSG's knowledge, CSG is otherwise in compliance with this Section 1.6. CSG shall provide Customer the requested certification within ten (10) business days of CSG's receipt of Customer's written request. Notwithstanding and without limiting any other rights Customer may have under the Agreement, Customer shall have the right to audit CSG's records to confirm compliance with this Section at Customer's cost, unless the audit reveals noncompliance with this Section in which case CSG shall bear the reasonable costs of such audit. All information of such audit shall be deemed CSG's Confidential Information and subject to Article 10 of the Agreement. Customer may request that any CSG personnel be replaced if, in Customer's sole discretion, it determines that such personnel are not of the requisite skill and experience to satisfactorily perform the Services, for (i) violation of any (1) Customer safety procedure that is provided in writing to CSG or its personnel in advance of the deemed violation or (2) CSG security procedure, (ii) detrimental conduct, or (iii) for other grounds ( e.g. , poor past performance, etc. ). If Customer requests replacement of CSG personnel, Customer shall provide CSG such request in writing (email acceptable) and include the reasons for such replacement.

**1.7 License to Specific Deliverables** . For those Deliverables identified in a Statement of Work as a Section 1.7 Deliverable (as defined below), and subject to the payment by Customer of all applicable Technical Services fees related to such Section 1.7 Deliverable and the restrictions set forth in this section, CSG hereby grants to Customer a \*\*\*\*\* to \*\*\*\*\* Section 1.7 Deliverable and \*\*\*\*\* and \*\*\*\*\* Section 1.7 Deliverable (\*\*\*\*\*). For the avoidance of doubt, the foregoing grant of license to use excludes any rights to make derivative works of any Section 1.7 Deliverable \*\*\*\*\* . As used herein, a "Section 1.7 Deliverable" means a tangible deliverable provided by CSG to Customer, either in \*\*\*\*\* , that (a) is an \*\*\*\*\* or its \*\*\*\*\* and (b) Customer \*\*\*\*\* as specified in the applicable SOW. For the avoidance of doubt, a Section 1.7 Deliverable shall specifically exclude a Deliverable that is (i) a \*\*\*\*\* (including, \*\*\*\*\* , a \*\*\*\*\* ) or (ii) with respect to \*\*\*\*\* . Further, Customer acknowledges that unless otherwise specifically referenced in an SOW, Customer \*\*\*\*\* (1) be entitled to the \*\*\*\*\*

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

\*\*\*\*\* ) that relates to a Section 1.7 Deliverable or (2) \*\*\*\*\* included in such Section 1.7 Deliverable, \*\*\*\*\* and other \*\*\*\*\* Section 1.7 Deliverable. Nothing in this Section 1.7 shall be deemed to \*\*\*\*\* or a ny other \*\*\*\*\* in Section 2.1 below and/or an Order Document .

**1.8 Media as Provider of Ascendon Services** . Certain of the Ascendon Services performed under an Order Document executed under this Exhibit shall be performed by Media, on behalf of CSG. CSG acknowledges and agrees that it is responsible for Media’s compliance with the terms and conditions of the Agreement (including, but not limited to, this Exhibit and any Order Document executed hereunder). Accordingly, CSG shall be liable to Customer for the acts and omissions of Media to the same extent that liability to Customer would accrue under the Agreement (as supplemented or modified by this Exhibit) as if such acts or omissions had been performed or made by CSG.

**ARTICLE 2. ASCENDON SYSTEM – RIGHTS OF USE; RESTRICTIONS**

**2.1 Rights Grant.** This Section 2.1 shall (x) apply to the Ascendon SaaS Services in lieu of Sections 2.1(a) and (b) and 2.2 of the Agreement and (y) amend the Agreement to include the following terms and restrictions relative to the rights of use grant with respect to the Ascendon System and Ascendon SaaS Services.

(a) CSG hereby grants to Customer a non-exclusive, non-transferable (subject to Section 12.7 of the Agreement), worldwide, non-sublicensable (except to the extent expressly set out in the Agreement), grant of rights at all times during the applicable Ascendon Order Term and Ascendon Transition Period to (i) access and use the Customer Ascendon Solution (as defined under Section 2.1(c) below and further described in and pursuant to each applicable Ascendon Service Order) for Customer’s business purposes and operations, which includes access and use of Consumer Experiences (as described in and pursuant to each applicable Ascendon Service Order, if applicable) by Consumers; (ii) copy, use, and distribute internally the Ascendon Documentation as required to support its use of the Ascendon System; (iii) modify the Ascendon Documentation in connection with the development of end user guides or training materials for Customer and Outsource Vendors (collectively, “Charter User Guides”) and to distribute or have distributed any derivative work of the Ascendon Documentation, as incorporated in any Charter User Guides, to Outsource Vendors; and (iv) access and use the Ascendon System Back Office Applications as specified in an Ascendon Service Order, Ascendon Documentation and Charter User Guides as provided in foregoing clauses (ii) and (iii) above in the Export Approved Countries by Customer and their Outsource Vendors for Customer’s business purposes and operations.

(b) In addition to the restrictions set forth in Section 2.4 of the Agreement, Customer shall not, nor authorize or permit any third party to (i) disclose Customer’s unique access codes to any entity or person other than Customer’s authorized employees or Customer Vendors using the Ascendon System on Customer’s behalf and at the direction of Customer, or (ii) use the Ascendon System for purposes other than permitted in this Agreement or an applicable Order Document. Without limiting the application of Section 2.8 of the Agreement, Customer shall be responsible for any breach of the terms, conditions and restrictions of this Agreement or an Order Document by its employees and Customer Vendors and any of its Affiliate’s employees, consultants, agents and contractors that access the Ascendon System, Services or CSG Confidential Information pursuant to such Order Document.

(c) Section 2.3 of the Agreement all restrictions related to “Designated Environments” under the Agreement will not apply to the Ascendon System.

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(d) CSG may discontinue the supply and support of a given Ascendon Element or Consumer Experience provided to Customer under an Ascendon Service Order (i) as provided in and subject to the provisions of Section 2.2 of this Exhibit and Section 7.2 (iii) of the Agreement, (ii) if a Third Party Product or such Ascendon Element or Consumer Experience requires the use of a Third Party Product, CSG can no longer secure the supply of such Third Party Product despite its commercially reasonable best efforts to do so, (iii) if the continued supply and support (x) poses a security issue that, after commercially reasonable efforts, cannot be mitigated or (y) causes or will cause CSG to violate applicable law; so long as in any case under (i)-(iii) above: (1) CSG makes available a replacement that provide equivalent or better functionality, performance, and security based on support of Customer's then current use of the Ascendon System and Ascendon SaaS Services and on comparable fees, terms and conditions as the discontinued Ascendon Element or Consumer Experience; (2) CSG allows Customer such time as it reasonably requires to transition to any such replacement with (A) no less than \*\*\* \*\*\*\*\* \*\* \*\*\*\*\* (\*\*\*) \*\*\*\* if CSG initiates such discontinuance and (B) that period of time permitted by the third party provider that initiates or is responsible for such discontinuance; and (3) CSG performs such transitional and integration services as are reasonably necessary to facilitate the transition at no cost to Customer.

(e) In lieu of the rights granted to an Acquiring Entity under an Interim Agreement, as contemplated in Section 2.4(a) of the Agreement, the following provisions will apply:

- (i) Notwithstanding anything in this Agreement to the contrary, in the event that Customer or any of its Affiliates sells or transfers any business unit (a "Divested Business") to a third party (a "Buyer") identified to CSG in writing, Customer and its Affiliates will have the right to provide services utilizing the Customer Ascendon Solution and Ascendon Services identified in the applicable Ascendon Service Order(s), and other rights and licenses provided to Customer under this Agreement, for the benefit of the Divested Business and the Buyer following such transfer, in accordance with the following terms:
  - (1) Customer's use of the Customer Ascendon Solution and Ascendon Services and other rights and licenses for the benefit of the Divested Business and the Buyer under any Ascendon Service Order may last for a period of up to \*\*\*\*\* (\*\*) \*\*\*\*\*, as determined by Customer. Such period of use will be referred to in this Section 2.1(e) as the "Divested Business Transition Period."
  - (2) All fees payable under any Ascendon Service Order will continue to accrue in accordance with such Ascendon Service Order with respect to the Divested Business, and Customer will pay all such fees in accordance with this Agreement, in each case as though the Divested Business were owned by Customer for the duration of the Divested Business Transition Period. CSG will not increase its fees or assess any additional rights or other fees or expenses as a result of the activities contemplated by this Section 2.1(e), except CSG may charge fees consistent with the Agreement or the affected Ascendon Service Order if (A) CSG incurs additional costs to provide the same Ascendon Services to Buyer and/or (B) Customer requests CSG to provide Technical Services or Ascendon Additional Services or otherwise modify the form or nature of the Ascendon Services provided to or on behalf of the Divested Business (e.g., establish a separate business unit).

- (3) The Parties acknowledge nothing in this Section 2.1(e) shall entitle Buyer to access the Ascendon System or request any changes or additions to the Ascendon Services during the Divested Business Transition Period. Nothing in this Section will prohibit CSG from charging any fees to Buyer as may be contemplated in any separate agreement between CSG and Buyer.
- (4) CSG acknowledges and agrees that the existence and terms of any divestiture by Customer, including the identity of the Divested Business and Buyer, will be “Confidential Information” of Customer under the Agreement. Customer may disclose this Agreement in connection with any Divested Business or proposed Divested Business to any potential Buyer so long as (A) the potential Buyer is subject to confidentiality obligations no less restrictive than the terms of the Agreement and (B) Customer discloses only those Order Documents and portions of the Agreement that relate to such Divested Business.

(f) The specific configuration of the Ascendon System and Third Party Products Customer is entitled to access and use shall be as set forth in each Ascendon Service Order (the “Customer Ascendon Solution”).

**2.2 Access; Compatible Interfaces. Prior Releases.** Access and use of the Ascendon System shall be by Ascendon Web Services, a Consumer Experience identified in an Ascendon Service Order or web-enabled user interface access, and nothing in this Agreement or an Ascendon Service Order shall entitle Customer or any Consumer to delivery of the object or source code relating to the Ascendon System. The Ascendon Documentation identifies the Compatible Interfaces as of the Effective Date. CSG may update the Compatible Interfaces from time to time in its reasonable discretion, consistent with good industry practices, by providing Customer reasonable advance written notice specifically identifying the applicable update; provided, however, notwithstanding anything in the Ascendon Web Services Standards to the contrary, (a) CSG shall not cease supporting any Compatible Interface without providing at least **\*\*\*\*\*\_\*\*\*\* (\*) \*\*\*\*\*** prior written notice to Customer and (b) CSG will support **\*\*\* \*\*\*\*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\*\*\*\* , \*\*\*\*\* \*\*\*\*\* , \*\*\*\*\* \*\*\*\*\* , \*\*\* \*\*\*\*\* \*\*\*\*\*** and at least the **\*\*\* (\*) \*\*\*\*\* \*\*\*\*\*** of **\*\*\*\* \*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\***. CSG shall support and maintain during any applicable Order Term and any Ascendon Transition Period the Ascendon Software and Ascendon Web Services, maintaining backwards compatibility to all prior releases of such Ascendon Software or Ascendon Web Services, as applicable, utilized by Customer over the prior **\*\*\*\*\* (\*) \*\*\*\*\***, or the **\*\*\*\* \*\*\*\*\* (\*) \*\*\*\*\* \*\*\*\*\***, whichever is longer; provided, the foregoing excludes backwards compatibility support for any Ascendon Back Office Applications, including the “Invision” suite of applications.

**2.3 Ascendon Web Services.** Customer acknowledges that its right to access the Ascendon SaaS Services via the Ascendon Web Services is subject to Customer’s compliance with the Ascendon Web Services Standards, both as a condition of Customer’s right to “go-live” and a continuing condition of Customer’s right to access and use the Ascendon SaaS Services as provided in the Agreement and each executed Ascendon Service Order. As used herein, “Ascendon Web Services Standards” mean those rules, specifications and standards attached to this Agreement as Attachment 2.3. CSG may update the Ascendon Web Service Standards by providing reasonable advance written notice to Customer and provided the revised Ascendon Web Services Standards are distributed uniformly and on a non-discriminatory basis with respect to all of CSG’s customers using the Ascendon System.

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**2.4 Customer Property.** Without limiting Section 2.7(b) of the Agreement, as between Customer and CSG, Customer is and shall remain the sole and exclusive owner of all rights, title and interests (including all Intellectual Property rights) in and to the Customer Intellectual Property, Customer Integrations, Consumer Information, Consumer Usage Data, Customer Content, Customer Site(s) and any improvements, adaptations and other such modifications of the same that are developed by or for Customer, and any Customer Service.

**2.5 No Escrow of Ascendon Software.** The Parties acknowledge that CSG shall have no obligation to include in the Deposit Materials any source code or Ascendon Documentation related to the Ascendon System or Ascendon Software. As a result, Sections 2.9 and 2.10 of the Agreement shall not apply to the Ascendon System and Ascendon SaaS Services.

**2.6 Export Approved Products and Export Approved Countries.** Invision Care, Invision Studio and Invision Reporting (each as described in the Ascendon Documentation) are deemed an Export Approved Product on Schedule I of the Agreement, and subject to the terms and conditions of the Agreement and any applicable Ascendon Service Order, may be accessed and used by Customer and its Outsource Vendors in the Export Approved Countries identified on Schedule I of the Agreement.

**ARTICLE 3. ASCENDON SAAS SERVICES**

**3.1 Ascendon SaaS Services.** During the Order Term of any Ascendon Service Order and any Ascendon Transition Period CSG shall provide Customer with the Ascendon SaaS Services as described in and subject to the fees, terms and conditions set forth in any Ascendon Service Order(s) executed by the Parties from time-to-time (unless terminated or expired pursuant to its terms), in each case subject to the applicable terms and conditions of the Agreement. Customer acknowledges that except as specifically requested by Customer and provided in an Order Document or pursuant to Ascendon Additional Services (as defined below), the Ascendon SaaS Services do not include any content delivery network (“CDN”) services, signal or encoding of Customer Content, and that between Customer and CSG, Customer is responsible (directly or through a third party designee) to provide CDN services and encoding for its Customer Content. Unless otherwise provided in an Ascendon Service Order, the Ascendon SaaS Services are provided in the English (US) language.

**3.2 Technical Services Hours** \*\*\*\*\*. Customer and CSG acknowledge that the \*\*\*\*\* and \*\*\*\*\* (\*\*\*\*\*).

**3.3 Customer Rights.** Customer is responsible to obtain from any applicable third parties all necessary rights for Customer to host, distribute and fulfill (as applicable) Customer Services and display Customer Content on and through the Ascendon System and Ascendon SaaS Services, as applicable.

**3.4 Acceptance Testing.** CSG will make available all Ascendon Software, Ascendon Documentation made available as a Deliverable and other Deliverables (each, a “Candidate Deliverable”) for review and/or acceptance testing by Customer (the date such Candidate Deliverable is received by or made available to Customer is referred to herein as the “Delivery Date”).

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\*\*\*\*\* \*\* \*\*\*\*\* Non-Conforming Deliverable.

(iii) If Customer \*\*\*\*\* \*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* (\*) \*\* \*\*\*\*\* under \*\*\*\*\* \*\*\*(\*\*)(\*\*),  
CSG \*\*\*\*\* Customer \*\*\*\*\*.

(1) \*\* \*\* \*\*\*\*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\* \*\*\*\*\* \*\*  
\*\*\*\*\* \*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*  
\*\*\*\*\* \*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* (\*\*)

(2) \*\* \*\* \*\*\*\*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\* \*\*\*\*\* \*\*  
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\*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* (\*) \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*  
\*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* (\*) \*\*  
\*\*\*\* pursuant to this Section 3.4.

(iv) Except with respect to tests permitted by CSG to be conducted in the Production Environment under Section 3.4(c), if Customer utilizes a Candidate Deliverable in the Production Environment, such Candidate Deliverable shall be deemed Accepted as of the date on which such Candidate Deliverable is utilized in such Production Environment.

(v) Notwithstanding the prior Acceptance (or deemed Acceptance) of Technical Services and any Candidate Deliverables hereunder, all warranties made by CSG under the Agreement and CSG’s obligation to provide Ascendon Support Services shall survive such Acceptance; provided, however, that any Customer requested change or variance to a Candidate Deliverable after its Acceptance shall be deemed a request by Customer for CSG to provide Technical Services pursuant to an additional SOW or Ascendon Additional Services, as applicable. For the avoidance of doubt, Customer’s tender or request for warranty services under Section 7.2 shall not be deemed a Customer requested change or variance to a Candidate Deliverable.

(b) If Customer provides CSG a Statement of Errors that includes a new Exception that could have been reasonably discovered by Customer in a previously submitted version of a Candidate Deliverable but was not cited in any preceding Statement of Errors relative to such Candidate Deliverable (a “Pre-Existing Exception”), then CSG shall not be deemed to have violated any representation or warranty contained in the Agreement relative to such Pre-Existing Exception. Nothing in this section shall be deemed to limit CSG’s obligation under this Section 3.4 or Section 7.1 of this Exhibit to remedy an Exception and Customer shall not be liable for any breach of the Agreement as a result of any failure by Customer, acting in good faith, to notify CSG of an Exception reasonably discoverable in the Review Period.

(c) Customer acknowledges that it may conduct its tests under this Section 3.4 (i) in a Performance Testing Environment ordered and configured in accordance with Section 5.2 and (ii) in the Sandbox



Environment and Production Environment only with CSG's prior written consent, which consent is in CSG's sole discretion .

**3.5 Active-Active Architecture; BCP .** The Ascendon System is deployed using a dual, "active-active" architecture with fail-over capacity that will enable Customer to continue to access and use the Ascendon SaaS Services in the event the primary server location is unavailable due to a disaster. If during an Order Term of an Ascendon Service Order CSG modifies the architecture by which the Ascendon System is deployed such that it no longer uses an "active-active" architecture, (a) CSG shall notify Customer in writing no less than \*\*\*\*\* (\*\*\*) \*\*\*\*\* in advance of the date CSG transitions off such active-active architecture, and (b) prior to the date CSG transitions off such active-active architecture, CSG shall establish and provide to Customer a disaster recovery and business continuity plan ("BCP") that sets forth procedures to restore all information systems and business processes necessary to facilitate Customer access to and use of critical features of the Ascendon System and Consumer access to and use of the Customer Ascendon Solution made available under an Ascendon Order. The BCP shall identify a restoration time objective and a restoration point objective and shall include procedures to maintain business critical information systems and business processes in the event of any reasonably foreseeable unplanned interruption to the Ascendon SaaS Services provided pursuant to an Ascendon Order. CSG shall review and test its BCP and all related information and system backup and restoration procedures at least once each year. \_

#### **ARTICLE 4. ASCENDON SUPPORT SERVICES**

This Article 4, Attachment 4 and Attachment 4-A shall define CSG's Ascendon Support Services obligations with respect to the Ascendon System and Ascendon SaaS Services and shall apply to the Ascendon System and Ascendon SaaS Services in lieu of Sections 4.1 and 4.3 of the Agreement, provided, however, to the extent Ascendon SaaS Services are provided for use in conjunction with the ACP System, CSG's Support Services obligations under Schedule H of the Agreement shall also apply to those Products, Services or elements of the ACP System. Once a problem is identified and determined by CSG to be an Exception unrelated to the ACP System, only the Ascendon Support Services shall apply.

**4.1 Maintenance and Support .** During the Order Term of any Ascendon Service Order and any Ascendon Transition Period, CSG shall provide maintenance and support for the Ascendon System and Ascendon SaaS Services in accordance with the terms set forth in this Article 4 and Attachment 4 ("Ascendon Support Services"). Ascendon Support Services include provision of any fixes, updates, upgrades, improvements, work-arounds, enhancements, replacements, modifications, maintenance releases or derivative works to the Ascendon System made by (or for) CSG during any applicable Order Term and any Ascendon Transition Period with respect to the Ascendon System made available to Customer pursuant to an Ascendon Service Order hereunder ("Ascendon Updates"). However, unless specifically provided in an Order Document, Ascendon Support Services do not include and CSG shall have no obligation to provide (a) custom modifications to the Ascendon System as requested by Customer, (b) maintenance and support of, or the required implementation of updates to any customization to the Ascendon System deployed by Customer where such customizations are not specifically identified in an Order Document as being "supported" by CSG, (c) maintenance and support of any Customer Systems or Third Party Systems, (d) modifications to the Ascendon System required to enable it to function properly (1) with updates, upgrades or modifications to Customer Systems, Third Party Systems or a Customer Integration or (2) as a result of a Third Party Modification, or (e) any new product, service or application that (1) is not an Ascendon Update of the Ascendon System as then deployed by Customer under an applicable Ascendon Service Order, and/or (2) CSG makes generally available as a separately priced item (e.g., by way of example only, an Ascendon Server Module or

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Consumer Experience not included in an Ascendon Service Order). Ascendon Support Services do not include management of Customer's day-to-day operational issues, as described in Section 5.1 of this Exhibit. If and as requested by Customer, the Parties may enter into a Statement of Work or amendment to an Ascendon Service Order to prescribe CSG's performance of Technical Services, Ascendon Additional Services or other support relative to activities that are excluded from Ascendon Support Services pursuant to this Section 4.1 .

**4.2 Third Party Integrations and Third Party Modifications.** If any of (a) Customer's Integrations, or (b) CSG Integrations made by CSG under a mutually agreed Statement of Work to a Customer System or Third Party System (collectively, a "Third Party Integration") requires modification due to a change in the Customer Integration, Customer System or Third Party System, which modification is not made by, at the direction, or with the approval of CSG (a "Third Party Modification"), then CSG shall have no obligation to maintain or support the affected Third Party Integration as a result of such Third Party Modification. Under such circumstances, Customer may request, and CSG shall perform, Technical Services to remedy such Third Party Modification, pursuant to a Statement of Work executed by the Parties setting forth the scope of such Technical Services and related fees payable to CSG. In addition, to the extent that a Third Party Modification causes a Service Interruption or otherwise causes an Ascendon Service to no longer operate in compliance with an Ascendon Service Order or the Ascendon Documentation, Customer acknowledges that CSG shall have no liability to Customer under the terms of the Agreement or an Order Document with respect to any breach or non-compliance caused by such Third Party Modification. CSG acknowledges however that once a Third Party Integration is restored after a Third Party Modification, CSG's obligations under the Agreement and any affected Order Document shall recommence. CSG further acknowledges that a Third Party Modification shall not be deemed a breach of Customer's obligations under the Agreement or an Order Document. The Parties acknowledge that if a Third Party Integration requires modification due to an Ascendon Update of the Ascendon System, such modification shall not be deemed a Third Party Modification, and CSG shall promptly make such modification and restore the Third Party Integration at no additional charge to Customer.

**4.3 Quarterly Performance Reviews .** On a quarterly basis commencing after Customer's first commercial launch of the Ascendon System and so long as an Order Term of an Ascendon Service Order is in effect, CSG shall meet with Customer, at Customer's request and at a mutually agreeable location, to review, among other things, (a) the performance of the Ascendon System and CSG personnel since the most recent performance review, including without limitation SLAs and project team interaction, (b) Customer's feedback relative the Ascendon System, including its functional capabilities, performance and Customer's proposed enhancements and (c) CSG's product roadmap for the Ascendon System.

## **ARTICLE 5. CUSTOMER'S ADDITIONAL OBLIGATIONS; PERFORMANCE TESTING.**

**5.1 Day-to-Day Operations.** After the Go-Live Date of each Ascendon SaaS Services deployment pursuant to an Ascendon Service Order, Customer is principally responsible to manage the day-to-day administrative operations of such deployment in connection with its marketing, merchandising and sale of Customer Services, including, by way of example only, configuring storefront changes, refreshing or adding new Customer Content, configuring Customer Service bundles and pricing plans, and backing up its data (i.e., CSG performs and maintains its own internal backups as provided in the Ascendon Documentation; Customer must extract its data from Invision Reporting if it wishes to maintain its own independent back-up). Customer may discharge such responsibility itself, through a third party designee permitted by the terms of the Agreement or by requesting CSG to provide such support. CSG may provide support to Customer on an Ascendon SaaS Services deployment pursuant to a Statement of Work entered into by the Parties that specifies the specific Technical Services or support to be provided or, Customer may request, in writing and subject to a form of agreement executed by the Parties consistent with Section 12.11 of the Agreement, and CSG shall

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provide such Technical Services or support on an ad hoc, "as-needed basis". Any Technical Services or support requested by Customer in writing that are not covered by an effective Statement of Work or do not otherwise qualify as Ascendon Support Services (i.e., which are, consistent with Section 12.11 of the Agreement, covered by a Letter of Authorization or Technical Service Request), shall be deemed a request by Customer for CSG to provide "Ascendon Additional Services". \*\*\*\*\* \* \*\*\*\*\* \*\*\*\* \* \* \* \* \* \*\*\*\*\* for the provision of \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* ( \* \* " \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \* \* \* \* \* ") is \*\*\*\*\* \*\*\*\*\* \* \* \* \* \* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* , CSG shall provide Ascendon Additional Services \* \* \* \* \* \*\*\*\*\* (billed in \*\*\*\*\* ( \* \* ) \*\*\*\*\* \*\*\*\*\* ) \* \* \* \* \* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* Technical Services set forth in \* \* \* \* \* , \*\*\*\*\* \* \* \* \* \* \*\*\*\*\* of the Agreement, and shall invoice Customer on a calendar month basis. Reimbursable Expenses shall be reimbursed as provided in Section 5.1 of the Agreement.

**5.2 Restrictions on High Volume Testing.** Customer acknowledges that neither the Production Environment nor the Sandbox Environment are intended or engineered to perform high volume "stress" or performance testing against the Ascendon System and absent CSG's prior written approval Customer shall not, nor authorize or permit any third party to perform Performance Testing. "Performance Testing" in the Sandbox Environment or the Production Environment shall mean greater than \*\*\*\*\* (\*\*) \*\*\*\*\* transactions per \*\*\*\*\* \*\*\*\*\* (\*\*\*\*\* \*\*\*\*\* \* \*\*\*\*\* \* \* \* \* \* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\*); provided, however, that in no event will any Acceptance test permitted by CSG under Section 3.4(c) be deemed "Performance Testing." In addition, Customer may request that CSG make available a dedicated environment for Performance Testing for a period to be mutually agreed in writing by the Parties (a "Performance Testing Environment"), which environment (a) shall replicate the architectural tiers and performance characteristics (excluding capacity) of the Production Environment or Sandbox Environment (as applicable), (b) will be subject to Hosting and Ascendon Support Services as set forth in Attachments 4 and 4-A, respectively, but is not subject to any System Availability (as such term is defined in Q) commitment; (c) shall be subject to the fees set forth in the applicable Order Document, and (d) shall be made available to Customer by the dates, and in accordance with the terms and conditions of a Statement of Work or other written agreement executed by the Parties. Customer acknowledges that, without the Parties mutually agreeing to the creation of, and terms governing, a Performance Testing Environment, any conduct of Performance Testing within the Production Environment or Sandbox Environment is a breach of this Exhibit and the Agreement and can adversely affect the Ascendon System, which may also affect third parties. If Customer conducts Performance Testing in violation of this section, or otherwise exceeds the scope of Performance Testing authorized by CSG in writing, Customer agrees that CSG shall have the right, with notice to Customer (either prior to or promptly following suspension), to temporarily suspend Customer's access to the environment in which such Performance Testing was conducted until such violation is cured. Customer will defend CSG at Customer's expense and pay all damages (including punitive damages) awarded against and reasonable costs incurred by CSG in any action arising out of any claim of a third party caused by Customer's Performance Testing in violation of this section. Nothing in this Section 5.2 shall be deemed to limit CSG's right to assert a claim against Customer for any damages CSG or its Affiliates incur with respect to Customer's Performance Testing in violation of this Section 5.2.

**5.3 App Store.** If an Ascendon Service Order includes Customer's use of a Consumer Experience such as an iOS or Android native application or a Licensed Client SDK for iOS or Android on which Customer will develop a Customer Application, and Customer intends to distribute the application (an "App Store Application") through an application store, such as iTunes, the Android Marketplace, Google Play Store, or similar site at which the App Store Application may be downloaded by a Consumer (an "App Store"), Customer, with the assistance of and in collaboration with CSG, is responsible (a) to submit to each App Store for approval the App Store Application that includes Customer Content and (b) for any approval fees required by such App Stores (or their approvers) in connection with such approval. Customer further acknowledges

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that if Customer develops a Customer Application without use of a Licensed Client SDK, Customer shall be solely responsible to submit such Customer Application to the App Store for approval, and any assistance provided by CSG in such regard shall be subject to a Statement of Work or CSG’s performance of Ascendon Additional Services.

**ARTICLE 6. TERMINATION - ASCENDON SERVICES**

In addition to any termination rights of either Party with respect to the Agreement in its entirety or an affected Product, Deliverable or Service pursuant to the terms of the Agreement, this Article 6 shall apply specifically to the Ascendon System and the Ascendon SaaS Services.

**6.1 Ascendon Service Order Term.** The Parties agree that upon expiration of the Agreement, CSG’s provision, and Customers’ use and receipt, of the Ascendon Services will terminate following any applicable Ascendon Transition Period as provided in Section 6.3 below. Accordingly, if the Order Term of a given Ascendon Service Order \*\*\*\*\* of the Agreement, the Order Term under the applicable Ascendon Service Order(s) shall be deemed \*\*\*\*\* (\*\*\*\*\* \*\* \*\*\*) \*\*\*\*\*) \*\*\*\*\* with the \*\*\*\*\* the Agreement, subject to \*\*\*\*\*.

**6.2 Termination of an Order Document; Effect of Termination.**

(a) \*\*\*\*\* (\*\*\*) \*\*\*\*\* (\*\*\*) \*\*\*\*\* (\*\*\*) \*\*\*\*\* \*\*\*\*\*

(b) For the avoidance of doubt, each reference in Section 6.1 of the Agreement to a Party having rights to terminate the Agreement “only as it pertains to the affected Product, Deliverable or Service” shall enable a Party to terminate an affected Order Document subject to the remaining terms and conditions of Section 6.1 of the Agreement, the remainder of the Agreement and this Exhibit.

(c) Customer’s licenses to any Products other than the Ascendon System and its respective right to receive any Services from CSG not related to the Ascendon Services, and the Agreement as it relates to any Product or Service other than the Ascendon System or Ascendon Services, may not be terminated by CSG on account of any breach by Customer relating to the Ascendon System and Ascendon Services. Similarly, Customer may not terminate its licenses to any Products other than the Ascendon System and Ascendon Services or its purchase of any Services from CSG not related to the Ascendon System or Ascendon Services, and may not terminate the Agreement as it relates to any Product or Service other than the Ascendon System or Ascendon Services, for cause on account of any breach by CSG of any obligations of CSG relating to the Ascendon System or Ascendon Services.

(d) Upon termination of an Order Document, subject to Section 6.3 of this Exhibit, (i) all rights granted by either Party to the other under such Order Document shall terminate, (ii) CSG shall, have no further obligation to provide any Ascendon Services to Customer under such Order Document and (iii) each Party

will promptly ( x ) return to its owner or redact all of the other P arty’s Confidential Information and Inte llectual Property related to the Customer Services and Ascendon Services provided through and under such Order Document then in such P arty’s possession, custody or control, and except as required by applicable law, irretrievably purge all electronic copies of the same from its computer systems , storage media and other files, ( y ) upon written request deliver to the owner an affidavit which certifies compliance with the foregoing Section 6.2 (c)(i ii ) ( x ) , and ( z ) pay to the other P arty any undisputed amounts then due pursuant to the rel evant Order Document and/or the Agreement. Termination of an Order Doc ument shall not release either P arty from liability which at the date of termination has accrued but remains un-discharged, nor adversely affect in any way the survival of any other right, duty or obligation of a P arty which is expressly stated to survive notwithstanding terminat ion of an Order Document or the Agreement.

The below Section 6.3 shall apply to the Ascendon Services in lieu of Section 6.2 of the Agreement.

**6.3 Ascendon Transition Services.** If requested by Customer in its sole discretion, the Parties will comply with the following transition provisions following the termination or expiration of the Agreement or an Order Document in order to allow Customer to wind down the Customer Services or transition from CSG’s provision of the Ascendon SaaS Services to a third-party or internal Customer solution. By providing CSG written notice (a) if the Agreement or an Ascendon Service Order expires as per its stated term, no less than \*\*\*\*\* (\*\* ) \*\*\*\* prior to the effective expiration date of the Agreement or such Ascendon Service Order or (b) if the Agreement or an Ascendon Service Order \*\* \*\*\*\*\* \*\*\*\*\*, within \*\* (\*\*) \*\*\*\* of the effective date of termination of the Agreement or such applicable Ascendon Service Order, Customer may request a transition period up to but not to \*\*\*\*\* (\*\* ) \*\*\*\* following the effective date of expiration or termination date (the “Ascendon Transition Period”) to allow the Parties to effect a wind-down or orderly transition of the services provided by CSG through the Ascendon SaaS Services to a third-party or an internal Customer solution. In the event that Customer requests an Ascendon Transition Period, CSG will provide such \*\*\*\*\* \*\*\*\*\*, and all applicable fees and terms under the applicable Ascendon Service Order and the Agreement shall apply to such \*\*\*\*\* \*\*\*\*\*. In addition, during the Ascendon Transition Period CSG shall provide to Customer \*\*\*\*\* \*\*\*\*\* (or \*\*\*\*\* \*\*\*\*\*), in a format reasonably acceptable to Customer, any Customer Content, Consumer Information, Consumer Usage Data, Customer Confidential Information, and Customer Intellectual Property in CSG’s possession. If Customer requests that CSG provide the foregoing information in a form different than that held by CSG in the Ascendon System (or, as requested by Customer and if applicable based on such data, content or information, an XML extract) or requests CSG to perform any other services for Customer to transition Customer’s Consumer offering beyond the return of the foregoing information (collectively, the “Ascendon Transition Services”), CSG will comply with any such reasonable request, and Customer acknowledges that such Ascendon Transition Services may be provided by CSG at \*\*\*\*\* \*\*\*\*\* (\*\*\*\*\* \*\*\*\*\*), and the Parties will enter into a Statement of Work or other agreement to document the specific Ascendon Transition Services to be provided and the applicable fees.

**ARTICLE 7. ASCENDON REPRESENTATIONS AND WARRANTIES**

**7.1 Ascendon Warranties.** The warranties set forth in this Section 7.1 shall apply in lieu of the limited warranty set forth in Section 8.1 of the Agreement.

(a) CSG represents and warrants that the Technical Services and Ascendon Additional Services will be performed with reasonable skill and care, in a diligent, professional and workmanlike manner, consistent with generally accepted industry standards for similar services.

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(b) CSG represents and warrants that the Ascendon System and Ascendon Services as delivered by CSG (i) comply in all material respects with the Ascendon Documentation and any specifications prescribed in the applicable Ascendon Service Order and (ii) perform in the manner for which they were intended as specified in the applicable Ascendon Documentation and specifications and any requirements document explicitly referenced in an Order Document for such purposes.

The Ascendon warranty set forth in this Section 7.1 shall not apply to the extent any non-compliance or defect is caused by an Excluded Problem (as defined in Section 1 of Attachment 4)

**7.2 Remedies.** With respect to the Ascendon System and Ascendon Services, the remedies set forth in Section 8.2 of the Agreement shall not apply. Instead, in case of breach of Section 7.1(a) and 7.1(b) as it relates to CSG’s performance of Technical Services, Ascendon Additional Services and/or Ascendon Services, CSG shall \*\*\*\*\* and/or Deliverable \*\*\*\*\* (\*\*). or, if not practicable, CSG will \*\*\*\*\* and/or \*\*\*\*\* (a) the \*\*\*\*\* and/or \*\*\*\*\* , and (b) \*\*\*\*\* , a \*\*\*\*\* that Customer \*\*\*\*\* and/or \*\*\*\*\* . Except as expressly provided in Attachment 4 , Customer acknowledges that this Section 7.2 sets forth Customer’s sole and exclusive remedy, and CSG’s exclusive liability, for any breach of warranty related to the quality of the Ascendon System, Deliverables or Ascendon Services. Further, nothing in this Section 7.2 shall be deemed to limit or affect CSG’s obligation to perform Ascendon Support Services consistent with Attachment 4 .

**7.3 Customer Content.** Customer represents and warrants that it owns or has licensed all Customer Content made available, displayed, sold, fulfilled and transmitted on or through the Ascendon System and has full power and authority to grant CSG the licenses set forth in the Agreement, this Exhibit and as included in an Order Document and that CSG’s modification, use, display, fulfillment, provision and transmission of such Customer Content, in each case in connection with the Ascendon SaaS Services prescribed by an Order Document, will not constitute a misuse or infringement of the rights of any third party. Solely for purposes of the Ascendon Services, Customer will indemnify CSG on the same terms as Section 7.4 of the Agreement with respect to any action brought against CSG claiming that Customer Content made available, displayed, sold, fulfilled and transmitted on or through the Ascendon System infringes a copyright, trademark, trade secret, or patent.

**7.4 Customer Services.** Customer represents and warrants that it complies, and shall during each Order Term (including any Ascendon Transition Period) continue to comply with all applicable laws in relation to its activities under each Order Document executed hereunder, including (a) its collection, use, processing (directly and indirectly through CSG as a data processor), export and disclosure of Consumer Information and (b) its offer, publication, sale/license and fulfillment of Customer Services provided on or through the Ascendon System and any applicable Customer Applications to those countries, territories and jurisdictions where such offer, publication, sale/license and fulfillment of Customer Services is permitted by applicable law.

**ARTICLE 8. DATA TRANSFERS AND DATA PRIVACY**

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**8.1 Customer as Data Controller.** The Parties acknowledge that in order for the Customer to utilize the rights granted to it under Section 2.1 of this Exhibit and for CSG to provide Customer with Ascendon SaaS Services , it is necessary for Customer to disclose to CSG certain Consumer Information, which Consumer Information will be processed and stored (subject to the terms of this Exhibit, the Agreement and applicable law) in the United States. The Parties further acknowledge that with respect to the Consumer Information, (a) Customer acts as a “data controller” (or an equivalent term under applicable law) with respect to all Consumer Information and (b) CSG acts as a “data processor” (or an equivalent term under applicable law), on behalf of and pursuant to, the instructions of Customer in order to comply with its obligations under the Agreement, each Order Document and under applicable law. For purposes of the Ascendon Services, Section 10.5(f) of the Agreement will not apply, and except and to the extent agreed by Customer in an Order Document or other written agreement executed by the Parties, none of the Ascendon Services may be provided from outside the United States; provided, however, nothing shall preclude CSG from hosting an International Support Desk outside the United States to answer and respond to Incident Reports (as defined in Section 1 of Attachment 4.) so long as such personnel outside the United States do not, without Customer’s prior written consent (email acceptable), access , download, or print any Consumer Information or Consumer Usage Data .

**8.2 Unauthorized Access / Disclosure Claims.** Customer acknowledges and agrees that CSG’s obligations and Customer’s remedies under each Order Document and the Agreement related to the unauthorized access, disclosure or use of Consumer Information or Consumer Usage Data in connection with the Ascendon Services, including a Security Breach Claim, shall be specifically governed and limited by \*\*\*\*\* \* \*\* \*\*  
\*\*\*\*\* \*\* \* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\* \*\* \* \*\*\*\*\* (provided nothing shall preclude Customer from seeking injunctive or other equitable relief as provided in Section 11.2 of the Agreement).

**8.3 Destruction of Data.** The Parties acknowledge that CSG may comply with Section 10.5(b) of the Agreement with respect to Consumer Information and Consumer Usage Data if such data is permanently (a) purged (i.e., permanent deletion using random data overwrite) or (b) anonymized (i.e., within CSG’s structured data construct, to delete or obfuscate the particular fields containing Consumer Information and Consumer Usage Data so as to render them unidentifiable, while preserving the record of the audiovisual materials (including the title, description or subject matter of such materials) acquired by a Consumer), using industry standard practices, thereby permanently preventing anyone (including CSG and any third party) from accessing any Consumer Information from, or reconstructing so as to render identifiable, such information retained in the systems of CSG and which audiovisual materials were acquired by a Consumer through such systems.

## ARTICLE 9. MISCELLANEOUS

**9.1 Authorized Customer Signatory or Approval.** The Parties acknowledge that as provided in the chart under Section 12.11 of the Agreement, Customer’s signature of an Ascendon Service Order shall be deemed an “Amendment to, modification of, or termination of this Agreement”.

**9.2 Force Majeure .** Except for the obligation to pay monies owed and CSG’s obligation to maintain an active-active architecture or a BCP as prescribed by Section 3.5, neither Party will be liable for any delay in performing an obligation under an Order Document or the Agreement that is due to causes beyond its reasonable control, including, but not limited to, fire, explosion, epidemics, earthquake, lightning, failures or fluctuations in electrical power, the public Internet or telecommunications equipment, floods, acts of God, war, civil disturbances, terrorism, acts of civil or military authorities or the public enemy, fuel or energy shortages, acts or omissions of any common carrier, strikes, labor disputes, or other acts of governmental, transportation stoppages or slowdowns (a “Force Majeure”). Nothing in this Section 9.2 shall be interpreted

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

to mean the Ascendon Services cannot be affected by a Force Majeure so long as CSG has complied with its obligations under Section 3.5.

**Attachment 1.1(a) - Definitions**

**Attachment 2.3 - Ascendon Web Service Standards (v18.2, updated as of May 18, 2018)**

**Attachment 4 – Ascendon Support Services – Production Environment**

**Attachment 4-A – Ascendon Support Services – Sandbox Environment**

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**ATTACHMENT 1. 1 (a) – DEFINITIONS**

“Additional Sandbox BU” means an additional (e.g., second, third, etc.) Sandbox BU beyond the initial Sandbox BU identified in an Ascendon Service Order.

“Ascendon Documentation” means the published online user manuals and documentation located at \*\*\*\*\* as of the Effective Date and as updated by CSG from time to time.

“Ascendon SaaS Services” means those services performed by CSG under an Ascendon Service Order to provide Customer access to the Ascendon System as identified in Attachment 4, and Attachment 4.1-A of this Exhibit, but does not include any Technical Services or Ascendon Additional Services.

“Ascendon Service Order” means the fees, terms and conditions of Customer’s rights and obligations to use, and CSG’s obligation to provide, the Ascendon System and Ascendon SaaS Services as made available by the Agreement, executed by CSG and Customer as sequentially numbered orders to this Agreement (i.e., Ascendon Service Order No. 1, Ascendon Service Order No. 2, etc.).

“Ascendon Services” means the Ascendon SaaS Services, Technical Services and Ascendon Support Services.

“Ascendon Software” means software code and computer programs underlying the Ascendon SaaS Services provided by CSG to Customer pursuant to an executed Order Document.

“Ascendon System” means the Ascendon Server Modules, Ascendon Web Services and Ascendon User Applications (including any Consumer Experiences and Licensed Client SDKs) provided to Customer under an Ascendon Service Order, and the Ascendon Software, servers, hardware and technologies and Internet connection (only up to the demarcation point of CSG’s datacenter) used by CSG to make the foregoing available via the Internet, as further specified in the Ascendon Documentation. The Ascendon System \*\*\*\*\* (\*). \*\*\*\*\*. The specific Ascendon System configuration provided to Customer shall be denoted in each Ascendon Service Order executed under the Agreement.

“Ascendon System Data” means any \*\*\*\*\* and \*\*\*\*\* concerning the Ascendon System \*\*\*\*\* in connection with \*\*\*\*\* of the Ascendon System. For the avoidance of doubt,

“Ascendon System Data” shall exclude information that constitutes Consumer Information, Consumer Usage Data and any data from which identifying information about Customer or any Consumer can be discerned.

“Ascendon User Application” means a Consumer Experience and/or Back Office Application of the Ascendon System. The Ascendon User Applications provided by CSG to Customer will be specifically described in an Ascendon Service Order.

“Ascendon Web Services” means the application programming interfaces (APIs) by which the functional capabilities of the Ascendon Server Modules (as described in an Ascendon Service Order) may be accessed.

“Back Office Application” means the web-based applications that provide authorized users of Customer to

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the administrative applications of the Ascendon System.

“Compatible Interface” means the industry standard browsers and protocols (as applicable) by which (a) a Customer administrative user can access the Back Office Applications of the Ascendon System and (b) the Ascendon Web Services may be accessed.

“Consumers” means the end user clients or customers (excluding an Affiliate) of Customer, or any other officers, employees and contractors (acting in such capacity, and not as a client or customer) of Customer, who access and/or use the Ascendon System.

“Consumer Experience” means a Consumer - facing implementation of the Ascendon System, such as a Player, Storefront (including HTML Storefront “widgets”), redemption site, Local Media Manager/Download Manager, and Streaming application. The specific Consumer Experiences CSG will make available to Customer (if applicable) shall be identified in an Ascendon Service Order.

“Consumer Information” has the same meaning as Charter Customer Information.

“Consumer Usage Data” means statistics and data relating to a Consumer’s account activity, including the browsing and accessing via Downloading or Streaming to or through devices, of Customer Content or other information collected from or about or otherwise regarding Consumers, including any purchase activity, whether in individual or aggregate form. Consumer Usage Data may include Consumer Information but shall not be deemed to include any \*\*\*\*\* \*\*\*\*\* \*\*\*\*\*.

“CSG Integration” means any integration between the Ascendon System and a Third Party Product, Customer System or Third Party System that is identified in an Order Document as being developed, owned and supported by CSG.

“Customer Application” means a Customer-owned or licensed application developed by Customer or a Customer Vendor (i.e., not a Consumer Experience) that either accesses the features and functions of the Ascendon System through the Ascendon Web Services or otherwise integrates with the Ascendon System, including through use of a Licensed Client SDK (as identified in an Ascendon Service Order).

“Customer Content” means that data, proprietary content and content owned or licensed by Customer, including Customer Intellectual Property, that is published on or displayed through the Ascendon SaaS Services by Customer (or at Customer’s request) or is provided by Customer to CSG so that CSG may configure the Ascendon System for Customer’s use. For the avoidance of doubt, Customer Content does not include any Consumer Information or Consumer Usage Data.

“Customer Integration” means an interface or integration between the Ascendon System and a Customer System or Third Party System that is created and/or developed by Customer or a Customer Vendor. A Customer Integration may include an integration developed and implemented by CSG at the request of Customer hereunder, subject to such integration’s identification as a “Customer Integration” in a Statement of Work.

“Customer Service” means any Merchandise or other goods, products or services promoted, fulfilled or made available for purchase and/or fulfillment by or through Customer that access or use any feature or function of the Ascendon System.

“Customer Site” means any Customer website, application, software, product or service on which the Ascendon System or a Customer Application is embedded and provided to Consumers, but specifically excludes all elements of the Ascendon System, including without limitation all Ascendon User Applications (including Consumer Experiences).

“Customer System” means any computers, communications systems, solutions, applications (including Customer Applications) and products (including hardware or software components of each of the foregoing)

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of Customer and its Affiliates.

“Customer Vendor” means any vendor, including an Agent and/or an Outsource Vendor, other than CSG or its Affiliates, that has supplied, is supplying, or is contractually obligated to supply products (including hardware, software, equipment, systems and solutions) or services to Customer or its Affiliate.

“Downloading” means the digital transmission of audio-visual content in a format that allows for ongoing viewing of the applicable audio-visual content and the storage of the applicable audio-video content on a receiving device or such other storage medium accessed by such device. “Download” has a correlative meaning.

“Exception” means any problem, defect, or failure of a Deliverable to conform to the Ascendon Documentation or the Agreement . For purposes of clarification, a problem, defect or failure of a Deliverable shall not be deemed an Exception if such problem, default or failure of such Deliverable to conform to the Ascendon Documentation is caused by Customer’s failure to comply with its obligations or responsibilities as set forth in an Order Document, the Ascendon Documentation or the Agreement.

“Go-Live Date” means with respect to a given deployment of the Ascendon System under an Ascendon Service Order, the first to occur of: (a) \*\*\*\* \* (b) \*\*\*\* \* The Parties may also agree in an Order Document to a Go-Live Date (deemed or otherwise defined) irrespective of the foregoing events and satisfaction of conditions precedent.

“Licensed Client SDK” means a software development kit made available by CSG to Customer that provides digital locker viewing, entitlements viewing, Customer Content Streaming and Download management, local media management, an Authorized DRM client and local license storage integration, and video playback.

“Merchandise” means any content, merchandise, products or services (in digital, physical, subscription or other medium), including Customer Content, offered by Customer that is processed, sold, redeemed, provisioned, fulfilled or managed through the Ascendon SaaS Services.

“Order Document” means an Ascendon Service Order and a Statement of Work that includes Ascendon Additional Services or Technical Services related to the Ascendon System and/or Ascendon SaaS Services.

“Performance Testing Environment” means an optional, dedicated and secured environment of the Ascendon System separate and distinct from the Sandbox Environment and Production Environment whereby Customer can execute performance testing (i.e., stress testing or high volume transaction tests) against the Ascendon Web Services. Performance Testing is defined in Section 5.2 of this Exhibit.

“Player” means (i) if applicable, one or more of the CSG Media Playback Applications (as such term is used in an Order Document) provided by CSG to Customer under an applicable Ascendon Service Order as an element of or in combination with a Consumer Experience, and (ii) if applicable, a player (video and/or audio) provided by Customer or a Customer Vendor that utilizes the Ascendon Web Services to integrate with the Ascendon Server Modules (as such term is used in an Order Document).

“Production Environment” means the shared, live production environment on which the Customer may utilize the Ascendon System with Consumers.

“Rights Territory” means the geographic territory for which Customer has paid the applicable Rights Fee to utilize the Ascendon System and Ascendon SaaS Services, including a given Consumer Experience. The specific Rights Territory for a given deployment of the Ascendon System, Ascendon SaaS Services and/or Consumer Experience shall be identified in each Ascendon Service Order.

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“Sandbox BU” means a secured and partitioned instance (referred to as a business unit or “BU”) of the Sandbox Environment of the Ascendon System.

“Sandbox Environment” means a shared non-production environment made available by CSG to allow Customer to develop and/or test pre-production deployments of the Ascendon System, including any Ascendon Updates thereto, or for such other required configurations, integrations or designs to be determined between the Parties. The Sandbox Environment, at the discretion of CSG, may maintain a smaller hardware foot-print, or be virtualized within a CSG datacenter, but will at a minimum make available the then-current release of the Ascendon System (including the underlying Ascendon Software) available on the Production Environment.

“Streaming” means the digital transmission of Customer Content in a so-called “streaming” format for contemporaneous viewing so that the applicable audio-visual content is not intended to be permanently stored on the receiving device. “Stream” has a correlative meaning.

“Third Party System” means (a) computers, communications systems, solutions, applications and products (including hardware or software components of each of the foregoing) of a Customer Vendor or other third party service provider through or over which CSG does not have contractual or operational control and (b) any Third Party Product that interoperates with but is not embedded within the Ascendon System and is specifically identified in an Order Document as a “Third Party System”.

\*\*\*\*\*End of Attachment\*\*\*\*\*

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ATTACHMENT 2.3

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

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\*\*\*\*\***End of Attachment**\*\*\*\*\*

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“Hosting” means the hosting of the Ascendon System, including the hosting of servers (i) at a colocation space at a datacenter for which only CSG (and not the datacenter provider) may access CSG’s collocated equipment (including servers), and/or (ii) as part of a cloud service, such as \*\*\*\*\*, or an equivalent service, for which only CSG has access to the data on the cloud-provisioned servers in unencrypted form.

“Incident” means any failure in the operation, access to or use of the Ascendon System or Ascendon SaaS Services to perform in all material respects in accordance with the applicable Ascendon Documentation. An Incident’s Severity Level is determined by CSG and classified in accordance with the following criteria:

“Critical” means an Incident where there is (a) \*\*\*\*\*, (b) \*\*\*\*\*, or (c) the \*\*\*\*% of \*\*\*\*\*.

“High” means an Incident which results in \*\*\*\*\*, a \*\*\*\*\*, or \*\*\*\*\*, (a) \*\*\*\*\*, (b) \*\*\*\*\*, or (c) \*\*\*\*\*.

“Medium” means an Incident where there is \*\*\*\*\*.

“Low” means an Incident that is \*\*\*\*\*.

“Incident Correction” means either a permanent modification of, addition to or deletion from the Ascendon System that, when made to the Ascendon System, causes the Ascendon System to conform to the Ascendon Documentation, or a permanent procedure or routine that, when observed in the regular operation of the Ascendon System, eliminates the effect giving rise to a Ascendon System incident.

“Incident Report” means the submission of a suspected Incident (by Customer or as identified by CSG) with, if submitted by Customer, sufficient detail and particularity to enable CSG to effectively initiate a Response and/or Resolution.

“Interrupted Service Time” means the duration of a Service Interruption, expressed in the number of minutes in a calendar month during which the Customer experiences a Service Interruption. The number of minutes of a Service Interruption shall be measured beginning on the earlier of (a) the date and time that a Service Interruption is reported on an Incident Report to the International Support Desk (as defined in Section 2(A) below) or detected by the Monitoring Software and (b) ending upon the date and time (as confirmed by Customer or verified through the Monitoring System) when (i) the \*\*\*\*\* or (ii) \*\*\*\*\*.



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

“Interruption Time Percentage” is equal to (a) the Interrupted Service Time for a given calendar month less the Permissible Interrupted Minutes for such calendar month, divided by (b) the System Availability, as expressed in number of minutes for that calendar month.

“Monitoring Software” means internal software and/or third party service that simulate and/or measure transactions for purpose of determining the Availability SLA.

“Qualified Revenue Stream” means \*\*\* \*\*\*(b) (5) - Confidential Information\*\*\*.

“Permissible Interrupted Minutes” means with respect to each Availability SLA, the number of minutes for a given calendar month the Ascendon System may experience a Service Interruption before a Service Interruption Credit is due for such Availability SLA. The Permissible Interrupted Minutes is equal to the (a) Total Available Minutes available in a calendar month less (b) the product of Total Available Minutes times the applicable Availability SLA (\*\*\*\* \*\*\*(b) (5) - Confidential Information\*\*\*).

“Resolution” means the correction or remedy of an Incident, whether by an Acceptable Workaround or Incident Correction. “Resolve” and “Resolved” has a correlative meaning.

“Response” means CSG’s acknowledgement of its receipt of an Incident Report from the Customer.

“Scheduled Maintenance” means the qualifying (in accordance with the remaining provisions of this “Scheduled Maintenance” definition) time the Ascendon System is not available to Consumers during which CSG will provide maintenance on such system. Scheduled Maintenance includes two (2) forms of pre-notified maintenance: the Ascendon System Quarterly Upgrades, and corrective maintenance for which CSG must have provided Customer notice (email acceptable) of such downtime not less than \*\*\*\* (\*) \*\*\*\* prior to the commencement thereof; provided, corrective maintenance may be provided on \*\*\*\* (\*) \*\*\*\* notice (a) with Customer’s prior written consent (email acceptable) or (b) to implement a security vulnerability or necessary patch for a Third Party Product. Subject to the foregoing, (i) unless otherwise mutually agreed by the Parties, pre-notified maintenance shall occur between \*\*\*\* \* \*\*\*\* and will generally occur on \*\*\*\*, (ii) CSG \*\*\*\* that all other maintenance, other than pre-notified maintenance, \*\*\*\*, and (iii) all Scheduled Maintenance \*\*\*\* (\*). In the event that CSG \*\*\*\* (\*). For the avoidance of doubt, nothing will prevent CSG from providing Ascendon Support Services and/or maintenance to the Ascendon System which does not cause a Service Interruption or degradation of the Ascendon SaaS Services. For the further avoidance of doubt, any maintenance that does not qualify as Scheduled Maintenance shall be deemed Interrupted Service Time to the extent such maintenance causes a Service Interruption.

“Service Interruption” means with respect to an Availability SLA, the \*\*\*\*, excluding an occurrence or failure resulting from an Excluded Problem.

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“Service Interruption Credit” means with respect to (a) the Production Availability SLA in a given calendar month the product of (i) the Qualified Revenue Stream of an affected Ascendon Service Order received by CSG during such calendar month and (ii) Interruption Time Percentage for such Production Availability SLA ; a nd (b) the Sandbox Availability SLA, as defined in Section 3 of Attachment 4-A. Notwithstanding the foregoing, (x) \*\* \*\*\*\*\* \*\*\*\*\* \*\* \* \*\*\*\*\* \* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* ( \*\* \*\*\*\*\* \*\* \* \*\* \* \*\* \* ) , and (y) with respect to Service Interruption Credits owed for failure to meet the Production Availability SLA, such c redits will not exceed \*\*\*\*\* \*\*\*\*\* ( \* % ) \*\* \* \*\* \*\*\*\*\* \*\* \* \*\* \* \*\*\*\*\* \*\* \* \*\* \* \*\*\*\*\* \*\* \* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* ( \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* ) \*\* \* \*\* \*\*\*\*\* \*\*\*\*\* ( \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\* \* )” pertaining to the Ascendon Service Order under which CSG failed to meet the Production Availability SLA.

“Severity Level” shall refer to the level of severity of a problem in respect of the Ascendon System, as defined in Section 3 below.

“System Availability” means the Total Available Minutes in a given calendar month less any minutes attributable to an Excluded Problem (which, for the avoidance of doubt, includes Scheduled Maintenance).

“Total Available Minutes” means the total minutes available in a given calendar month (i.e., number of days in calendar month times sixty (60) times twenty-four (24)).

## 2. Hosting and Support Services.

CSG shall provide Hosting, technical support and operational maintenance for the Production Environment of the Ascendon System as part of the Ascendon SaaS Services.

### (A) Technical Support/Operations

Customer may submit an Incident Report to CSG’s support center (“International Support Desk” or “ISD”) via telephone, or CSG’s web accessible Incident Report tracking system (accessed at \*\*\*\*\* ) and other mutually agreed means; provided, that Customer must notify CSG of any Critical or High Incidents via telephone to the ISD.

CSG shall provide support on a \*\*\*\*\* \*\* \* \*\*\*\*\* \*\* \* \*\* \* \*\*\*\*\* and during \*\*\*\* \* - \*\*\*\* \* \*\*\*\*\* \*\*\*\*\* and \*\* \*\*\*\*\*.

### (B) Support Levels

CSG shall escalate support issues as follows:

- (1) Level 1 Support (ISD): CSG provides initial support through CSG’s ISD, which shall provide for the initial triage of an issue. The ISD may be contacted via telephone (required for Critical and High Incidents) email or web (through CSG’s extranet at \*\*\*\*\* ) and will work with the Customer to collect pertinent information, understand the issue and attempt to replicate and Resolve. If, after the ISD’s investigatory resources are exhausted, the ISD is still unable to Resolve the Incident, it will escalate to Level 2 Support.

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- (2) Level 2 Support (Operations): Once the ISD escalates the Incident to Operations, Operations begins troubleshooting and analyzing the Incident. Operations has additional security rights permitting it to dig deeper into the issue through database queries, server reviews and monitoring. If, after the Operations' investigatory resources are exhausted the Incident remains unresolved, the issue will be escalated to Level 3 Support.
- (3) Level 3 Support (Development, QA, etc.): If necessary, the Level 3 Support Team will be engaged to attempt to determine root cause for the reported and unresolved Incident. The Level 3 Support team may include developers, Quality Assurance analysts, and/or implementation analysts with additional access permissions to review code or provide additional technical insight into expected versus actual behavior of the Ascendon System.

**3. Service Level Metrics for Ascendon Support Services, Escalations and Incident Corrections.**

(a) CSG uses the target times set forth in Chart 3 below for Incidents reported to the ISD based on such Incident's Severity Level. From the time that an Incident is reported to the ISD until the Incident is Resolved as prescribed below, CSG shall provide Customer Responses and subsequent updates in accordance with the applicable times set forth in the table below. In addition, at any time during the pendency of an Incident that affects Customer's operations in the Production Environment or the Sandbox Environment, Customer may contact its Account Manager to discuss such Incident. In addition, to the extent a Critical or High Incident lasts greater than \*\*\*\*\* (\*\*), Customer may contact CSG's \*\*\*\*\* to discuss such Incident.

(b) Notwithstanding the \*\*\*\*\* Customer may request CSG \*\*\*\*\* if such \*\*\*\*\* In such case, Customer shall escalate the Incident to its Account Manager and the ISD and the Parties, acting reasonably and in good faith, will \*\*\*\*\* and \*\*\*\*\* consistent with the \*\*\*\*\* by \*\*\*\*\*.

(c) Within \*\*\*\*\* (\*) \*\*\*\*\* of a Critical or High Incident, CSG agrees to provide Customer a report (an "Incident Report") that (i) describes the Incident, (ii) includes a root cause analysis of the Incident, (iii) identifies the nature of the Resolution of such issue, including if such Resolution is an Acceptable Workaround and (iv) identifies the need and, if applicable, timing, of CSG to implement an Incident Correction.



Chart 3

<u>Incident Severity Level</u>	<u>Response/Updates</u>	<u>Targeted Resolution</u>
Critical	<p>Response: Within *** (***) ***** ***** ***** ** ** ** **</p> <p>***** **</p> <p>***** ** ** **^ (including ***** ** **^ ) provided by the Monitoring Software.</p> <p>Updates: ***** ***** (***** ***** ) or ***** ***** *****</p> <p>***** ***** ** ** ***** ***** ***** ***** ***** **</p> <p>***** ** ** ***** ***** ***** , in ***** ***** ***** **</p> <p>***** ***** ** ** ***** ***** ***** ***** *****</p>	<p>CSG will ***** ***** ** ** **^ ** **^ ** **^ ***** **</p> <p>***** ***** ** ** **^ ** **^ ** **^ ***** ***** **</p> <p>***** ***** ** ** **^ (via ***** ***** ***** **</p> <p>***** ***** ** ** **^ ***** ***** ***** **</p> <p>***** ***** ** ** **^ ***** ***** ***** (**)</p> <p>***** of ***** ***** ***** ***** ***** ** **</p> <p>***** ***** ***** ***** ***** *****</p>
High	<p>Response: Within * ** ** ***** ***** ***** ** ** **^ **</p> <p>*** ** ** ***** ***** ** **^</p> <p>Updates: ***** ***** (***** ***** ) or ***** ***** *****</p> <p>***** (*) ***** until ***** ** **^ ***** ***** ** **^</p> <p>***** ***** in ***** ***** ***** ***** ***** ** **^</p> <p>***** ***** ***** ***** ***** ***** *****</p>	<p>CSG will ***** ***** ** ** **^ ** **^ ** **^ ***** **</p> <p>***** ***** ** ** **^ ***** ***** ***** *****</p> <p>***** ***** (via ***** ***** ***** *****</p> <p>***** ***** ***** ***** ***** ***** *****</p> <p>***** ***** ***** (*) ***** of ***** ***** *****</p> <p>***** ***** ***** ***** ***** ***** *****</p>
Medium	<p>Response: Within *** (*) ***** ***** ***** ***** **</p> <p>***** ** ** **^ ***** ***** ***** *****</p> <p>Updates: ***** ***** (***** ***** ) ***** ***** *****</p> <p>***** ***** ***** ***** ***** ***** ***** *****</p> <p>***** ***** ***** ***** ***** ***** ***** *****</p>	<p>CSG will *** **^ ***** ***** ***** ***** ***** **</p> <p>*** **^ ***** ***** ***** ***** ***** ***** , or</p> <p>***** ***** ***** ***** ***** ***** *****</p> <p>***** ***** ***** ***** ***** ***** ***** *****</p> <p>***** ***** ***** ***** ***** ***** *****</p>
Low	<p>Response: Within ***** (*) ***** ***** ***** ***** **</p> <p>***** ** ** **^ ***** ***** ***** ***** *****</p> <p>Updates: ***** ***** (***** ***** ) upon ***** ***** *****</p> <p>*****</p>	<p>CSG may include a Resolution into the Ascendon System.</p>





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

- The Incident is caused by Customer's accessing of the Ascendon System or Ascendon SaaS Services other than through a Compatible Interface; and/or
- The Incident is attributable to the failure by Customer to comply with the Ascendon Web Services Standards.

If CSG has no obligation to fix the reported Incident for one of the reasons stated above, the Parties may enter into a Statement of Work authorizing CSG to provide additional support services.

8. \*\*\*\*\*

\*\*\*\*\* (\*\*\*\*\* ) \*\*\*\*\*

\*\*\*\*\*End of Attachment\*\*\*\*\*

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**ATTACHMENT 4-A– HOSTING, SUPPORT AND SERVICE LEVEL STANDARDS**

**SANDBOX ENVIRONMENT**

The terms and conditions of this Attachment 4-A apply only to the Sandbox Environment of the Ascendon System and related Ascendon SaaS Services. Attachment 4 prescribes the Hosting, Support and Service Level Standards for the Production Environment.

**1. Hosting and Support Services .**

CSG shall provide Hosting, technical support and operational maintenance for the Sandbox Environment of the Ascendon System as part of the Ascendon SaaS Services.

Technical Support/Operations

Customer may notify CSG of issues with the Sandbox Environment via the web accessible ticket tracking system and direct calls to the ISD. Support for the Sandbox Environment is available 8:00 am – 6:00 pm Central.

**2. Availability of Sandbox Environment**

Except for the revised definitions below, the Definitions of Section 1 of Attachment 4 are hereby incorporated into this Section 2 of this Attachment 4-1 and shall apply to the calculation of the Sandbox Availability SLA and any Service Interruption Credit provided in Section 3 below.

As used in this Attachment 4-A :

“Sandbox Availability” shall mean, on and after the first date Customer makes the Ascendon System available to its Consumers, the time during a given calendar month the Sandbox Environment is available to Customer, excluding interruptions caused by Excluded Problems.

CSG shall provide Sandbox Availability of \*\*% (as measured over a calendar month) (the “Sandbox Availability SLA”).

**3. Service Credits – Sandbox Availability SLA**

For any calendar month after the first date Customer makes the Ascendon System available to its Consumers in which a Service Interruption has occurred, the Parties shall act in good faith to determine whether the Sandbox Availability SLA for the calendar month in question has been achieved. If (a) CSG fails to achieve the Sandbox Availability SLA for any given calendar month during an applicable Order Term and (b) \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\* \*\*\*\*\* \*\* \* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* (\*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*), Customer \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\* \*\*\*\*\* for a \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* (\*\* \*\*\*\*\* \*\*\*\*\*) based on the Service Interruption.

If Customer makes a valid claim for a Sandbox Service Interruption Credit, CSG shall, subject to Customer’s review and audit rights, calculate the Sandbox Service Interruption Credit and apply this credit to the following calendar month’s fees.

---

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

\*\* \*\*\*\*\* \*\* \*\*\*\*\* \*\*\*\*\* \* “ \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* ” \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \* \* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\* \*\*\*\*\*  
\*\* \*\*\*\*\* (i) \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* ( \* ) \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* (ii) Interruption Time  
Percentage.

CSG shall provide Customer access to reports and/or tools that enable Customer to determine the availability of the Sandbox Environment.

#### 4. Excluded Services

CSG’s support obligations pursuant to this Attachment 4-A0 are subject to the exclusions set forth in Section 7 of Attachment 4 – Excluded Services.

\*\*\*\*\*End of Attachment\*\*\*\*\*

\*\*\*\*\*End of Amendment\*\*\*\*\*

**FOURTEENTH AMENDMENT  
TO  
CONSOLIDATED  
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT  
BETWEEN  
CSG SYSTEMS, INC.  
AND  
CHARTER COMMUNICATIONS OPERATING, LLC**

**SCHEDULE AMENDMENT**

**This Fourteenth Amendment** (the "Amendment") is made by and between **CSG Systems, Inc.**, a Delaware corporation ("CSG"), and **Charter Communications Operating, LLC**, a Delaware limited liability company ("Customer"). CSG and Customer entered into that certain Consolidated CSG Master Subscriber Management System Agreement effective as of August 1, 2017 (CSG document no. 4114281), 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 Existing Kiosk Units and Additional Kiosk Units more particularly described in and pursuant to the terms and conditions of the Agreement; and

**WHEREAS**, as a result of discussions between the parties, the parties agree to amend terms of the Precision eCare® Payment Kiosks under the Agreement such that CSG will make an additional kiosk unit model, the "Benchmark Series Kiosk Units," available for Customer's purchase and consumption.

**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 (defined below):

- 1. Customer desires to purchase and consume and CSG agrees to provide an additional Precision eCare® Payment Kiosks model, the Benchmark Series Kiosk Unit(s), pursuant to the terms and conditions stated herein and in the Agreement. Upon execution of this Amendment, the Agreement is amended as follows:**
  - (a) Schedule C, "Recurring Services," Exhibit C-4(a), "CSG Precision eCare® Services," subsection entitled, "Model E," "*Exhibit Attachment D*," "Precision eCare Payment Kiosks," is here by amended by inserting the following new subparagraph (c) and renumbering the current subparagraphs "(c)" and "(d)" to be, respectively, subparagraphs "(d)" and "(e)":

---

- (c) The Benchmark Series Kiosk Units include (i) the Kiosk Software and (ii) the kiosk unit hardware components identified in the Statement(s) of Work for implementation of each/any Benchmark Series Kiosk Units (the "Benchmark Series Kiosk Hardware Components"). The Benchmark Series Kiosk Units will be implemented pursuant to mutually agreed upon Statements of Work between CSG and Customer. Except as to changes to the form design and exterior aesthetics of the Kiosk Unit, the Hardware Components, configuration and subsequent reconfiguration of the Kiosk Units are subject to change without notice based upon the Hardware TPV's current product offering so long as the Benchmark Series Kiosk Hardware Components continue to function in compliance with the Benchmark Series Specifications and the provisions of Sections 5(a) and (b), 6, 7 and 8 of the Miscellaneous Terms below.
- (b) The following sentence shall be added as a separate, unnumbered paragraph following subparagraph (e) of Schedule C, "Recurring Services," Exhibit C-4(a), "CSG Precision eCare® Services," subsection entitled, "Model E," "Exhibit Attachment D," "Precision eCare Payment Kiosks":

"Kiosk Unit(s)" herein shall mean the applicable Hardware Components and Related Materials identified in a Statement of Work and all references in the Agreement to "the Kiosk Units" or to a "Kiosk Unit" shall hereinafter include the Existing Kiosk Units, the Additional Kiosk Units and the Benchmark Series Kiosk Units."

- (c) References in "Exhibit Attachment D Precision eCare® Payment Kiosks," to "Thinman" in "MISCELLANEOUS TERMS," Section 2, and Section 7 and in "Exhibit 1 to Exhibit Attachment D for Precision eCare® Payment Kiosks" of the Agreement, referenced, above, and in "WARRANTY," and in Section 2, "Hardware Warranty," Section 3, "Onsite Hardware Warranty Services," and Section 8, "Use of Refurbished Replacement Parts," shall hereinafter be to "Kiosk Unit, as applicable."

**2. Further, upon execution of this Amendment and pursuant to the terms and conditions of the Agreement, Schedule F, of the Agreement, "Fee Schedule," "1. CSG SERVICES," Section III, "Payment Procurement," subsection D., Precision eCare Payment Kiosks," shall be deleted in its entirety and replaced as follows:**

**D. Precision eCare® Payment Kiosks (Note 6)**

Description of Item/Unit of Measure	Frequency	Fee
1.Kiosk Unit Purchase and Deployment Fees (per Kiosk Unit; includes installation, configuration, Warranty) (Note 1)	*****	*****
2.Kiosk Software Support Services Fees (per Kiosk Unit) (Note 2) (Note 7)		
a.Tier I – up to and including *** ***** (***) units in service	*****	\$*****
b.Tier II – *** ***** (***) units up to and including ***** ***** ***** (***) units in service	*****	\$*****
c.Tier III – *** ***** (***) units up to and including ***** ***** ***** (***) units in service	*****	\$*****
d.Tier IV – ***** ***** (***) units up to and including ***** ***** ***** (***) units in service	*****	\$*****
e.Tier V – *** ***** (*****) or more units in service	*****	\$*****
3.Customer-specific Graphic Design Fees (for front and side graphics; per Kiosk Unit) (Note 3)	*****	\$*****
4.Kiosk Equipment Upgrades; Replacement Hardware Component Parts/Component Kit (Note 4)	*** *****	*** ** * ***** ***** ** * *
5.EMV Upgrade Fees (Note 5)		
a.Additional Kiosk Units delivered to Customer that have been designed for EMV retrofit prior to delivery to Customer	*** ** * ***	*** ** * \$*****
b.Existing Kiosk Units and Additional Kiosk Units delivered to Customer that have not been designed for EMV retrofit prior to delivery to Customer	*** ** * ***	*** ** * \$*****

**Note 1:** The quoted price applies to the Hardware Components (as defined below) and the Kiosk Software (as defined in Attachment D to Exhibit C-4(a)) and includes the Warranty for the Warranty Period (as defined in Section 1 of "Additional Warranty Terms," of Exhibit 1 to Exhibit Attachment D, "Warranty," of Exhibit Attachment D to Exhibit C-4(a)) of the Agreement) commencing \*\*\*\*\*(s) to \*\*\*\*\*(s). Desired upgrades to Hardware Components of the Kiosk Unit (other than the EMV Upgrade as defined in Note 5 below) are available to Customers at the price applicable pursuant to Note 4 below (Kiosk Equipment Upgrades; Replacement Hardware Component Parts/Component Kit) or, if the requested upgrade or part or component requested by Customer(s) is not set forth therein, on a "\*\*\*\*\*" basis which shall be incorporated into a Statement of Work for implementation, support or other technical services associated with the Hardware Components and/or associated accessory or additional equipment. The quoted price for a Kiosk Unit also includes \*\*\*\*\*. CSG and the applicable Customer shall execute a mutually agreed upon Statement of Work for such Kiosk Unit purchase(s) to reflect the agreed upon purchase price, the then-applicable Thinman Specifications or Benchmark Series Specification, as applicable (as defined in each such applicable Statement of Work) and Kiosk Software Specifications (as defined in Attachment D of Exhibit C-4(a)) as well as \*\*\*\*\*. As used herein, the term "Hardware Components" means, collectively, the Existing Kiosk Hardware Components (as defined in Attachment D of Exhibit C-4(a)) and the Additional Kiosk Hardware Components (as defined in Attachment D of Exhibit C-4(a)).

**Note 2:** \*\*\*\*\* Kiosk Software Support Services Fees include \*\*\*\*\* and \*\*\*\*\* in accordance with Schedule H of the Agreement and \*\*\*\*\* and \*\*\*\*\* to CSG's Kiosk Software (collectively, "Kiosk Software Support Services"). For the avoidance of doubt, a Customer may, at its option, purchase \*\*\*\*\* Kiosk Software Support Services after the expiration of the Warranty for the Benchmark Series Kiosk Unit and/or the Additional Kiosk Unit and/or the Existing Kiosk Unit on which the Kiosk Software is loaded. The \*\*\*\*\* Kiosk Software Support Fees for each Kiosk Unit will be invoiced, following \*\*\*\*\* (as defined in the applicable Statement of Work between CSG and such applicable Customer) for the \*\*\*\*\* as of the \*\*\*\*\*. (i.e., the \*\*\*\*\* for Kiosk Software Support Fees shall be on a \*\*\*\*\* of the \*\*\*\*\*) on a \*\*\*\*\*, pursuant to the Agreement, and thereafter, on a \*\*\*\*\*, provided, however, that if implementation of a Kiosk Unit is \*\*\*\*\*, then the \*\*\*\*\*. If following the Warranty Period, a \*\*\*\*\* and such \*\*\*\*\*, CSG shall \*\*\*\*\* following the \*\*\*\*\*.

**Note 3:** Any additional Customer-requested design graphics services will be performed pursuant to a separate Statement of Work which may include additional fees for such services.

**Note 4:** Customer and CSG acknowledge and agree that, following the delivery date of a Kiosk Unit to Customer's designated location, any changes that occur in the EMV Standard (defined below), the Legal Requirements (as defined in Exhibit C-4(a) Attachment D) and/or the Currency Update Requirements (as defined in Exhibit C-4(a) Attachment D) that impact the Hardware Components of such Kiosk Unit will, \*\*\*\*\*, provided however, that any \*\*\*\*\*.

**Note 5:** "EMV Upgrade" means the \*\*\*\*\* ("Chip Cards") and Chip Card capable \*\*\*\*\*. For purposes of clarification, each Additional Kiosk Unit delivered to Customer(s) shall be capable of being upgraded to meet the EMV Standard. Once an EMV Standard compliant Kiosk Unit is offered by CSG, (a) the Hardware Components for each Kiosk Unit shall automatically be amended to set forth the additional or replacement hardware for such EMV Standard compliant Kiosk Unit for any Existing and Additional Kiosk Units and (b) from that point forward, CSG may only ship EMV Standard compliant Kiosk Units to Customer.

**Note 6:** Only the Kiosk Software Support Services Fees listed in the table above are \*\*\*\*\*.

**Note 7:** Customer agrees that the \*\*\*\*\* maintenance rate to be invoiced for the \*\*\*\*\* (\*\*\*) units currently in service for the \*\*\*\*\* through \*\*\*\*\* maintenance period shall be \$\*\*\*\*\*. The tiered rates are \*\*\*\*\* meaning that if Customer has \*\*\*\*\* (\*\*\*) units in service on \*\*\*\*\*, Customer shall \*\*\*\*\* per unit rate for all \*\*\*\*\* (\*\*\*) units. Notwithstanding the foregoing, if Customer \*\*\*\*\* (\*\*\*) units resulting in a total of \*\*\*\*\* (\*\*\*) units being in service, supported by the execution of a separate Statement of Work on or before \*\*\*\*\* with a further commitment to deploy all units by \*\*\*\*\*, CSG agrees that the \*\*\*\*\* maintenance rate to be invoiced for the existing units in service shall be the \*\*\*\*\*. Thereafter, the

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

\*\*\*\*\* maintenance to be charged shall be based on the number of units in service on the date the \*\*\*\*\* maintenance is to be invoiced

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

**CHARTER COMMUNICATIONS HOLDING  
COMPANY, LLC (“CUSTOMER”)**

**CSG SYSTEMS, INC. (“CSG”)**

**By: Charter Communications, Inc., its Manager**

By: /s/ Pattie Eliason

By: /s/ Gregory L. Cannon

Title: GVP, Spectrum Stores and Retail Partners

Title: SVP, General Counsel & Secretary

Name: Pattie Eliason

Name: Gregory L. Cannon

Date: Aug 1, 2018

Date: Aug 1, 2018

**NINETEETH AMENDMENT  
TO  
CONSOLIDATED  
CSG MASTER SUBSCRIBER MANAGEMENT SYSTEM AGREEMENT  
BETWEEN  
CSG SYSTEMS, INC.  
AND  
CHARTER COMMUNICATIONS OPERATING, LLC**

**SCHEDULE AMENDMENT**

This **Nineteenth Amendment** (the "Amendment") is made by and between **CSG Systems, Inc .**, a Delaware corporation ("CSG"), and **Charter Communications Operating, LLC**, a Delaware limited liability company ("Customer"). CSG and Customer entered into that certain Consolidated CSG Master Subscriber Management System Agreement effective as of August 1, 2017 (CSG document no. 4114281), 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 ; and

**WHEREAS**, Customer has previously requested and CSG has provided an \*\*\*\*\* Volume, No Attachments Precision eMail bundle at the \*\*\*\*\* (\*\*\*\*\* ) \*\*\*\*\* level; and

**WHEREAS**, Customer has requested and CSG has agreed to provide an \*\*\*\*\* Volume, No Attachments Precision eMail bundle at the \*\*\*\*\* (\*\*\*\*\* ) \*\*\*\*\* 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 \*\*\*\*\* Volume, No Attachments Precision eMail bundle at the \*\*\*\*\* (\*\*\*\*\* ) \*\*\*\*\* 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 \*\*\*\*\* , \*\*\*\*\* ) and, further, CSG shall provide, pursuant to the terms of the Agreement, the \*\*\*\*\* Volume, No Attachments Precision eMail bundle 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

By: /s/ Gregory L. Cannon

Title: Mike Ciszek

Title: Gregory L. Cannon

Name: SVP - Billing Strategy and Operation

Name: SVP, Secretary & General Counsel

Date: 8/20/18

Date: 8/24/18



**CSG SYSTEMS, INC.  
WEALTH ACCUMULATION PLAN**

**Restated Effective December 6, 2017**

**Amended Effective December 6, 2017**

IMPORTANT NOTE

This document has not been approved by the Department of Labor, Internal Revenue Service or any other governmental entity. An adopting Employer must determine whether the Plan is subject to the Federal securities laws and the securities laws of the various states. An adopting Employer may not rely on this document to ensure any particular tax consequences or to ensure that the Plan is “unfunded and maintained primarily for the purpose of providing deferred compensation to a select group of management or highly compensated employees” under Title I of the Employee Retirement Income Security Act of 1974, as amended, with respect to the Employer’s particular situation. Fidelity Employer Services Company, its affiliates and employees cannot provide you with legal advice in connection with the execution of this document. This document should be reviewed by the Employer’s attorney prior to execution.

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## **PREAMBLE**

The Plan is intended to be a “plan which is unfunded and is maintained by an employer primarily for the purpose of providing deferred compensation for a select group of management or highly compensated employees” within the meaning of Sections 201(2), 301(a)(3) and 401(a)(1) of the Employee Retirement Income Security Act of 1974, as amended, or an “excess benefit plan” within the meaning of Section 3(36) of the Employee Retirement Income Security Act of 1974, as amended, or a combination of both. The Plan is further intended to conform with the requirements of Internal Revenue Code Section 409A and the final regulations issued thereunder and shall be interpreted, implemented and administered in a manner consistent therewith.

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## ARTICLE 1 – GENERAL

### 1.1 Plan

The Plan will be referred to by the name specified in the Adoption Agreement.

### 1.2 Effective Dates

#### (a) Original Effective Date

The Original Effective Date is the date as of which the Plan was initially adopted.

#### (b) Amendment Effective Date

The Amendment Effective Date is the date specified in the Adoption Agreement as of which the Plan is amended and restated. Except to the extent otherwise provided herein or in the Adoption Agreement, the Plan shall apply to amounts deferred and benefit payments made on or after the Amendment Effective Date.

#### (c) Special Effective Date

A Special Effective Date may apply to any given provision if so specified in Appendix A of the Adoption Agreement. A Special Effective Date will control over the Original Effective Date or Amendment Effective Date, whichever is applicable, with respect to such provision of the Plan.

### 1.3 Amounts Not Subject to Code Section 409A

Except as otherwise indicated by the Plan Sponsor in Section 1.01 of the Adoption Agreement, amounts deferred before January 1, 2005 that are earned and vested on December 31, 2004 will be separately accounted for and administered in accordance with the terms of the Plan as in effect on December 31, 2004.

## ARTICLE 2 – DEFINITIONS

Pronouns used in the Plan are in the masculine gender but include the feminine gender unless the context clearly indicates otherwise. Wherever used herein, the following terms have the meanings set forth below, unless a different meaning is clearly required by the context:

### 2.1 “Account”

means an account established for the purpose of recording amounts credited on behalf of a Participant and any income, expenses, gains, losses or distributions included thereon. The Account shall be a bookkeeping entry only and shall be utilized solely as a device for the measurement and determination of the amounts to be paid to a Participant or to the Participant’s Beneficiary pursuant to the Plan.

### 2.2 “Administrator”

means the person or persons designated by the Plan Sponsor in Section 1.05 of the Adoption Agreement to be responsible for the administration of the Plan. If no Administrator is designated in the Adoption Agreement, the Administrator is the Plan Sponsor.

### 2.3 “Adoption Agreement”

means the agreement adopted by the Plan Sponsor that establishes the Plan.

### 2.4 “Beneficiary”

means the persons, trusts, estates or other entities entitled under Section 8.2 to receive benefits under the Plan upon the death of a Participant.

### 2.5 “Board” or “Board of Directors”

means the Board of Directors of the Plan Sponsor.

### 2.6 “Bonus”

has the meaning specified in Section 3.01 of the Adoption Agreement.

**2.7 “Change in Control”**

means the occurrence of an event involving the Plan Sponsor that is described in Section 9.7.

**2.8 “Code”**

means the Internal Revenue Code of 1986, as amended.

**2.9 “Compensation”**

has the meaning specified in Section 3.01 of the Adoption Agreement.

**2.10 “Director”**

means a non-employee member of the Board who has been designated by the Employer as eligible to participate in the Plan.

**2.11 “Disabled”**

means a determination by the Administrator that the Participant is either (a) unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than 12 months, or (b) is, by reason of any medically determinable physical or mental impairment which can be expected to result in death or last for a continuous period of not less than twelve months, receiving income replacement benefits for a period of not less than three months under an accident and health plan covering employees of the Employer. A Participant will be considered Disabled if he is determined to be totally disabled by the Social Security Administration or the Railroad Retirement Board.

**2.12 “Eligible Employee”**

means an employee of the Employer who satisfies the requirements in Section 2.01 of the Adoption Agreement.



**2.13 “Employer”**

means the Plan Sponsor and any other entity which is authorized by the Plan Sponsor to participate in and, in fact, does adopt the Plan.

**2.14 “ERISA”**

means the Employee Retirement Income Security Act of 1974, as amended.

**2.15 “Identification Date”**

means the date as of which Key Employees are determined which is specified in Section 1.06 of the Adoption Agreement.

**2.16 “Key Employee”**

means an employee who satisfies the conditions set forth in Section 9.6.

**2.17 “Participant”**

means an Eligible Employee or Director who commences participation in the Plan in accordance with Article 3.

**2.18 “Plan”**

means the unfunded plan of deferred compensation set forth herein, including the Adoption Agreement and any trust agreement, as adopted by the Plan Sponsor and as amended from time to time.

**2.19 “Plan Sponsor”**

means the entity identified in Section 1.03 of the Adoption Agreement or any successor by merger, consolidation or otherwise.

**2.20 “Plan Year”**

means the period identified in Section 1.02 of the Adoption Agreement.

**2.21 “Related Employer”**

means the Employer and (a) any corporation that is a member of a controlled group of corporations as defined in Code Section 414(b) that includes the Employer and (b) any trade or business that is under common control as defined in Code Section 414(c) that includes the Employer.

**2.22 “Retirement”**

has the meaning specified in 6.01(f) of the Adoption Agreement.

**2.23 “Separation from Service”**

means the date that the Participant dies, retires or otherwise has a termination of employment with respect to all entities comprising the Related Employer. A Separation from Service does not occur if the Participant is on military leave, sick leave or other bona fide leave of absence if the period of leave does not exceed six months or such longer period during which the Participant’s right to reemployment is provided by statute or contract. If the period of leave exceeds six months and the Participant’s right to re-employment is not provided either by statute or contract, a Separation from Service will be deemed to have occurred on the first day following the six-month period. If the period of leave is due to any medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than six months, where the impairment causes the Participant to be unable to perform the duties of his or her position of employment or any substantially similar position of employment, a 29 month period of absence may be substituted for the six month period.

Whether a termination of employment has occurred is based on whether the facts and circumstances indicate that the Related Employer and the Participant reasonably anticipated that no further services would be performed after a certain date or that the level of bona fide services the Participant would perform after such date (whether as an employee or as an independent contractor) would permanently decrease to no more than 20 percent of the average level of bona fide services performed (whether as an employee or an independent contractor) over the immediately preceding 36 month period (or the full period of services to the Related Employer if the employee has been providing services to the Related Employer for less than 36 months). If a Participant continues to provide services to a Related Employer in a capacity other than as an employee, the Participant

will not be deemed to have a termination of employment if the Participant is providing services at an annual rate that is at least 50 percent of the services rendered by such individual, on average, during the immediately preceding 36 month period of employment (or such lesser period of employment) and the annual remuneration for such services is at least 50 percent of the average annual remuneration earned during the such 36 calendar months of employment (or such lesser period of employment).

An independent contractor is considered to have experienced a Separation from Service with the Related Employer upon the expiration of the contract (or, in the case of more than one contract, all contracts) under which services are performed for the Related Employer if the expiration constitutes a good-faith and complete termination of the contractual relationship.

If a Participant provides services as both an employee and an independent contractor of the Related Employer, the Participant must separate from service both as an employee and as an independent contractor to be treated as having incurred a Separation from Service. If a Participant ceases providing services as an independent contractor and begins providing services as an employee, or ceases providing services as an employee and begins providing services as an independent contractor, the Participant will not be considered to have experienced a Separation from Service until the Participant has ceased providing services in both capacities.

If a Participant provides services both as an employee and as a member of the board of directors of a corporate Related Employer (or an analogous position with respect to a noncorporate Related Employer), the services provided as a director are not taken into account in determining whether the Participant has incurred a Separation from Service as an employee for purposes of a nonqualified deferred compensation plan in which the Participant participates as an employee that is not aggregated under Code Section 409A with any plan in which the Participant participates as a director.

If a Participant provides services both as an employee and as a member of the board of directors of a corporate related Employer (or an analogous position with respect to a noncorporate Related Employer), the services provided as an employee are not taken into account in determining whether the Participant has experienced a Separation from Service as a director for purposes of a nonqualified deferred compensation plan in which the Participant participates as a director that is not aggregated under Code Section 409A with any plan in which the Participant participates as an employee.

All determinations of whether a Separation from Service has occurred will be made in a manner consistent with Code Section 409A and the final regulations thereunder.

**2.24 “Unforeseeable Emergency”**

means a severe financial hardship of the Participant resulting from an illness or accident of the Participant, the Participant’s spouse, the Participant’s Beneficiary, or the Participant’s dependent (as defined in Code Section 152, without regard to Code section 152(b)(i), (b)(2) and (d)(i)(B); loss of the Participant’s property due to casualty; or other similar extraordinary and unforeseeable circumstances arising as a result of events beyond the control of the Participant.

**2.25 “Valuation Date”**

means each business day of the Plan Year.

**2.26 “Years of Service”**

means each one year period for which the Participant receives service credit in accordance with the provisions of Section 7.01(d) of the Adoption Agreement.

## ARTICLE 3 – PARTICIPATION

### 3.1 Participation

The Participants in the Plan shall be those Directors and employees of the Employer who satisfy the requirements of Section 2.01 of the Adoption Agreement.

### 3.2 Termination of Participation

The Administrator may terminate a Participant's participation in the Plan in a manner consistent with Code Section 409A. If the Employer terminates a Participant's participation before the Participant experiences a Separation from Service the Participant's vested Accounts shall be paid in accordance with the provisions of Article 9.

## ARTICLE 4 – PARTICIPANT ELECTIONS

### 4.1 Deferral Agreement

If permitted by the Plan Sponsor in accordance with Section 4.01 of the Adoption Agreement, each Eligible Employee and Director may elect to defer his Compensation within the meaning of Section 3.01 of the Adoption Agreement by executing in writing or electronically, a deferral agreement in accordance with rules and procedures established by the Administrator and the provisions of this Article 4.

A new deferral agreement must be timely executed for each Plan Year during which the Eligible Employee or Director desires to defer Compensation. An Eligible Employee or Director who does not timely execute a deferral agreement shall be deemed to have elected zero deferrals of Compensation for such Plan Year.

A deferral agreement may be changed or revoked before the deferral agreement becomes irrevocable. Except as provided in Section 9.3 or in Section 4.01(c) of the Adoption Agreement, a deferral agreement becomes irrevocable with respect to Compensation no later than the date a deferral agreement must be executed under Section 4.3 and any such deferral agreement shall remain in effect for the entire Plan Year to which the deferral agreement relates, without regard to the calendar year of payment. Notwithstanding the foregoing, an election to defer under a deferral agreement for a Plan Year shall be effective with respect to Compensation for the final payroll period of the Plan Year to the extent permitted by Code Section 409A.

### 4.2 Amount of Deferral

An Eligible Employee or Director may elect to defer Compensation in any amount permitted by Section 4.01(a) of the Adoption Agreement.

### 4.3 Timing of Election to Defer

Each Eligible Employee or Director who desires to defer Compensation otherwise earned during a Plan Year must execute a deferral agreement within the period preceding the Plan Year specified by the Administrator (the “Election Period”). Each Eligible Employee who desires to defer Compensation that is a Bonus or Sales Incentive Payment must execute a deferral agreement within the Election Period preceding the Plan Year during which the Bonus or Sales Incentive Payment is earned, except that if the Bonus or Sales Incentive Payment can be treated as performance-based compensation as described in Code Section 409A(a)(4)(B)(iii), the deferral agreement may be executed within the election

period specified by the Administrator, which period, in no event, shall end after the date which is six months prior to the end of the period during which the Bonus or Sales Incentive Payment is earned, provided the Participant has performed services continuously from the later of the beginning of the performance period or the date the performance criteria are established through the date the Participant executed the deferral agreement and provided further that the Bonus or Sales Incentive Payment has not yet become 'readily ascertainable' within the meaning of Reg. Sec 1.409A-2(a)(8). Each Eligible Employee who desires to defer Compensation that is a Commission must execute a deferral agreement within the Election Period preceding the Plan Year during which the Commission is deemed earned. For purposes of this Plan only and solely for the purpose of complying with the Code Section 409A deferral election timing rule set forth in Reg. Sec. 1.409A-2(a)(12)(i), Commissions are deemed earned in the Plan Year that the customer remits payment to the Employer, without regard to the year in which the transaction generating the Commission closed or the year in which the Commission is paid to the Eligible Employee. In addition, if the Compensation qualifies as 'fiscal year compensation' within the meaning of Reg. Sec. 1.409A -2(a) (6), the deferral agreement may be made not later than the end of the Employer's taxable year immediately preceding the first taxable year of the Employer in which any services are performed for which such Compensation is payable.

Except as otherwise provided below, an employee who is classified or designated as an Eligible Employee during a Plan Year or a Director who is designated as eligible to participate during a Plan Year may elect to defer Compensation otherwise payable during the remainder of such Plan Year in accordance with the rules of this Section 4.3 by executing a deferral agreement within the thirty (30) day period beginning on the date the employee is classified or designated as an Eligible Employee or the date the Director is designated as eligible, whichever is applicable, if permitted by Section 4.01(b)(ii) of the Adoption Agreement. If Compensation is based on a specified performance period that begins before the Eligible Employee or Director executes his deferral agreement, the election will be deemed to apply to the portion of such Compensation equal to the total amount of Compensation for the performance period multiplied by the ratio of the number of days remaining in the performance period after the election becomes irrevocable and effective over the total number of days in the performance period. The rules of this paragraph shall not apply unless the Eligible Employee or Director can be treated as initially eligible in accordance with Reg. Sec. 1.409A-2(a)(7).

#### **4.4 Election of Payment Schedule and Form of Payment.**

All elections of a payment schedule and a form of payment will be made in accordance with rules and procedures established by the Administrator and the provisions of this Section 4.4.

- (a) If the Plan Sponsor has elected to permit annual distribution elections in accordance with Section 6.01(h) of the Adoption Agreement the following rules apply. At the time an Eligible Employee or Director completes a deferral agreement, the Eligible Employee or Director must elect a distribution event (which includes a specified time) and a form of payment for the Compensation subject to the deferral agreement from among the options the Plan Sponsor has made available for this purpose and which are specified in 6.01(b) of the Adoption Agreement. Prior to the time required by Reg. Sec. 1.409A-2, the Eligible Employee or Director shall elect a distribution event (which includes a specified time) and a form of payment for any Employer contributions that may be credited to the Participant's Account during the Plan Year. If an Eligible Employee or Director fails to elect a distribution event, he shall be deemed to have elected Separation from Service as the distribution event. If he fails to elect a form of payment, he shall be deemed to have elected a lump sum form of payment.
- (b) If the Plan Sponsor has elected not to permit annual distribution elections in accordance with Section 6.01(h) of the Adoption Agreement the following rules apply. At the time an Eligible Employee or Director first completes a deferral agreement but in no event later than the time required by Reg. Sec. 1.409A-2, the Eligible Employee or Director must elect a distribution event (which includes a specified time) and a form of payment for amounts credited to his Account from among the options the Plan Sponsor has made available for this purpose and which are specified in Section 6.01(b) of the Adoption Agreement. If an Eligible Employee or Director fails to elect a distribution event, he shall be deemed to have elected Separation from Service in the distribution event. If he fails to elect a form of payment, he shall be deemed to have elected a lump sum form of payment.



## ARTICLE 5 – EMPLOYER CONTRIBUTIONS

### 5.1 Matching Contributions

If elected by the Plan Sponsor in Section 5.01(a) of the Adoption Agreement, the Employer will credit the Participant's Account with a matching contribution determined in accordance with the formula specified in Section 5.01(a) of the Adoption Agreement. The matching contribution will be treated as allocated to the Participant's Account at the time specified in Section 5.01(a)(iii) of the Adoption Agreement.

### 5.2 Other Contributions

If elected by the Plan Sponsor in Section 5.01(b) of the Adoption Agreement, the Employer will credit the Participant's Account with a contribution determined in accordance with the formula or method specified in Section 5.01(b) of the Adoption Agreement. The contribution will be treated as allocated to the Participant's Account at the time specified in Section 5.01(b)(iii) of the Adoption Agreement.

## **ARTICLE 6 – ACCOUNTS AND CREDITS**

### **6.1 Establishment of Account**

For accounting and computational purposes only, the Administrator will establish and maintain an Account on behalf of each Participant which will reflect the credits made pursuant to Section 6.2, distributions or withdrawals, along with the earnings, expenses, gains and losses allocated thereto, attributable to the hypothetical investments made with the amounts in the Account as provided in Article 7. The Administrator will establish and maintain such other records and accounts, as it decides in its discretion to be reasonably required or appropriate to discharge its duties under the Plan.

### **6.2 Credits to Account**

A Participant's Account will be credited for each Plan Year with the amount of his elective deferrals under Section 4.1 at the time the amount subject to the deferral election would otherwise have been payable to the Participant and the amount of Employer contributions treated as allocated on his behalf under Article 5.

## ARTICLE 7 – INVESTMENT OF CONTRIBUTIONS

### 7.1 Investment Options

The amount credited to each Account shall be treated as invested in the investment options designated for this purpose by the Administrator.

### 7.2 Adjustment of Accounts

The amount credited to each Account shall be adjusted for hypothetical investment earnings, expenses, gains or losses in an amount equal to the earnings, expenses, gains or losses attributable to the investment options selected by the party designated in Section 9.01 of the Adoption Agreement from among the investment options provided in Section 7.1. If permitted by Section 9.01 of the Adoption Agreement, a Participant (or the Participant's Beneficiary after the death of the Participant) may, in accordance with rules and procedures established by the Administrator, select the investments from among the options provided in Section 7.1 to be used for the purpose of calculating future hypothetical investment adjustments to the Account or to future credits to the Account under Section 6.2 effective as of the Valuation Date coincident with or next following notice to the Administrator. Each Account shall be adjusted as of each Valuation Date to reflect: (a) the hypothetical earnings, expenses, gains and losses described above; (b) amounts credited pursuant to Section 6.2; and (c) distributions or withdrawals. In addition, each Account may be adjusted for its allocable share of the hypothetical costs and expenses associated with the maintenance of the hypothetical investments provided in Section 7.1.

## ARTICLE 8 – RIGHT TO BENEFITS

### 8.1 Vesting

A Participant, at all times, has the 100% nonforfeitable interest in the amounts credited to his Account attributable to his elective deferrals made in accordance with Section 4.1.

A Participant's right to the amounts credited to his Account attributable to Employer contributions made in accordance with Article 5 shall be determined in accordance with the relevant schedule and provisions in Section 7.01 of the Adoption Agreement. Upon a Separation from Service and after application of the provisions of Section 7.01 of the Adoption Agreement, the Participant shall forfeit the nonvested portion of his Account.

### 8.2 Death

The Plan Sponsor may elect to accelerate vesting upon the death of the Participant in accordance with Section 7.01(c) of the Adoption Agreement and/or to accelerate distributions upon Death in accordance with Section 6.01(b) or Section 6.01(d) of the Adoption Agreement. If the Plan Sponsor does not elect to accelerate distributions upon death in accordance with Section 6.01(b) or Section 6.01(d) of the Adoption Agreement, the vested amount credited to the Participant's Account will be paid in accordance with the provisions of Article 9.

A Participant may designate a Beneficiary or Beneficiaries, or change any prior designation of Beneficiary or Beneficiaries in accordance with rules and procedures established by the Administrator.

A copy of the death notice or other sufficient documentation must be filed with and approved by the Administrator. If upon the death of the Participant there is, in the opinion of the Administrator, no designated Beneficiary for part or all of the Participant's vested Account, such amount will be paid to his estate (such estate shall be deemed to be the Beneficiary for purposes of the Plan) in accordance with the provisions of Article 9.

### 8.3 Disability

If the Plan Sponsor has elected to accelerate vesting upon the occurrence of a Disability in accordance with Section 7.01(c) of the Adoption Agreement and/or to permit distributions upon Disability in accordance with Section 6.01(b) or Section 6.01(d) of the Adoption Agreement, the determination of whether a Participant has incurred a Disability shall be made by the Administrator in its sole discretion in a manner consistent with the requirements of Code Section 409A.

## ARTICLE 9 – DISTRIBUTION OF BENEFITS

### 9.1 Amount of Benefits

The vested amount credited to a Participant's Account as determined under Articles 6, 7 and 8 shall determine and constitute the basis for the value of benefits payable to the Participant under the Plan.

### 9.2 Method and Timing of Distributions

Except as otherwise provided in this Article 9, distributions under the Plan shall be made in accordance with the elections made or deemed made by the Participant under Article 4. Subject to the provisions of Section 9.6 requiring a six month delay for certain distributions to Key Employees, distributions following a payment event shall commence at the time specified in Section 6.01(a) of the Adoption Agreement. If permitted by Section 6.01(g) of the Adoption Agreement, a Participant may elect to delay his or her scheduled payment date, provided that (i) the election to delay does not take effect for at least twelve months after it is submitted, (ii) the election to delay is submitted at least twelve months prior to the Participant's scheduled payment date, and (iii) to the extent required by Code Section 409A, the election to delay provides for the delay of payment for at least sixty months from the scheduled payment date. The distribution election change must be made in accordance with procedures and rules established by the Administrator. The Participant may, at the same time the date of payment is deferred, change the form of payment but such change in the form of payment may not effect an acceleration of payment in violation of Code Section 409A or the provisions of Reg. Sec. 1.409A-2(b). For purposes of this Section 9.2, a series of installment payments is always treated as a single payment and not as a series of separate payments.

### 9.3 Unforeseeable Emergency

A Participant may request a distribution due to an Unforeseeable Emergency if the Plan Sponsor has elected to permit Unforeseeable Emergency withdrawals under Section 8.01(a) of the Adoption Agreement. The request must be in writing and must be submitted to the Administrator along with evidence that the circumstances constitute an Unforeseeable Emergency. The Administrator has the discretion to require whatever evidence it deems necessary to determine whether a distribution is warranted, and may require the Participant to certify that the need cannot be met from other sources reasonably available to the Participant. Whether a Participant has incurred an Unforeseeable Emergency will be determined by the Administrator on the basis of the relevant facts and circumstances in its sole

discretion, but, in no event, will an Unforeseeable Emergency be deemed to exist if the hardship can be relieved: (a) through reimbursement or compensation by insurance or otherwise, (b) by liquidation of the Participant's assets to the extent such liquidation would not itself cause severe financial hardship, or (c) by cessation of deferrals under the Plan. A distribution due to an Unforeseeable Emergency must be limited to the amount reasonably necessary to satisfy the emergency need and may include any amounts necessary to pay any federal, state, foreign or local income taxes and penalties reasonably anticipated to result from the distribution. The distribution will be made in the form of a single lump sum cash payment. If permitted by Section 8.01(b) of the Adoption Agreement, a Participant's deferral elections for the remainder of the Plan Year will be cancelled upon a withdrawal due to an Unforeseeable Emergency. If the payment of all or any portion of the Participant's vested Account is being delayed in accordance with Section 9.6 at the time he experiences an Unforeseeable Emergency, the amount being delayed shall not be subject to the provisions of this Section 9.3 until the expiration of the six month period of delay required by section 9.6.

#### **9.4 Payment Election Overrides**

If the Plan Sponsor has elected one or more payment election overrides in accordance with Section 6.01(d) of the Adoption Agreement, the following provisions apply except as otherwise provided in Section 6.01(d) of the Adoption Agreement. Upon the occurrence of the first event selected by the Plan Sponsor, the remaining vested amount credited to the Participant's Account shall be paid in the form designated to the Participant or his Beneficiary regardless of whether the Participant had made different elections of time and /or form of payment or whether the Participant was receiving installment payments at the time of the event.

#### **9.5 Cashouts Of Amounts Not Exceeding Stated Limit**

If the vested amount credited to the Participant's Account does not exceed the limit established for this purpose by the Plan Sponsor in Section 6.01(e) of the Adoption Agreement at the time he separates from service with the Related Employer for any reason, the Employer shall distribute such amount to the Participant at the time specified in Section 6.01(a) of the Adoption Agreement in a single lump sum cash payment following such termination regardless of whether the Participant had made different elections of time or form of payment as to the vested amount credited to his Account or whether the Participant was receiving installments at the time of such termination. A Participant's Account, for purposes of this Section 9.5, shall include any amounts described in Section 1.3.

## **9.6 Required Delay in Payment to Key Employees**

Except as otherwise provided in this Section 9.6, a distribution made on account of Separation from Service (or Retirement, if applicable) to a Participant who is a Key Employee as of the date of his Separation from Service (or Retirement, if applicable) shall not be made before the date which is six months after the Separation from Service (or Retirement, if applicable).

- (a) A Participant is treated as a Key Employee if (i) he is employed by a Related Employer any of whose stock is publicly traded on an established securities market, and (ii) he satisfies the requirements of Code Section 416(i)(1)(A)(i), (ii) or (iii), determined without regard to Code Section 416(i)(5), at any time during the twelve month period ending on the Identification Date.
- (b) A Participant who is a Key Employee on an Identification Date shall be treated as a Key Employee for purposes of the six month delay in distributions for the twelve month period beginning on the first day of a month no later than the fourth month following the Identification Date. The Identification Date and the effective date of the delay in distributions shall be determined in accordance with Section 1.06 of the Adoption Agreement.
- (c) The Plan Sponsor may elect to apply an alternative method to identify Participants who will be treated as Key Employees for purposes of the six month delay in distributions if the method satisfies each of the following requirements. The alternative method is reasonably designed to include all Key Employees, is an objectively determinable standard providing no direct or indirect election to any Participant regarding its application, and results in either all Key Employees or no more than 200 Key Employees being identified in the class as of any date. Use of an alternative method that satisfies the requirements of this Section 9.6(c) will not be treated as a change in the time and form of payment for purposes of Reg. Sec. 1.409A-2(b).
- (d) The six month delay does not apply to payments described in Section 9.9(a),(b) or (d) or to payments that occur after the death of the Participant. If the payment of all or any portion of the Participant's vested Account is being delayed in accordance with this Section 9.6 at the time he incurs a Disability which would otherwise require a distribution under the terms of the Plan, no amount shall be paid until the expiration of the six month period of delay required by this Section 9.6.

## **9.7 Change in Control**

If the Plan Sponsor has elected to permit distributions upon a Change in Control, the following provisions shall apply. A distribution made upon a Change in Control will be made at the time specified in Section 6.01(a) of the Adoption Agreement in the form elected by the Participant in accordance with the procedures described in Article 4. Alternatively, if the Plan Sponsor has elected in accordance with Section 11.02 of the Adoption Agreement to require distributions upon a Change in Control, the Participant's remaining vested Account shall be paid to the Participant or the Participant's Beneficiary at the time specified in Section 6.01(a) of the Adoption Agreement as a single lump sum payment. A Change in Control, for purposes of the Plan, will occur upon a change in the ownership of the Plan Sponsor, a change in the effective control of the Plan Sponsor or a change in the ownership of a substantial portion of the assets of the Plan Sponsor, but only if elected by the Plan Sponsor in Section 11.03 of the Adoption Agreement. The Plan Sponsor, for this purpose, includes any corporation identified in this Section 9.7. All distributions made in accordance with this Section 9.7 are subject to the provisions of Section 9.6.

If a Participant continues to make deferrals in accordance with Article 4 after he has received a distribution due to a Change in Control, the residual amount payable to the Participant shall be paid at the time and in the form specified in the elections he makes in accordance with Article 4 or upon his death or Disability as provided in Article 8.

Whether a Change in Control has occurred will be determined by the Administrator in accordance with the rules and definitions set forth in this Section 9.7. A distribution to the Participant will be treated as occurring upon a Change in Control if the Plan Sponsor terminates the Plan in accordance with Section 10.2 and distributes the Participant's benefits within twelve months of a Change in Control as provided in Section 10.2.

- (a) **Relevant Corporations** . To constitute a Change in Control for purposes of the Plan, the event must relate to (i) the corporation for whom the Participant is performing services at the time of the Change in Control, (ii) the corporation that is liable for the payment of the Participant's benefits under the Plan (or all corporations liable if more than one corporation is liable) but only if either the deferred compensation is attributable to the performance of services by the Participant for such corporation (or corporations) or there is a bona fide business purpose for such corporation (or corporations) to be liable for such payment and, in either case, no significant purpose of making such corporation (or corporations) liable for such payment is the avoidance of federal income tax, or (iii) a corporation that is a majority shareholder of a corporation identified in (i) or (ii), or any corporation in a chain of corporations in which each corporation is a majority shareholder of another corporation in the chain, ending in a corporation identified in (i) or (ii). A majority shareholder is defined as a shareholder owning more than fifty percent (50%) of the total fair market value and voting power of such corporation.



- (b) **Stock Ownership** . Code Section 318(a) applies for purposes of determining stock ownership. Stock underlying a vested option is considered owned by the individual who owns the vested option (and the stock underlying an unvested option is not considered owned by the individual who holds the unvested option). If, however, a vested option is exercisable for stock that is not substantially vested (as defined by Treasury Regulation Section 1.83-3(b) and (j)) the stock underlying the option is not treated as owned by the individual who holds the option.
- (c) **Change in the Ownership of a Corporation** . A change in the ownership of a corporation occurs on the date that any one person or more than one person acting as a group, acquires ownership of stock of the corporation that, together with stock held by such person or group, constitutes more than fifty percent (50%) of the total fair market value or total voting power of the stock of such corporation. If any one person or more than one person acting as a group is considered to own more than fifty percent (50%) of the total fair market value or total voting power of the stock of a corporation, the acquisition of additional stock by the same person or persons is not considered to cause a change in the ownership of the corporation (or to cause a change in the effective control of the corporation as discussed below in Section 9.7(d)). An increase in the percentage of stock owned by any one person, or persons acting as a group, as a result of a transaction in which the corporation acquires its stock in exchange for property will be treated as an acquisition of stock. Section 9.7(c) applies only when there is a transfer of stock of a corporation (or issuance of stock of a corporation) and stock in such corporation remains outstanding after the transaction. For purposes of this Section 9.7(c), persons will not be considered to be acting as a group solely because they purchase or own stock of the same corporation at the same time or as a result of a public offering. Persons will, however, be considered to be acting as a group if they are owners of a corporation that enters into a merger, consolidation, purchase or acquisition of stock, or similar business transaction with the corporation. If a person, including an entity, owns stock in both corporations that enter into a merger, consolidation, purchase or acquisition of stock, or similar transaction, such shareholder is considered to be acting as a group with other shareholders in a corporation prior to the transaction giving rise to the change and not with respect to the ownership interest in the other corporation.
- (d) **Change in the effective control of a corporation.** A change in the effective control of a corporation occurs on the date that either (i) any one person, or more than one person acting as a group, acquires (or has acquired during the twelve month period ending on the date of the most recent acquisition by such person or persons) ownership of stock of the corporation possessing thirty percent (30%) or more of the total voting power of the stock of such corporation, or (ii) a majority of members of the corporation's board of directors is replaced during any twelve month

period by directors whose appointment or election is not endorsed by a majority of the members of the corporation's board of directors prior to the date of the appointment or election, provided that for purposes of this paragraph (ii), the term corporation refers solely to the relevant corporation identified in Section 9.7(a) for which no other corporation is a majority shareholder for purposes of Section 9.7(a). In the absence of an event described in Section 9.7(d)(i) or (ii), a change in the effective control of a corporation will not have occurred. A change in effective control may also occur in any transaction in which either of the two corporations involved in the transaction has a change in the ownership of such corporation as described in Section 9.7(c) or a change in the ownership of a substantial portion of the assets of such corporation as described in Section 9.7(e). If any one person, or more than one person acting as a group, is considered to effectively control a corporation within the meaning of this Section 9.7(d), the acquisition of additional control of the corporation by the same person or persons is not considered to cause a change in the effective control of the corporation or to cause a change in the ownership of the corporation within the meaning of Section 9.7(c). For purposes of this Section 9.7(d), persons will or will not be considered to be acting as a group in accordance with rules similar to those set forth in Section 9.7(c) with the following exception. If a person, including an entity, owns stock in both corporations that enter into a merger, consolidation, purchase or acquisition of stock, or similar transaction, such shareholder is considered to be acting as a group with other shareholders in a corporation only with respect to the ownership in that corporation prior to the transaction giving rise to the change and not with respect to the ownership interest in the other corporation.

(e) **Change in the ownership of a substantial portion of a corporation's assets .**

A change in the ownership of a substantial portion of a corporation's assets occurs on the date that any one person, or more than one person acting as a group (as determined in accordance with rules similar to those set forth in Section 9.7(d)), acquires (or has acquired during the twelve month period ending on the date of the most recent acquisition by such person or persons) assets from the corporation that have a total gross fair market value equal to or more than forty percent (40%) of the total gross fair market value of all of the assets of the corporation immediately prior to such acquisition or acquisitions. For this purpose, gross fair market value means the value of the assets of the corporation or the value of the assets being disposed of determined without regard to any liabilities associated with such assets. There is no Change in Control event under this Section 9.7(e) when there is a transfer to an entity that is controlled by the shareholders of the transferring corporation immediately after the transfer. A transfer of assets by a corporation is not treated as a change in ownership of such assets if the assets are transferred to (i) a shareholder of

the corporation (immediately before the asset transfer) in exchange for or with respect to its stock, (ii) an entity, fifty percent (50%) or more of the total value or voting power of which is owned, directly or indirectly, by the corporation, (iii) a person, or more than one person acting as a group, that owns, directly or indirectly, fifty percent (50%) or more of the total value or voting power of all the outstanding stock of the corporation, or (iv) an entity, at least fifty (50%) of the total value or voting power of which is owned, directly or indirectly, by a person described in Section 9.7(e)(iii). For purposes of the foregoing, and except as otherwise provided, a person's status is determined immediately after the transfer of assets.

## **9.8 Permissible Delays in Payment**

Distributions may be delayed beyond the date payment would otherwise occur in accordance with the provisions of Articles 8 and 9 in any of the following circumstances as long as the Employer treats all payments to similarly situated Participants on a reasonably consistent basis.

- (a) with such other events and conditions as permitted by Code Section 409A. The Employer may delay payment if it reasonably anticipates that its deduction with respect to such payment would be limited or eliminated by the application of Code Section 162(m). Payment must be made during the Participant's first taxable year in which the Employer reasonably anticipates, or should reasonably anticipate, that if the payment is made during such year the deduction of such payment will not be barred by the application of Code Section 162(m) or during the period beginning with the Participant's Separation from Service and ending on the later of the last day of the Employer's taxable year in which the Participant separates from service or the 15th day of the third month following the Participant's Separation from Service. If a scheduled payment to a Participant is delayed in accordance with this Section 9.8(a), all scheduled payments to the Participant that could be delayed in accordance with this Section 9.8(a) will also be delayed.
- (b) The Employer may also delay payment if it reasonably anticipates that the making of the payment will violate federal securities laws or other applicable laws provided payment is made at the earliest date on which the Employer reasonably anticipates that the making of the payment will not cause such violation.
- (c) The Employer reserves the right to amend the Plan to provide for a delay in payment upon such other events and conditions as the Secretary of the Treasury may prescribe in generally applicable guidance published in the Internal Revenue Bulletin.

## 9.9 Permitted Acceleration of Payment

The Employer may permit acceleration of the time or schedule of any payment or amount scheduled to be paid pursuant to a payment under the Plan provided such acceleration would be permitted by the provisions of Reg. Sec. 1.409A-3(j)(4), including the following events:

(a) **Domestic Relations Order .**

A payment may be accelerated if such payment is made to an alternate payee pursuant to and following the receipt and qualification of a domestic relations order as defined in Code Section 414(p).

(b) **Compliance with Ethics Agreements and Legal Requirements .**

A payment may be accelerated as may be necessary to comply with ethics agreements with the Federal government or as may be reasonably necessary to avoid the violation of Federal, state, local or foreign ethics law or conflicts of laws, in accordance with the requirements of Code Section 409A.

(c) **De Minimis Amounts .**

A payment will be accelerated if (i) the amount of the payment is not greater than the applicable dollar amount under Code Section 402(g)(1)(B) and (ii) at the time the payment is made the amount constitutes the Participant's entire interest under the Plan and all other plans that are aggregated with the Plan under Reg. Sec. 1.409A-1(c)(2).

(d) **FICA Tax .**

A payment may be accelerated to the extent required to pay the Federal Insurance Contributions Act tax imposed under Code Sections 3101, 3121(a) and 3121(v)(2) of the Code with respect to compensation deferred under the Plan (the "FICA Amount"). Additionally, a payment may be accelerated to pay the income tax on wages imposed under Code Section 3401 of the Code on the FICA Amount and to pay the additional income tax at source on wages attributable to the pyramiding Code Section 3401 wages and taxes. The total payment under this subsection (d) may not exceed the aggregate of the FICA Amount and the income tax withholding related to the FICA Amount.

(e) **Section 409A Additional Tax .**

A payment may be accelerated if the Plan fails to meet the requirements of Code Section 409A; provided that such payment may not exceed the amount required to be included in income as a result of the failure to comply with the requirements of Code Section 409A.

(f) **Offset .**

A payment may be accelerated in the Employer's discretion as satisfaction of a debt of the Participant to the Employer, where such debt is incurred in the ordinary course of the service relationship between the Participant and the Employer, the entire amount of the reduction in any of the Employer's taxable years does not exceed \$5,000, and the reduction is made at the same time and in the same amount as the debt otherwise would have been due and collected from the Participant.

(g) **Other Events .**

A payment may be accelerated in the Administrator's discretion in connection

## **ARTICLE 10 – AMENDMENT AND TERMINATION**

### **10.1 Amendment by Plan Sponsor**

The Plan Sponsor reserves the right to amend the Plan (for itself and each Employer) through action of its Board of Directors. No amendment can directly or indirectly deprive any current or former Participant or Beneficiary of all or any portion of his Account which had accrued and vested prior to the amendment.

### **10.2 Plan Termination Following Change in Control or Corporate Dissolution**

If so elected by the Plan Sponsor in 11.01 of the Adoption Agreement, the Plan Sponsor reserves the right to terminate the Plan and distribute all amounts credited to all Participant Accounts within the 30 days preceding or the twelve months following a Change in Control as determined in accordance with the rules set forth in Section 9.7. For this purpose, the Plan will be treated as terminated only if all agreements, methods, programs and other arrangements sponsored by the Related Employer immediately after the Change in Control which are treated as a single plan under Reg. Sec. 1.409A-1(c)(2) are also terminated so that all participants under the Plan and all similar arrangements are required to receive all amounts deferred under the terminated arrangements within twelve months of the date the Plan Sponsor irrevocably takes all necessary action to terminate the arrangements. In addition, the Plan Sponsor reserves the right to terminate the Plan within twelve months of a corporate dissolution taxed under Code Section 331 or with the approval of a bankruptcy court pursuant to 11 U. S. C. Section 503(b)(1)(A) provided that amounts deferred under the Plan are included in the gross incomes of Participants in the latest of (a) the calendar year in which the termination occurs, (b) the first calendar year in which the amount is no longer subject to a substantial risk of forfeiture, or (c) the first calendar year in which payment is administratively practicable.

### **10.3 Other Plan Terminations**

The Plan Sponsor retains the discretion to terminate the Plan if (a) all arrangements sponsored by the Plan Sponsor that would be aggregated with any terminated arrangement under Code Section 409A and Reg. Sec. 1.409A-1(c)(2) are terminated, (b) no payments other than payments that would be payable under the terms of the arrangements if the termination had not occurred are made within twelve months of the termination of the arrangements, (c) all payments are made within twenty-four months of the termination of the arrangements, (d) the Plan Sponsor does not adopt a new arrangement that would be aggregated with any terminated arrangement under Code Section 409A and the regulations thereunder at any time within the three year period following the date of termination of the arrangement, and (e) the termination does not occur proximate to a downturn in the financial health of the Plan sponsor. The Plan Sponsor also reserves the right to amend the Plan to provide that termination of the Plan will occur under such conditions and events as may be prescribed by the Secretary of the Treasury in generally applicable guidance published in the Internal Revenue Bulletin.

## ARTICLE 11 – THE TRUST

### 11.1 Establishment of Trust

The Plan Sponsor may but is not required to establish a trust to hold amounts which the Plan Sponsor may contribute from time to time to correspond to some or all amounts credited to Participants under Section 6.2. If the Plan Sponsor elects to establish a trust in accordance with Section 10.01 of the Adoption Agreement, the provisions of Sections 11.2 and 11.3 shall become operative.

### 11.2 Grantor Trust

Any trust established by the Plan Sponsor shall be between the Plan Sponsor and a trustee pursuant to a separate written agreement under which assets are held, administered and managed, subject to the claims of the Plan Sponsor's creditors in the event of the Plan Sponsor's insolvency. The trust is intended to be treated as a grantor trust under the Code, and the establishment of the trust shall not cause the Participant to realize current income on amounts contributed thereto. The Plan Sponsor must notify the trustee in the event of a bankruptcy or insolvency.

### 11.3 Investment of Trust Funds

Any amounts contributed to the trust by the Plan Sponsor shall be invested by the trustee in accordance with the provisions of the trust and the instructions of the Administrator. Trust investments need not reflect the hypothetical investments selected by Participants under Section 7.1 for the purpose of adjusting Accounts and the earnings or investment results of the trust need not affect the hypothetical investment adjustments to Participant Accounts under the Plan.



## ARTICLE 12 – PLAN ADMINISTRATION

### 12.1 Powers and Responsibilities of the Administrator

The Administrator has the full power and the full responsibility to administer the Plan in all of its details, subject, however, to the applicable requirements of ERISA. The Administrator's powers and responsibilities include, but are not limited to, the following:

- (a) To make and enforce such rules and procedures as it deems necessary or proper for the efficient administration of the Plan;
- (b) To interpret the Plan, its interpretation thereof to be final, except as provided in Section 12.2, on all persons claiming benefits under the Plan;
- (c) To decide all questions concerning the Plan and the eligibility of any person to participate in the Plan;
- (d) To administer the claims and review procedures specified in Section 12.2;
- (e) To compute the amount of benefits which will be payable to any Participant, former Participant or Beneficiary in accordance with the provisions of the Plan;
- (f) To determine the person or persons to whom such benefits will be paid;
- (g) To authorize the payment of benefits;
- (h) To comply with the reporting and disclosure requirements of Part 1 of Subtitle B of Title I of ERISA;
- (i) To appoint such agents, counsel, accountants, and consultants as may be required to assist in administering the Plan;
- (j) By written instrument, to allocate and delegate its responsibilities, including the formation of an Administrative Committee to administer the Plan.

### 12.2 Claims and Review Procedures.

- (a) Claims Procedure.

If any person believes he is being denied any rights or benefits under the Plan, such person may file a claim in writing with the Administrator. If any such claim is wholly or partially denied, the Administrator will notify such person of its decision in writing. Such notification will contain (i) specific reasons for the denial, (ii) specific reference to pertinent Plan provisions, (iii) a description of any additional material or information

necessary for such person to perfect such claim and an explanation of why such material or information is necessary, and (iv) a description of the Plan's review procedures and the time limits applicable to such procedures, including a statement of the person's right to bring a civil action following an adverse decision on review. Such notification will be given within 90 days (45 days in the case of a claim regarding Disability) after the claim is received by the Administrator. The Administrator may extend the period for providing the notification by 90 days (30 days in the case of a claim regarding Disability) if special circumstances require an extension of time for processing the claim and if written notice of such extension and circumstance is given to such person within the initial 90 day period (45 day period in the case of a claim regarding Disability). If such notification is not given within such period, the claim will be considered denied as of the last day of such period and such person may request a review of his claim.

(b) Review Procedure.

Within 60 days (180 days in the case of a claim regarding Disability) after the date on which a person receives a written notification of denial of claim (or, if written notification is not provided, within 60 days (180 days in the case of a claim regarding Disability) of the date denial is considered to have occurred), such person (or his duly authorized representative) may (i) file a written request with the Administrator for a review of his denied claim and of pertinent documents and (ii) submit written issues and comments to the Administrator. The Administrator will notify such person of its decision in writing. Such notification will be written in a manner calculated to be understood by such person and will contain specific reasons for the decision as well as specific references to pertinent Plan provisions. The notification will explain that the person is entitled to receive, upon request and free of charge, reasonable access to and copies of all pertinent documents and has the right to bring a civil action following an adverse decision on review. The decision on review will be made within 60 days (45 days in the case of a claim regarding Disability). The Administrator may extend the period for making the decision on review by 60 days (45 days in the case of a claim regarding Disability) if special circumstances require an extension of time for processing the request such as an election by the Administrator to hold a hearing, and if written notice of such extension and circumstances is given to such person within the initial 60-day period (45 days in the case of a claim regarding Disability). If the decision on review is not made within such period, the claim will be considered denied.

**12.3 Plan Administrative Costs**

All reasonable costs and expenses (including legal, accounting, and employee communication fees) incurred by the Administrator in administering the Plan shall be paid by the Plan to the extent not paid by the Employer.

## ARTICLE 13 – MISCELLANEOUS

### 13.1 Unsecured General Creditor of the Employer

Participants and their Beneficiaries, heirs, successors and assigns shall have no legal or equitable rights, interests or claims in any property or assets of the Employer. For purposes of the payment of benefits under the Plan, any and all of the Employer's assets shall be, and shall remain, the general, unpledged, unrestricted assets of the Employer. Each Employer's obligation under the Plan shall be merely that of an unfunded and unsecured promise to pay money in the future.

### 13.2 Employer's Liability

Each Employer's liability for the payment of benefits under the Plan shall be defined only by the Plan and by the deferral agreements entered into between a Participant and the Employer. An Employer shall have no obligation or liability to a Participant under the Plan except as provided by the Plan and a deferral agreement or agreements. An Employer shall have no liability to Participants employed by other Employers.

### 13.3 Limitation of Rights

Neither the establishment of the Plan, nor any amendment thereof, nor the creation of any fund or account, nor the payment of any benefits, will be construed as giving to the Participant or any other person any legal or equitable right against the Employer, the Plan or the Administrator, except as provided herein; and in no event will the terms of employment or service of the Participant be modified or in any way affected hereby.

### 13.4 Anti-Assignment

Except as may be necessary to fulfill a domestic relations order within the meaning of Code Section 414(p), none of the benefits or rights of a Participant or any Beneficiary of a Participant shall be subject to the claim of any creditor. In particular, to the fullest extent permitted by law, all such benefits and rights shall be free from attachment, garnishment, or any other legal or equitable process available to any creditor of the Participant and his or her Beneficiary. Neither the Participant nor his or her Beneficiary shall have the right to alienate, anticipate, commute, pledge, encumber, or assign any of the payments which he or she may expect to receive, contingently or otherwise, under the Plan, except the right to designate a Beneficiary to receive death benefits provided hereunder.

Notwithstanding the preceding, the benefit payable from a Participant's Account may be reduced, at the discretion of the administrator, to satisfy any debt or liability to the Employer.

### **13.5 Facility of Payment**

If the Administrator determines, on the basis of medical reports or other evidence satisfactory to the Administrator, that the recipient of any benefit payments under the Plan is incapable of handling his affairs by reason of minority, illness, infirmity or other incapacity, the Administrator may direct the Employer to disburse such payments to a person or institution designated by a court which has jurisdiction over such recipient or a person or institution otherwise having the legal authority under State law for the care and control of such recipient. The receipt by such person or institution of any such payments therefore, and any such payment to the extent thereof, shall discharge the liability of the Employer, the Plan and the Administrator for the payment of benefits hereunder to such recipient.

### **13.6 Notices**

Any notice or other communication to the Employer or Administrator in connection with the Plan shall be deemed delivered in writing if addressed to the Plan Sponsor at the address specified in Section 1.03 of the Adoption Agreement and if either actually delivered at said address or, in the case of a letter, 5 business days shall have elapsed after the same shall have been deposited in the United States mails, first-class postage prepaid and registered or certified.

### **13.7 Tax Withholding**

If the Employer concludes that tax is owing with respect to any deferral or payment hereunder, the Employer shall withhold such amounts from any payments due the Participant, as permitted by law, or otherwise make appropriate arrangements with the Participant or his Beneficiary for satisfaction of such obligation. Tax, for purposes of this Section 13.7 means any federal, state, local or any other governmental income tax, employment or payroll tax, excise tax, or any other tax or assessment owing with respect to amounts deferred, any earnings thereon, and any payments made to Participants under the Plan.

## 13.8 Indemnification

- (a) .
- (a) Each Indemnitee (as defined in Section 13.8(e)) shall be indemnified and held harmless by the Employer for all actions taken by him and for all failures to take action (regardless of the date of any such action or failure to take action), to the fullest extent permitted by the law of the jurisdiction in which the Employer is incorporated, against all expense, liability, and loss (including, without limitation, attorneys' fees, judgments, fines, taxes, penalties, and amounts paid or to be paid in settlement) reasonably incurred or suffered by the Indemnitee in connection with any Proceeding (as defined in Subsection (e)). No indemnification pursuant to this Section shall be made, however, in any case where (1) the act or failure to act giving rise to the claim for indemnification is determined by a court to have constituted willful misconduct or recklessness or (2) there is a settlement to which the Employer does not consent.
- (b) The right to indemnification provided in this Section shall include the right to have the expenses incurred by the Indemnitee in defending any Proceeding paid by the Employer in advance of the final disposition of the Proceeding, to the fullest extent permitted by the law of the jurisdiction in which the Employer is incorporated; provided that, if such law requires, the payment of such expenses incurred by the Indemnitee in advance of the final disposition of a Proceeding shall be made only on delivery to the Employer of an undertaking, by or on behalf of the Indemnitee, to repay all amounts so advanced without interest if it shall ultimately be determined that the Indemnitee is not entitled to be indemnified under this Section or otherwise.
- (c) Indemnification pursuant to this Section shall continue as to an Indemnitee who has ceased to be such and shall inure to the benefit of his heirs, executors, and administrators. The Employer agrees that the undertakings made in this Section shall be binding on its successors or assigns and shall survive the termination, amendment or restatement of the Plan.
- (d) The foregoing right to indemnification shall be in addition to such other rights as the Indemnitee may enjoy as a matter of law or by reason of insurance coverage of any kind and is in addition to and not in lieu of any rights to indemnification to which the Indemnitee may be entitled pursuant to the by-laws of the Employer.
- (e) For the purposes of this Section, the following definitions shall apply:
- (1) "Indemnitee" shall mean each person serving as an Administrator (or any other person who is an employee, director, or officer of the Employer) who was or is a party to, or is threatened to be made a party to, or is otherwise involved in, any

Proceeding, by reason of the fact that he is or was performing administrative functions under the Plan.

(2) "Proceeding" shall mean any threatened, pending, or completed action, suit, or proceeding (including, without limitation, an action, suit, or proceeding by or in the right of the Employer), whether civil, criminal, administrative, investigative, or through arbitration.

**13.9 Successors**

The provisions of the Plan shall bind and inure to the benefit of the Plan Sponsor, the Employer and their successors and assigns and the Participant and the Participant's designated Beneficiaries.

**13.10 Disclaimer**

It is the Plan Sponsor's intention that the Plan comply with the requirements of Code Section 409A. Neither the Plan Sponsor nor the Employer shall have any liability to any Participant should any provision of the Plan fail to satisfy the requirements of Code Section 409A.

**13.11 Governing Law**

The Plan will be construed, administered and enforced according to the laws of the State specified by the Plan Sponsor in Section 12.01 of the Adoption Agreement.

## ADOPTION AGREEMENT

**1.01**      **PREAMBLE**

By the execution of this Adoption Agreement the Plan Sponsor hereby [complete (a) or (b)]

- (a)          adopts a new plan as of
- (b)          amends and restates its existing plan as of December 6, 2017 which is the amendment Restatement Date. Except as otherwise provided in Appendix A, all amounts deferred under the Plan prior to the Amendment Restatement Date shall be governed by the terms of the Plan as in effect on the day before the Amendment Restatement Date.

Original Effective Date: July 17, 1996 [month, day, year]

Pre-409A Grandfathering:  Yes     No

**1.02**      **PLAN**

Plan Name: CSG Systems, Inc. Wealth Accumulation Plan

Plan Year: December 31

**1.03** **PLAN SPONSOR**

Name: CSG Systems, Inc.  
Address: 6175 S. Willow Drive, Greenwood, Colorado 80111  
Phone #: 303.200.3128  
EIN:  
Fiscal Yr.:

Is stock of the Plan Sponsor, any Employer or any Related Employer publicly traded on an established securities market?

Yes  No

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#### 1.04 EMPLOYER

The following entities have been authorized by the Plan Sponsor to participate in and have adopted the Plan (insert "Not Applicable" if none have been authorized):

<u>Entity</u>	<u>Publicly Traded on Est. Securities Market</u>	
	Yes	No
CSG Systems, Inc. ("Systems")X		
CSG Systems International, Inc. ("International)		X
Prairie Interactive Messaging, Inc.		X
Any current or future Subsidiary (defined to mean a corporation or other entity, domestic or foreign, of which not less than fifty (50%) of the voting shares or other voting interests are beneficially owned, either directly or indirectly through another corporation or <u>entity, by CSG Systems International, Inc.</u>		

#### 1.05 ADMINISTRATOR

The Plan Sponsor has designated the following party or parties to be responsible for the administration of the Plan:

Name: Wealth Accumulation Plan Committee  
Address: 6175 S. Willow Drive, Greenwood, Colorado 80111

Note: The Administrator is the person or persons designated by the Plan Sponsor to be responsible for the administration of the Plan. Neither Fidelity Employer Services Company nor any other Fidelity affiliate can be the Administrator.

#### 1.06 KEY EMPLOYEE DETERMINATION DATES

The Employer has designated as the Identification Date for purposes of determining Key Employees.

In the absence of a designation, the Identification Date is December 31.

The Employer has designated as the effective date for purposes of applying the six month delay in distributions to Key Employees.

In the absence of a designation, the effective date is the first day of the fourth month following the Identification Date.

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## **2.01 PARTICIPATION**

- (a)  Employees [complete (i), (ii) or (iii)]
    - (i) Eligible Employees are selected by the Employer.
    - (ii)  Eligible Employees are those employees of the Employer who satisfy the following criteria:

are classified as a Vice President or equivalent title, Senior Vice President or equivalent title or more senior executive on the Employer's human resource information management system other than an employee who is a nonresident alien with no United States sourced income.
    - (iii) Employees are not eligible to participate.
  - (b)  Directors [complete (i), (ii) or (iii)]
    - (i) All Directors are eligible to participate.
    - (ii) Only Directors selected by the Employer are eligible to participate.
    - (iii)  Directors are not eligible to participate.
-

### 3.01 COMPENSATION

For purposes of determining Participant contributions under Article 4 and Employer contributions under Article 5, Compensation shall be defined in the following manner [complete (a) or (b) and select (c) and/or (d), if applicable]:

(a)X Compensation is defined as:

For Plan Years before 2018, all Base Salary, Commission, Bonuses and Sales Incentive Payments the Participant earns for services rendered to an Employer with respect to a Plan Year.

“Base Salary” means the Participant’s regular base salary for the Plan Year determined before: (1) any reduction pursuant to Code sections 125, 132(f)(4), or 401(k); (2) any reduction to reflect a deferral election in accordance with this Plan; (3) after-tax withholdings for insurance premium payments, including accident, death and disability, and life insurance premiums; and (4) Social Security and Medicare withholding obligations imposed on an Employer and any other withholding requirements imposed by law with respect to such amounts.

“Base Salary” excludes: (i) non-cash payments, (ii) short or long-term disability benefits, (iii) vacation or floating holiday payout because of a Separation from Service, (d) military leave pay, (iv) In Lieu of Notice pay, (v) severance payments, (vi) moving expenses, (vii) car or other special allowances, (viii) other special compensation amounts, (ix) taxable reimbursements , and (x) similar amounts, whether or not taxable.

“Commissions” means any fee, sum or percentage earned by a Participant for transacting a piece of business or performing a service for an Employer.

“Bonus” means a payment of incentive remuneration other than a Sales Incentive Payment or Commission earned by a Participant and payable by an Employer.

“Sales Incentive Payment” means a payment other than a Commission earned by a Participant and payable under a sales incentive plan maintained by an Employer.

For Plan Years after 2017, “Compensation” has the same meaning provided above, but excludes Commissions and Sales Incentive Payments.

(b) Compensation as defined in [insert name of qualified plan] without regard to the limitation in Section 401(a)(17) of the Code for such Plan Year.

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(c) Director Compensation is defined as:

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(d) Compensation shall, for all Plan purposes, be limited to \$ .

(e) Not Applicable

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**3.02 BONUSES/INCENTIVE PAYMENTS**

Compensation, as defined in Section 3.01 of the Adoption Agreement, includes the following types of incentive payments other than Commissions:

Type	Will be treated as Performance Based on Compensation	
	Yes	No
Bonuses		X
Sales Incentive Payments*		X
Not Applicable		

\*The definition of Compensation excludes Sales Incentive Payments for Plan Years after 2017.

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#### 4.01 PARTICIPANT CONTRIBUTIONS

If Participant contributions are permitted, complete (a), (b), and (c). Otherwise complete (d).

**(a) Amount of Deferrals**

A Participant may elect within the period specified in Section 4.3 of the Basic Plan Document and Section 4.01(b) of the Adoption Agreement to defer the following amounts of remuneration.\*\* For each type of remuneration listed, complete “dollar amount” and / or “percentage amount”. Participants may not defer Commissions or Sales Incentive Payments for Plan Years after 2017.

\*\* Notwithstanding any other provision of this Section 4.01, in the case of Eligible Executives other than the Chairman of the Board, the Chief Executive Officer, the President, an Executive Vice President, and the Chief Financial Officer of Systems or International, the maximum aggregate amount of Compensation which an Eligible Executive may defer for any Plan Year is \$50,000; and if any Deferral Agreement would result in the deferral of an aggregate amount greater than \$50,000 for any Plan Year, then the actual deferral for such Plan Year shall be limited to \$50,000. Notwithstanding any other provision of this Section 4.01, in the case of an Eligible Executive who is the Chairman of the Board, the Chief Executive Officer, the President, an Executive Vice President, or the Chief Financial Officer of Systems or International, the maximum aggregate amount of Compensation which such Eligible Executive may defer for any Plan Year is \$700,000; and if any Deferral Agreement would result in the deferral of an aggregate amount greater than \$700,000 for any Plan Year, then the actual deferral for such Plan Year shall be limited to \$700,000. The Compensation Committee of the Board of Directors of International, in its absolute discretion, may increase the maximum permitted deferral amount for any Plan Year for any one or more Eligible Executives. Notwithstanding the foregoing, any exercise of discretion by the Compensation Committee of the Board of Directors of International to increase the maximum permitted deferral amount for any Plan Year for any one or more Eligible Executives shall only be effective with respect to one or more future Plan Years (or such other period permitted under Section 409A of the Code).

(i) Compensation Other than Bonuses [do not complete if you complete (iii)]

Type of Remuneration	Dollar Amount		% Amount		Increment
	Min	Max	Min	Max	
(a) Base Salary			5%	25%	1%
(b) Commissions*			5%	100%	1%
(c) Sales Incentive Payments*			5%	100%	1%

---

Note: The increment is required to determine the permissible deferral amounts. For example, a minimum of 0% and maximum of 20% with a 5% increment would allow an individual to defer 0%, 5%, 10%, 15% or 20%.

\*Participants may not defer Commissions or Sales Incentive Payments for Plan Years after 2017.

(ii) Bonuses [do not complete if you complete (iii)]

Type of Bonus		Dollar Amount		% Amount		Increment
		Min	Max	Min	Max	
(a)	Bonuses			5%	100%	1%
(b)						
(c)						

(iii) Bonuses [do not complete if you complete (i) and (ii)]

Dollar Amount		% Amount		Increment
Min	Max	Min	Max	

(iv) Director of Compensation

Type of Compensation	Dollar Amount		% Amount		Increment
	Min	Max	Min	Max	
Annual Retainer					
Meeting Fees					
Other:					
Other:					

**(b) Election Period**

(i) Performance Based Compensation

A special election period

Does  X Does Not

apply to each eligible type of performance based compensation referenced in Section 3.02 of the Adoption Agreement.

The special election period, if applicable, will be determined by the Employer.

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**5.01 EMPLOYEE CONTRIBUTIONS**

If Employer contributions are permitted, complete (a) and/or (b). Otherwise complete (c).

**(a) Matching Contributions**

(i) Amount

For each Plan Year, the Employer shall make a Matching Contribution on behalf of each Participant who defers Compensation for the Plan Year and satisfies the requirements of Section 5.01(a)(ii) of the Adoption Agreement equal to [complete the ones that are applicable]:

- (A) [insert percentage] of the Compensation the Participant has elected to defer for the Plan Year
- (B) An amount determined by the Employer in its sole discretion
- (C) Matching Contributions for each Participant shall be limited to \$ \_\_\_ and/or \_\_\_ % of Compensation.
- (D)  Other: 25% of the deferred Compensation not to exceed \$6,250 for any one Plan Year
- (E) Not Applicable [Proceed to Section 5.01(b)]

(ii) Eligibility for Matching Contribution

A Participant who defers Compensation for the Plan Year shall receive an allocation of Matching Contributions determined in accordance with Section 5.01(a)(i) provided he satisfies the following requirements [complete the ones that are applicable]:

- (A) Describe requirements:
  - (B) Is selected by the Employer in its sole discretion to receive an allocation of Matching Contributions
  - (C)  No Requirements
-

(iii) Time of Allocation

Matching Contributions, if made, shall be treated as allocated [select one]:

- (A) As of the last day of the Plan Year
- (B) At such times as the Employer shall determine in its sole discretion.
- (C)  At the time the Compensation on account of which the Matching Contribution is being made would otherwise have been paid to the Participant
- (D) Other:

**(b) Other Contributions**

(i) Amount

The Employer shall make a contribution on behalf of each Participant who satisfies the requirements of Section 5.01(b)(ii) equal to [complete the ones that are applicable]:

- (A) An amount equal to [insert number] % of the Participant's Compensation
- (B)  An amount determined by the Employer in its sole discretion
- (C) Contributions for each Participant shall be limited to \$
- (D) Other:
- (E) Not Applicable [Proceed to Section 6.01]

(ii) Eligibility for Other Contributions

A Participant shall receive an allocation of other Employer contributions determined in accordance with Section 5.01(b)(i) for the Plan Year if he satisfies the following requirements [complete the one that is applicable]:

---

(A) Describe requirements:

(B)  Is selected by the Employer in its sole discretion to receive an allocation of other Employer contributions.

(C) No requirements

(iii) Time of Allocation

Employer contributions, if made, shall be treated as allocated [select one]:

(A) As of the last day of the Plan Year

(B)  At such time or times as the Employer shall determine in its sole discretion

(C) Other:

**(c) No Employer Contributions**

Employer contributions are not permitted under the Plan.

---

## 6.01 DISTRIBUTIONS

The timing and form of payment of distributions made from the Participant's vested account shall be made in accordance with the elections made in this Section 6.01 of the Adoption Agreement except when Section 9.6 of the Plan requires a six month delay for certain distributions to Key Employees of publicly traded companies.

### (a) **Timing of Distributions**

- (i) All distributions shall commence in accordance with the following [choose one]:
    - (A)  As soon as administratively feasible following the distribution event but in no event later than the time prescribed by Treas. Reg. Sec. 1.409A-3(d).
    - (B)  Monthly on specified day [insert day]
    - (C)  Annually on specified month and day [insert month and day]
    - (D)  Calendar quarter on specified month and day [month of quarter (insert 1,2 or 3); day (insert day)]
  
  - (ii) The timing of distributions as determined in Section 6.01(a)(i) shall be modified by the adoption of:
    - (A)  Event Delay – Distribution events other than those based on Specified Date, Specified Age, death or Change in Control will be treated as not having occurred for six (6) months [insert number of months].
    - (B)  Hold Until Next Year – Distribution events other than those based on Specified Date or Specified Age will be treated as not having occurred for twelve months from the date of the event if payment pursuant to Section 6.01(a)(i) will thereby occur in the next calendar year or on the first payment date in the next calendar year in all other cases.
    - (C)  Immediate Processing – The timing method selected by the Plan Sponsor under Section 6.01(a)(i) shall be overridden for the following distribution events [insert events]:
    - (D)  Not applicable.
-

**(b) Distribution Events**

Participants may elect the following payment events and the associated form or forms of payment. If multiple events are selected, the earliest to occur will trigger payment to the extent the form or payment event are provided by the Plan Sponsor as options in the deferral agreement for the Plan Year. For installments, insert the range of available periods (e.g., 5-15) or insert the periods available (e.g., 5,7,9).

		Lump Sum	Installments
X	Specified Date		0 – 15 years
	Specified Age		
X	Separation from Service		0 – 15 years
	Separation from Service plus 6 months		
	Separation from Service plus __ months [not to exceed months]		
	Retirement		
	Retirement plus 6 months		
	Retirement plus __ months [not to exceed __ months]		
	Later of Separation from Service or Specified Age		
	Later of Separation from Service or Specified Date		
	Disability		
X	Death	X	
	Change in Control		

The minimum deferral period for Specified Date or Specified Age event shall be three (3) years.

Installments may be paid [select each that applies]

- X Monthly
  - Quarterly
  - Annually
-

(c) Specified Date and Specified Age elections may not extend beyond age Not Applicable [insert age or "Not Applicable" if no maximum age applies].

(d) **Payment Election Override**

Payment of the remaining vested balance of the Participant's Account will automatically occur at the time specified in Section 6.01(a) of the Adoption Agreement in the form indicated upon the earliest to occur of the following events [check each event that applies and for each event include only a single form of payment]:

	EVENTS	FORM OF PAYMENT	
		LUMP SUM	INSTALLMENT
	Separation from Service		
	Separation from Service before Retirement		
X	Death	X	
	Disability		
	Not Applicable		

The following paragraph applies to deferrals on and after January 1, 2018. If a Participant experiences a Separation from Service before the occurrence of a Specified Date elected by the Participant, all amounts subject to such Specified Date election shall be paid in a lump sum at the time that the Participant would be entitled to receive his/her first distribution due to a Separation from Service pursuant to Sections 6.01(a)(i) and (ii) of the Adoption Agreement, without regard to the Participant's Specified Date distribution elections or whether the Participant would have been entitled to receive his/her Specified Date distribution on an earlier date, but for this provision. For the avoidance of doubt, if a Participant experiences a Separation from Service before the occurrence of a Specified Date shall be subject to the mandatory six-month delay for Separation of Service distributions set forth in Section 6.01(a)(ii) of the Adoption Agreement. Notwithstanding the foregoing, in the event a Participant experiences a Separation from Service after a Specified Date but prior to the complete payment of amounts subject to such Specified Date election, all remaining amounts subject to such Specified Date election shall continue to be paid at the same time and in the same form elected by the Participant until paid in full (unless Participant dies prior to complete payment, in which case the payment election override in this Section 6.01(d) for death shall apply).

(e) **Involuntary Cashouts**

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If the Participant's vested Account at the time of his Separation from Service does not exceed \$ distribution of the vested Account shall automatically be made in the form of a single lump sum in accordance with Section 9.5 of the Plan.

There are no involuntary cashouts.

**(f) Retirement**

Retirement shall be defined as a Separation from Service that occurs on or after the Participant attains age 65

No special definition of Retirement applies.

**(g) Distribution Election Change**

A Participant

Shall  
 Shall Not

be permitted to modify a scheduled distribution date and/or payment option in accordance with Section 9.2 of the Plan.

A Participant shall generally be permitted to elect such modification one number of times.

Administratively, allowable distribution events will be modified to reflect all options necessary to fulfill the distribution change election provision.

**(h) Frequency of Elections**

The Plan Sponsor

Has  
 Has Not

Elected to permit annual elections of a time and form of payment for amounts deferred under the Plan.

---

**7.01 VESTING**  
**(a) Matching Contributions**

The Participant's vested interest in the amount credited to his Account attributable to Matching Contributions shall be based on the following schedule:

X	Years of Service	Vesting %
	0	(insert '100' if there is immediate vesting)
	1	
	2	
	3	100%
	4	
	5	
	6	
	7	
	8	
	9	

Other:  
Class year vesting applies  
Not Applicable

**(b) Other Employee Contributions**

The Participant's vested interest in the amount credited to his Account attributable to Employer contributions other than Matching Contributions shall be based on the following schedule:

X	Years of Service	Vesting %
	0	(insert '100' if there is immediate vesting)
	1	
	2	
	3	100%
	4	
	5	
	6	
	7	
	8	
	9	

Other:  
Class year vesting applies  
Not Applicable

---



**(c) Acceleration of Vesting**

A Participant's vested interest in his Account will automatically be 100% upon the occurrence of the following events: [select the ones that are applicable]:

- (i)  Death
- (ii)  Disability
- (iii)  Change in Control
- (iv)  Eligibility for Retirement
- (v)  Other: Plan Termination
- (vi)  Not applicable.

**(d) Years of Service**

- (i) A Participant's Years of Service shall include all service performed for the Employer and

Shall  
 Shall Not

include service performed for the Related Employer.

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- (ii) Years of Service shall also include service performed for the following entities:
- (iii) Years of Service shall be determined in accordance with (select one)
- (A) The elapsed time method in Treas. Reg. Sec. 1.410(a)-7
  - (B) The general method in DOL Reg. Sec. 2530.200b-1 through b- 4
  - (C) The Participant's Years of Service credited under [insert name of plan]
  - (D)  Other: Continuous based on elapsed time method in Treas. Reg. Sec. 1.410(a)-7
- (iv) Not applicable.
-

**8.01 UNFORESEEABLE EMERGENCY**

(a) A withdrawal due to an Unforeseeable Emergency as defined in Section 2.24:

- X Will  
Will Not [if Unforeseeable Emergency withdrawals are not permitted,  
proceed to Section 9.01]

be allowed.

(b) Upon a withdrawal due to an Unforeseeable Emergency, a Participant's deferral election for the remainder of the Plan Year:

- X Will  
Will Not

be cancelled. If cancellation occurs, the Participant may resume participation in accordance with Article 4 of the Plan.

---

## **9.01 INVESTMENT DECISIONS**

Investment decisions regarding the hypothetical amounts credited to a Participant's Account shall be made by [select one]:

- (a)     X     The Participant or his Beneficiary
  - (b)             The Employer
-

**10.01 GRANTOR TRUST**

The Employer [select one]:

Does  
X Does Not

intend to establish a grantor trust in connection with the Plan.

---

**11.01 TERMINATION UPON CHANGE IN CONTROL**

The Plan Sponsor

X Reserves  
Does Not Reserve

the right to terminate the Plan and distribute all vested amounts credited to Participant Accounts upon a Change in Control as described in Section 9.7.

**11.02 AUTOMATIC DISTRIBUTION UPON CHANGE IN CONTROL**

Distribution of the remaining vested balance of each Participant's Account

Shall  
X Shall Not

automatically be paid as a lump sum payment upon the occurrence of a Change in Control as provided in Section 9.7.

**11.03 CHANGE IN CONTROL**

A Change in Control for Plan purposes includes the following [select each definition that applies]:

- (a) X A change in the ownership of the Employer as described in Section 9.7(c) of the Plan.
  - (b) X A change in the effective control of the Employer as described in Section 9.7(d) of the Plan.
  - (c) X A change in the ownership of a substantial portion of the assets of the Employer as described in Section 9.7(e) of the Plan.
  - (d) Not Applicable.
-

## **12.01 GOVERNING STATE LAW**

The laws of Nebraska shall apply in the administration of the Plan to the extent not preempted by ERISA.

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**EXECUTION PAGE**

The Plan Sponsor has caused this Adoption Agreement to be executed this 13<sup>th</sup> day of September, 2018.

PLAN SPONSOR: Gregory L. Cannon  
By: /s/ Gregory L. Cannon  
Title: SVP, General Counsel &  
Secretary

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**APPENDIX A**  
**SPECIAL EFFECTIVE DATES**

Not Applicable

**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: November 9, 2018

/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, Rolland B. Johns, 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: November 9, 2018

/s/ Rolland B. Johns

Rolland B. Johns

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 Rolland B. Johns, 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.

November 9, 2018

/s/ Bret C. Griess

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Bret C. Griess  
President and Chief Executive Officer

November 9, 2018

/s/ Rolland B. Johns

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Rolland B. Johns  
Executive Vice President and Chief Financial Officer