DOUGHERTY & COMPANY LLC
Equity Research

Carrier & Data Infrastructure

December 8, 2016

Ciena Corporation

CIEN - NYSE

Rating: Buy
Price Target: $26.00
Reason for Report: Quarter Review

Q4 Review: Solid Finish Sets Up Well for FY'17, Reiterate Buy Rating

Investment Conclusion:

Ciena Corp. announced solid Q4 results on Thursday, December 8th. Although the company reported revenues of $716.2M and non-GAAP EPS of $0.44, relative to consensus of $717.1M/$0.47, commentary on the overall progress of the business over a number of different segments and vectors demonstrated a bright outlook for the optical leader. Ciena saw strength in the quarter from the APAC, particularly in the India region, and subsea segments strong as well as a bounce back in performance from EMEA. Importantly, management also noted that the company finished FY'16 with a record backlog of $1.15B. Expectations are that the majority of this backlog will be deployed in FY'17. Outlook for Q1'17 was as we expected: seasonality light and in the range of $615M-$645M. Gross margin (mid-40%) and opex outlook ($220M-$225M) fell in-line as well. We remain bullish on Ciena's ability to take market share in the optical space, especially as their growth opportunities in Metro, Subsea, Webscale, and MSO ramp. We reiterate our "Buy" rating and PT of $26 on our new FY'18 estimates.

Key Points:

Q4 Recap: Ciena posted total revenue of $716.2M (+3.5% Y/Y, +6.8% Q/Q), at the mid-point of management's guided range and roughly in-line with consensus estimates, however slightly below our estimate of $720.0M. The company benefited from a very strong quarter from their Software Platforms segment, which contributed $16.3M (+69.8% Y/Y, +29.4% Q/Q) in revenue, as well as their overall Services segment which provided $133.7M (+13.6% Y/Y, +6.8% Q/Q). Overall Product sales were steady, generating $582.5M (+1.4% Y/Y, +5.2% Q/Q). Geographically, Ciena also benefitted from strong performances from the EMEA and APAC regions, which grew revenues +19.7% Y/Y and +29.7% Y/Y during the quarter.

Adjusted gross margins fell in at 45.2% during Q4, in-line with management's outlook of mid-40s on a percentage basis and our estimate of 45.6%. While some investors may point out that gross margins were down 160 bps over Q3, management did caution investors heading into Q4 that there could be fluctuations within the gross margin, but they feel comfortable with the mid-40s guide going forward. We attribute solid margin performance to a combination of cost reduction in the products and improved services margins.

Operating expenses came in at $232.4M (+5.4% Y/Y, +4.0% Q/Q) or 32.5% of total revenue, in-line with management's guidance, leading to operating margin of 12.8% (down from the 13.5% posted in the prior quarter, and slightly below our estimate of 13.0%). With sales volume, gross margins and opex coming in at the mid-point of guidance, non-GAAP EPS came a tad light relative to Street expectation, printing at $0.44, down $0.03 from consensus estimates. See page 2 for details on results.

Valuation: We reiterate our "Buy" rating and PT of $26. Our PT is based on 12.8x P/E using our FY'18 non-GAAP EPS of $2.03 (changed from 15x P/E on former FY'17 non-GAAP EPS estimate of $1.71). We believe this multiple is appropriate as it implies appreciation towards others in the Optical sector who trade at an average of 16.6x P/E on consensus FY'18 earnings estimates.

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Changes	Previous	Current
Jan '17 EPS	$0.29	$0.34
Annual '16 EPS	$1.46	$1.38
Annual '17 EPS	$1.71	$1.85
Annual '18 EPS	--	$2.03
Jan '17 Revenues (MM)	$629.8	$629.6
Annual '16 Revenues (MM)	$2,604.4	$2,600.6
Annual '17 Revenues (MM)	$2,801.0	$2,797.5
Annual '18 Revenues (MM)	--	$2,972.9

Price	$21.60
52 Week Range	$15.62 - $24.54
Mkt Cap (MM)	$3,010
EV (MM)	$4,016
Shares Out (MM)	139.3
Avg Daily Vol (000)	2,647
Short Interest %	10%
Long-term Growth	17%

EPS	FY 16A	FY 17E	FY 18E
Jan	$0.18	$0.34	$0.40
Apr	$0.34	$0.44	$0.49
Jul	$0.42	$0.50	$0.50
Oct	$0.44	$0.59	$0.59
FY	$1.38	$1.85	$2.03
P/E	15.7x	11.7x	10.6x

Revenues (MM)	FY 16A	FY 17E	FY 18E
Jan	$573.1	$629.6	$676.3
Apr	$640.7	$690.3	$737.7
Jul	$670.8	$716.9	$757.7
Oct	$716.2	$760.6	$801.0
FY	$2,600.6	$2,797.5	$2,972.9
EV/Sales	1.5x	1.4x	1.4x

Ciena Corporation was founded in 1992 and completed its IPO in February of 1997. The company is a leading manufacturer and supplier of optical transport, switching, and aggregation equipment used to deliver IP/Ethernet services within fiber optic communication networks. Ciena serves service providers and cable operators, governments and enterprises as the third-largest supplier of optical equipment worldwide and number one in North America. The company is headquartered in Linthicum, Maryland.

This brought to close a strong FY'16, which saw a number of improvements to the company's overall business model. Ciena experienced improved customer diversification during the year, as non-Telcos delivered a record 31% of total sales for FY'16, up +11% Y/Y and attributed to contributions from Enterprise, Webscale and the MSO segments, which increased +34% Y/Y, +25% Y/Y and +11% Y/Y, respectively. Management noted North American revenue (ex. AT&T) grew +11% Y/Y. Backlog was very healthy as the company recorded a company high over $1.15B exiting the year. Historically, when the backlog was disclosed, about 75% has been expected to be recognized within the following fiscal year. While, roughly 25% of Ciena backlog in the past has been related to orders for products and maintenance and support services that are not expected to be filled or performed within the following fiscal year. Additionally, as we had noted in our preview the Verizon Metro is expected to build in FY'17 as lab and first application testing cycles have been completed.

Diversified Product Portfolio Reaches Broader Market Segments: Ciena had plenty of bright spots in the quarter, including Webscale, DCI, Subsea and MSOs. The direct sales efforts to Webscale operators represented 5%-10% of revenue during Q4, down from the 12% recorded in the prior quarter but in-line with past quarters' contribution. The data centers interconnect (DCI) business is seeing increased momentum, broadening beyond ICP operators into Subsea, carriers, and the media and the enterprises segments. Waveserver (launched in May 2015) now accounts for 25 customers, with half of the customer count outside webscale players to encompass MSOs, Subsea and enterprises.

The 8700 platform is now counting 40 customer engagements (versus 36 recorded in the prior quarter). Management expects this product will continue to play a vital role with carriers as they merge their IT and Telco departments with focus on IT centric networks.

The company's BluePlanet SDN orchestration software is setting up as a FY'18 growth catalyst, as the company has signed 18 customers to date, including 5 new orders recorded in Q4. We expect FY'17 will continue to be a land grab year, however management did start to see a ramp in revenue (granted, off a small base). Blue Planet's revenue recognition depends on customer configuration; therefore it becomes difficult to precisely determine when the opportunity will begin having a material top-line effect. Management noted that initial orders are smaller in size with a follow-on set of POs. We have modeled FY'17 Software and Software-Related Services at $150M which includes management guide of $20M-$25M increase.

Update on Key Partners: Both Ericsson and TE-Subcom are partners that have that have decided to exit optical development and have selected Ciena as their go-to-market partner. At the time of the announced partnership (February 2014), Ericsson had been doing roughly $300M-$350M in optical revenue, and we estimate today, Ciena generates under $100M in revenue through this partnership. This is increasing though, as in Q4, Ericsson revenues were up +20% Y/Y. The slower start to revenue generation can be attributed to some Ericsson service provider customers adding capacity to their to 10G/40G regional networks. That said, Telstra has been on fire for Ciena. As for TE-Subcom this is a new partnership, only announced in November 2016. This partnership has evolved as a result of sub-sea providers looking for best of breed optical suppliers and the daunting cost to develop optical systems. Longer-term we believe the Ericsson and TE-Subcom partnerships will drive meaningful business for Ciena.

Improving Balance Sheet/Cash Flow: Ciena finished FY'16 with a net cash balance of -$119.5M ($1.143B in cash and investments vs. $1.263B in debt). DSOs improved to 72 days in Q4, down from 79 days in the prior quarter. Deferred revenue was $182.9M (-3.3% Y/Y,-2.9% Q/Q). Ciena's cash flow from operations was up to $136.7M in the quarter, up from the $77.1M reported in Q3 and $84.6M reported in the year ago period.

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Management's Guidance: The company Q1 guide was relatively in-line with Street expectations, taking in a seasonally soft Q1 as a result of slower carrier spending.

Q1'17

- **Total Revenue:** $615M-$645M
- **Non-GAAP Gross Margin:** mid-40s % range
- **Non-GAAP Operating Expense:** $220M-$225M

FY'17

- **Total Revenue:** Faster than overall market growth (mid-single digits, ex-China)
- **Non-GAAP Gross Margin:** mid-40s % range
- **Non-GAAP Operating Expense:** ~$235M per quarter
- **Operating Margin:** 11%-13%

Management also reiterated their long-term operating margin outlook of 15%. They are expected to reach this milestone in 3-4 years.

Modeling Adjustments: For Q1, our revenue remains relatively unchanged at $629.6M. This is in-line with management's guidance of $615M-$645M. We have modeled gross margins of 45.5% (consensus: 45.2%), operating margins of 9.9% and EPS of $0.34 (changed from $0.30). This compares to the Street's prior estimates of $634.2M/$0.29.

For FY'17, we expect Verizon Metro, cable and subsea to be key areas of revenue growth throughout the year. For FY'17, our revenue estimate is now $2,797.5M (slightly down from $2,801M), representing growth of +7.6% Y/Y. Our modeled operating margin is 12.1% and non-GAAP EPS is $1.85 (up from $1.71). This compares to the Street's prior estimates of $2,800.8M/$1.71.

Additionally we are now introducing our FY'18 estimates. For FY'18, we are modeling revenues of $2,972.9M (+6.3% Y/Y), gross margins of 46.0% and operating margins of 12.6%, which drives our non-GAAP EPS of $2.03 per diluted share. This compares to the Street's prior estimates of $2,968.2M/$1.98. We believe these are reasonable as the company is positioned to continue growing above the market rate, and we believe high components of software and better efficiencies will eventually help margins.

Valuation: We reiterate our "Buy" rating and PT of $26. Our PT is based on 12.8x P/E using our FY'18 non-GAAP EPS of $2.03 (changed from 15x P/E on former FY'17 non-GAAP EPS estimate of $1.71). We believe this multiple is appropriate as it implies appreciation towards others in the Optical sector who trade at an average of 16.6x P/E on consensus FY'18 earnings estimates.

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CIENA Corporation (CIEN) Condensed model (in $000s)	Jan-16 Q1:16A	Apr-16 Q2:16A	Jul-16 Q3:16A	Oct-16 Q4:16A	Jan-17 Q1:17 E	Apr-17 Q2: 17 E	Jul-17 Q3: 17 E	Oct-17 Q4: 17 E	Jan-18 Q1:18 E	Apr-18 Q2: 18 E	Jul-18 Q3: 18 E	Oct-18 Q4: 18 E		2016A	2017E	2018E
Excludes Stock Based Options																
Products	457.6	524.0	553.5	582.5	494.6	553.8	579.7	622.4	536.2	595.3	614.8	655.8		2,117.5	2,250.6	2,402.1
% of Sales	79.8%	81.8%	82.5%	81.3%	78.6%	80.2%	80.9%	81.8%	79.3%	80.7%	81.1%	81.9%		81.4%	80.5%	80.8%
% Y/Y	8.4%	2.4%	12.1%	1.4%	8.1%	5.7%	4.7%	6.9%	8.4%	7.5%	6.1%	5.4%		7.8%	6.3%	6.7%
% Q/Q	(20.3%)	14.5%	5.6%	5.2%	(15.1%)	12.0%	4.7%	7.4%	(13.9%)	11.0%	3.3%	6.7%				
Services	115.5	116.7	117.1	133.7	135.0	136.4	137.2	138.2	140.1	142.3	143.1	145.2		483.1	546.9	570.8
% of Sales	20.2%	18.2%	17.5%	18.7%	21.4%	19.8%	19.1%	18.2%	20.7%	19.3%	18.9%	18.1%		18.6%	19.5%	19.2%
% Y/Y	8.1%	6.4%	7.4%	13.6%	16.9%	16.9%	17.2%	3.3%	3.8%	4.3%	4.3%	5.0%		6.8%	13.2%	4.4%
% Q/Q	(17.2%)	11.8%	4.7%	6.8%	(12.1%)	9.6%	3.9%	6.1%	(11.1%)	9.1%	2.7%	5.7%				
Total Revenue	$573.1	$640.7	$670.6	$716.2	$629.6	$690.3	$716.9	$760.6	$676.3	$737.7	$757.9	$801.0	*FY*	$2,600.6	$2,797.5	$2,972.9
% Y/Y	8.3%	3.1%	11.2%	3.5%	9.9%	7.7%	6.9%	6.2%	7.4%	6.9%	5.7%	5.3%		6.3%	7.57%	6.3%
% Q/Q	(17.2%)	11.8%	4.7%	6.8%	(12.1%)	9.6%	3.9%	6.1%	(11.1%)	9.1%	2.7%	5.7%	*CY*	$2,657.1	$2,844.1	$3,026.2
														6.7%	7.0%	6.4%
Total Cost of Goods	317.1	352.0	356.5	392.2	343.2	374.1	388.6	410.7	366.6	399.1	409.3	430.9		1,417.7	1,516.6	1,605.8
Gross Profit	256.1	288.7	314.1	324.0	286.5	316.1	328.3	349.9	309.8	338.6	348.7	370.0		1,182.9	1,280.9	1,367.0
Gross Margin	44.7%	45.1%	46.8%	45.2%	45.5%	45.8%	45.8%	46.0%	45.8%	45.9%	46.0%	46.2%		45.5%	45.8%	46.0%
R&D	104.6	110.8	113.2	109.3	109.6	112.5	115.4	114.1	113.6	118.0	117.5	120.1		437.9	451.6	469.3
% of sales	18.3%	17.3%	16.9%	15.3%	17.4%	16.3%	16.1%	15.0%	16.8%	16.0%	15.5%	15.0%		16.8%	16.1%	15.8%
S&M	77.7	82.7	80.1	94.0	85.0	93.2	92.5	98.9	91.3	98.8	98.5	108.9		334.6	369.6	397.6
% of sales	13.6%	12.9%	12.0%	13.1%	13.5%	13.5%	12.9%	13.0%	13.5%	13.4%	13.0%	13.6%		12.9%	13.2%	13.4%
G&A	26.0	29.0	30.1	29.2	29.6	30.4	30.1	30.8	31.1	31.7	31.8	32.0		114.3	120.9	126.7
% of sales	4.5%	4.5%	4.5%	4.1%	4.7%	4.4%	4.2%	4.1%	4.6%	4.3%	4.2%	4.0%		4.4%	4.3%	4.3%
Total Operating Expenses	208.4	222.6	223.4	232.4	224.2	236.1	238.0	243.8	236.0	248.6	247.8	261.1		886.8	942.0	993.6
% of sales	36.4%	34.7%	33.3%	32.5%	35.6%	34.2%	33.2%	32.1%	34.9%	33.7%	32.7%	32.6%		34.1%	33.7%	33.4%
Operating Income	47.68	66.14	90.68	91.61	62.33	80.07	90.33	106.11	73.72	89.99	100.81	108.93		296.1	338.8	373.5
Operating Margin	8.3%	10.3%	13.5%	12.8%	9.9%	11.6%	12.6%	14.0%	10.9%	12.2%	13.3%	13.6%		11.4%	12.1%	12.6%
Other Income	(21.2)	(11.2)	(19.2)	(15.8)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)		(67.3)	(30.4)	(30.4)
Pretax Income	26.5	55.0	71.5	75.8	54.7	72.5	82.7	98.5	66.1	82.4	93.2	101.3		228.8	308.4	343.1
% of sales	4.6%	8.6%	10.7%	10.6%	8.7%	10.5%	11.5%	13.0%	9.8%	11.2%	12.3%	12.7%		8.8%	11.0%	11.5%
Income Taxes	1.30	2.60	3.86	6.38	4.30	4.30	4.30	4.30	4.30	5.30	6.30	7.30		14.1	17.2	23.2
Tax Rate	4.9%	4.7%	5.4%	8.4%	7.9%	5.9%	5.2%	4.4%	6.5%	6.4%	6.8%	7.2%		6.2%	5.6%	6.8%
Net Income	25.2	52.4	67.6	69.4	50.4	68.2	78.4	94.2	61.8	77.1	86.9	94.0		214.6	291.2	319.9
% of sales	4.4%	8.2%	10%	10%	8.0%	9.9%	10.9%	12.4%	9.1%	10.5%	11.5%	11.7%		8.3%	10.4%	10.8%
GAAP EPS	($0.08)	$0.10	$0.24	$0.26	$0.04	$0.12	$0.16	$0.23	$0.09	$0.16	$0.21	$0.24		$0.52	$0.56	$0.69
Non-GAAP EPS, w/conversion	$0.18	$0.34	$0.42	$0.44	$0.34	$0.44	$0.50	$0.59	$0.40	$0.49	$0.55	$0.59	*FY*	$1.38	$1.85	$2.03
Shares outstanding - diluted (inclu	151.4	178.0	178.5	174.5	163.2	172.4	172.4	172.4	172.4	172.4	172.4	172.4		177.3	172.4	172.7
Interest Add-back	1.4	7.8	8.2	7.2	4.2	7.6	7.6	7.6	7.6	7.6	7.6	7.6		24.7	26.9	30.6
Key Metrics					Estimate											
Operating Expense	208.4	222.6	223.4	232.4	224.2	236.1	238.0	243.8	236.0	248.6	247.8	261.1		886.8	942.0	993.6
% Y/Y	5.6%	7.1%	10.5%	5.4%	7.6%	6.1%	6.5%	4.9%	5.3%	5.3%	4.1%	7.1%		7.1%	6.2%	5.5%
% Q/Q	(5.5%)	6.8%	0.4%	4.0%	(3.6%)	5.3%	0.8%	2.4%	(3.2%)	5.3%	(0.3%)	5.4%				
Operating Income	47.7	66.1	90.7	91.6	62.3	80.1	90.3	106.1	73.7	90.0	100.8	108.9		296.1	338.8	373.5
% Y/Y	31.6%	(2.7%)	27.4%	1.6%	30.7%	21.1%	(0.4%)	15.8%	18.3%	12.4%	11.6%	2.7%		11.5%	14.4%	10.2%
% Q/Q	(47.1%)	38.7%	37.1%	1.0%	(32.0%)	28.5%	12.8%	17.5%	(30.5%)	22.1%	12.0%	8.1%				
Net income	25.2	52.4	67.6	69.4	50.4	68.2	78.4	94.2	61.8	77.1	86.9	94.0		214.6	291.2	319.9
% Y/Y	NM	10.6%	33.3%	3.2%	99.9%	30.2%	16.0%	35.7%	22.6%	13.1%	10.8%	(0.2%)		19.9%	35.7%	9.8%
% Q/Q	(62.5%)	107.6%	29.2%	2.6%	(27.3%)	35.2%	15.0%	20.1%	(34.4%)	24.7%	12.7%	8.2%				
Non-GAAP EPS	$0.18	$0.34	$0.42	$0.44	$0.34	$0.44	$0.50	$0.59	$0.40	$0.49	$0.55	$0.59		$1.38	$1.85	$2.03
% Y/Y	42.6%	(2.9%)	14.0%	3.4%	90.5%	30.0%	17.4%	34.5%	20.2%	11.8%	9.9%	(0.2%)		5.8%	33.5%	9.9%
% Q/Q	(58.6%)	92.2%	25.7%	3.3%	(23.7%)	31.2%	13.5%	18.3%	(31.8%)	22.0%	11.6%	7.5%				

Source: Company Reports & Dougherty Estimates

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CIENA Corporation (CIEN) Balance sheets (in $000s)	Jan-16 Q1:16A	Apr-16 Q2:16 A	Jul-16 Q3:16 A	Oct-16 Q4:16 A	Jan-17 Q1:17 E	Apr-17 Q2: 17 E	Jul-17 Q3: 17 E	Oct-17 Q4: 17 E	Jan-18 Q1:18 E	Apr-18 Q2: 18 E	Jul-18 Q3: 18 E	Oct-18 Q4: 18 E
Assets												
Cash and cash equivalents	660.32	922.03	854.92	777.62	828.7	856.2	886.0	950.9	1,018.2	1,065.8	1,111.6	1,176.7
Short-term Investments	210.0	195.2	295.3	275.2	275.2	275.2	275.2	275.2	275.2	275.2	275.2	275.2
Accounts Receivable, net	480.4	555.1	588.4	576.2	510.7	559.9	581.5	608.5	548.6	590.1	606.4	640.8
Inventories, net	205.7	190.9	221.6	211.3	185.7	203.6	211.5	224.4	199.5	217.6	223.6	236.3
Deferred Income Taxes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prepaid expenses and other	194.6	214.9	189.9	172.8	214.1	207.1	222.2	213.0	229.9	221.3	235.0	224.3
Total Current Assets	**$1,751.0**	**$2,078.0**	**$2,150.2**	**$2,013.2**	**$2,014.4**	**$2,102.0**	**$2,176.4**	**$2,272.0**	**$2,271.4**	**$2,370.1**	**$2,451.7**	**$2,553.2**
Long-term Investments	125.1	125.2	115.4	90.2	94.4	103.5	107.5	114.1	101.4	110.6	113.7	120.1
Equipment, furniture and fixtures, net	199.6	248.6	273.0	288.4	296.8	304.5	311.3	317.3	322.6	327.0	330.6	333.4
Goodwill / Other Intangibles	438.6	452.6	432.4	413.7	413.7	413.7	413.7	413.7	413.7	413.7	413.7	413.7
Other Long-term assets	75.1	77.1	72.7	77.0	79.3	81.7	84.1	86.6	89.2	91.9	94.7	97.5
Total Assets	**$2,589.3**	**$2,981.6**	**$3,043.7**	**$2,882.4**	**$2,898.7**	**$3,005.4**	**$3,093.1**	**$3,203.8**	**$3,198.4**	**$3,313.3**	**$3,404.4**	**$3,518.0**
Liabilities												
Accounts payable	$183.9	$225.2	$232.7	$235.9	$220.4	$241.6	$250.9	$266.2	$236.7	$258.2	$265.3	$280.3
Accrued liabilities	262.2	283.1	297.1	310.4	270.7	303.7	315.4	334.7	297.6	324.6	333.5	352.4
Income taxes payable	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred revenue	106.7	116.8	118.0	109.0	101.3	111.0	115.3	122.4	108.8	118.7	121.9	128.8
Convertible Notes Payable	2.5	5.0	455.5	236.6	236.6	236.6	236.6	236.6	236.6	236.6	236.6	236.6
Total current liabilities	**$555.2**	**$630.1**	**$1,103.3**	**$891.9**	**$829.0**	**$893.0**	**$918.3**	**$959.9**	**$879.7**	**$938.0**	**$957.3**	**$998.2**
Long term deferred revenues	67.0	70.2	70.3	73.9	59.5	65.2	67.7	71.9	63.9	69.7	71.6	75.7
Other long-term obligations	81.7	106.8	122.9	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4
Long-term unfavorable lease commitments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long-term debt, net	1,258.3	1,505.4	1,025.7	1,026.0	1,026.0	1,026.0	1,026.0	1,026.0	1,026.0	1,026.0	1,026.0	1,026.0
Total Long Term Liabilities	**$1,407.1**	**$1,682.4**	**$1,218.8**	**$1,224.2**	**$1,209.9**	**$1,215.6**	**$1,218.1**	**$1,222.2**	**$1,214.3**	**$1,220.1**	**$1,222.0**	**$1,226.1**
Total Liabilities	**$1,962.3**	**$2,312.6**	**$2,322.1**	**$2,116.1**	**$2,038.9**	**$2,108.6**	**$2,136.4**	**$2,182.1**	**$2,094.0**	**$2,158.1**	**$2,179.3**	**$2,224.3**
Stockholders Equity	**$627.0**	**$669**	**$721.6**	**$766.3**	**$860**	**$897**	**$957**	**$1,022**	**$1,104**	**$1,155**	**$1,225**	**$1,294**
Total liabilities and stockholder equity	$2,589.3	$2,981.6	$3,043.7	$2,882.4	$2,899	$3,005	$3,093	$3,204	$3,198	$3,313	$3,404	$3,518

Key Balance sheet metrics	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Apr-17	Jul-17	Oct-17	Jan-18	Apr-18	Jul-18	Oct-18
Cash and investments	$995.4	$1,242.4	$1,265.6	$1,143.0	$1,198.4	$1,235.0	$1,268.8	$1,340.2	$1,394.9	$1,451.7	$1,500.5	$1,572.1
Total Debt (Convertible Notes)	1,260.8	1,510.4	1,481.1	1,262.5	1,262.6	1,262.6	1,262.6	1,262.6	1,262.6	1,262.6	1,262.6	1,262.6
Net cash	**($265.4)**	**($267.9)**	**($215.5)**	**($119.5)**	**($64.2)**	**($27.6)**	**$6.2**	**$77.7**	**$132.3**	**$189.1**	**$237.9**	**$309.5**
% YoY	(60%)	(42%)	(39%)	(53%)	(76%)	(90%)	(103%)	(165%)	(306%)	(785%)	3738%	299%
% QoQ	5%	1%	(20%)	(45%)	(46%)	(57%)	(122%)	1153%	70%	43%	26%	30%
Net Cash per share	**($1.75)**	**($1.51)**	**($1.21)**	**($0.68)**	**($0.39)**	**($0.16)**	**$0.04**	**$0.45**	**$0.77**	**$1.10**	**$1.38**	**$1.80**
Days Sales Outstanding	**75**	**78**	79	72	**73**	**73**	**73**	**72**	**73**	**72**	**72**	**72**
Total Deferred revenue	**$173.7**	**$187.0**	**$188.2**	**$182.9**	**$160.8**	**$176.2**	**$183.0**	**$194.2**	**$172.7**	**$188.3**	**$193.5**	**$204.5**
% YoY	14%	18%	12%	-3%	-7%	-6%	-3%	6%	7%	7%	6%	5%
% QoQ	-8%	8%	1%	-3%	-12%	10%	4%	6%	-11%	9%	3%	6%
Short-term Deferred revenue	106.7	116.8	118.0	109.0	101.3	111.0	115.3	122.4	108.8	118.7	121.9	128.8
% of Total Deferrred	61%	62%	63%	60%	**63%**	**63%**	**63%**	**63%**	**63%**	**63%**	**63%**	**63%**
% YoY	0%	7%	3%	(14%)	(5%)	(5%)	(2%)	12%	7%	7%	6%	5%
% QoQ	(15%)	10%	1%	(8%)	(7%)	10%	4%	6%	(11%)	9%	3%	6%
Long-term Deferred revenue	67.0	70.2	70.3	73.9	59.5	65.2	67.7	71.9	63.9	69.7	71.6	75.7
% of Total Deferrred	39%	38%	37%	40%	**38%**	**39%**	**39%**	**39%**	**39%**	**39%**	**39%**	**39%**
% YoY	46%	41%	31%	17%	(11%)	(7%)	(4%)	(3%)	7%	7%	6%	5%
% QoQ	6%	5%	0%	5%	(19%)	10%	4%	6%	(11%)	9%	3%	6%
Book to Bill	>1	>1	<1	>1								

Source: Company Reports & Dougherty Estimates

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IMPORTANT DISCLOSURES

RISKS (CIEN)

- **Reduced Carrier Capital Spending:** Ciena's business is heavily depending on capital spending activity by communications service providers. These service providers are not immune to economic cycles, and a reduction in service provider capital spending or a delay plans for the optical build upgrade would be negative for Ciena. Additionally, the company's business is often exposed to large capital projects, the timing of which can sometimes be difficult to predict and cause volatility in results from quarter to quarter.
- **Software Defined Networking (SDN)/Network Function Virtualization (NFV):** Cloud technologies, such as SDN are changing the carrier spending landscape. Carriers could delay spending decisions as they re-architect their networks to address NFV. Investors may become concerned with top-line growth.
- **Customer Concentration:** A significant portion of Ciena's revenue comes from a relatively small number of larger communication service providers including AT&T and Verizon.
- **Competitive Landscape:** Ciena operates in a highly competitive industry known for aggressive pricing and rapid product cycles, which required continued investment in research and development. We are concerned there may be too many suppliers competing with Ciena to support rational pricing and healthy for an extended period of time. Additionally, we believe the intensity of competition may increase in the U.S. as larger Chinese equipment vendors seek to gain market entry and other global competitors seek to retain incumbent positions with customers in the region.
- See CIEN's filings with the Securities and Exchange Commission for additional risk factors.

I, Catharine Trebnick, certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers.

Dougherty & Company LLC makes a market in this security: CIEN .

The ratings used in Dougherty & Company LLC research reports are defined as followed:

Buy: ***Expected to outperform the broader market and/or its sector over the next six to twelve months.***

Neutral: ***Expected to perform generally in-line to moderately below the broader market and/or its sector over the next six to twelve months.***

Sell: ***Expected to materially underperform the broader market and/or its sector over the next six to twelve months.***

RATINGS DISPERSION AND BANKING RELATIONSHIPS AS OF (December 8, 2016)

Rating	%	IB %
Buy	66.0	3.0
Neutral	28.0	3.6
Sell	6.0	0.0

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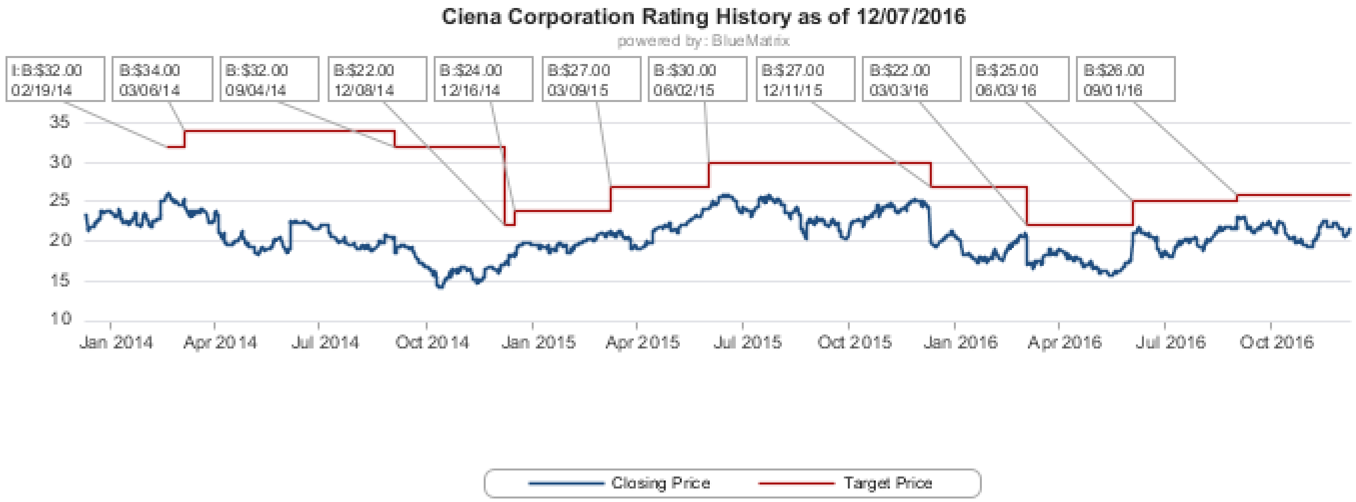

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