

## **Fortinet**

# **Ending the year strong; but outperformance could slow recovery**

Reiterate Rating: BUY | PO: 87.00 USD | Price: 67.48 USD

## Surprising 4Q beat; still expect FY24 to be a recovery year

Fortinet ended the year on a high note but the strong outperformance is both a positive and a negative. 4Q billings up +9% YoY versus Street's -5% decline, mostly driven by 6 large deals over \$10mn each. Revenues were inline, with software and services up +25% YoY while absorption of abnormally strong historical firewall orders pushed product revenues down -10%. FCF margin declined to 11% from 39% YoY but this was one-time in nature, driven by one-time tax payment. Looking at 2024, the environment remains challenged with product revenues expected to recover only in in 2H24 and be down -6% for the year. However, we expect 1Q to be the trough and model sequential improvements throughout the year. The strong 4Q performance is creating tough comps for 2024 billings and we model billings to grow about 7% by 4Q24 vs. 10% previously. We reiterate our Buy and increase our PO from \$75 to \$87 based on 27x CY25 EV/FCF vs 25x previously, on strong underlying fundamentals.

## Capex increasing but FCF margin remains stable

Management guided Capex to grow substantially in 2024. The company plans to invest in Data Center and hosting capacity, and is also looking to buy its own real estate vs. lease. Nevertheless, we model gross and operating margins to improve by 100bps in 20024, and model 9% and 15% revenue growth in 2024 and 2025, respectively. All in, FCF margin expected to be flat in 2024 at about 32-33%, and reach management's 2025 target of 35-39%.

## What drives the stock from here?

The story of 2024 should be the story of new products and recovery of the legacy Firewall market. We expect the Firewall market to absorb the historical orders and show better trends in 2H24. We model product revenues to decline -8% in 1H24 and about - 3% YoY in 2H24, which we believe might be overly conservative. Management believes non-Fortigate growth will exceed Firewall growth in 2024 and this quarter SecOps grew 44% YoY driven by mid-enterprise demand for EDR, SIEM and email security products. New products should contribute to the growth acceleration. Unified SASE grew 19% YoY in 4Q, accounting for 21% of 4Q billings, mostly related to strong SD-WAN demand within the SMB segment. We flag Fortinet's significant price advantage, with its SMB pricing being about one third of the pricing of competitive offerings.

Estimates (Dec) (US\$)	2022A	2023A	2024E	2025E	2026E
EPS	1.28	1.69	1.80	1.82	2.06
GAAP EPS	1.15	1.51	1.37	1.50	1.72
EPS Change (YoY)	58.0%	32.0%	6.5%	1.1%	13.2%
Consensus EPS (Bloomberg)			1.68	1.92	2.28
DPS	0	0	0	0	0
Valuation (Dec)					
P/E	52.7x	39.9x	37.5x	37.1x	32.8x
GAAP P/E	58.7x	44.7x	49.3x	45.0x	39.2x
EV / EBITDA*	43.9x	35.6x	34.0x	29.7x	25.4x
Free Cash Flow Yield*	2.6%	3.1%	3.3%	4.3%	5.1%
* For full definitions of <i>IQ</i> method <sup>≤M</sup> measures, see page 7.					

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Refer to important disclosures on page 8 to 10. Analyst Certification on page 6. Price
Objective Basis/Risk on page 6.

Timestamp: 07 February 2024 01:14AM EST

#### 07 February 2024

#### Equity

<b>Key Changes</b>		
(US\$)	Previous	Current
Price Obj.	75.00	87.00

#### Tal Liani

Research Analyst BofAS +1 646 855 5107 tal.liani@bofa.com

#### Madeline Brooks Research Analyst

BofAS +1 646 855 1971 madeline.brooks@bofa.com

## Jonathan Eisenson

Research Analyst BofAS +1 646 743 0186 jonathan.eisenson@bofa.com

## Tomer Zilberman

Research Analyst BofAS +1 646 855 3203 tomer.zilberman@bofa.com

#### **Stock Data**

Price	67.48 USD
Price Objective	87.00 USD
Date Established	7-Feb-2024
Investment Opinion	B-1-9
52-Week Range	44.12 USD - 81.24 USD
Mrkt Val (mn) / Shares Out	56,572 USD / 838.4
(mn)	
Free Float	82.5%
Average Daily Value (mn)	435.34 USD
BofA Ticker / Exchange	FTNT / NAS
Bloomberg / Reuters	FTNT US / FTNT.OQ
ROE (2024E)	686.6%
Net Dbt to Eqty (Dec-2023A)	NA
ESGMeter™	High

ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of BofA Global Research's equity investment rating, volatility risk rating, income rating, and price objective for that company. For full details, refer to "BofA ESGMeter Methodology".

EDR = endpoint detection and response

SIEM = security information and event management

SMB = small medium size business

SASE = secure access server edge

## *iQ*profile<sup>™</sup> Fortinet

<b>iQ</b> method <sup>sм</sup> − <b>Bus Performance*</b>					
(US\$ Millions)	2022A	2023A	2024E	2025E	2026
Return on Capital Employed	32.5%	43.1%	28.9%	23.3%	20.1%
Return on Equity	399.3%	NM	686.6%	89.0%	51.49
Operating Margin	27.4%	28.4%	27.0%	27.0%	27.69
Free Cash Flow	1,449	1,731	1,861	2,416	2,86
<i>iQ</i> method <sup>™</sup> – <b>Quality of Earnings*</b>					
(US\$ Millions)	2022A	2023A	2024E	2025E	2026
Cash Realization Ratio	1.7x	1.5x	1.6x	1.8x	1.8
Asset Replacement Ratio	2.7x	1.8x	2.8x	0.9x	0.4
Tax Rate	3.2%	10.8%	24.0%	24.0%	24.09
Net Debt-to-Equity Ratio	NM	NM	-373.0%	-243.2%	-213.89
Interest Cover	NA	NA	NA	NA	N/
Income Statement Data (Dec)					
(US\$ Millions)	2022A	2023A	2024E	2025E	2026
Sales	4,417	5,305	5,768	6,628	7,673
% Change	32.2%	20.1%	8.7%	14.9%	15.89
Gross Profit	3,370	4,108	4,501	5,229	6,139
% Change	30.1%	21.9%	9.6%	16.2%	17.49
EBITDA	1,314	1,620	1,696	1,939	2,26
% Change	36.8%	23.4%	4.7%	14.3%	16.89
Net Interest & Other Income	26	93	141	65	(8
Net Income (Adjusted)	1,032	1,328	1,408	1,426	1,620
% Change	53.0%	28.7%	6.1%	1.3%	14.0%
Free Cash Flow Data (Dec) (US\$ Millions)	2022A	2023A	2024E	2025E	2026
Net Income from Cont Operations (GAAP)	922	1,190	1,072	1,177	1,360
Depreciation & Amortization	104	113	141	152	14!
Change in Working Capital	233	126	827	987	1,158
Deferred Taxation Charge	0	0	0	0	(
Other Adjustments, Net	471	506	219	236	25
Capital Expenditure	(281)	(204)	(397)	(136)	(52
Free Cash Flow	1,449	1,731	1,861	2,416	2,86
% Change	20.4%	19.5%	7.5%	29.9%	18.69
Share / Issue Repurchase	(1,991)	(1,501)	0	0	(
Cost of Dividends Paid	0	0	0	0	(
Change in Debt	0	0	0	0	(
Balance Sheet Data (Dec) (US\$ Millions)	2022A	2023A	2024E	2025E	2026
• •					
Cash & Equivalents Trade Receivables	1,683	1,398	3,259	5,675	8,540
Other Current Assets	1,262 866	1,402 1,628	1,072	1,230	1,44!
	899	1,026	1,595 1,301	1,347	1,209
Property, Plant & Equipment Other Non-Current Assets	1,519	1,786		1,285 2,371	1,193 2,690
Total Assets	<b>6,228</b>	7,259	2,237 <b>9,464</b>	11,907	15,07
Short-Term Debt	0,220	0	0	11,307	13,07
Other Current Liabilities	3,078	3,719	4,274	4.669	5,38
Long-Term Debt	3,076	3,719	4,274	4,009	3,30
Other Non-Current Liabilities	3,431	4,003	4,316	4,905	5,70
Total Liabilities	6,510	7,722	8,590	9,576	11,08
Total Equity	(282)	(463)	874	2,333	3,994
Total Equity & Liabilities	6,228	7,259	9,464	11,909	15,079

## **Company Sector**

Data Networking

## **Company Description**

Fortinet is a pioneer in the Unified Threat Management (UTM) segment of network security solutions. Its security appliances offer the ability to run multiple security functions simultaneously, without a significant drop in throughput, enabled by Fortinet's unique custom-ASIC architecture.

#### **Investment Rationale**

We view Fortinet as a strong competitor in the network security space. We believe the company will continue to demonstrate a strong price/performance value proposition due to its custom ASIC products. We see this, along with new product introductions, as driving replacement cycles and opening new opportunities in the high-end data center market given its competitive throughput. Lastly, we highlight Fortinet's strong financial position, a testament to its sustainable business model.

## **Stock Data**

Average Daily Volume

6,451,454

## **Quarterly Earnings Estimates**

	2023	2024
Q1	0.34A	0.40E
Q2	0.38A	0.40E
Q3	0.41A	0.46E
04	0.51A	0.55F



\* For full definitions of  $\emph{\textbf{IQ}}$  method  $^{\text{SM}}$  measures, see page 7.

## **Financial Highlights**

**Exhibit 1: Actual versus estimated results** 

4Q billings beat BofA estimates

Fortinet Estimated vs. Actual Results	Q4	Q1	Q2	Q3	Q4	Q4E			
	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Dec-23	delta	QoQ	YoY
Product	540,100	500,700	472,600	465,900	488,100	493,854	-5,754	4.8%	-9.6%
y/y	42.5%	35.0%	17.9%	-0.6%	-9.6%	-8.6%			
Services	742,900	761,600	820,200	868,700	927,000	916,479	10,522	6.7%	24.8%
y/y	27.1%	30.5%	30.3%	27.6%	24.8%	23.4%			
Total Revenues	1,283,000	1,262,300	1,292,800	1,334,600	\$1,415,100	\$1,410,333	4,768	6.0%	10.3%
y/y	33.1%	32.2%	25.5%	16.1%	10.3%	9.9%			
Gross Profit	996,000	963,600	1,007,000	1,026,900	1,110,200	1,072,418	37,782	8.1%	11.5%
R&D	112,600	134,100	133,300	136,900	132,700	145,799	-13,099	-3.1%	17.9%
S&M	429,300	450,900	484,500	473,000	478,800	485,298	-6,498	1.2%	11.5%
G&A	36,500	44,600	41,100	45,600	45,200	49,248	-4,048	-0.9%	23.8%
Total Opex	578,400	629,600	658,900	655,500	656,700	680,345	-23,645	0.2%	13.5%
Operating Income	417,600	334,000	348,100	371,400	453,500	392,073	61,427	22.1%	8.6%
y/y	52.0%	58.9%	36.3%	13.9%	8.6%	-6.1%			
Total Other Income	50,100	17,600	20,200	24,600	30,200	15,603	14,597	22.8%	-39.7%
Pretax Income	467,700	351,600	368,300	396,000	483,700	407,677	76,023	22.1%	3.4%
Net Income	349,700	269,700	300,400	323,500	392,000	338,372	53,628	21.2%	12.1%
Dil. Share Count	791,800	793,400	793,400	791,200	772,300	785,029	-12,729	-2.4%	-2.5%
Non-GAAP EPS	\$0.44	\$0.34	\$0.38	\$0.41	\$0.51	\$0.43	\$0.08	24.1%	14.9%
y/y	79.2%	79.9%	58.0%	23.8%	14.9%	-2.4%			
Margin Analysis								<u>bps</u>	<u>bps</u>
Product	65.2%	61.8%	63.5%	57.9%	60.1%	57.0%	311 bps	220 bps	-510 bps
Services	86.7%	85.9%	86.2%	87.2%	88.1%	86.3%	181 bps	96 bps	145 bps
Total Gross Margin	77.6%	76.3%	77.9%	76.9%	78.5%	76.0%	241 bps	151 bps	82 bps
Operating Margin	32.5%	26.5%	26.9%	27.8%	32.0%	27.8%	425 bps	422 bps	-50 bps
Non-GAAP Tax Rate	15.6%	17.0%	17.0%	17.0%	17.0%	17.0%	-1 bps	0 bps	143 bps
Non-GAAP Net Margin	27.3%	21.4%	23.2%	24.2%	27.7%	24.0%	371 bps	346 bps	44 bps
Billings	1,719,000	1,503,000	1,541,000	1,491,300	1,865,000	1,630,201	234,799	25.1%	8.5%
y/y	31.6%	29.6%	18.2%	5.7%	8.5%	-5.2%		-	

**Source:** BofA Global Research estimates, company report

BofA GLOBAL RESEARCH



**Exhibit 2: Summary of Model Changes**We tweak our estimates to reflect updated guidance from management

		Sales			EPS		G	ross Ma	rgin	Ор	erating l	Margin		Billings	
_	Old	New	Delta	Old	New	Delta	Old	New	Delta	Old	New	Delta	Old	New	Delta
FY23															
Q1A	1,262,300	1,262,300	0	\$0.34	\$0.34	0.00	76.3%	76.3%	0.0 bps	26.5%	26.5%	0.0 bps	1,502,900	1,502,900	0
Q2A	1,292,800	1,292,800	0	\$0.38	\$0.38	0.00	77.9%	77.9%	0.0 bps	26.9%	26.9%	0.0 bps	1,540,500	1,540,500	0
Q3A	1,334,600	1,334,600	0	\$0.41	\$0.41	0.00	76.9%	76.9%	0.0 bps	27.8%	27.8%	0.0 bps	1,491,300	1,491,300	0
Q4E	1,410,333	1,415,100	4,768	\$0.02	\$0.02	0.00	76.0%	78.5%	241.4 bps	27.8%	32.0%	424.7 bps	1,630,201	1,864,800	234,599
Total	5,300,033	5,304,800	4,768	\$1.60	\$1.69	0.09	76.8%	77.4%	64.3 bps	27.3%	28.4%	113.3 bps	6,164,901	6,399,500	234,599
FY24															
Q1E	1,359,902	1,336,778	(23,125)	\$0.38	\$0.40	0.02	77.2%	77.3%	4.5 bps	25.6%	26.6%	98.8 bps	1,414,954	1,417,068	2,113
Q2E	1,375,810	1,365,328	(10,482)	\$0.36	\$0.40	0.04	77.4%	77.8%	44.1 bps	24.1%	26.0%	188.4 bps	1,570,418	1,499,080	(71,338)
Q3E	1,417,085	1,457,393	40,309	\$0.37	\$0.46	0.09	77.6%	78.4%	78.5 bps	22.7%	26.8%	413.8 bps	1,572,465	1,546,629	(25,836)
Q4E	1,601,150	1,608,137	6,987	\$0.48	\$0.55	0.07	77.5%	78.5%	101.7 bps	25.2%	28.2%	302.9 bps	1,784,366	2,061,007	276,641
Total	5,753,947	5,767,635	13,688	\$1.58	\$1.80	0.22	77.4%	78.0%	59.9 bps	24.4%	27.0%	255.0 bps	6,342,203	6,523,783	181,580
FY25															
Q1E	1,552,907	1,561,763	8,856	\$0.38	\$0.42	0.04	76.8%	77.8%	97.6 bps	22.8%	25.9%	309.8 bps	1,613,841	1,626,674	12,833
Q2E	1,586,533	1,595,248	8,715	\$0.40	\$0.44	0.04	77.6%	78.6%	104.2 bps	23.3%	26.5%	316.5 bps	1,771,164	1,791,930	20,766
Q3E	1,618,228	1,626,096	7,868	\$0.38	\$0.42	0.04	77.7%	78.7%	99.2 bps	22.1%	25.3%	312.6 bps	1,871,788	1,896,206	24,418
Q4E	1,828,297	1,844,515	16,218	\$0.49	\$0.54	0.05	79.4%	80.3%	88.5 bps	26.7%	29.8%	307.7 bps	2,026,074	2,055,201	29,127
Total	6,585,965	6,627,622	41,657	\$1.65	\$1.82	0.17	77.9%	78.9%	97.2 bps	23.8%	27.0%	311.8 bps	7,282,867	7,370,011	87,144
FY26															
Q1E	2,069,612	1,780,807	(288,805)	\$0.61	\$0.47	(0.14)	79.8%	79.7%	-13.7 bps	29.9%	26.9%	-296.4 bps	2,273,322	1,997,813	(275,508)
Q2E	2,347,122	1,826,828	(520,294)	\$0.76	\$0.46	(0.30)	80.2%	79.5%	-69.3 bps	33.0%	25.6%	-742.0 bps	2,556,943	2,050,344	(506,598)
Q3E	2,666,582	1,897,397	(769,186)	\$0.93	\$0.49	(0.44)	80.6%	80.0%	-59.2 bps	36.0%	26.6%	-938.9 bps	2,882,698	2,127,618	(755,080)
Q4E	3,034,685	2,168,106	(866,579)	\$1.14	\$0.65	(0.49)	81.0%	80.7%	-30.7 bps	38.9%	30.8%	-806.6 bps	3,257,284	2,405,235	(852,049)
Total	10,118,001	7,673,138	(2,444,863)	\$3.43	\$2.06	(1.37)	80.5%	80.0%	-46.1 bps	34.9%	27.6%	-729.3 bps	10,970,246	8,581,010	(2,389,236)

**Source:** BofA Global Research estimates, company report

BofA GLOBAL RESEARCH





FY2023 FY2024E FY2025E Q4E Q4E **Fiscal Year Ends in December Q1** Q2 Q3 Q4 Q1E Q2E Q3E Q1E Q2E Q3E Dec-24 (in \$thousands except EPS) Mar-23 Jun-23 Sep-23 Dec-23 Mar-24 Jun-24 Sep-24 Mar-25 Jun-25 Sep-25 Dec-25 1.864.800 2,061,007 2,055,201 6.523.783 7.370.011 **Total Billings** 1,502,900 1,540,500 1,491,300 1.417.068 1.499.080 1,546,629 1,626,674 1,791,930 1,896,206 6,399,500 YoY Growth 29.6% 18.1% 5.7% 7.8% -5.7% -2.7% 3.7% 10.5% 14.8% 19.5% 22.6% -0.3% 14.2% 1.9% 13.0% 500.700 472,600 465,900 488,100 451,493 440,205 449,009 473,705 450,020 461,270 475,108 503,615 1,927,300 1,814,412 1,890,012 Product Services 761.600 820.200 868,700 927.000 885.285 925.123 1.008.384 1.134.432 1.111.743 1.133.978 1.150.988 1.340.901 3.377.500 3.953.224 4.737.610 **Total Revenues** 1,262,300 1,292,800 1,334,600 1,415,100 1,336,778 1,365,328 1,457,393 1,608,137 1,561,763 1,595,248 1,626,096 1,844,515 5,304,800 5,767,635 6,627,622 25.5% 5.9% 14.9% YoY Growth 32.2% 16.1% 10.3% 5.6% 9.2% 13.6% 16.8% 16.8% 11.6% 14.7% 20.1% 8.7% Gross Profit 963.600 1.007.000 1.026.900 1.110.200 1.033.179 1.062.191 1.142.232 1.263.163 1.215.073 1.254.578 1.278.936 1.480.354 4.107.700 4.500.765 5.228.941 658,900 656,700 751,014 810,786 931,290 2,600,700 2,945,159 3,441,994 **Total Operating Expenses** 629,600 655,500 678,122 706,922 809,100 831,802 868,116 **Operating Income** 334.000 348.100 371.400 453.500 355.057 355.269 391.218 454.062 404,287 422,776 410.820 549.064 1,507,000 1.555.606 1.786.947 Total Other Income 17.600 20.200 24.600 30.200 20.990 18.236 39.574 62.163 25,390 22.174 18.843 (1.056)92.600 140.962 65.351 271,900 288.417 426,029 Non-GAAP Income Tax Expense 59,800 62,600 67,300 82,200 63,928 63,496 73,235 87,758 98,826 102,338 98,822 126.042 269,700 300,400 323,500 312,119 357,557 1,327,700 1,408,152 1,426,269 Non-GAAP Net Income 392,000 310,009 428,467 330,851 342,611 330.840 421,967 EPS (Non-GAAP) \$0.34 \$0.38 \$0.41 \$0.51 \$0.40 \$0.40 \$0.46 \$0.55 \$0.42 \$0.44 \$0.42 \$0.54 \$1.69 \$1.80 \$1.82 \$0.31 \$0.33 \$0.41 \$0.40 \$0.30 \$0.29 \$0.35 \$0.43 \$0.35 \$0.35 \$0.34 \$0.45 \$1.51 \$1.37 \$1.50 EPS (GAAP) 772,300 781,500 782,500 783,500 785,000 Weighted average diluted shares outstanding 793,400 793,400 791,200 780,000 780,500 784,000 786,000 787,575 781,125 784,625 191,700 827.939 567.322 1.935.500 2.258.032 Operating cash flow 677.500 515.100 551.200 665,494 326.551 438.048 496.898 616.075 872.219 2.552.514 OCF Margin 53.7% 39.8% 41.3% 13.5% 49.8% 23.9% 30.1% 51.5% 31.8% 38.6% 53.6% 30.8% 36.5% 39.2% 38.5% 647,200 438,300 481,100 164,800 460,969 211,351 381,968 806,419 435,540 569,995 849,787 560,866 1,731,400 1,860,707 2,416,189 Free Cash Flow FCF margin 51.3% 33.9% 36.0% 11.6% 34.5% 15.5% 26.2% 50.1% 27.9% 35.7% 52.3% 30.4% 32.6% 32.3% 36.5% Cash and cash equivalent 2,894,700 3,317,700 3,170,300 2,440,400 2,912,969 3,135,920 3,529,488 4,347,507 4,794,648 5,376,243 6,237,630 6,810,096 2,440,400 4,347,507 6,810,096 2.894.700 3,317,700 3,170,300 2.912.969 3,135,920 3.529.488 4,347,507 5,376,243 6,237,630 4.347.507 6,810,096 Net cash 2,440,400 4.794.648 6.810.096 2,440,400 **Margin Analysis** 78.0% **Gross Profit Margin** 76.3% 77.9% 76.9% 78.5% 77.3% 77.8% 78.4% 78.5% 77.8% 78.6% 78.7% 80.3% 77.4% 78.9% R&D 10.6% 10.3% 10.3% 9.4% 10.5% 10.5% 10.4% 10.1% 10.2% 10.2% 10.4% 9.5% 10.1% 10.4% 10.1% 37.4% S&M 35.7% 37.5% 35.4% 33.8% 36.9% 37.9% 37.8% 37.0% 38.5% 38.7% 39.6% 37.9% 35.6% 38.7% G&A 3.5% 3.2% 3.4% 3.2% 3.3% 3.3% 3.3% 3.2% 3.2% 3.2% 3.4% 3.0% 3.3% 3.3% 3.2% 49.9% 51.0% 49.1% 46.4% 50.7% 51.8% 51.5% 50.3% 51.9% 52.1% 53.4% 50.5% 49.0% 51.1% 51.9% **Total Operating Expenses** 26.5% 26.9% 27.8% 32.0% 26.6% 26.0% 26.8% 28.2% 25.9% 26.5% 29.8% 28.4% 27.0% 27.0% **Operating Margin** 25.3% Non-GAAP Tax Rate 17.0% 17.0% 17.0% 17.0% 17.0% 17.0% 17.0% 17.0% 23.0% 23.0% 23.0% 23.0% 17.0% 17.0% 23.0% 22.7% 24.5% 24.4% Non-GAAP Net Margin 21.4% 23.2% 24.2% 27.7% 23.3% 26.6% 21.2% 21.5% 20.3% 22.9% 25.0% 21.5% YoY % growth 17.9% -0.6% -9.6% -9.8% -6.9% -3.6% -2.9% -0.3% 4.8% 5.8% 6.3% 8.2% -5.9% 4.2% Product 35.0% 12.8% 22.4% 17.0% Services 30.5% 30.3% 27.6% 24.8% 16.2% 16.1% 25.6% 22.6% 14.1% 18.2% 28.1% 19.8% 8.7% **Total Revenues** 32.2% 25.5% 16.1% 10.3% 5.9% 5.6% 9.2% 13.6% 16.8% 16.8% 11.6% 14.7% 20.1% 14.9% 25.9% 20.3% 13.2% **Total Operating Expenses** 23.6% 19.3% 13.5% 7.7% 7.3% 14.6% 23.2% 19.6% 17.7% 15.6% 15.1% 16.9% 58.9% 13.9% 6.3% 2.1% 0.1% 13.9% 19.0% 5.0% 20.9% 24.6% 3.2% 14.9% Operating Income 36.3% 8.6% 5.3% 79.9% 58.0% 23.8% 14.9% 17.7% 4.9% 11.9% 7.9% 5.5% 10.0% -7.9% -2.0% EPS (Non-GAAP) QoQ % Growth Product -7.3% -5.6% -1.4% 4.8% -7.5% -2.5% 2.0% 5.5% -5.0% 2.5% 3.0% 6.0% 6.7% Services 2.5% 7.7% 5.9% -4.5% 4.5% 9.0% 12.5% -2.0% 2.0% 1.5% 16.5% 2.4% 3.2% -2.9% 1.9% **Total Revenues** -1.6% 6.0% -5.5% 2.1% 6.7% 5.0% 2.1% 13.4% 8.9% 4.7% -0.5% 0.2% 3.3% 4.2% 6.2% 7.7% 0.2% 2.6% 4.4% **Total Operating Expenses** 7.3% Operating Income -20.0% 4.2% 6.7% 22.1% -21.7% 0.1% 10.1% 16.1% -11.0% 4.6% -2.8% 33.7% EPS (Non-GAAP) -23.0% 11.4% 8.0% 24.1% -21.2% -0.7% 15.2% 19.7% -22.9% 3.5% -3.6% 27.4%

**Source:** BofA Global Research estimates, company report

BofA GLOBAL RESEARCH

## Price objective basis & risk

## Fortinet (FTNT)

Our \$87 PO is based on roughly 27x 2025E EV/FCF. Our multiple is slightly below the hardware peer group average multiple of 25-35x and a discount to software peers as well. We believe the slightly below multiple to the hardware peer group is appropriate at this stage given the current business environment despite some recent share gains, shift to more recurring software, and expansion into adjacent security markets. New market tailwinds, such as software defined wide area networking (SD-WAN) should drive further market share gains.

Upside risks to our price objective are growth of non-FortiGate products, which could support high growth and acceleration from current levels and could result in more SaaS-like multiples and drive up the valuation.

Downside risks to our price objective are 1) product convergence leading to a shrinking market with larger competitors, 2) exposure to public spending and EMEA, 3) reputation risk if major threats missed and 4) early ordering that occurred during CY21/CY22 creates tough comps heading in CY23

## **Analyst Certification**

I, Tal Liani, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

### **US - Telecom and Data Networking Equipment Coverage Cluster**

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Akamai	AKAM	AKAM US	Madeline Brooks
	Amdocs	DOX	DOX US	Tal Liani
	Arista Networks	ANET	ANET US	Tal Liani
	Check Point Software Technologies	CHKP	CHKP US	Tal Liani
	Ciena	CIEN	CIEN US	Tal Liani
	CrowdStrike Holdings Inc.	CRWD	CRWD US	Tal Liani
	CyberArk	CYBR	CYBR US	Tal Liani
	Fastly	FSLY	FSLY US	Madeline Brooks
	Fortinet	FTNT	FTNT US	Tal Liani
	Gen Digital, Inc.	GEN	GEN US	Jonathan Eisenson
	InterDigital, Inc.	IDCC	IDCC US	Tal Liani
	Motorola Solutions	MSI	MSI US	Tomer Zilberman
	Qualcomm	QCOM	QCOM US	Tal Liani
	Zscaler	ZS	ZS US	Tal Liani
NEUTRAL				
	Cellebrite	CLBT	CLBT US	Tal Liani
	Cisco Systems	CSCO	CSCO US	Tal Liani
	Palo Alto Networks	PANW	PANW US	Tal Liani
	SentinelOne, Inc.	S	SUS	Tal Liani



## **US - Telecom and Data Networking Equipment Coverage Cluster**

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
UNDERPERFORM				
	Cloudflare	NET	NET US	Madeline Brooks
	CommScope	COMM	COMM US	Tal Liani
	F5 Inc	FFIV	FFIV US	Tal Liani
	Okta Inc	OKTA	OKTA US	Madeline Brooks
	SecureWorks	SCWX	SCWX US	Tal Liani

## **IQ**method<sup>™</sup> Measures Definitions

Business Performance	Numerator	Denominator
Return On Capital Employed	NOPAT = (EBIT + Interest Income) $\times$ (1 $-$ Tax Rate) + Goodwill Amortization	Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization
Return On Equity	Net Income	Shareholders' Equity
Operating Margin	Operating Profit	Sales
Earnings Growth	Expected 5 Year CAGR From Latest Actual	N/A
Free Cash Flow	Cash Flow From Operations — Total Capex	N/A
Quality of Earnings	Numerator	Denominator
Cash Realization Ratio	Cash Flow From Operations	Net Income
Asset Replacement Ratio	Capex	Depreciation
Tax Rate	Tax Charge	Pre-Tax Income
Net Debt-To-Equity Ratio	Net Debt = Total Debt - Cash & Equivalents	Total Equity
Interest Cover	EBIT	Interest Expense
Valuation Toolkit	Numerator	Denominator
Price / Earnings Ratio	Current Share Price	Diluted Earnings Per Share (Basis As Specified)
Price / Book Value	Current Share Price	Shareholders' Equity / Current Basic Shares
Dividend Yield	Annualised Declared Cash Dividend	Current Share Price
Free Cash Flow Yield	Cash Flow From Operations – Total Capex	Market Cap = Current Share Price × Current Basic Shares
Enterprise Value / Sales	EV = Current Share Price × Current Shares + Minority Equity + Net Debt + Other LT Liabilities	Sales
EV / EBITDA	Enterprise Value	Basic EBIT + Depreciation + Amortization

Method Strict the set of BofA Global Research standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and validations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

\*\*Relatabase\*\* is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.



## **Disclosures**

## **Important Disclosures**

#### Fortinet (FTNT) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

#### Equity Investment Rating Distribution: Telecommunications Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	57	51.82%	Buy	43	75.44%
Hold	27	24.55%	Hold	17	62.96%
Sell	26	23.64%	Sell	12	46.15%

### Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

R1 Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. VOLATILITY RISK RATINGS, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. INVESTMENT RATINGS reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicators that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

## Investment rating Total return expectation (within 12-month period of date of initial rating) Ratings dispersion guidelines for coverage cluster<sup>R2</sup>

Buy	≥ 10%	≤ /0%
Neutral	≥ 0%	≤ 30%
nderperform	N/A	≥ 20%

R2Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

INCOME RATINGS, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. Coverage Cluster is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

Price Charts for the securities referenced in this research report are available on the Price Charts website, or call 1-800-MERRILL to have them mailed.

BofAS or one of its affiliates acts as a market maker for the equity securities recommended in the report: Fortinet.

The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Fortinet.

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Fortinet.

The issuer is or was, within the last 12 months, a non-securities business client of BofAS and/or one or more of its affiliates: Fortinet.

BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Fortinet.

BofAS or an affiliate expects to receive or intends to seek compensation for investment banking services from this issuer or an affiliate of the issuer within the next three months: Fortinet. BofAS or one of its affiliates is willing to sell to, or buy from, clients the common equity of the issuer on a principal basis: Fortinet.

The issuer is or was, within the last 12 months, a securities business client (non-investment banking) of BofAS and/or one or more of its affiliates: Fortinet.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America



Ur

Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

## **Other Important Disclosures**

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments. Refer to BofA Global Research policies relating to conflicts of interest.

'BofA Securities' includes BofA Securities, Inc. ('BofAS') and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. 'BofA Securities' is a global brand for BofA Global Research.

## Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch (Hong Kong): Merrill (Hong Kong): Merr (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Mexico): Merrill Ly de Bolsa, regulated by the Comisión Nacional Bancaría y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch (Israel): Merrill Lynch (Israel): Merrill Lynch (Israel) (Israel): Merrill Lynch (Israel): Merr Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA Information in Germany and is regulated by Merrill Lynch (DIFC) is done so in accord

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

### General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities. This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile



and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information. In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

## BofA ESGMeter Methodology:

ESGMeter is a proprietary metric based on quantitative analysis and fundamental analyst inputs that reflects our assessment of a company's Environmental, Social and Governance-related attributes. The ESGMeter is intended to indicate a company's likelihood of experiencing stronger financial stability (higher return on equity and lower earnings and price volatility) over the next three years relative to peer group. There are three ESGMeter levels - Low, Medium, and High - which indicate whether a company has attributes most likely to translate into superior financial stability (in the case of a High level) or weaker financial stability (in the case of a Low level) over the next three years relative to its peer group. A Medium level suggests that a company exhibits ESG characteristics that are likely associated with financial stability results in line with its peer group over the next three years. Full details of our methodology, financial stability definition and disclaimers are available at BofA ESGMeter methodology. ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of the BofA Global Research fundamental equity analyst's investment rating, volatility risk rating, income rating or price objective for that company.

#### Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. iQdatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities. Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of legal proceeding to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public in

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Subject to the quiet period applicable under laws of the various jurisdictions in which we distribute research reports and other legal and BofA Securities policy-related restrictions on the publication of research reports, fundamental equity reports are produced on a regular basis as necessary to keep the investment recommendation current.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies. Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.

