

IT Hardware

C1Q Storage Update: Biggest drop since '09 on early COVID impact; cautious on demand ahead

IT Hardware | Quarterly

- **1Q20 Storage Update:** IDC reported final C1Q Storage rev. of \$6.52bn (-8.2% y/y), a significant deterioration vs. -0.1% y/y in C4Q and ~7pts sub-seasonal; the y/y decline was the sharpest since CY09, reflecting early demand impacts from COVID-19. Pressure was broad-based, albeit with All-Flash remaining flat (+0.4% y/y) and outperforming sizeable drops in Hybrid (-11.5% y/y) and HDD-only (-18.0% y/y). Looking ahead, [we're cautious on Enterprise demand](#) (including storage) for the balance of CY20 with building headwinds as the initial WFH/BCP rush fades, coupled with pressure on underlying IT budgets. For those willing to look beyond near-term softness, we think the recent pickup in public cloud adoption is a trend that's here to stay and, while negative for on-prem spending, creates longer-term opportunity for HW vendors that embrace a [hybrid-first future](#). Applying that theme to Storage specifically, we like NetApp's Data Fabric vision that enables consistency across customers' on-prem and off-prem footprints; more broadly, we also like IBM and Dell's positioning as the world becomes hybrid, while HPE is overly dependent on on-prem.
- **Key Takeaways:** (1) **All-Flash adoption rose 3.7pts y/y to a record 42.8% share in C1Q** despite slower revenue growth (+0.4% y/y vs. +8.2% in C4Q), as falling NAND prices helped drive penetration deeper into the mid-range (37% All-Flash mix, +6.4pts y/y); we see plenty of runway for further adoption ahead, led by the mid-range which sits well below the ~60% All-Flash mix seen in the high-end. (2) **The shift away from HDD-only (-18.0% y/y) continued**, with share dipping below 20% for the first time as the NAND vs. HDD cost spread narrows. (3) **Mid-range (\$25k-\$100k) remained resilient (+1.8% y/y)**, with strength concentrated in All-Flash (+23% y/y); we continue to view mid-range as the fastest growing price point ahead; (4) **\$/GB fell 11% y/y to \$0.38/GB**, with declines from both mix shift away from high-end and like-for-like price declines; we've yet to see an impact on margins (PSTG/NTAP GMs +380bps/+280bps y/y in the Apr-Q), but we remain wary ahead. (5) **US (-10%) and W. EU (-16%) saw outsized declines**, with a drop in all 3 technology categories; Japan (-4%) and APAC (-8%) saw more modest declines while RoW rev. jumped +12% driven by >20% growth in HDD-only and All-Flash.
- **Vendor Implications:** In our coverage, NetApp and Pure Storage are both Storage pure plays vs. Dell (~20% of sales), HPE (~12%), and IBM (2-3%) that are more diversified; note, calendarization/methodologies can lead to differences in IDC vs. company reporting. **Dell's share was flat y/y at 33.2%**, with rev. -8% y/y; underperformance in high-end (particularly All-Flash) and low-end was partially offset by mid-range gains (+14% y/y) on the back of CY19 launches (Unity, Isilon) ahead of their PowerStore roll-out; looking ahead, we like the vision to unify their crowded mid-range lineup, though see risk of a disruptive upgrade cycle that creates a pause near-term. Dell's All-Flash share declined 200bps y/y and VxRail growth slowed to +15% y/y from +70% in C4Q. **NetApp lost 160bps of share y/y** with ~185bps lost in All-Flash, albeit with the second derivative starting to improve vs. nearly 6pts of All-Flash underperformance in CY19. **HPE lost 90bps of share y/y**, including 110bps of share loss in All-Flash as Primera has yet to stem the tide. **Pure Storage gained 70bps/75bps of overall/All-Flash share**, led FlashArray//X and FlashBlade growth, though Tier 2-focused FlashArray//C was down q/q (per IDC). Pure's outperformance was impressive, but we're concerned VDI was a tailwind that fades ahead.

Research Analysts

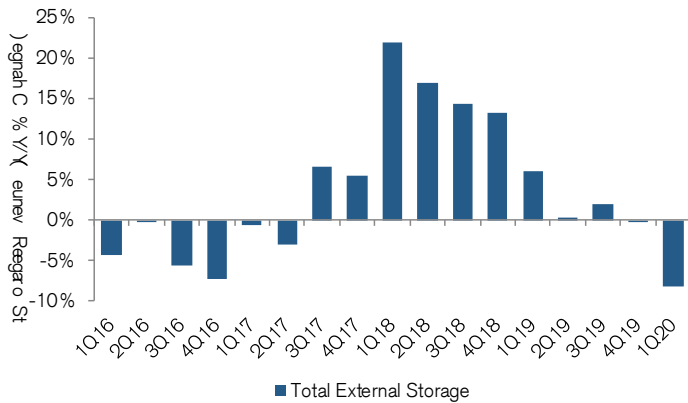
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Figure 1: External Storage sales fell 8.2% y/y in C1Q as COVID headwinds emerged, marking the biggest drop since '09

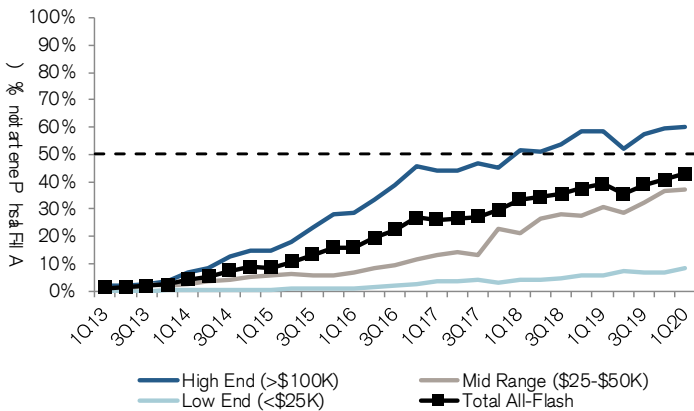
Total external Storage revenue; y/y change



Source: IDC.

Figure 3: All-Flash share hit a new record at 42.8%, driven by increased penetration into mid-range arrays (\$25k-\$100k)

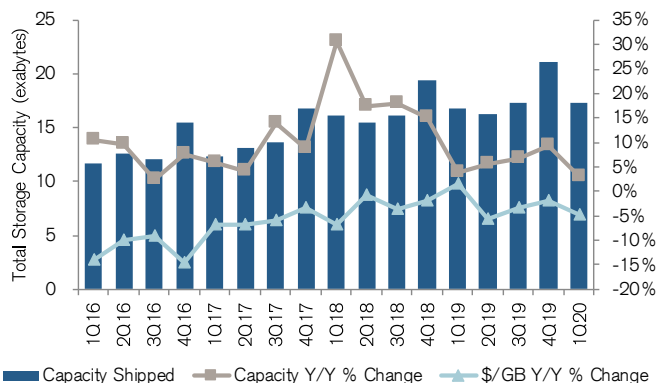
All-Flash market share by price band; low-end (<\$25k), mid-range (\$25k-\$100k), high-end (>\$100k)



Source: Company data, Credit Suisse estimates

Figure 5: Capacity growth slowed despite accelerating declines in \$/GB, highlighting a soft demand backdrop

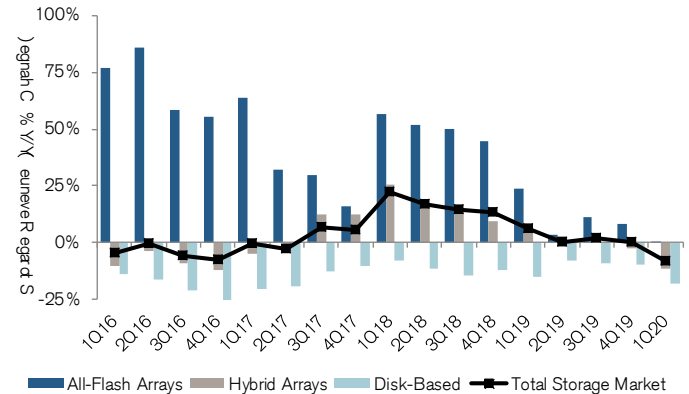
External Storage capacity shipped and cost of Storage (\$/GB)



Source: IDC

Figure 2: Pressure was broad-based, though relative All-Flash outperformance continued, gaining share from Hybrid & Disk

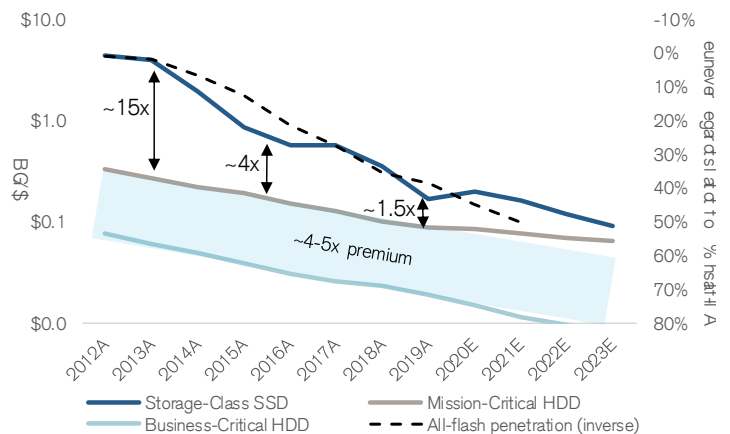
Storage revenue by type of array; y/y change



Source: IDC.

Figure 4: We see All-Flash adoption continuing to rise as the SSD vs. HDD price premium shrinks

Storage media costs SSDs vs. HDDs and All-Flash penetration



Source: Company data, Credit Suisse estimates

Figure 6: Dell, NetApp & HPE lost share y/y, both overall and in All-Flash, while Pure posted modest gains (~70bps/75bps y/y)

Storage Share	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19	1Q20	Y/Y Change	Q/Q Change
Dell	33.1%	29.3%	31.1%	29.4%	33.2%	28.7%	30.2%	27.6%	33.2%	-1bps	559bps
NetApp	13.3%	12.7%	12.0%	10.6%	12.6%	10.4%	9.5%	8.9%	11.0%	-162bps	208bps
HPE	8.9%	9.0%	8.9%	9.1%	9.6%	10.2%	8.1%	8.1%	8.7%	-88bps	56bps
IBM	5.4%	8.8%	5.8%	8.6%	4.5%	6.8%	5.8%	9.1%	5.1%	59bps	-401bps
Pure Storage	3.5%	3.3%	4.0%	4.0%	4.1%	4.1%	4.5%	4.4%	4.8%	71bps	37bps
Others	35.8%	36.9%	38.3%	38.3%	36.1%	39.8%	41.8%	41.9%	37.3%	121bps	-459bps

All-Flash Share	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19	1Q20	Y/Y Change	Q/Q Change
Dell	35.6%	28.3%	30.7%	30.6%	38.0%	31.9%	32.4%	31.0%	36.0%	-198bps	493bps
NetApp	24.6%	24.6%	20.5%	18.3%	19.1%	15.2%	15.9%	13.6%	17.2%	-186bps	358bps
HPE	10.5%	10.1%	11.0%	10.7%	11.0%	12.3%	9.9%	9.0%	9.9%	-111bps	88bps
IBM	4.8%	10.1%	7.9%	12.4%	5.6%	9.1%	8.3%	13.0%	7.3%	171bps	-564bps
Pure Storage	10.5%	9.7%	11.3%	10.7%	10.4%	11.5%	11.7%	10.8%	11.2%	75bps	31bps
Others	14.0%	17.2%	18.5%	17.2%	15.9%	20.1%	21.8%	22.5%	18.4%	249bps	-406bps

Source: IDC.

Companies Mentioned (Price as of 09-Jun-2020)

- Dell Technologies** (DELL.N, \$50.03)
- Hewlett Packard Enterprise** (HPE.N, \$11.02)
- International Business Machines** (IBM.N, \$131.87)
- NetApp** (NTAP.OQ, \$46.72)
- Pure Storage** (PSTG.N, \$17.11)

Disclosure Appendix

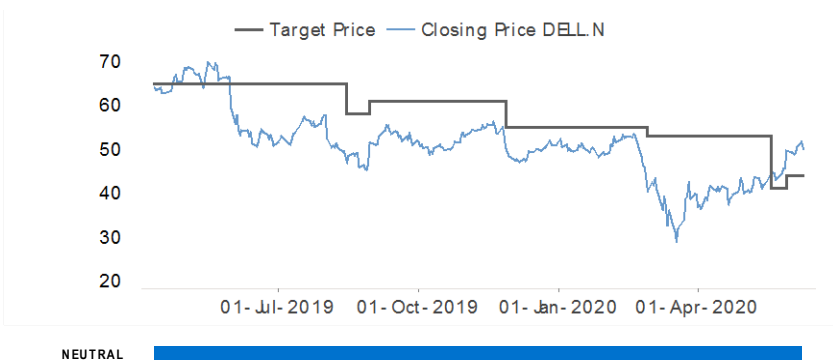
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3-Year Price and Rating History for Dell Technologies (DELL.N)

DELL.N	Closing Price	Target Price	
Date	(US\$)	(US\$)	Rating
11-Apr-19	63.86	65.00	N *
15-Aug-19	46.90	58.00	
30-Aug-19	51.53	61.00	
27-Nov-19	50.32	55.00	
28-Feb-20	40.46	53.00	
19-May-20	44.04	41.00	
29-May-20	49.64	44.00	

* Asterisk signifies initiation or assumption of coverage.

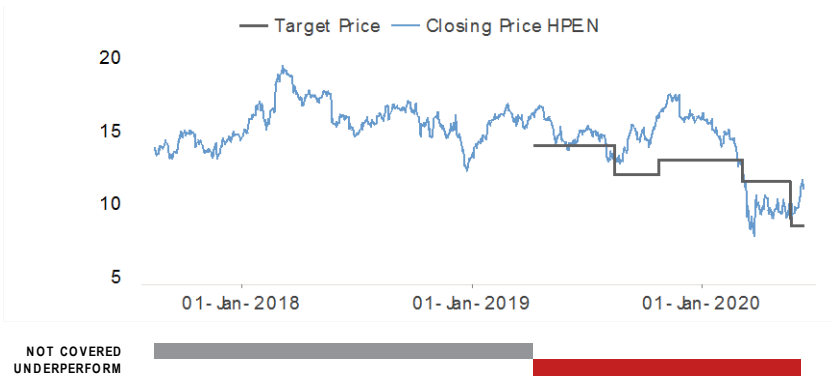


3-Year Price and Rating History for Hewlett Packard Enterprise (HPE.N)

HPE.N	Closing Price	Target Price	
Date	(US\$)	(US\$)	Rating
15-Aug-17	13.77		NC
11-Apr-19	16.27	14.00	U *
15-Aug-19	12.68	12.00	
24-Oct-19	15.89	13.00	
04-Mar-20	12.26	11.50	
19-May-20	10.04	9.00	
22-May-20	9.17	8.50	

* Asterisk signifies initiation or assumption of coverage.

Effective July 3, 2016, NC denotes termination of coverage.

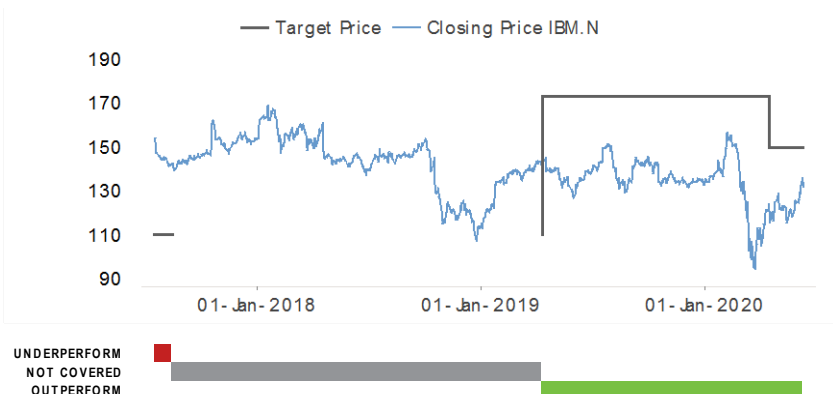


3-Year Price and Rating History for International Business Machines (IBM.N)

IBM.N	Closing Price	Target Price	
Date	(US\$)	(US\$)	Rating
17-Jul-17	153.01	110.00	U
15-Aug-17	142.07		NC
11-Apr-19	143.78	173.00	O *
15-Apr-20	118.69	150.00	

* Asterisk signifies initiation or assumption of coverage.

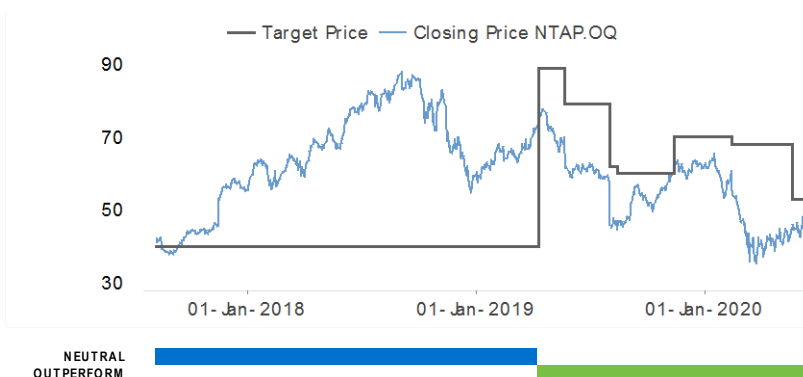
Effective July 3, 2016, NC denotes termination of coverage.



3-Year Price and Rating History for NetApp (NTAP.OQ)

NTAP.OQ	Closing Price	Target Price	
Date	(US\$)	(US\$)	Rating
09-Aug-17	42.24	40.00	N
11-Apr-19	75.49	89.00	O *
23-May-19	61.66	79.00	
02-Aug-19	46.04	62.00	
15-Aug-19	46.47	60.00	
13-Nov-19	60.07	70.00	
13-Feb-20	55.18	68.00	
19-May-20	44.68	53.00	

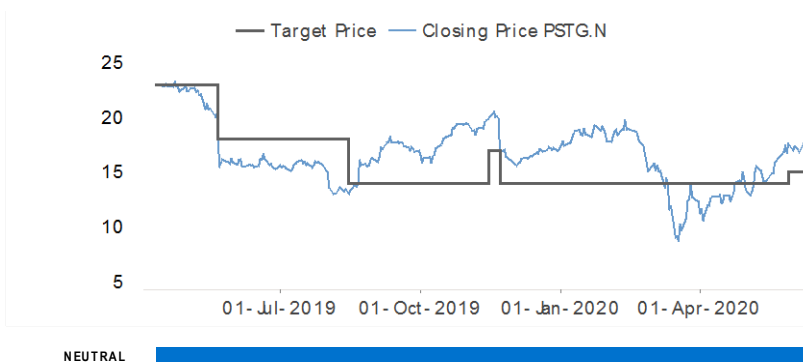
* Asterisk signifies initiation or assumption of coverage.



3-Year Price and Rating History for Pure Storage (PSTG.N)

PSTG.N	Closing Price	Target Price	
Date	(US\$)	(US\$)	Rating
11-Apr-19	22.99	23.00	N *
21-May-19	20.60	18.00	
15-Aug-19	13.01	14.00	
15-Nov-19	20.00	17.00	
22-Nov-19	16.86	14.00	
29-May-20	17.61	15.00	

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Underperform/Sell*	12%	(23% banking clients)
Restricted	1%	

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