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Enterprise Storage & Technology Newsletter

July 2022

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August 2 - 4, 2022

Santa Clara Convention Center

Flash Memory Summit

Alan May HPE Discover 2022

People, Culture, and Today's Workplace Trends



Interviewer: What are some of the things that you're seeing as organizations are really looking and have to transform digitally? They got to bring the humans along.

Alan May: The foundation is that you really have to define: 'What is the mission and purpose of the organization?' And then make sure that individual feels safe and comfortable participating at work. I know those sound like soft things, but at the end of the day, you're not going to have the gumption or the desire to change unless you care about something bigger than yourself and that you feel safe bringing your authentic self to work.

Interviewer: Well, what do you do if somebody's not comfortable? How do you get them to align?

Alan May: We define our mission as improving the way people work and live. Now, that sounds so general, but the good thing about that is I think about every one of our 60,000 associates around the world can write themselves into that mission setting. It's not so specific that you think 'am I opting in, I am opting out?' The other piece is you've got to give your employee a voice. You have to give your team members an opportunity, not just to follow blindly whatever you're saying, you don't want that. You actually want them to challenge it. You want them to say, hey, what does that really mean, Alan? What does that mean Antonio, when you say we're improving the way people work and live? What does it mean when we say commit and go or force for good? These are not just pithy phrases. They're ways to engage dialogue. That's how you get people to think and to create and innovate and to change.

Interviewer: What's HPE's point of view on [remote vs. in-person work]?

Alan May: We're in between. We think it's important that people do get together face to face. And in fact, we've asked our team members to come back a couple of, three days a week in the office, but to do it in a purposeful, thoughtful way. It doesn't mean just coming in swiping your badge saying that you were there. It means coming in to collaborate, to meet with customers, to celebrate, to innovate, to work



with groups. So what we're trying to do now is orchestrate those moments that matter for our team members, for a reason for them to be together. Now, there's no reason for them to come into the office if they're on Zoom or team meetings all day, we know that. But the fact is we believe that our culture thrives when people get together at least a bit during the week.

Interviewer: People are talking about digital transformation, AI, we see robotic process automation. Initially, a lot of employees are really concerned, whoa, they're going to replace my job. What do you think about that? What should companies like HPE and society do to help people get to the point where they can thrive in that environment?

Alan May: Yeah, look, it's an observation that I could say based upon my career I've seen for many many years. I can remember back manufacturing when at least from a US perspective, many of those manufacturing firms were shutting jobs because of automation. And there are short term disruptions and those are real, those are human and we do have to help people through those. Now, I think one obligation an employer has, is let's start with our own folks. Let's make sure we retrain them. Let's make sure we expose them to the latest skills. Let's give them an opportunity to grow and develop. So I think if we do those things, we can help people through those transitions.

I'll give you one tiny little anecdote. Before the pandemic, all of this worry about how autonomous vehicles can eliminate truck drivers. Well, back in the day I actually drove a truck and it's not just driving. You've got to interact with somebody in a dock door. You've got to do all kinds of other tasks that can't be automated. And so things will happen over time, but I don't think we're going to see this massive social disruption people were worried about. I do think from a broader social perspective there's probably some things that in the public policy we can do to improve education and training particularly for new entrants and make sure they're learning the skills for tomorrow's jobs and not just today's, but I'm optimistic. And I actually think most responsible companies get this. And if you talk to their CEOs, the top two or three issues that they have include access to talent. So why don't we recycle, repurpose and reuse to use the sustainability phrase instead of throwing people out of work that have all kinds of intellectual property and capability to be very productive. And that's what we do at HPE.

Interviewer: In terms of looking at corporate culture as an accelerant, as a catalyst of digital transformation, how do you advise leadership teams?

Alan May: Well, we've done a fair amount of work in the last five years defining the culture in very small frankly soundbites. And the way you make that come to life is back what I mentioned before. You have to engage people and ask them to debate it. What does it mean to say commit and go? What does it mean to say force for good? Those kinds of conversations help your culture evolve, help your culture become real. And it's not just a bunch of words on some piece of paper or poster someplace. HPE is here to help people live and grow and work better and we try to be a force for good. We focus on that and we create work that fits your life, not the other way around. That's my elevator speech.

Flash Memory Summit Returns to Live, In-Person



[Flash Memory Summit](#) returns to its former live version, August 2-4, at the Santa Clara Convention Center. The 2022 conference is expanding beyond flash memory to address all forms of high performance memory. Summit organizers welcome your submissions on a range of memory technologies including NAND Flash, DRAM, MRAM, ReRAM, and DNA storage. Submissions are also encouraged on AI, 3D Flash, RISC-V, data center applications, and sustainability.

This year's in-person conference will feature sessions on the design, development, integration, marketing strategy, and use cases in support of memory technologies and their related hardware, software, and services. The show floor will include new products from both the world's major players as well as innovative startups. Attendees will participate in festivities as the industry celebrates the 35th anniversary of NAND Flash Memory.



Flash Memory Summit



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At FMS 2022, storage customers will learn about the advances in flash memory architecture, QLC flash, and a range of volatile and non-volatile memory technologies including DRAM, MRAM, and ReRAM.

“FMS is the only show that convenes the entire industry in one location to see the latest storage advances. This year, we also celebrate the 35th anniversary of NAND flash’s invention,” said [Chuck Sobey](#), FMS general chair. “New for 2022, we have expanded technology coverage to encompass DRAM, cybersecurity, and DNA-based storage.”



Executive Premier Keynotes: Fadu, IBM, KIOXIA, Samsung, SK Hynix, Western Digital (WDC), Yangtze Memory (YMTC)

Premier Keynotes: Intel, Marvell, MicroChip, NEO Semiconductor, Phliops, Silicon Motion

Platinum Sponsors: AMD, Beijing Memblaze Technology Co, Ltd, BIWIN, Ellisys (SerialTek, SANBlaze), Innodisk USA, MaxLinear, SANMINA – Viking Enterprise/Viking Technology, Scaleflux, SNIA, Starwind, Swissbit, Teledyne LeCroy, Winbond

FMS 2022 conference sessions will cover life beyond flash, cloud storage, multiprotocol AFAs, storage sustainability innovations, Compute Express Link (CXL), key-value stores and containers, controllers, composable infrastructure, computational storage, storage class memory, and AI/ML applications. Many sessions, including ones the NVM Express industry organization sponsors, will offer the latest NVMe, NVMe/TCP, and NVMe-oF information. FMS points the way to developing more powerful enterprise applications for the cloud, hyperscalers, HPC, IoT, embedded systems, and vertical market segments such as automotive and industrial.

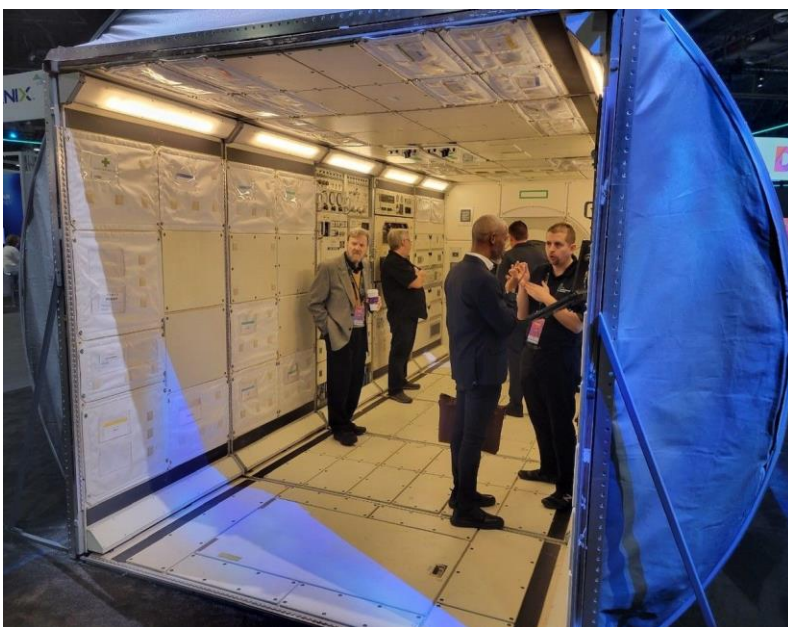
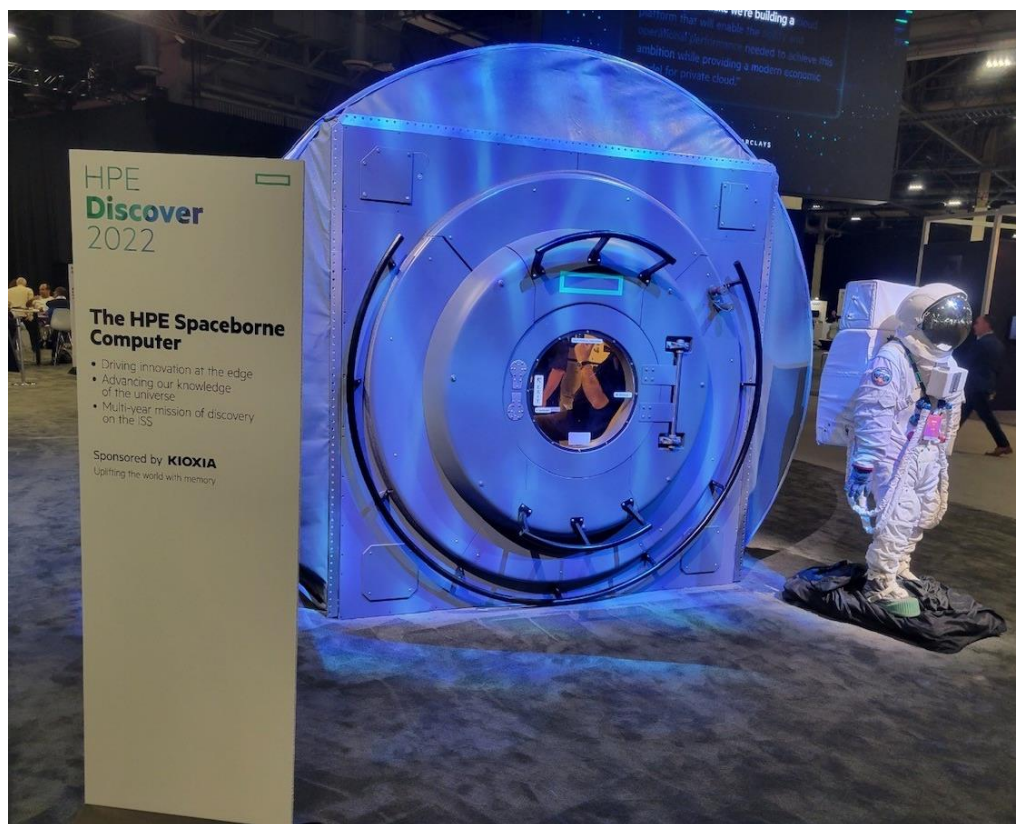
“Customer adoption is flourishing for hybrid multi-cloud infrastructure, new ransomware data protection techniques, and hardware innovations for sustainability solutions. This is a not-to-be-missed event,” said [Jay Kramer](#), chair, FMS business strategies and memory markets track.



KIOXIA Maxes Cool Factor

KIOXIA

[KIOXIA](#) showcased an [HPE ProLiant DL385 Gen10 Plus server](#) running [KIOXIA CM6 Enterprise NVMe SSDs](#) stored on an HPE Alletra 9080 storage array at this year's HPE Discover. KIOXIA's next-gen, flash-based solid state drives (SSDs) are optimizing Hewlett Packard Enterprise (HPE) solutions, and in the words of KIOXIA "paving the way for the next wave of digital transformation".

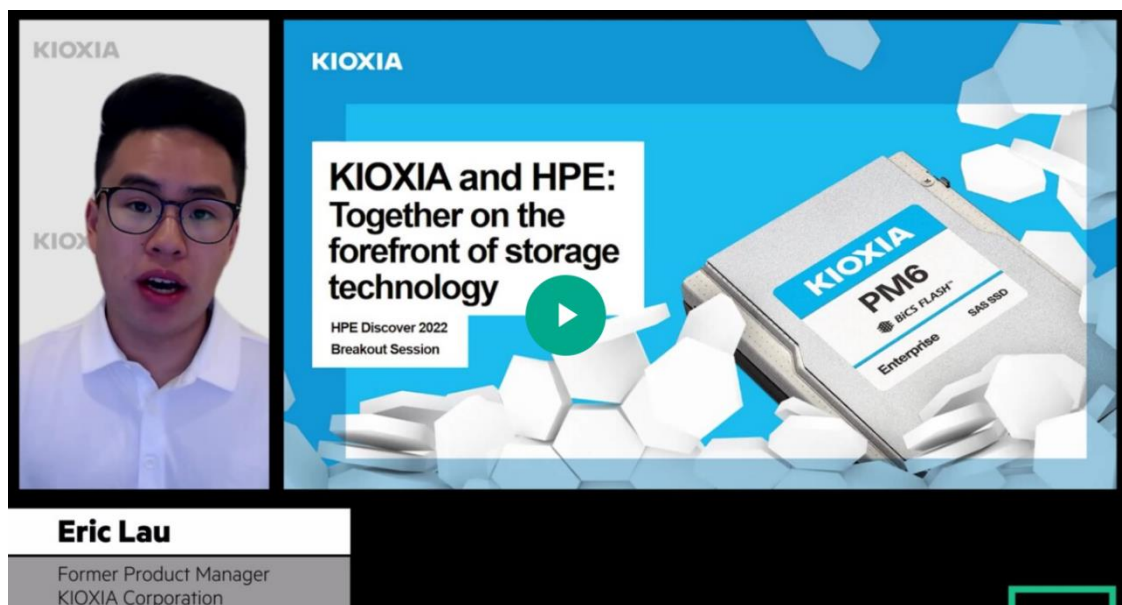


[KIOXIA](#) drives deliver high database throughput with low read/write latency through ground breaking solutions. KIOXIA CD7 data center NVMe SSD is designed with PCIe 5.0 technology to meet the growing performance and capacity needs of storage. KIOXIA America, Inc. is the U.S.-based subsidiary of KIOXIA Corporation, a leading worldwide supplier of flash memory and solid state drives (SSDs). From the invention of flash memory to today's breakthrough BiCS FLASH™ 3D technology, KIOXIA pioneers cutting-edge memory solutions and services that enrich people's lives and expand society's horizons. The company's 3D flash memory technology, BiCS FLASH, is shaping the future of storage in high-density applications, including advanced smartphones, PCs, SSDs, automotive, and data centers.

KIOXIA hosted live demos of its new HPE storage solutions, as well as two breakout sessions that will be focusing on its new products, and its longstanding collaboration with HPE that "showcases the companies' leadership in storage technology".

- CD7 Series EDSFF E3.S Data Center NVMe SSDs running MongoDB® on HPE ProLiant servers. EDSFF E3 specifications were developed by leading companies that include HPE and KIOXIA to optimize SSD designs for capacity, power, performance, and thermal/cooling - and to replace legacy 2.5" form factor SSDs.
- PM6 Series 24G SAS and RM6 Series Value SAS SSDs running VMware® vSANTM workloads on HPE ProLiant DL380 servers. KIOXIA RM6 drives deliver high performance and reliability at a price point targeting SATA SSDs.
- CM6 Series Enterprise NVMe SSDs (with FIPS 140-3 security module validation) running with encryption on an HPE Alletra™ array.

Neville Ichhaporia, vice president of SSD marketing and product management, KIOXIA America, Inc. said: "Unlocking server and storage potential from the edge to the cloud requires maximizing performance and efficiency. Together, HPE and KIOXIA provide customers with fast, secure, reliable, and efficient storage solutions to modernize their data centers and adopt a more 'data first' approach".



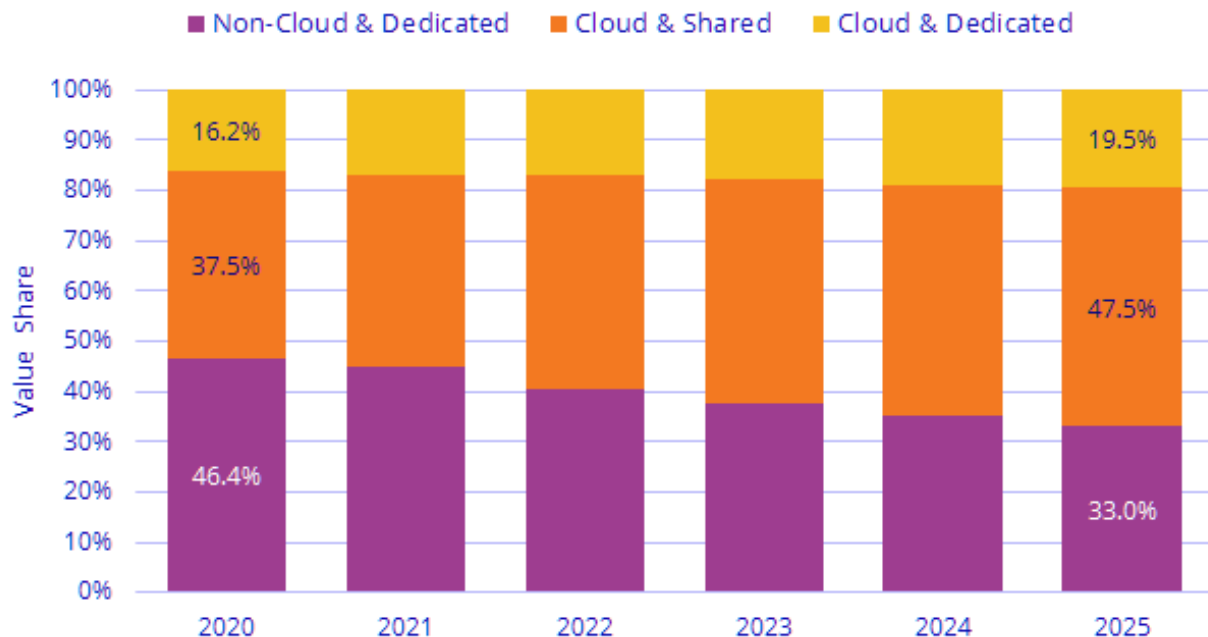
Spending on Shared Cloud Infrastructure to Overtake Non-Cloud Spend



According to the [International Data Corporation's Worldwide Quarterly Enterprise Infrastructure Tracker: Buyer and Cloud Deployment](#), spending on compute and storage infrastructure products for cloud deployments increased 17.2% Y/Y in 1Q22 to \$18.3 billion. IDC expects spending on shared cloud infrastructure to overtake non-cloud spending in 2022 for the first time. Spending on cloud infrastructure has accelerated since the pandemic began in March 2020, as businesses accelerated digital transformations and spending grew for seven consecutive quarters since Q3 2019, with the exception of a 1.9% year over year decline in Q2 2021. Q2 2020 saw the highest year over year growth of 38.4%. In Q4 2021, spending on cloud infrastructure was up 13.5% in the quarter year on year to \$21.1 billion.



Worldwide Enterprise Infrastructure Buyer & Cloud Deployment Forecast, 2020 - 2025 (spending)

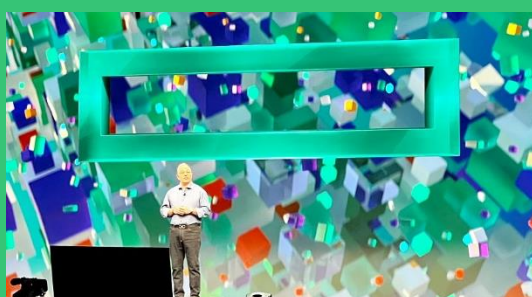


Source: IDC 2022

For 2022, [IDC is forecasting](#) cloud infrastructure spending to grow 22% compared to 2021 to \$90.2 billion – the highest annual growth rate since 2018 – while non-cloud infrastructure is expected to grow 1.8% to \$60.7 billion. The increased forecast for both segments is partially driven by inflationary pressure and expectations of higher systems prices during 2022 as well as improvements in the supply chain. Shared cloud infrastructure is expected to grow by 24.3% Y/Y to \$63.9 billion for the full year. Spending on dedicated cloud infrastructure is expected to grow 16.8% to \$26.3 billion for 2022. In 1Q22, service providers as a group spent \$18.3 billion on compute and storage infrastructure, up 14.5% from 1Q21. This spending accounted for 55.3% of total compute and storage infrastructure spending. Spending by non-service providers increased 12.9% Y/Y, the highest growth in fourteen quarters. IDC expects compute and storage spending by service providers to grow 18.7% yearly. For 2022, cloud infrastructure spending for most regions is expected to grow, with 4 regions, APeJC, China, USA, and Western Europe, expecting to post annual growth of 20-25%. Impact of the war will continue to hurt spending in Central and Eastern Europe, which is now expected to decline 54.6% in 2022. IDC expects spending on compute and storage cloud infrastructure to have a CAGR of 14.5% 2021-2026, reaching \$145.2 billion in 2026 and accounting for 69.7% of total compute and storage infrastructure spend. Shared cloud infrastructure will account for 72.6% of the total cloud amount, growing at a 15.4% CAGR. Spending on dedicated cloud infrastructure will grow at a CAGR of 12.1%. Spending on non-cloud infrastructure will grow at 1.2% CAGR, reaching \$63.1 billion in 2026. Spending by service providers on compute and storage infrastructure is expected to grow at a 13.4% CAGR, reaching \$140.8 billion in 2026.

Antonio Neri

Keynote Highlights



[Antonio Neri](#), HPE President and CEO, Keynote Speech Quotes:

Four years ago I declared that the enterprise of the future will be edge-centric, cloud enabled and data driven. And as a result we launched HPE GreenLake. The crux of our strategy from the beginning has been to make data an asset and help you leverage it for your modernization needs so you can choose what you need to do and also give you the ability to complete your hybrid cloud transformation.

Today, 65,000 customers and 120,000 users are on HPE GreenLake Cloud Platform consuming 70 unique cloud services with over an exabyte of data under management with customers worldwide.

By 2025 the world will have 150 billion connected devices generating 175 zeta bytes of data, of which more than 30% of that data will need to be processed in real time.

...data is the life force of development and data is essential to innovate what we call the next generation business models. In some cases, [it] actually creates new entire industries.

As the world becomes more and more distributed, more than 70% of the data is outside, actually, the public cloud, and more than 50% of that data is created at the edge. And that is why in 2018 we announced that we will invest \$4 billion in the edge over four years.





Upcoming Conferences

July 13	FutureCon St. Louis , Hybrid
July 19-20	Cyber Solutions Summit & Expo , Virtual
July 25-27	Gartner Security & Risk Management Summit , Tokyo
August 2-4	Flash Memory Summit , Santa Clara
August 6-11	Black Hat USA , Vegas
August 11-14	DEF CON 30 , Vegas
August 27-28	Blue Team Con , Chicago
August 29-Sept 1	VMwear Explore , San Francisco
September 8	FutureCon , Des Moines
September 12-14	Gartner Security & Risk Management Summit , London
September 13-14	CISO Forum , Virtual
September 14	Cybersecurity Expo , Phoenix
September 19-20	Industry of Things World , Berlin
September 20-22	Dreamforce , San Francisco
September 22-23	Global Cyber Conference , Zurich
September 26-28	InfoSec World , Colorado Springs
September 27-28	International Cyber Expo , London
September 28-29	IoT World , Santa Clara
September 28-30	Spiceworld , Austin, Hybrid

October 3-4	451Nexus , Las Vegas
October 5-6	Evolve , Vegas
October 6-7	Big Data & AI Toronto
October 10-12	ISC Security Congress , Las Vegas
October 11-13	Google Cloud Next , Virtual
October 17-19	Authenticate 2022 , Seattle
October 17-20	Gartner IT Symposium/Xpo , Orlando
October 24-27	ICS Cybersecurity Conference , Hybrid/Virtual
November 16	San Diego Cybersecurity Conference , Hybrid
November 16	Threat Hunting Summit , Virtual
November 18-19	Data Strategy & Insights (Forrester Research), Virtual
November 21-22	Gartner IT Infrastructure, Operations, & Cloud , London
November 28-Dec 2	AWS re:Invent , Las Vegas
December 1-2	AI & Big Data Expo Global , London
December 6	Security Operations Summit , Virtual



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