

Data Center Companies' Consolidation Vs. Public Cloud Sours

Companies: AMD, AMT, AMZN, ANET, BX, CIEN, CSCO, DLR, DY, EQIX, GLW, GOOG/GOOGL, INTC, KKR, MSFT, NOK, NVDA, ORCL, SMCI **March 17, 2023**

"Heard, tracked, understood, witnessed, confirmed, and you should really think about paying attention to this stuff."

Research Question:

What effects are energy prices, electric-generation shortages and escalating interest rates having on the non-big-three data center operators? Are costs for the server colocation portion of the industry pushing customers toward the cloud? Has the acquisition binge of data center firms hit a brick wall?

Key Findings

- It was down to a go-bigger-or-go-home fight in the non-Amazon Web Services, Google, Microsoft data center world. Consolidation has been hot and heavy. Former public data center companies CoreSite Realty Corp. (was CORE), QTS Realty Trust Inc. (was QTS), and Cyrus One (was CONE) were bought before things began to go south. The private equity firm KKR & Co. Inc. (KKR) and privately held Global Infrastructure Partners got Cyrus One for \$15 billion. American Tower Corp. (AMT) scooped up CoreSite for \$10 billion, and Blackstone Inc. (BX) earlier snagged QTS for \$10 billion. Other smaller deals to buy private data centers happened, and a number of smaller, independent operators folded.
- All this action took place before Russia invaded Ukraine. It also largely just pre-dated the unabated rise of inflation that has led to repeated interest rate increases on both sides of the Atlantic. And now, the shudder in the banking sector.
- "KKR and Blackstone ... bought these operators at exactly the wrong time and paid large premiums on share prices. ... They picked up debt and the responsibility for running these centers all over the map right at the time when costs were about to get even worse. ... The idea was that data proliferation was never going to slow down and that buying up data center colocation and network interconnect companies was a can't-lose proposition. That is proving to be wrong. ... Big customers are the lifeblood of these facilities, and those customers are facing price increases around staggering, unpredictable energy costs that can be passed on to them at these buildings. Meanwhile, in their own enterprises, there are enormous pressures tied to interest rates, demand for what they sell, supply chain snags, raw material prices, and other escalating costs. If they go looking for IT alternatives to try to save money, guess who is lurking on the edges ready to pounce? Microsoft [Corp./MSFT], Amazon[.com Inc./AMZN], and [Alphabet Inc./GOOG/GOOGL]"
- Equinix Inc. (EQIX) and Digital Realty Trust Inc. (DLR) are still going it alone as publicly traded real estate investment trusts. They are up against Blackstone's and KKR's deep wells of money—which have been hit by interest rates—and American Tower's diversified portfolio, which includes myriad cellphone network infrastructure. But what all of them are really up against is the spread of the big clouds into more regions with advanced data centers, dedicated fiber networks and the collective ability of AWS, Google, and Microsoft to absorb and spread out situations like energy costs because they have gigantic revenue streams, no debt leverage, and the capability to innovate at will. They add applications to their platforms every week. The allure to customers that have been doing their own IT networking with servers in expensive colocation data centers or their own facilities is becoming too much to resist, sources say. "It's all about cutting costs now," one said.
- "What is happening here is the big clouds are turning companies like Equinix and Digital Realty into interconnect relay stations for them, as opposed to a blend of network interconnect and data server collation, which has been the way these REITs have operated for a long time," said the CEO of a fiber-optic networking firm. "And you have this data real estate buy-and-consolidate binge that was based on the idea that you could build hyperscale alternative cloud options for customers like Oracle [Corp./ORCL] and others to compete against Azure, AWS, and GCP [Google Cloud Platform]. In theory, that looked good. But nobody plugged in the nasty variables we have been facing today. You and I both know that once energy prices skyrocket, the providers are not ever going to reduce them, even if generation costs recede. What's going on here is a complete upending of this industry based on operational costs, coupled with the cost of borrowing now. If we start to see more bank failures in institutions with a heavy tech presence, it is going to get much worse."

Positive: AMD, AMZN, ANET, CIEN, DY, GLW, GOOG/GOOGL, INTC, MSFT, NOK, NVDA, SMCI

Neutral: CSCO

Caution: AMT (data center acquisition), BX (data center acquisition), DLR, EQIX, KKR (data center acquisition)

Negative: ORCL (cloud business)

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Data Centers Wanting To Offer Alternatives To The Big Three Must Spend To Scale Out Their Clouds

Sources said the unfolding data center situation is going to help companies such as fiber-optic network builders Dycom Industries Inc. (DY); fiber cable manufacturer Corning Inc. (GLW); optical switch firm Ciena Corp. (CIEN); advanced chipmakers such as Nvidia Corp. (NVDA), Intel Corp. (INTC), and Advanced Micro Devices Inc. (AMD); custom white-box server builders such as Super Micro Computer Inc. (SMCI); fast-fabric switch makers Arista Networks Inc. (ANET); Nvidia's [Mellanox](#); segments of Cisco Systems Inc.'s (CSCO) business; and the networking side of Nokia Corp. (NOK), particularly in Europe. They will benefit pretty much no matter what, three sources said. That is, as one put it, "unless everything suddenly caves in." Why?

"AWS, Microsoft, and Google are fundamentally out to subsume all data center infrastructure and IT services companies they do not control by clobbering them with their IaaS [infrastructure as a service], SaaS [software as a service], AI on demand, thousands of applications, storage services, high security, unlimited network access, legions of code developers, and whatever else they can throw at them," said a senior executive at a data center design/build company. To compete with and prevent being run over by the big three, he said, companies that now collectively own and operate millions of square feet of expensive data center space—such as KKR; American Tower; Blackstone; and Digital Bridge Communications Corp., which bought out former public data center company Switch Inc. (was SWCH) in May 2022 for \$11 billion—"are going to have to spend like crazy to keep up. At the same time, I don't see how their customers will sit still and allow steady price increases to keep flowing on top of them for energy and just the heightened cost of these operators competing against the likes of an AWS that have unlimited cash. Therefore, these wannabe clouds, in order to become hyperscale clouds that compete with the big clouds—god help them with that—they can't sit back. Don't forget, they are also up against each other, too.

"Small facilities on the edge. That's the sweet spot. I think these guys who have bought up the in-between market [of independent data centers] thinking they can expand it up to become cloud competition are in an increasingly hard spot. These buildings have only been seen one way—as money printing presses by investors. They really don't understand the cost risks. You can really get your [backside] caught out in this business. I am sure we are heading to that place now."

By definition, a hyperscale data center company is one that is wholly owned by an entity that intends to keep building out on a footprint that allows for global reach and that is competitive at that level. Think Microsoft with Azure, for example. "What that means is that the big acquirers of data centers—like KKR, American [Tower], Digital [Bridge], Blackstone, and anyone else wanting to be in that arena have made bets," said the CEO of a data facility and interconnect company doing business in the United States and Europe but who is not in the hyperscale game—"for obvious reasons," as he put it. "Whether or not they were good bets or they will turn out to be bad or even disastrous bets really isn't the discussion at the moment. You can say they are stuck with their bets, which means they have to make a choice—keep pushing more chips into the center of the table or fold and walk away. They can't fold and walk away. Nobody—and I know exactly what I am talking about here because I live inside this game every single day—is that nobody at all is going to step up at this time, or maybe ever, to buy these properties off these guys, given where we are. These firms bought high just before the [crap] hit the fan. I know, even if I had the money, I would not buy any colocation property of any size. I might still develop some small-form edge facilities. Look what [EdgeConnex](#) has done. You've known them for years. They have Comcast [Corp./CMCSA] behind them, and their approach has been very measured. They have only ramped up where and when they knew they already had business waiting.

"These other operators that have scooped up facilities like Switch's 2 million feet in Las Vegas and the rest of that company or the CoreSite portfolio—any of them—they are betting on a couple of things: The continued dependence of data will force the world to keep using their buildings, and being able to get as much carrier-neutral network fiber and interconnect points into these facilities will keep them relevant because they will be on net with big bandwidth access available for customers. That is a fair enough set of assumptions, you'd think. But if server colocation falls off because that part of the business is getting too expensive for customers, is interconnect alone enough to make up for that? Equinix and Digital Realty [which bought interconnect company Telx several years ago] have great businesses in network interconnection. But you can't keep raising prices in that segment to make up for what may happen, or is, in the data center colo business sides. Digital Realty has around 35 million square feet of [data center] floor around the world. A ton of that is getting old. Equinix has maybe as much as 10 million square feet all in. They have more than 150 buildings in 62 locations around the world. [The numbers aren't precise.](#) Neither of those two are in any danger of tipping over. Equinix in particular is actually very important to Google, Microsoft, and AWS because of the network business. It carries cloud customers into those big cloud facilities all around the globe. Let's say Equinix is in a better place than Digital because they are. Digital hangs in there because they are big and established, although I do not think they are going to be going up in value again anytime soon.

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“But the others that have been thinking about becoming hyperscale cloud companies are caught in a real squeeze. You have electric utilities that are unwilling to do any more of these locked-in price contracts for new data centers. Last summer, Dominion [Energy Inc./D] even said ‘no more new hookups at all for new data centers or expansions’ in Loudoun County, Virginia, and that’s the biggest data center market in the country. In the fall, Dominion eased off a total restriction, but it’s a mess there, and prices are very high—[if you can even get power](#). The paradise of the carefree data center industry has some real problems. Customers can light out to an Azure because Microsoft can price it at levels too attractive to ignore. Interest rates, energy costs, inefficiencies in older infrastructure. It ain’t easy, man.”

Still other sources said another area that companies overlooked as they were buying up data center companies is the miniaturization of high-capacity computing. “You don’t need 100,000 square feet to run a blazing-fast data facility anymore. You can build one in a small box and drop it just about anywhere,” said the head of an advanced computing lab on the West Coast who has been a Blueshift Tech Trends source for nine years. He works on data energy and green developments that do not sacrifice computing capability but actually speed it up without the need to spend on multimillion-dollar data center facilities. “These clusters, as we call them, can be configured in many different ways. Nvidia has been great to work with because they have a very active interest in small-form, high-performance data facilities. Microsoft is also very attuned to these efforts. Google as well. The vision is to site self-contained, highly available [network connected] clusters wherever you can. We told you about those folks in the UK prototyping an HPC [high-performance computing] cluster in a box that uses its excess heat to warm up indoor swimming pools.”

That company, Deep Green, has been recently [getting publicity for its efforts](#). “The deal with them in the swimming-pool application is an interesting way to capture and use waste heat,” the advanced-computing source continued. “But they are really a micro-cloud-computing startup that charges customers for use of their advanced computing power in these boxes to develop ML [machine learning] and AI applications on a pay-for-what-you-use basis. The potential for this gets well beyond heating swimming pools, which has been a clever way to draw attention here. This type of development has so much potential. It replicates, albeit in a much smaller way, what a high-performance cluster inside an Azure can do in a single rack, but it is extant to the hyperlarge data infrastructure constraints the major clouds have with their core buildings. Obviously, those don’t fit just anyplace. These small boxes could be extensions of the cloud HPC placed anywhere. Microsoft could build thousands of these and deploy them as intermediate stations along their global network backbones. Think the building of the first railroads. As they crossed the country, each station wound up spreading economic development in every direction from the stations. That’s the same concept here, only you could have stations branching off to anywhere. You can offer fast, cloud-connected computing in a school system in a rural location, so long as you could get network access of some kind. Eventually the edge will look like this, and I think the major clouds get that and will develop this on a fast track.”

Other sources agree. “I think it was a mistake for these companies that bought CoreSite and Cyrus One because that way of doing the data business is outdated,” said the CEO of a cloud data migration and network integration company based on the East Coast. “While you still need anchor facilities with good network, and there is still a need—for now—among customers to use them, it isn’t a growth business for everyone. Everything except the most major, well-connected buildings in core markets like Ashburn [Virginia] are already located in regions in Europe and the United States that are near direct connects into AWS, Azure, and Google.”

“At what point do you look at these [data center company] acquisitions and ask yourself if you made the correct decision? They have to already be thinking that, if not asking that out loud. There is a window here where it may still seem worth it, and they will keep trying to scale these places to compete with the major public clouds. It comes down to customers and what direction they decide to go. Right now, we are in hybrid mode. A great deal of IT networking is still being at least partially done by organizations running and using the resources themselves. However, look at the percentage of those organizations that already use AWS or Microsoft for certain things. Forget Oracle. Their OCI [Oracle Cloud Infrastructure] play could not be building out at a riskier time. That ought to be somewhat alarming to a middleman data center company watching Oracle pick up an immeasurable share of the cloud market as big as Oracle is. We keep hearing about the intense pressure inside Oracle to get cloud business. It is reportedly a meat grinder. What goes through your mind if you see that and you are trying to pitch yourself to customers in one of the data center companies that got acquired as an alternative to moving active workloads to Azure? That will not work over time, even in the midterm, because the numbers don’t add up. It will be a constant grind to compete for the same customers as the cloud. On top of that, you have all the other pressures mounting up on these very large holding companies that own so many other at-risk real estate holdings that can be hit in a down economy. Financial market volatility,

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energy costs, inflation, interest rate hikes, competition, and technological advancement aimed at downsizing data centers in general. Those are just some of the factors. No, thanks.”

Background

John Harrington has been the senior technology researcher for Blueshift Research since February 2014. He has an extensive background in reporting on technology trends for more than 20 years across all areas of information technology, with a particularly deep background in data centers and large-scale fiber-optic networks, where he has been employed on the industry side of those segments. For this report on the market pressures facing the data center industry and the subsequent implications on participants, John interviewed 16 key executive sources in the U.S., all repeats from previous Tech Trends reports dating back to 2014. Interviews were conducted in the last two weeks of February and the first three weeks of March.

About the Author

John Harrington is an award-winning investigative reporter and veteran Wall Street researcher. John previously served as senior editor and senior researcher at OTR Global and was a three-time Emmy Award-winning TV journalist.

John brings expertise and relationships in internet networking, network security, fiber-optic communications, and data center computing to Blueshift Research. He will contribute regularly, sharing deep insight into tech and communications trends, often before they are recognized by Wall Street.

Report Coverage Areas and Companies

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