



DC Migration Tips from a Fortune 500 Financial Company

Director of International Data Centers with Billy Sigmon, Senior Solutions Engineer, QTS

Below is a conversation I had with the Director of International Data Centers from one of our largest financial customers. The company recently moved to QTS Data Centers and are in the process of migrating out of two of their own data center facilities. The goal of the interview was to capture some of their recommendations for data center migrations. The customer and company names have been concealed per their request.

Q: "When you issued your RFP and received responses from data center providers, what criteria did you use to down select and narrow down the number of potential providers?"

A: "We targeted the locations we wanted. Number one was our project timeframe and who had inventory with space in the targeted locations. Initially, we thought we would look for two separate vendors for resiliency and business continuation and to not have everything sourced from one single vendor. However, your sales team convinced us that having QTS as one vendor—with the tools you had for us to manage and monitor both data center sites—far exceeded other vendors that had available space in those targeted locations."

"We did a profile on the vendor, the size of the vendor, the stability of the company and the history of the company. There were some small vendors that looked like they would provide the service; however, they were not in both locations, or they had a very small footprint and seemed ripe for acquisition by a larger or different company, or didn't have the stability that we thought we needed."

"[Another consideration was] enhanced services that were available such as what the vendor could provide us that would help us manage the site. Price was always a consideration. QTS was not the cheapest, but there was value in the additional price. We also saw value into building an interface into the Service Delivery Platform.

The platform didn't have everything even QTS wanted it to have yet, but it was far beyond what other companies were able to give us and based on a seven-year contract, we looked at the Service Delivery Platform's roadmap and knew it would be expanding as we went along. Its foundation was far better than what we saw with other companies."

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Q: "What prompted your recent data center migration?"

A: "When I came to this company, one of my major goals was to get most of the international data centers out of the home offices and into colocations just to reduce the risk. Why do we move into a collocated data center as opposed to a homemade data center?"



It reduced risk. The redundancy and resiliency in the collocated data center far exceeds what we can practically or financially supply for a homemade data center. The risk of the business is the number one item, and number two is the expense of trying to build that redundancy and to run that. In the past, the company had the homemade data centers obviously because the networking wasn't as mature as it is now and the mainframes took up so much physical space. But now we are consolidating to a newer hyperconverged configuration where we do not need a large area of space but a highly concentrated, efficient piece of real estate. When I started with the company, we had 78,000 square feet of data center space in the U.S. We consolidated down to about 30,000 square feet in the past 3-4 years through consolidation and data center migration, and now we are going to 10,000 square feet with collocation. So, it's just a progression to a smaller, more efficient space. Another example is our previous data center was only designed for 10-12 kW per cabinet. Some of the new equipment we purchased is running 15-16 kW per cabinet and we couldn't support that without just spacing things out in the old data center. Now we have a really professional data center as opposed to a homemade data center."

Q: "How did you go about selecting a geographic data center location?"

A: "The number one thought was where is a large concentration of our people? Number two was what do we want to get to, what services are we using in addition to our on-premise—AWS, Azure and Office 365—and where are they? Those were the two things I was looking at as far as where we wanted to be. I wanted an easy path for where our people are and an easy path for where we want to go."

"Additionally, we were looking at business continuation between the two sites and wanted to ensure they were far enough that they were on separate power systems, separate management vendors supporting each one and

also the geographic area didn't have any concerns that were common to the two. Say if we were on the west coast, I wouldn't want to be in San Francisco and LA in the event one earthquake could affect both locations. Hurricanes were something we did track. We looked at the top 15 hurricanes that hit both prospective geographic locations, and there was not a single event that affected both locations. We also looked at environment issues between the sites to ensure we don't have a single vendor supporting both sites so that if something happened to that one vendor, we wouldn't be able to support our data center sites."

Q: "Can you describe how you went about planning your migration?"

A: "In the first stage, we had to plan to establish the new data center. This entailed delivery of new racks and new hardware; the secure fit-out of the space with walls, doors and biometric security measures; the physical rack layout; power assignments; overhead conveyance; structured cabling; and setting up network connectivity."

"The second stage was the migration of applications. In our case, because we were due for our five-year hardware refresh, we were able to seed the data center with a number of racks of new equipment. Then when we begin the migration, we will free up some equipment that will transfer from the legacy data center sites. The main planning is setting up networking and basic infrastructure services (for example, Active Directory, load balancers, NTP servers, SQL) and seed equipment to begin a business application migration."

Q: "What recommendations would you give to other companies who are vetting data center providers when they are preparing for a move?"

A: "The big thing is to know the locations you want to target. Look at the service providers in those areas and what they can provide for you. Sometimes



cheaper isn't always better. It is data center real estate, but enhanced services, in our case, is important to be able to monitor and track what we have in our data center. It's important not to just look at space, power and price, but to look at what else the data center provider can provide for you."

Q: "Did your plan account for any downtime for migrating equipment? Was that driven by specific hardware and applications that needed to be migrated with existing hardware?"

A: "We do have systems that we will backup on a Friday night, get them in a truck and move them to the data center and, hopefully, have them restored by Monday morning. We have some equipment that was uninstalled on Monday and reinstalled on Tuesday. We do have some lift and shift. However, on the hardware refresh, given that it is parallel equipment, we will be able to test the application in the new environment on new hardware and have a short cutover window. We have multiple tiers to most of our applications. By that I mean we have a production tier, a contingency tier—which is a dedicated standby or business –and a pre-production tier for development, testing and quality assurance. Depending on the application, our plan is to migrate pre-production first, the contingency tier second, and the production tier last. This gives us a chance to try things out on new hardware to make sure everything is compatible. We are trying to eliminate any operating system upgrades and move things as is so there are not a lot of changes with the applications during the migration."

Q: "How about planning for the physical data center network design?"

A: "We planned for both an A network and a B network, and everything on each side is mirrored so that we have two circuits that come into the data center: one comes into the A side network and one also comes into the B side network. We have two circuits to

the legacy data center, one to the A side and one to the B side. Two internet circuits with one on the A side and one on the B side with separate routers and mirrored equipment. That equipment is mirrored into the other data center location as well. If you didn't know which data center you were in, you should find the same equipment in the data center in the same spot. And each network connection has diverse paths from our space to each diverse meet-me room."

Q: "What advice would you give other companies regarding design considerations for their future physical data center space?"

A: "Don't look at what you do now. Look at where you really want to go. Because the technology is changing and just because you had the design you had in the past doesn't mean it is going to fit where you go. Start with an empty room and figure out where you want to go. With new technology you are putting into that room, design a space based on the technology you are putting in not just what you did in the past. We had to convince people internally and show them where we were going to get them to understand why we wanted to design the space the way we did."

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Q: "Were there any unexpected events that occurred during your migration?"

A: "Supply chain issues with the pandemic occurring globally—anything from the chip shortage to most of our vendor lead times were delayed. Late on getting network equipment, late on getting compute/storage equipment. Supply was our biggest concern: getting equipment when you need it. However, this will not affect our end date as one of our corporate goals is to physically sell the legacy data center buildings; it will just consolidate some of our migration time."

"The other concern was that we are changing technology going from a traditional compute and storage model to a new hyperconverged model. Obviously with technology you always want to upgrade so there is always risk in doing that. However; we felt comfortable given our ability to test and move the pre-production and contingency tiers and test them before moving the production tiers."

Q: "Lessons learned? What would you do differently?"

A: "Lawyers will take 2–3 times longer to iron out the contract than you expect. If I would have known it was going to take that long, I would have planned for it and started earlier. Another big thing is finding a partner you will be comfortable with that will deliver the services you want. QTS was very flexible. We had delays on certain items, and when we said 'this isn't that important now, but this is,' QTS definitely focused on what we needed and adjusted their plans to service us. We felt that this has become a very good partnership and relationship building out the data centers."

About QTS

QTS Realty Trust, LLC is a leading provider of data center solutions across a diverse footprint spanning more than 9 million square feet of owned mega scale data center space within North America and Europe. Through its software-defined technology platform, QTS is able to deliver secure, compliant infrastructure solutions, robust connectivity and premium customer service to leading hyperscale technology companies, enterprises, and government entities. QTS is a Blackstone portfolio company. Visit QTS at www.qtsdatacenters.com, call toll-free 877.QTS.DATA or follow on Twitter [@DataCenters_QTS](https://twitter.com/DataCenters_QTS).