



5 Best Practices for Data Center Migration

Created: Feb 7, 2011

As Network Architects, We've all had to face it. At some time the data center you rely on will run out of something – space, power, cooling and to put it simple, tolerance. When that happens we are faced with the daunting task of a data center migration. If you talk to data center managers this is a time of pure terror and frustration. The network guys all have a reason why they can't unplug anything. The end users have change window freezes and new application deployments that you can't alter. The team running that special service you paid an arm and leg for seem to have forgotten a lot of



information. It just goes on. Oh, and—you have to manage this while keeping your budget flat. Sometimes it's best to step back and take a look at the good and the bad. Perspective is always a good thing. We always propose that there are five really good things (best practice) about a data center migration and five bad things. Call it the Yin and Yang of data center migration

5 Best Practices

1. You need a fresh start. Use the RFP process to establish requirements that will give you a glide path for the next two life cycles of technology – six plus years. As density increases, power, HVAC, connective media and floor loading are all going to increase. For a starting point, look at the current power demand per square foot and either increase it by 50% or 100%, depending on how close you are to the top of the current availability. Density of processing and storage is raising the demand for power. We won't go so far as saying you can't have enough power, but we will say that if you err on the side of having too much available at the commercial entrance, you won't be sorry in the long run. In most cases, costs for establishing the feed can be associated with the building cost and recurring charges will be for usage, which will be about the same regardless of the size of entrance.
2. Think about the layout. It is all white space, sans CRU's and PDU's. we recommend you imagine how information will flow through the computer room. It comes in from the street via the network entrance. It goes back out via that same access. Firewalls, DMZ's, network termination equipment should all be located closest to the network entrance with enough white space to allow for growth. Place the server and storage assets where they are going to make the most sense. Don't shove everything in the first three rows of racks and then have an ad hoc implementation strategy. We both know that even though the technology is changing fast, you aren't going to do a massive forklift upgrade within the next five years, so get the space planning done now. Plan for room to grow easily for your servers network switches and storage.



3. Cable your space once. That goes for electrical branch circuits as well as telecommunications structured cabling. Make sure that you have branch circuits pulled to all future cabinet locations. We recommend you actually buy most of the future cabinets and place them on the floor with branch circuits set but not active. The same goes for telecom structured cabling. Following on the second point, place your primary MDF in proximity to the network feed. Leave space for the core switches and enough space to allow for growth to capacity. The last thing you want is an invasive change five years down the road because you need to upgrade cabling or power. Pull fiber to every cabinet. The incremental cost of the fiber cable is minimal and you already have the labor there doing the installation, plus, you won't have to be concerned with taking down live services. Everything under the floor should be done up front.
4. Get a clean inventory. Nothing goes in the data center that isn't in the inventory list with an owner and notations about critical business process dependencies. Network components need to have configurations as well as contacts, both internal and at the vendor. You cannot afford the, "We'll come back and do that later" perspective.
5. Get your migration processes in line up front. Use the Inventory list and Audit information to guide the migration, and make sure every item in it has every field populated. Let your DC build out be the excuse for wiring into every aspect of the change process the maintenance of documentation in the system. Continuously update the floor layout information and keep notations about how you expect the growth to happen until it is at capacity. Don't let people have to assume what you meant to do.

These are the Five Best Practices that stem from a data center migration. Taking advantage of them may not be easy. Success requires participation from a lot of groups. A typical data center project can take 12-18 months from the decision to issue an RFP for space to the "go live" date. Build that into your planning, but don't lose track of what you need for success.