

Pro's and Con's of an Off-Site Data Center



Advantages of an Off-Site Data Center (Pro's):

In today's IT environment, there are many advantages offered by an off-site data center. Many of these advantages revolve around the typical lease vs. buy scenario, if your company does not already have state-of-the-art data centers in redundant and diverse locations. The aggregate amount of services at a colocation site will likely be many times more than could be afforded if you built and maintained your own data center.

The remaining issues then revolve around Business Continuity and Disaster Recovery by separating your business operation from your data center. The simple question that you have to ask is "What is the on-going viability of your business in case of a disaster at your primary location?"

Reduced Capital Expenditures

In an IT audit, the generally accepted level of coverage required for a safe data center is "Need + 1" (N+1), meaning that for everything that is needed to operate, you will need one spare on hand. Colocation eliminates the need to build and maintain your own redundant environment. Leasing space in a large, well-built data center with (N+1) support is cheaper than building your own.

You must think through all of the possible points of failure in your data center. You need highly reliable systems at an (N+1) level for:

- Power supplies and distribution units
- Heating and cooling systems
- Humidity control systems
- Network infrastructure (switches, hubs, routers, firewalls, etc.)
- Redundant and diverse communications lines from multiple carriers

Reliable Fail-Over Power and Redundancy

Most on-site data centers do not have (N + 1) power supply and backup. Colocation sites invest significant capital in power engineering, automated fail-over and redundancy to ensure uninterrupted power for the entire facility in order to meet with uptime service level guarantees. When the power went out on the Eastern seaboard in August of 2003, the Level (3) colocation sites experienced zero downtime.

Risk Management

The separation of IT resources from your business operations provides for mitigation of risk and off site data protection. True High Availability is only available with multiple sites in diverse geographies.

SOX Audit Issues

The Sarbaines-Oxley (SOX) legislation has intensified the focus on IT reliability and survive ability. Many IT audits fail to pass Sarbaines-Oxley standards due to business operations and data center coexistence without sufficient business continuity and disaster recovery plans. Colocation sites deliver improved revenue protection through geographic diversity and an (N + 1) support structure.



Disadvantages of an Off-Site Data Center (Con's):

Fire Protection

Most on-site data centers have not implemented sophisticated fire suppression systems, which localize fire damage and limit a potential system loss. One of our manufacturing clients recently had a fire break out in the plant cafeteria/kitchen, which led to an explosion in the plant and the total loss of the data center in that facility from the ensuing fire. If the fire itself does not affect the IT equipment, the water damage from a standard fire suppression system most likely will.

Level (3) colocation sites have zone specific fire suppression systems custom built with data center equipment in mind. These server-safe fire suppression systems are specifically designed for managing a fire within a data center and do not just flood the entire building with water.

Security

Most on-site data centers are not as secure as Level (3) colocation sites. The Level (3) colocation sites provide biometric access and constant video surveillance of all activity within its colocation sites. Who is watching your own data center when you are not there?

Bandwidth Requirements

New technology solutions require significant increases in communications bandwidth. These common new technology solutions include:

- eBusiness Solutions (Business to Business and Business to Consumer)
- High Availability Solutions (system mirroring across geographies)
- Backup to Disk Strategies (requiring burstable high speed communications lines)
- Voice Over Internet Protocol (VOIP), requiring high bandwidth and high availability.

Business Mobility

An off-site data center simplifies the move process from one building to another with minimal downtime related to IT systems (as they stay put).

Access Control

When your systems reside at a collocation center, you give up some level of control of access to your own company's system and you have to live within the rules of the colocation site provider. This is not generally a big issue as colocation sites are usually available 24/7 and the colocation providers' rules are not generally any different than the rules you would want to apply to your own data center.

Stable Systems Required

A system placed at a colocation site must be stable and should not need to be touched often. Implementations running at a colocation generally need to be mature and not in need of constant change and maintenance. Colocation sites do not generally have dedicated work areas for day-to-day operations. The on-site work areas at a colocation are generally geared towards installation and setup rather than on-going maintenance.

Sophisticated Remote Management

Since the servers are remotely located, there is a need for sophisticated remote access, firewall, and system monitoring tools to be installed. These remote monitoring tools allow your company to manage the systems remotely without physically working on the systems.

Small Server Footprints

If server footprints are not minimized (rack optimized), they will consume too many square feet at a colocation facility and will not be affordable to colocate. Square footage and power are at a premium at most if not all colocation facilities.

Energy Efficient Servers

If servers are not power efficient (green), they will consume too much power at a colocation site. Large amperage machines are not cost effective within a colocation space. Power supply within a colocation is constrained by square footage of space and requires energy efficient servers.

Conclusion

A specifically built and maintained colocation site is a reliable and safe place in which to house mission critical systems for redundancy to a large company's main data center. A hardened third-party site can provide a cost effective alternative to building your own primary or secondary facility.

The decision of whether to use an off-site colocation center or to build your own facility at a separate location from your primary production site requires evaluation of many variables, including cost. Contact your Datanational representative to discuss your specific requirements.