Data Center Infrastructure Design

Quick-Start Guide

Infrastructure for the Converged Enterprise

There was a time when each of your employees had no more than a computer. The user-to-device ratio was one-to-one. But look around you today. What do you see? Wireless devices, IP telephones, IP security cameras, IP building controls, and more—all converged on the same network. The number of applications supported by a single network has grown tenfold. According to premier research provider IDC, nearly three-quarters of global organizations are expected to migrate to a fully converged enterprise by the end of 2008.

Total IP convergence combined with technologies like PoE and 10 Gigabit Ethernet place more demands on your data center than ever before. UTP copper cabling is now as critical as fiber cabling. That calls for products that let both fiber and copper seamlessly coexist in the data center as an integrated solution.

Data centers are decidedly different from LANs. The data center supports different equipment, applications and bandwidth speeds. They require specialized design, greater reliability and manage-ability, and higher density. Data centers, in fact, even follow their own standard—TIA-942. Use this Quick-Start Guide to learn the facts behind TIA-942 and how ADC KRONE can support your data center implementation.

"Connectivity solutions are at the foundation of data center managers' ability to maximize their networking investments and provide a stable, efficient network architecture."

Lucinda Borovick
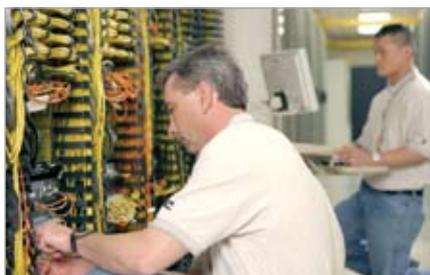Program Director for IDC's Datacenter Networks program

Three Principles of Data Center Infrastructure Design

You know your data center is the epicenter of your organization. Without it, your entire organization can shut down; millions of dollars can be lost in a matter of minutes. Want to lower your total cost of ownership, support future growth, reduce your risk of downtime, maximize performance, and improve your ability to reconfigure? Then you need to strategically design your data center from the very beginning. Stick to the following three principles of data center design, and you can't go wrong.

Space Savings

Space is expensive. Did you know that the cost to build a data center can be upwards of $1,000 per square foot? Clearly, maximizing space resources is a critical aspect of data center design.

Reliability

Data center downtime can cost between $50K and $6 million per hour. With figures like that, you don't want downtime to impact your daily operations and productivity. Designing in redundant, fail-safe reliability is a must.

Manageability

You never know what lies ahead. Disaster recovery, upgrades, relocation, or modifications. Whatever scenario you encounter, designing your data center with manageability in mind means you're better prepared.

Four Elements of Fiber Cable Management

Did you know that fiber cable management dramatically affects the performance and operations of your data center? Through years of experience, ADC KRONE has learned the importance of following the four elements of fiber cable management.

Bend Radius Protection

Bend radius protection is probably the single most important element of fiber cable management. When cabling is bent beyond the minimum bend radius, it can cause transmission failures.

Cable and Connector Access

Connectors and cable must also be easily defined and accessed with minimal disruption to adjacent connections and cable making maintenance or reconfiguration a snap.

Intuitive Cable Routing Paths

Cable routing paths must be clearly defined and intuitive to follow. Cabling paths should be easy to deploy, separate and have room to grow.

Physical Protection

Damage to fiber cabling can cause downtime, lost money, and many headaches for data center managers. Maintaining separation of cable types in pathways and physical protection of both fiber cable and connections can prevent possible damage.

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Contact Us

To find out how you can put ADC KRONE TrueNet Data Center solutions to work for you, contact ADC KRONE directly at 1-866-210-3524, Extension 1-5508. To locate a distributor of ADC KRONE Enterprise products and solutions near you, go to http://www.adc.com/partners/ on the Web.

For more information on data center infrastructure design, best practices, and standards, download the following ADC white papers at www.adc.com. For quick access, simply enter the literature numbers below into the search field on the home page:

- *The Three Principles of Data Center Infrastructure Design – 102261_IN*
- *Designing an Optimized Data Center – 101818_IN*
- *TIA-942 Data Center Standards Overview – 102264_IN*
- *Building for Bandwidth: How to Choose the Right Cabling Infrastructure – 102129_IN*