

# Why Do I Need A Data Center?

## Part 1 of 3: Physical Security, Point-to-Point Secure Connectivity & Performance

### PHYSICAL SECURITY

Physical security of the data center involves various kinds of built-in security features to protect the premises and the equipment that stores critical data for multi-tenant applications. For the safety and security of the premises, factors ranging from location to authenticated access of personnel onto the data floor are monitored and audited regularly.

### SECURE CONNECTIVITY

Why is fiber optic connectivity with point-to-point capability so important to security?

- Optical fibers are virtually impossible to tap. They do not radiate electromagnetic energy, so emissions cannot be intercepted. Fiber is the most secure medium available for carrying sensitive data.
- Point-to-point connections provide a way for you to connect office locations to one another, the Internet, and to your collocated equipment in a secure, flexible way that is not possible with typical shared connections.



- **Peak Performance Highlights:**
  - 27 tons of cooling
  - Temperature and humidity alerting system
- UPS battery backup with smooth transition to 500-gallon diesel generator if needed

- **Physical Security Highlights:**

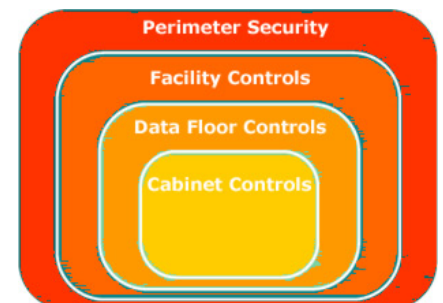
- Video surveillance inside and outside the facility with activated night vision and face recognition alerting
  - Fire alarm and dry agent fire suppression system
  - 3-layer electronic control access system via programmable key-fob entry with logging enabled
- **Secure Connectivity Highlights:**
  - Optical fiber connections from various providers
  - Point-to-point connectivity options using EVPL or EPL

## Physical Security

Security of a data center begins with its location. The Creekside Office Complex located in Hardin Valley is well lit and under surveillance 24 X 7 X 365. The geography of the East Tennessee area protects the data center from most natural disasters.

Our layered approach to data center security is the most optimal and strategic way to ensure your equipment is safe. Security layers provide a structured pattern of physical protection that makes it easier to analyze a failure. The outer layers are purely physical and the inner layers help to deter any deliberate or accidental data breaches.

The security measures can be categorized into four layers: perimeter security, facility controls, data floor controls, and cabinet controls. (See Figure 1a)



**Figure 1a The four layers of data center physical security**

**Perimeter security** discourages, detects, and delays any unauthorized entry at the perimeter using high-resolution video surveillance with night vision and face recognition.

**Facility controls** restrict access using an electronic

# Physical Security, Secure Connectivity & Performance (continued)

## POINT-TO-POINT: COMMON APPLICATIONS

- Replacement for traditional private lines
- Secure data network for remote sites
- Integrate voice, video, and data services
- Private and hybrid cloud connectivity
- Data center and backup connections

## ISSUES RESOLVED WITH POINT-TO-POINT:

- Latency and packet loss
- Bandwidth congestion
- Multi-point designs available for connecting multiple offices to colocated equipment, hybrid cloud solutions, or business critical applications
- Security holes inadvertently created by sharing connectivity with others

access control system. Proximity key-fobs are programmed to allow access to specific doors and caged areas only. The access control system provides logs of all door entries and exits, including caged areas. High resolution video surveillance with face recognition alerting identifies the person entering and sends alerts if the person is not recognized as a member of an authenticated personnel group.

**Data floor controls** further restrict access through additional verification methods including proximity key-fob entry to specified caged areas only and high resolution video surveillance with face recognition alerting.

**Cabinet controls** provide additional access restrictions via locking mechanisms that may be key or card controlled. In addition, sophisticated cameras may be installed in your cabinet to provide peace of mind, capture images of a person's activity, and provide remote troubleshooting assistance to onsite personnel.

## Secure Connectivity

Fiber optic communication offers higher security because of the way it transmits data. Not only does this allow data to move at speeds approaching the speed of light, it makes data signals much harder for hackers or malicious individuals to intercept. See the [Secure Connectivity sidebar](#) for more information.

**Point-to-point** connections take secure fiber connectivity to the next level. Point-to-point connections are closed network data transport services that do not traverse the public Internet creating inherently secure and dedicated connectivity between locations. Point-to-point connections provide unparalleled quality of service and are widely used for many business applications including credit card processing, file sharing, data backup, VOIP, and video conferencing.

### POINT-TO-POINT CONNECTIVITY OPTIONS

- **ETHERNET VIRTUAL PRIVATE LINE (EVPL)**  
EVPL uses virtual connectons that are multiplexed to link multiple EVPL circuits together. This allows a single connection to carry voice, video, Internet, and data services together with the ability to delegate bandwidth to each service. You may elect to have 100mbps EVPL with 50mbps dedicated to voice services and 50mbps dedicated to data backup or Internet services.
- **ETHERNET PRIVATE LINE (EPL)**  
EPL are layer-2 connections and are the perfect solution for upgrading traditional point-to-point circuits such as T1, DS3, and OC3 to fiber optic connections. EPL provides exceptionally low latency and is ideal for WAN connections to the data center, private cloud connectivity, or voice/video applications.  
See the Point-to-Point sidebar to review the most common applications.and issues resolved with point-to-point connectivity.  
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# Physical Security, Secure Connectivity & Performance (continued)

## PEAK PERFORMANCE: DATA CENTER

### PRESENCE DRIVERS

- Need to upgrade outdated IT infrastructure
- Increased priority on IT projects
- Increased security concerns
- tChanges to business operations due to COVID-19
- Employee growth
- Business revenue increases
- Changes to industry regulations
- Recent security breach

## EXPERT ENGINEERING

### CONSULTING SERVICES

- Securing infrastructure
- Clean up compromised websites and applications
- Point-to-point connectivity
- Cost effective backup solutions
- Disaster recovery planning

### REMOTE HAND SERVICES

- Managed services for your collocated equipment 24 X 7 X 365
- System configuration, software configuration, new hardware installation, VPN setup, and more

## Peak Performance

You may think of computers and servers as precision equipment, but they are. Electronic devices perform best in an environment that is consistently cool and has low humidity.

### OPTIMIZED POWER AND COOLING

Most companies using high-density servers are generating massive amounts of heat and consuming more power than ever. Infinity Data Center is optimized for properly housing your mission-critical business equipment.

- Split system with three compressors and nine wall units deliver 27 tons of cooling
- Dedicated 800 AMPs of power with UPS battery backups and a 400-gallon diesel generator work together for smooth, uninterrupted power transitions if needed.

### CONSTANT TEMPERATURE AND HUMIDITY MONITORING

Infinity Data Center APC racks are equipped with temperature and humidity sensors. The APC Environmental Manager sends alerts to data center engineers when environmental conditions fall below or above optimal performance thresholds.

### CHANGES IN BUSINESS OPERATIONS

The coronavirus pandemic has had a lasting impact on our businesses. Changes to business operations may be driving your need to update outdated IT infrastructure. A data center presence is an essential piece of ensuring your employees and customers have secure, efficient access to the applications and data they need to deliver peak job performance, efficient transactions/communications, and secure data transfer to your business.

See the Peak Performance sidebar for a list of items to consider when evaluating an investment in a data center presence. If any of the key drivers listed apply to your business, it's time to give your equipment the home it deserves.

## Services Available

Expert Engineering Services

Technical Support

Installation and Setup

Maintenance

Application Support

Hardware Support

Standard and Custom Service Level Agreements (SLAs)

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