

Corporate Headquarters
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Midwest Operations Center
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When selecting a data center for FastServers.Net managed dedicated server operations, the priority was choosing the right location.

Features of the Midwest Data Center

- Reduced risk of natural disasters such as earthquakes, floods, hurricanes, and tornadoes.
- Reduced risk of terrorism threats.
- An ample supply of clean and stable power that meets our 100% Uptime guarantee.
- Fast fiber optics with direct peers to major network access points with mass volumes of reliable bandwidth.
- N+1 redundancy on power and cooling within the data center facility.
- Remote location with a minimum of 250 miles from the nearest major airport or metropolitan area.
- Fully redundant GE Power Generators
- Carrier grade 48VDC power and grounding systems
- Highest level of security to meet the high demands for compliance hosting (HIPPA, SOX, SAS70).
- Redundant Liebert Air handlers and management systems
- Dual FM-200 gas and VESDA early smoke detections systems
- Video Surveillance, card and biometric access control systems and proximity/motion detectors

In March of 2004, the Midwest Data Center was completed. As a high volume, managed dedicated server company we saw the benefit of establishing our presence in the Midwest Data Center. Year round our team of solution specialists is available to do a live tour of the site. To schedule your data center tour call us at 1-866-753-FAST (3278), Option 1.

Located in Cedar Falls, Iowa, the Midwest Data Center immediately met the criteria of being in a remote location geographical region free of earthquakes, floods, and hurricanes.

- Over 500 feet above any flood level.
- Low concentration of population and over 250+ miles from any major city or airport.
- Elimination of natural disaster threats by positioning the data center in a flood, hurricane and earthquake free zone.
- A hardened structure able to withstand F4 tornadoes.

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Data Center Architectural Design Benefits

The outside of the Midwest Data Center naturally blends in with the surrounding buildings in the office complex. It has no distinguishing feature that would identify it as an Enterprise Data Center. Once you have entered the Midwest Data Center you will begin to see the major differences between a standard office building and a secured enterprise data center. Cameras record all visitors 24x7 and the videos are archived for 45 days. Secured areas inside the data center are protected by key cards and biometric hand scanners.

The Network Operation Center

Security and monitoring of the data center takes place in the Network Operation Center. From this location, data center engineers monitor security, cooling, power, and network subsystems.

The Underground Bunker

The underground design of the Midwest Data Center is for additional safety. 400-ton coolant system in the rear of the data center provide enterprise level cooling and fresh air distribution throughout the data center.

Entry into to data center is protected by a "Man Trap" that requires key card and biometric hand scans for entry. The Man Trap is protected by bullet proof glass and monitored with security cameras.

A cross-section of the 2-foot cast concrete walls that surround the data center. These walls are built with dual reinforced rebar and a rubber membrane to protect it from water sources. Utilizing specifications from the Department of Energy, this data center meets requirements of highest standards and compliance. It is designed to withstand F4 tornadoes and wind speeds of up to 200 Miles per Hour. Since the data center is built securely underground, a special design was used for the ground level. The top floor of the data center has the ability to collapse inwards without damaging the underground data center.

In the event of a F4 Tornado, the upper story of the building is designed to collapse. If that does not happen, the energy will blow out the building including the internal walls that are the support structure for the top level.

In order to protect the underground area from the collapse of the ground floor level, the ceiling of the data center is a concrete court deck that features layers of rubber and fleet. The Midwest Data Center is a true underground bunker protecting your managed hosting and is considered one of the Top 10 safest data center locations worldwide.

Midwest Data Center Cooling

Cooling inside a data center is one of the most important aspects of maintaining reliable managed hosting servers. Maintaining a 70 degree or less temperature inside the data

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center allows servers to run cooler and perform faster at higher availability. Specifically, cooler temperatures reduce the risk of over heating and hardware failure.

Raised floors have traditionally been used in data center rooms for cable management, but they reduce air flow making it harder to maintain consistent cooling. This data center was built **without** "raised" floors and the cabling is neatly run overhead. With a ceiling almost 15 feet high, large ducts provide direct cool air from above the racks of servers inside the data center.

The aisles of the data center are designed with optimal air flow in mind as well. Each aisle is hot or cold in an alternating pattern according to the direction the servers are racked. Using this alternating scheme and hot and cold aisles, cold air from the cold aisle is vented through the front of the server and exited via the rear of the server to the hot aisle. Warm air from the hot aisle is pulled back into the cooling system to be circulated. This design allows your server to enjoy a cool 70 degrees 24 hours a day, 7 days a week!

Midwest Data Center Power

By developing special relationship with the public utility company we were able to secure a reliable power source capable of simultaneously powering up to 25,000 servers. The data center was designed with N+1 power redundancy, which means not only all the power subsystems have automatic failover, but a 3rd unit is kept onsite as a cold spare.

FastServers.Net utilizes a special cabinet design built for enterprise level service. Standard rack units are 40U in size, but the additional need for cooling and spacing resulted in custom built 45U cabinets. Two 20AMP circuits are provisioned to each cabinet, each coming from a divergent power source. On the end of the every aisle you notice these strips terminate inside of the overall breaker box. Each one of these power strips are fed by an individual breaker, each one of these breakers is on a different bus on either end of the row.

Cabling, Network, Cabinets

The FastServers.Net network provides 100MB (Mega Bit) service to each of our managed dedicated servers. This 100MB connection is directly connected to a full GIGABIT core network. Cabling, fiber optics, and power are all run overhead, utilizing best practices in a telecom system data center. Every room in the Midwest data Center is fed by to unique transformers which are also part of a redundant power supply chain.

The FastServers.Net Core Network

Access to this room his prohibited to only advanced engineers. Fiber optics enter this room to feed the Cisco 12008 GSR router that powers the FastServers.Net network. This room maintains the same 70 degree temperature and ultra redundant cooling and power units. Key-carded caged areas provide additional Multi Level security; allowing

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the equipment to be separated securely on a vendor by vendor basis.

The FastServers.Net is fed by dark fiber directly to Level 3 in Des Moines, Iowa. From Des Moines, Level 3 provides us a virtual E-WAN service to the Equinix building in Chicago. This virtual E-WAN service allows direct connectivity to our bandwidth provider Hurricane Electric. Powered only by the top transit and IP providers, FastServers.Net is able to provide low latency worldwide.

The FastServers.Net network is also fully redundant, featuring divergent paths that never exceed over 50% network utilization to the internet. Divergent paths include dark fiber, OC-48 Sonet Connections, and multiple high speed connections to different providers.

The FastServers.Net Power Room

Located in Room 3 of the data center are the major power systems that power the data center. Inside this room Dual UPS units act as backup power in the event of a primary failure. These units also have the N+1 method applied with a cold stand-by available in the event of failure. You notice over head that even this power room has air protection or air conditioning. For the power room, we even have dual, air conditioning systems. UPS inside the data center is built to maintain up to 120 minutes of supported power. UPS units are automatically configured to switch over to the diesel generators if more time is needed. By utilizing the N+1 on every component of the data center we are able to offer a financially backed 100% uptime guarantee. This data center has been rated to have less than a 1% chance of complete power failure in a 20 Year period.

Diesel Generators

Diesel generators make up the third major power component of the data center. They provide an alternative method that can produce power in the event of loss of power from the utility company. The Midwest Data Center is equipped with 2 750 KVA diesel generators that have the ability to be up and running in less than 15 seconds. Contracts with 4 local fuel companies allow for an unlimited amount of fuel to run these generators, indefinitely if needed. 1000 Gallons of diesel fuel is maintained inside the generators.

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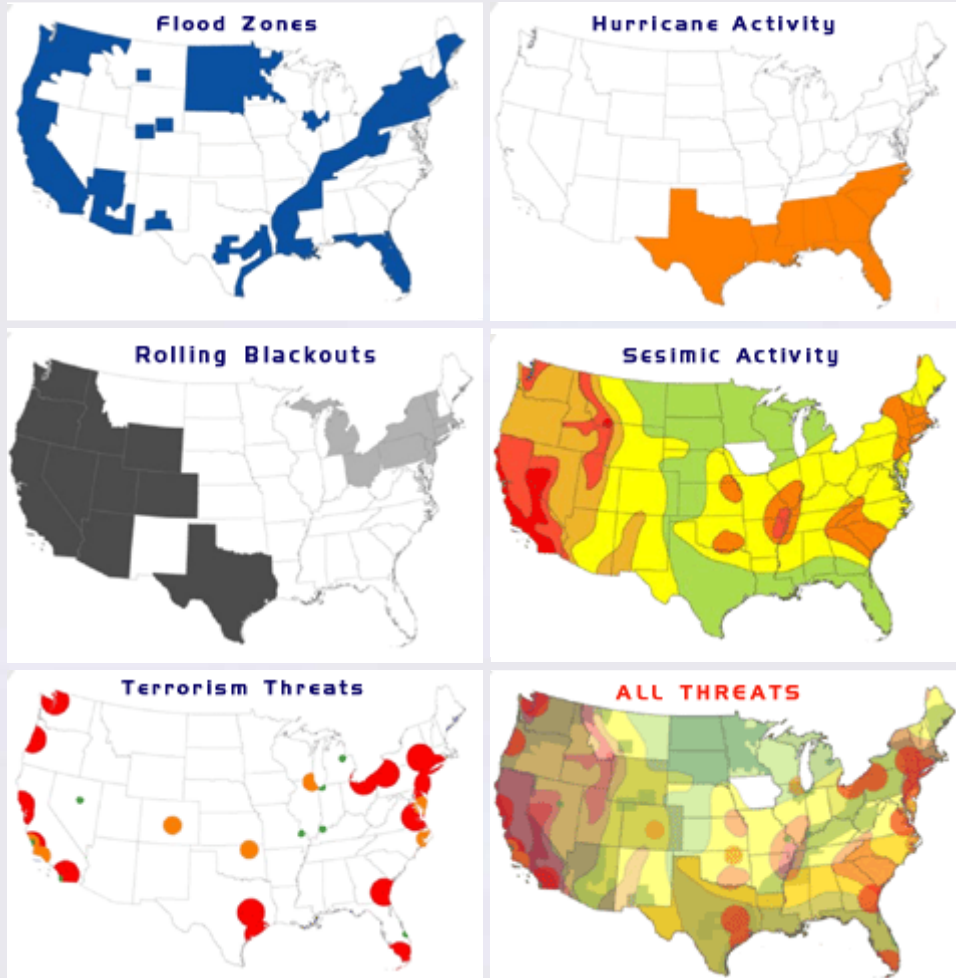
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Reduce Risk, Increase Uptime at the [Colocation Data Centre](#)



Live Tours of the Midwest Data Center are available, call a Sales Engineer and schedule your tour now!