



National Information Technology Center Tier Performance Standards



The National Information Technology Center (NITC) is responsible for the operation and management of USDA Enterprise Data Centers (EDC) in Kansas City, Missouri, St. Louis, Missouri and Beltsville, Maryland. The NITC provides diverse redundant power feeds to customer's IT infrastructure configurations that are essential to maintaining a high level of uptime for mission-critical systems and applications. Green Practices are in compliance with Executive Order 13423 of January 24, 2007, ordering agencies to improve energy efficiency and reduce greenhouse gas emissions. The NITC is requiring its customers to procure specified "green" options when purchasing IT assets for the data center.

Each location operates under the following classifications:

Location	Tier
Kansas City, MO	IV Site Infrastructure
St. Louis, MO	III Site Infrastructure
Beltsville, MD*	II and III Site Infrastructure

** The Beltsville location is currently in the planning and design phase for upgrade to Tier III Classification.*

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Fundamental Requirements for Tier Performance Standards*

Tier I: Basic Site Infrastructure

A Tier I basic data center has non-redundant capacity components and a single, non-redundant distribution path serving the computer equipment.

Tier II: Redundant Capacity Components Side Infrastructure

A Tier II data center has redundant capacity components and a single, non-redundant distribution path serving the computer equipment.

Tier III: Concurrently Maintainable Site Infrastructure

A Concurrently Maintainable data center has redundant capacity components and multiple independent distribution paths serving the computer equipment. Generally, only one distribution path serves the computer equipment at any time.

All IT equipment is dual powered and installed properly to be compatible with the topology of the site's architecture.

Tier IV: Fault Tolerant Site Infrastructure

A Fault Tolerant data center has multiple, independent, physically isolated systems that each have redundant capacity components and multiple, independent, diverse, active distribution paths simultaneously serving the computer equipment.

All IT equipment is dual powered and installed properly to be compatible with the topology of the site's architecture.



Aligning Business Requirements with Tiers*

Tier I facilities are:

- Small businesses where information technology primarily enhances internal business process.
- Companies whose principal use of a web-presence is as a passive marketing tool.
- Internet-based start-up companies without financially enforceable customer quality-of-service commitments.

Tier II facilities are:

- Call centers where multiple sites are available. Internet-based companies without serious financial penalties for quality-of-service commitments.
- Small businesses whose information technology requirements are mostly limited to traditional normal business hours, allowing system shutdown during off hours.
- Scientific research, such as chip design, oil exploration, seismic processing, or long-term weather modeling, that typically do not have online or real-time service delivery obligations.

Tier III facilities are:

- Companies that support internal and external clients 24x7, such as service centers and help desks, but can accept short periods with limited service due to a site failure.
- Businesses whose information technology resources support automated business processes, so the impact on clients of system shutdowns is manageable or acceptable.
- Companies spanning multiple time zones with clients and employees spanning regional areas.

Tier IV facilities are:

- Companies with an international market presence delivering "24 by forever" services in a highly competitive client-facing market space or where processes are continuous (international in and outbound wire transfers, etc.)
- Businesses based on E-commerce, market transactions, or financial settlement processes.
- Large, global companies where client access to applications and employee exploitation of information technology is a competitive advantage.

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* Uptime Institute