



Minnesota's Data Centers: **Our Current State**

Assessing the Weaknesses

An independent 2008 assessment uncovered myriad weaknesses in executive branch data centers:

Inappropriate space: Most facilities were not designed to serve as data centers (converted office space) and are therefore unsafe, inadequate, and ill-equipped for expansion.

Inconsistent investments, lack of standards: Existing data centers are diverse in their adherence to best practices and their investments in equipment and maintenance. Under-investment over time has jeopardized safety, security and efficiency.

Inadequate security: Because physical and technical security in state facilities does not meet standards, there is a high risk of both cyber and physical breaches that could compromise state data and operations.

Dangerous conditions: Multiple risks include unsafe environments, risk of fire and water damage, inadequate cooling and power systems that add up to a high risk of service interruption and potential damage to costly physical equipment.

What Do We Know?

The State's data centers are "extremely complex, difficult to maintain, at high risk of failures and increasing in cost beyond the norm."
(2008 third-party assessment by Excipio Consulting)

There are **too many locations**, based on the number of servers, applications and requirements.

- 36+ data center locations
- 70+ locations, counting computer and machine room locations
- These can be consolidated into approximately 4 sites

The current data center **square footage (69,000 sq. ft.) is 3X larger than required (20,000)** for the size of the technology environment.

A majority of data center locations were **built to outdated guidelines** from standards 40-years old.

According to the 2008 report's risk assessment, the State of Minnesota's combined facilities' **risks are elevated**, likely to see 3-5 significant failures over the next three years.

The Vision

Our vision is to create a safe and secure environment for the information technology that runs the primary business of state government, and to improve the overall technology performance of our vital systems.

The plan to modernize and secure the State's data center environment must meet a number of enterprise objectives. The solution must not only find locations for 3300 servers that meet agency business goals, the strategy also must:

- Maintain service levels
- Reduce costs and aggregate savings
- Reduce risk, increase security, and aggregate risk management
- Increase the agility of ongoing systems management
- Leverage existing investments



Minnesota's Data Centers: **The Plan**

Levels of Service

At all data center facilities in this plan, state agencies have several service types and options.

Facilities Management (Hosting)

Facilities management includes all tasks related to keeping the facility itself up and running. This includes space management, heating, cooling, power, etc.

For the Tier III, third-party facility, facilities management will be the responsibility of the third-party contractor.

Because this type of consolidation requires one entity to facilitate the use of common data center space, facilities management for state Tier II data centers will be a *utility service managed by the Office of Enterprise Technology*.

Equipment and Application Management

*For the management of equipment and applications **within any of the data centers**, agencies may choose between two service types:*

Co-location: the agency leases space in the data center but manages and is responsible for all its own equipment and systems within the facility.

Managed services: OET will offer a full stack of data center management services for those agencies that desire full equipment hosting and/or application management service.

The Minnesota Data Center Co-location Plan

The Plan: A November 4, 2010 joint directive issued by the State Chief Information Officer and the Commissioner of Minnesota Management and Budget requires all agencies in scope to:

- Move most highly critical executive branch business operations to a secure, Tier III third-party co-location facility within the next two years.
- Move all other systems and applications to a state Tier II data center within the next five years, with priority given to systems in facilities deemed to be most at risk.
- Upgrade up to three state data centers to Tier II standards one at a time, as capacity requires.
- Decommission and/or re-purpose all other data center space.

The Scope: Condenses 36+ state data centers into up to four co-location facilities. The scope does not include the consolidation of systems and servers within the data centers.

The Facilities

The tiered destination strategy that was developed by the enterprise will help the State combine 36+ data centers into co-location sites that leverage the strengths of each.

Business Priority	Footprint	Solution
Priority 1 & 2	40% of infrastructure	Third-party tier III facility
Priority 3 & 4	60% of infrastructure	State tier II facilities

Tier III, Third Party Facility

Our highest priority business systems are the State's most critical assets and require a relatively higher data center resiliency. The plan moves the highest priority systems to a third-party facility as soon as possible.

Tier II, State Facilities

By leveraging and upgrading up to three available state locations to full Tier II, we can provide a suitable co-location data center solution for less-critical systems in a manner that reduces move and decommissioning costs.

Data Center Steering Team

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