

# Managed Hosting

Service Description Version 1.11

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## Purpose

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This Service Description is applicable to Managed Hosting services (MH) offered by MN.IT Services (MN.IT) and described in the Service Catalog. Managed Hosting is available to State of Minnesota executive branch customers. The infrastructure that supports Managed Hosting is located at each of the State's Enterprise Data Centers operated by MN.IT for public sector use.

This description provides information about the features, benefits, delivery and support of Managed Hosting. For the purpose of this document, the term "customer" applies to any subscriber of Enterprise Hosting Services.

## Overview

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Managed Hosting is a managed service provided by MN.IT. It is structured to help customers meet:

- Recovery Point Objectives (RPOs): The point in time to which data will be recovered following a disaster or disruption of service in order to avoid unacceptable consequences
- Recovery Time Objectives (RTOs): Duration of time in which a business process must be restored after a disaster or disruption of service in order to avoid unacceptable consequences

Managed Hosting services include:

- The Managed Hosting environment that is self-healing and automated (MHE) for:
  - Virtual hosting: server and storage infrastructure
  - Physical hosting: server and storage infrastructure
- Test and development environments
- Operating system (OS) support and maintenance
  - Professional assistance for customers to make sure the OS and the underlying infrastructure are configured to meet the requirements of the application.
- Server monitoring and alerting

- Enterprise backup infrastructure
- Professional services

Managed Hosting Services uses a common set of tools for monitoring/alerting, capacity management, performance management and metrics reporting.

As customer application environments and equipment are migrated into the State's enterprise data centers, the equipment becomes part of MN.IT's managed services and will be leveraged to support IT consolidation and migration activities.

## **Uptime**

MN.IT's Managed Hosting guarantees the uptime of the MHE. However, because individual applications vary in design and architecture, application-level availability cannot be guaranteed. In order to meet required application uptimes, some applications may need to be designed to tolerate MHE failures (e.g., clustering, load balancing).

## **Virtual Hosting**

MN.IT Services will provide the MHE for virtual machines (VMs) for all executive branch customers, employing a "virtualize first" policy. The MHE includes the following:

- Virtual Host standards are followed for host server hardware and operating systems to maintain a robust, reliable environment, and use standard naming conventions.
- Virtual Machine standards will be used for Windows and Linux operating systems, using standard naming conventions and configuration templates.
- Virtual Host management, support and maintenance includes hypervisor operating systems, operating system patching, anti-virus protection, system configuration, monitoring, software upgrades, and firmware updates.
- Virtual Server management, support and maintenance for VM system configuration and system services.
- Virtual Host replacement follows equipment lifecycle standards. As existing equipment ages out, shared scalable enterprise hosting solutions will be implemented. MN.IT evaluates vendor product offerings (including public cloud) for new technologies that increase performance, lower cost, align with industry trends and executes refresh schedules for all enterprise hosting infrastructure equipment.

## **Physical Hosting**

Managed Hosting Environment is available for customers with servers that cannot be virtualized and includes the following:

- Server Standards are followed for server hardware and operating systems to maintain a robust, reliable environment, and use standard naming conventions and baseline configurations.
- Server management, support and maintenance for a variety of vendor equipment includes operating system, operating system patching, anti-virus protection, system configuration, monitoring, software upgrades, and firmware updates.

- Server Replacement follows equipment lifecycle standards. As existing equipment ages out, shared scalable enterprise hosting solutions will be implemented. MN.IT evaluates vendor product offerings (including public cloud) for new technologies that increase performance, lower cost, align with industry trends and executes refresh schedules for all enterprise hosting infrastructure equipment.

## **Storage**

Managed Hosting services includes centrally managed storage for all customers.

- Storage Standards include enterprise class storage fabric, storage virtualization to aggregate heterogeneous vendor storage platforms and a shared storage pool that:
  - Implements the seed storage for converged hosting environments
  - Leverages existing investments for the balance of their useful life.
  - Employs external cloud storage when needed.
- Storage management, support and maintenance includes storage system configurations, capacity management, performance management, software upgrades, firmware updates and metrics reporting.
- Storage Replacement follows equipment lifecycle standards. As existing equipment ages out, shared scalable enterprise hosting solutions will be implemented. MN.IT evaluates vendor product offerings (including public cloud) for new technologies that increase performance, lower cost, align with industry trends and executes refresh schedules for all enterprise hosting infrastructure equipment.

## **Backups**

Managed Hosting services include the following managed enterprise backup services for customers in Enterprise Data Centers:

- Backup standards are used for disk-based enterprise backups to reduce backup processing times, and reduce network traffic through source-side data deduplication.
- Backup management, support and maintenance for the MN.IT enterprise backup environment includes support for generating backup policies per subscriber's business requirements, backup storage system configurations, capacity management, software upgrades and backup status reporting.

*A goal of the storage service is to retire tape libraries; however tape backups will be available for external business recovery requirements until disk-based recovery options are implemented with the Disaster Recovery Service Provider (DRSP).*

## **Benefits and Features**

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- Management of the standardized enterprise environment
- Highly available server infrastructure for customer applications
- 24x7 on call support and onsite infrastructure monitoring
- Dedicated managed hosting staff
- Support of multiple (SSE dictated) server operating systems (Standards)
- Planned equipment migrations and installations
- No recurring capital costs for server infrastructure
- Cost savings through enterprise licensing and standardization
- Reduced security risks
- Consistent adherence to standards, procedures and policies
- Streamlined deployment of servers

## Standard Features

- 24x7 service desk with on call server support
- Remote server management
- IP KVM (Keyboard Video and Mouse)
  - KVM switch allows the use of multiple computers with the same keyboard, video display, and mouse
  - KVM Management Access: Remote access to user/agency hosted equipment and management of a specific server or KVM accessible hardware
  - Other remote management solutions (ex: ILO, DRAC)
  - Real time alarm monitoring
- Routine server maintenance and patching
  - Conducted in accordance with State of Minnesota standards
  - Coordinated within established maintenance windows
  - Complies with MN.IT change management policies
  - Server Health and performance monitoring
- Storage
  - Backups for all servers except where the customer officially declines server backups
  - Required storage for the server environment
  - Tiers:

Tier Details	Tier 1 SAN	Tier 1 SAN/NAS	Tier 3 SAN
<b>Performance Expectation</b>	High intensity IO	Low intensity IO	Lowest IO needs
<b>Use cases</b>	Production	Production	Development
<b>Suggested use</b>	Production	Integration Test/UAT	Data Archive
<b>Access</b>	Fibre/iSCSI	Fibre/iSCSI/LAN	Fibre
<b>Use type</b>	Block	Block/File	Block
<b>IO ratings</b>	~10-50 KIOPs	~1-10 KIOPs	~1-1000 IOPs
<b>Transfer rates</b>	> 250MB/s	~ 100-250MB/s	< 100 MB/s
<b>Latency</b>	~ 1-5 mS	~ 2-10 mS	~ 10-30 mS

- Network
  - Connectivity between enterprise data centers
  - Connectivity to MNET
  - Connectivity within the enterprise data centers
  - Connections through enterprise load balancers
  - Zone security architecture
- Security
  - Enterprise Vulnerability Management System (EVMS)
  - Security monitoring
  - Server network isolation
  - Antivirus
  - Forensics
  - Logging

- Firewalls
- Intrusion detection
- Security Information and event management (SIEM)
- Standardized processes for:
  - Infrastructure Management
  - Change management
  - Incident response
  - Provisioning and workflow
  - Infrastructure patching and maintenance
  - Standard configurations
  - Service request ticketing and tracking
- Service coordination and implementation assistance
  - Identifying requirements
  - Design development
  - Provisioning
  - Migration planning and assistance

\* Atypical environments will be reviewed on a case-by-case basis and will result in higher configuration costs.

## Infrastructure and Environment Standards

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The Enterprise Managed Hosting environment is a physical and local infrastructure that spans the Enterprise Data Centers. MHE environment is an expandable and elastic compute infrastructure with standardized:

- Compute (cores and RAM)
- Storage (Ex. Gigabytes) (tiers)
- Network ports and bandwidth
  - Load balancers as needed, both local and global
- Security
  - Vulnerability management
  - Security monitoring
  - Server network isolation
  - Antivirus
  - Forensics
  - Logging
  - Firewalls
  - Intrusion detection
  - Security Information and event management (SIEM)
- Server operating systems (Windows server and Red Hat Linux)
- Environment management tools
- Capacity burst for additional resources

Virtual Servers will be provisioned and designed with a combination of CPU, RAM and storage elements based upon an application's requirements.

Physical servers will be provisioned and designed on a case-by-case basis and will consider the "virtualize first" mandate. The size of the server is based on a combination of CPU, RAM and storage elements.

Storage will be for the Operating System and as required for the application.

## Customer Responsibilities

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All installations are subject to a design process and agreement between MN.IT and the customer. This process will ensure that customer needs are met, while adhering to MN.IT managed hosting design requirements.

The customer is responsible for:

- Submitting tickets to the MN.IT Service Desk to report problems and make requests for services and access
- Providing a detailed application requirement list
- Providing remote management configuration information
- Providing a customer number and a charge number
- Installing and managing software and applications

## Related Information

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- Minnesota Statutes 207 Chapter 16E ([Office of MN.IT Services](#))
- [Enterprise Technology Fund 970 Rate Schedule](#)