

# Managed Storage and Recovery Services

Complete IT Data Services: Securely Stored, Backed-up and Restored

Data storage, management and recovery are critical to your IT infrastructure. You need storage to operate your IT applications and services. You must institute backup as insurance to maintain service availability & business continuity, thus managing business risk.

## Managed Storage Services

NTT America supports several storage service options to meet the needs of your enterprise and your IT systems. These include Storage Area Networks (SAN) and Direct Attached Storage (DAS) configurations for the external storage needs of your databases and file servers. These storage services are offered in several tiers, aimed at providing cost-effective solutions for high-end, mid-range and low-end storage requirements. The NTT America storage services architecture is designed for high availability with redundant switching & host bus adaptors, and utilizes enterprise class storage arrays from EMC and other vendors. Located in highly secure NTT America premier data centers, the storage services infrastructure is further protected by additional physical and logical safeguards.

Only storage services professionals have access to and oversight of this infrastructure. Continuous monitoring and management of the storage systems relies on specialized and industry standard Storage Resource Management (SRM) applications.

### Why Managed Storage and Recovery Services?

- Investment control
- Operations scalability
- Supplement in-house IT resources
- Complement Service Availability
- Augment data security & business continuity

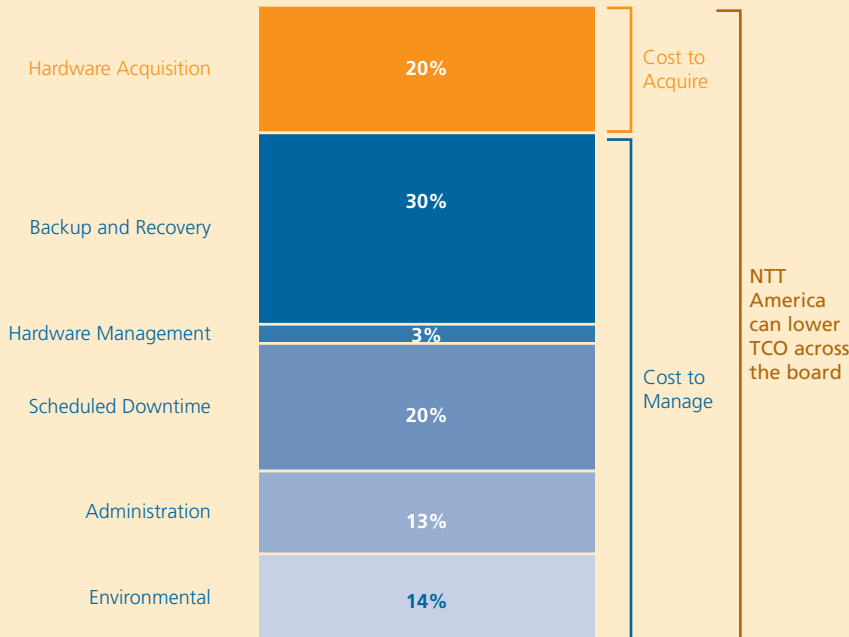
### NTT America Benefits

- Cost-effective solutions
- Flexible service
- State of the art security & data protection
- High Availability
- SAS 70 Type II Certification

### Service Locations

- San Jose, CA
- Santa Clara, CA
- Sterling, VA

## In-House Storage Services: Total Cost of Ownership



Source: Toigo Partners International

## Managed Recovery Services

NTT America provides a complete suite of server backup and restoral services, allowing customers to design a service based on their business needs. Leveraging the highly available storage services architecture, recovery services are delivered through the Symantec Netbackup Enterprise Server and client application. The standard service includes daily incremental and weekly full backups. The pricing structure is based on data retention intervals and the total volume of data backed up. Customers may also choose the offsite tape vaulting service, with varying retention levels and tape pickup frequencies, to supplement their disaster recovery and business continuity plans.

Our Sales and Solutions Engineering staff are available to work with you to assess your specific business and technical requirements, and to propose either a standard or custom service for your needs.

## Storage Service Support & Delivery

Depending on the customer's needs, different support plans are available, each with its own availability, provisioning interval, fiber channel connections, and overall performance specification. Several storage and security safeguards, such as zoning and masking, are in place to isolate and protect each customer's data. Zoning controls access to specific storage arrays, while masking limits access to specific servers.

## Recovery Service Support & Delivery

NTT America utilizes both disk-based and tape-based library drives for data backup and restoration operations. Standard, custom and on-demand backup requests are supported. Customers may perform client-initiated restores or have NTT America on-site staff perform the restoral. The backup system infrastructure is secured via a private, non-routable local area network segment, ensuring that customers have access only to their systems. The backup management server permits access to the host clients on a per customer and per host basis.

## Service Level Commitment

NTT America storage services infrastructure is engineered for 99.95% availability. SLAs are provided and depend on the specific service configuration. Service credits are supported for non-performance against service specifications.

Our data centers are engineered to preserve the most reliable connectivity and capacity to the Internet. Leveraging the NTT Communications Global IP Network, a Tier-1 IP backbone, our IP connectivity is free of network outages 100% of time with packet loss not exceeding 0.1%. Latency will not exceed 50 milliseconds for the north American network, 90 milliseconds for the trans-Atlantic network, and 130 milliseconds or less for the trans-Pacific network. Power availability and temperature/humidity SLAs are also available at select data center locations.

### Managed Storage Services Key Features

OS Supported: Solaris,  
Windows, Red Hat Linux

Applications Supported:  
Oracle, Exchange, SQL

Dedicated & Shared  
Storage Architecture

SAN Solutions

DAS Options

Fully Redundant Architecture

Battery Backup for Cache

RAID10 & RAID5 Data Protection

Data Replication option

Local point-in-time copy option

### Managed Recovery Services Key Features

OS Supported: Solaris,  
Windows, Red Hat Linux

Applications Supported:  
Oracle, SQL & Exchange

Offline & Online database backups

On Demand DB backup

On Demand OS backup

Up to 28 days local data retention

Customer selected Backup  
time start option

Offsite Vaulting

Tape Retrieval Response  
Time Options