



**FEDERAL APPLIANCE, LLC**  
Self-Service Pricing. Full-Service VAR.

This document is a starting point for customers that want to implement a Network Storage System (NSS). It consists of requirements that have accumulated from various SAN customers over the past several years. Please use or delete any features or requirements you wish; this is only a template for generating ideas about requirements.

**The document has two sections each of which contains the same basic information but is worded differently.**

The first is the **Request for Information (RFI)** section that simply asks potential Network Storage vendors to provide information.

The second is the **Requirements** section and is for more serious customers who are trying to compare vendors based on the customer's requirements. It is stricter and describes the customer's requirements clearly.

**TABLE OF CONTENTS**

<b>REQUEST FOR INFORMATION (RFI) FOR NSS.....</b>	<b>2</b>
OVERVIEW.....	2
GENERAL.....	2
FEATURE SET .....	3
MICROSOFT FEATURE SET .....	5
<b>REQUIREMENTS FOR A NSS .....</b>	<b>6</b>
OVERVIEW.....	6
GENERAL REQUIREMENTS .....	6
MINIMUM FEATURE SET.....	7
MINIMUM MICROSOFT FEATURE SET .....	9
DESIRED FEATURE SET (NOT REQUIRED BUT NICE TO HAVE) .....	9

## **Request For Information (RFI) for NSS**

### ***Overview***

XYZ organization is researching Networked Storage System (NSS) for a possible future project. The purpose of this document is to understand a potential vendor's market position and product offering. Responding to this document is voluntary and does not obligate our organization in any way.

**Responding to and completing this document does not constitute any commitment on our part to purchase a NSS in the future.**

### ***General***

Describe your company and its relative position in the Data Storage industry.

Describe your company's infrastructure as it relates to 24/7 support.

Describe how your product integrates volume management, virtualization, backup and recovery and data replication.

Include pricing for the equipment and support for the first five years of ownership.

Describe how your product achieves 99.999% reliability with no single point of failure.

## **Feature Set**

Describe how your product achieves full redundancy with no single point of failure. If additional equipment is needed, please explain.

Describe how product components are upgraded in the field and describe for each type whether it requires downtime or affects access to the device.

Describe how your device performance scales as the capacity of the unit increases.

Describe which operating systems (UNIX, Linux, Netware, Macintosh and Windows) your product supports and whether or not your device is supported natively.

Describe how your product takes advantage of IP jumbo frames.

Describe how your system “grows” with the addition of more units. Are the combined units presented as a single architecture or as separate units that are managed with a single console? Can a new unit “join” an existing unit without interruption? Explain exactly how that is accomplished.

Describe how newer versions of your product work with older, installed products. Is there a seamless way to join older devices such that existing volumes are undisturbed and span both old and new devices? Explain exactly how that is accomplished.

Describe how your product provides load balancing across controllers, cache and disks.

Explain whether or not your device supports the following software features (identity each feature as yes/no): Volume Management, Volume Snapshot, Volume Cloning, Storage Virtualization, Auto-Replication, Auto-Load Balancing and Multi-Path I/O. Describe the following for each feature

- Is the function included with the base hardware unit?
- Is the function priced based on the capacity of the base hardware unit?
- Is there any host-side software required for the function? If so, how is it priced?

In a multi-unit environment, describe how your devices automatically stripe/load balance.

Describe how your device can automatically clone (copy) a snapshot).

Describe how you perform and instant restore from a snapshot.

Describe how snapshots are protected from controller failure.

Describe how your product “pools” resources such as disks, controllers, cache and network cards to improve efficiency.

Describe how your product improves throughput performance.

Describe how your product integrates with VMWare ESX.

### ***Microsoft Feature Set***

Describe whether your product(s) have achieved Microsoft's Simple SAN designation.

Describe your products' compatibility with Microsoft VDS, VSS, MPIO and DPM.

Describe how your product works with Microsoft Volume Shadow Service (VSS).

Describe how your product works with Microsoft Virtual Disk Service (VDS).

Describe how your product works with Microsoft Multi-Path I/O (MPIO).

Describe how your product works with Microsoft Data Protection Manager (DPM).

## **Requirements for a NSS**

### ***Overview***

XYZ organization wishes to implement a Networked Storage System (NSS) for use in its current computing environment. The purpose of this document is to establish a key set of requirements that will be used to reach a decision. This document does not necessarily weight or rank the importance of each feature, it simply lists potential criteria that we will use to measure a vendors' offer.

**Responding to and completing this document does not constitute any commitment on our part to purchase a NSS in the future.**

### ***General Requirements***

The NSS manufacturer must have a solid presence in the Storage Networking industry and be recognized as a viable, long-term supplier.

The NSS manufacturer must have a sufficient support organization to provide 24/7 services.

The NSS must provide integrated and automatic functions for volume management, virtualization, backup and recovery and data replication.

All pricing proposals should include five years of support/maintenance.

The NSS must be considered 99.999% reliable with no single point of failure.

## ***Minimum Feature Set***

The NSS must provide full redundancy with no single point of failure. This means multiple network connections, controllers, cache, disks and power supplies at a minimum. If additional equipment is needed, please explain.

The NSS must be easily upgraded with little or no downtime needed to upgrade firmware or replace Field Replaceable Units (FRUs).

The NSS performance must scale as additional disks are added. We do not want to be restricted by the controllers and network connections as we add capacity.

The NSS must work seamlessly in a variety of OS environments including UNIX, Linux, Netware, Macintosh and Windows with no OS modifications.

The NSS must support IP jumbo frames to optimize performance (applicable to IP solution only).

The NSS must be presented as a single architecture that can grow on demand without interruption. If we add an additional NSS unit, it must be able to “join” the original and become seamlessly available. We do not want to manage two (or more) NSS units as separate devices (regardless of the existence of a single console).

The NSS must allow multiple generations of hardware procured over time to work on the same volumes at the same time. We do not want to be forced into a “forklift” upgrade to replace older equipment that is in good working order simply to take advantage of newer technology that may be available in the future (higher capacity drives, etc.).

The NSS must have a shared architecture that provides load balancing across multiple controllers and caches on the same volume at the same time.

We have current and future projects that may require any or all of the following features: Volume Management, Volume Snapshot, Volume Cloning, Storage Virtualization, Auto-Replication, Auto-Load Balancing and Multi-Path I/O. Please answer the following for each function:

- Is the function included with the base hardware unit?
- Is the function priced based on the capacity of the base hardware unit?
- Is there any host-side software required for the function? If so, how is it priced?

If multiple NSS units are logically joined then the units must have the ability to automatically stripe/load balance for maximum performance.

The NSS should have the ability to clone a snapshot volume.

The NSS should have the ability to do an instant restore from a snapshot.

The NSS should ensure that snapshots are protected from controller failure.

### ***Minimum Microsoft Feature Set***

The NSS must have achieved Microsoft's Simple SAN designation.

The NSS must be fully certified as compatible with Microsoft VDS, VSS, MPIO, DPM (see each feature below).

The NSS must be fully integrated with Microsoft Volume Shadow Service (VSS).

The NSS must be fully integrated with Microsoft Virtual Disk Service (VDS).

The NSS must be fully integrated with Microsoft Multi-Path I/O (MPIO).

The NSS must be fully integrated with Microsoft Data Protection Manager (DPM).

### ***Desired Feature Set (not required but nice to have)***

The NSS components should be able to "pool" resources such as disks, controllers, cache and network cards for efficiency.

The NSS should be able to allow multiple controllers to work on the same volume for performance.

The NSS should work with VMWare ESX.