SFT III for IntranetWare: Product Details

SFT III™ for IntranetWare is an add-on service to the IntranetWare™ intranet platform. SFT III for IntranetWare offers the highest level of hardware fault tolerance available in the networking industry. It also enables customers to consolidate servers into distributed, powerful mirrored servers that can support as many as 1,000 users. Although SFT III for IntranetWare ships with the IntranetWare distribution CD-ROM, to use SFT III for IntranetWare you must purchase the SFT III for IntranetWare license diskette.

SFT III for IntranetWare guards against network downtime by integrating two physically separate servers. The secondary server maintains the same memory image and the same disk contents as the primary server. If the primary server halts because of a hardware-related failure, the secondary server automatically becomes the new primary server. This process is instantaneous and transparent to all users. All files, services, and applications are continually available to network clients.

SFT III for IntranetWare requires two identical servers (of the same manufacturer, make, and model) to ensure compatibility. The servers must have 386, 486, or Pentium processors, equal amounts of RAM and free disk space, and identical monitors and video adapters.

The two servers do not need to be on the same local area network (LAN) segment and do not need to have the same types of LAN adapters. However, the servers must be on the same internetwork, and all clients must be able to get LAN packets to both servers.

Through server redundancy, SFT III for IntranetWare ensures system reliability in demanding computing environments such as online transaction processing. Critical business applications and data remain accessible whether you experience a failure with your server hardware, LAN adapter, or cables, or you need to perform routine hardware maintenance. To avoid having both servers go down in a disaster, you can place the secondary server at a different geographic location from the primary server.

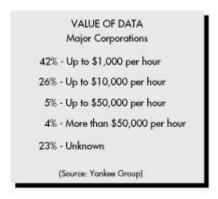SFT III for IntranetWare is ideal in the following circumstances:

- Your business depends on your network, and you can't afford the high cost of downtime.
- Your business is downsizing from a minicomputer or mainframe, and you require reliability equal to or better than that of your old system.
- You need support for business-critical applications.
- You are consolidating servers and want to reduce management requirements.
- You have a small support staff and want to take advantage of SFT III for IntranetWare's online maintenance capabilities.

Features

- Offers online server maintenance
- Enables you to save money through downsizing
- Supports off-the-shelf server hardware and software, preserving your investments
- Offers tools that enable you to isolate and resolve problems quickly
- Provides fault simulation
- Provides optional dual processor support
- Provides advanced fault tolerance in the powerful IntranetWare environment
- Supports TCP/IP

- Supports alternate Mirrored Server Link™ (MSL) channel
- Includes group notification feature
- Offers improved printing support
- Supports Storage Management Services™ (SMS)-compliant backup solutions
- Supports Novell's ManageWise® 2.1 management solution

Figure 1: Yankee Group downtime cost survey

VALUE OF DATA
Major Corporations

42% - Up to $1,000 per hour

26% - Up to $10,000 per hour

5% - Up to $50,000 per hour

4% - More than $50,000 per hour

23% - Unknown

(Source: Yankee Group)

Offers Online Server Maintenance

With SFT III for IntranetWare, you can upgrade hardware components or perform routine system maintenance during normal business hours, without any network downtime. For example, to add memory to both servers, you simply take one mirrored machine down, add memory to it, then bring it up and resynchronize it with the other machine. You then repeat the process on the second machine. During the entire process, network service continues uninterrupted.

Enables You to Save Money Through Downsizing

SFT III for IntranetWare provides power and reliability that until recently were only available from mainframe computers. SFT III for IntranetWare builds on IntranetWare's high standard of reliability to provide the most comprehensive and reliable network computing solution in the industry. Thus, with SFT III for IntranetWare, you can save money by downsizing and still feel confident that your network is protected against downtime.

Preserves Hardware and Software Investments

SFT III for IntranetWare is a software-only solution that is compatible with standard, off-the-shelf PC hardware. If you are currently using 386-, 486- or Pentium-based servers, you can use your existing hardware. If you plan to purchase new equipment, you can choose solutions from a variety of vendors who offer you the best price, performance, service, and compatibility.

SFT III for IntranetWare can mirror server-based NetWare Loadable Modules (NLMs) that do not directly interface with your hardware. Consequently, it is not necessary to upgrade these NLM™ applications to run with SFT III for IntranetWare. For example, when you load Oracle's existing database server NLM, it is mirrored automatically on both servers. In addition, nearly all LAN and disk drivers are compatible with SFT III for IntranetWare.

Because SFT III for IntranetWare is compatible with your existing hardware and software, it minimizes capital expense and reduces the time you must spend retraining personnel. SFT III for IntranetWare offers the functionality and reliability you expect from high-end hardware fault tolerance solutions, without the high cost.

Offers Tools That Help Isolate and Resolve Problems Quickly

Using SFT III for IntranetWare, you can isolate problems and review historical network activity

quickly. SFT III for IntranetWare automatically records events such as errors and failures in the log file, which you can then use to diagnose problems. Console messages will also immediately alert you to problems.

Creates a Risk-Free Environment Through Fault Simulation

Because hardware faults occur at random, they are difficult to test without a simulating tool. SFT III for IntranetWare offers built-in fault simulation. This tool enables you to simulate a variety of failures, including system errors, to see how IntranetWare responds. This SFT III for IntranetWare server test mode increases your confidence in IntranetWare's solid fault tolerance capabilities.

Offers Optional Dual Processor Support

When needed, SFT III for IntranetWare will support dual processors. Because server mirroring requires extra CPU bandwidth, SFT III for IntranetWare provides asymmetric multiprocessing (ASMP) support. In the ASMP environment, each processor is assigned a specific task. This differs from the symmetric multiprocessing (SMP) environment, in which all processors work in tandem on a single process. With SFT III for IntranetWare, an optional second processor is assigned to handle the server's I/O, while the main processor handles processing tasks.

Provides Advanced Fault Tolerance in the Powerful IntranetWare Environment

SFT III for IntranetWare adds a higher level of fault tolerance to IntranetWare, the highest performing, most scalable, flexible, and reliable intranet solution available today. This combination creates a secure, powerful platform for running even the most business-critical applications. IntranetWare includes features such as Novell Directory Services™, disk compression, data migration, multiple language support, online documentation, and CD-ROM support. For more information about IntranetWare, refer to its product section.

Provides Additional Protocol Support

In addition to supporting Novell's IPX™ protocol, SFT III for IntranetWare supports TCP/IP. This enables UNIX clients to benefit from the uninterrupted service provided by the SFT III for IntranetWare system.

Supports Alternate MSL Channel

The MSL™ communication channel handles synchronization between mirrored servers. With SFT III for IntranetWare, you can provide additional hardware protection by installing a redundant or alternate MSL adapter channel. If the primary MSL channel fails, the alternate MSL channel takes over, without a server switchover. The network supervisor receives notification of the situation while the system remains fully fault tolerant.

Includes Group Notification Feature

SFT III for IntranetWare includes a group notification feature. With this feature, you can choose who will be notified in the event of incidents such as a disk failure, a network adapter failure, or a server switchover. For example, you could choose to have the software notify a single supervisor, a group of supervisors, or all the users on the network.

Offers Improved Printing Support

You can load the print server NLM in the mirrored server engine to make configuring a printing solution easier. Clients will benefit from uninterrupted print services even if one of the SFT III for IntranetWare servers fails.

Supports Additional Management Support

Any SMS-compliant backup solution can run with SFT III for IntranetWare. Many compatible backup solutions are now available from third-party providers. SFT III for IntranetWare also supports ManageWise 2.1, which provides improved manageability. The map feature in ManageWise

graphically represents pairs of SFT III for IntranetWare servers on the network and sends alerts through the Simple Network Management Protocol console agent if a failure occurs.

Hardware Requirements

- Two identical, Novell-certified 386-based PCs or above (same make and model) with equal amounts of RAM and free disk space
- 16MB of RAM (minimum) in each machine
- 2 MSL communication adapters and cables, one for each machine
- Identical network adapters for each machine
- Identical monitors and monitor adapters for each machine

Software Requirements

- One copy of the IntranetWare intranet platform (CD-ROM)
- SFT III for IntranetWare license diskette
- Identical versions of DOS 3.1 or above on each machine (for hard disk boot)
- MSL driver
- Dual Processor driver (optional)
- Network driver for each adapter
- Disk driver

Implementation

The program code for SFT III for IntranetWare is included on the IntranetWare distribution CD-ROM. However, you must purchase an SFT III for IntranetWare license diskette to activate SFT III for IntranetWare. The IntranetWare Install utility includes the following three options for installing SFT III for IntranetWare:

- Install IntranetWare

With this option, the IntranetWare Install utility first guides you through a normal IntranetWare installation on the initial server before installing SFT III for IntranetWare. INSTALL.BAT prompts you through the installation, including MSL selection and activation, and the creation of three diskettes containing the minimal file set that is needed for the second server. INSTALL.BAT automatically goes into INSTALL.NLM when the server is activated.

- Upgrade existing NetWare SFT III™ 3.11 to SFT III for IntranetWare

This option preserves and reuses all partition information, engine names, and numbers from NetWare SFT III 3.11 and automatically configures the SFT III for IntranetWare.NCF file scheme.

- Add SFT III for IntranetWare to an existing IntranetWare server

You can use this option to install SFT III for IntranetWare when you have already installed IntranetWare on a server. The Install program automatically sets up partitions and mirroring on the second server and makes necessary adjustments to memory alignment.

Regardless of the installation option you choose for SFT III for IntranetWare, you will eventually be prompted for the SFT III for IntranetWare license diskette. You must have both an IntranetWare license diskette and an SFT III for IntranetWare license diskette for installation.

You must have an MSL communication adapter and cable for each SFT III for IntranetWare server.

The MSL communication adapter and cable create a communication channel that handles synchronization between the servers. MSL communication adapter and cable options are currently available from several companies, including Thomas-Conrad, DEC (allows you to place mirrored servers as far as 40 kilometers apart), Intel, Madge, Microdyne, PlainTree Systems, Sys-Konnect, and Vinca. For a list of vendors, call the Novell Labs™ FaxBack system at 1-800-414-5227.

The maximum physical distance between your two mirrored servers depends on the high-speed, point-to-point MSL connection between them. Most coaxial MSLs allow you to place servers 100 feet apart. Most fiber MSL solutions support between 100 feet and 20 kilometers between servers. MSL solutions that support longer distances may be available from third-party vendors for EISA and MCA bus types. For more detailed information about MSL adapters, contact the vendor directly.

Before buying and installing SFT III for IntranetWare, you should consult your local Novell Authorized Partner(sm). He or she will help you determine which network adapters will work best with your system and will also advise you on other important issues.

Ordering Information

You can order SFT III for IntranetWare from any Novell Authorized, Gold, or Platinum Partner. For more information, contact your local Novell® office or call the Novell Customer Response Center at 1-801-228-4CRC (1-801-228-4272). Or, in the United States and Canada, call toll free 1-888-321-4CRC (1-888-321-4272). You may also visit Novell's World Wide Web site at http://www.novell.com or use Novell's Product Information FaxBack system at 1-801-861-3030. Or, in the United States and Canada, call 1-800-209-3500.