neverfail™

Continuous Availability

High Availability
Disaster Recovery
Data Protection

Neverfail Solutions for SharePoint®

Continuous Availability for Microsoft® SharePoint®
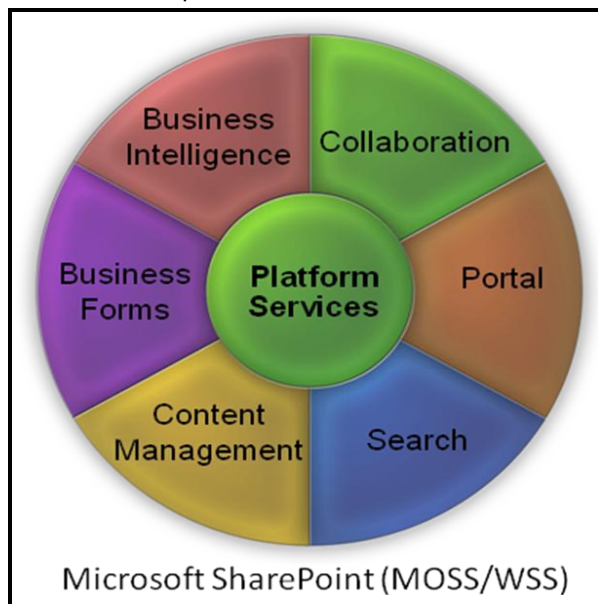
SharePoint: A Mission Critical Platform

With SharePoint, Microsoft has created a platform addressing multiple markets and a platform that has experienced rapid deployment over the last couple of years. Microsoft itself stated that "Microsoft® Office SharePoint® Server business generated revenue of more than $800 million in fiscal year 2007, due to strong demand for the enterprise-ready, integrated server capabilities of Microsoft Office SharePoint Server 2007. This represents a growth rate of more than 35 percent over fiscal year 2006"[1]. Clearly SharePoint is gaining criticality within the enterprise and gaining significant market momentum. With this growth comes the need to adopt a strong business continuity strategy to guard against potential system loss.

Using SharePoint as the foundation for enterprise content management is driving a significant portion of the growth. According to Gartner, Enterprise Content Management (an "umbrella" term encompassing many fields from records management to document imaging to workflow and web-content management) was a $2.9B market in 2007 and expected to grow at a 13% compound annual rate through 2011. They go on to state "the interest in content management is at an all time high, regardless of geography or organization size and Microsoft's vision of bringing content management to the masses has been a key factor in the overall ECM market transformation.[2]" Or take a quick glance at the Business Intelligence Market (integration, information delivery, analysis) where consolidation in 2007 was at an all time high (Oracle bought Hyperion, SAP bought Business Objects, Cognos bought Applix and agreed to be acquired by IBM) and BI SaaS vendors such as Biz Objects gained traction in the market. Gartner predicts this market to continue growing at a 9% CAGR.[3]

The number of regulations that have been adopted over the last decade or so, validates the mission-criticality for anyone using SharePoint for Content and Records Management, Business Intelligence or Business Forms. Whether it's Sarbanes-Oxley enforcing business continuity; HIPPA and doctor patient records and privacy; federal mandates for continuance of operations; or LEDES specifying electronic invoice standards for the legal industry, it's clear to see how SharePoint has become a mission critical application.

Microsoft SharePoint (MOSS/WSS)

As Michael Osterman has recently stated, "SharePoint is becoming the de facto collaboration platform in Exchange-enabled organizations." He adds that" SharePoint's use for mission-critical applications is growing rapidly."[4]

Clearly, SharePoint has become mission-critical to thousands of organizations and thus architecting for 24x7 SharePoint availability should be a priority when planning availability and disaster recovery strategies.

business continuity, recovery strategies.

New Paradigms Require New Protection Strategies

Traditional Methods for Keeping SharePoint Available 24x7 are Complex, Costly, Cumbersome and Challenging

Using "traditional" methods to build a 24x7 protection platform which delivers continuous availability of SharePoint can be very challenging. For instance, the front-end and search and index servers are not cluster aware, not all roles on the application servers can be redundant, online replication of tables within SQL is not supported, and SQL log shipping certainly does not account for a fully automated solution as failovers must be triggered manually. Additionally, backup and restore utilities such as the Central Admin

SharePoint Backup or STSADM Utility {which has its own limitations, especially regarding custom solutions and the Central Admin Web Application and Content Databases} provide backup facilities that by definition will require a manual, cumbersome restore process guaranteed to disrupt users. And these are just a few examples of challenges to be faced when architecting for 24x7 SharePoint availability.

Further, even if all of the technologies highlighted below were used together, there would still be no provisions for network failures – e.g. SQL Clustering can be keeping an application running perfectly but if the network is down and end-users can't access the data, then it's down from their perspective.

Having said that, let's spend a moment now highlighting just a few of the "traditional high availability" options for SharePoint in order to emphasize where the risks for downtime lie, and why traditional mechanisms cannot deliver continuous availability.

Content Recovery

While Microsoft has certainly improved the product with more robust facilities for content recovery, these are not yet fully comprehensive, leaving potential gaps where end-users may lose access to critical data.

Recycle Bin
Great strides have been made with the recycle bin; however there is no recycle bin for sites – and the proposed work-around is a complex and manual "Web Deleting Method" that is not available out-of-the-box and requires custom coding.

Versioning
While end users can retrieve earlier versions of documents, this functionality does not support Folders, Webs and/or Sites.

Backup/Restore Site, Document Library, Folder, Item
While the STSADM import/export utility provides a method for content migration, it is a manual process and it is not ideal for frequent large backups or busy site collections. Further it only migrates at the site level and below. Additionally, it is not a full fidelity solution; i.e. you cannot migrate workflow, alerts, features, solutions or the recycle bin state.

SharePoint 2007 Native and SQL Only Backup and Restore

While SharePoint 2007 offers a user interface and command line access to administrators, this tool only backs up content databases and the search index. You must manually backup front end files.

Likewise, with SQL only backups you must manually backup/restore all customizations of Web Front End Servers (.NET Assemblies, Features, IIS Metabase, etc.) and SSP must be backed up and restored separately.

Clustering, Database Mirroring and Log Shipping

Any number of a host of configurations can be used to provide some level of high availability; however, these are highly complex and manual processes – and perhaps more importantly they are costly as additional shared storage hardware must be purchased and maintained. Regarding complexity, it's important to highlight that Mirroring requires manual steps for failover of the SharePoint Farm (reattach the content db's to Web applications, ensure SSP is restored to the mirrored farm, update DNS/router entries, etc.).

Log Shipping also requires manual steps to failover a farm: Databases must be restored via logs; content databases reattached to Web applications, and the same SSP and DNS steps as with mirroring are required. Further, log shipping can't detect failures and the potential for data loss is dependent upon the frequency of the log shipping interval while mirroring requires additional hardware as does clustering.

And of course, the obvious hasn't yet been accounted for: the shared storage back end is itself a single point of failure, unless a great deal of expense is used to duplicate it.

The consequence of all of this is a complex, time consuming manual configuration process that does not address the whole problem yet requires considerable skill and cost to implement.

NEVERFAIL'S CONTINUOUS AVAILABILITY PLATFORM FOR SHAREPOINT

To provide continuous availability for SharePoint you have a choice. You can learn all the ins and outs of content recovery, backup/restore, clustering, mirroring, log shipping and spend a great deal of time scripting and using the command line interface and hopefully not overlooking any single piece that could turn out to be critical for the entire operation to work - - OR - - you can implement Neverfail's Continuous Availability Suite whereby SharePoint is continuously available to end-users. A simple, yet elegant and powerful active/passive server pair with embedded application intelligence and ecosystem monitoring keeps SharePoint available 24x7.

After all, shouldn't a "High Availability and Disaster Recovery" solution be designed from the ground up to keep users working through any type of IT outage? Neverfail does just that. Its state-of-the art replication technology ensures there is always a complete, consistent, and up-to-date copy of SharePoint available on a secondary server. If anything goes wrong, applications and users are seamlessly transferred -- without interruption -- to the secondary server, while our persistent connection layer means applications remain continuously available and users continue working without any delay, irrespective of IT failure.
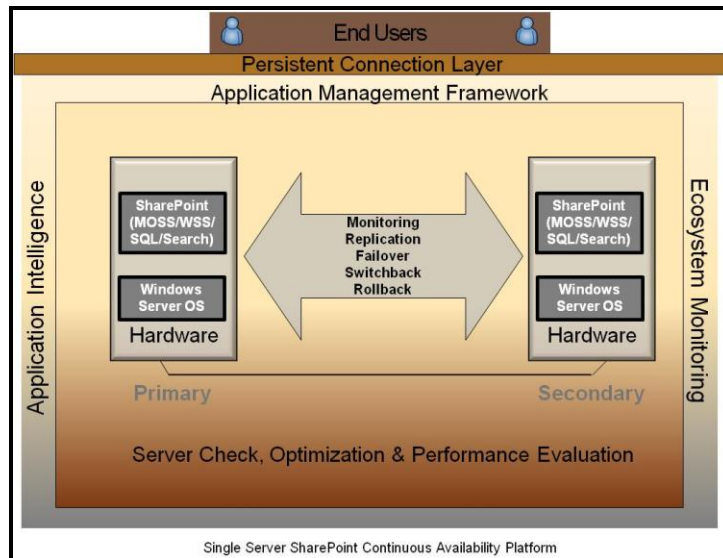
This is not to say that backups, versioning, clustering, network load balancing, database mirroring, log shipping and so on are not important; rather, with a continuous availability solution in place and end-users always connected to the application, you now have time to perform whatever backup and restore operations are required.

Meanwhile, Neverfail maintains a complete, consistent and up-to-date copy of the SharePoint server and all its configuration data. This is more than just a copy of the data. Neverfail provides a "ready-to-go" clone of the server, including any configuration changes that may have been applied since the application server was first installed so remain connected to the data they expect to see.

Additionally, Neverfail's Application Management Framework provides automatic and ongoing discovery of all data associated with the protected application, including related registry changes, and automatically adjusts the replication schema accordingly, so there is no need to manually specify existing and additional application data locations to be protected.

Neverfail's SharePoint Plug-in provides out-of-the-box protection for all key services within the SharePoint platform – and these are user configurable through our point-and-click interface; thus script writing is not required. In short, Neverfail ensures the application is immediately fully functional and available in the event of an automated failover or manual switchover. Failover and failback is also automated and a simple "one-click" process.

If there is an availability threat, an administrator can fail over from the primary to the secondary

Single Server SharePoint Continuous Availability Platform

server at the click of a button (called a switchover), or Neverfail will automate the whole process based on user-defined criteria specified within the Application Management Framework.

Neverfail for SharePoint

Neverfail for SharePoint supports Microsoft Office SharePoint Server 2007 and Windows SharePoint Services 3.0 on 32 and 64 bit Windows 2003 server, and SharePoint Portal Server 2003 and Windows SharePoint Services 2.0 on 32 bit Windows 2003 server. In addition to protecting SharePoint, Neverfail for SharePoint also protects the servers that host your valuable SharePoint content – whether it resides in SQL Server®, Exchange® or on a file system. Furthermore, Neverfail is the only continuous availability solution to proactively monitor the health of your entire SharePoint environment, including physical server hardware, network infrastructure, and operating system.

## Protecting SharePoint Farms within the Data Center

Implementing a high availability solution for a SharePoint farm on a LAN is as simple as implementing the single server platform previously discussed. Simply create an active/passive server pair for each server within the farm (as shown below in Fig. 1) to create a highly available SharePoint farm within the data center .

Protecting SharePoint Farms over a WAN

When extending a highly available SharePoint environment over a WAN, it is important to utilize a continuous availability solution that provides for not only automated or manual failover of a failed server, but of the entire farm as well. The SharePoint front end servers for example could conceivably failover while the SQL servers have not, thus creating a long-distance link to the SQL server and a degraded data connection and latency surface due to distance; so the option of failing over the entire farm should be considered – and is offered as an option by Neverfail.

Further, as the size of the farm grows, consider using virtualization technology to reduce the footprint as shown below. Neverfail is built to protect applications whether physically or virtually implemented or even in combinations of both (as shown on the next page in Fig. 2).

Fig. 2 — Enterprise HA/DR solution with NLB and Clustering for local HA and virtualization for DR
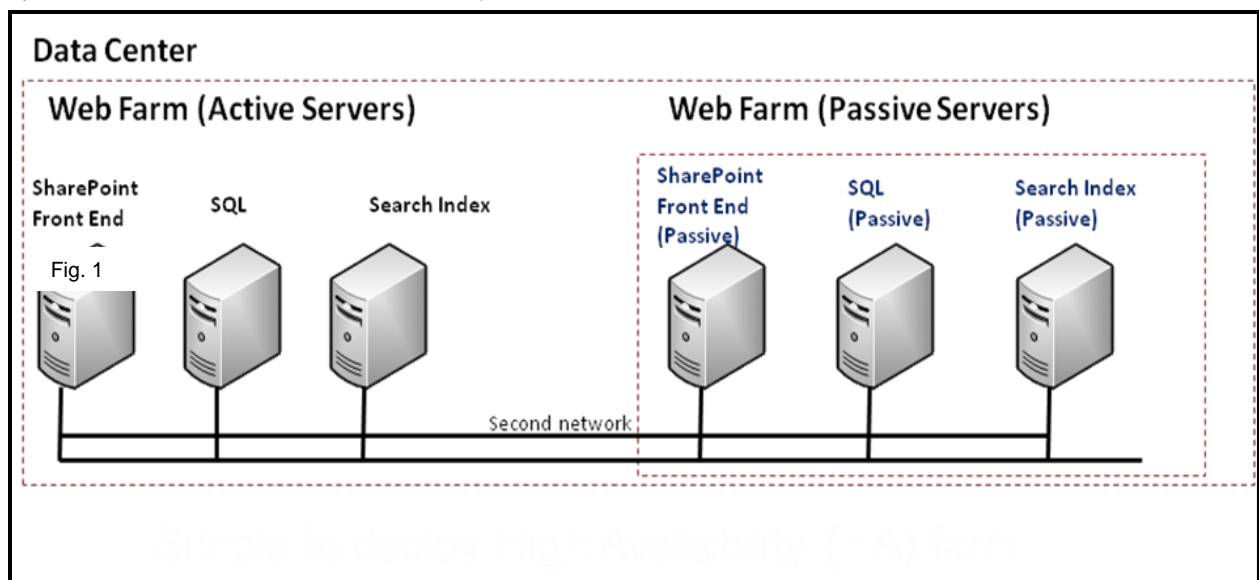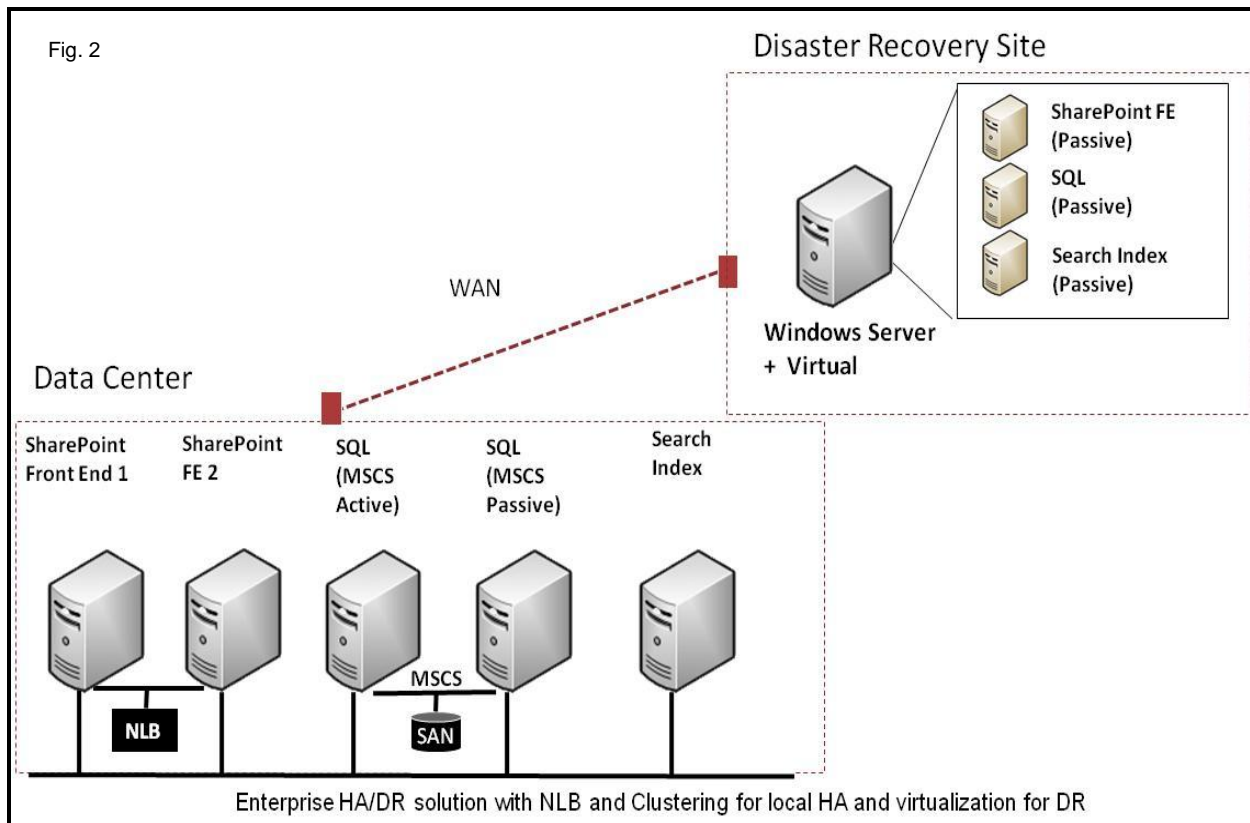
Protecting the Entire SharePoint Ecosystem

Neverfail protects the entire ecosystem by providing intelligent insight into all SharePoint components including the physical server hardware, network, applications, operating system, as well as the data being safeguarded through replication. Further, as all parts of the SharePoint infrastructure must be available for continuous availability the entire IT ecosystem surrounding the application must be considered.

Combining the next generation of application management with full ecosystem protection, Neverfail provides IT administrators with confidence that the application, as well as the entire SharePoint ecosystem surrounding it, remains healthy. Even when IT problems do occur, mission-critical applications are continuously available to end-users through Neverfail's Continuous Availability Suite of products.

SharePoint Customer Example – Large Space Agency

Below is an example of how one of our customers has used Neverfail for SharePoint to maintain continuous availability for their SharePoint Deployment:

The Requirements

- A highly available content management system to maintain meeting materials, sample telemetry and procedural reference data to underpin support operations of a major spacecraft

- Seamless and automatic failover / failback process to maintain continuity of operations in the event of a server or facility failure

- Considered "mission-critical" by the end-users

The Solution

- High Availability Neverfail for SharePoint installation – delivering continuous availability to their end-users

- Single Server (WSS2.0, SQL 2000) Active/Passive installation over a WAN environment

- Seamless manual failovers and failbacks every six months for verification testing of Disaster Recovery Site

About Neverfail

Neverfail is a leading global software company providing affordable data protection, high availability, and disaster recovery solutions focused on keeping users productive. Neverfail's software solutions enable users to remain continuously connected to the live software application irrespective of hardware, software, operating system, or network failures.

Neverfail's mission of eliminating application downtime for the end user delivers the assurance of business continuity, removes the commercial and IT management costs associated with system downtime and enables the more productive use of IT resources. More information can be found at **www.neverfailgroup.com**

Neverfail's software solutions enable users to remain continuously connected to Microsoft® Exchange, IBM® Lotus® Domino®, RIM BlackBerry®, Microsoft SharePoint®, IIS, File Server and other Windows®-based applications irrespective of hardware, software, operating system, or network failures. Neverfail is also the power behind VMWare® vCenter Server Heartbeat.