

Backup Express Novell Cluster Support

Clustering is the use of multiple computers and redundant interconnections to form what appears to be a single, highly available system. Clustering ensures that when a computer unexpectedly fails or is intentionally taken down, the processes and services it is running *fail over* to another machine in the cluster without interruption or the need for immediate user intervention.

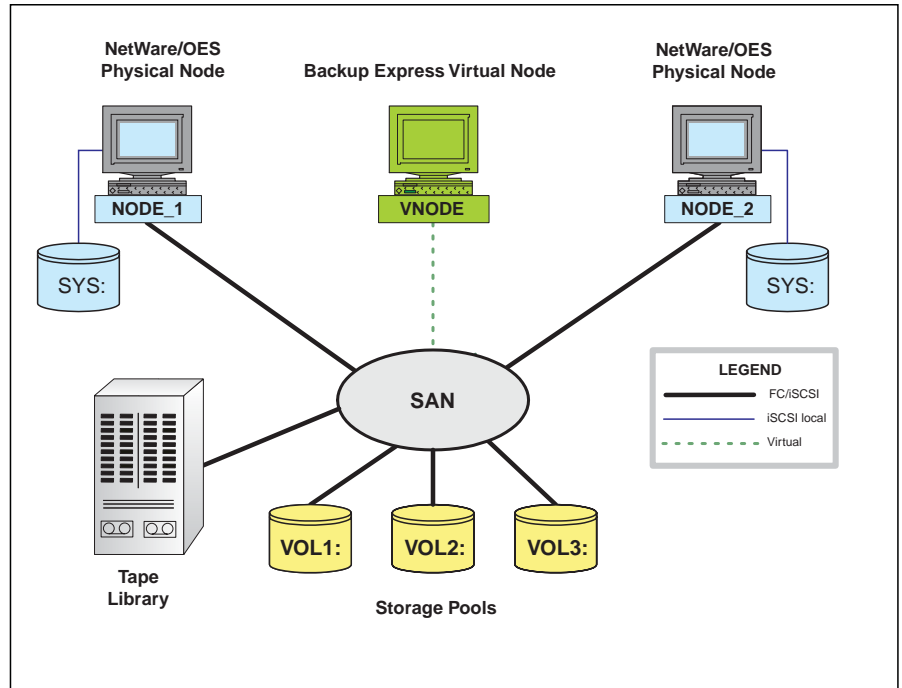
When a cluster is set up with the NetWare clustering software, shared storage pools can be seen from all computers, or nodes, in the cluster. Each node instantly senses if another node in the cluster has failed, and resources hosted on the failed node switch to an operational one. To the user, this failover is usually transparent.

Backup Express, the high-performance enterprise data protection solution with innovative technology, manageability, and flexibility, supports clusters in NetWare environments.

NetWare Clusters in a SAN Environment

Backup Express architecture is based on resource grouping and distributed processing with central control. This design gives Backup Express the inherent flexibility to exploit advances in network technology, such as SAN and NetWare clusters.

The diagram on the right illustrates a NetWare cluster on a SAN. This logical representation demonstrates the correspondence between a Backup Express virtual node and NetWare storage pools. The virtual connection does not use up a port on the Fibre Channel switch. All the nodes, physical and virtual, are Backup Express SAN device servers.



NetWare Cluster in a SAN Environment

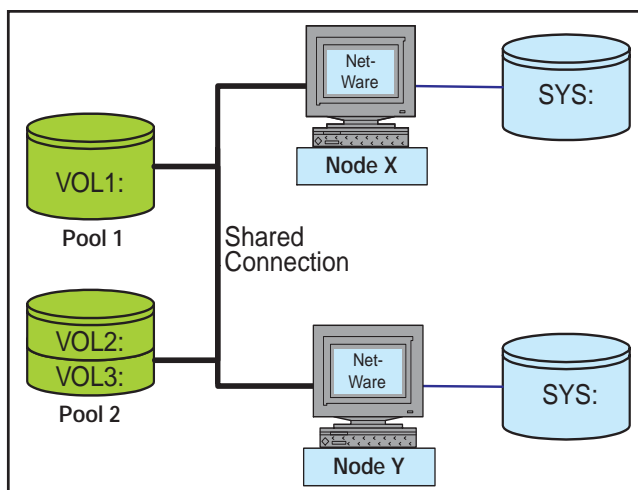
Physical Representation of a NetWare Cluster

A simple NetWare cluster is illustrated on the left. Each of two physical computers (Node X and Node Y) contains a local disk (SYS: in each case). Also, the two computers share two disks (Pool 1 and Pool 2) via a shared connection. Though not shown in the illustration, each of the computers is instantly able to sense if the other has failed or is down.

Logical Representation of a NetWare Cluster in Backup Express

In Backup Express, you define node groups and nodes. For a NetWare cluster, you define physical nodes for local storage and a single virtual node for all shared storage. All nodes (physical and virtual) for a cluster are members of the same Backup Express node group.

The following diagram shows a logical representation for the physical NetWare cluster illustrated to the left.

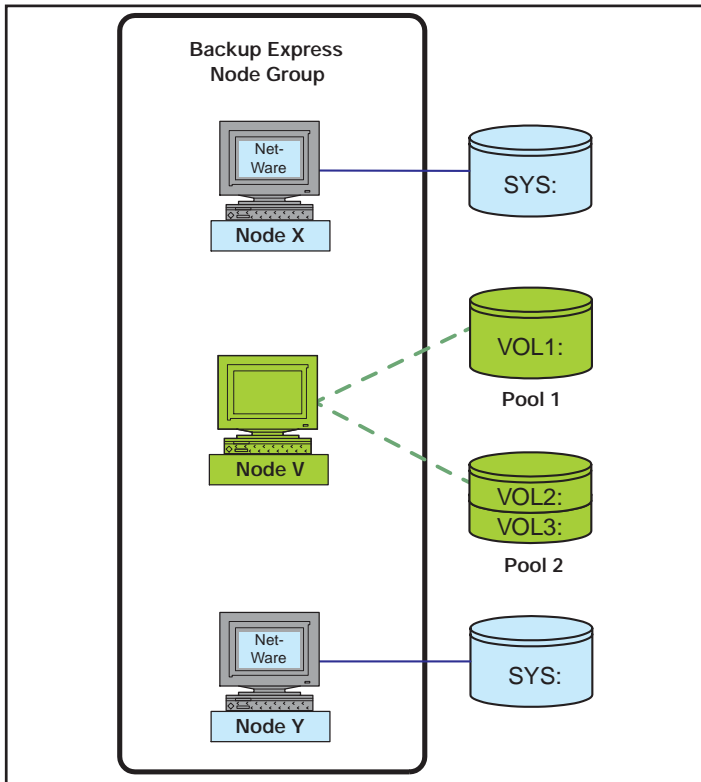


Physical Representation of a NetWare Cluster



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You define one virtual node (Node V) and two physical nodes (Node X and Node Y). The virtual node is associated with all the shared storage pools (Pool 1 and Pool 2). Logically, the Backup Express node group contains three nodes: Node V, Node X, and Node Y.



Logical Representation of a NetWare Cluster in Backup Express

Shared storage pools are viewed by Backup Express as local storage of the virtual node. With this structure, Backup Express backs up storage pools through the virtual node and backs up true local storage, such as SYS volumes, through the physical nodes.

During backup of a storage pool, if the physical node hosting the storage pool fails over to another physical node in the cluster, Backup Express continues to execute the backup by retrying the task.

Requirements/Compatibility

- **Backup Express Release 2.1.5 or higher.**
- **Supported Peripherals.** Backup Express is fully certified with most SAN, NAS, disk, library, switch, and operating system vendors.

Backup Express supports most storage media, including 4mm, DDS, DAT72, 8mm, AIT, SuperAIT (SAIT), Mammoth, Ecrix VXA, vs80, DLT, SDLT, LTO, 9840x, 9940x, QIC, Sony DT, Magstar, and IBM 348x/349x/35xx.

Backup Express supports all major automated tape libraries, including ADIC, Breece Hill, Compaq, Cybernetics, Dell, DSM, Exabyte, GRAU Data Storage, HP, IBM, Overland Storage, Plasmon, Qualstar, Quantum/ATL, Seagate, Sony, Spectra Logic, StorageTek, and Sun.

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