Unit OS10: Fault Tolerance

10.2. Quiz

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Fault-Tolerance Techniques

Which of the following approaches is not related to fault-tolerant systems?

a) Replication

b) Fairness

c) Redundancy

d) Diversity

NTFS Fault-Tolerance Support

Which of the following characteristics cannot be attributed to NTFS fault-tolerance support?

a) Transaction-based logging scheme

b) Fast, even for large disks

c) Recovery is limited to file system data

d) Uses write-through to ensure consistency

NTFS Recovery

An atomic transaction is an operation that:

a) Can be fully undone if it fails in progress

b) Can be partially undone if it fails in progress

c) Cannot be undone if it fails in progress

d) Crashes the computer if it fails

Fault-Tolerant Storage

Windows supports redundant arrays of inexpensive disks (RAID) for storage. Which schemes store data redundantly?

a) RAID-0: Striping

b) RAID-1: Mirroring

c) RAID-5: Striping with parity

d) b) and c) of the above

Distributed File System (DFS)

DFS server can redirect requests to various types of shares protocol-specific authentication. Which protocol is not supported?

a) Server Message Block (SMB) servers

b) Network File System (NFS) servers

c) Services for Macintosh (AFP) servers

d) Andrew File System Protocol (AFS) servers

Higher Availability with DFS

DFS may be pointing to multiple volumes that can be alternates for each other. Which of the following is wrong?

a) DFS manages failover to alternate volume

b) DFS notifies the CERT on failover

c) Multiple copies of read-only shares can be mounted under the same logical DFS name (replication)

d) Client accesses to DFS volumes are evenly distributed across multiple alternate network shares

Network Load Balancing (NLB)

Network Load Balancing helps to run stateless services with high reliability on multiple machines. Which of the following applications does not profit from NLB?

a) SQL Server

b) Virtual Private Networking

c) Streaming Media

d) Terminal Services

NLB Filtering Algorithm

What property cannot be attributed to NLB's fully distributed filtering algorithm that maps incoming clients to the cluster hosts?

a) All hosts simultaneously inspect arriving packets

b) Randomization function determines destination host

c) Destination host forwards the packet to the TCP/IP network stack

d) Other cluster hosts store the packet in log file

Server Cluster

Windows Server 2003 supports clustering for stateful services. What is the maximum number of nodes in a cluster?

a) 2

b) 4

c) 8

d) 16

Hardware and Software Failures

Server Clusters and Network Load Balancing help to tolerate failed disks, memory, processors, power, and network equipment. What fault classes can be handled?

a) Crash faults

b) Timing faults

c) Incorrect computation faults

d) Byzantine faults