

70-290 Chapter 3 Concept Map

Performance Console

"Red Flags" to look for

Accessed from Administrative Tools or by opening mmc.exe and adding the System Monitor and Performance Logs & Alerts snap-ins

Processor

- Processor: % Processor time > 85% consistently
- System: Processor Queue Length > 10= consistently
- Server Work Queues: Queue Length >= 4 consistently
- Processor: Interrupts/sec consistently higher than baseline value

Memory

- Memory: Page Faults/Sec >= 5 consistently
- Memory: Pages/Sec >= 5 - 20 consistently
- Memory: Available Bytes <= 5% of physical RAM
- Memory: Committed Bytes >= amount of physical RAM
- Memory: Pool Non-Paged Bytes should remain relatively constant over time. Growth may indicate a memory leak

Disk

- PhysicalDisk: Disk Bytes/sec compare to baseline; look for deterioration
- Physical Disk: Avg. Disk Bytes/Transfer compare to baseline; look for deterioration
- PhysicalDisk: Current Disk Queue Length >= 2 per spindle
- PhysicalDisk: % Disk Time >= 80%
- LogicalDisk: % Free Space <=20%

Network

- Network Interface: Output Queue Length >= 2
- Server: Bytes total/Sec > 50% of network media capacity

Heavy Disk Users

Database, File & Print, Messaging, Web Servers

Heavy Processor Users

Application, Backup, Database, Messaging, and Web Servers

Heavy Memory Users

Application, Database, File & Print, Messaging

Heavy Network Users

Potentially all server types (depending upon load)

Servers are a system of subsystems

Subsystems include:

- Processor
- Network
- Disk
- Memory

Bottlenecks happen when a subsystem has more work to do than it can handle

- When bottlenecks occur, a wait queue will form
- When a wait queue forms, other subsystems and overall server performance can be affected

Task Manager

- Real-time snapshot of server performance variable
- No logging available
- Used to halt or change priority of running processes

Server Monitoring

- Real-time
- Logged
- Create baselines when environment/performance is normalized

The Microsoft interface for viewing log files (record of activity on the server)

Logs that are present on all Server 2003 systems:

- Application (up to 16MB max size)
- System (up to 16MB max size)
- Security (up to 128MB max size)

Logs that are present on Domain Controllers

- Directory Service (up to 512KB max size)
- File Replication Service (up to 512KB max size)
- DNS Server (if DNS Service is loaded; up to 16MB max size)

Log size/retention settings

- Choose appropriate size retention settings for server activity, security needs
- Logs can be saved to disk for long-term storage
- Systems management products are available for log management/storage

Event Types

- Error
- Warning
- Information
- Success audit
- Failure audit

Filter and Find features of Event Viewer allow quick access to events of interest

Resources for diagnosing Error/Warning Events

- <http://support.microsoft.com>
- <http://www.eventid.net>
- <http://www.google.com>

Performance Logs & Alerts

- Used to gather performance information over time
- Counter Log - Gather system performance information to a log file
- Trace Log - Monitors "system internals"
- Alerts - Perform an action when a counter reaches a pre-defined range