Managing and Monitoring Windows 7 Performance

Lesson 8

Objectives

- Configure Windows Updates with Windows Update Client and WSUS
- Monitor Windows Performance using Event Viewer, Performance Information and Tools, Performance Monitor, and Reliability Monitor
- Manage Windows Performance using Task Manager, Resource Monitor, Process Explorer, and System Configuration

Updating Windows 7

- Current operating systems are always a work-in-progress, constantly being updated to correct errors, enhance performance, and add features.
- One of the primary tasks of a desktop technician
- Should be familiar with:
  - Types of update releases
  - Methods for deploying updates

Understanding Update Types

- Hotfixes
- Security updates
- Cumulative updates (rollups)
- Service packs

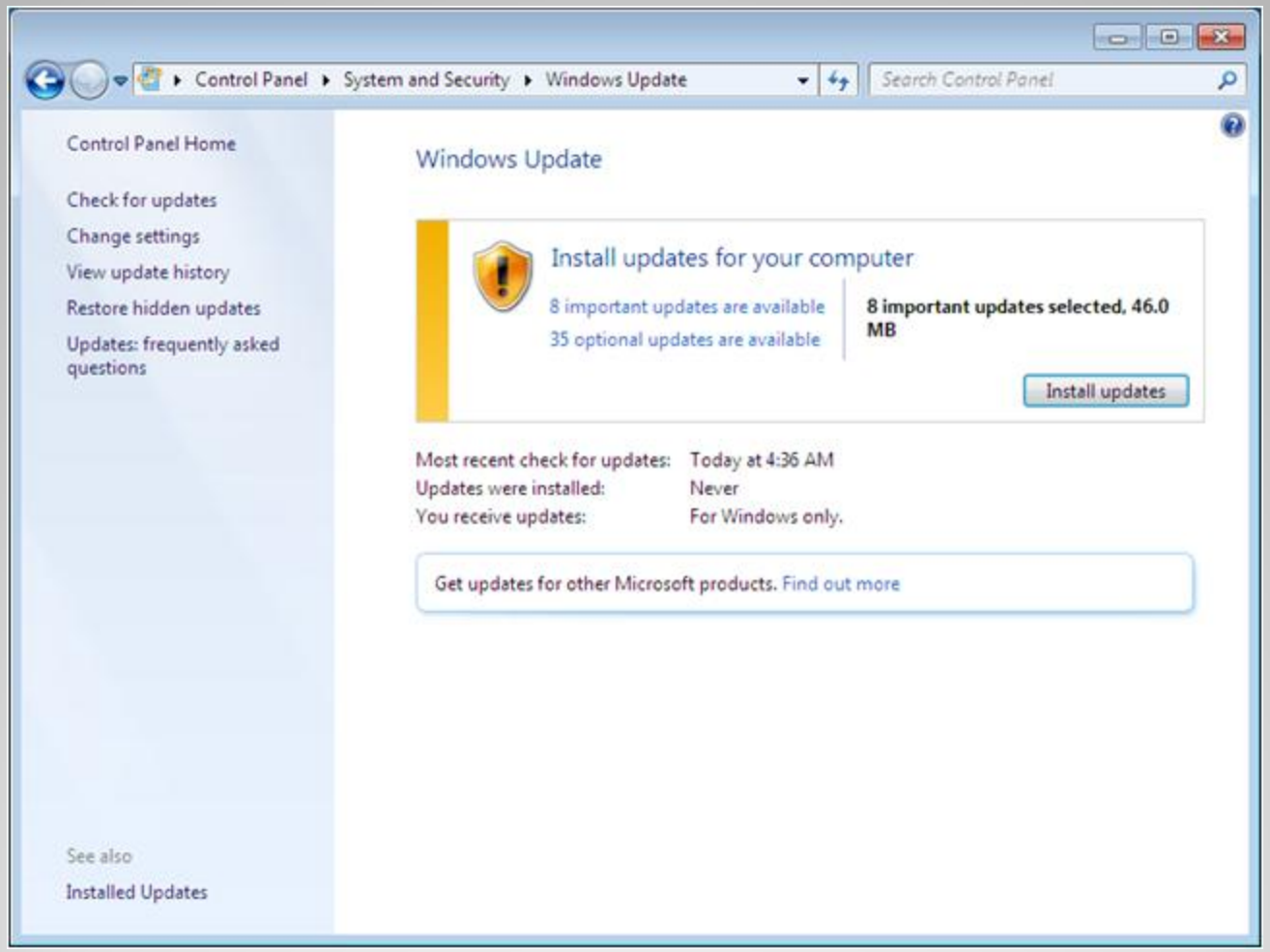
Update Categories

- Important updates
- Recommended updates
- Optional updates
- Device drivers

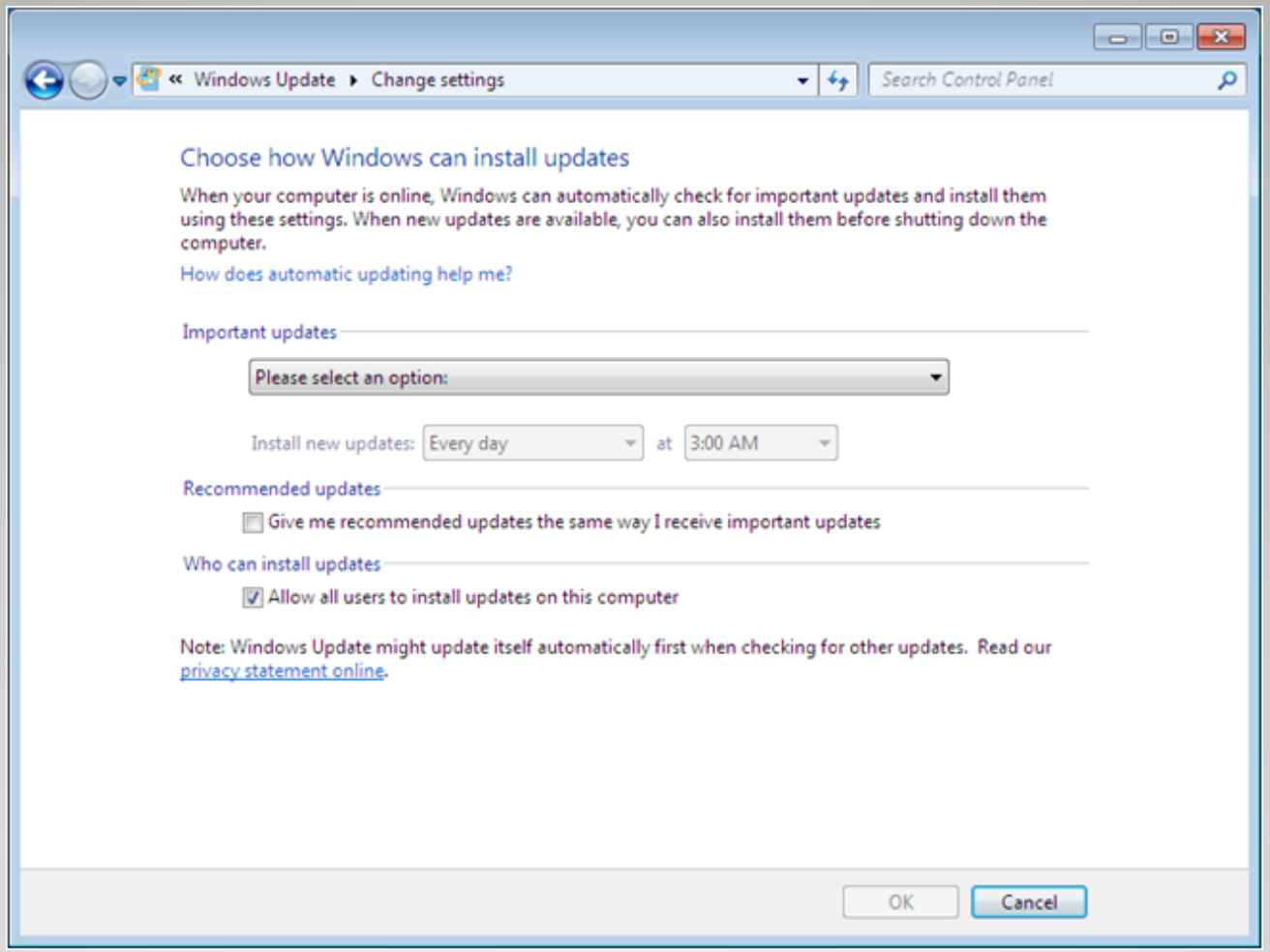
Applying Updates

- Windows Update
- Windows Server Update Services (WSUS)
- System Center Configuration Manager (SCCM)

Using the Windows Update Client



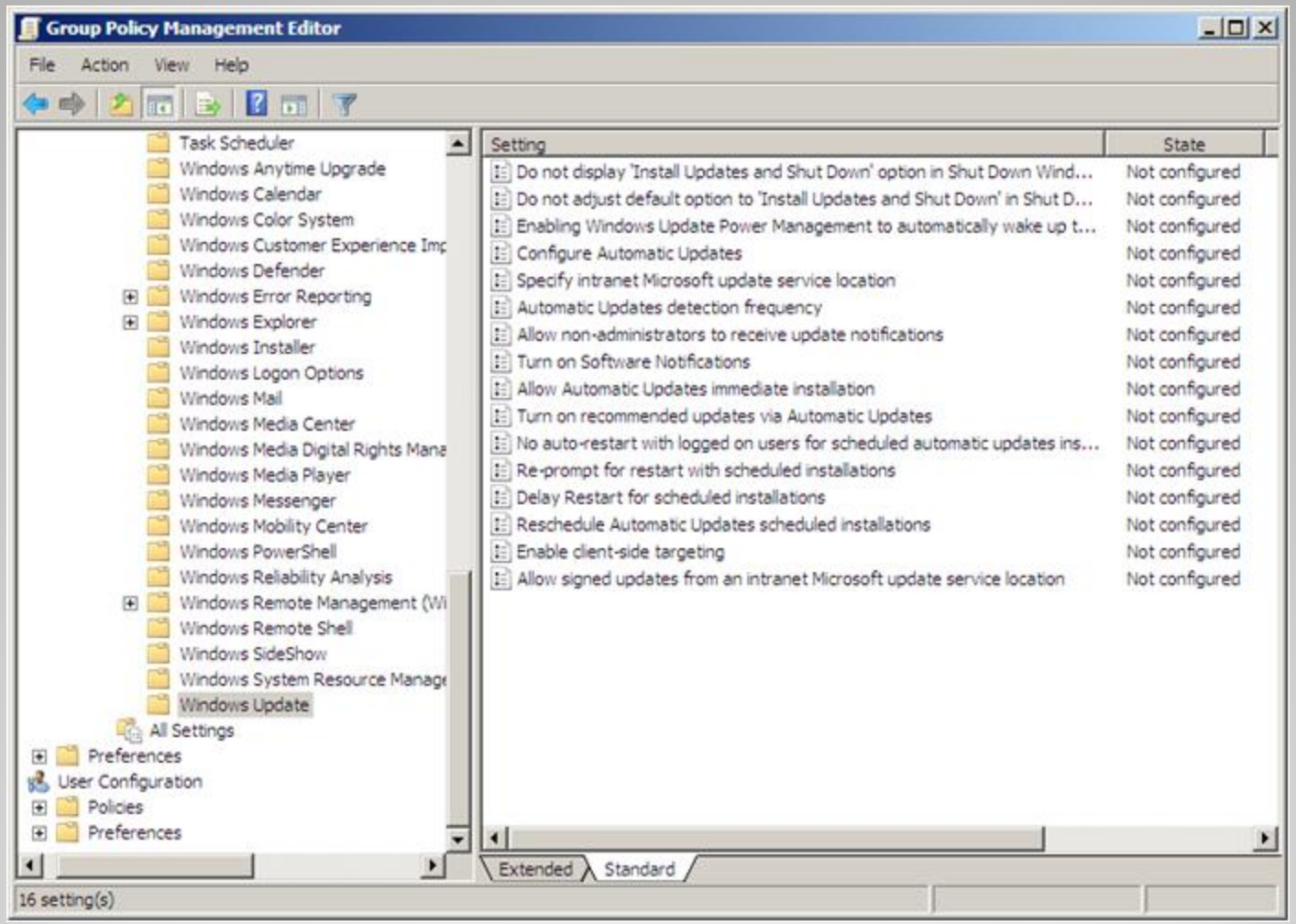
Configuring the Windows Update Client



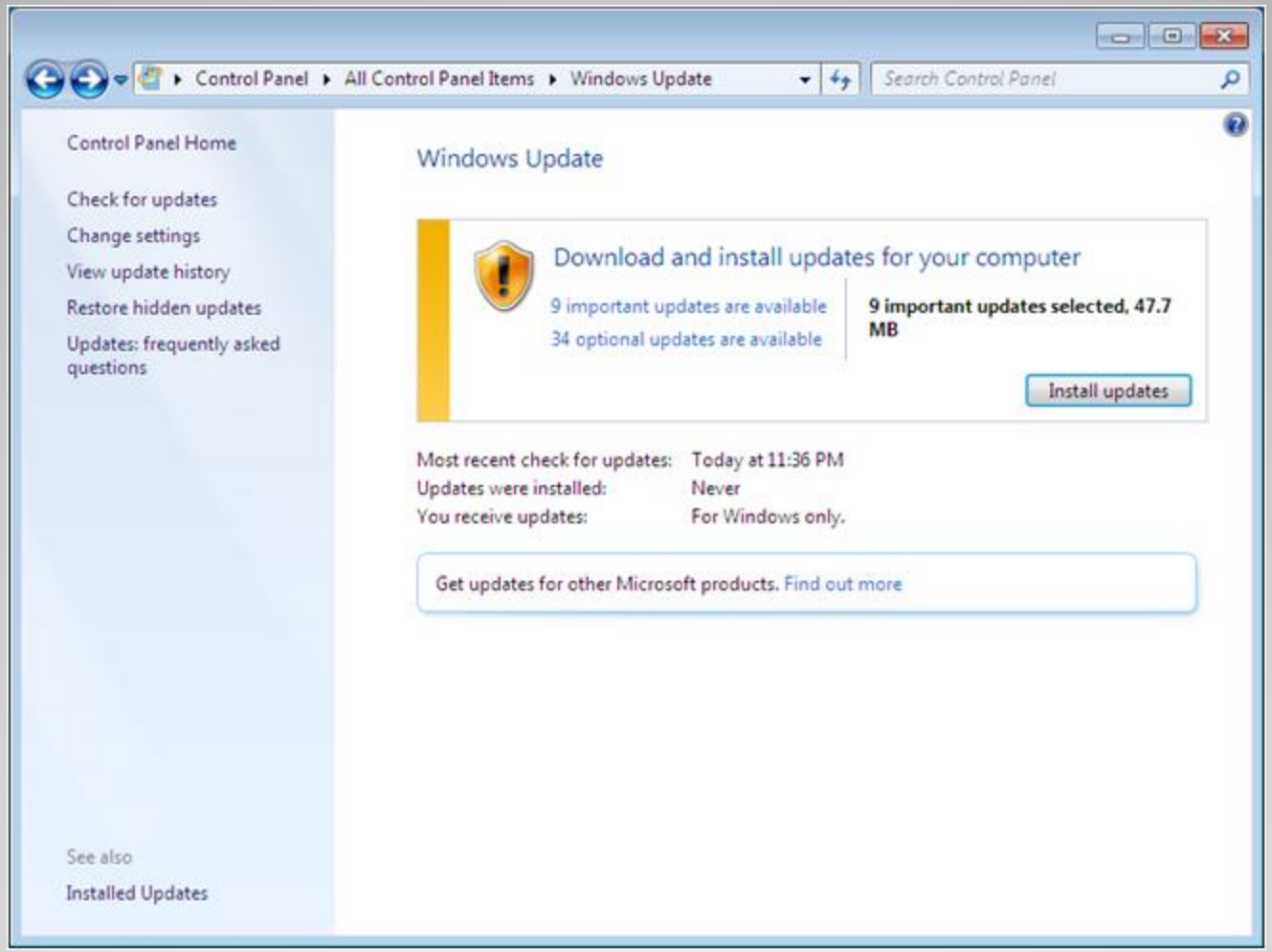
Important Updates Options

- Install updates automatically (recommended)
- Download updates but let me choose whether to install them
- Check for updates but let me choose whether to download and install them
- Never check for updates (not recommended)

Configuring Windows Update Using Group Policy



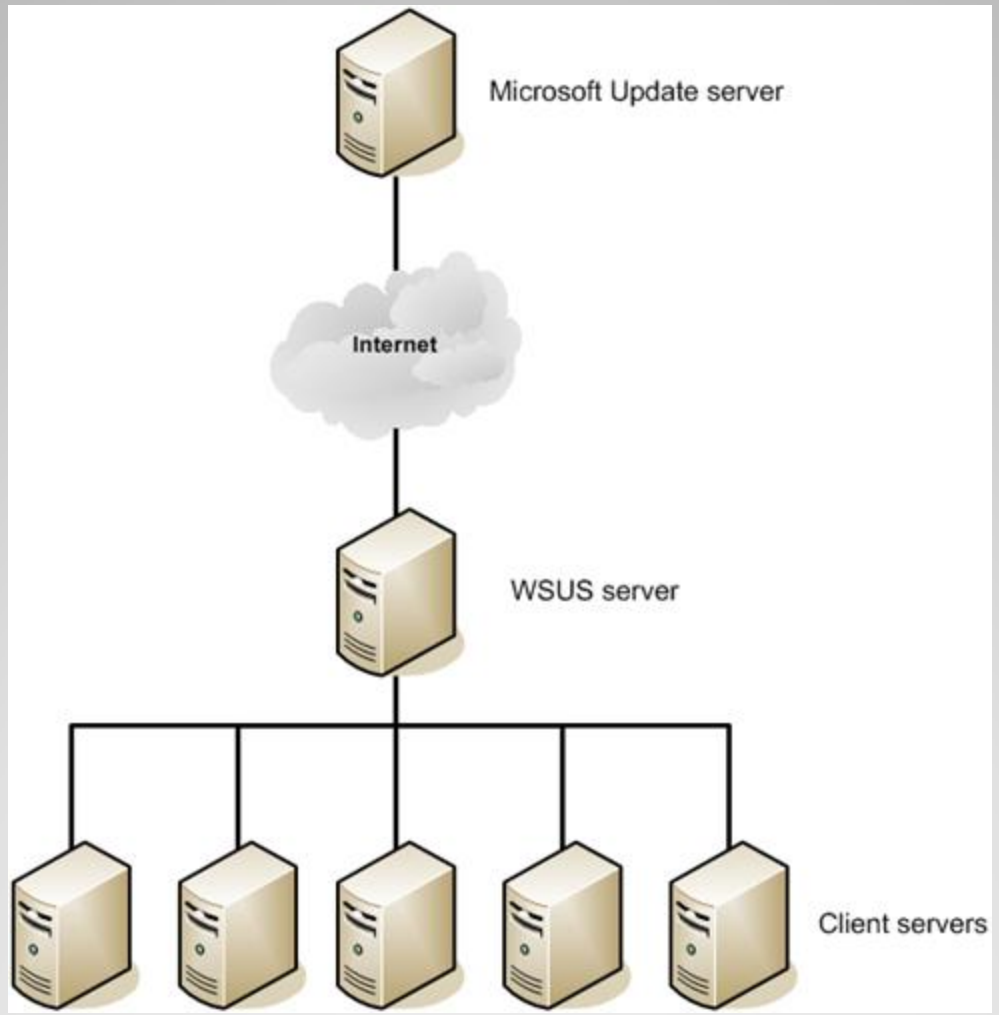
Triggering an Update



Using Windows Server Update Services

- Downloads updates from the Microsoft Update Web site
- Stores them for administrator evaluation
- Administrators select the updates to deploy
- Computers on the network download updates from WSUS server using a reconfigured Windows Update Client

Understanding WSUS Architecture



Deploying WSUS

- Must be installed on Windows Server 2008 R2
- WSUS software is a free download from Microsoft
- Web-based product, therefore the Web Server (IIS) role must be added to the server
- Requires a database – Windows Internal Database, or SQL Server for larger networks

Configuring WSUS Clients

- Cannot be done in Windows Update program
- Configured through Group Policy

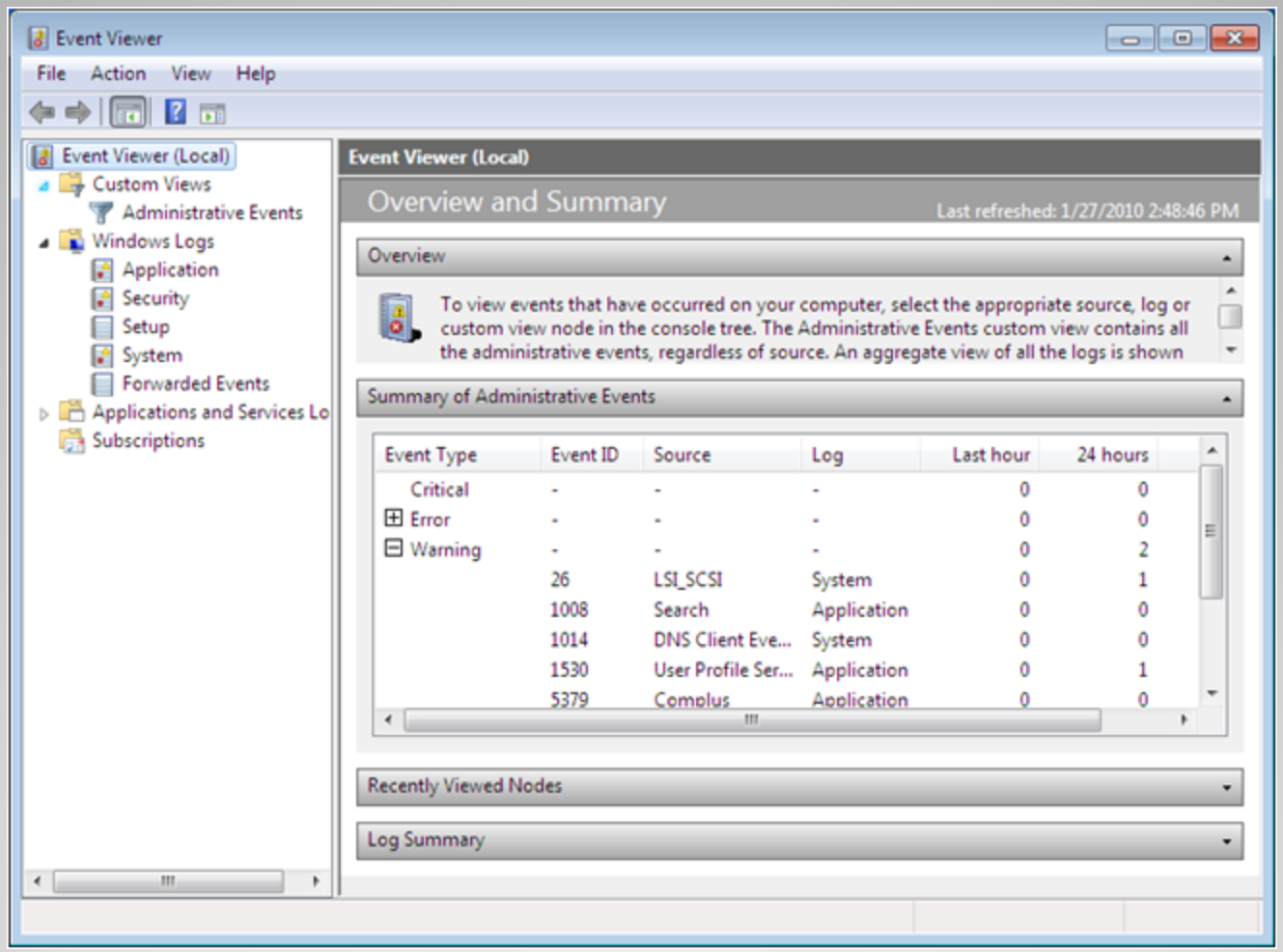
Monitoring Performance

- For a computer to perform well, all of its components must be efficient.
- Vista includes tools to enable you to locate poorly performing components (bottlenecks):
  - Event Viewer
  - Performance Information and Tools
  - Performance and Reliability Monitor

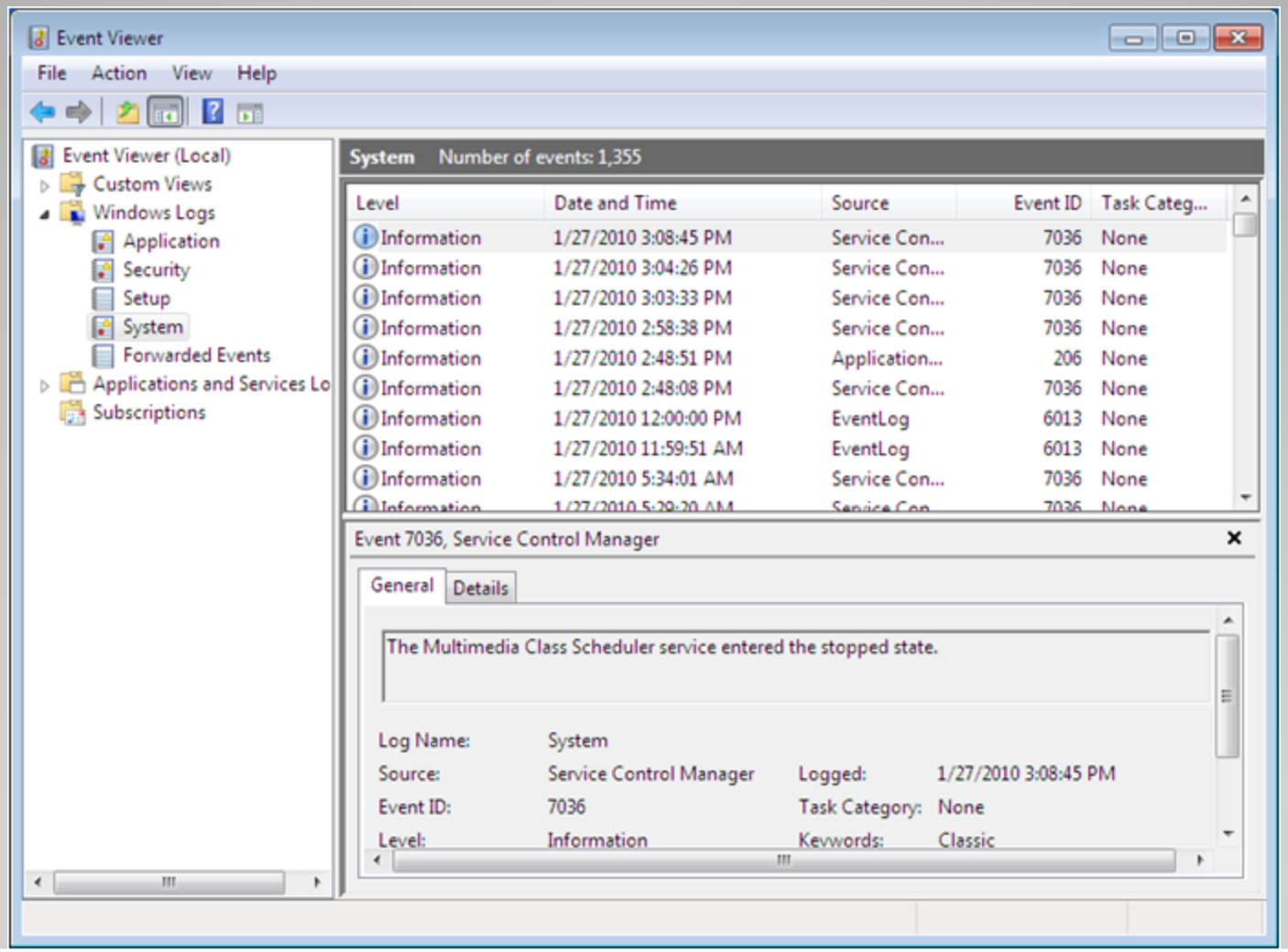
Using Event Viewer

- Primary function is to record information about system activities as they occur and package that information into individual units, called **events**.
- Event Viewer is the tool you use to view these events.
- Events are stored in log files:
  - System Log, Security Log, and Application Log
  - Setup Log and Forwarded Events

Using the Overview and Summary Display



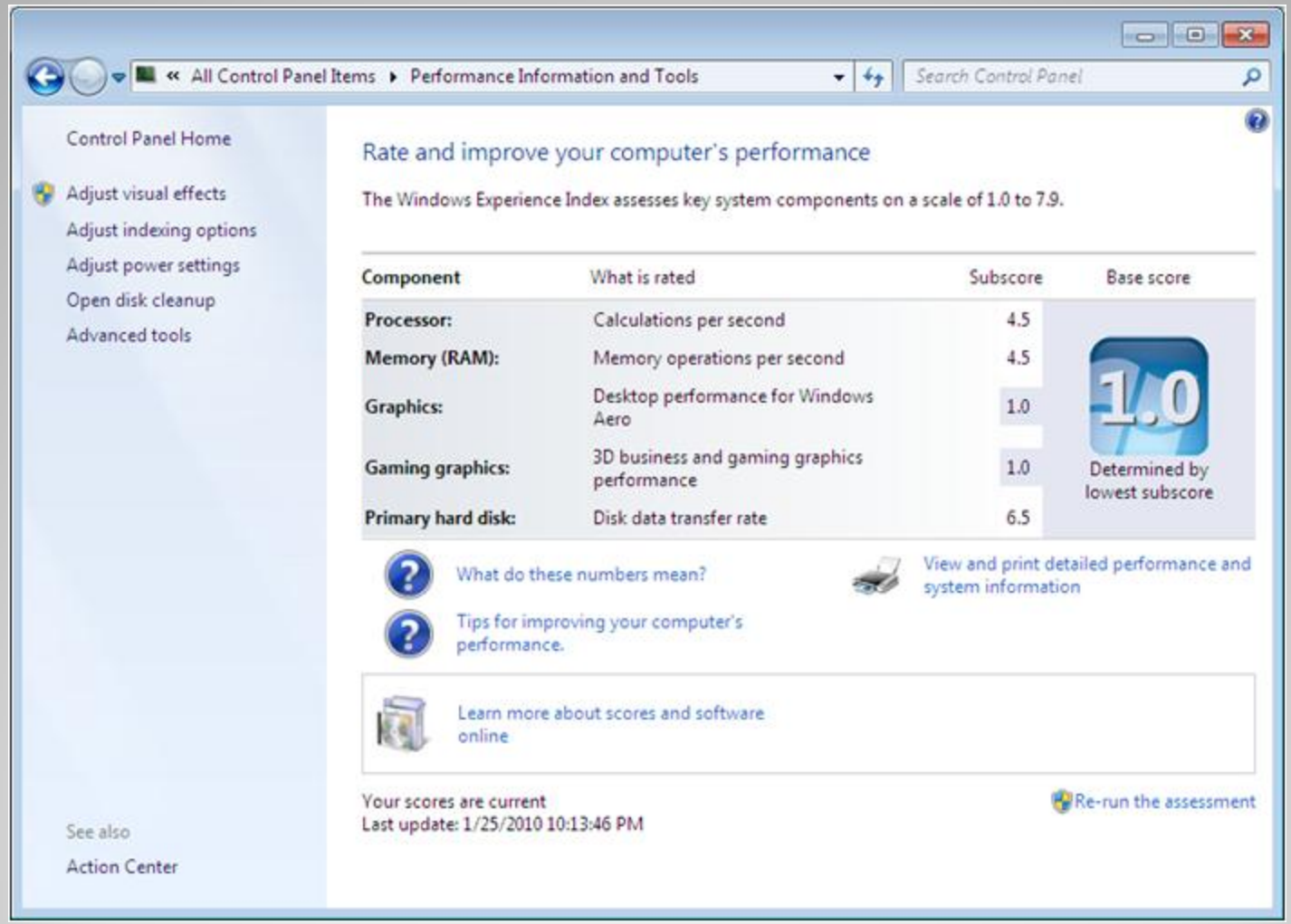
Viewing Windows Logs



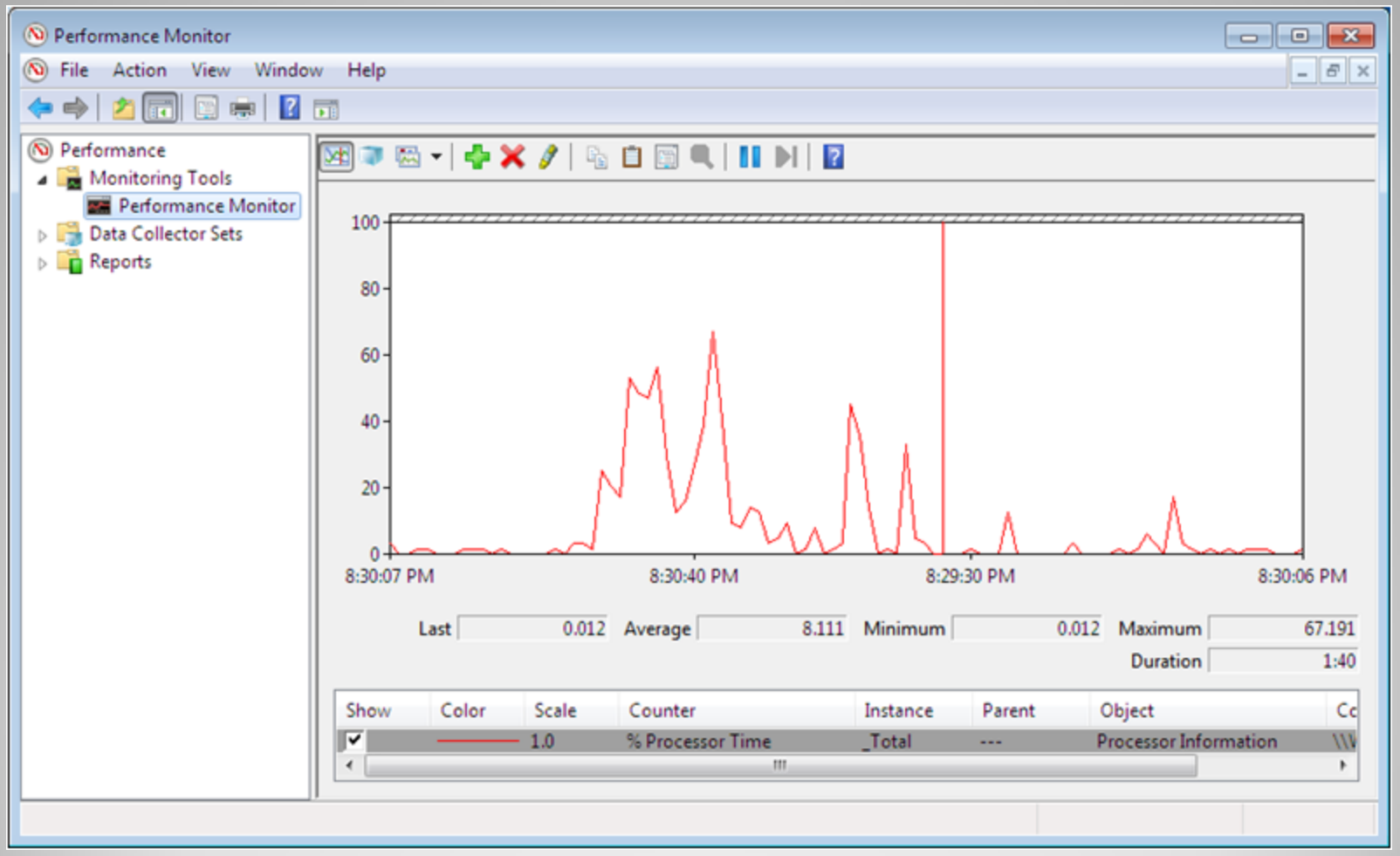
Performance Information and Tools

- Rates computer's components and assigns a base score reflecting the score of the lowest rated component on your system – The bottleneck.
- Hardware upgrades improve performance.
- Conserve system resources to enhance performance – *Tips for improving your computer's performance* link.

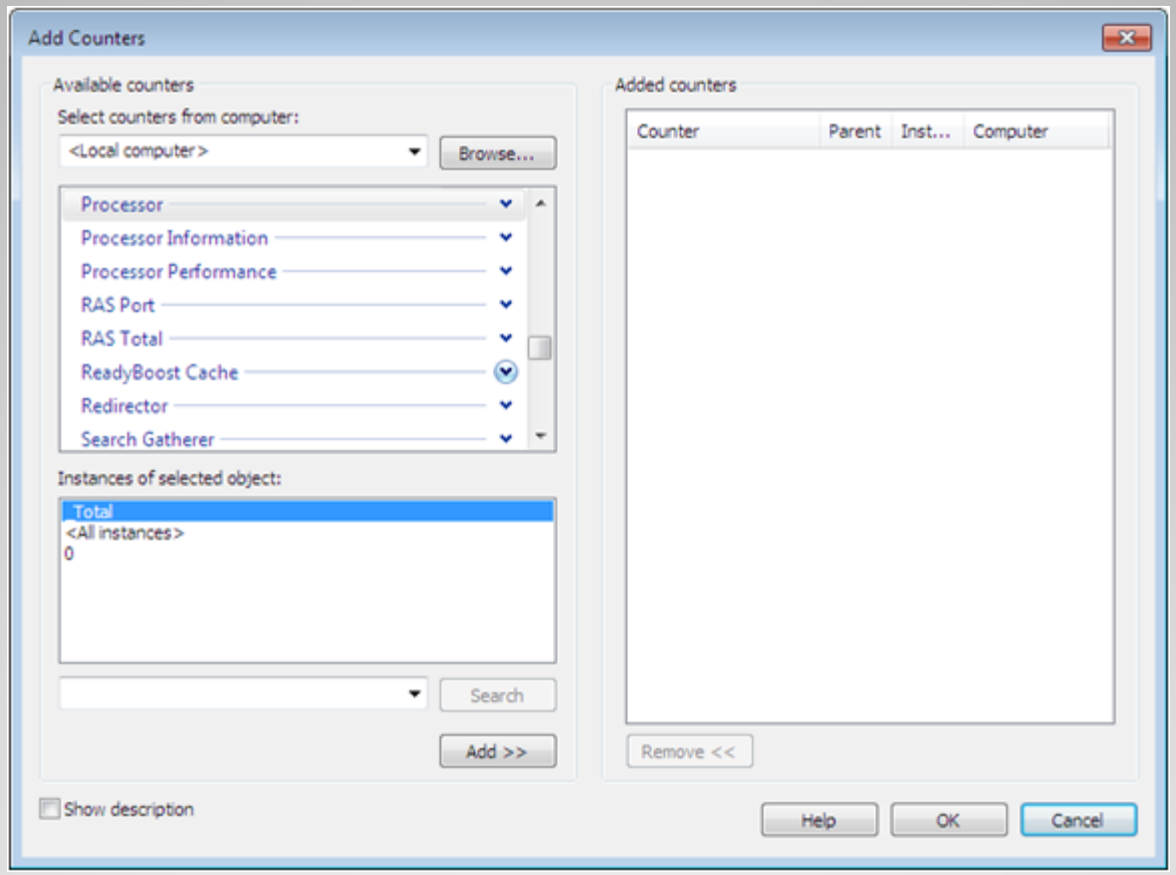
Performance Information and Tools



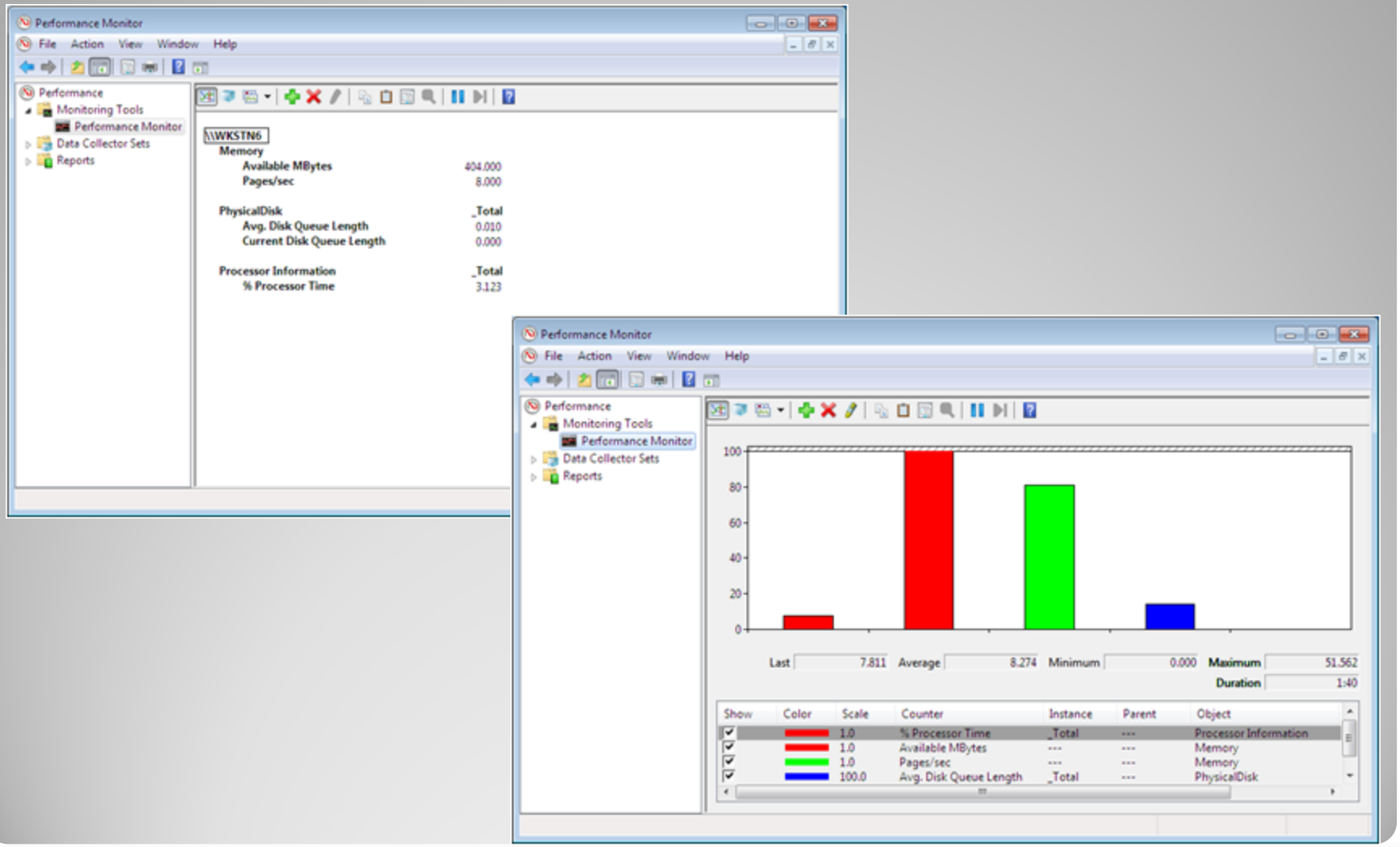
Using the Performance Monitor Console



Adding Counters



Using Other Views

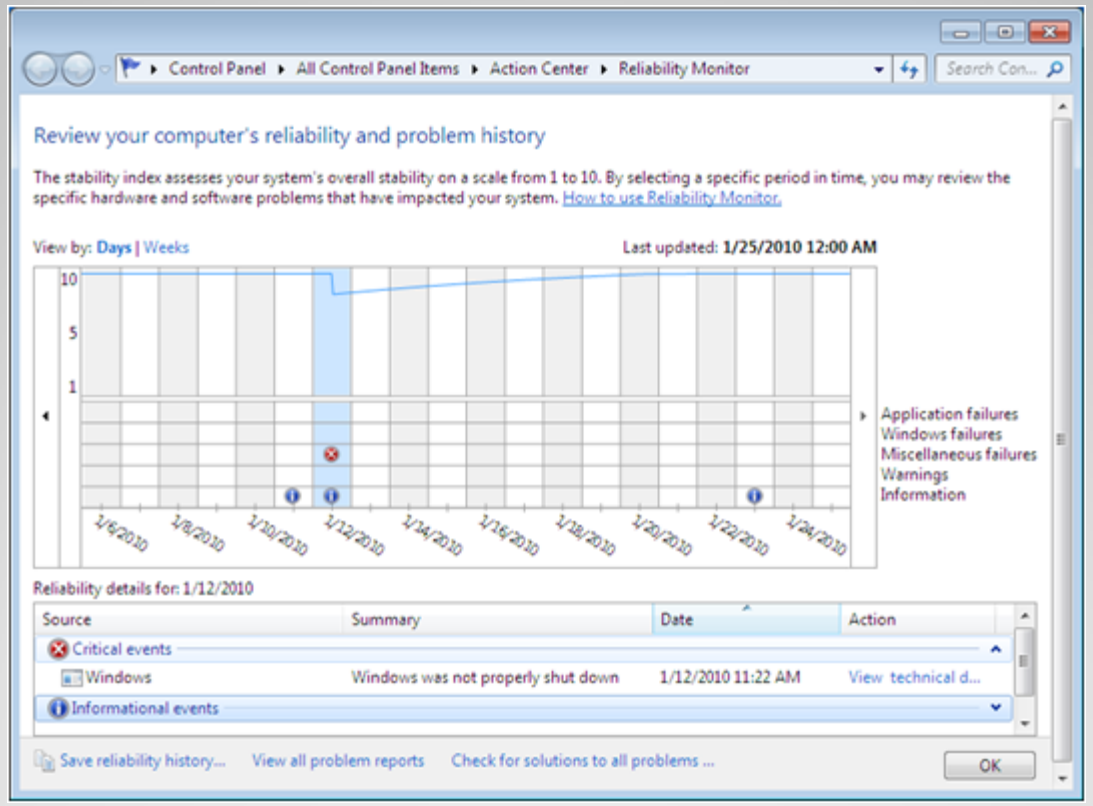


Creating an Effective Display

- Limit the number of counters
- Modify the counter display properties
- Choose counters with comparable values

Using Reliability Monitor

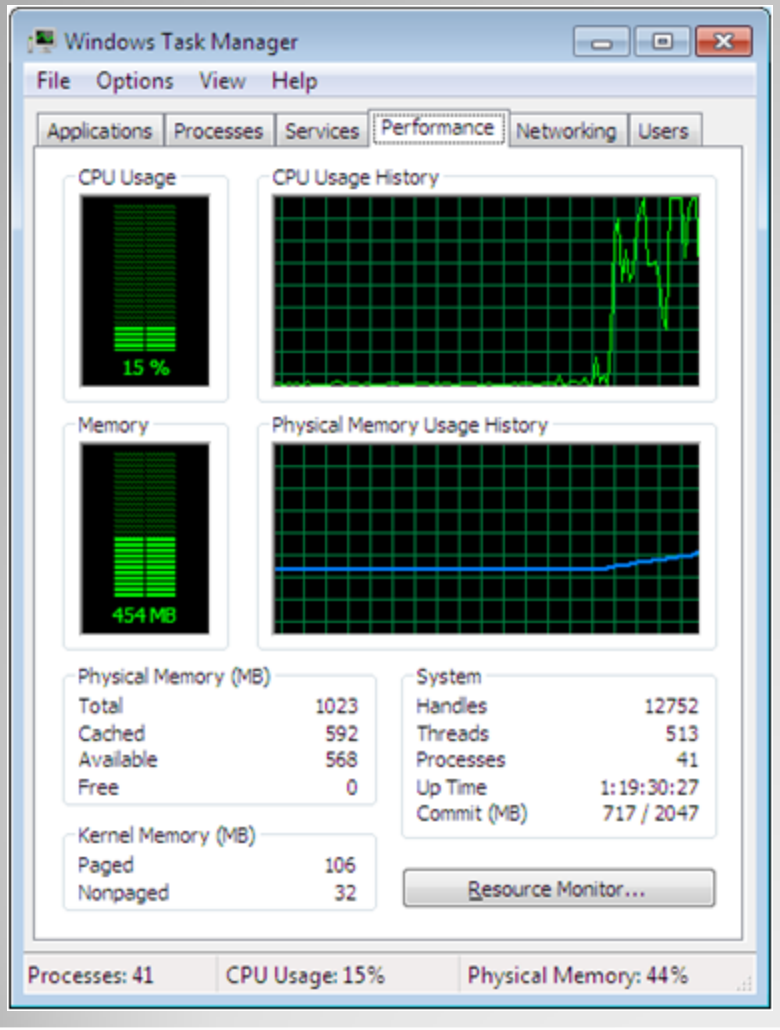
Collects and tracks information about system stability to calculate a stability index

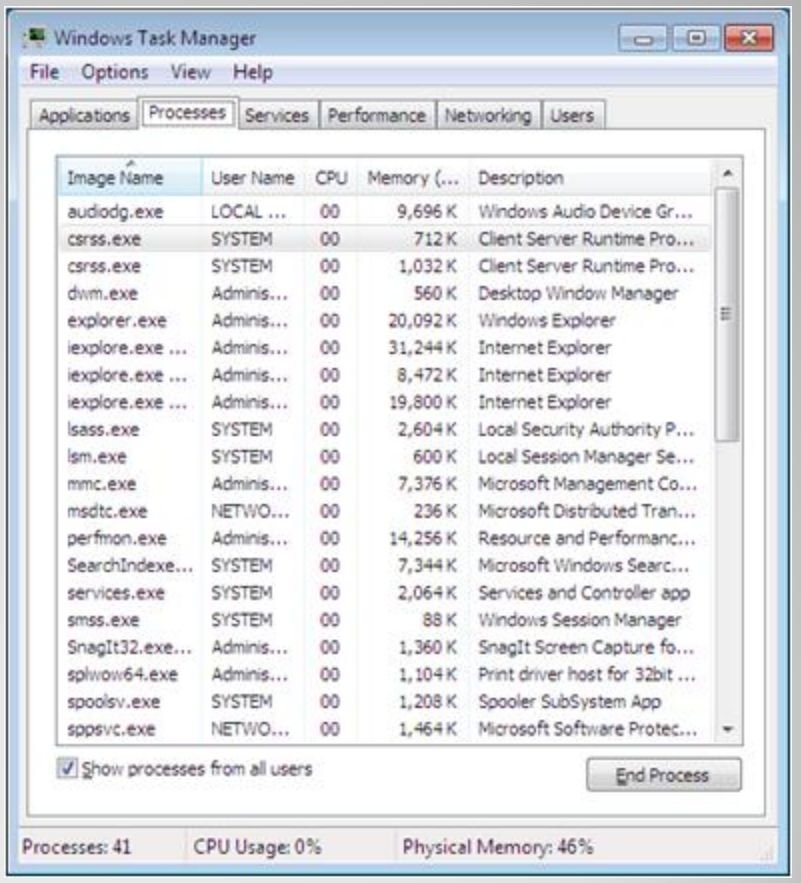


Managing Performance

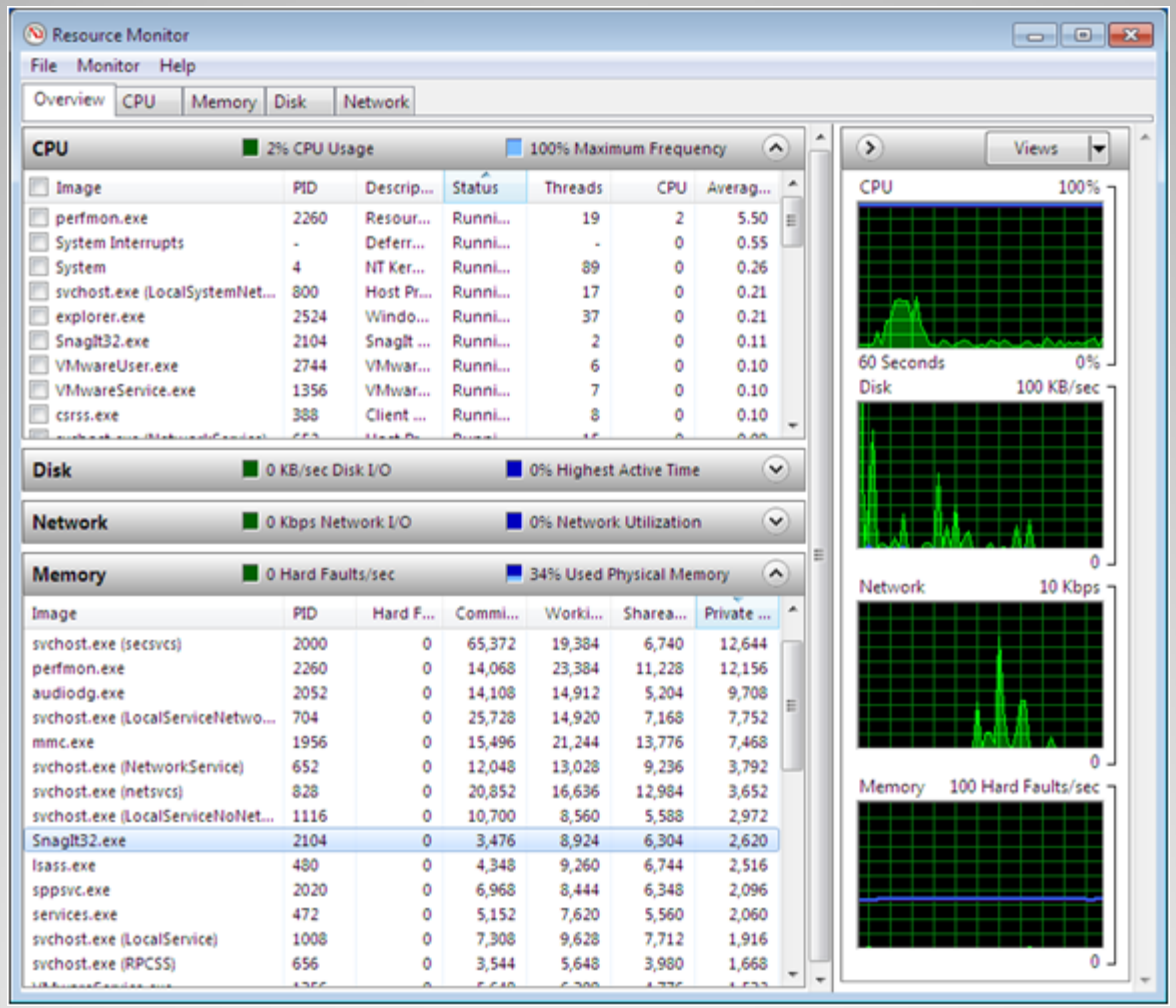
- Windows 7 includes a variety of controls and technologies that enable technical specialists to enhance and fine-tune the performance of their workstation:
  - Task Manager
  - Resource Monitor
  - Process Manager
  - System Configuration tool

Task Manager

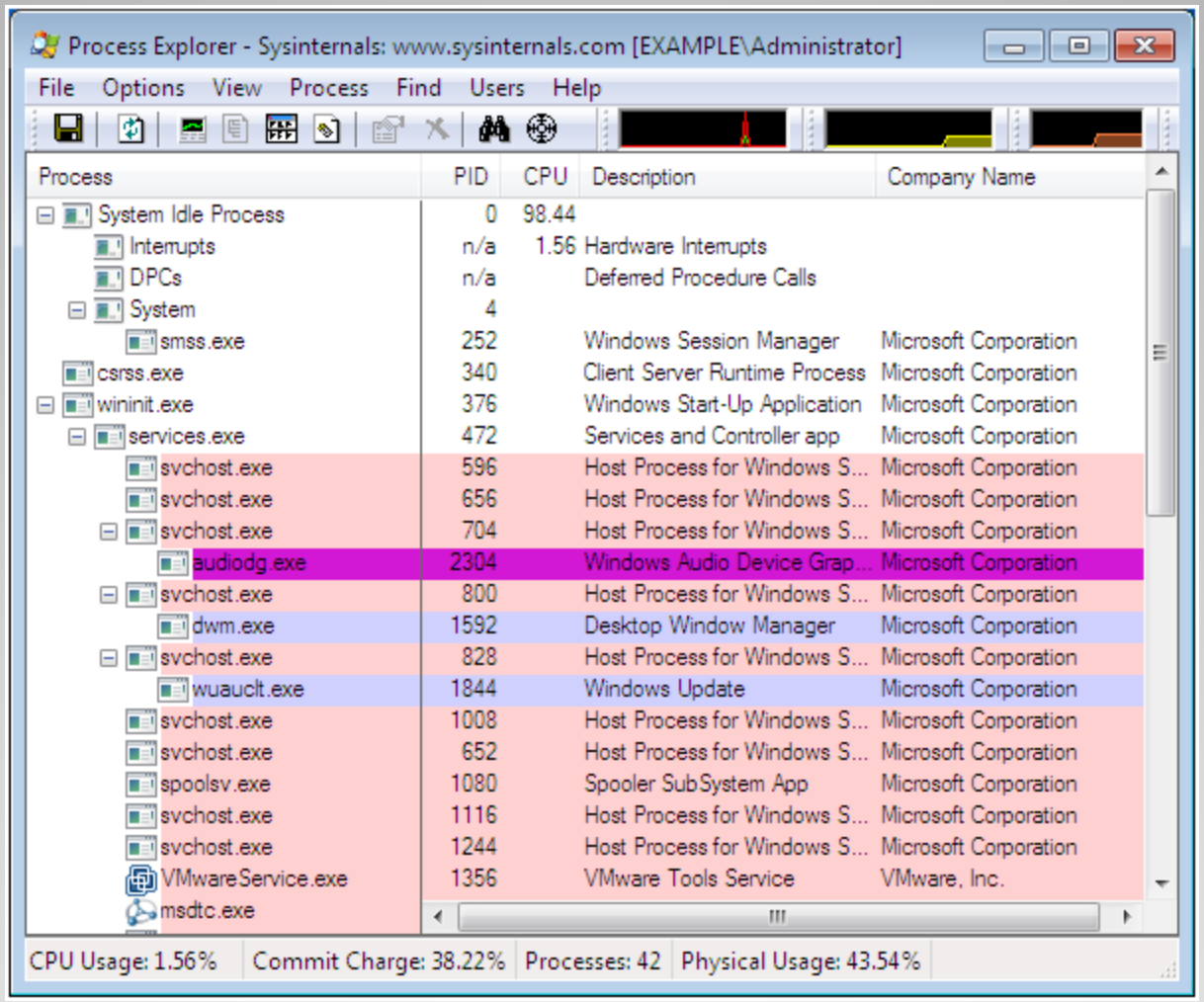




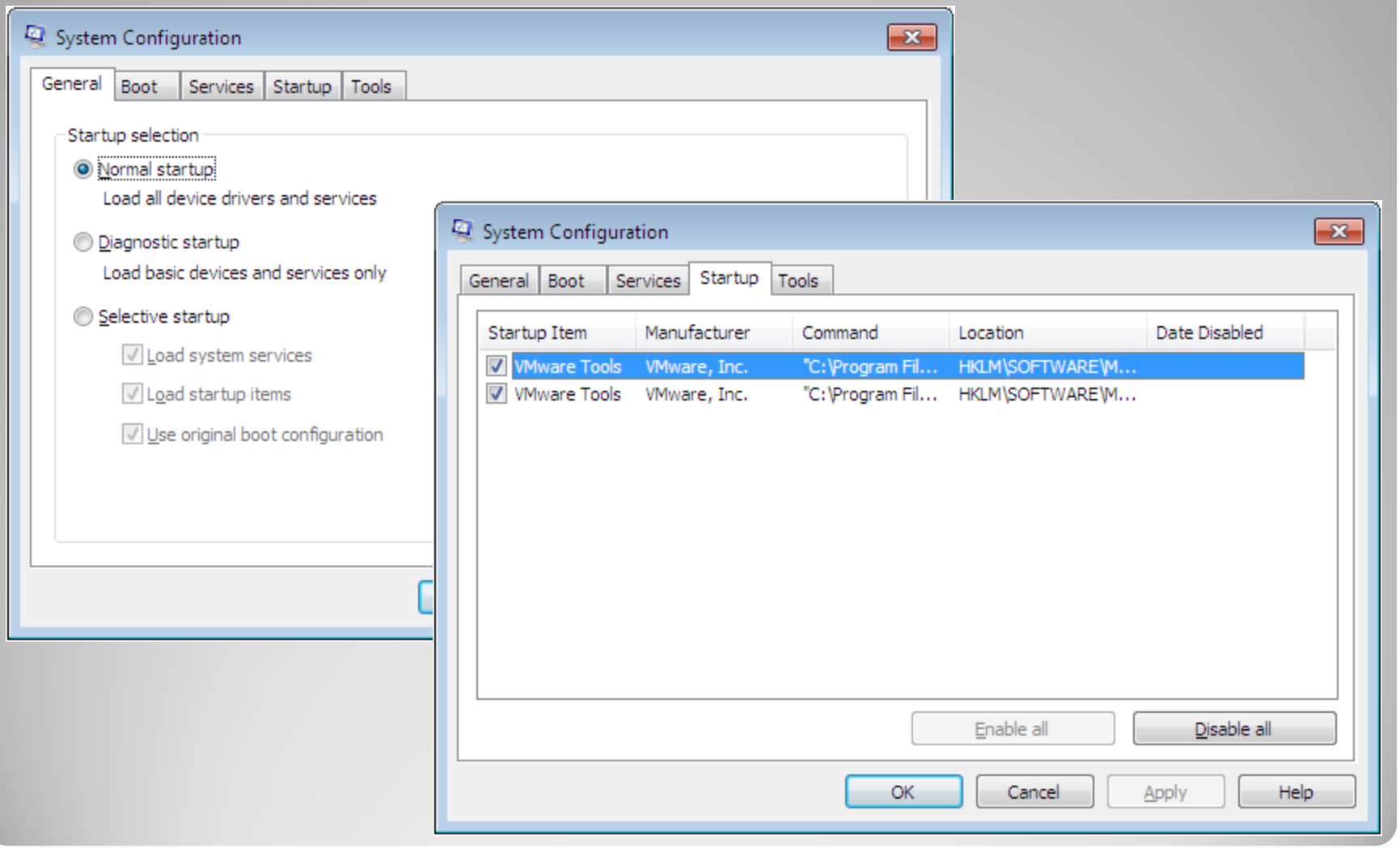
Resource Monitor



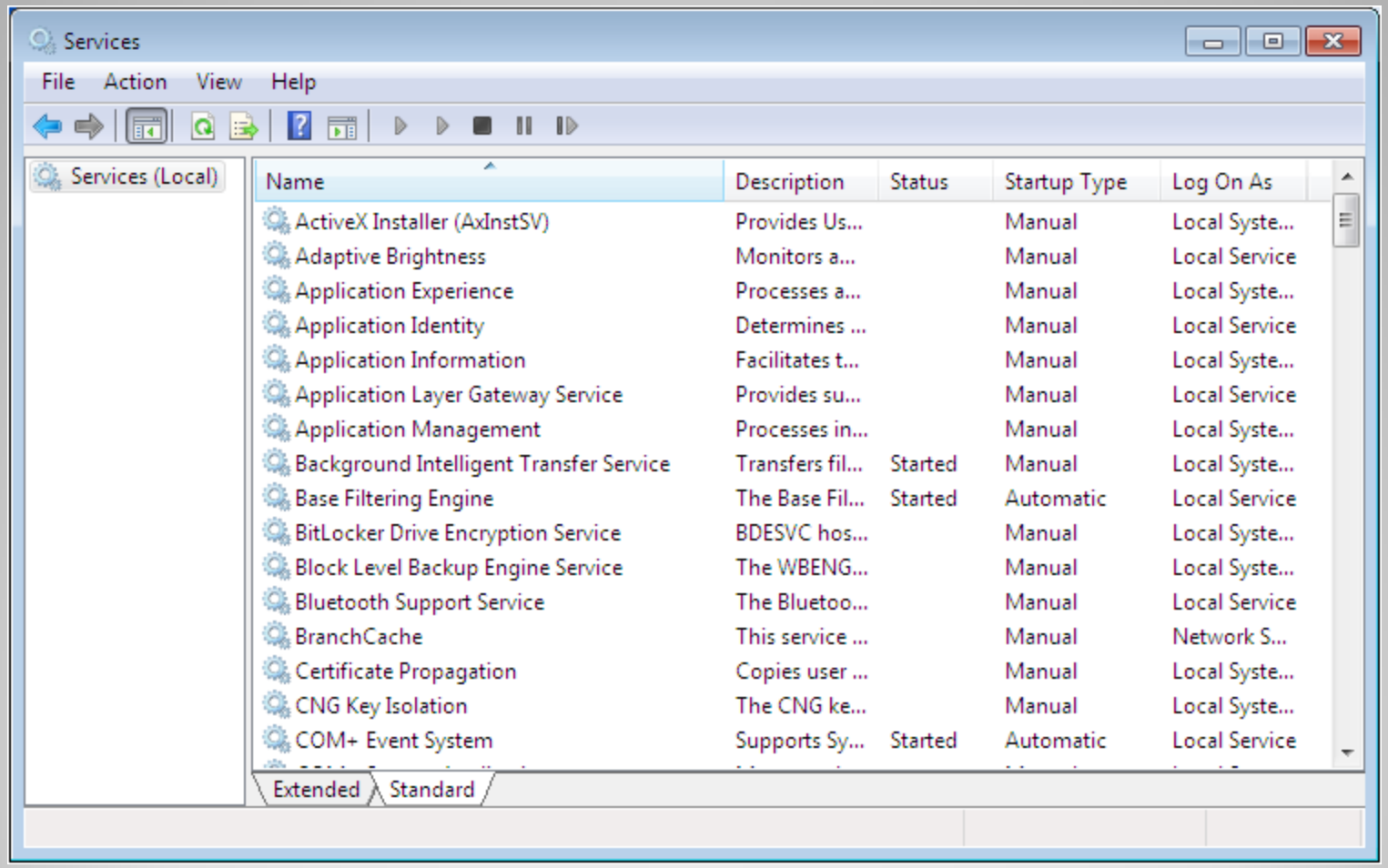
Using Process Explorer



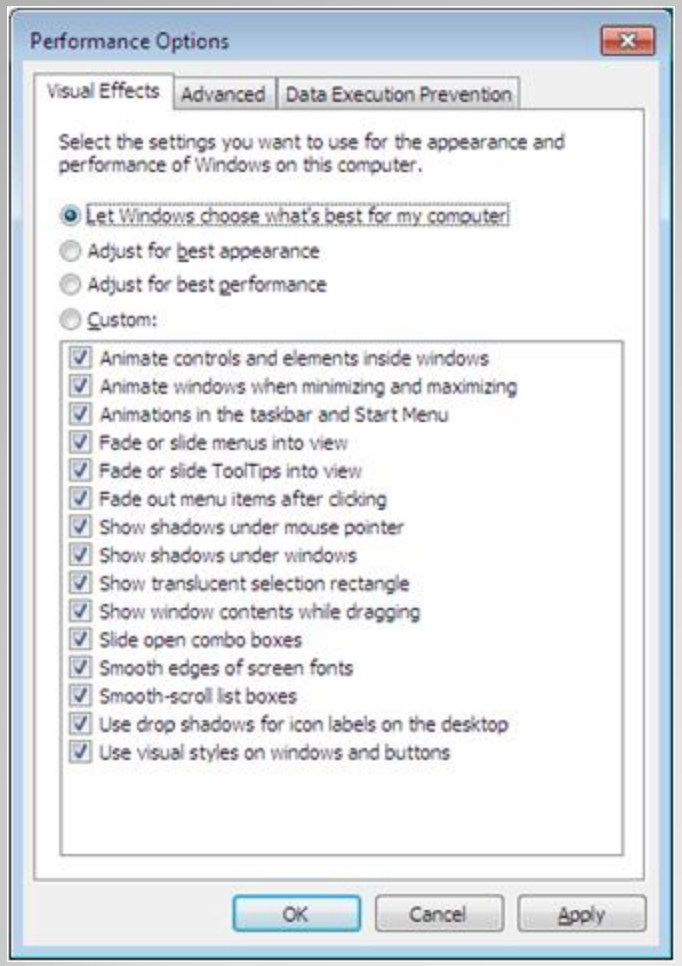
Using the System Configuration Tool

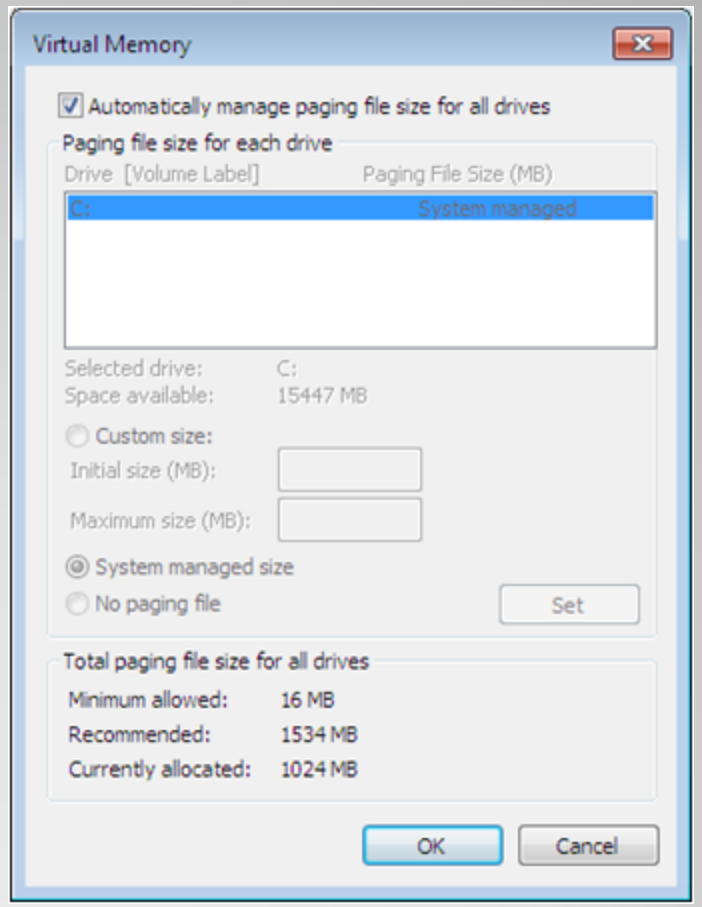


Managing Services

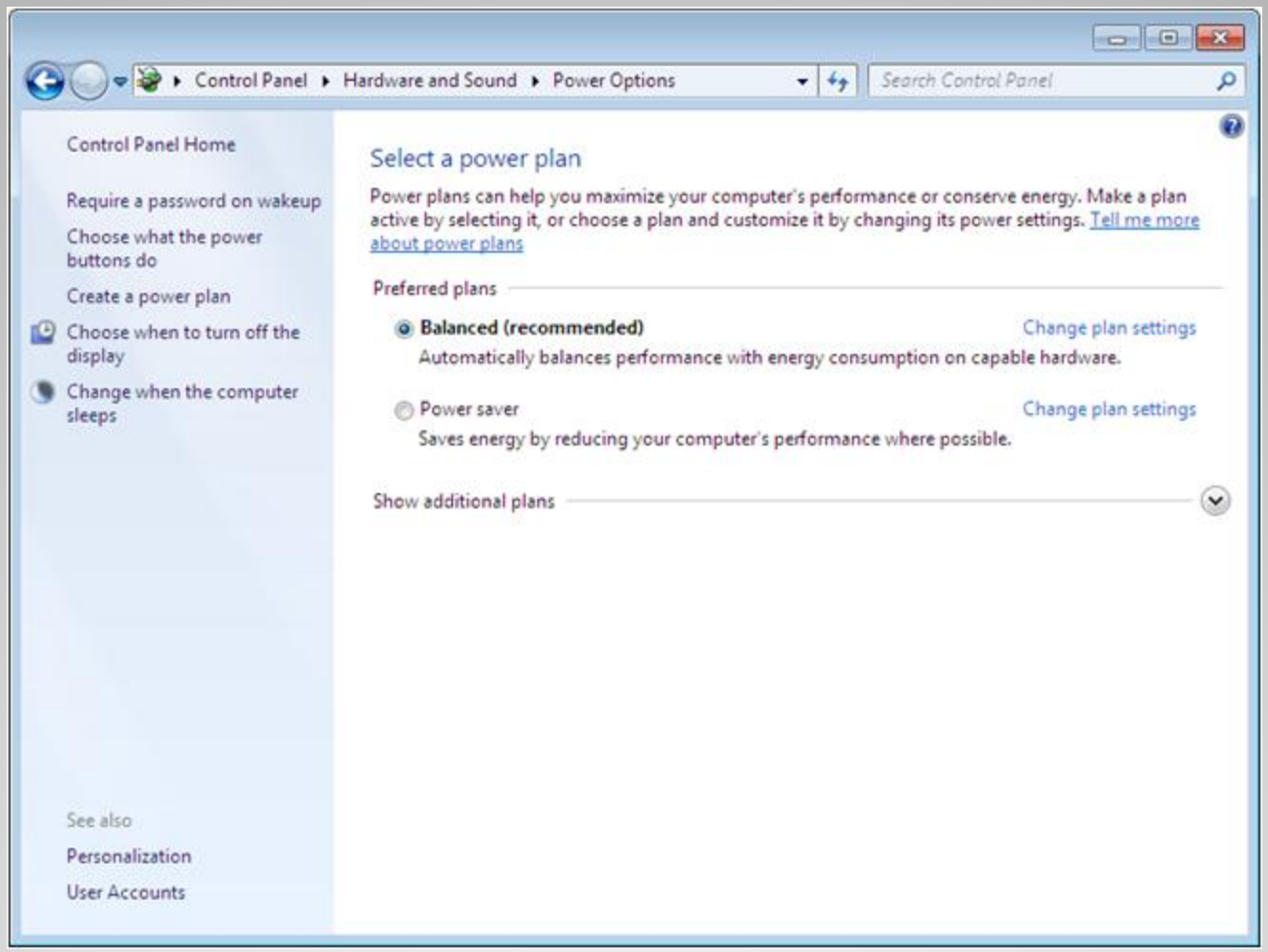


Configuring Performance Option Settings





Configuring Power Settings



Configuring Hard Disk Caching

- Trade off between safety and performance
- Write caching is when the device stores data in temporary memory until the slower devices can catch up – Disk writing can happen in the background while a user continues to work
- Clearing the *Enable write caching* on the device increases safety but reduces disk performance

Using ReadyBoost

- Enables you to use the storage space on a USB flash drive to free up system memory for other uses

Skills Summary

- Keeping Windows 7 systems updated is one of the primary tasks of the technical specialist, who should be familiar with the types of update releases and the methods for deploying updates.
- Event Viewer is used to display log information gathered by the operating system.
- Performance Information and Tools page provides a snapshot of your computer's performance.
- Performance Monitor console enables you to view much of the same information, but on a continuous, real-time basis.

Skills Summary (cont.)

- The Resource Monitor program contains four real-time line graphs that display information about four of the main system hardware components.
- Reliability Monitor calculates a stability index.
- Windows 7 provides a variety of tools for monitoring and managing processes.
- ReadyBoost enables Windows 7 to use the storage space on USB devices to free up system memory.