**Windows Server 2008 R2 Outline**

Looking through the window to the future…6 years ago

Background

* Windows Server 2008 R2 released in late 2008 (July 22 2009)
* Shares the same kernel as Windows 7
  + Many of the same tips, tricks and tools that work in Windows 7 will work in 2008 R2
* There are 7 different editions of 2008 R2
  + Foundation
  + Standard
  + Enterprise
  + Datacenter
  + Web
  + HPC Server
  + Itanium
* The two most used editions are Standard and Enterprise
* The differences between the two revolve around Active Directory, file services, and how many active simultaneous remote desktop connections that can be active.

Adding Roles and Features

* On a Windows Server there are Roles and Features.
  + A role is a primary duty of a server (e.g. a web server).
  + A feature is a supporting function that helps the server perform its job (e.g. backups).
* Both Roles and Features can be installed and managed from Snap-ins the Server Management Console.
* Many Roles and Features can also be managed from specific Snap-ins in the Administrative Tools menu when you press start.

Monitoring System Resources

* Ctrl+Shift+Esc or Ctrl+Alt+Delete then choose Task Manager.
* Task Manager gives you basic information about how the system is running, including processor and memory usage, uptime, and network usage.
* Resource Monitor can be accessed on the performance tab of the Task Manager.
* The Resource Monitor is like the Task Manager on steroids.
* The Performance Monitor allows you to get specific data about the system. It also allows you to define custom criteria to capture and custom reports.
* The Performance Monitor can be accessed by going to the Diagnostics Snap-in > Performance > Monitoring Tools > Performance Monitor in the Server Manager.
* The Performance Monitor is a really powerful diagnostics tool and is really useful in comparing two data types (e.g. disk use vs. processor time)

Troubleshooting

* Can you ping to the server and from the server.
* Check the Firewall (Start > Administrative Tools > Windows Firewall).
  + Check to make sure that the incoming ports are open.
  + Make sure that the application/port isn’t blocked from accessing where you need to go.
  + If all else fails turn the firewall off, just make sure to turn it back on after
* Check the network adapter settings.
  + Is the IP set correctly.
* Event Viewer
  + Disk Errors (7 Bad block error, 11 Controller error, 51 Generic error, 52 imminent failure warning).
  + Shutdown errors (6006 Graceful shutdown, 6008 System failure, 6005 resumption of event log), these can be indicative of problems in the host system.
* Make sure the Services are running.
  + Start > Administrative Tools > Services
  + Scroll through and make sure that the service you are trying to access is operating.
  + If a services is giving you problems try to restart it.

Active Directory

* Active Directory (AD) is a directory service developed by Microsoft to control access to Microsoft domains (networks).
* AD controls permissions to files and folders, as well as, allows for easy administration over groups of people with similar jobs.
  + AD also allows administrators to control permissions for objects in the environment.

Dealing with file and folders

* Navigation
  + Accessing network drives
  + Sharing local drives on the network
  + Mount network drives
* Permissions
  + File and folder permissions
  + Shared network file and folder permissions

Dealing with permissions

* User permissions
  + Individuals can be assigned permissions to files, folders, and objects.
* Group permissions
  + Groups can be assigned permissions to files, folders, and objects.
* Deny permissions will generally take precedence, so if a user is a member of two groups, one with read access and one without the user won’t have access.
* Permissions are cumulative, so if a user is a member of a group that has read permissions and one that has write permissions the user will have both read and write permissions.