

Microsoft® Official Course



Module1

Installing and Configuring Windows Server

Microsoft®

Module Overview

- Windows Server Architecture
- Installing Windows Server
- Configuring Services
- Configuring Devices and Device Drivers

Lesson 1: Windows Server Architecture

- What Is a Server?
- Windows Server Components
- Windows Server Bus Technologies
- Windows Server Software Architecture

What Is a Server?

- A server is a computer that provides shared resources
- A client performs tasks for an end user
- Operating systems control the allocation and usage of hardware resources and are the foundation on which programs and applications are built



Server

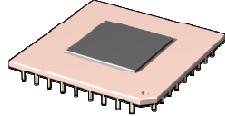

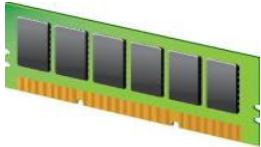
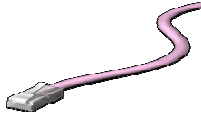
Files, printers, email, web services, databases



Client

Windows Server Components

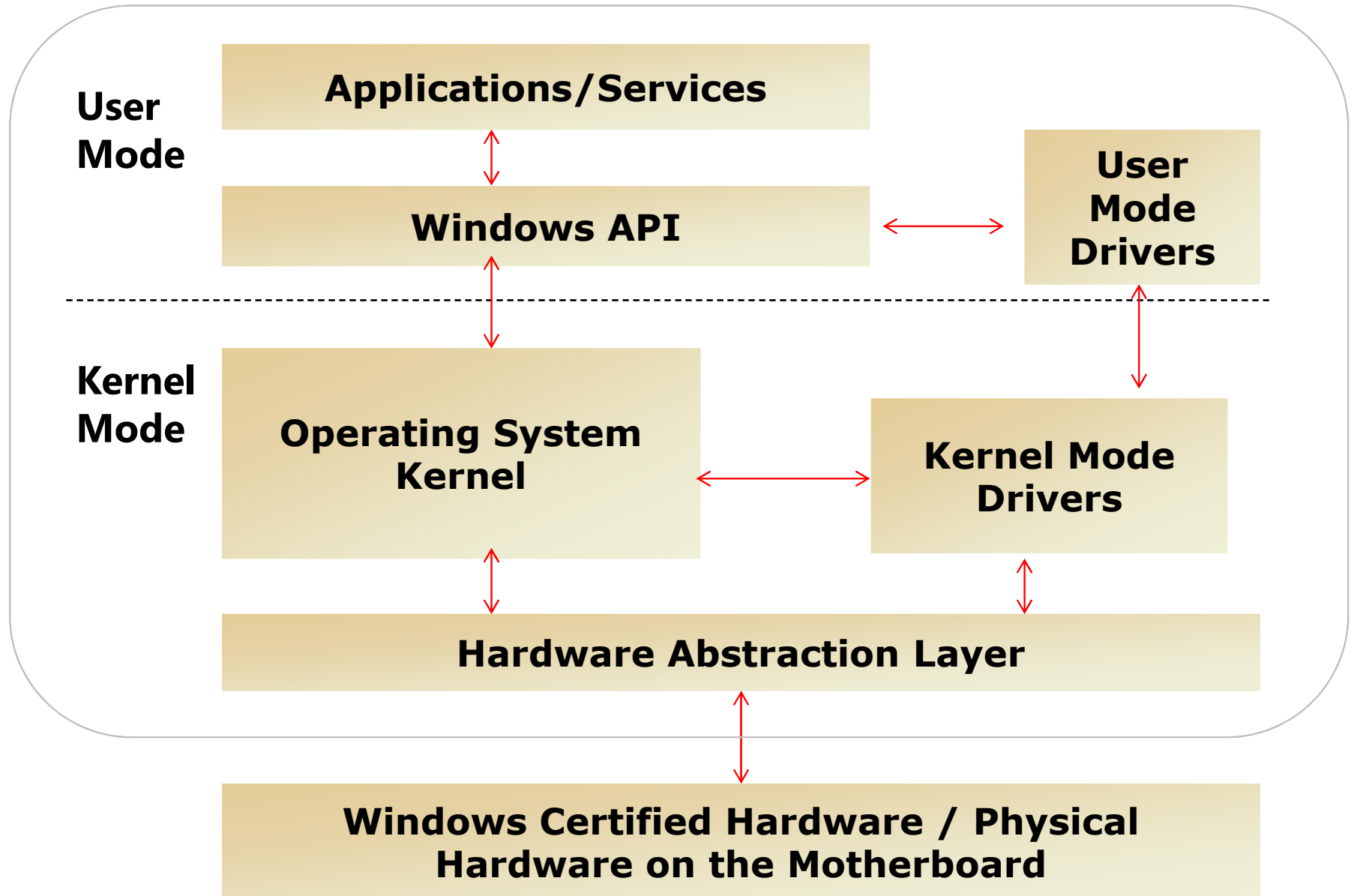
- Servers consist of multiple components that enable the computer to function

 <p>Processor</p>	<ul style="list-style-type: none">• Computational and control unit• 32-bit or 64-bit• Can have multiple cores
 <p>Disk</p>	<ul style="list-style-type: none">• Can be HDD or SSD• Use fast disks• Disk arrays can help improve throughput• Memory for disk caching
 <p>Memory</p>	<ul style="list-style-type: none">• Avoid excessive paging• Optimize disk cache• Implement 64-bit processors and operating systems to accomodate greater memory addressing
 <p>Network</p>	<ul style="list-style-type: none">• Do not underestimate the effects of poor performance• Optimize network components

Windows Server Bus Technologies

- Serial bus: data is packaged and sent sequentially over a single channel
 - Examples: SATA, serial-attached SCSI, USB, and FireWire
- Parallel bus: data packaged and sent simultaneously via multiple channels
 - Examples: PATA, SCSI , and EISA
- Internal bus types: Address, Control and Data

Windows Server Software Architecture



Lesson 2: Installing Windows Server

- Windows Server 2012 Editions
- Installation Methods
- Selecting an Installation Type
- What Is Server Core
- Demonstration: What Is Server Core
- Installing Windows Server
- Post-Installation Configuration
- Demonstration: How to Configure a Server After Installation
- Automating Deployment with Windows Deployment Services

Windows Server 2012 Editions

- Windows Server 2012 Standard Edition
 - Windows Server 2012 Datacenter Edition
 - Windows Server 2012 Foundation Edition
 - Windows Server 2012 Essentials Edition
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- Also function-specific editions available such as:
 - Microsoft Hyper-V Server 2012
 - Windows Storage Server 2012

Installation Methods

- Installation methods are determined by a combination of media type and file access method available
- Installation Methods:
 - Local media
 - Network share
 - Automated deployment
- Each media type has different considerations

Selecting an Installation Type

- Installation types are chosen depending on the current state of the server where Windows Server is being installed

- Installation Types:

- New Install



- Upgrade



- Migration



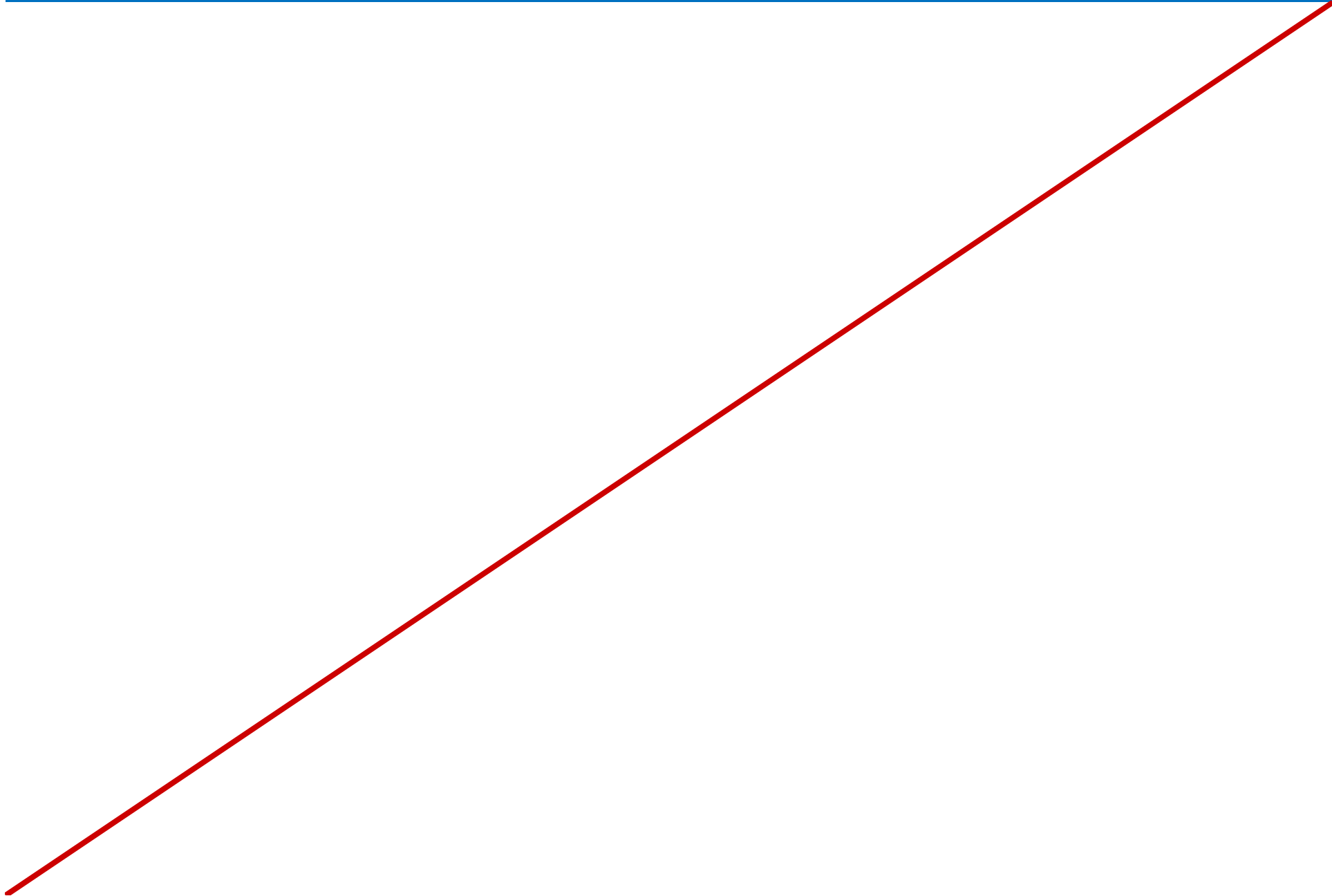
What Is Server Core

- Server Core is a minimal GUI installation option
- A Server Core installation benefits:
 - Reduced Servicing Overhead
 - Reduced Administrative Overhead
 - Reduced Resource Overhead
 - Reduced Attack Surface

Demonstration: What Is Server Core

- In this demonstration, you will be introduced to the Server Core interface, and shown how to interact and configure it
- This will help:
 - Get familiar with Server Core and understand how to interact with it

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Installing Windows Server

To install Windows Server 2012, follow these basic steps:

1. Confirm server hardware meets minimum requirements
2. Connect to the installation source and run **setup.exe**
3. Confirm regional and language settings
4. Choose **Install** or **Repair**
5. Choose an edition to install
6. Read and accept the license agreement
7. Choose the installation type (**Upgrade** or **Custom**)
8. Choose the installation location
9. Wait for the installation files to install
10. Provide the administrator password

Post-Installation Configuration

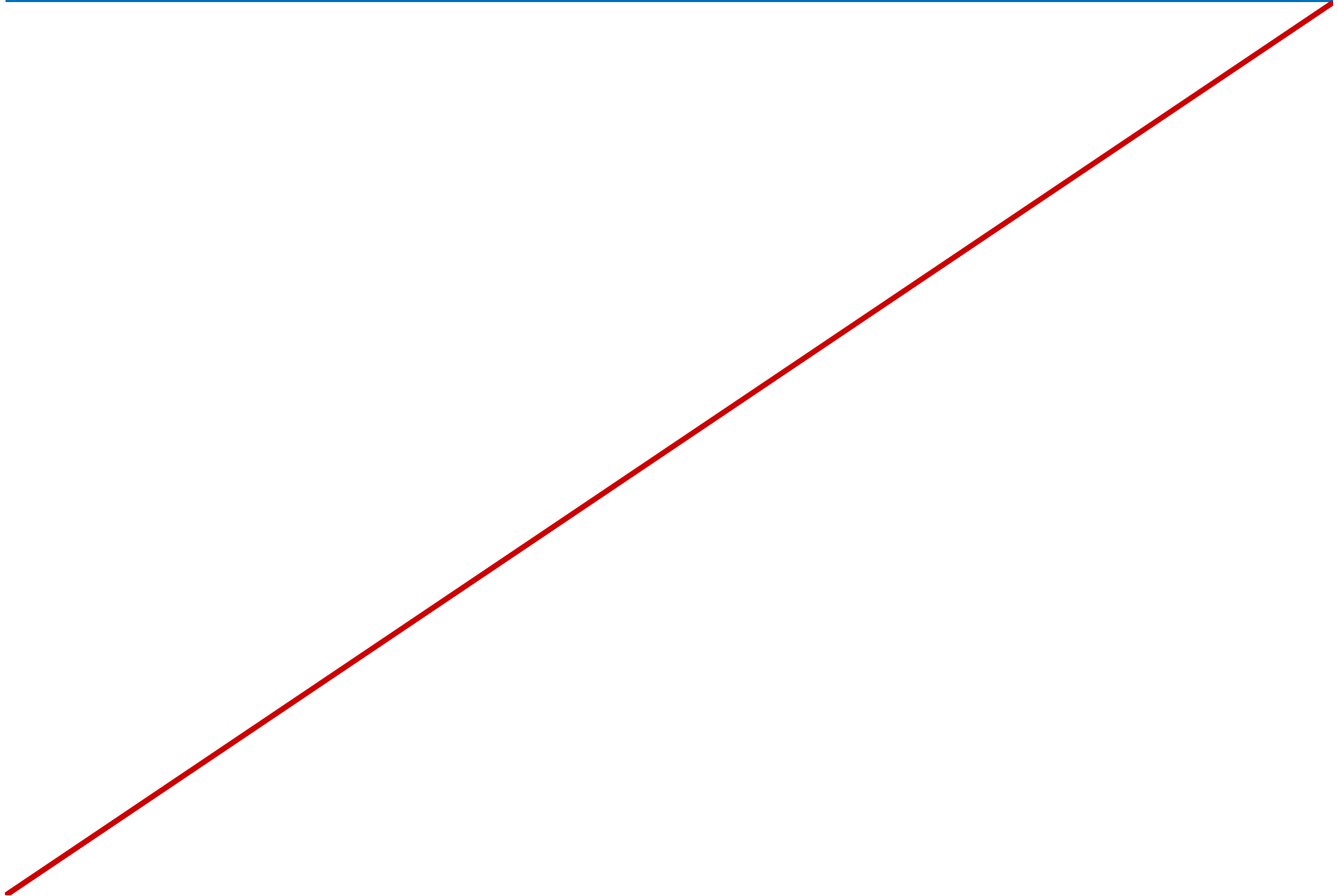
Local Server Manager contains the most common post-installation configuration activities, including:

- Activate Windows
- Set time zone
- Configure networking, computer name, and domain
- Configure automatic updates
- Add server roles and features
- Enable Remote Desktop
- Configure Windows Firewall

Demonstration: How to Configure a Server After Installation

- In this demonstration, you will see how to use Server Manager to configure post-installation settings

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Automating Deployment with Windows Deployment Services

Basic steps for deploying Windows Server 2012 using Windows Deployment Services:

1. Build image file(s)
2. Build unattended answer file(s)
3. Create a deployment transmission
4. Initiate installation from client

Lesson 3: Configuring Services

- What Is a Service?
- Demonstration: How to Configure Service Startup
- Troubleshooting Services

What Is a Service?

- A Service is a long running executable that performs a specific function that is designed to require no user intervention
- Service examples:
 - Print Spooler
 - Task Scheduler
- Service startup types:
 - Automatic
 - Automatic (Delayed)
 - Manual
 - Disabled

Demonstration: How to Configure Service Startup

- In this demonstration, you will see how to view and configure service startup by using the Service applet within Server Manager

Troubleshooting Services

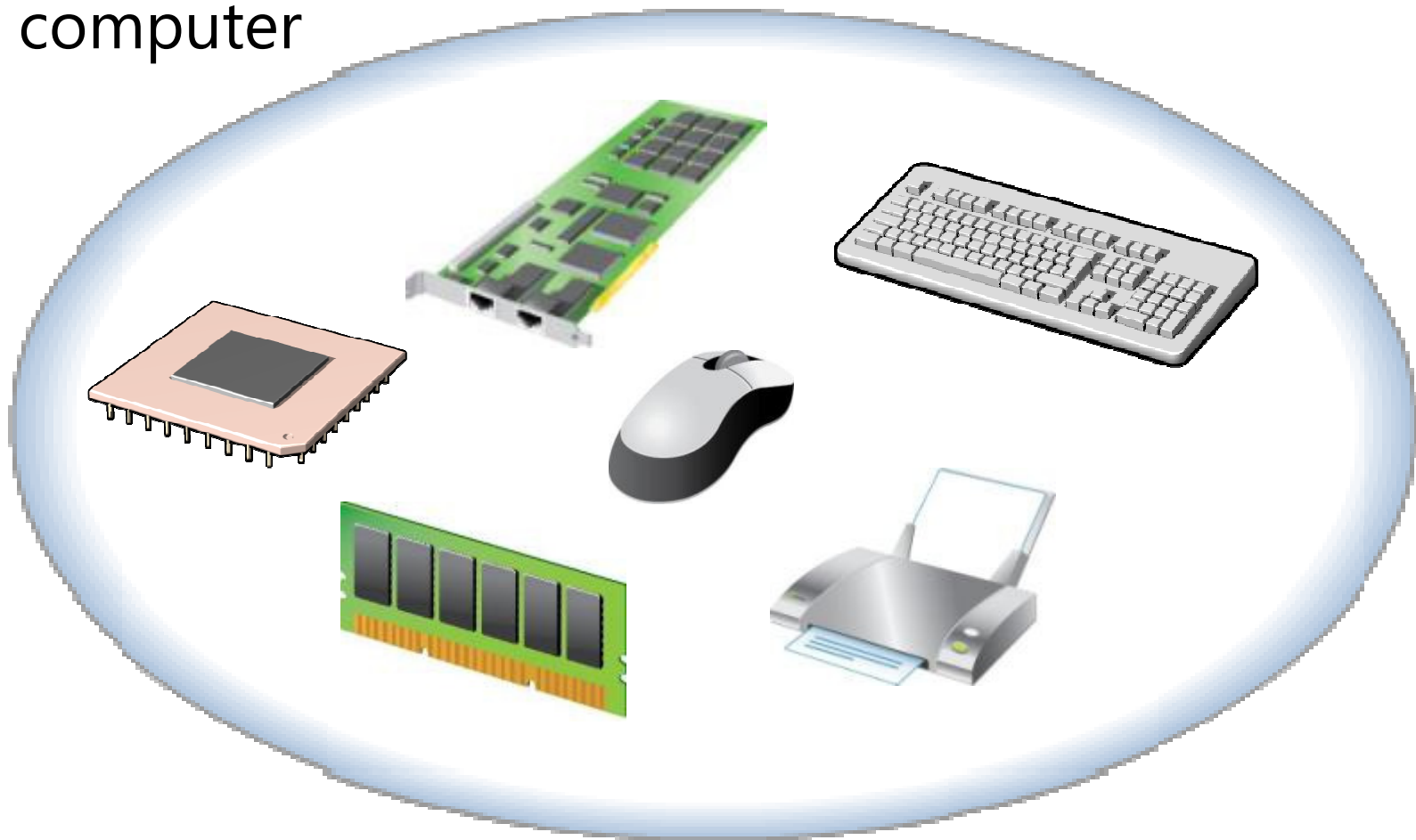
- Common causes of service failure:
 - Service account restrictions
 - Service dependencies
 - Corrupt or missing files
- Service startup troubleshooting tools:
 - Safe Mode
 - Last Known Good Configuration
 - Microsoft System Configuration Utility (MSConfig.exe)

Lesson 4: Configuring Devices and Device Drivers

- What Is a Device?
- Hardware Settings for Devices
- What Is a Device Driver?
- Driver Signing
- Demonstration: How to Update a Device Driver
- Demonstration: How to Roll Back a Driver

What Is a Device?

- A device is a hardware component that performs a specific function and is installed in or attached to a computer

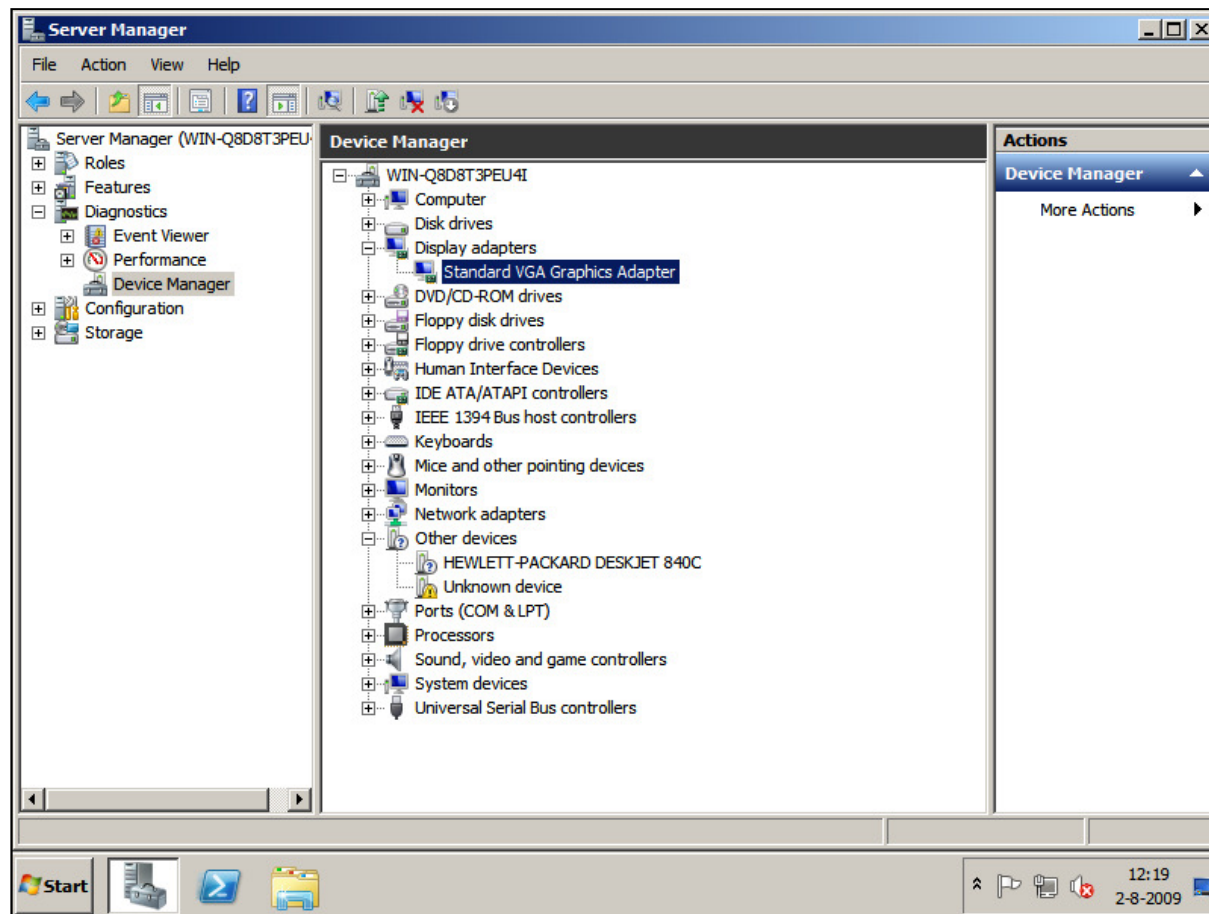


Hardware Settings for Devices

- Plug and Play–enabled devices allow for automatic configuration of device settings
- Hardware settings include:
 - DMA channel
 - IRQ line
 - I/O range
 - Memory range
- Devices require specific settings to enable proper communication and interoperability within the computer

What Is a Device Driver?

- A device driver is a small software program that allows the computer to communicate with a specific device



Driver Signing

- A signed driver contains a digital signature indicating the publisher of the driver and whether or not the driver has been altered since being published
- Driver signing provides:
 - Improved security
 - Reduced support costs
 - Better user experience
- All staged drivers in Windows Server must be digitally signed
- Windows Server Catalog helps verify hardware compatibility

Demonstration: How to Update a Device Driver

- In this demonstration, you will see how to update a device driver

Demonstration: How to Roll Back a Driver

- In this demonstration, you will see how to roll back a device driver

Lab: Installing and Configuring Windows Server 2012

- Exercise 1: Performing a Local Media-Based Installation
- Exercise 2: Configuring Windows Server
- Exercise 3: Convert to Server Core
- Exercise 4: Configuring Services
- Exercise 5: Configuring Devices

Logon Information

Virtual Machines: 10967A-LON-DC1, 10967A-LON-SVR4

User Name : ADATUM\Administrator

Password : Pa\$\$w0rd

Estimated Time: 70 minutes

Lab Scenario

The first task in your new job as junior server administrator is to perform the initial installation and configuration of a new server for the Research and Development (R&D) department. In this instance, the company decided a local media-based installation should be performed. After the installation is complete, you will configure the server's post-installation settings as per the supplied documentation. Additionally, the startup settings for some services must be configured, and a new device driver must be tested for correct functionality.

Lab Review

- How could the steps in this lab be performed remotely without the need for user intervention?
- When would rolling back a driver not be an effective solution to driver-related problems?

Module Review and Takeaways

- Review Questions
- Tools

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