❖ Window Server

❖ What is Windows Server Standard?

Windows Server Standard is a powerful operating system designed by Microsoft specifically for server environments. It is known to offer a range of features and functionalities essential for small to medium-sized businesses.

❖ What is Windows Server Datacenter?

Windows Server Datacenter is a high-performance, feature-rich operating system specifically designed for large-scale server deployments. It offers advanced capabilities and extensive scalability to meet the demanding requirements of enterprise-level businesses.

Features	Windows Server Standard	Windows Server Datacenter
Licensing and cost	Affordable	More expensive
Virtualisation rights	Limited	Unlimited
High availability	Standard Features	Advanced features
Storage capacity	Moderate	Large
Data deduplication	Not included	Included
Software-defined networking	Not included	Included
Performance and scalability	Reliable performance for medium-sized businesses	Enhanced performance and scalability for large enterprises

1. Windows Server Editions:

a) Standard Edition

- Designed for physical or minimally virtualized environments.
- Provides essential server capabilities like file sharing, application hosting, and Active Directory.
- Licensing includes two virtual machines (VMs) and a single Hyper-V host.

b) Datacenter Edition

- Ideal for highly virtualized and cloud environments.
- Offers unlimited virtualization rights.
- Includes advanced features like Storage Spaces Direct, Software-defined Networking (SDN), and Shielded Virtual Machines.

c) Essentials Edition

- Tailored for small businesses with up to 25 users and 50 devices.

- Includes basic server features such as file sharing and device management.
- Simplified setup and management, no need for CALs (Client Access Licenses).

d) Hyper-V Server

- A free standalone hypervisor for running virtual machines.
- Provides core virtualization features without the GUI of full Windows Server.

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2. Windows Server Versions:

a) Windows Server 2022

- Current version with enhanced security features (Secured-core Server, HTTPS, and TLS 1.3 by default).
- Hybrid capabilities for integration with Azure.
- Enhanced support for large-scale container management.

b) Windows Server 2019

- Improved hybrid cloud capabilities.
- Storage Migration Service and System Insights.
- Advanced security through Shielded Virtual Machines.

c) Windows Server 2016

- First to introduce Nano Server and Docker container support.
- Enhanced Hyper-V and Storage Replica for disaster recovery.

d) Windows Server 2012/2012 R2

- Introduced Hyper-V 3.0 and Storage Spaces.
- Support for ReFS (Resilient File System).

e) Windows Server 2008/2008 R2

- Added Hyper-V and introduced Server Core installation.
- Extended support ended in January 2020.

f) Windows Server 2003

- Early adoption of 64-bit computing.
- Extended support ended in July 2015.

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3. Specialized Windows Server Types:

a) Windows Server Core

- A minimal installation option for reduced resource use and increased security.
- Command-line interface only, designed for advanced users.

b) Nano Server

- A lightweight version of Server Core.
- Designed for running containers and cloud-native applications.
- Introduced in Server 2016 but deprecated in later versions.

c) Azure Stack HCI

- Combines on-premises Windows Server with Azure services.
- Focused on hybrid and hyper-converged infrastructure.

d) Storage Server

- Optimized for network-attached storage (NAS).
- Used for file and print sharing on dedicated hardware.

❖ Window types

1. **Modern Windows Operating Systems**

a) Windows 11

- Home: For personal use, basic features.
- Pro: Adds business tools like BitLocker, Remote Desktop, and Azure integration.
- Pro for Workstations: High-performance, supports ReFS and persistent memory.
- Enterprise: Advanced security and management for large businesses.
- Education: Tailored for schools and academic institutions.

b) Windows 10

- Home: Basic edition for everyday use.
- Pro: Adds advanced security and device management tools.
- Pro for Workstations: For high-end hardware and demanding tasks.
- Enterprise: Advanced tools for enterprise-level management.
- Education: Focused on schools and students.
- S Mode: A lightweight version, running only Microsoft Store apps.

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2. **Specialized Windows Versions**

a) Windows IoT (Internet of Things)

- IoT Core: For small embedded devices (e.g., IoT appliances).
- IoT Enterprise: Full Windows experience for industrial devices.

b) Windows Mixed Reality

- Designed for VR and AR hardware.

c) Windows Embedded

- Used in ATMs, kiosks, and medical devices. Examples include Windows Embedded Standard and Windows Embedded Compact.

d) Windows Mobile
- For smartphones (discontinued, replaced by Android/iOS). Examples include Windows Phone 7, 8, and Windows 10 Mobile.

e) Windows S Mode
- A security-focused, streamlined version of Windows 10/11.

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3. Legacy Windows Versions

a) Windows 8/8.1 (2012–2016)
- Core/Home: For standard use.
- Pro: Added business tools.
- Enterprise: For large-scale organizations.
- RT: Lightweight version for ARM devices.

b) Windows 7 (2009–2020)
- Starter: Lightweight version for netbooks.
- Home Basic: For emerging markets.
- Home Premium: For personal/home use.
- Professional: Geared toward small businesses.
- Enterprise: For enterprise-level deployment.
- Ultimate: Comprehensive, with all features.

c) Windows Vista (2006–2017)
- Editions: Starter, Home Basic, Home Premium, Business, Enterprise, Ultimate.

d) Windows XP (2001–2014)
- Editions: Home, Professional, Media Center, Tablet PC, Embedded, Starter.

e) Windows 2000 (1999–2010)
- Editions: Professional, Server, Advanced Server, Datacenter Server.

f) Windows 95, 98, ME (1995–2000)
- Early consumer operating systems with GUI enhancements.

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4. Server and Hybrid Solutions
- Windows Server Editions: Standard, Datacenter, Essentials.
- Azure Stack: Hybrid cloud integration for businesses.