

Project Title: Windows Server 2012 to Windows Server 2019 Migration

Duration: may 2024 – June 2024

Role: System Administrator

Environment: Windows Server 2012, Windows Server 2022, Active Directory, DNS, Group Policy, VMware

Project Summary:

Led the migration of critical infrastructure services from aging Windows Server 2012 systems to Windows Server 2022 to ensure security compliance, improve performance, and prepare for future scalability.

Objectives:

- Replace unsupported and vulnerable Server 2012 systems
 - Maintain Active Directory integrity and group policies
 - Migrate file shares and user permissions without data loss
 - Ensure zero/minimal downtime during business hours
-

Scope:

- 4 Domain Controllers
 - 5000+ user accounts and workstations
 - AD, DNS, DHCP, File Server, Group Policy
-

Key Tasks & Responsibilities:

- 1. Assessment & Planning:**
 - Inventoried current infrastructure using PowerShell and AD tools.
 - Identified dependencies and created a rollback plan.
 - Scheduled maintenance windows with stakeholders.
- 2. Build & Preparation:**
 - Deployed new Windows Server 2022 VMs via VMware.
 - Hardened servers (firewall, roles, antivirus, updates).
 - Joined new servers to the domain and promoted to DCs.
- 3. Migration Execution:**
 - Transferred FSMO roles to new DCs.

- Replicated DNS scopes.
 - Migrated Group Policies and validated with RSOP testing.
 - Used Robocopy to migrate file shares with NTFS permissions intact.
4. **Testing & Validation:**
- Verified replication, logon authentication, and DNS resolution.
 - Monitored event logs and performance counters.
 - Conducted user testing and feedback sessions.
5. **Decommissioning:**
- Demoted old DCs and removed them from the domain.
 - Updated documentation and DNS cleanup.
 - Archived backups and configuration snapshots.
-

Results & Impact:

- Migration completed **ahead of schedule** with **zero data loss**.
 - Improved server response time and login speed by **25%**.
 - Eliminated risk from end-of-life Server 2012 vulnerabilities.
 - Ensured compliance with updated IT security policies.
-

Tools & Technologies Used:

- PowerShell, RepAdmin
 - VMware, Windows Admin Center
 - Active Directory, DNS, DHCP, GPO
 - Backup tools: Windows Server Backup
-