

Active Directory Deployment for JHC

Tuesday, August 6, 2024
6:45 PM

Case Study: Active Directory Services for JHC

Client Overview: Johnson Hydraulics (JHC), part of the RON Group, is a leading supplier of industrial trucks and warehouse equipment. JHC is undergoing a transformation to operate on a standalone IT landscape, separate from the RON environment.

Objective: To design and implement a new Active Directory (AD) infrastructure for JHC, migrating existing AD objects from the RON AD environment to a new target AD environment (Wphyd.com).

Challenges:

- Separation from the RON environment.
- Establishing a new AD forest and domain structure.
- Ensuring seamless integration with O365 and Azure AD.

Solution:

- **Active Directory Design:**
- **Logical Architecture:** Single forest with a single domain model.
- **Physical Architecture:** Domain controllers deployed both on-premises and in Azure.
- **Naming Conventions and Firewall Rules:** Standardized naming conventions and specific firewall rules for secure communication.
- **Functional Levels and FSMO Roles:**
- Configured with Windows Server 2012 R2 functional levels.
- FSMO roles assigned to specific domain controllers for efficient management.
- **AD Sites and Trusts:**
- Creation of multiple AD sites for efficient authentication and replication.
- Establishment of a two-way trust between the new JHC AD and the existing RON AD.
- **Organizational Units and GPOs:**
- Flexible OU structure for organizing AD objects.
- Implementation of Group Policy Objects (GPOs) for domain hardening and security.
- **Additional Services:**
- **DHCP:** High availability configuration for IP address management.
- **DFS:** Domain-based DFS namespace for file sharing.
- **Backup and Time Synchronization:** Regular backups and synchronized time sources for reliability.
- **DNS Configuration:** AD integrated DNS for internal name resolution.
- **O365 and Azure AD Integration:** Seamless integration with O365 and Azure AD Connect for user synchronization.

Outcome: The new AD infrastructure provided JHC with a robust, secure, and scalable environment, ensuring smooth operations and integration with cloud services. The migration was successful, with minimal disruption to business activities.

Challenges Faced:-

Group Policy Analysis
Uncommon Migration on approach
Cyber Security Tools procurement Delay
Quest lincensse delay

Value Adds:

Windows SFTP Server for SAP Shares
Group Management tool integration

Issue Faced:

- Profile Corruption
- RC5 encryption caused issue
- Office 365 problem due to Migrating UPN

Key Lessons Learned from the Active Directory Project for JHC

- **Thorough Planning and Design:**
- **Importance of Detailed Design:** The success of the project was heavily reliant on a comprehensive low-level design that addressed all aspects of the Active Directory (AD) infrastructure, including logical and physical architecture, naming conventions, firewall rules, and functional levels.
- **Clear Objectives and Scope:** Defining clear objectives and scope helped in maintaining focus and ensuring all necessary components were covered.
- **Effective Communication and Collaboration:**
- **Stakeholder Engagement:** Regular communication with stakeholders ensured that their requirements were understood and met. This also helped in managing expectations and obtaining necessary approvals.
- **Team Collaboration:** Collaboration between different teams (e.g., network, security, and application teams) was crucial for seamless integration and troubleshooting.
- **Technical Considerations:**
- **AD Sites and Trusts:** Proper configuration of AD sites and trusts was essential for efficient authentication and replication, especially in a multi-site environment.
- **FSMO Roles and GPOs:** Assigning FSMO roles and implementing Group Policy Objects (GPOs) for domain hardening and security were critical for maintaining a stable and secure AD environment.
- **Integration with Cloud Services:**
- **Office 365 and Azure AD Integration:** Seamless integration with Office 365 and Azure AD Connect was vital for user synchronization and cloud service access. This highlighted the importance of understanding cloud service dependencies and configurations.
- **Backup and Disaster Recovery:**
- **Regular Backups:** Implementing a robust backup strategy, including system state backups and VM backups, ensured data integrity and quick recovery in case of failures.
- **Time Synchronization:** Ensuring accurate time synchronization across all domain controllers helped in maintaining consistency and avoiding potential issues.
- **Security Measures:**

- **Firewall Rules and DNS Configuration:** Properly configured firewall rules and DNS settings were essential for secure communication and name resolution within the AD environment.
- **Password and Account Policies:** Implementing strong password policies and account lockout policies helped in enhancing security and preventing unauthorized access.
- **Flexibility and Scalability:**
- **Scalable Design:** Designing the AD infrastructure to be scalable allowed for future growth and changes without significant rework.
- **Flexible OU Structure:** A flexible Organizational Unit (OU) structure enabled easier management and delegation of administrative tasks.
- **Documentation and Training:**
- **Comprehensive Documentation:** Maintaining detailed documentation of the design, configurations, and procedures was invaluable for troubleshooting and future reference.
- **Training and Knowledge Transfer:** Providing training and knowledge transfer sessions to the IT team ensured they were well-equipped to manage and maintain the new AD environment.

These lessons learned highlight the importance of meticulous planning, effective communication, technical expertise, and robust security measures in successfully implementing an Active Directory infrastructure.