Change Request Form & Method of Procedure

DHCP Migration — Cisco Router Pools to Centralized Windows DHCP

CHANGE REQUEST SUMMARY

Change Request No.: DHCP-2026-01
Project: Enterprise DHCP Migration & Infrastructure Modernization
Requested By: Justin K. Bowden, Network Engineer I
Department: Network Engineering
Change Priority: Medium
Change Impact: Major
Environments Impacted: Site A, Site B, and Site C VLAN environments utilizing Cisco routed DHCP services

DESCRIPTION OF CHANGE

Migrate DHCP services currently hosted on Cisco router DHCP pools to centralized Windows Server DHCP infrastructure integrated with Active Directory and DNS. Scope includes creating Windows DHCP scopes, migrating existing pools, configuring failover redundancy, updating Cisco helper-address configuration, and disabling legacy pools after validation.

REASON FOR CHANGE

- Improve centralized administration and reduce per-router configuration overhead
- Provide DHCP failover redundancy not available with router-based pools
- Improve integration with Active Directory and DNS
- Reduce risk of prolonged outage during a router failure

CHANGE IMPACT EVALUATION

Change Type	Impacted
Network	Yes
Security	Yes
Operating System / Utilities	Yes
Procedures	Yes

RESOURCE REQUIREMENTS

Personnel: 2 Network Engineers, 1 Systems Administrator. Hardware/Software: Windows DHCP servers, Active Directory, DNS services, Cisco IOS management access, PowerShell administration tools.

METHOD OF PROCEDURE

1. Back up existing Cisco router configurations (copy running-config to a TFTP/SCP server) before any changes.
2. Document existing DHCP pool configuration on each router (subnet, gateway, DNS, exclusions, lease duration).
3. Create matching scopes on the Windows DHCP server for each migrated VLAN, including exclusions for gateways, servers, and infrastructure devices.
4. Temporarily reduce lease duration to 1 hour to allow faster client transition during cutover.
5. Authorize the Windows DHCP server in Active Directory and verify authorization.
6. Configure DHCP failover between the two Windows DHCP servers (Load Balance mode, 50/50 split).
7. Update Cisco VLAN interfaces with ip helper-address entries pointing to the new Windows DHCP servers.
8. Migrate one pilot VLAN first; validate lease assignment, gateway, DNS, and connectivity before continuing.
9. Disable the corresponding Cisco DHCP pool for the migrated VLAN once validated (retain excluded-address entries).
10. Repeat steps 7–9 for remaining VLANs in scope.
11. Monitor DHCP leases for at least 30 minutes per VLAN, checking for conflicts, declines, or failures.
12. Restore production lease duration once all validation is complete.

TEST / VERIFICATION PLAN

- Verify clients receive correct IP address, gateway, and DNS assignment from Windows DHCP
- Verify forward and reverse DNS registration
- Verify inter-VLAN and internet connectivity from migrated clients
- Verify DHCP failover replication status shows Normal
- Verify no duplicate IP or lease conflicts

ROLLBACK PLAN

- Disable the affected Windows DHCP scope(s)
- Re-enable the corresponding Cisco router DHCP pool(s) from the backed-up configuration
- Remove the helper-address entries added during the change
- Verify client lease acquisition has reverted to the prior (Cisco) state
- Notify stakeholders that rollback is complete and normal operations are restored

Note: Site names, environment labels, and addressing shown here are illustrative. Client-identifying details have been withheld in accordance with a signed NDA; the process and technical steps reflect the actual change performed.