

Smart Architecture: DNS-DHCP Management

Simplify and Automate DNS & DHCP Services Deployment

Highlights:

- State-of-the-Art DNS and DHCP Architectures Templates
- Configuration, Deployment and Management Automation
- Best Practices Enforcement
- Reduced Complexity and TCO
- Simple, Secure and Flexible Network Services

Even if DNS & DHCP architecture configurations have been simplified with a GUI (Graphical User Interface), it is still complex and expensive. It requires experts to deploy and configure all servers in coherent environments of DNS & DHCP services. There is not a process to check the relevance of your server configurations against your needs and best practices. This complexity increases the risks in terms of security and availability of your network services.

EfficientIP offers SmartArchitecture™, a unique technology to intelligently simplify and automate the design, deployment, and management of critical DNS and DHCP services. It provides:

- Secure and reliable architecture designs
- Intelligent, policy-driven deployment automation for best practices enforcement
- Comprehensive unified management for end-to-end control of your DNS and DHCP infrastructure.

SmartArchitecture™ is compatible with EfficientIP's DNS and DHCP appliances SOLIDserver™, Microsoft® Windows DNS and DHCP servers, Open source servers (ISC Bind and ISC DHCP), Fortinet FortiGate DHCP, AWS Route 53, Azure DNS, and Google Cloud DNS, enabling seamless integration with existing services.

SmartArchitecture™: Secure Design and Automated deployment of DNS & DHCP

SmartArchitecture™ is a unique approach to IPAM and DNS & DHCP services management that simplifies the design, deployment, and administration of network services. Instead of managing individual DNS and DHCP servers, SmartArchitecture™ enables organizations to deploy and manage complete DNS and DHCP architectures as a single entity.

SmartArchitecture™ is a library of state-of-the-art DNS and DHCP architecture templates applied on a group of multi-vendor servers -Microsoft®, Open source, SOLIDserver™, AWS Route 53, Google Cloud DNS, Azure DNS, and Fortinet FortiGate DHCP- to automatically deploy and manage the architecture as a single entity.

Based on the selected SmartArchitecture™, the SOLIDserver™ centralized management platform automatically configures all DNS and DHCP servers included in the architecture according to their individual role within the selected template. By automating deployment and ongoing management at the architecture level, SmartArchitecture™ eliminates manual server-by-server configuration, ensuring consistent, scalable, and policy-driven operations across hybrid and multivendor environments.

Step 1



Select Your Architecture

Select the DNS or DHCP architecture template to be deployed from the catalogue. In this example SmartArchitecture™ is a «Stealth DNS» architecture.

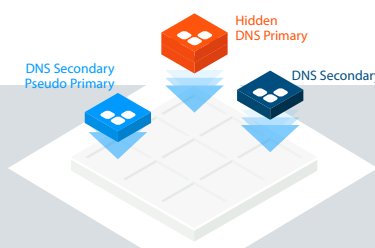
Step 2



Import Your Data

Import DNS data (zones and RRs) from the centralized management platform (SOLID Primary) within the SmartArchitecture™.

Step 3



Insert Your Servers

Define the role of each server within the SmartArchitecture™ (primary hidden, pseudo primary, and secondaries).

Step 4



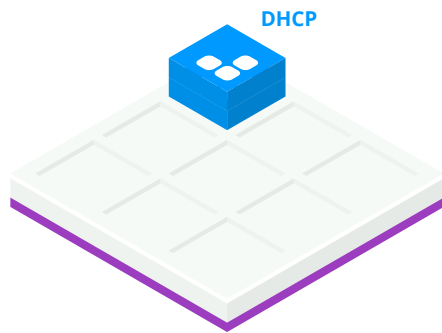
Your Architecture is Deployed and Operating

All DNS or DHCP servers belonging to the SmartArchitecture™ are automatically configured by the centralized management platform to establish a communication path among SOLIDservers™ (or multi-vendor servers), securing communication flow and synchronizing data.

SmartArchitecture™ Catalog

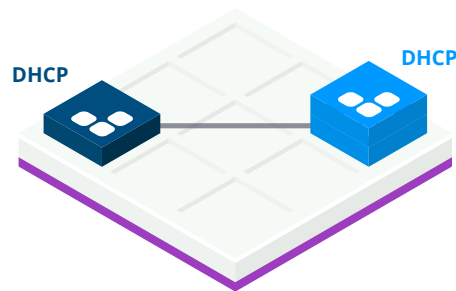
SOLIDserver™ offers a comprehensive catalog of DNS & DHCP SmartArchitectures™, allowing the selection of the appropriate DNS or DHCP architecture to be deployed and managed in the network infrastructure.

DHCP SmartArchitecture™ Catalog



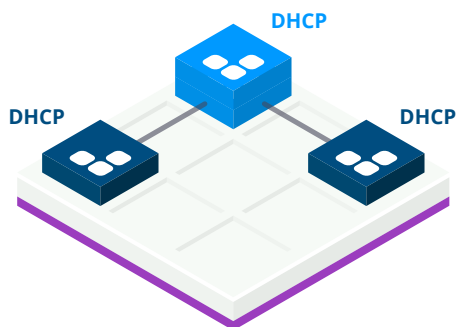
DHCP Single:

One DHCP server in the SmartArchitecture™



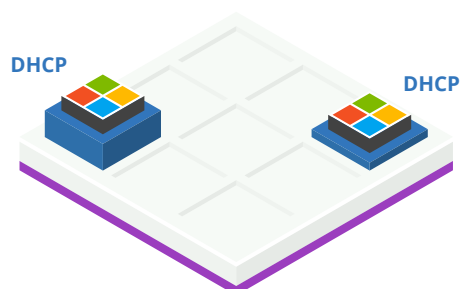
DHCP failover One to One:

A pair of DHCP servers in active-active failover



DHCP failover Many to One (Star failover):

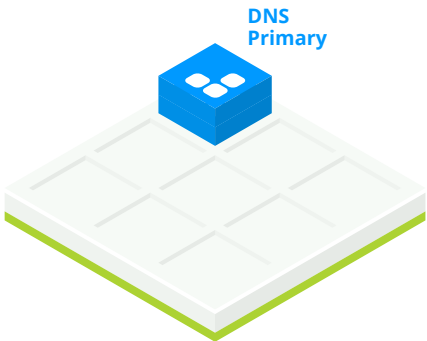
Centralized DHCP failover in active-active mode



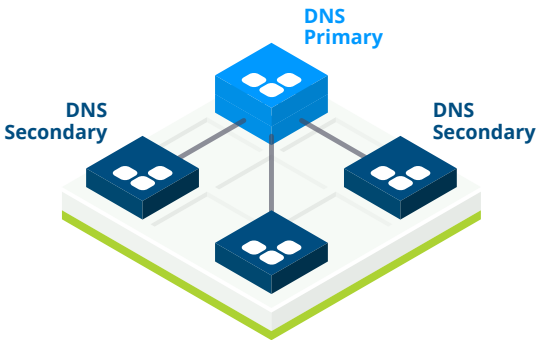
DHCP Microsoft:

Microsoft DHCP split scope between 2 DHCP servers or Microsoft DHCP server fail-over

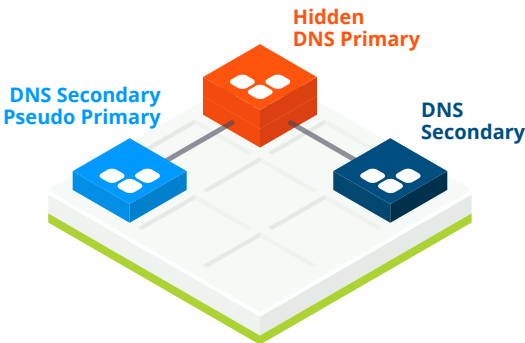
DNS SmartArchitecture™ Catalog



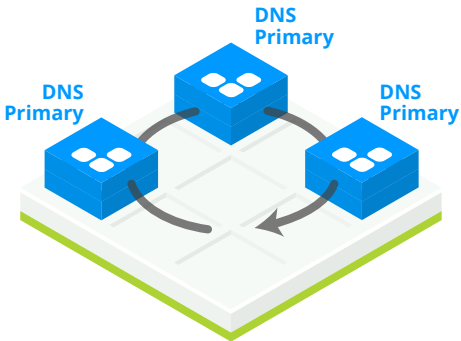
DNS Single:
One DNS server is in the SmartArchitecture™



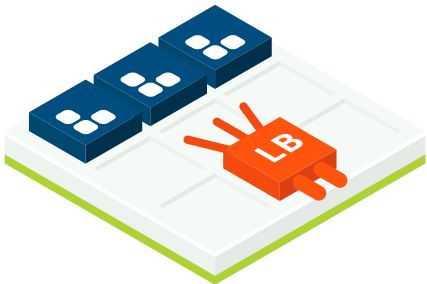
DNS Primary Secondary:
One DNS server is elected as primary and others are secondaries



Stealth DNS:
One DNS server is elected as hidden primary, one as pseudo primary and others are secondaries. The primary can be deployed as a cluster with a VIP.



DNS Multi Primary:
All DNS servers are Primaries



DNS Farm:
A load balancer is deployed in front of the DNS architecture. DNS servers are not “visible” to DNS clients who identify the load balancer as DNS servers.

SmartArchitecture™ Benefits

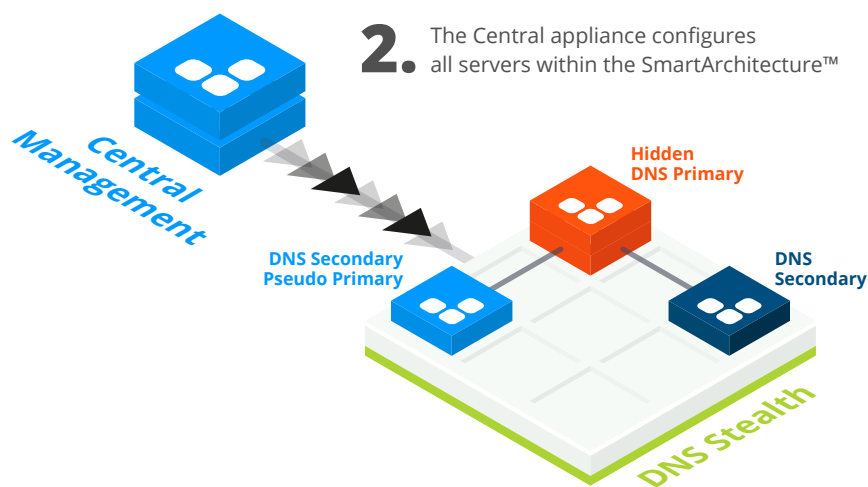
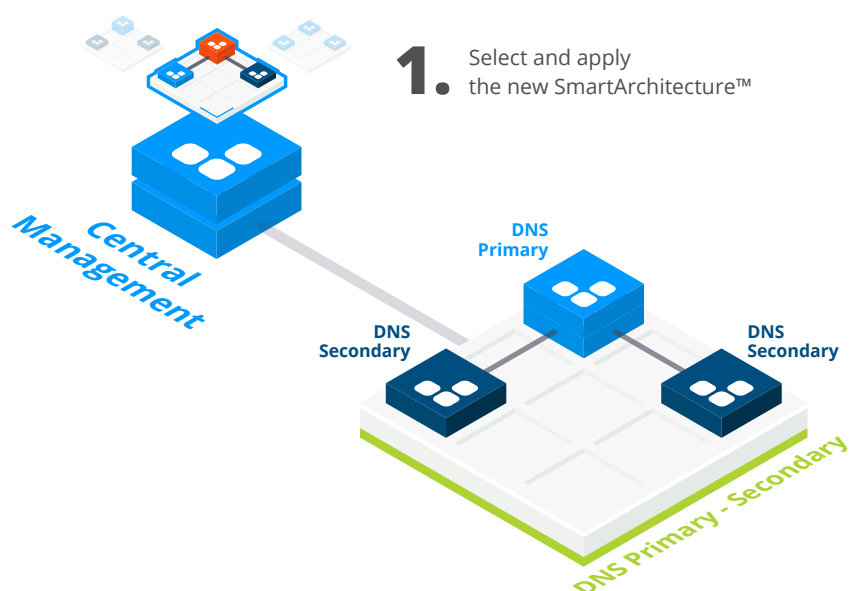
Increased reliability and security of network services: Automate the enforcement of best practices.

Freedom from deployment complexity: Automate DNS & DHCP services architecture deployment.

Ease of management: Simplify the management of your network services by directly managing the architecture and automating all server configurations.

SmartArchitecture™ Motion: Ease of architecture migration and reorganization with “Drag and Drop” architecture changes.

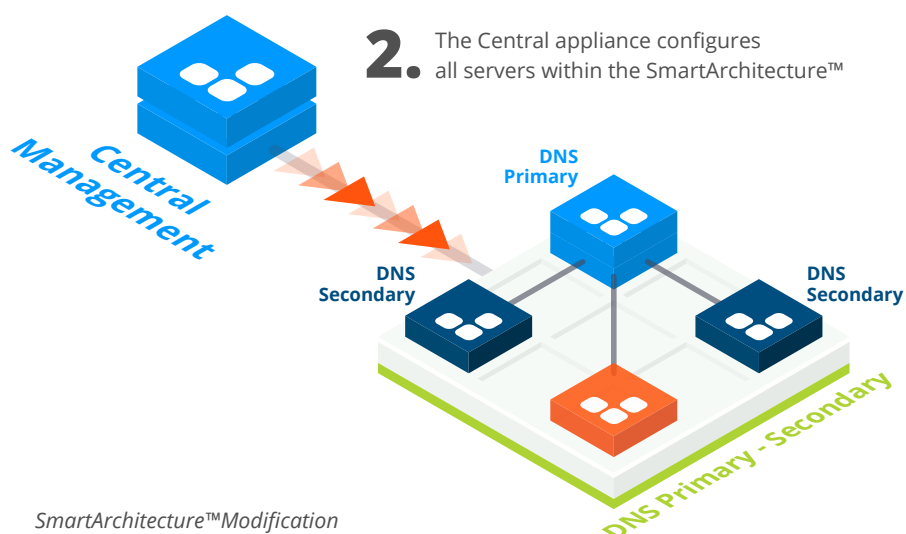
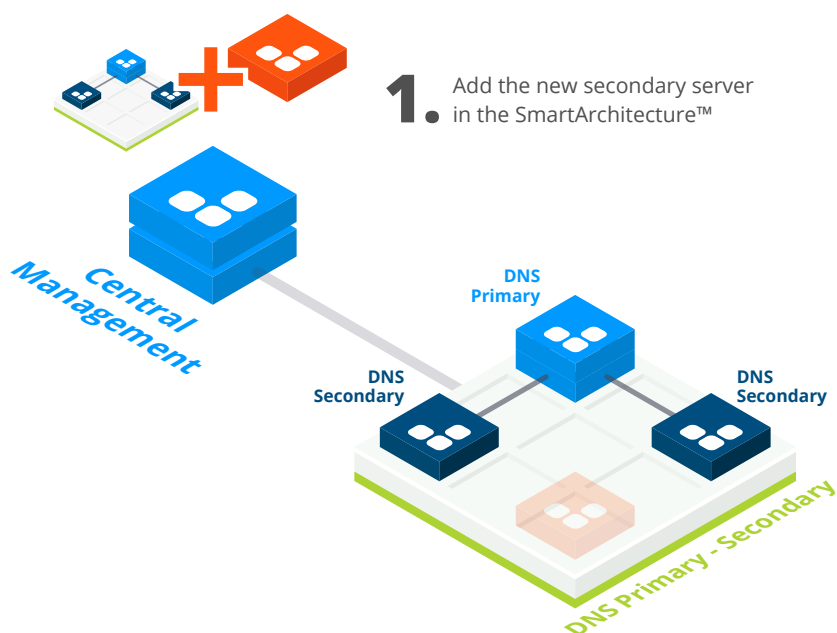
1. SmartArchitecture™ Migration: It is easy and fast to migrate from one architecture to another, such as from DNS Primary-Secondary to a DNS stealth architecture. The migration process is simplified at the highest level by editing the Primary-Secondary SmartArchitecture™ template in use and applying the new Stealth DNS SmartArchitecture™ template. All modifications required on all servers belonging to the SmartArchitecture™ are carried out by the centralized management platform, following the new template. It is no longer required for the administrator to perform the required modifications server by server.



SmartArchitecture™ Migration

2. SmartArchitecture™ Modification: Adding or removing a server from an architecture is simple and fast. For example, an administrator only needs to select and insert a new DNS secondary server within the Primary-Secondary SmartArchitecture™, and the centralized management platform automatically configures this new member accordingly, without requiring complex manual tasks. This new secondary server has its data synchronized and is declared to the Primary and vice-versa.

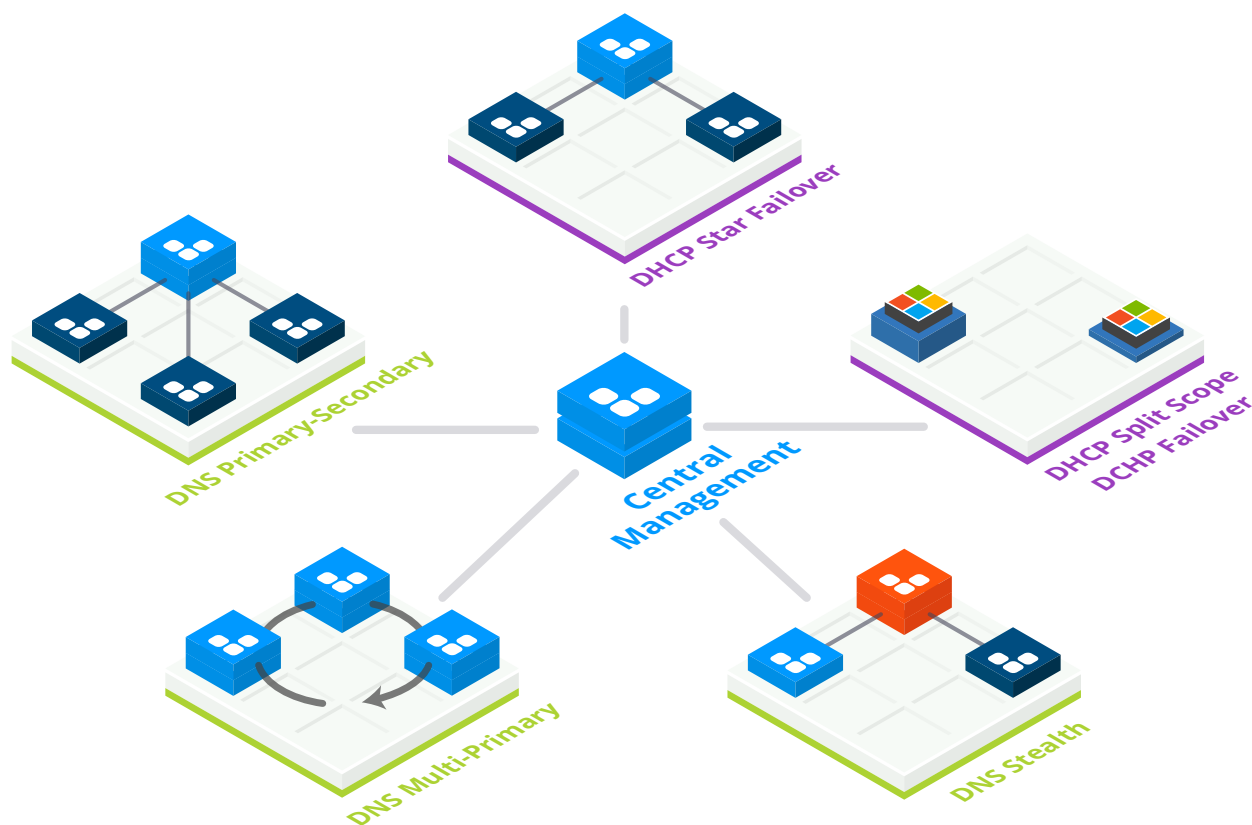
Stronger and simpler disaster recovery in multi-vendor environments: In addition to the built-in disaster recovery process based on the real-time replication of the distributed database, SmartArchitecture™ offers an additional way to reinstate a crashed server. The crashed DNS server can be replaced in just a few minutes by a new server. The centralized management platform detects that the new server is not compliant with the architecture or data of the SmartArchitecture™ in place, and automatically configures and synchronizes the server according to its particular role within the SmartArchitecture™. No complex tasks must be performed by the administrator. Another advantage of this mechanism is that it works in multi-vendor DNS & DHCP environments including Microsoft DNS & DHCP servers.



SmartArchitecture™: Global DNS-DHCP Architecture Management

SmartArchitecture™ is a breakthrough in network services management efficiency, delivering unmatched levels of reliability, scalability and flexibility. SmartArchitecture™ enables you to perform complex administration tasks easily and in just a few minutes. Migration of Primary/Secondary to Stealth or multi-Primary is automatically done by selecting the ad hoc SmartArchitecture™ to apply on the DNS servers. It is now easy to add or remove DNS servers from the architecture; the centralized management appliance will automatically manage all configuration file modifications.

In addition, EfficientIP's SmartArchitecture is fully compatible with hybrid DNS architectures and enables their automated deployment. It allows organizations to design, deploy, and manage DNS architectures combining BIND and NSD servers with DNS services from public cloud providers through SmartArchitecture™ templates, ensuring consistent management across diverse environments.



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As one of the world's fastest growing DDI vendors, EfficientIP helps organizations drive business efficiency through agile, secure and reliable network infrastructures. Our unified management framework for DNS-DHCP-IPAM (DDI) and network configurations ensures end-to-end visibility, consistency control and advanced automation. Additionally, our unique 360° DNS security solution protects data confidentiality and application access from anywhere at any time. Companies rely on us to help control the risks and reduce the complexity of challenges they face with modern key IT initiatives such as cloud applications, virtualization, and mobility. Institutions across a variety of industries and government sectors worldwide rely on our offerings to assure business continuity, reduce operating costs and increase the management efficiency of their network and security teams.

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