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 term of security and availability of your network services.

EfficientIP offers SmartArchitecture™, a unique technology to intelligently simplify and automate design, deployment and management of vital DNS & DHCP services. This technology ensures:

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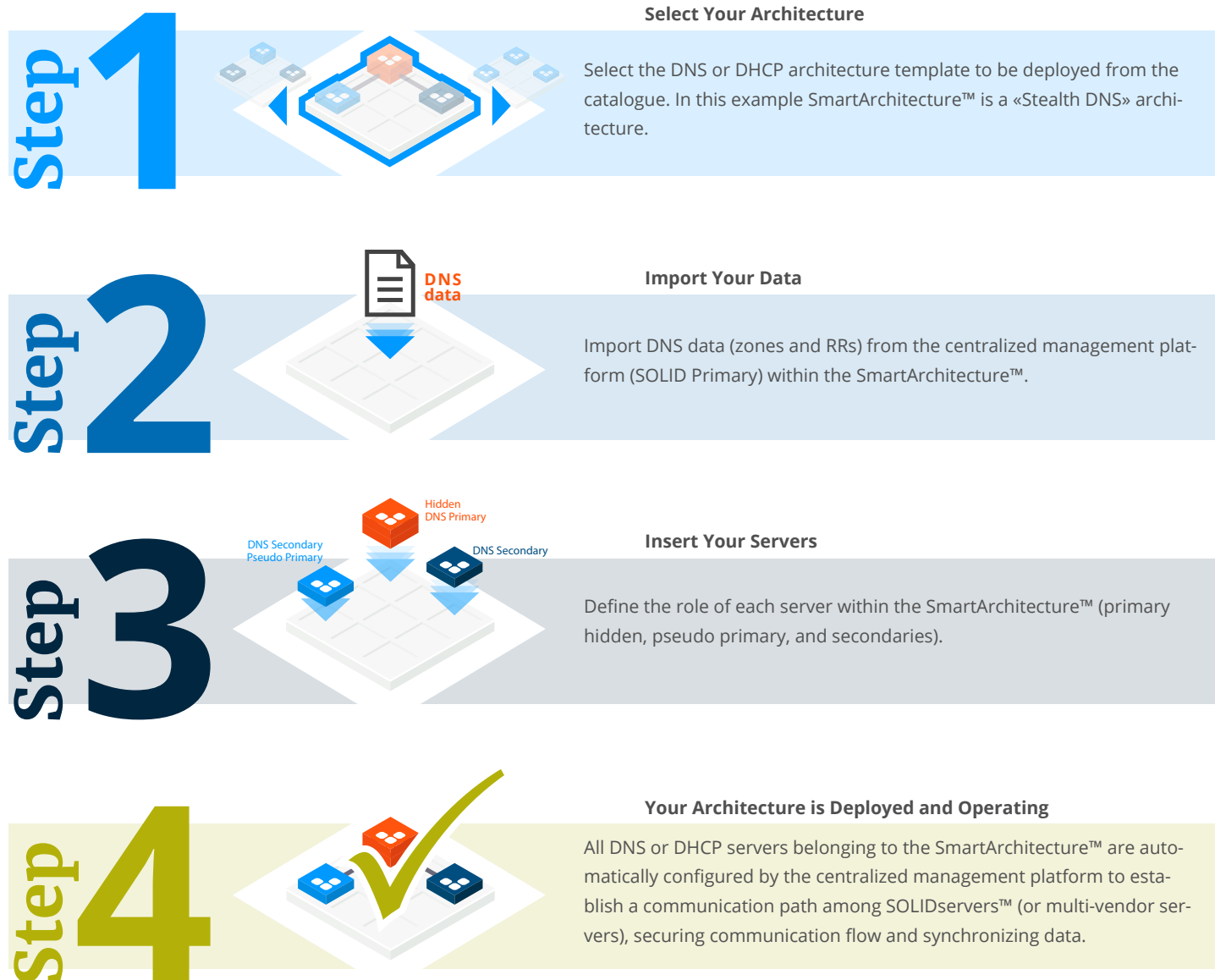- Comprehensive unified management for end-to-end control of your DNS-DHCP infrastructure

SmartArchitecture™ is compatible with EfficientIP's DNS & DHCP appliances SOLIDserver™, Microsoft® Windows DNS&DHCP servers, and Open source servers (ISC Bind and ISC DHCP) providing a smooth integration with existing services.

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

SmartArchitecture™ is a new approach to IPAM and DNS & DHCP services management designed to drastically simplify deployment and administration of your network services. Thanks to SmartArchitecture™, EfficientIP offers the capability to deploy and manage your DNS & DHCP services at the architecture level.

SmartArchitecture™ is a library of state-of-the-art templates of DNS & DHCP architectures, applied on a group of Multi-Vendor servers (Microsoft®, Open source, SOLIDserver™) to automatically deploy and manage the architecture as a single entity.

Based on the selected SmartArchitecture™, the SOLIDserver™ centralized management platform will automatically configure all DNS & DHCP servers belonging to the SmartArchitecture™ according to their individual role within the selected template. It is no longer necessary to manually configure each server in order to build the DNS & DHCP architecture; the entire process is now carried out automatically.

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.
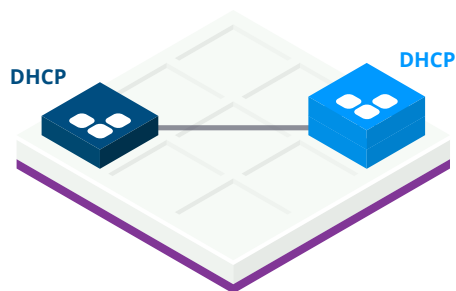
SmartArchitecture™ Catalog

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.

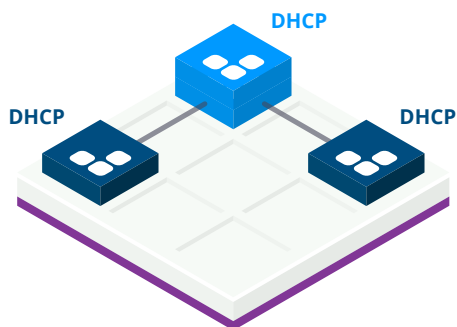**DHCP SmartArchitecture™ Catalog**
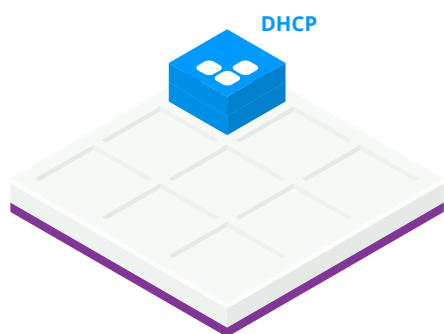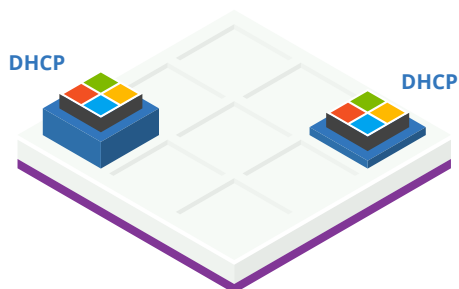
DHCP Single:

One DHCP server in the SmartArchitecture™

DHCP failover One to One:

A pair of DHCP servers in active-active failover
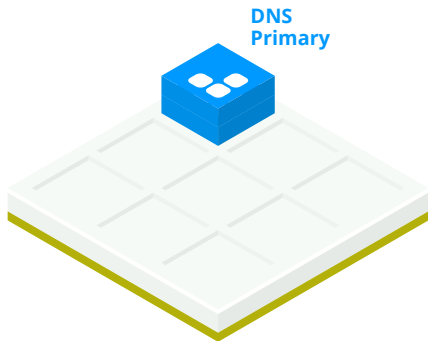
DHCP failover Many to One (Star failover):

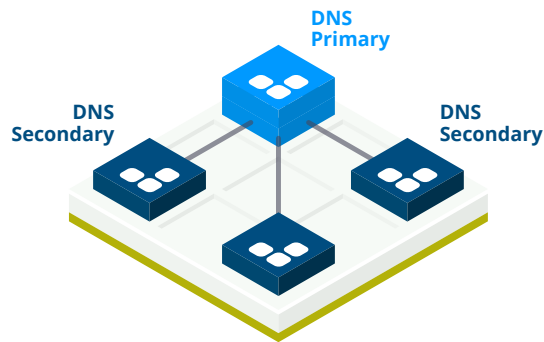Centralized DHCP failover in active-active mode

DHCP Microsoft:

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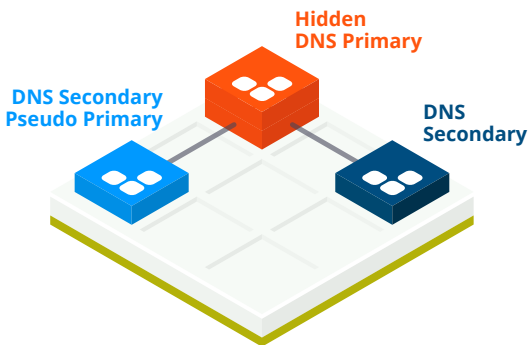or Microsoft DHCP server fail-over

DNS SmartArchitecture™ Catalog

DNS Primary

DNS Single:

One DNS server is in the SmartArchitecture™

DNS Primary

DNS Secondary

DNS Secondary

DNS Primary Secondary:

One DNS server is elected as primary and others are secondaries

Hidden DNS Primary

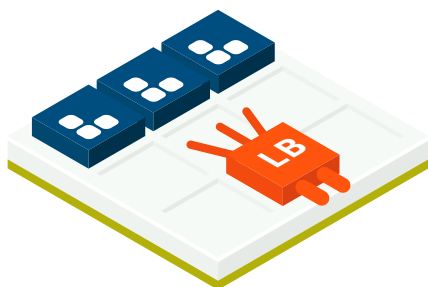**DNS Secondary Pseudo Primary**

DNS Secondary

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 Primary

DNS Primary

DNS Primary
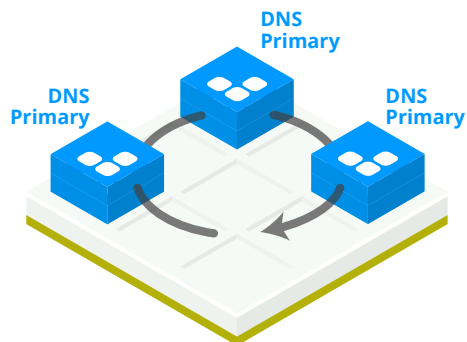
DNS Multi Primary:

All DNS servers are Primaries

LB

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.
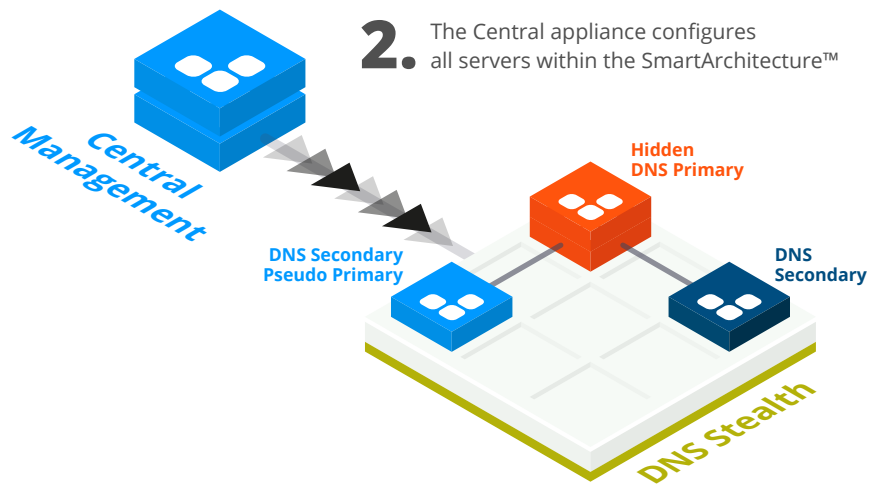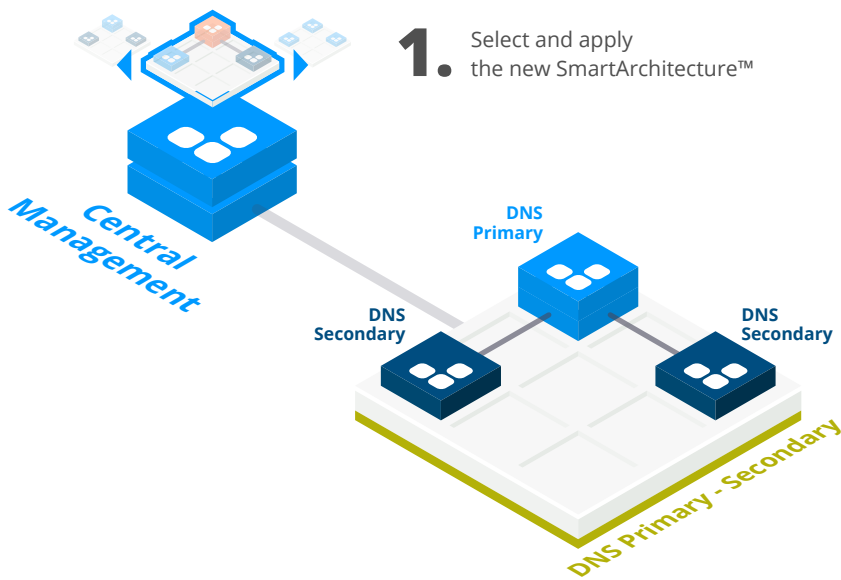
SmartArchitecture™ Benefits

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™ will be 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.

1. Select and apply the new SmartArchitecture™

Central Management

DNS Primary

DNS Secondary

DNS Secondary

DNS Primary - Secondary

2. The Central appliance configures all servers within the SmartArchitecture™

Central Management

Hidden DNS Primary

DNS Secondary Pseudo Primary

DNS Secondary

DNS stealth

SmartArchitecture™ Migration

2. SmartArchitecture™ Modification: It is easy and fast to add or remove a server from an architecture. 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 will automatically configure this new member accordingly, with no additional complex tasks for the administrator. This new secondary server will have its data synchronized and be 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 will detect that the new server is not compliant with the architecture or data of the SmartArchitecture™ in place, and will then automatically configure and synchronize 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.
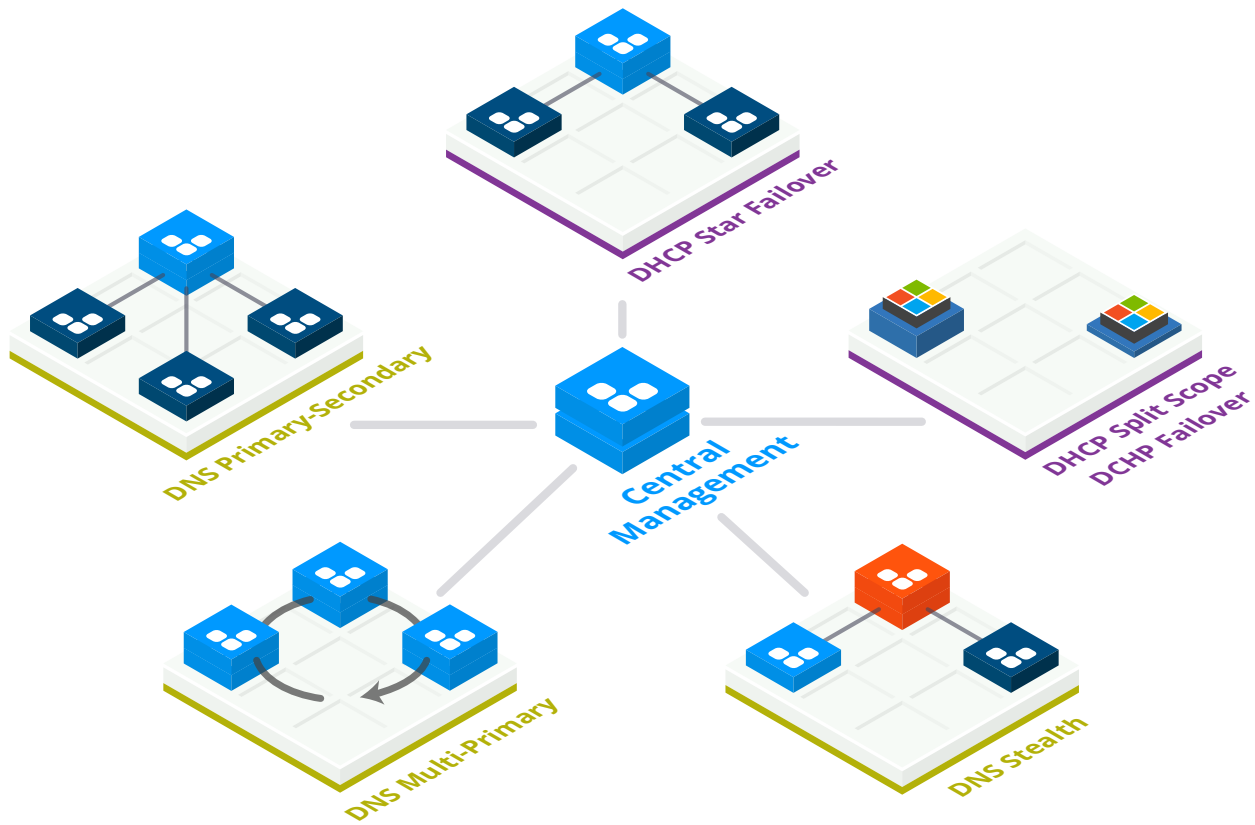
1. Add the new secondary server in the SmartArchitecture™

2. The Central appliance configures all servers within the SmartArchitecture™
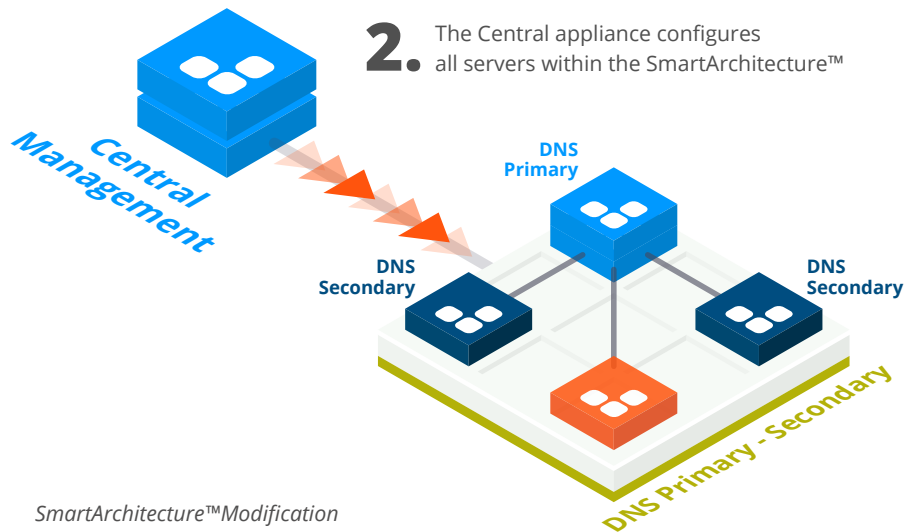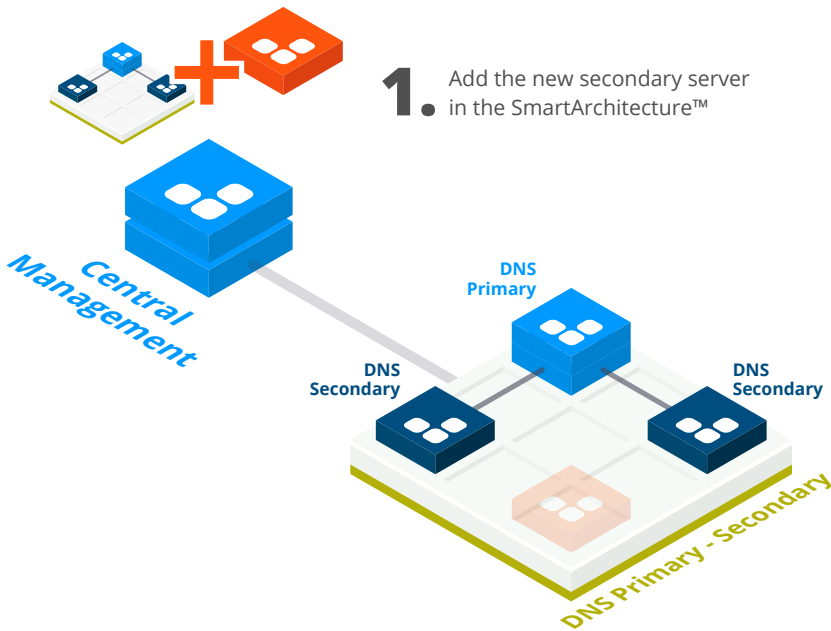
SmartArchitecture™Modification

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 and enables automated deployment of Hybrid DNS Architectures. You can easily design, deploy and manage a DNS architecture with servers running BIND and servers running NSD with SmartArchitecture templates.

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