

Microsoft Windows 2003 DNS Server for Wireless LAN Controller (WLC) Discovery Configuration Example

Document ID: 107606

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Introduction

When Cisco's Wireless Unified Architecture is deployed, the Cisco Aironet Lightweight Access Points (LAPs) can discover wireless LAN controllers (WLCs) using the DNS server when the WLC is in a different subnet than the LAP.

This document describes how to configure the Microsoft Windows 2003 DNS server for WLC discovery.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Basic knowledge of DNS servers
- Basic knowledge of the Lightweight Access Point Protocol (LWAPP)

Components Used

This document is not restricted to specific software and hardware versions.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Wireless LAN Controller DNS Discovery

The LAP can discover controllers through your domain name server (DNS). For the access point (AP) to do so, you must configure your DNS to return controller IP addresses in response to **CISCO-LWAPP-CONTROLLER.localdomain**, where localdomain is the AP domain name. When an AP receives an IP address and DNS information from a DHCP server, it contacts the DNS to resolve **CISCO-LWAPP-CONTROLLER.localdomain**. When the DNS sends a list of controller IP addresses, the AP sends discovery requests to the controllers.

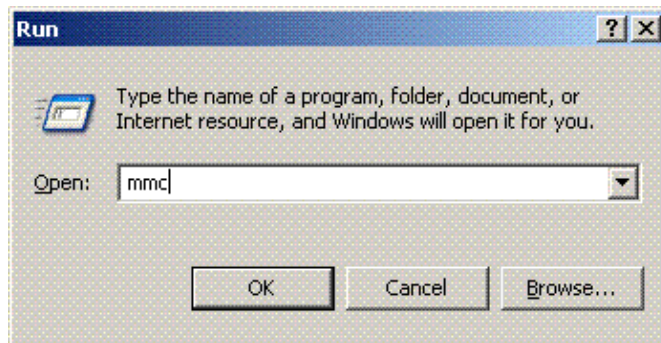
The AP will attempt to resolve the DNS name **CISCO-LWAPP-CONTROLLER.localdomain**. When the AP is able to resolve this name to one or more IP addresses, the AP sends a unicast LWAPP Discovery Message to the resolved IP address(es). Each WLC that receives the LWAPP Discovery Request Message replies with a unicast LWAPP Discovery Response to the AP.

The next section describes how to configure the Microsoft Windows 2003 server for WLC discovery.

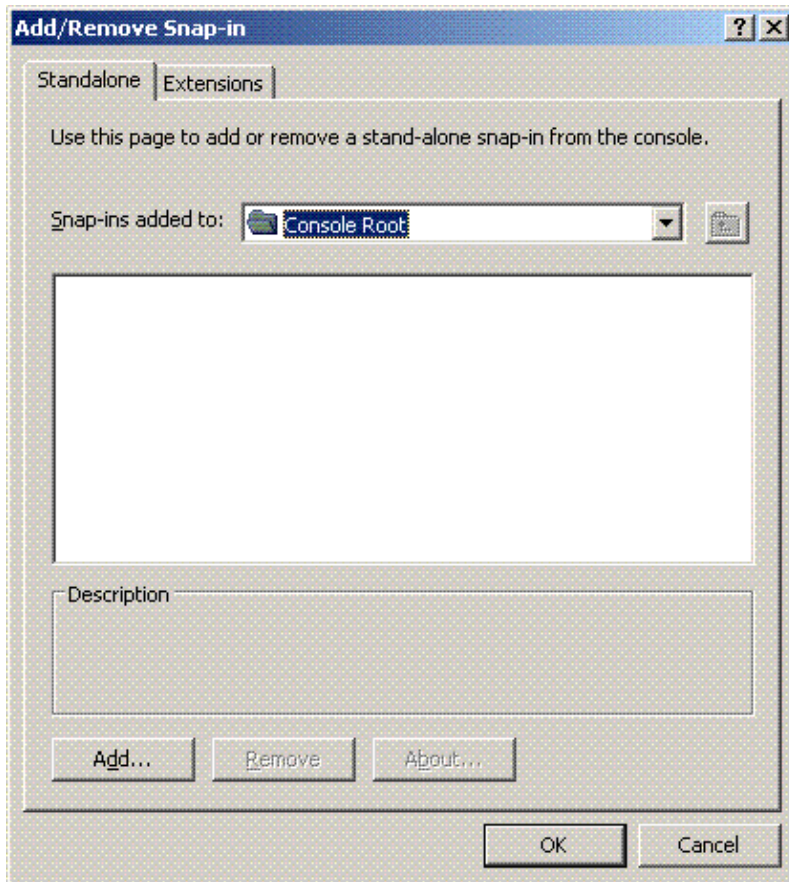
Configure Microsoft Windows 2003 DNS Server for WLC Discovery

Complete these steps in order to configure the Microsoft Windows 2003 DNS server for WLC discovery:

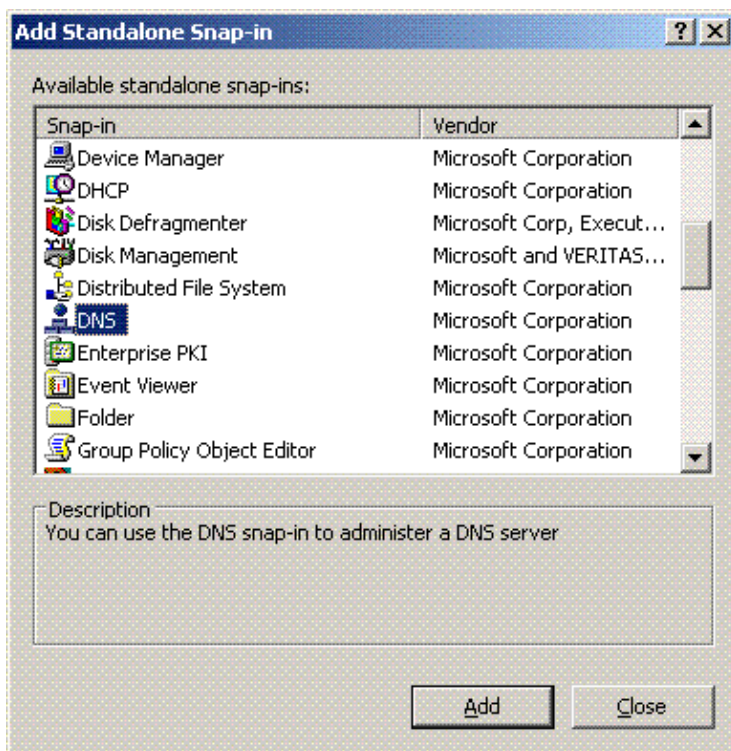
1. Click **Start** -> **Run**.
2. Enter the **mmc** command and click **OK**.



- The Microsoft Management Console window appears.
3. From the **File** menu, choose **Add-Remove Snap-in**.

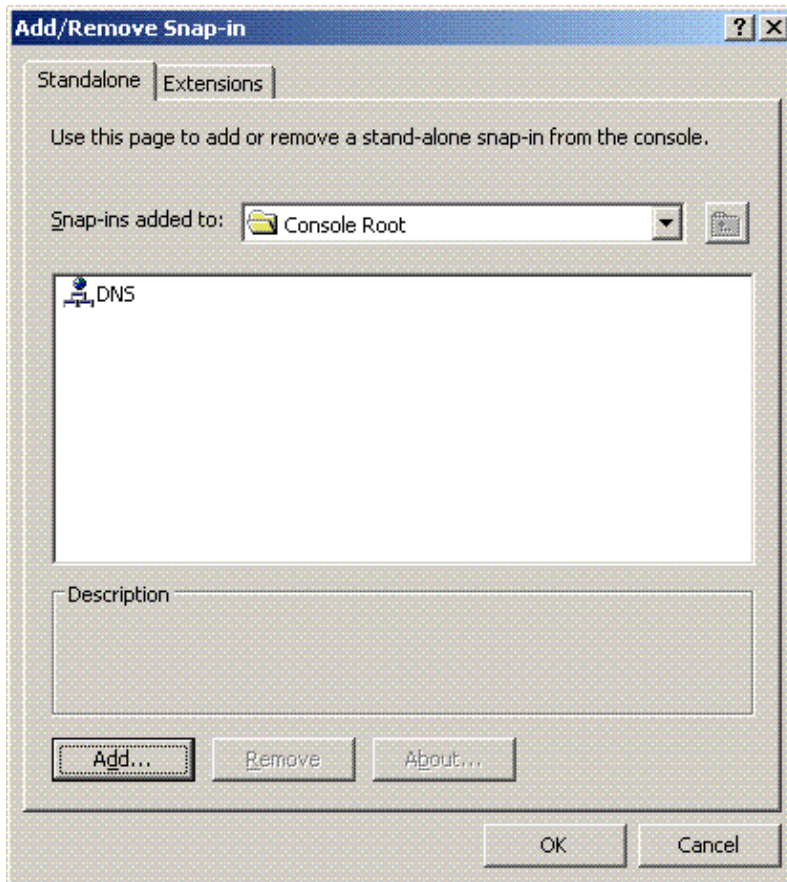


4. In the Add/ Remove Snap-in window, select the **Standalone** tab and click **Add**.
5. From the Add Standalone Snap-in window, choose **DNS** and click **Add**. Then click **Close** to return to the Add/ Remove Snap-in window. Click **OK**.

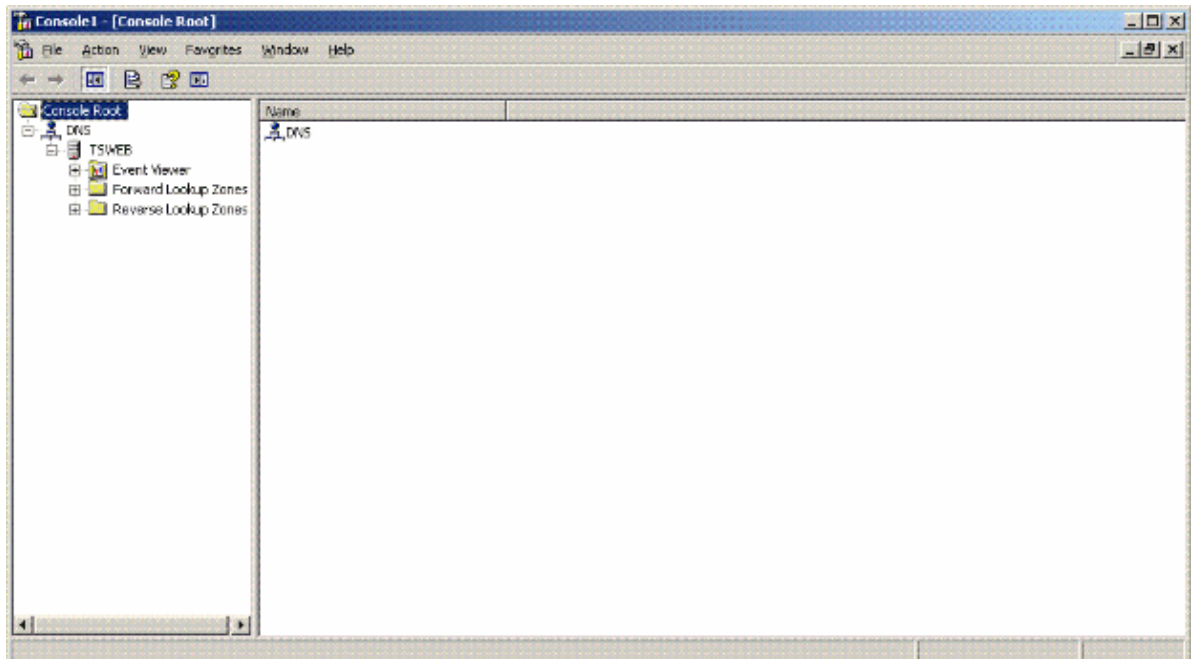


DNS now appears in the MMC window.

6. Expand the + sign to see your Domain Controller.



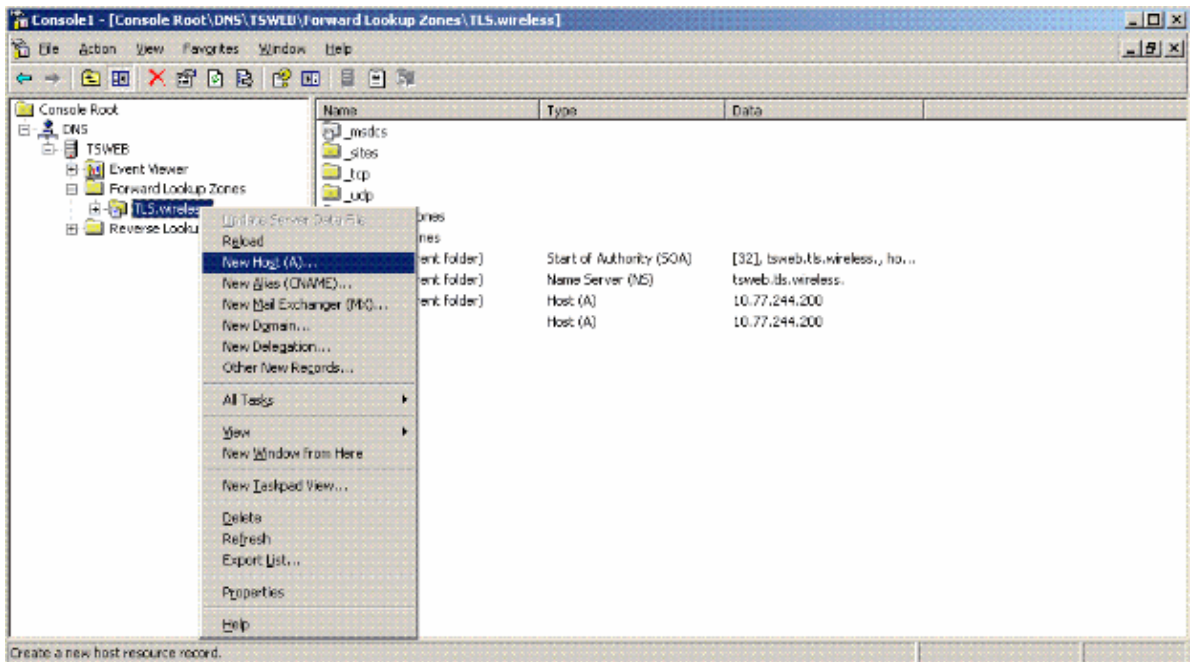
7. Expand the + next to the Domain Controller to see the Event Viewer, Forward Lookup Zones, and Reverse Lookup Zones that are configured.



8. Expand the + next to Forward Lookup Zones.

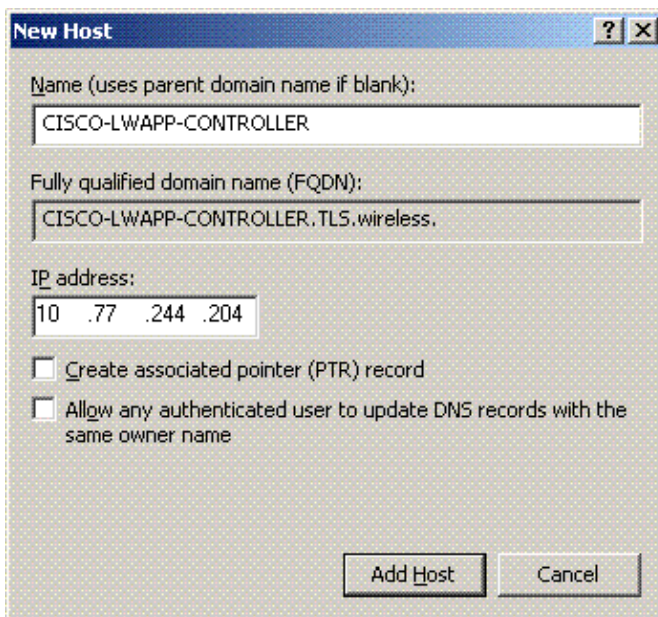
You will see your domains listed. This example shows **TLS.wireless**.

9. Choose the domain and right-click. Click **New Host (A)**.



A new window appears.

10. Enter **CISCO-LWAPP-CONTROLLER** in the name field. Enter your controllers **Management Interface IP address**, then click **Add Host**.



This way the DNS server has mapped the **CISCO-LWAPP-CONTROLLER** hostname to the IP address of the controller management interface. Now when the LAP boots and performs the controller discovery, the AP will attempt to resolve the DNS name **CISCO-LWAPP-CONTROLLER.localdomain**. Once it knows the management IP address of the WLC, it sends a unicast LWAPP Discovery Request Message to the controller and the controller responds with a discovery response.

After this is done, join process begins. For complete information on the LWAPP discovery and join process, refer to Lightweight AP (LAP) Registration to a Wireless LAN Controller (WLC).

Troubleshoot

The AP looks up CISCO-LWAPP-CONTROLLER.cisco.com if no DNS suffix is supplied to the AP from the DHCP server.

This is a known issue. An LWAPP IOS AP, when it boots up, attempts to resolve the CISCO-LWAPP-CONTROLLER domain name.

- First, it will attempt to resolve CISCO-LWAPP-CONTROLLER.
- Then, it will attempt to resolve CISCO-LWAPP-CONTROLLER.cisco.com.

This occurs when the AP has not been configured with a default domain suffix (for example, from the DHCP server). In order to resolve this issue, configure the AP's DHCP server to supply it with a default domain suffix.

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Wireless – Mobility: WLAN Radio Standards
Wireless – Mobility: Security and Network Management
Wireless – Mobility: Getting Started with Wireless
Wireless – Mobility: General

Related Information

- **Lightweight AP (LAP) Registration to a Wireless LAN Controller (WLC)**
- **DHCP OPTION 43 for Lightweight Cisco Aironet Access Points Configuration Example**
- **Deploying Cisco 440X Series Wireless LAN Controllers**
- **Cisco Wireless LAN Controller Configuration Guide, Release 5.0**
- **Technical Support & Documentation – Cisco Systems**

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Updated: Jul 30, 2008

Document ID: 107606