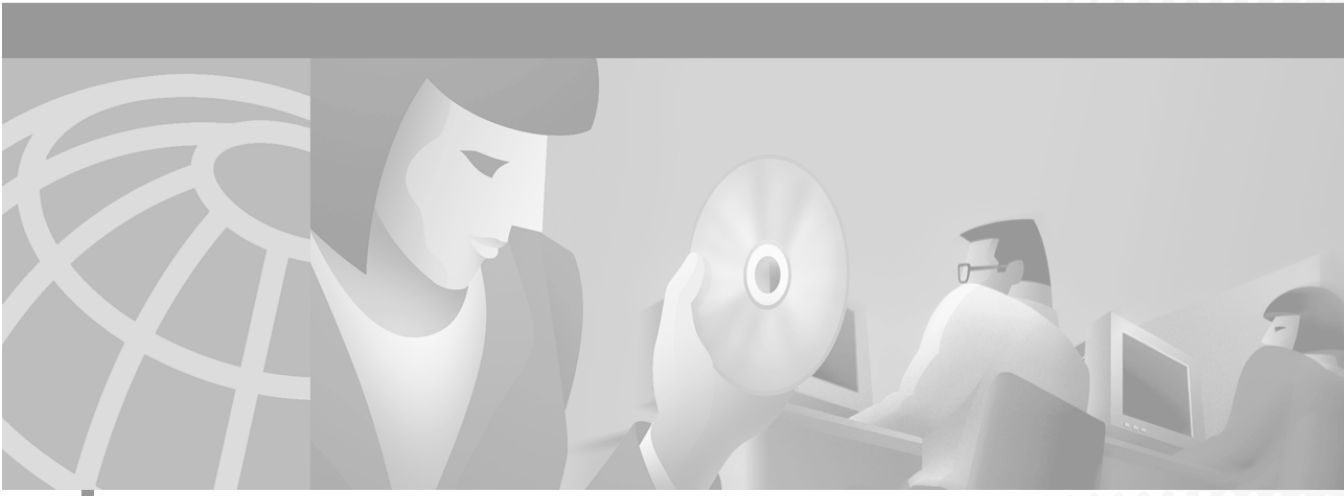

Installation and Setup Guide for the Cisco Secure User Registration Tool

Supplemental License Agreement and Installation Instructions

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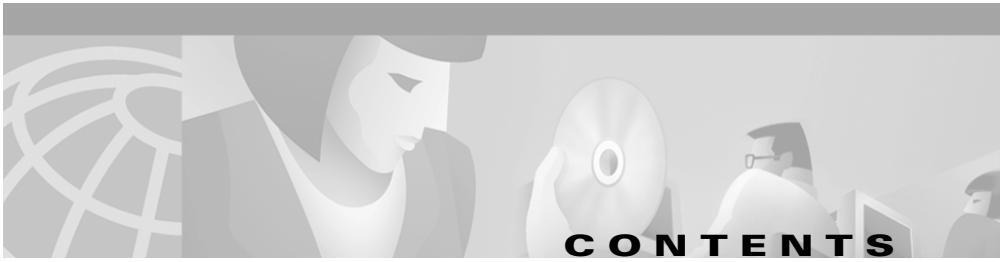
Customer Order Number: DOC-7813389=
Text Part Number: 78-13389-01

Installation and Setup Guide for the Cisco Secure User Registration Tool



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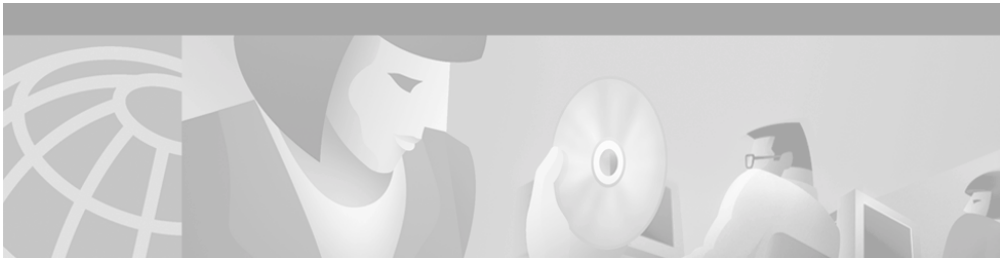

Supplemental License Agreement

SUPPLEMENTAL LICENSE AGREEMENT FOR CISCO SYSTEMS NETWORK MANAGEMENT SOFTWARE RUNNING ON THE CISCO 11XX HARDWARE PLATFORM

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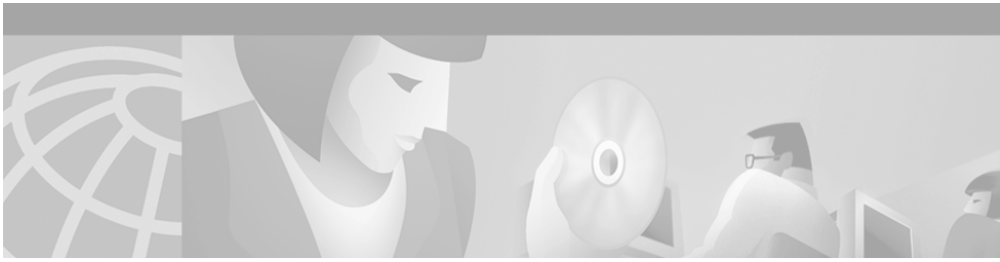

Preface

This guide provides installation and setup instructions for the User Registration Tool (URT) Release 2.5.

Audience

This guide is for anyone who installs, configures, verifies, and uses the User Registration Tool application. Network administrators and operators should have the following skills:

- Network management and configuration
- VLAN management and configuration using switch and router command lines.

If you are using URT with Novell NetWare, you should be familiar with basic NetWare administration and be able to:

- Add users to the network
- Use ZENworks
- Configure Dynamic Host Configuration Protocol (DHCP) servers and clients

If you are using URT with Microsoft Networking, you should be able to:

- Add users to the NT domain server Security Accounts Manager (SAM) database
- Configure Dynamic Host Configuration Protocol (DHCP) servers and clients
- Configure system names to dynamic IP addresses using the Windows Internet Naming Service (WINS)

Conventions

This document uses the following conventions:

Item	Convention
Commands and keywords	**boldface** font
Variables for which you supply values	*italic* font
Displayed session and system information	`screen` font
Information you enter	**`boldface screen`** font
Variables you enter	*`italic screen`* font
Menu items and button names	**boldface** font
Selecting a menu item	**Option > Network Preferences**

Note Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the publication.

Caution Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Related Documentation

The following additional documentation is available:

Paper Documentation

- *Release Notes for the Cisco Secure User Registration Tool and the VLAN Policy Server*
- *Regulatory Compliance and Safety Information for the Cisco 1101 VLAN Policy Server*
- *Installation and Setup Guide for the Cisco 1101 VLAN Policy Server*

Online Documentation

- Context-sensitive online help

  You can access the help in two ways:

  - Select an option from the navigation tree, then click **Help.**
  - Click the Help button in the dialog box.
- PDF for:
  - *User Guide for the Cisco Secure User Registration Tool*
  - *Installation and Setup Guide for the Cisco 1101 VLAN Policy Server*
  - *Regulatory Compliance and Safety Information for the Cisco 1101 VLAN Policy Server*
  - *User Registration Tool Software Developer's Guide*

Note Adobe Acrobat Reader 4.0 or later is required.

- Supported device list for URT

  This can be viewed at the following URL:

  http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/fam_prod/user_reg/2_5/urt_dvcs.htm

Obtaining Documentation

The following sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following URL:

http://www.cisco.com

Translated documentation is available at the following URL:

http://www.cisco.com/public/countries_languages.shtml

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- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:

  http://www.cisco.com/go/subscription

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

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You can e-mail your comments to bug-doc@cisco.com.

To submit your comments by mail, use the response card behind the front cover of your document, or write to the following address:

Cisco Systems
Attn: Document Resource Connection
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

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Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com is a highly integrated Internet application and a powerful, easy-to-use tool that provides a broad range of features and services to help you to

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Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available through the Cisco TAC: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Inquiries to Cisco TAC are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Which Cisco TAC resource you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

The Cisco TAC Web Site allows you to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to the following URL:

http://www.cisco.com/tac

All customers, partners, and resellers who have a valid Cisco services contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to the following URL to register:

http://www.cisco.com/register/

If you cannot resolve your technical issues by using the Cisco TAC Web Site, and you are a Cisco.com registered user, you can open a case online by using the TAC Case Open tool at the following URL:

http://www.cisco.com/tac/caseopen

If you have Internet access, it is recommended that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses issues that are classified as priority level 1 or priority level 2; these classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer will automatically open a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to the following URL:

http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled; for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). In addition, please have available your service agreement number and your product serial number.

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Prerequisites

This chapter describes factors and prerequisites you should consider before installing and using the User Registration Tool (URT).

This chapter contains:

Product Overview

User Registration Tool (URT) is a security product within the Cisco Secure product line that controls user access to the LAN. User access is granted through authentication to Windows NT, Novell Directory Services (NDS), or Active Directory (AD) domain controllers. Until the user is authenticated, URT places the user in a *logon VLAN* that cannot access corporate data servers.

URT facilitates enterprise security, mobile user access, and corporate reorganizations. You can develop VLAN-based security policies and ensure that users access only the expected services. As users move from system to system in your network, URT identifies them based on their logon username and applies the appropriate VLAN policy for each user. You can use URT to create and manage VLAN-based security policies based on a username or a user's membership in a group or organizational unit.

URT supports Microsoft Windows clients for traditional logon, and Linux and Macintosh clients for web logon.

Understanding Traditional Logons and Web Logons

Traditional URT is not web-based, which means that users log on using the Windows logon. Traditional logon applies only to Windows clients.

URT Release 2.5 adds the ability to log in via the web from Windows, Linux, and Macintosh clients.

The same URT Administrative server can manage both traditional and web logons.

Note To distinguish between logons in this manual, the terms "traditional logon" and "web logon" are used.

User VLAN Policies and Group VLAN Policies

You can create VLAN policies based on NT or Windows 2000 user or group name, or Novell NetWare user or organizational unit name. Thus, a user can move from one system to another and remain assigned to the appropriate VLAN and subnet. (This assumes that a single workstation is connected directly to a switch that supports URT.)

If the user has a mobile system, such as a laptop, the user can connect to any supported switch port and also be connected to the correct VLAN and subnet. You must define the associated port as dynamic; if the port has a static VLAN assignment, URT does not override that assignment.

Supported Devices

For a list of supported devices for URT, refer to http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/fam_prod/user_reg/2_5/urt_dvcs.htm

For URT to place a user in the correct VLAN based on username, the user's system must be directly attached to a port on one of the switches that is a supported device for URT.

You must configure the VLAN membership for ports on these switches as dynamic. (URT tracks users on static ports, but does not dynamically place these users in a VLAN.) Use CiscoWorks2000 or the switch's commands to change port state.

Network Prerequisites

Table 1-1 lists the products that you must have installed on your network before you can install and use URT.

Table 1-1 Network Requirements

Required Item	Minimum Requirements	Notes
DHCP Server	A standards-compliant DHCP server. The following are recommended: • Microsoft DHCP Server • Cisco Network Registrar	The DHCP server is required so that users can obtain a dynamically generated IP address that belongs to the correct VLAN. Clients must use DHCP to work with URT. The DHCP server must be accessible to users from the URT logon VLAN as well as from any VLAN a user is placed in. For web logons, the DHCP server must support DNS attributes.
Domain Server	Any of these: • Windows 2000 Service Pack 2 Active Directory, mixed and native modes (for traditional logons and web logons) • Windows NT Server 4.0 with Service Pack 6a, with WINS enabled (for traditional logons only) • Novell NDS NetWare 5.3 and eDirectory (for traditional logons and web logons) • Any IETF-compliant RADIUS server	You can use all these types of domain servers. To resolve domain names to their dynamically generated IP addresses, you must enable the WINS server on the domain server when the domain server is Windows NT.

Hardware and Software Requirements

Table 1-2 lists hardware and software required for installing and using URT.

Table 1-2 Hardware Requirements

URT Element	Minimum Requirement
URT Administrative Server and Administrative Client Interface	• Pentium III CPU • 512 MB DRAM • 65 MB disk space • Color monitor with 1024 x 768 resolution, with at least 256 colors
URT VPS	Cisco VLAN Policy Server
URT Client Module	Traditional logon clients: • Pentium II CPU • 256 MB DRAM • 65 MB disk space Web logon clients: • Pentium II CPU • 64 MB DRAM • 1 MB disk space

Table 1-3 Software Requirements

URT Element	Minimum Requirement	Notes
URT Administrative Server and Administrative Client Interface	• Windows 2000 Professional and Server with Service Pack 2 • Windows XP Professional	Although URT functions independently from CiscoWorks2000, the addition of CiscoWorks2000 streamlines the process of adding network information to URT.
URT Client Module	Platforms that either traditional logon clients or web logon clients can operate on: • Windows 98 SE • Windows NT 4.0 Workstation and Server with Service Pack 6a • Windows 2000 Professional and Server with Service Pack 2 • Windows XP Professional Platforms that only web logon clients can operate on: • Windows XP Home Edition • Macintosh OS 10.1 • RedHat Linux 7.1 • Mandrake Linux 7.2 • SuSE Linux 7.2 • VA Linux 6.2	Clients must be running: • TCP/IP using DHCP to obtain IP addresses. You must use TCP/IP; you cannot use only IPX or NetBIOS. • At least one of these: – Windows Networking (NetBIOS or Client for Microsoft Networks). – Novell NetWare Client 4.6 (or later) for Windows NT clients. – Novell NetWare Client 3.0.1 (or later) for Windows 98 clients.
Web Browser	• Internet Explorer 5.5 (with Service Pack 2) and 6.0 • Netscape 4.79 and 6.2	Macintosh OS 10.1 supports Internet Explorer 5.1 or Netscape 6.2.2 only. Internet Explorer cannot be used on Linux systems.

Summary of Installation Tasks

Table 1-4 Installing the Package

To Do This Task...	See the...
1. Install the VLAN Policy Server hardware.	*Installation and Setup Guide for the Cisco 1101 VLAN Policy Server*
2. Install the URT Administrative Server software.	*Installation and Setup Guide for the Cisco Secure User Registration Tool*
3. Configure the URT Administrative Server.	*Installation and Setup Guide for the Cisco Secure User Registration Tool*
4. Configure switches to use the URT VPS.	*User Guide for the Cisco Secure User Registration Tool*
5. Configure domain controllers and NetWare Servers to run the URT logon script.	*User Guide for the Cisco Secure User Registration Tool*
6. Install the URT Client Module on client systems.	*User Guide for the Cisco Secure User Registration Tool*
7. Configure client systems.	*User Guide for the Cisco Secure User Registration Tool*

CHAPTER 2

Planning for URT

The User Registration Tool (URT) application can simplify your network management, but to use the application, you must already have your network set up to use VLANs along with Windows 2000, Windows NT, or Novell Netware. This chapter explains the planning considerations for deploying user registration in your network.

Configuration

You need to consider two significant factors in designing your URT configuration:

- The location of WAN links in your overall network
- The number of users at a given site (that is, on a set of LANs bounded by WAN links)

Network traffic is not a major consideration. URT traffic will be heavy during normal user logon times, but otherwise there will be very little URT traffic.

Recommendations:

1. Deploy your DHCP servers and domain servers as if URT were not involved. URT is complementary to existing user logon infrastructure.
2. Do not allow logon traffic to cross WAN links. To limit the traffic to the local network, make sure that all switches on the local network point to local URT VPSs.

3. Balance the load among the URT VPSs. To balance the load, make sure that only a portion of the switches in your network use a given URT VPS as the primary server. For example, if you have three servers, divide your switches into three groups, and assign each group a different server to use as the primary server. Use the other servers as secondary servers.
4. Install at least two (preferably three) URT VPSs per local network. Having more than one server ensures that the failure of one does not affect network logons. The more servers you have, the greater the fault tolerance.
5. If you have an exceptionally large number of users, consider adding more than three servers. Because you can configure a switch to use only three servers, not all switches will point to the same set of servers.
6. Do not configure the switches to use a mixture of URT VPSs and switch-resident VMPS servers. The switch-resident VMPS servers should be used only in networks without URT VPSs and when host-based VLANs are sufficient.
7. Do not use the management VLAN as the URT logon VLAN. The management VLAN includes the IP addresses of the switches, carries SNMP and other network management traffic, and is usually VLAN 1.

Configuring Basic URT Over a WAN

The VLAN configuration you would put in place to partition network traffic is the same configuration you should use when you install URT. URT adds user registration to the basic traffic partitioning provided by VLANs.

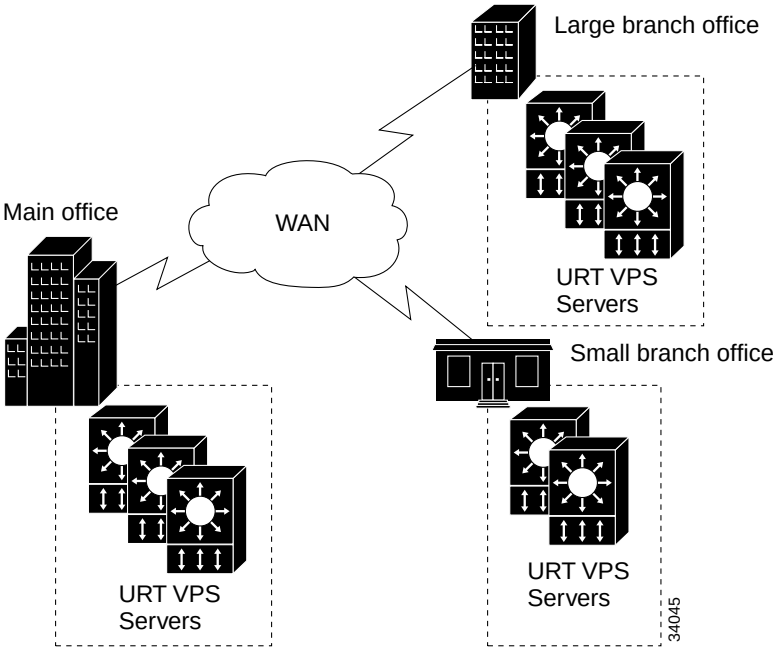
Figure 2-1 shows the recommended configuration for URT when used across a WAN. Begin by installing three URT VPSs in each local network that has what you consider at least a moderately large user base. Divide your switches into three groups, and make each URT VPS the primary server for one group of switches. Use the other servers as the secondary servers for each group of switches.

In smaller offices, install two URT VPSs (for fault tolerance), and if there is more than one switch, divide the switches into two groups.

For large offices, consider adding URT VPSs if you see a significant difference between logon time with URT installed compared to logon time without URT installed. With load balancing among the servers, URT should not have a significant impact on user logon time.

If a user needs to log on from multiple locations separated by a WAN, you will need to configure that user to access the domain server in the remote location. Typically, you should map a user domain to a VTP domain.

Figure 2-1 Deploying URT in Your Network

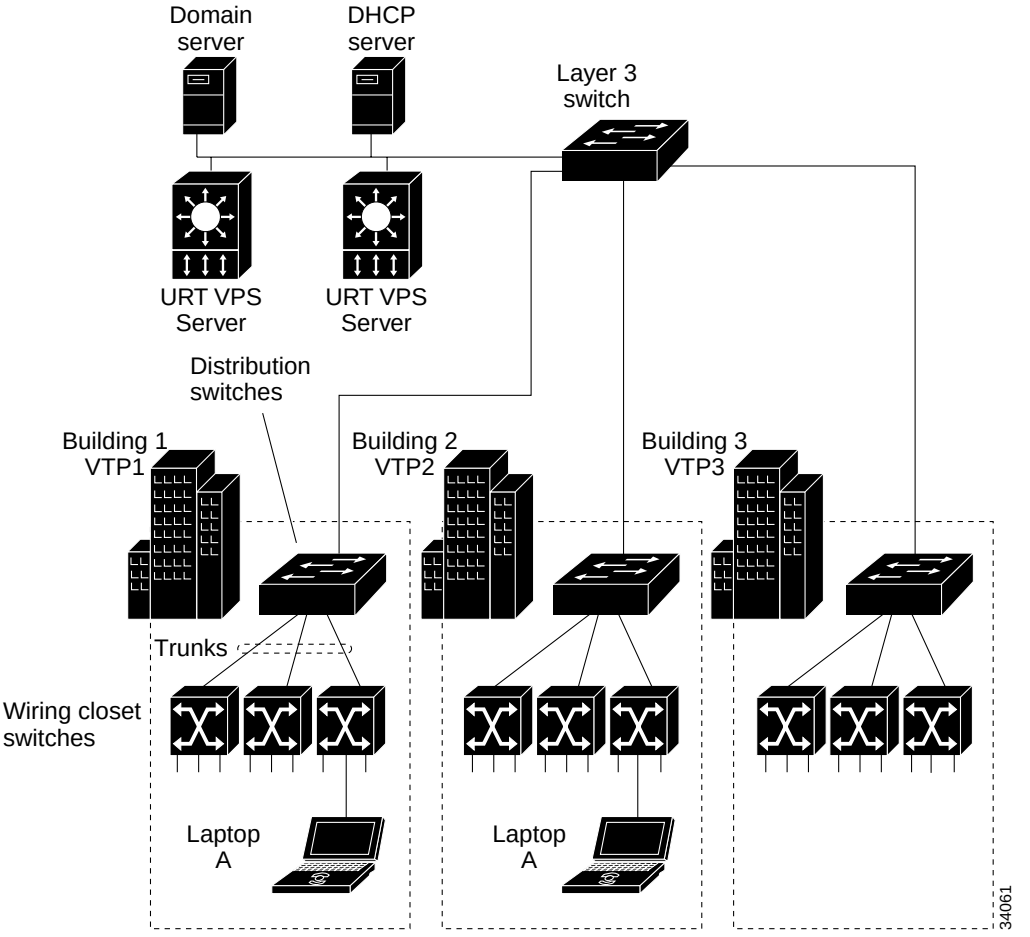


Limiting Unauthorized Use of a Network

Through the use of VTP domains, VLANs, and URT, you can segment your network so that your users can connect to the network only in buildings (or other segments) in which they are authorized.

Consider a typical campus network as shown in Figure 2-2.

Figure 2-2 Limiting Unauthorized Use of a Network



In this example, the switch management domains, or VTP domains, are VTP1, VTP2, and VTP3. Each domain corresponds to a network in one building: VTP1 to Building 1, VTP2 to Building 2, and VTP3 to Building 3. These domains terminate at the Layer 3 switch that ties the networks together, because a VTP domain cannot span a router or Layer 3 link.

In this example, you have two groups of users: Marketing and Engineering. These groups are defined in an NT domain controller, a Windows 2000 domain server, or a Novell Directory Services (NDS) directory (in which case the groups are organizational units). Each user belongs to one of these groups.

To limit Marketing to Building 1, and limit Engineering to Buildings 2 and 3, you must do the following:

1. In each VTP domain, use CiscoWorks2000 VlanDirector or the switch command-line interface (CLI) to create these VLANs:
   - MKTG
   - ENG
   - LOGON
2. Disable the LOGON VLAN on all trunking ports on the wiring closet switches. This prevents users on the LOGON VLAN from connecting to network resources outside the specific wiring closet switch to which they are attached.
3. In URT, make the following VLAN assignments (you must first add the NT or NDS domain to URT).

Group or Organizational Unit	VTP1	VTP2	VTP3
Marketing	MKTG	Not allowed	Not allowed
Engineering	Not allowed	ENG	ENG

   Make the LOGON VLAN the URT logon VLAN for each VTP domain.

   With these VLAN assignments, when a Marketing user tries to connect to the network in VTP2 (in Building 2) with Laptop A, the user logs on to the NT domain or NDS domain server. The user is initially assigned to the LOGON VLAN and given an IP address from the default pool in that VLAN. Because

the Marketing user will not be able to authenticate to the domain server in Building 2, that user will never be granted access to the VTP2 network and will remain in the LOGON VLAN.

If the Marketing user tries to connect to the network in Building 1, using Laptop A, the user successfully connects to the network and is assigned to the MKTG VLAN.

CHAPTER 3

Preparing Your Network for URT

URT requires that your network already be set up to use TCP/IP with DHCP, Microsoft Networking (including established NT domains) or Novell NetWare, Catalyst switches, and VLANs. Before you install URT, make sure that your network is configured appropriately.

If you have not set up Microsoft Networking or Novell NetWare, see the product documentation for instructions. The following sections discuss other requirements your network should meet before you install URT:

Creating VLANs

URT works only with VLANs. You should already have a network configured for VLANs before installing URT. This document does not describe the details of setting up VLANs or planning an effective VLAN or VTP domain design.

If you do not have VLANs defined on your network, you must first configure your switches for VLANs. Some Catalyst switches can share VLAN definitions through Inter-Switch Links (ISLs) or trunking.

To create VLANs use CiscoWorks2000 or the command-line interface (CLI). You must also have established VTP domains before creating the VLANs. You can create VTP domains either by using the CLI on the switch or by using the CiscoView application.

For details about creating VLANs and VTP domains, see these publications:

- *Using the Campus VlanDirector Application*
- *Using CiscoView with Catalyst and LightStream Switches*
- The software configuration guide for your switch

Defining Switch Ports as Dynamic

When setting up switch ports for VLAN membership, you can set the ports as dynamic or static, depending on your other requirements.

If the switch port is static, URT does not dynamically assign the user to a VLAN; instead, the user is assigned to the VLAN defined for the port.

Ports in dynamic modes are used for dynamically assigning VLANs based on username (for names mapped in URT), or by MAC address. You must define ports as dynamic if you want URT to apply your username to VLAN mapping, placing the user in the desired VLAN.

You may use the VMPS server for the switch if you need to assign VLANs by MAC address only.

If you are not already using MAC-based dynamic VLANs, change port states on the switches during URT configuration. Use CiscoView or switch commands to change the state of switch ports from static to dynamic.

Procedure

Step 1 From the Select Device list box in CiscoView, select the switch whose port states you want to change.

Step 2 Double-click the port whose state you want to change.

CiscoView displays the attributes for the port.

Step 3 Set VLAN Port Admin Status to dynamic.

Tip To change several ports at once, you can select multiple ports by holding down the Shift key or the Ctrl key while making your selections, or by clicking and dragging the mouse to draw a box around the desired ports. Then select **Configure > Port**, click the VLAN Port Admin Status box for each port, and select Dynamic.

Note If you are using MAC-based dynamic VLANs and a user does not get a VLAN association from URT (either based on username or MAC address), the user is placed in the logon VLAN as defined in URT. If there is no logon VLAN and the port is in secure mode, the port is shut down and access to the network is denied.

Connecting User Systems Directly to Switches

URT can dynamically assign a VLAN only to users whose systems are directly connected to a port in dynamic mode on a supported switch. Only one system can be connected to a port in dynamic mode. There must be no other network hardware between the user and the switch. For example, if there is a hub on a user's desk, with several systems connected to the hub, URT does not handle requests coming from those hub-connected systems even if the hub is connected to a supported switch port.

To ensure that URT handles each user, make sure that each work area has sufficient connections, so that hubs are not required. Hubs can be eliminated by replacing them with switches and by running more lines to the user's desk.

Defining DHCP Servers and Domain Servers

DHCP servers and domain servers must be reachable from both the logon VLAN and user VLANs. Making them reachable requires a routing configuration with:

- DHCP forwarding
- Windows or Novell logon and logoff from all VLANs.

Configuring DHCP

If you do not already use DHCP to dynamically assign IP addresses to user workstations, install and configure DHCP before installing URT. URT affects only systems that use DHCP to acquire an IP address. See the documentation supplied with your DHCP server for information on setting up the server.

Setting Up Subnets

Configure your DHCP server to support all VLANs and subnets defined on your network. Make sure that you have adequate IP addresses in the subnet used by the VLAN that you plan to define as the URT logon VLAN. You will define a logon VLAN for each VTP domain in your network.

Logon VLANs support all DHCP-supported systems that could log on to the VTP domains. If you do not have an adequate number of IP addresses in the logon VLAN subnet, users may experience delays or failures during NT or Novell Directory Services (NDS) domain logon and logoff, because they will not be able to obtain a required IP address.

Setting Up Network Routing

You must also allow the following traffic access to all subnets (settings for traffic access are defined on the routers in your network):

- **User Datagram Protocol (UDP) traffic on ports 15000, 15001, and 15002 (URT VPS traffic)**—If you specified different UDP ports when you installed the servers, you must allow UDP traffic on your selected ports.
- **Windows logon traffic**—Users cannot log on to the network on subnets that do not allow Windows logon traffic.

Configuring DNS Servers for Web Clients

In the DNS field of the DHCP server Logon VLAN scope, add the IP addresses of your VLAN Policy Servers. This entry allows the web client to be redirected to the VLAN Policy Server for the URT web logon page. If one VLAN Policy Server is down, the secondary VLAN Policy Server is accessed to display the web logon page.

Configuring Client Systems to Use DHCP

If you are using Microsoft TCP/IP software, configure your user system to use DHCP, to obtain an IP address.

Procedure

Step 1 Right-click Network Neighborhood and select **Properties**, or open the Network Control Panel.

Step 2 Open the TCP/IP protocol properties page.

Step 3 Select Obtain an IP address from a DHCP server, and click **OK**.

Step 4 Click **OK** on the Network Control Panel, and reboot if required.

If you are using another vendor's TCP/IP software, follow the instructions provided with your software to configure the system to use DHCP.

Configuring Client Systems to Connect to Their Domain Server

URT places no special requirements on client systems to log on to their domain server.

Caution Prior to installing URT, a Windows or Novell client should be tested to ensure that it is working properly with DHCP and the related domain controller.

CHAPTER 4

Installing URT

Before you install URT, review the planning information in Chapter 2, "Planning for URT." Because URT is integral to the overall functioning of your network, careful planning prior to installation is essential to successful URT deployment.

Note This chapter describes the process of installing URT Release 2.5 for the first time. If you are upgrading your system from Release 2.0 to Release 2.5, see Chapter 5, "Upgrading URT from Release 2.0 to Release 2.5."

This chapter contains:

Installing the URT Administrative Server and Administrative Client Interface

Note You must log on to the system with an account that has local administrator privileges.

During the installation, you will be asked to enter:

- **URT VPS port numbe**r—The preconfigured port number is displayed. Do not change this number.
- **User data to create URT Administrative Server as**—Be prepared to enter the name and password for a local administrator account.

Procedure

Step 1 Insert the product CD-ROM into the Windows system.

Step 2 Select **Start** > **Run** and enter:

```
d:\setup.exe
```

Replace d: with the drive letter for your CD-ROM.

Step 3 After the installation program unpacks the URT files and prepares the Install Shield, it displays the Welcome screen. Click **Next** to continue.

Step 4 In the User Information dialog box, enter the user's name and the company name.

Step 5 The installation program displays the destination location. Click **Next** to continue.

Step 6 In the URT VPS Port Number dialog box, click **Next**.

Note Do not change the port number that the URT VLAN Policy Server uses to connect to the URT Administrative Server. The port number is preconfigured on the server.

Step 7 In the Create URT Administrative Services text box, enter the user ID and password for the system (the user ID must have administrator privileges on the system).

The installation program begins copying files to your system.

Step 8 To complete the installation, select **Yes** to reboot your system.

After you restart the system, the URT Administrative Server runs on the system, the URT Administrative Client Interface is installed, and URT is added to the program list on the **Start > Programs** menu.

Note A single URT Administrative Server is recommended. If more than one URT Administrative Server is installed, URT will not coordinate logons among the servers.

Installing the URT VLAN Policy Server

During the installation you will be asked to enter the URT Administrative Server port number. The preconfigured port number is displayed; do not change this number.

Procedure

Step 1 Insert the product CD-ROM into the Windows system.

Step 2 Select **Start > Run**, and then enter:

```
d:\setup.exe
```

Replace d: with the drive letter for your CD-ROM.

When the installation program starts, follow the onscreen instructions.

For detailed information on installing the URT VLAN Policy Server, see *Installation and Setup Guide for the Cisco 1101 VLAN Policy Server.*

Removing URT

Because of the role of URT in your network, there are several steps you must complete to remove URT from your network. For complete uninstallation instructions, See Chapter 5, “Removing URT,” in *User Guide for the Cisco Secure User Registration Tool*.

Logging On to the URT Administrative Server

To use the URT Administrative Client Interface, you must log on to the system where the URT Administrative Server is installed. However, you do not need to be logged on as a local administrator. The only tasks that require you to be logged on to an account with particular privileges are adding domains to URT and installing the URT logon script on the domain server. However, if you are not logged on to an account with appropriate privileges, URT prompts you for the username and password of an account with appropriate privileges.

Starting the URT Administrative Client Interface

To start the User Registration Tool, select **Start > Programs > URT > Start User Registration Tool**.

Note If you get the error message “Failed to establish connection to URT Administrative Server,” select **Control Panel > Services** and scroll to URT Administrative Service. Enable automatic startup for URT Administrative Service by creating a username and password with administrator privileges.

After you have successfully installed the URT software, you must finish configuring URT for it to be active and working correctly on the network. The “Configuring URT: A Roadmap” section on page 4-5 describes what you will need and what you must do to complete the configuration. See *User Guide for the Cisco Secure User Registration Tool* for complete implementation details.

Configuring URT: A Roadmap

All configuration tasks are completed from the URT Administrative Client Interface. The roadmap in this section provides a high-level overview of the configuration process. This roadmap is provided to allow you to gather any data you may need and to perform any additional tasks prior to beginning the configuration process. *User Guide for the Cisco Secure User Registration Tool* supplies all of the details for each of the steps in this roadmap.

This section comprises:

Supplying URT with User Registration Management Data

Network information must be loaded into URT and configured before you activate URT. The tables throughout this section are provided as sample information-gathering aids. For cases in which you plan to import information from another system or from a file, there is no need to use such aids.

Adding URT VLAN Policy Servers to URT

To add a URT VLAN Policy Server to the URT configuration, you will need to provide the server IP address. Although the installation program prompts you for a port number to use with the URT Administrative Server, port numbers are preconfigured on the server and should not be changed.

Use the following table to record the URT VLAN Policy Server IP address and port number.

URT VPS IP Address	Port Number

Adding VTP, VLAN, and Switch Data to URT

You can add VTP, VLAN, and switch data to URT in one of three ways:

- **Import from CiscoWorks2000**—If you have Ciscoworks2000 installed, you can use it to discover and import the required data.
- **Import from a file**—You can import the switch data from a comma-separated values file that includes IP address and SNMP community strings for each switch.
- **Add an individual switch**—You must supply the IP address and SNMP community strings.

If you are adding individual switches, you may want to use the following table to record the required information.

Switch IP Address	SNMP Read-Only Community String	SNMP Read-Write Community String

Configuring VLANs for URT

For each VLAN in each VTP domain, you must enter all subnet/mask pairs. For each VTP domain, you must designate one VLAN to be the URT logon VLAN.

URT logon VLANs function as the default VLANs for all users. Initially, all users log on to the URT logon VLAN for the VTP domain. When selecting the VLANs to use as URT logon VLANs, keep the following recommendations in mind:

- Do not use the management VLAN as the URT logon VLAN. The management VLAN includes the IP addresses of the switches, and is usually VLAN 1.
- Be sure you select a VLAN that has a subnet with sufficient IP addresses for all the users in the VTP domain. Otherwise, users might have problems logging on to and out of the network, because they might not be able to obtain an IP address.

Use the following table to record the required information.

VTP Domain			
VLANs	**Logon VLAN (Y/N)**	**Subnets**	**Masks**

Adding NT Domains and NDS Directories to URT

You can add NT domains and NDS directories from an NT domain server or NetWare server using URT. URT can automatically add the users, groups, or organizational units from the domain or directory.

To add NT domains and NDS directories, you must have Administrator authority in every NT domain that you are adding; or, when prompted, enter a username and password for an account that does have Administrator authority. In addition, you must be logged on to the NDS directory that you are adding; or, enter a username and password for an account that has browse and read privileges.

Use the following table to record the required information.

Domain/Directory	Account with Appropriate Authority or Privileges

Associating Users, Groups, or Organizational Units to VLANs

You do not have to create any (or all) of these associations to have a valid URT configuration. Any users, groups, or organizational units not associated with a specific VLAN can use the logon VLANs.

If you want to associate users, groups, or organizational units to VLANs, you can either use the URT menus to configure the associations, or you can use the URT command-line interface to import the associations from a comma-separated values file.

Use the following table to record the required information.

User, Group, or Organizational Unit	VTP Domain	VLAN

Coordinating MAC-to-VLAN Mappings

URT does not support user-based VLAN assignments on all systems. You can include Macintosh, Linux, UNIX, and other types of hosts in your dynamic VLAN planning by assigning VLANs based on the host MAC address. However, user-based VLAN policies take precedence over MAC-based VLAN policies.

You can force URT to give precedence to MAC-based VLAN policies instead of user-based policies by setting the URT option Retain MAC to VLAN Associations.

To assign VLANs based on the host MAC address, you can either use the URT Administrative Client Interface to configure the associations, or you can use the URT command-line interface to import the associations from a comma-separated values file.

Use the following table to record the required information.

MAC Address	VTP Domain	VLAN

Activating URT

Activating URT is a two-step process:

- After you configure switches to use the URT VLAN Policy Server, if there are no MAC-based VLAN policies, URT assigns users to the URT logon VLAN for their VTP domain.
- After you install the URT logon script on the domain servers and install the URT Client Module on user workstations, URT assigns the VLANs specified by URT VLAN policies.

Configuring Switches to Use the URT VLAN Policy Servers

For switches to work with URT, they must already be configured as dynamic. See the "Defining Switch Ports as Dynamic" section on page 3-2.

In addition, you will have to use the URT Administrative Client Interface to configure the switches to use the URT VLAN Policy Server. Configure each switch to use one URT VLAN Policy Server as primary and one (or optionally two) servers as secondary for failover capability. You must have already decided how to divide your switches into groups over the URT VLAN Policy Server. See the "Configuration" section on page 2-1.

At this point, all switches use the URT VLAN Policy Server to determine VLAN membership. Users are assigned to MAC-based dynamic VLANs or to the URT logon VLAN only. No user-based, group-based, or organizational unit-based VLAN assignments work until you install the URT logon script on the domain servers and install the URT Client Module on user workstations.

Use the following table to record the required information.

Switch	Primary URT VPS	Secondary URT VPS	Secondary URT VPS

Updating the Domain Servers

For user logons to be processed by URT and for your user-based, group-based, and organizational unit-based VLANs to become active, you must configure the logon script options using the URT Administrative Client Interface. Note that the options include one that enables the automatic installation of the URT Client Module on user workstations in a Microsoft Networking network. If you select this option, you do not need to install the URT Client Module manually on user workstations. This option is not supported on NetWare networks.

For NetWare, you must also have installed the ZENworks Starter Pack and created the WINNT User Package and WINNT Workstation Package policy objects. These policy objects must be associated with the organizational object that contains the users and groups on whose workstations you will install the URT Client Module.

You must install the URT logon script on the NT domain server or NetWare server in all NT domains and NDS directories you want URT to manage. To install the script, you must have Administrator authority on the NT domain, or Administrator (or Administrator-equivalent) authority on the NetWare directory. Then configure the domain server to run the URT logon script.

Configuring and Installing the URT Logon Script

URT automatically prompts you to reinstall the logon script when you make changes that require it (for example, when changing domain logon options). For more detailed information on the URT logon script, see *User Guide for the Cisco Secure User Registration Tool*.

If you did not install the logon script when prompted, you can do so later using the instructions in this section.

Before You Begin

You must have NT Administrator authority in the domain or NDS read and browse privileges in the directory.

Procedure

Step 1 Select an NT domain or NDS directory.

Step 2 Select **Customize > Install URT Logon Script**.

URT displays a list of domain servers or NDS NetWare servers found in the selected domain.

Step 3 Click **Yes**.

URT installs the URT logon script (urt.bat) on the domain servers and NDS NetWare servers, and displays a message box to show the status of the installation.

Step 4 If necessary, repeat Step 2 and Step 3 for every NT domain or NDS directory in your network.

Note You must manually add any NT domains or NDS directories that are missing from the NT and NDS Domains folder. To do so, select the NT and NDS Domains folder, then click **Add** or select **Edit > Add**. Enter the name of the missing domain or directory (or select one from the list), then click **OK**.

Configuring Users to Run the Domain Logon Script

On your primary domain server, you must update (or create) the URT logon script (urt.bat). This is a procedure you run once to make sure that users run the logon script at logon. Running the script directs user logons to the URT VPSs.

Configuration Procedure for Microsoft Networking

If you do not already have a logon script, you must either create one or associate users directly with urt.bat as the logon script.

For NT domain servers, the urt.bat file is installed in the NETLOGON directory.

The directory is *%SYSTEMROO*T%\system32\repl\import\scripts, where*%SYSTEMROO*T% is the root directory for operating system files.

For example, if you installed Windows NT into C:\WINNT, the NETLOGON directory is C:\WINNT\system32\repl\import\scripts.

Note If you set NT replication to include logon scripts and one of the backup NT domain servers is unavailable during Client Module installation, the logon scripts are copied to that domain server. If you are not using replication for logon scripts, you must update the logon script on all domain servers.

Before You Begin

To edit the logon script on the NT domain server, you must log onto the system from an account that has Administrator privileges, or be able to connect to the drive containing the script from another workstation where you have Administrator privileges.

Procedure

Step 1 To update a logon script, add the following instruction as the first line of the logon script on the NT primary domain server:

@call %0\..\urt.bat

Step 2 To associate users directly with urt.bat as the logon script:

a. Start the Windows User Manager administrative tool.

b. Double-click a username.

c. In the User Properties window, click **Profil**e.

d. In the User Environment Profile, enter **urt.bat** in the Logon Script Name text box, then click **OK**.

Configuration Procedure for Novell NetWare

Caution If you are using Novell NetWare, do not edit the urt.bat file.

For NDS, you must have read and browse privileges in the directory.

Use the Novell Application Launcher (NAL) program to add the following instruction to the logon properties for the organization object that contains the users, groups, and other organizational units you want to manage:

@\\%FILE.SERVER\sys\public\urt\urt.bat %FILE_SERVER

Installing the Traditional URT Client Module

The URT Client Module is usually installed automatically.

- Installation is *automatic* in Windows NT, Windows 2000, and Windows XP (Professional) clients in a *Microsoft Networking* (not Novell NetWare) environment. Automatic installation is enabled by default in the domain option Enable auto install and upgrade for Windows NT/2000. For more detailed information on setting domain logon options, see *User Guide for the Cisco Secure User Registration Tool*.
- Installation is *not automatic* for:
  - Any client, including Windows clients, *in a Novell NetWare network*. For Novell NetWare, you must install the Client Module manually.
  - Windows NT, Windows 2000, and Windows XP (Professional) clients in a *Microsoft Networking* environment if automatic installation is disabled in the domain option Enable auto install and upgrade for Windows NT/2000.

The following sections describe:

- Installing the URT Client Module Automatically, page 4-14
- Installing the URT Client Module Manually, page 4-15

Installing the URT Client Module Automatically

When automatic installation is enabled, the Client Module is installed after you install the URT logon script on the domain server.

If automatic installation is enabled in a Microsoft Networking environment, and a Windows NT or Windows 2000 system logs onto the network, the following events occur:

1. The logon script tries to run a utility on the system that verifies whether the latest version of the Client Module is installed.
2. If the logon script does not find this utility on the system, the script copies the utility to the system and runs it.

3. If the Client Module is not installed, or the installed Client Module is not the latest version, the utility:
   a. Obtains the latest version of the executable files from the domain server.
   b. Tries to install or upgrade to the latest version of the Client Module.
4. If the attempt to install or upgrade fails:
   a. The utility sends a packet to the VLAN Policy Server to request installation of the Client Module on the system.
   b. The VLAN Policy Server requests the URT Administrative Server to install the Client Module on the specified system.

After installation, the client then runs normally.

Installing the URT Client Module Manually

Manual installation of the Client Module is different for Microsoft Networking and Novell NetWare clients. If a workstation runs both Microsoft Networking *and* NetWare, follow *both* of these procedures:

- Installing the URT Client Module on Microsoft Networking Clients, page 4-15
- Installing the URT Client Module on Novell NetWare Clients, page 4-18

Installing the URT Client Module on Microsoft Networking Clients

Follow the instructions in this section to manually install the URT Client Module on a Windows NT, Windows 2000, or Windows XP (Professional) workstation running Microsoft Networking.

Before You Begin

- Choose a time of day when most of the Windows systems are up and running on the network (even if users are not logged on). You can install the Client Module only on systems that are running and connected to the network.
- You must have NT Administrator authority in the domain.

Procedure

Note You must follow this procedure for every NT domain in your network.

Step 1 In the URT main window, select NT Computers in the folder for an NT domain.

Alternately, if you are installing the Client Module on all Windows NT or Windows 2000 systems in a domain, you can select the domain. (You can select multiple systems by using the **Shift** key or the **Ctrl** key.)

Note You can install the Client Module only on systems that use DHCP. If a selected system does not use DHCP, the Client Module installation fails.

A list of Windows NT and Windows 2000 clients is shown in the right-side pane. The client attributes are described in Table 4-1.

Step 2 To install the Client Module on all listed NT hosts, do not select any systems in the list. Otherwise, select the system on which you want to install the Client Module.

Step 3 Click **Install Client Module** or select **Customize** > **Install Client Module**.

URT installs the Client Module on the selected clients, and displays a message window so that you can monitor the status of the installation.

Table 4-1 NT Hosts: Right-Side Pane (List Pane)

Field	Description
Name	Client name.
Service Status	Status of the Client Module on the system: • **Installed**—The service is installed. • **Installed Running**—The service is installed and active. • **Query Pending**—URT is waiting for a reply from the client. • **Service Query Error**—URT could not determine the status of the service. This might indicate that: – The system is not running. – The IP address for the system has changed since the last time WINS was updated. After five to ten minutes, this problem should resolve itself. • **Not Installed**—The service is not installed on the client. • **Host Unreachable**—URT did not receive a reply from the client.
Version	Client Module version number (if installed).

Installing the URT Client Module on Novell NetWare Clients

Use the instructions in this section to manually install the Client Module on a Windows NT or Windows 2000 workstation running Novell NetWare.

Before You Begin

- You must have Administrator or Administrator-equivalent authority to install the Client Module on systems defined in the Novell Directory Service (NDS) directory tree.
- You must also have installed the ZENworks Starter Pack and created the WINNT User Package and WINNT Workstation Package policy objects. These policy objects must be associated with the organizational object that contains the users and groups on whose workstations you will install the Client Module.

See the documentation at the Novell web site for more information.

Procedure

Step 1 At the command prompt on a NetWare client, enter **nal** to run ZENworks Novell Application Launcher (NAL).

Step 2 In NAL, double-click the NWAdmin32 application.

The NDS directory tree is displayed in the NWAdmin32 application.

If no NWAdmin32 icon displays, you must log on again to NDS as administrator.

Step 3 In the NDS directory tree, double-click the WINNT Workstation Package.

Step 4 In the WINNT Workstation Package, click **Add Action**.

NAL opens the Create Scheduled Action window.

Step 5 In the Create Scheduled Action window, enter a meaningful name for the action (for example, “Install URT”) and click **Create**.

NAL creates the action and opens the Scheduled Action window.

Step 6 In the Scheduled Action window, select the newly created action and click **Details**.

Step 7 Select Ignore package default schedule and use the settings described here.

a. Click **Details**.

   NAL opens the Action Properties window.

b. In the Action Properties window, select the General tab, and then select these characteristics (allowing the others to default):

   Priority—Normal

   Impersonation—System

c. Select the Items tab, and click **Add**. NAL opens the Item Properties window.

d. Enter the filename of the Client Module installation program, in the following format:

   *Novellserver***sys\public\urt\UrtClientInstall.bat**

   Novellserver is the name of the server where you install the URT logon script. URT installs the client module installation and uninstallation program on the server when the URT logon script is installed.

e. In the Action Properties window, select the Schedule tab, and then select User Logon for Event.

f. In the Action Properties window, select the Advanced tab, and then select the Disable action after completion checkbox.

The Client Module is installed the first time the user logs on to the NetWare domain.

Tip To save time later, while you are creating the Install URT object, you might want to also create an Uninstall URT object. This object would have the same properties described above, except the file name is *Novellserver***sys\public\urt\UrtClientUninstall.bat**. Make sure that you deselect the Uninstall URT item in the Scheduled Action window, unless you are uninstalling the client. If you are uninstalling the client, make sure that you deselect the Install URT object.

For more information about uninstalling software from NetWare clients, see the Novell ZENworks documentation.

Setting Up the Web Client Interface

Web-based clients use the URT Web Client Interface to authenticate and assign VLANs to web users. Any configured LDAP or RADIUS domain can authenticate web clients.

For information on adding LDAP directories and RADIUS servers, see the "Adding LDAP Servers" section on page 4-23 and the "Adding RADIUS Servers" section on page 4-26.

These topics describe administrative and client tasks for using the web interface:

Configuring DNS Servers on the DCHP Manager

In the DNS field of the DHCP server Logon VLAN scope, add the IP addresses of your VLAN Policy Servers. Doing this allows the web client to be redirected to the VLAN Policy Server for the URT web logon page. If one VLAN Policy Server is down, the secondary VLAN Policy Server is accessed to display the web logon page.

Before logon, any URL the web user enters into the browser is automatically redirected to the URT web logon page. After logon, the user can browse to any allowed URL without changing any browser settings.

The DNS server that runs on the VLAN Policy Server replies to all queries from the current system IP address.

Note You must modify the DHCP setting for the logon VLAN to use the VLAN Policy Server as the DNS setting. When a user logs on from the web, the web page address is queried in DNS. The response to the query is the IP address of the current VLAN Policy Server, and the URT web logon page is displayed.

Customizing the Web Logon Page

The VLAN Policy Server generates a web page for web clients to their user ID, password, and domain name for authentication. The web logon page is the page users see when they first start their browsers.

You can add customized advertisements or announcement text to this page. When you edit the customized text, the page is regenerated.

The web logon page is also regenerated whenever you add or remove an LDAP domain or RADIUS server.

For detailed information on customizing your web logon page, see *User Guide for the Cisco Secure User Registration Tool* or the URT online help.

Logging On As a Web Client

To use the web client, the user must log onto the local system as an Administrator or root user.

The VLAN Policy Server generates a web page for web logon clients. Web clients see this page when they first start their browsers. The web logon page has user ID, password, and domain name fields.

Before logon, any URL the web user enters into the browser is automatically redirected to the URT web logon page. After logon, the user can browse to any allowed URL without changing any browser settings.

Note In an environment with several web users, you should consider setting up a dedicated VLAN Policy Server for authenticating web logons. For detailed information, see *User Guide for the Cisco Secure User Registration Tool* or the URT online help.

Client Logon Procedure

Users can enter their logon information in the URT web logon page.

URT authenticates the user, then gathers MAC address DHCP data from the system to send to the VLAN Policy Server. If necessary, URT releases and renews the web user's IP address.

Note All web users must have root privileges to release and renew their current IP address so that URT can perform this step, if necessary. See *User Guide for the Cisco Secure User Registration Tool* or the URT online help for more information.

Procedure

Step 1 In the User Name field, enter your username.

Step 2 In the Password field, enter your password.

Step 3 From the Domains list, select your domain.

Every LDAP and RADIUS domain added to URT is displayed.

Step 4 Click **Logon**.

The URT logoff page shows your connection time.

Note If you selected the Log on user and remove logoff window option, the connection time is not displayed.

Adding LDAP Servers

For web logons, URT supports Active Directory (AD) and Novell Directory Services (NDS) domains that use Lightweight Directory Access Protocol (LDAP). When a web client logs on from an LDAP domain, the VLAN Policy Server searches that LDAP tree to locate the user. URT searches the LDAP tree from bottom to top until it finds a VLAN association for the user. If no VLAN associations are found, the user remains in the current (logon) VLAN.

You must add the LDAP servers you want URT to manage to the Directories folder in URT. You can add multiple LDAP directories and assign VLANs at any point in the LDAP tree to users, groups, or organizational units. The tree supports multiple tree levels.

Before You Begin

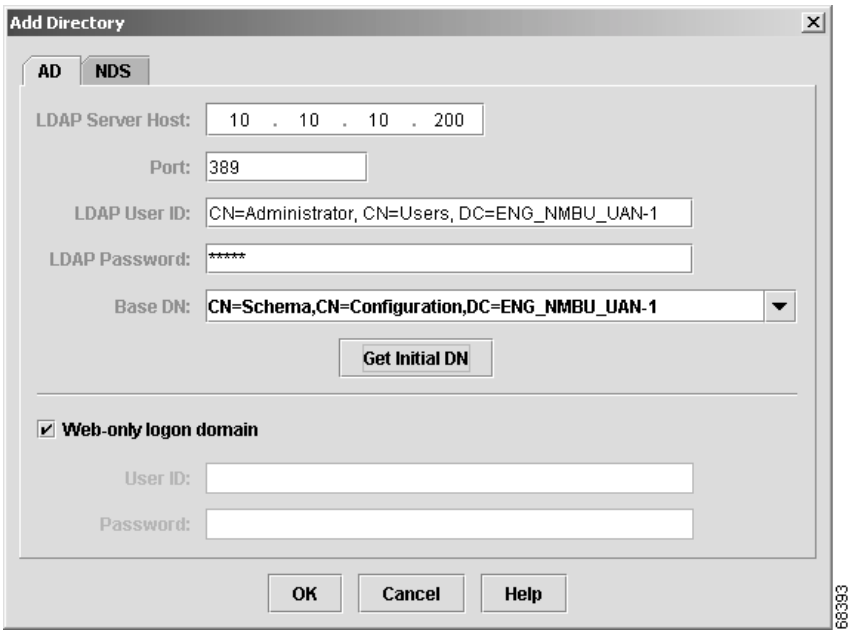
- You must have an LDAP logon and have NDS read and browse privileges in the directory.
- To manage LDAP servers, you must enter your LDAP user ID in LDAP format (for example, `cn=username, cn=Users, dc=domainname, dc=company, dc=com`) and enter your LDAP password.
- To make changes to an NDS directory, you must have read and browse privileges for that directory.
  - If you are not logged onto the NDS directory you are changing, you are prompted to log on with a user account with privileges.
  - If you are logged onto NDS without browse and read privileges for the directory, you must exit URT and log onto the NetWare network from an appropriate account.

Procedure

Step 1 Select the Directories folder.

Step 2 To add a new directory, click **Add** or select **Edit > Add**.

Figure 4-1 Adding an LDAP Server



Step 3 In the Add Directory window, click the AD (default) or NDS tab (depending on your platform).

Step 4 Enter the LDAP server host and port information for the LDAP server.

Step 5 Enter your LDAP user ID in LDAP format; for example, **cn=username, cn=Users, dc=domainname, dc=company, dc=com.**

Step 6 Enter your LDAP password.

Step 7 Select the interval at which the Client Module looks up the user in the LDAP tree to determine if the user's Distinguished Name (DN) has changed.

Step 8 Enter the base DN.

The base DN is the base name used to search for organizational units and users. To get the base DN on the server, click **Get Initial DN**.

Note You can add the same LDAP server multiple times if the base DN is unique for each instance.

Step 9 If you are adding a directory exclusively for web logons, select the Web-only logon domain checkbox. Then do one of the following:

- For AD servers—Enter the NT administrator user ID and password in the User ID and Password fields.

  URT installs the logon batch script on the domain controller and supports auto-install of NT clients.

- For NDS servers—Enter the domain name or select it from the Domain Name list.

  URT cannot retrieve the domain name for NDS servers. NDS does not support auto-install, the NT user ID and password are not required. (NDS has a proprietary Novell logon screen that prompts for a user ID and password during installation of the NDS logon script.)

Step 10 Click **OK**.

URT creates a folder for the domain or directory, and all defined users are listed in the new folder.

Note

- Users not assigned to a VLAN are shown with grayed-out icons.
- Hosts assigned to a VLAN are represented by blue icons.

Configuring LDAP Servers

You might need to change configuration settings after adding an LDAP server.

Before You Begin

- You must have an LDAP logon and have NDS read and browse privileges in the directory.
- To manage LDAP servers, you must enter your LDAP user ID in LDAP format (for example, `cn=username, cn=Users, dc=domainname, dc=company, dc=com`) and enter your LDAP password.

- To make changes to an NDS directory, you must have read and browse privileges for that directory.
  - If you are not logged onto the NDS directory you are changing, you are prompted to log on with a user account with privileges.
  - If you are logged onto NDS without browse and read privileges for the directory, you must exit URT and log onto the NetWare network from an appropriate account.

Procedure

Step 1 In the Directories folder, click the LDAP server to be configured.

Step 2 Click **Configure**, or select **Customize** > **Configure**.

Step 3 Make the desired changes to the configuration setup.

Step 4 Click **OK**.

Adding RADIUS Servers

For web logons, URT supports the use of RADIUS server authentication from Cisco Secure ACS and other AAA servers. You can add multiple RADIUS servers to authenticate web clients. See *User Guide for the Cisco Secure User Registration Tool* or the URT online help for more information.

Before you Begin

To manage RADIUS servers, you must enter your RADIUS authentication and accounting keys.

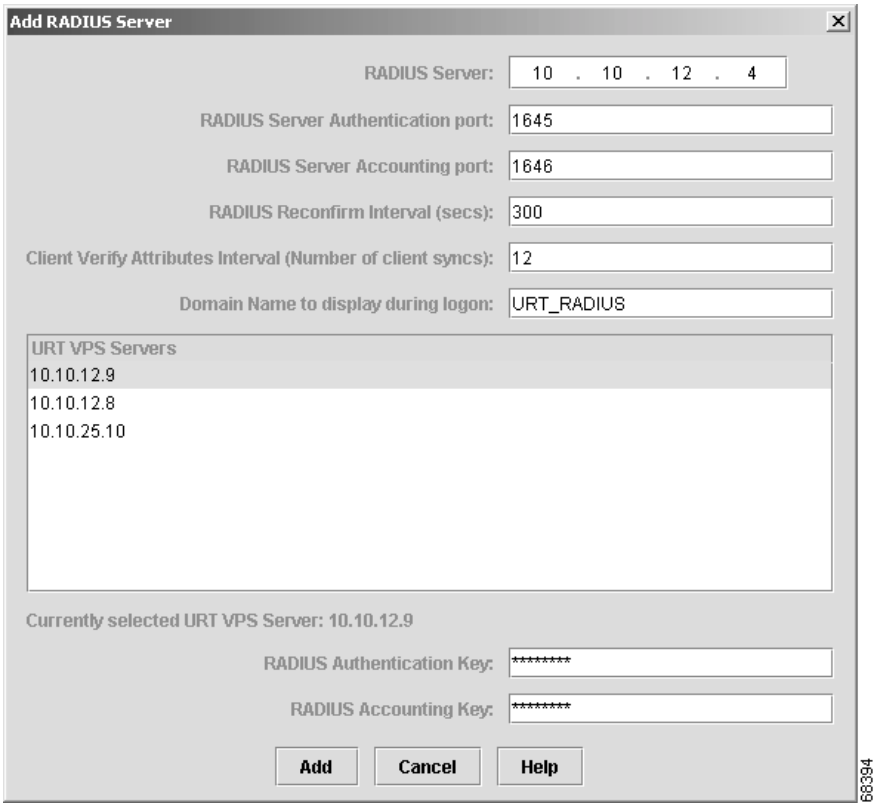
Procedure

Step 1 Select the RADIUS Servers folder.

Step 2 Click **Add** or select **Edit** > **Add**.

The Add RADIUS Server window opens.

Figure 4-2 Adding a RADIUS Server



Step 3 Enter the RADIUS server IP address.

Step 4 Enter the RADIUS server authentication port number.

Step 5 Enter the RADIUS server accounting port number.

Step 6 Enter the RADIUS reconfirm interval (in seconds). This entry specifies the frequency for sending accounting packets for currently logged on users.

Step 7 To verify client attributes while a client is logged on, select the Verify associations while logged on checkbox.

Note If you do not select this checkbox, the VLAN Policy Server does not verify whether client attributes have changed while a client is logged on. Attributes are checked the next time the client logs on.

Step 8 Enter the interval for verifying client attributes. A client sync message takes 5 minutes and the default interval is 12 minutes; therefore, verification occurs every 60 minutes (12 x 5).

Step 9 Enter the domain name to display during web client logon.

Step 10 From the URT VPS list, select the desired server.

Step 11 Enter the RADIUS authentication key.

Step 12 Enter the RADIUS accounting key.

Note The authentication and accounting keys are the same for the Cisco ACS RADIUS server.

Step 13 Click **Add**.

Configuring RADIUS Servers

You might need to edit configuration settings after adding a RADIUS server.

Before you Begin

To manage RADIUS servers, you must enter your RADIUS authentication and accounting keys.

Procedure

Step 1 In the RADIUS Servers folder, click the RADIUS server to reconfigure.

Step 2 Click **Configure** or select **Customize** > **Configure**.

Step 3 Make the desired changes to the configuration setup.

Step 4 Click **Add**.

CHAPTER 5

Upgrading URT from Release 2.0 to Release 2.5

As part of the upgrade, you must complete some reconfiguration tasks to activate URT Release 2.5 in the network.

Upgrading the URT Administrative Server

Procedure

Step 1 Log in to the URT network management server using an account that has local Administrator privileges. You will need these privileges when performing Step 2.

Step 2 Insert the URT 2.5 Administrative Server CD in the Windows system.

Step 3 Select **Start > Run** and enter:

```
d:\setup.exe
```

Replace d: with the drive letter for your CD-ROM.

Step 4 Click **OK**.

The installation program starts.

Step 5 In the uninstallation dialog box, select **Yes** to uninstall.

Step 6 In the confirmation dialog box, select **Yes**. The uninstallation program begins.

Step 7 When uninstallation is completed, a dialog box opens; click **OK**. The installation program begins.

Step 8 In the Welcome screen, click **Next** to continue.

Step 9 In the User Information text box, enter the user's name and the company name.

Step 10 The installation program displays the destination location. Click **Next** to continue.

Step 11 In the URT VPS Port Number dialog box, click **Next**.

Note Do not change the port number that the URT VLAN Policy Server uses to connect to the URT Administrative Server. This setting is preconfigured on the server.

Step 12 In the Create URT Administrative Services text box, enter the user ID and password for the system (the user ID must have administrator privileges on the system).

The installation program begins copying files to your system.

Step 13 To complete the installation, select **Yes** to reboot your system.

After you restart the system, the URT Administrative Server begins to run on the system, the URT Administrative Client Interface is installed, and URT is added to the program list on the **Start > Programs** menu.

Note A single URT Administrative Server is recommended. If more than one URT Administrative Server is installed, URT will not coordinate logons among the servers.

Upgrading the URT VLAN Policy Server

Before you add a VLAN Policy Server to URT Release 2.5, you must upgrade the VLAN Policy Server to Release 2.5.

The following procedure describes how to upgrade the Cisco 1100 VLAN Policy Server to Release 2.5.

Note During the upgrade, the VLAN Policy Server will reboot twice.

Procedure

Step 1 Obtain the upgrade image in one of the following ways:

- Download it from Cisco.com. From any system on the network that can connect to the VLAN Policy Server, open a web browser and download the URT VLAN Policy Server Release 2.5 upgrade.

  The upgrade image folder opens.

- Use the upgrade CD:

  a. Insert the User Registration Tool VPS Upgrade CD (version 2.5 Cisco 1100 VLAN Policy Server) in any Windows system on the network that can connect to the VLAN Policy Server.

  b. In Windows Explorer, open the CD-ROM drive.

  c. Double-click the `vps1100UpgradeCDImage` folder.

  The upgrade image folder opens.

Step 2 Double-click the autorun.bat file. A DOS command prompt opens; do not close this prompt.

Step 3 In the dialog box that opens, click the Select to update VPS appliance button. A setup dialog box opens.

Step 4 In the Appliance Host field, enter the IP address of the VLAN Policy Server.

Step 5 In the Appliance Port field, enter **`1741`**.

Step 6 In the User name and Password fields, enter **`admin`**.

Step 7 Click **Install**.

Step 8 Select the radio button for the URT Releases 2.5 upgrade.

Step 9 Click **Install**. The installation process begins.

Step 10 After installation has completed, a dialog box opens, asking if you want to upgrade another VLAN Policy Server. Select Install next to upgrade another VLAN Policy Server, or select Cancel to end the upgrade.

Verifying the Upgrade

After upgrading the VLAN Policy Server, you should verify the upgrade.

Procedure

Step 1 Open a web browser on the system where the upgrade was performed.

Step 2 In the web browser, enter `http://<VLAN Policy server's IP address>:1741/index.html`.

For example: http://171.12.12.112:1741/index.html

CiscoWorks2000 opens.

Step 3 In the CiscoWorks2000 desktop, enter admin in the Name and Password fields.

Step 4 From the CiscoWorks2000 desktop, select **Server Configuration** > **Appliance Management** > **Appliance Status** > **Software Update History**.

Step 5 To verify that the last installation was successful, make sure that the Status column for the software upgrade shows that the installation was successful.

Configuring URT Release 2.5

After you complete the tasks listed in "Upgrading the URT Administrative Server" section on page 5-1, start the URT Client Administrative Interface. From the Start menu, select **Programs > Urt > Start User Registration Tool**. Following instructions in *User Guide for the Cisco Secure User Registration Tool*, refer to the following lists of tasks to configure URT Release 2.5 and activate it on the network.

This list represents the minimal number of steps required to configure and activate URT Release 2.5. See *User Guide for the Cisco Secure User Registration Tool* for complete information on URT functionality.

URT Upgrade Configuration Tasks

1. Add each VLAN Policy Server to URT.
2. Reconfigure the switches to use the URT VLAN Policy Server in place of the URT Servers. You may use the URT Administrative Client Interface or the command-line interface for the switches to configure them.
3. Configure URT options and URT logon script options. These options affect various aspects of URT activity, including whether URT automatically installs and upgrades the URT Client Module on Windows NT and Windows 2000 clients running on a Microsoft Networking network.
4. Install the URT logon script on the domain servers, and configure the domain servers to run the URT logon script. When this step is completed, any Windows 95, Windows 98, and Millennium Edition client that logs on to the domain has URT Release 2.5 upgraded or installed automatically, and the client begins running the URT Release 2.5 Client Module. The same is true for Windows NT and Windows 2000 clients in Microsoft Networking networks, if automatic installation is enabled in the URT logon script options.
5. If you have not enabled automatic installation, manually install the URT Client Module on Windows NT and Windows 2000 clients.
6. Add and configure RADIUS servers.
7. Add and configure LDAP servers.

APPENDIX A

Quick Start Lists

This section contains a list of networking tasks that you must complete before you install URT, and the configuration tasks required after installation. For detailed information on configuring URT, see *User Guide for the Cisco Secure User Registration Tool*.

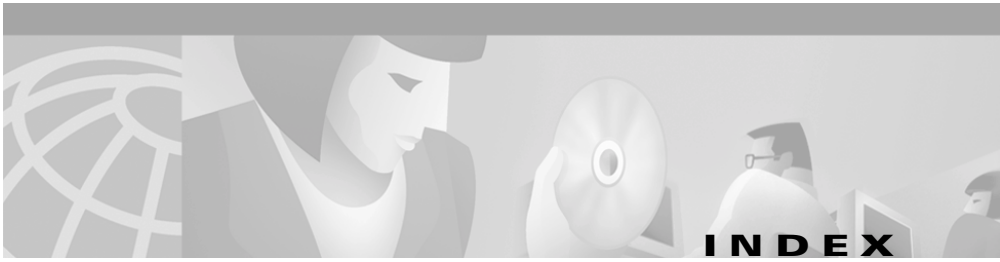
Networking tasks required before installation:

- Configure switches for VLAN and VTP domains
- Start enabling dynamic port assignments (this can also be done after URT is configured)
- Verify switch code version (refer to the system requirements for supported switches)
- Make sure DHCP is running
- Add domain controllers (refer to the system requirements for supported domain controllers)
- Install VPS appliances
- Add necessary Layer 3 connectivity requirements

Configuration tasks required after installation:

- Add switch, VTP, and VLAN information
- Configure switches for VPS ownership and web downloads
- Configure VLAN subnets
- Assign logon VLAN
- Add domain controls (traditional and LDAP)

- Add RADIUS server
- Configure RADIUS server to point to the VPS as the Network Access Server
- Enable reporting on RADIUS server
- Customize options for domain controllers
- Add MAC devices
- Configure URT logon script options (for web logon and traditional logon clients)
- Install script on the Authentication Server
- Add MAC-to-VLAN assignments
- Add users and groups to VLAN assignments
- Configure web logon options (home page customizing options)
- Set DNS server on DCHP to point to the VPS



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