

Configuration Active Directory SSO for NAC Guest Server

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Introduction

The Active Directory Single Sign-On (AD SSO) feature uses Kerberos between the web browser of the client and the Cisco NAC Guest Server in order to automatically authenticate a guest against an Active Directory Domain Controller.

Note: For the purpose of this document, the NTP and DNS servers are also on the DC, but this is possibly not the case in your environment.

Prerequisites

Requirements

Ensure that you meet these requirements before you attempt this configuration:

- DNS must be configured and work on the Cisco NAC Guest Server.
- DNS must be configured and work on the Domain Controller.
- The DNS entries for the Cisco NAC Guest Server must be defined:
 - ◆ A record
 - ◆ PTR record
- The DNS entries for the Domain Controller must be defined:
 - ◆ A record
 - ◆ PTR record
- Cisco NAC Guest Server time settings must be synchronized with the Active Directory Domain.

Components Used

The information in this document is based on these software and hardware versions:

- NAC Guest Server 2.0
- Microsoft Windows XP with Internet Explorer 6.0
- Windows Server 2003

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 the Cisco Technical Tips Conventions for more information on document conventions.

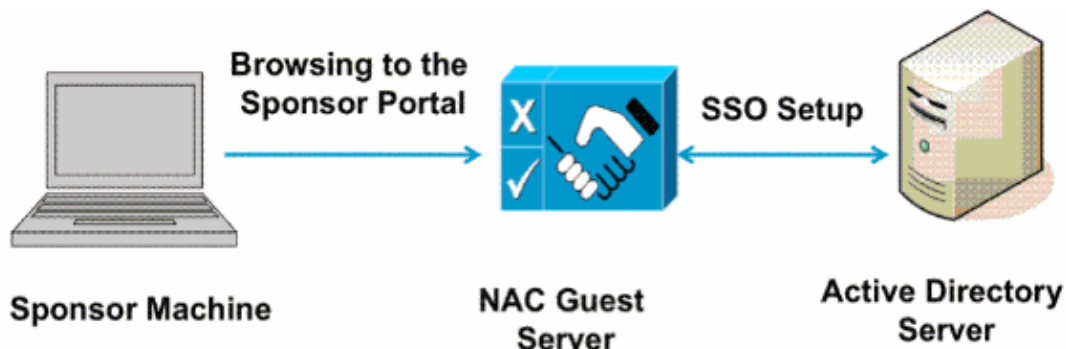
Configure

In this section, you are presented with the information to configure the features described in this document.

Note: Use the Command Lookup Tool (registered customers only) to obtain more information on the commands used in this section.

Network Diagram

This document uses this network setup:



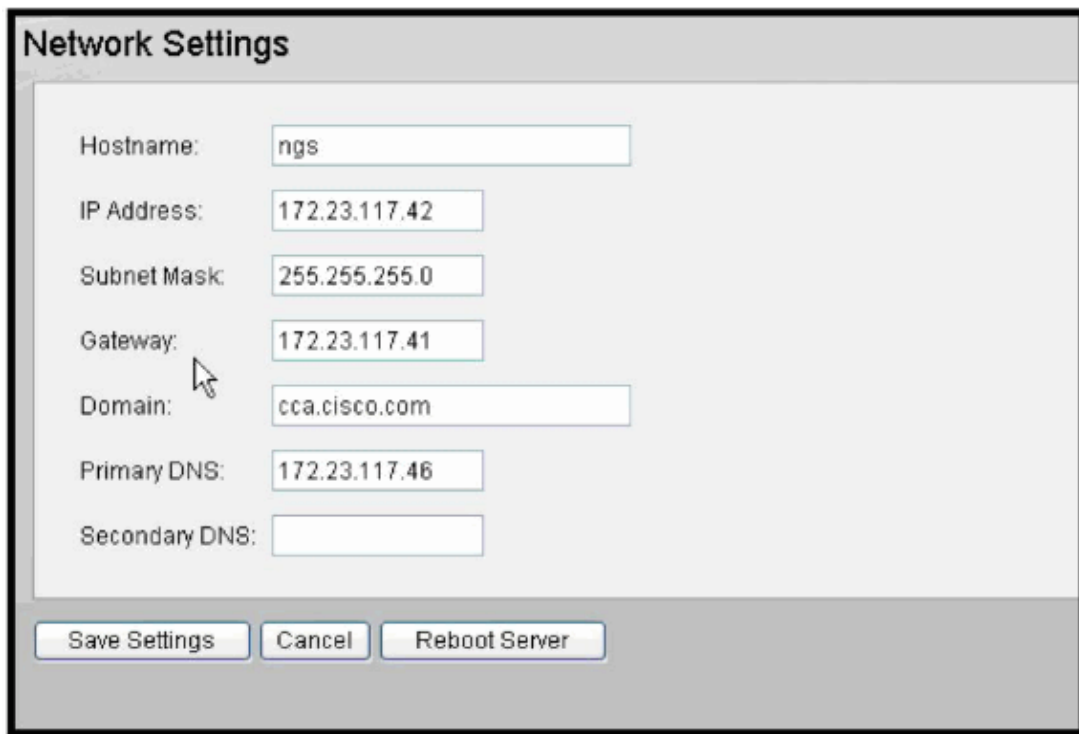
Configurations

This document uses these IP addresses:

- Domain Controller;72.23.117.46 (w2k3-server.cca.cisco.com)
- NAC Guest Server;72.23.117.42 (ngs.cca.cisco.com)
- Sponsor Machine;72.23.117.45

Complete these steps:

1. Access the NGS Admin Interface. From the browser, go to **http://172.23.117.42/admin**



The image shows a 'Network Settings' dialog box with the following fields and values:

Field	Value
Hostname:	ngs
IP Address:	172.23.117.42
Subnet Mask:	255.255.255.0
Gateway:	172.23.117.41
Domain:	cca.cisco.com
Primary DNS:	172.23.117.46
Secondary DNS:	

At the bottom of the dialog box, there are three buttons: 'Save Settings', 'Cancel', and 'Reboot Server'. A mouse cursor is visible over the 'Domain' field.

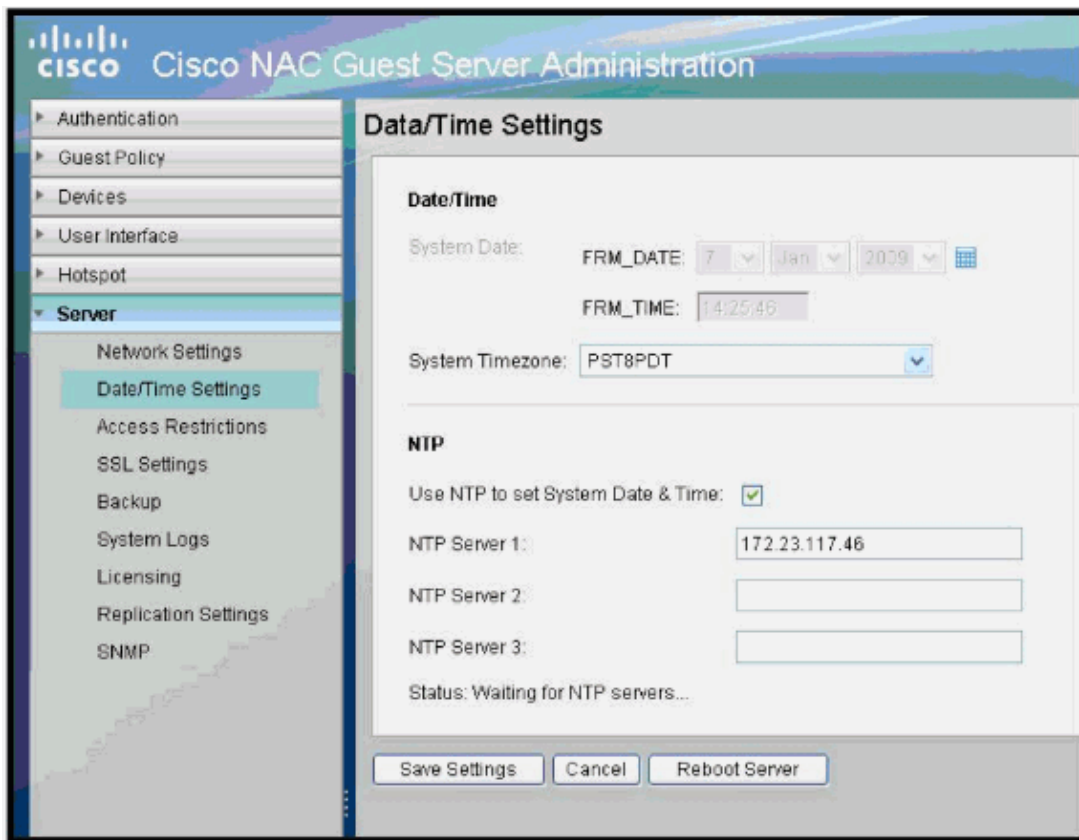
2. NGS Network Configuration

Choose **Server > Network Settings**.

- a. Hostname ngs
- b. Domain cca.cisco.com
- c. Primary DNS; 172.23.117.46

3. NTP Setup

In **Server > Date/Time**, configure the NTP server to DC IP **172.23.117.46**.



4. AD SSO Setup

Before you configure the SSO section, make sure the A and PTR records exist for the domain controller and NAC guest server.

In the AuthServer > Auth SSO section, configure this:

The image shows the 'Server Settings' configuration page. Under 'Server Settings', 'Enable AD Single Sign On' is checked. 'AD Domain' is CCA.CISCO.COM, 'Domain Controller FQDN' is w2k3-server.cca.cisco.com, and 'This Server's Hostname FQDN' is ngs.cca.cisco.com. Under 'Active Directory Credentials', there is a note: 'This password is only used to join this server to the Domain. It is not saved.' 'AD Administrator Username' is administrator. 'Password' and 'Confirm' fields are masked with dots. At the bottom are 'Save' and 'Cancel' buttons.

If the configuration is successful, you should see a success message.

AD Single Sign On

 Your configuration allows non-SSL connections to this server. It is recommended that you disable this if you use AD Single Sign On.

 Configuration Created

Server Settings

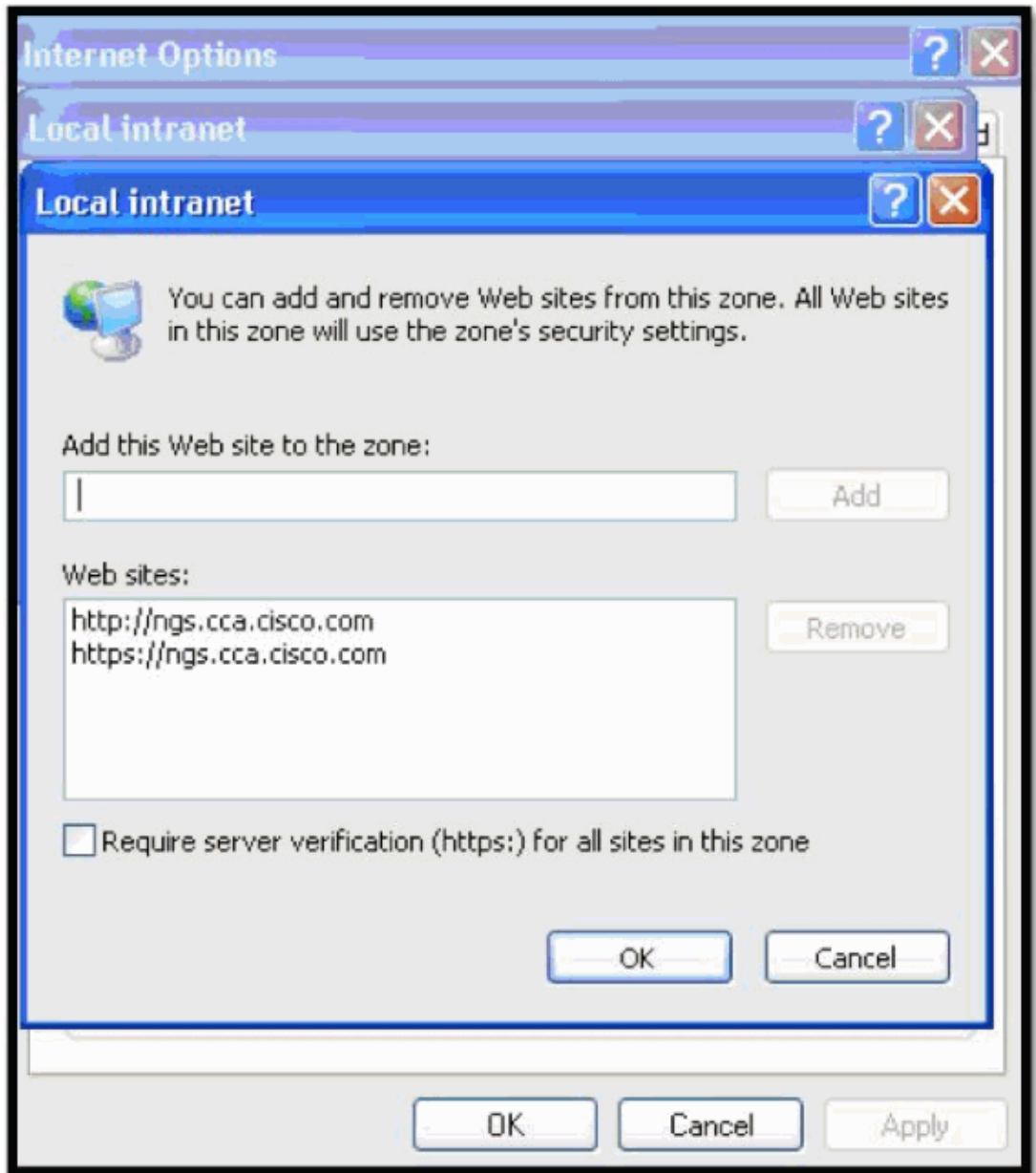
Enable AD Single Sign On:	<input checked="" type="checkbox"/>
AD Domain:	<input type="text" value="CCA.CISCO.COM"/>
Domain Controller FQDN:	<input type="text" value="w2k3-server.cca.cisco.com"/>
This Server's Hostname FQDN:	<input type="text" value="ngs.cca.cisco.com"/>

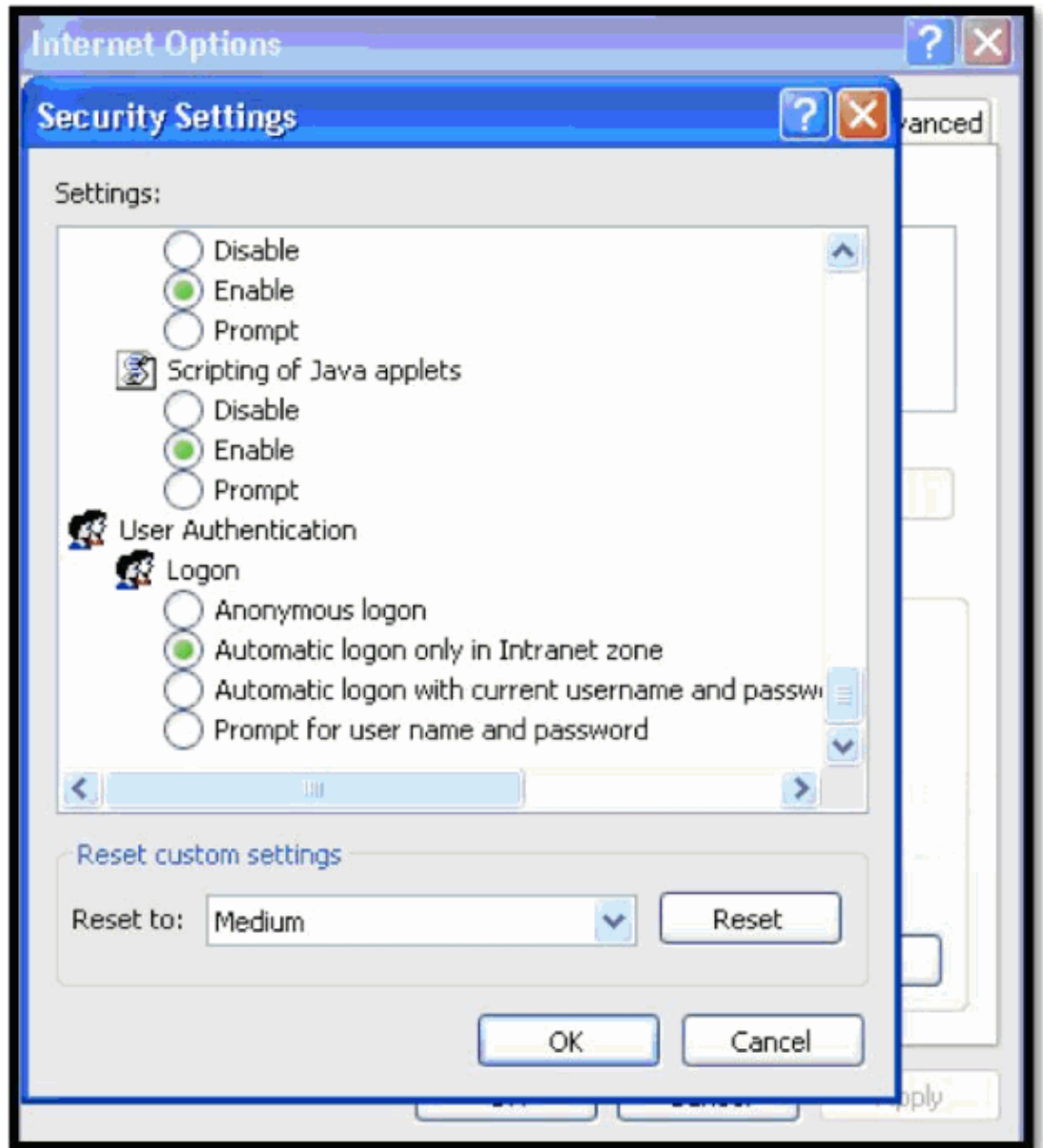
5. Validate the SSO feature

From the user machine, log into the domain. In this example, this machine is part of the cca domain. Only Internet Explorer is supported for the SSO feature. You need to make sure that the NAC Guest Server is part of local intranet and auto-login is turned **on**.

Note: Use the FQDN for the guest server in order to test SSO from the browser. For example, the IP address does not work.

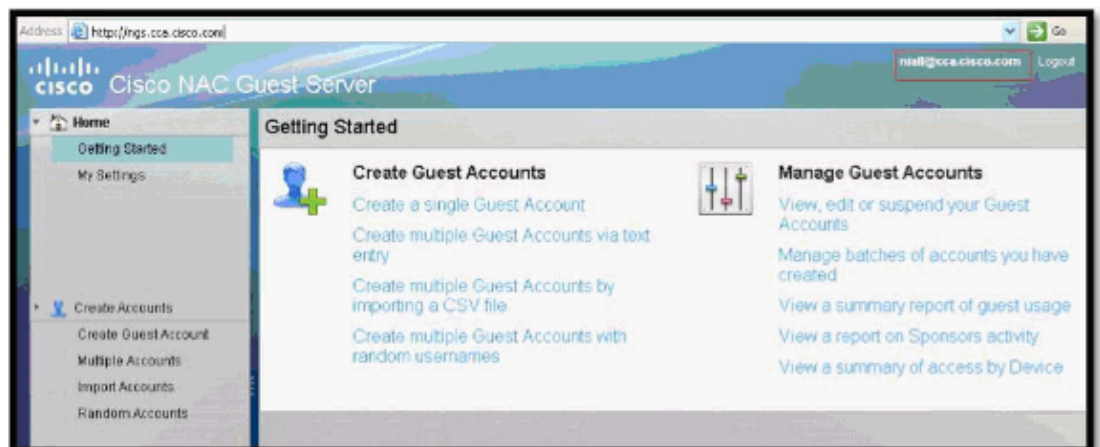
- a. Verify the web browser settings:





b. From the web browser, go to <http://ngs.cca.cisco.com>. You should be automatically logged in to the ngs with the domain credentials.

Note: The link <http://ngs.cca.cisco.com> will only work if you have configured NAC in admin mode with the user credentials.



Under the NAC Guest Server Audit Logs, you can see the user Niall logged into the default group:

The screenshot shows the 'Audit Logs' interface with the following details:

- Navigation tabs: Audit Logs (selected), Application Logs, Support Logs, Log Settings
- Filters: Action By (text input), Client IP (text input), Category (Show All dropdown), Server IP (Show All dropdown), Between (10 Jan 2009 and 11 Jan 2009), Run/Cancel buttons
- Table: Showing 1-6 of 6, 10 Per Page
- Table Headers: Sponsor/Admin User, Action, Date/Time
- Table Rows:
 - admin | Configuration settings saved | 11-Jan-2009 10:53 PM
 - admin | AD Authentication created | 11-Jan-2009 10:53 PM
 - admin | AD Single Sign On enabled | 11-Jan-2009 10:53 PM
 - admin | Login successful | 11-Jan-2009 10:52 PM
 - NGS | Mapped sponsor: niall@CCA.CISCO.COM to group DEFAULT | 11-Jan-2009 10:44 PM**

6. User Group Mapping with AD SSO (Optional)

In this section you will learn to map the SSO user to a specific group other than the default group.

To map the user group with ADSSO, you need to configure the Active Directory Server as Auth Server and then map the AD group with Sponsor User Group.

- a. Choose **NGS (<http://172.23.117.42/admin>) Authentications > Sponsors > Active Directory Servers**. Add a new domain controller.

Active Directory Servers

Active Directory Details

Server Name: NGS.CCA.CISCO.COM

User Account Suffix: @CCA.CISCO.COM

Domain Controller: w2k3-server.cca.cisco.com

Base DN: dc=cca,dc=cisco,dc=com

Username: Administrator

Password: ●●●● Confirm: ●●●●
If you don't wish to change the password please keep the entry empty

Status:

To test the Active Directory connection, enter the details into the form and then click the 'Test Connection' button.

Save Settings Cancel **Test Connection**

Active Directory connection successful

The test connection option has been introduced in NGS 2.0 for ease of troubleshooting. It tells you whether you have configured the DC correctly.

b. Configure the User Group

Add a new user group name **tme**. In this example, you choose **NO** in order to bulk account creation. This way you know immediately whether the user has been placed to the tme group *or* the default group.

Edit Permissions

Group saved

Group Name : tme

Group Permissions Active Directory Mapping LDAP Mapping RADIUS Mapping Guest Roles Time Profiles

Allow Login: Yes

Create Account: Yes

Create Bulk Accounts: No

Create Random Accounts: No

Import CSV: No

Send Email: Yes

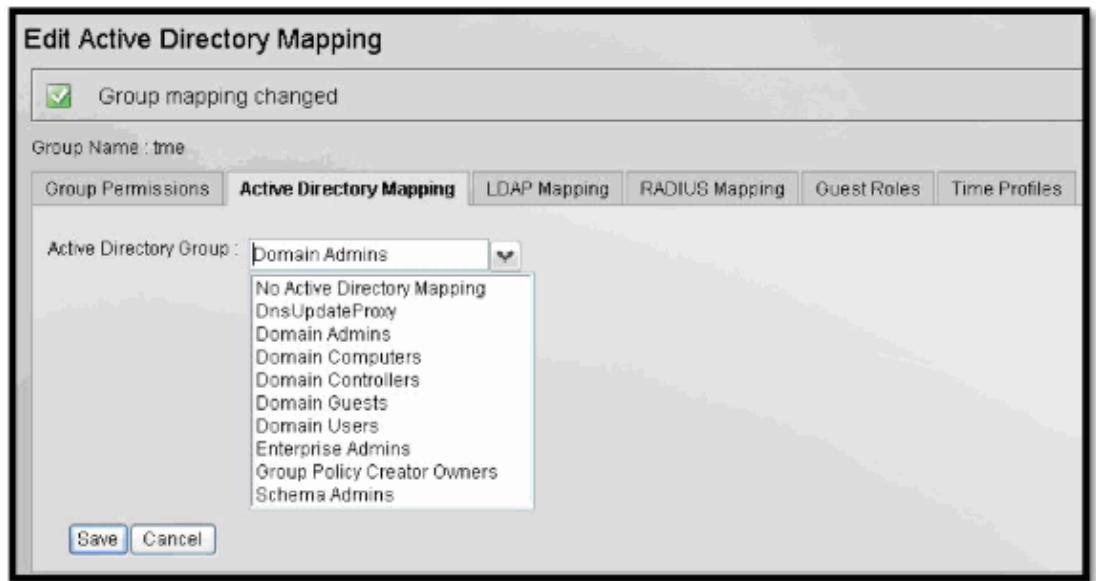
Send SMS: No

View Guest Password: No

Allow Printing Guest Details: No

Edit Account: Own Accounts

In Active Directory Mapping, the test user niall is already part of Domain Admins.



Verify

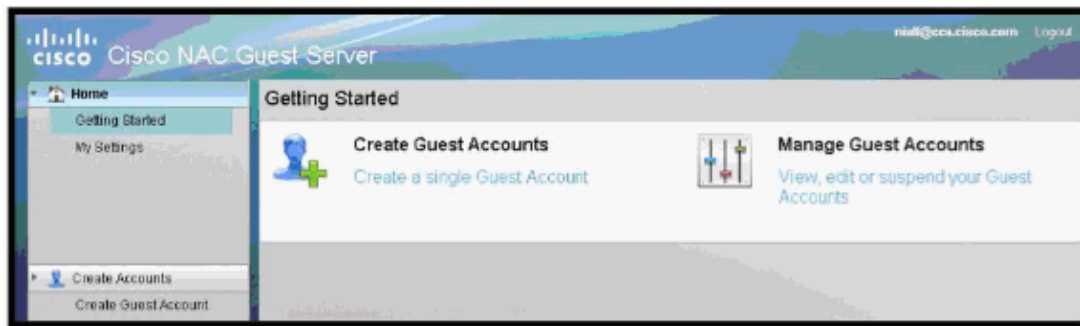
Use this section to confirm that your configuration works properly.

The Output Interpreter Tool (registered customers only) (OIT) supports certain **show** commands. Use the OIT to view an analysis of **show** command output.

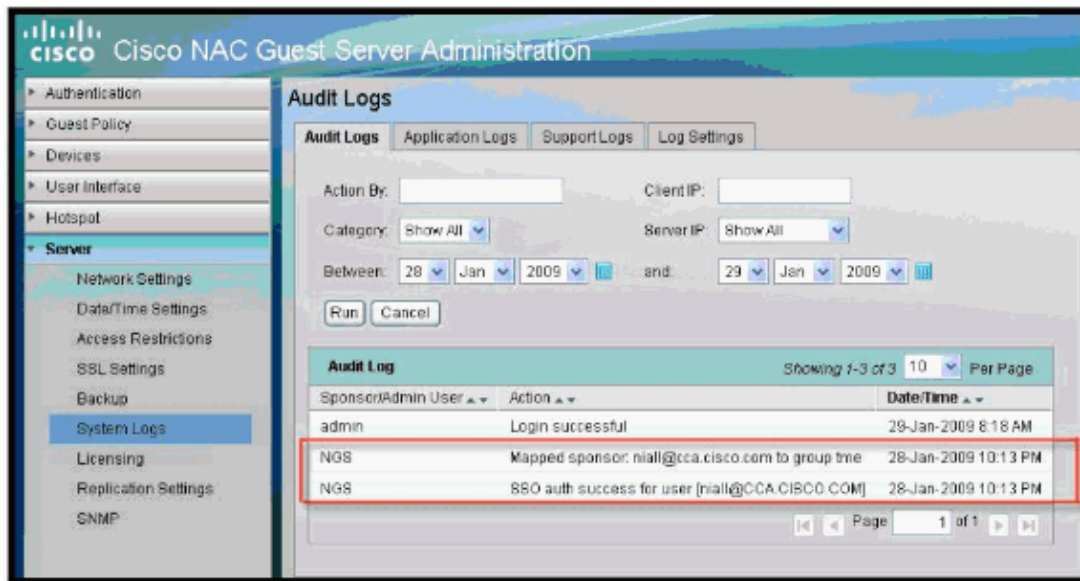
Verify ADSSO User Group Mapping

In order to access the Sponsor machine, open a new browser and go to <http://ngs.cca.cisco.com>.

Niall should be placed in tme group with no access to bulk account creation.



If you look at the audit logs, you can verify that the Sponsor is placed into the correct Role.



Troubleshoot

This section provides information you can use to troubleshoot your configuration.

These are error messages in the logs. Kerberos errors results in one of these errors:

- Domain format incorrect / Domain Controller must be a FQDN, not an IP address

The domain has not been entered in a correct format (should be of the form CCA.CISCO.COM).

- Hostname must be a FQDN, not an IP address

The hostname of the NAC Guest server cannot be an IP address it must be a Fully-Qualified Domain Name e.g. nac.cca.cisco.com.

- Cannot determine IP address for Domain Controller

There is a DNS configuration issue.

- Cannot get DNS A record for Domain Controller

There is a DNS configuration issue.

- Cannot get DNS A record for hostname

There is a DNS configuration issue.

- Cannot get DNS PTR record for Domain Controller IP address

There is a DNS configuration issue.

- Cannot get DNS PTR record for hostname IP address

There is a DNS configuration issue.

- Failed to create computer account for this server on the Domain Controller. See application log for details

. View the application log to see the full details of the error.

- Invalid username/password

The administrator username/password is incorrect.

- Invalid Domain or cannot resolve network address for DC

There is a DNS problem on the AD server.

- Domain Controller time does not match this server's time

Ensure the server times match, it is recommended you use NTP to synchronise server times.

- The DC cannot determine the hostname for the Guest server by reverse lookup. There may be an issue with your DNS configuration.

There is a DNS configuration issue on your AD server.

Related Information

- **Technical Support & Documentation – Cisco Systems**
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