



Changing the IP Address and Hostname for Cisco Unified Communications Manager, Release 9.1 (1)

Published: September 19, 2012

This document provides the steps to change the IP address or hostname on a Cisco Unified Communications Manager server. You may want to change this IP address for a variety of reasons, which include moving the server from one segment to another or resolving a duplicate IP address problem.

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Readiness Checklist

Perform the following tasks to ensure that your system is prepared for a successful IP address change.



Note

If you have a DNS configured anywhere on the Cisco Unified Communications Manager servers, ensure that the following conditions exist before you change the IP address:



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- A forward and reverse lookup zone has been configured.
- The DNS is reachable and working.

**Note**

If you do not receive the results that you expect when you perform these tasks, do not continue with this procedure until you resolve any problems that you find.

Procedure

Step 1 List all servers in the cluster and note whether the nodes are defined by using IP addresses or hostnames.

- From Cisco Unified Communications Manager Administration on the first node, navigate to **System > Server** and click **Find**.

A list of all servers in the cluster displays.

- Capture this list of servers for later reference.

Step 2 Ensure that you have saved an inventory of both the hostname and IP address of each node in your cluster.

Step 3 Ensure that all servers in the cluster are up and available by checking for any active ServerDown alerts. You can check by using either the Real Time Monitoring Tool (RTMT) or the Command Line Interface (CLI) on the first node.

- To check by using RTMT, access Alert Central and check for ServerDown alerts.
- To check by using the CLI on the first node, enter the following command and inspect the application event log:

```
file search activelog syslog/CiscoSyslog ServerDown
```

Step 4 Check the DB replication status on all Cisco Unified Communications Manager nodes in the cluster to ensure that all servers are replicating database changes successfully. You can check by using either RTMT or a CLI command.

- To check by using RTMT, access the Database Summary and inspect the replication status.
- To check by using the CLI, enter the command that the following example shows:

```
admin: show perf query class "Number of Replicates Created and State of Replication"
==>query class :
```

```
- Perf class (Number of Replicates Created and State of Replication)
has instances and values:
ReplicateCount -> Number of Replicates Created    = 344
ReplicateCount -> Replicate_State                  = 2
```

Be aware that the Replicate_State object shows a value of 2 in this case. The following list shows the possible values for Replicate_State:

- 0—Replication Not Started. Either no subscribers exist, or the Database Layer Monitor service has not been running since the subscriber was installed.
- 1—Replicates have been created, but their count is incorrect.
- 2—Replication is good.
- 3—Replication is bad in the cluster.
- 4—Replication setup did not succeed.

- Step 5** To check network connectivity and DNS server configuration, enter the CLI command that is shown in the following example:

```
admin: utils diagnose module validate_network
Log file: /var/log/active/platform/log/diag1.log
```

```
Starting diagnostic test(s)
=====
test - validate_network      : Passed
```

```
Diagnostics Completed
admin:
```

- Step 6** Run a manual DRS backup and ensure that all nodes and active services get backed up successfully. For more information, see the *Disaster Recovery System Administration Guide* for your release:

http://cisco.com/en/US/products/sw/voicesw/ps556/prod_maintenance_guides_list.html

- Step 7** For security-enabled clusters (Cluster Security Mode 1 - Mixed), update the Certificate Trust List (CTL) file.



Note All IP phones that support security always download the CTL file, which includes the IP address of the TFTP servers with which the phones are allowed to communicate. If you change the IP address of one or more TFTP servers, you must first add the new IP addresses to the CTL file so that the phones can communicate with their TFTP server.



Caution

To avoid unnecessary delays, you must update the CTL file with the new IP address of your TFTP servers before you change the IP address of the TFTP servers. If you do not perform this step, you will have to update all secure IP phones manually.

For detailed instructions on updating and managing the CTL file, including adding a new TFTP server to an existing CTL file, see the *Cisco Unified Communications Manager Security Guide, Release 8.6(1)*.

You can find this document at the following URL:

http://www.cisco.com/en/US/products/sw/voicesw/ps556/prod_maintenance_guides_list.html

Initial Trust List and certificate regeneration

If you change the IP address or the hostname of a server in a Cisco Unified Communications Manager release 8.0 or later cluster, the Initial Trust List (ITL) file and the certificates in the ITL are regenerated. The regenerated files do not match the files stored on the phones.



Note

When you change the host name of a server on a cluster, you must manually delete the ITL file on the phone to enable the phone to accept the new ITL file.

If cluster security is not enabled, perform the steps in the following procedure to reset the phones.



Note

If you enable cluster security using Certificate Trust List (CTL) files and USB eTokens, it is not necessary to perform the steps in the following procedure because trust is maintained by the eTokens and the eTokens are not changed.

- [Single-server cluster, page 4](#)
- [Multi-server cluster, page 4](#)

Single-server cluster

If you change the IP address or the hostname of the server in a Cisco Unified Communications Manager release 8.0 or later single-server cluster and you are using ITL files, perform the following steps to reset the phones.

Enable rollback prior to changing the IP address or hostname of the server.

-
- Step 1** Set the enterprise parameter Prepare Cluster for Rollback to pre-8.0 to **True**
- Step 2** Restart TVS and TFTP.
- Step 3** Reset all phones.
The phones download an ITL file that contains empty TVS and TFTP certificate sections
- Step 4** On the phone, select **Settings > Security > True List > ITL** to verify that the TVS and TFTP certificate sections of the ITL file are empty.
- Step 5** Change the IP address or hostname of the server and let the phones configured for rollback register to the cluster.
- Step 6** After all the phones have successfully registered to the cluster, set the enterprise parameter Prepare Cluster for Rollback to pre-8.0 to **False**.
- Step 7** Restart TVS and TFTP.
- Step 8** Reset all phones.
If you use CTL files or tokens, re-run the CTL client after you change the IP address or hostname of the server, or after you change the DNS domain name

Multi-server cluster

In a multi-server cluster, the phones should have primary and secondary TVS servers to validate the regenerated ITL file and certificates. If a phone can not contact the primary TVS server (due to recent configuration changes), it will fall back to the secondary server. The TVS servers are identified by the CM Group assigned to the phone

In a multi-server cluster, ensure that you change the IP address or hostname on only one server at a time. If you use CTL files or tokens, re-run the CTL client after you change the IP address or hostname of the server, or after you change the DNS domain name.

Changing the IP Address for Servers that are Defined by an IP Address

This procedure describes how to change the IP address for publisher or subscriber servers that are defined by an IP address within Cisco Unified Communications Manager. Unless otherwise stated, these steps apply to both publisher and subscriber servers within a Cisco Unified Communications Manager cluster.

**Caution**

Changing the IP address on any node in a Cisco Unified Communications Manager cluster can interrupt call processing and other system functions. Also, changing the IP address can cause the system to generate certain alarms and alerts, such as ServerDown and SDLLinkOOS, and automatic failover to a backup server may not operate. Because of this potential impact to the system, you must perform IP address changes during a planned maintenance window.

**Note**

To define subscriber servers on the Cisco Unified Communications Manager publisher server or to determine how a subscriber server is defined, navigate to **System > Server**. For more information, see the *Cisco Unified Communications Manager Administration Guide*.

Procedure

- Step 1** From Cisco Unified Communications Manager Administration, choose **System > Server**.
The Find and List Servers window displays.
- Step 2** From the Find and List servers window, select the server for which you want to change the IP address.
- Step 3** Change the IP address of the server to reflect the new IP address.
- Step 4** Ensure that the IP address change is replicated to the server database by entering the CLI command `run sql select name,nodeid from ProcessNode` on all nodes in the cluster. The following example shows the command output:
- ```
admin: run sql select name,nodeid from ProcessNode
name nodeid
=====
EnterpriseWideData 1
10.3.90.21 4
10.3.90.5 2
```
- Step 5** If the server for which you are changing the IP address is a publisher server, log on to each subscriber server in the cluster and change the subscriber server's IP address mapping to the cluster Publisher server. This task can be performed from the Cisco Unified Communications Operating System Administration window or using a CLI command.
- To change the mapping from Cisco Unified Communications Operating System Administration, log on to each subscriber server in the cluster and perform the following tasks:
    - a. Navigate to **Settings > IP > Publisher**.
    - b. Change the IP address of the publisher server.
  - To change the mapping with a network CLI command, log on to each subscriber server in the cluster and change the mapping to the publisher server's IP address using the `set network cluster publisher ip ipaddress` CLI command where `ipaddress` represents the publisher server IP address.
- Step 6** If you are moving the server to a different subnet that requires a new default gateway address, change the default gateway by using the `set network gateway` CLI command, as the following example shows:
- ```
admin:set network gateway 10.3.90.2
*** WARNING ***
This will cause the system to temporarily lose network connectivity

Do you want to continue ?

Enter "yes" to continue or any other key to abort
```

```
yes
executing...
admin:
```

Step 7 Change the IP address of the server. This can be done by using a CLI command or from Cisco Unified Communications Operating System Administration.

- To change the IP address using a CLI command:
 - a. Enter the CLI command `set network ip eth0 ip_address netmask` where `ip_address` specifies the new server IP address and `netmask` specifies the new server network mask.

The following output displays:

```
admin: set network ip eth0 10.3.90.21 255.255.255.0
***  W A R N I N G  ***
If there are IP addresses (not hostnames)
configured in CallManager Administration
under System -> Servers
then you must change the IP address there BEFORE
changing it here or call processing will fail.
This will cause the system to restart
=====
Note: To recognize the new IP address all nodes within
the cluster will have to be manually rebooted.
=====
Do you want to continue?
Enter "yes" to continue and restart or any other key to abort
```

- b. Enter **yes** and press **Enter**.
- To change the IP address from Cisco Unified Communications Operating System Administration:
 - a. Choose **Settings > IP > Ethernet**
 - b. Change the IP address and, if necessary, change the default gateway to the new address.
 - c. Click the **Save** button. The server automatically reboots with the new changes.

Step 8 After the server reboots, reboot all other servers in the cluster to update the local name resolution files, such as hosts, rhosts, sqlhosts, and services.



Note These files update only during system startup; you need to restart core network services, such as Cisco DB and Cisco Tomcat, after the files update. Server restart ensures the proper update and service-restart sequence for the IP address changes to take effect.

Step 9 Perform a manual DRS backup and ensure that all nodes and active services back up successfully. For more information, see the *Disaster Recovery System Administration Guide*.



Note When changing the IP address of more than one server in a cluster, perform the following tasks:

- Change the IP address for one server.
- Reboot the cluster.
- Check the replication status.

If the changed IP address reflects properly, follow the same procedure on the next server. Otherwise, do not change the IP address of the other servers.

**Warning**

Avoid making the changes in parallel on several servers at the same time: doing so can lead to .rhosts and sqlhosts files becoming out of sync in the cluster.

Changing the IP Address for Servers that are Defined by a Hostname

This procedure describes how to change the IP address of either a publisher or subscriber server that is defined by a hostname in Cisco Unified Communications Manager. Unless otherwise stated, these steps apply to both publisher and subscriber servers within a Cisco Unified Communications Manager cluster.

**Caution**

Be aware that a DRS backup that you take from a server with a particular hostname cannot be restored on a server (either a publisher or subscriber node) with a different hostname, even after you reinstall that node.

Procedure

- Step 1** Change the DNS record of the server to point to the new IP address. Ensure that you correctly update both the forward (A) and reverse (PTR) records. You must refresh your DNS cache to ensure that the records update correctly.



Note DNS servers comprise part of the network infrastructure. Cisco Unified Communications Manager servers do not and cannot run DNS services.

- Step 2** Verify that the name-IP host association is ready to propagate to other nodes by using the `utils network host` CLI command on all cluster nodes:

```
admin:utils network host lg-sub-4
Hostname lg-sub-4 resolves to 14.86.13.11
```

- Step 3** If the server for which you are changing the IP address is a publisher server, log on to each subscriber server in the cluster and change the IP address mapping to the cluster Publisher server. This task can be performed from Cisco Unified Communications Operating System Administration or using a CLI command.

- To change the mapping from Cisco Unified Communications Operating System Administration, log on to each subscriber server in the cluster and perform the following tasks:
 - a. Navigate to **Settings > IP > Publisher**.
 - b. Change the IP address of the publisher server.

- To change the mapping using a network CLI command, log on to each subscriber server in the cluster and change the mapping to the publisher server IP address using the **set network cluster publisher ip** *ipaddress* CLI command where *ipaddress* represents the publisher IP address.

Step 4 If you are moving the server to a different subnet that requires a new default gateway address, change the default gateway by using the **set network gateway** CLI command, as the following example shows:

```
admin:set network gateway 14.86.13.1
      ***  W A R N I N G  ***
This will cause the system to temporarily lose network connectivity

      Do you want to continue ?

Enter "yes" to continue or any other key to abort
yes
executing...
admin:
```

Step 5 Change the IP address of the server by performing the following tasks:

- Enter the CLI command **set network ip eth0** *ip_address netmask*

where *ip_address* specifies the new server IP address and *netmask* specifies the new server network mask.

The following output displays:

```
admin: set network ip eth0 14.86.13.11 255.255.255.0
***  W A R N I N G  ***
If there are IP addresses (not hostnames)
configured in CallManager Administration
under System -> Servers
then you must change the IP address there BEFORE
changing it here or call processing will fail.
This will cause the system to restart
=====
      Note: To recognize the new IP address all nodes within
            the cluster will have to be manually rebooted.
=====
Do you want to continue?
Enter "yes" to continue and restart or any other key to abort
```

- Enter **yes** and press **Enter**.



Note You can also change the IP address of the default gateway and the server by using the Cisco Unified Communications Operating System. From Cisco Unified Communications Operating System Administration, choose **Settings > IP > Ethernet**.

Step 6 After the server reboots, reboot all other servers in the cluster to update the local name resolution files, such as hosts, rhosts, sqlhosts, and services.



Note These files update only during system startup; you need to restart core network services, such as Cisco DB and Cisco Tomcat, after the files update. Server restart ensures the proper update and service-restart sequence for the IP address changes to take effect.



Note When changing the IP address of more than one server, perform the following tasks:

- Change the IP address for one server.

- Reboot the cluster.
- Check the replication status.

If the changed IP address reflects properly, follow the same procedure on the next subscriber server. Otherwise, do not change the IP address of the other servers.



Warning

Avoid making the changes in parallel on several servers at the same time: doing so can lead to .rhosts and sqlhosts files becoming out of sync in the cluster.

- Step 7** Verify that the name-IP association for the change that was made in step 4 propagates to the other nodes by using the `utils network host` and `show tech network hosts` CLI commands on all cluster nodes:

```
admin:utils network host lg-sub-4
Hostname lg-sub-4 resolves to 14.86.13.11

admin:show tech network hosts
----- show platform network -----

/etc/hosts File:
#This file was generated by the /etc/hosts cluster manager.
#It is automatically updated as nodes are added, changed, removed from the cluster.

127.0.0.1 localhost
14.87.10.10 lg-pub-1.lindermangroup.cisco.com lg-pub-1
14.87.10.11 lg-tftp-1.lindermangroup.cisco.com lg-tftp-1
14.87.10.12 lg-tftp-2.lindermangroup.cisco.com lg-tftp-2
14.87.11.10 lg-sub-1.lindermangroup.cisco.com lg-sub-1
14.87.11.11 lg-sub-3.lindermangroup.cisco.com lg-sub-3
14.86.13.10 lg-sub-2.lindermangroup.cisco.com lg-sub-2
14.86.13.11 lg-sub-4.lindermangroup.cisco.com lg-sub-4
14.87.11.12 lg-sub-5.lindermangroup.cisco.com lg-sub-5
14.87.11.13 lg-sub-7.lindermangroup.cisco.com lg-sub-7
14.86.13.12 lg-tftp-3.lindermangroup.cisco.com lg-tftp-3
14.87.20.20 lg-cups1.heroes.com lg-cups1
14.86.13.13 lg-sub-6.lindermangroup.cisco.com lg-sub-6
admin:
```

- Step 8** If the server for which you are changing the IP address is a publisher server, do the following:
- Choose **System > Enterprise Parameters**.
 - Under Phone URL Parameters, change all URLs that contain the old IP address to reflect the new IP address.
- Step 9** Perform a manual DRS backup and ensure that all nodes and active services back up successfully. For more information, see the *Disaster Recovery System Administration Guide* for your release.

Changing the Hostname for Servers that are Defined by an IP Address

This procedure describes how to change the hostname for a server that is defined by an IP address in Cisco Unified Communications Manager. Unless otherwise stated, each step in this procedure applies to both publisher and subscriber servers.

Procedure

- Step 1** Change the DNS record of the subscriber server to point to the new IP address. If the IP address is being changed at the same time, ensure that the DNS servers also reflect the IP address. Ensure that forward (A) and reverse (PTR) records update correctly.



Note DNS servers comprise part of the network infrastructure. Cisco Unified Communications Manager servers do not and cannot run DNS services.

- Step 2** Perform one of the following tasks:
- If you are changing just the hostname, skip to [Step 6](#).
 - If you are changing both the hostname and IP address, continue with [Step 3](#).
- Step 3** From the Cisco Unified Communications Manager Administration window, perform the following tasks:
- a. Navigate to **System > Server**.
 - b. Under Server Configuration, change the IP address of the server.
- Step 4** Ensure that the changes from step 3 replicate to all nodes in the cluster by entering the CLI command `run sql select name,nodeid from ProcessNode`.
- Step 5** Repeat on all nodes in the cluster.
- Step 6** If the server for which you are changing the hostname is a publisher server, log on to each subscriber server in the cluster and change the hostname mapping of the cluster Publisher server. This task can be performed from Cisco Unified Communications Operating System Administration or by using a CLI command.
- To change the mapping from Cisco Unified Communications Operating System Administration, log on to each subscriber server in the cluster and perform the following tasks:
 - a. Navigate to **Settings > IP > Publisher**.
 - b. Change the hostname of the publisher server.
 - To change the mapping using a network CLI command, log on to each subscriber server in the cluster and change the mapping to the publisher server's IP address using the `set network cluster publisher hostname hostname` CLI command where *hostname* represents the publisher hostname.
- Step 7** Change the hostname of the server. This can be done either by using a CLI command, or from Cisco Unified Communications Operating System Administration:
- To change the hostname using a CLI command:
 - c. Enter the CLI command `set network hostname hostname`.
 - d. Enter **yes** and press **Enter**. This command automatically reboots this server with the new hostname.
 - To change the hostname from Cisco Unified Communications Operating System Administration:

- a. Navigate to **Settings -> IP -> Ethernet**.
- b. Change the IP address and, if necessary, change the default gateway to the new address.
- c. Click the **Save** button. The server automatically reboots with the new changes.



Note Changing the hostname triggers an automatic, self-signed Certificate Regeneration. After the server reboots automatically, secure connections to this server fail until the CTL client runs anew and the CTL file updates.

Step 8 After the server reboots, bring up the Admin CLI for the server on which the hostname was changed and run the `utils dbreplication dropadmin db` command.

Step 9 If the IP address changes along with hostname and the server moves to a new subnet, change the server Default Gateway to the new address by using the `set network gateway ipaddress` CLI command.



Note If the default gateway changes, prior to the next step, ensure that the server moves to the new subnet and has access to the default gateway. During Cisco Unified Communications Manager server startup, the Verify Network script checks server access to the default gateway. If the server cannot communicate with the default gateway at startup time, the Verify Network script will fail and startup may be delayed. If you are using Manual DHCP configuration and the DHCP server is not reachable or does not give out an IP address to the server, the system will not boot; instead, the system continues to wait at the Verify Network startup phase.

Step 10 Reboot all other servers in the cluster, including the publisher, to update the local name resolution files such as `hosts/rhosts/sqlhosts/service`.



Note These files update only during system startup; you need to restart core network services, such as Cisco DB and Cisco Tomcat, after the files update. Server restart ensures the proper update and service-restart sequence for the IP address changes to take effect.

Step 11 Verify that the name-IP association change that was made in Step 7 propagates to the other nodes by using the `utils network host` and `show tech network hosts` CLI commands on all cluster nodes:

```
admin:utils network host lg-sub-4
Hostname lg-sub-4 resolves to 14.86.13.11
```

```
admin:show tech network hosts
----- show platform network -----
```

```
/etc/hosts File:
#This file was generated by the /etc/hosts cluster manager.
#It is automatically updated as nodes are added, changed, removed from the cluster.
```

```
127.0.0.1 localhost
14.87.10.10 lg-pub-1.lindermangroup.cisco.com lg-pub-1
14.87.10.11 lg-tftp-1.lindermangroup.cisco.com lg-tftp-1
14.87.10.12 lg-tftp-2.lindermangroup.cisco.com lg-tftp-2
14.87.11.10 lg-sub-1.lindermangroup.cisco.com lg-sub-1
14.87.11.11 lg-sub-3.lindermangroup.cisco.com lg-sub-3
14.86.13.10 lg-sub-2.lindermangroup.cisco.com lg-sub-2
14.86.13.11 lg-sub-4.lindermangroup.cisco.com lg-sub-4
14.87.11.12 lg-sub-5.lindermangroup.cisco.com lg-sub-5
14.87.11.13 lg-sub-7.lindermangroup.cisco.com lg-sub-7
14.86.13.12 lg-tftp-3.lindermangroup.cisco.com lg-tftp-3
14.87.20.20 lg-cups1.heroes.com lg-cups1
```

```
14.86.13.13 lg-sub-6.lindermangroup.cisco.com lg-sub-6
admin:
```

You can also use the `utils diagnose module validate_network` command on all cluster nodes. This diagnostics module checks that you configured DNS client services correctly, that the server can connect to the DNS server, and that Forward (A) and Reverse (PTR) records are present and match the server IP address and hostname.



Note Do not proceed until the change propagates to all nodes.

Step 12 From the publisher server, run `utils dbreplication reset all` to set up replication across the whole cluster again.

Changing the Hostname for Servers that are Defined by a Hostname

Prerequisite checklist

There are a number of prerequisite steps that must be taken prior to changing the hostname:

- Audit your cluster to identify the IP addresses and hostnames of all current nodes.
- Go to the external DNS server and ensure it is ready to be updated. Change the DNS record of the server to point to the new IP addresses you are changing to, and ensure forward (A) and reverse (PTR) records are updated correctly.
- Verify that the network between cluster nodes is working correctly and that the cluster has a valid security password
 - The cluster security password, as well as the network between cluster nodes, can be verified by executing the "show network cluster" CLI command on the Publisher node.
 - When all nodes (other than the Publisher) in the cluster are in the authenticated state, you may conclude that the cluster security passwords are matching and that network connectivity from Publisher to Subscribers is working correctly.
- Verify that the cluster database replication is functioning correctly before moving any servers
 - The Cluster Database Replication status can be verified most quickly by executing "utils dbreplication runtimestate" CLI command on the Publisher node.
 - The column named "Replication Setup (RTMT) & details" indicates what the current database replication status is for a given node. When Database Replication within the cluster is working correctly, the following appears in that column: "(2) Setup Completed".
- Perform a DRS Backup of the cluster.



Note DNS servers comprise part of the external network infrastructure. Unified CM nodes do not and cannot host or provide DNS services.

**Note**

Please verify that the new hostname is unique across the cluster. If DNS Services are utilized, you must complete DNS configuration update(s) with the new hostname before proceeding. To recognize the new hostname, all nodes within the cluster must be manually rebooted. Once the hostname is changed in a virtualized environment, licenses must be rehosted.

There are two methods available for changing the hostname for servers that are defined by a hostname:

- [Change hostname using Unified Communications Operation System Administration GUI, page 13](#)
- [Change hostname using Unified Communications Operation System Admin CLI, page 14](#)

Change hostname using Unified Communications Operation System Administration GUI

This procedure describes how to use the GUI to change the hostname for a publisher or subscriber server that is defined by a hostname in Unified CM.

Unless otherwise stated, each step in this procedure applies to both publisher and subscriber servers.

Procedure

- Step 1** Complete the [Prerequisite checklist, page 12](#)
- Step 2** To change the host name, the IP address and, if necessary, the default gateway to the new address of the server, perform the following tasks:
- Navigate to **Settings > IP > Ethernet**
 - Change the hostname, IP address and, if necessary, the default gateway to the new address.
 - Click **Save**, which automatically reboots the server with the new changes.

**Note**

Changing the hostname triggers an automatic, self-signed Certificate Regeneration. If your cluster is using CA-signed certificates, you will need to have them re-signed.

**Note**

If cluster security is in mixed mode, after the server reboots automatically, secure connections to this server fail until you run the CTL client and update the CTL file.

- Step 3** After the server reboots, bring up the Admin CLI for the server on which the hostname was changed and run the `utils dbreplication dropadmin db` command.
- Step 4** Once all changes have been made to all individual servers, a reboot of the entire cluster is required (you do not need to reboot each time).

From the Cisco Unified Communications Operating System Administration or CLI, reboot all other servers in the cluster, beginning with the publisher, to update the local name resolutions files, such as `hosts/rhosts/sqlhosts/service`.

**Note**

Server restart ensures the proper update and service-restart sequence for the IP address changes to take effect.

Step 5 Verify that the name-IP association that was made in step 2 propagates to other nodes by using the `utils network host` and `show tech network hosts` CLI commands on all cluster nodes:

```
admin:utils network host pub-4
Hostname sub-4 resolves to 198.50.103.11

admin:show tech network hosts
----- show platform network -----

/etc/hosts File:
#This file was generated by the /etc/hosts cluster manager.
#It is automatically updated as nodes are added, changed, removed from the cluster.

192.0.2.0 localhost
198.51.100.10 pub-1.cisco.com pub-1
198.51.100.11 tftp-1.cisco.com tftp-1
198.51.100.12 tftp-2.cisco.com tftp-2
198.51.100.10 sub-1.cisco.com sub-1
198.51.100.11 sub-3.cisco.com sub-3
198.50.103.10 sub-2.cisco.com sub-2
198.50.103.11 sub-4.cisco.com sub-4
198.51.100.12 sub-5.cisco.com sub-5
198.51.100.13 sub-7.cisco.com sub-7
198.50.101.12 tftp-3.cisco.com tftp-3
198.51.109.20 cups1.heroes.com cups1
198.50.103.13 sub-6.cisco.com sub-6
admin:
```

Alternatively, you can use the `utils diagnose module validate_network` command on all cluster nodes. This diagnostics module ensures that, if DNS client services are configured, connectivity to DNS server is present, and Forward (A) and Reverse (PTR) records are present and match the server IP address as well as hostname.



Caution

Do not proceed if the new hostname does not resolve to the correct IP address.

Step 6 From the publisher node, run `utils dbreplication reset all` to set up replication across the whole cluster again.

Change hostname using Unified Communications Operation System Admin CLI

This procedure describes how to use the CLI command to change the hostname for a publisher or subscriber server that is defined by a hostname in Unified CM.

Unless otherwise stated, each step in this procedure applies to both publisher and subscriber servers.

Procedure

- Step 1** Complete the [Prerequisite checklist](#), page 12.
- Step 2** To change the host name, the IP address and, if necessary, the default gateway to the new address of the server, perform the following tasks:
 - a. Enter the CLI command `set network hostname hostname`.
 - b. Enter `yes` and press **Enter**. This action automatically reboots this server with the new hostname.

**Note**

Changing the hostname triggers an automatic, self-signed Certificate Regeneration. If your cluster is using CA-signed certificates, you will need to have them re-signed.

**Note**

If cluster security is in mixed mode, after the server reboots automatically, secure connections to this server fail until you run the CTL client and update the CTL file.

Step 3 After the server reboots, bring up the Admin CLI for the server on which the hostname was changed and run the **utils dbreplication dropadmin db** command.

Step 4 Use the **admin:set network ip eth0 ?** CLI command to change the IP address configuration (including the IP address itself), network mask, and default gateway:

```
admin:set network ip eth0 192.168.1.5 255.255.255.0 192.168.1.1
```

```
WARNING: Changing this setting will invalidate software license
         on this server. The license will have to be re-hosted.
```

```
Continue(y/n):
```

```
Continue (y/n)?y
```

```
*** W A R N I N G ***
```

```
This command will cause the system to restart
```

```
=====
```

```
Note: Please verify that the new ip address is unique
      across the cluster and, if DNS services are
      utilized, any DNS configuration is completed
      before proceeding.
```

```
To recognize the new ip address all nodes within
the cluster will have to be manually rebooted.
```

```
=====
```

```
Continue (y/n)?y
```

Step 5 Once all changes have been made to all individual servers, a reboot of the entire cluster is required (you do not need to reboot each time).

From the Cisco Unified Communications Operating System Administration or CLI , reboot all other servers in the cluster, beginning with the publisher, to update the local name resolutions files, such as hosts/rhosts/sqlhosts/service.

**Note**

Server restart ensures the proper update and service-restart sequence for the IP address changes to take effect.

Step 6 Verify that the name-IP association that was made in step 4 propagates to other nodes by using the **utils network host** and **show tech network hosts** CLI commands on all cluster nodes:

```
admin:utils network host pub-4
Hostname sub-4 resolves to 198.50.103.11
```

```
admin:show tech network hosts
----- show platform network -----
```

```
/etc/hosts File:
```

```
#This file was generated by the /etc/hosts cluster manager.
```

```
#It is automatically updated as nodes are added, changed, removed from the cluster.
```

```

192.0.2.0 localhost
198.51.100.10 pub-1.cisco.com pub-1
198.51.100.11 tftp-1.cisco.com tftp-1
198.51.100.12 tftp-2.cisco.com tftp-2
198.51.100.10 sub-1.cisco.com sub-1
198.51.100.11 sub-3.cisco.com sub-3
198.50.103.10 sub-2.cisco.com sub-2
198.50.103.11 sub-4.cisco.com sub-4
198.51.100.12 sub-5.cisco.com sub-5
198.51.100.13 sub-7.cisco.com sub-7
198.50.101.12 tftp-3.cisco.com tftp-3
198.51.109.20 cups1.heroes.com cups1
198.50.103.13 sub-6.cisco.com sub-6
admin:

```

Alternatively, you can use the `utils diagnose module validate_network` command on all cluster nodes. This diagnostics module ensures that, if DNS client services are configured, connectivity to DNS server is present, and Forward (A) and Reverse (PTR) records are present and match the server IP address as well as hostname.

**Caution**

Do not proceed if the new hostname does not resolve to the correct IP address.

Step 7

From the publisher node, run `utils dbreplication reset all` to set up replication across the whole cluster again.

Post-Change Task List

After you finish changing the IP addresses of your cluster, complete the following tasks.

Procedure

Step 1

For security-enabled clusters (Cluster Security Mode 1 - Mixed), update the CTL file.

For detailed instructions on updating and managing the CTL file, including adding a new TFTP server to an existing CTL file, see the *Cisco Unified Communications Manager Security Guide, Release 8.6(1)*.

You can find this document at the following URL:

http://www.cisco.com/en/US/products/sw/voicesw/ps556/prod_maintenance_guides_list.html

Step 2

After you finish updating the CTL file, restart all nodes in the cluster.

Step 3

Ensure that all servers in the cluster are up and available by checking for any active ServerDown alerts. You can check by using either the Real Time Monitoring Tool (RTMT) or the Command Line Interface (CLI) on the first node.

- To check by using RTMT, access Alert Central and check for ServerDown alerts.
- To check by using the CLI on the first node, enter the following command and inspect the application event log:

```
file search activelog syslog/CiscoSyslog ServerDown
```


Step 4 Check the DB replication status on all Cisco Unified Communications Manager nodes in the cluster to ensure that all servers are replicating database changes successfully. You can check by using either RTMT or a CLI command.

- To check by using RTMT, access the Database Summary and inspect the replication status.
- To check by using the CLI, enter the command that the following example shows:

```
admin: utils dbreplication runtime

==>query class :
- Perf class (Number of Replicates Created and State of Replication)
has instances and values:
ReplicateCount -> Number of Replicates Created = 344
ReplicateCount -> Replicate_State = 2
```

Be aware that the `Replicate_State` object shows a value of 2 in this case. The following list shows the possible values for `Replicate_State`:

- 0—Replication Not Started. Either no subscribers exist, or the Database Layer Monitor service has not been running since the subscriber was installed.
- 1—Replicates have been created, but their count is incorrect.
- 2—Replication is good.
- 3—Replication is bad in the cluster.
- 4—Replication setup did not succeed.

Step 5 In Cisco Unified Reporting, generate the Unified CM Database Status report. Look for any errors or warnings in this report.

Step 6 In Cisco Unified Reporting, generate the Unified CM Cluster Overview report. Look for any errors or warnings in this report.

Step 7 Reconfigure the netdump server and clients by using the `utils netdump` CLI commands. For more information, see Appendix A in the Cisco Unified Communications Operating System Administration Guide.

Step 8 Run a manual DRS backup and ensure that all nodes and active services back up successfully. For more information, see the *Disaster Recovery System Administration Guide* for your release.



Note

You must run a manual DRS backup after you change the IP address of a node, because you cannot restore a node with a DRS file that contains a different IP address or hostname. The post-change DRS file will include the new IP address or hostname.

Step 9 Update all relevant IP phone URL parameters.

Step 10 In Cisco Unified Communications Manager Administration under System > Enterprise Parameters, update all relevant IP phone services.

Step 11 Update IPSec tunnels that terminate to the Cisco Unified Communications Manager.

Step 12 Update RTMT custom alerts and saved profiles:

- RTMT custom alerts that are derived from performance counters include the hard-coded server IP address. You must delete and reconfigure these custom alerts.
- RTMT saved profiles that have performance counters include the hard-coded server IP address. You must delete and re-add these counters and then save the profile to update it to the new IP address.

Step 13 Update the DHCP server that runs on Cisco Unified Communications Manager.

Step 14 Check and make any required configuration changes to other associated Cisco Unified Communications components, including the following ones:



Note

Consult the documentation for your product to determine how to make any required configuration changes.

- Cisco Unity
- Cisco Unity Connection
- Cisco Unity Express
- SIP/H.323 trunks
- IOS Gatekeepers
- Cisco Unified MeetingPlace
- Cisco Unified MeetingPlace Express
- Cisco Unified Contact Center Enterprise
- Cisco Unified Contact Center Express
- DHCP Scopes for IP phones
- SFTP servers that are used for Cisco Unified Communications Manager trace collection, CDR export, or as a DRS backup destination
- IOS hardware resources (conference bridge, media termination point, transcoder, RSVP agent) that register with Cisco Unified Communications Manager
- IPVC video MCUs that register or integrate with Cisco Unified Communications Manager
- Cisco Emergency Responder
- Cisco Unified Application Environment
- Cisco Unified Presence
- Cisco Unified Personal Communicator
- Associated routers and gateways

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Cisco Product Security Overview

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http://www.access.gpo.gov/bis/ear/ear_data.html

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