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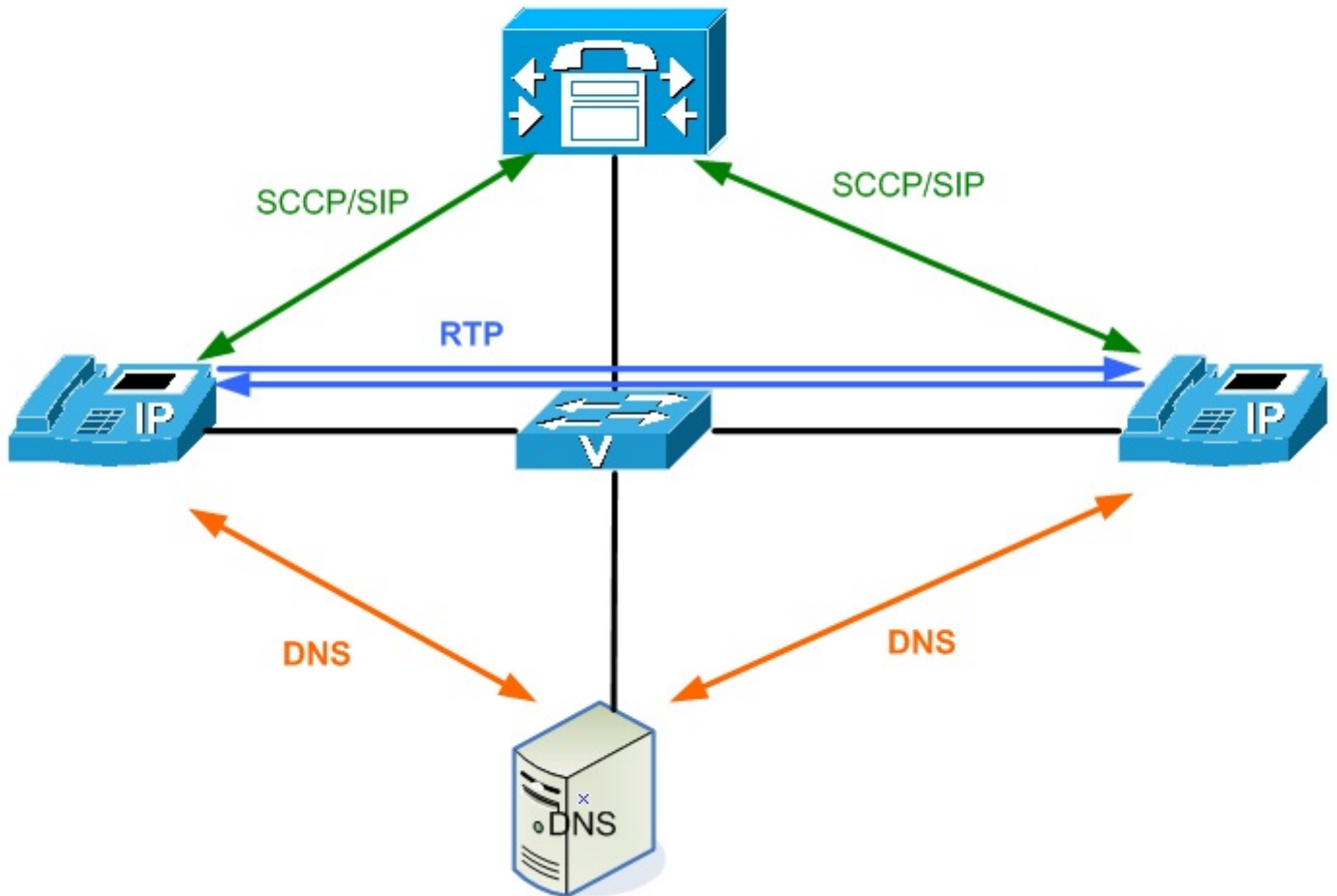
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## 13. Elimination reliance of CUCM on DNS service

DNS name resolution is needed in voice network if DNS is in use. DNS lookup process must occur before any signaling occur. As result we can expect delay or in worst failure of DNS system on network environment lead to failure in voice placing. Conclusion is DNS is not recommended for use in voice network.

Closer look on protocular data flow in network with DNS is on next picture. For drawing topology diagram you can obtain appropriate stencil for Ms Visio from cisco page <http://www.cisco.com/web/about/ac50/ac47/2.html> <sup>[1]</sup>.

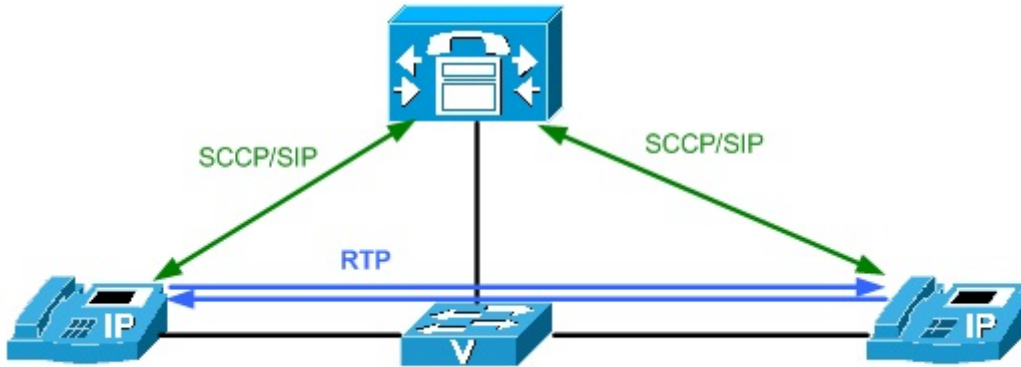
## CUCM network with DNS for voice devices



[2]

But network environment in voice VLAN can be clean from DNS PDU as you can see on picture that demonstrate network with eliminated DNS.

## CUCM network with eliminated DNS reliance for voice devices



[3]

Now you can ask: What is the way how to eliminate reliance of CUCM on DNS?

Default installation of CUCM (as it show next picture) list hostname of CUCM server (Publisher or subscribers) in database field but not real IP address. To change these value we must select appropriate CUCM server from system administration menu and replace name with IP address (System -> Server (then appropriate server)).

**Cisco Unified CM Administration**  
For Cisco Unified Communications Solutions

System

Server

- Cisco Unified CM
- Cisco Unified CM Group
- Phone NTP Reference
- Date/Time Group
- Presence Group
- Region
- Device Pool
- Device Mobility
- DHCP
- LDAP
- Location
- Physical Location
- SRST
- MLPP
- Enterprise Parameters
- Enterprise Phone Configuration
- Service Parameters
- Security
- Application Server
- Licensing
- Geolocation Configuration
- Geolocation Filter

Host Name/IP Address ^

er8 appropriate server in cluster (this is single server cluster - that mean no red

<https://172.16.0.20/ccmadmin/serverFindList.do>

[4]


From list our cluster servers (in my case it is stand alone CUCM server) select appropriate server and open it that lead to next window.



## Server Configuration

 Save  Delete  Add New

### Status

 Status: Ready

### Server Information

Database Replication	Publisher
Host Name/IP Address*	<input type="text" value="CommManager8"/> → 172.16.0.20 in our case
IPv6 Name	<input type="text"/>
MAC Address	<input type="text"/>
Description	<input type="text"/>

 \*- indicates required item.

[5]

But in CUCM database is another reliance on DNS system. Phone service URLs use name of server against appropriate IP. We must change it this way. Go to System -> Enterprise parameters and scroll down to Phone URL parameters and Secure phone URL parameters. Change appropriate DNS names to appropriate IP address (in our training environment it will be 172.16.0.20).



System | Call Routes | Media Resources | Ad

- Server
- Cisco Unified CM
- Cisco Unified CM Group
- Phone NTP Reference
- Date/Time Group
- Presence Group
- Region
- Device Pool
- Device Mobility ▶
- DHCP ▶
- LDAP ▶
- Location
- Physical Location
- SRST
- MLPP ▶
- Enterprise Parameters**
- Enterprise Phone Configuration
- Service Parameters
- Security ▶
- Application Server
- Licensing ▶
- Geolocation Configuration
- Geolocation Filter



## Enterprise Parameters Configuration

Save Set to Default Reset Apply Config

### Prepare Cluster for Rollback

[Prepare Cluster for Rollback to pre 8.0](#) \*

### Phone URL Parameters

<a href="#">URL Authentication</a>	<input type="text" value="http://CommManager8:8080/ccmcip/authenticate.jsp"/>
<a href="#">URL Directories</a>	<input type="text" value="http://CommManager8:8080/ccmcip/xmldirectory.jsp"/>
<a href="#">URL Idle</a>	<input type="text"/>
<a href="#">URL Idle Time</a>	<input type="text" value="0"/>
<a href="#">URL Information</a>	<input type="text" value="http://CommManager8:8080/ccmcip/GetTelecasterHelpTe"/>
<a href="#">URL Messages</a>	<input type="text"/>
<a href="#">IP Phone Proxy Address</a>	<input type="text"/>
<a href="#">URL Services</a>	<input type="text" value="http://CommManager8:8080/ccmcip/getservicesmenu.jsp"/>

### Secured Phone URL Parameters

<a href="#">Secured Authentication URL</a>	<input type="text" value="https://CommManager8:8443/ccmcip/authenticate.jsp"/>
<a href="#">Secured Directory URL</a>	<input type="text" value="https://CommManager8:8443/ccmcip/xmldirectory.jsp"/>
<a href="#">Secured Idle URL</a>	<input type="text"/>
<a href="#">Secured Information URL</a>	<input type="text" value="https://CommManager8:8443/ccmcip/GetTelecasterHelpT"/>
<a href="#">Secured Messages URL</a>	<input type="text"/>
<a href="#">Secured Services URL</a>	<input type="text" value="https://CommManager8:8443/ccmcip/getservicesmenu.js"/>

[7]

In this two block of config change host name of CUCM to its IP address.

- Phone URL Parameters	
<a href="#">URL Authentication</a>	<code>http://172.16.0.20/ccmcip/authenticate.jsp</code>
<a href="#">URL Directories</a>	<code>http://CommManager8:8080/ccmcip/xmldirectory.jsp</code>
<a href="#">URL Idle</a>	<input type="text"/>
<a href="#">URL Idle Time</a>	<code>0</code>
<a href="#">URL Information</a>	<code>http://CommManager8:8080/ccmcip/GetTelecasterHelpTe</code>
<a href="#">URL Messages</a>	<input type="text"/>
<a href="#">IP Phone Proxy Address</a>	<input type="text"/>
<a href="#">URL Services</a>	<code>http://CommManager8:8080/ccmcip/getservicesmenu.jsp</code>

**:8080 remember use port**

and so on

[8]

Now is our voice network much more independent from DNS failure. But keep in mind that there is also reason to stay on DNS based network model for voice segment. That is when you expect change in network addressing plan, names are more stable as IP address.

[Tweet](#) [9]

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**Links:**

- [1] <http://www.cisco.com/web/about/ac50/ac47/2.html>
- [2] [http://cdesigner.eu/obsah/voip/lab14/1\\_with\\_DNS.jpg](http://cdesigner.eu/obsah/voip/lab14/1_with_DNS.jpg)
- [3] [http://cdesigner.eu/obsah/voip/lab14/2\\_without\\_DNS.jpg](http://cdesigner.eu/obsah/voip/lab14/2_without_DNS.jpg)
- [4] [http://cdesigner.eu/obsah/voip/lab14/3\\_dialog\\_syste,\\_server.jpg](http://cdesigner.eu/obsah/voip/lab14/3_dialog_syste,_server.jpg)
- [5] [http://cdesigner.eu/obsah/voip/lab14/4\\_change\\_name\\_ofCUCMserver\\_to\\_IP.jpg](http://cdesigner.eu/obsah/voip/lab14/4_change_name_ofCUCMserver_to_IP.jpg)
- [6] [http://cdesigner.eu/obsah/voip/lab14/5\\_enterprise\\_parameters\\_opening.jpg](http://cdesigner.eu/obsah/voip/lab14/5_enterprise_parameters_opening.jpg)
- [7] [http://cdesigner.eu/obsah/voip/lab14/6\\_Phone\\_URL\\_parameters.jpg](http://cdesigner.eu/obsah/voip/lab14/6_Phone_URL_parameters.jpg)
- [8] [http://cdesigner.eu/obsah/voip/lab14/7\\_how\\_to\\_change\\_names\\_to\\_IP.jpg](http://cdesigner.eu/obsah/voip/lab14/7_how_to_change_names_to_IP.jpg)
- [9] <http://twitter.com/share>