

Installation and Operation Manual

ECG/Cisco

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1 Introduction

ECG/Cisco is a gateway between the Unite messaging system and Cisco IP phones, and sends messages from Unite to Cisco. It contains a simple configuration Graphical User Interface (GUI) and interacts with the Cisco Unified Communications Manager (CUCM) and the Cisco IP phones.

The Cisco Unified Communications Manager is the central node in a Cisco phone network with information about all phones and calls. It also keeps track of which phones that exist and which phones that are connected.

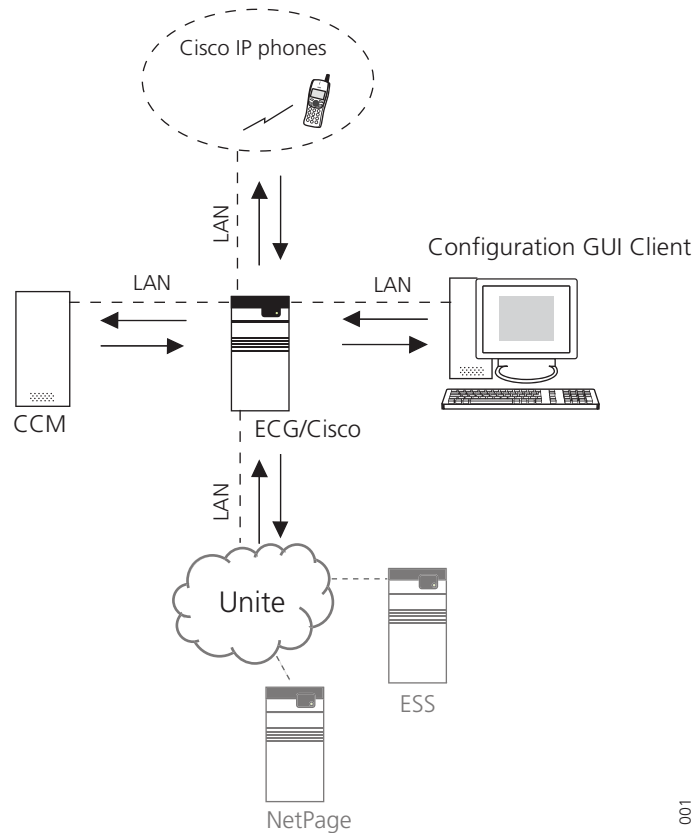


Figure 1. An example with the ECG/Cisco gateway and part of a Unite system.

The ECG/Cisco gets a list from the CUCM with all phone devices and then makes inquiries to the CUCM about added or modified devices. At regular intervals the ECG/Cisco also gets an updated list from the CUCM. When the ECG/Cisco receives a message from Unite it will first check in the list if the device exists and then send the message.

The ECG/Cisco supports:

- Messages
- Messages with confirmation
- Interactive Messages (limited), see also [5.4 Interactive Messages](#) on page 10.
- Erase Message

1.1 Abbreviation and Glossary

CUCM	Cisco Unified Communications Manager: A Cisco product that keeps track of which phones that exist and are connected. It is the central node in a cisco phone network with information about all phones and calls. This is also where users are associated to phones within the Cisco system.
ECG/Cisco	External Carrier Gateway/Cisco: This is a gateway between the Unite messaging system and Cisco IP phones to be able to support messaging between the systems.
ESS	Enhanced System Services: Unite module that handles centralised number planning, remote connection, system supervision, fault handling, group handling, message routing, centralised logging, activity logging, and user access administration.
NetPage	Enables text messages to be sent to a Portable Device from a standard web browser.
SNMP	Simple Network Management Protocol: standard for management of network equipment
UNS	Unite Name Server: Unite module component that holds the Unite number plan and Unite destinations. It is available locally on each Unite module or centrally on an ESS.
UPAC	Unite Packet for Messaging and Alarm: Unite module used for messaging and alarm handling in a system. It is also used for the administration of users and groups, for supervision, activity logging and fault logging etc.

1.2 Requirements

1.2.1 PC Requirement

- Microsoft Internet Explorer 6.0 or later

1.2.2 Supported Cisco Products

- Unified Communications Manager 6.x
- Cisco IP phone 7920
- Cisco IP phone 7921
- Cisco IP phone 7940
- Cisco IP phone 7960

1.2.3 Unite Products for Number Planning

Note: Number planning is needed if more than one messaging system is available (for example DECT or WLAN).

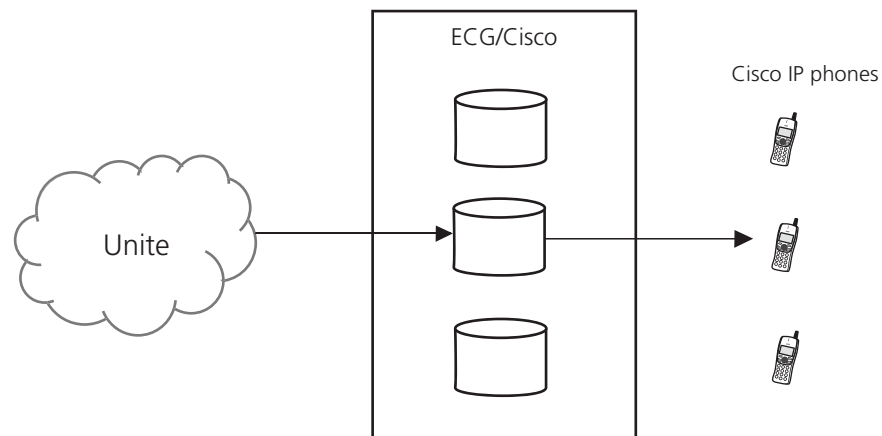
Following products can be used:

- Enhanced System Services (ESS) – software version 2.04 or later
- Unite Packet for Messaging and Alarm (UPAC)

2 Technical Description

The ECG makes inquiries every minute about added or modified devices and the status of every device, i.e. if they are logged in, using SNMP. To make sure nothing is inconsistent the ECG also extracts a complete list of all registered phones in the CUCM at a regular configurable interval, default once a day. When a message is received from Unite the status of the intended receiver is checked and ECG/Cisco accepts the message if the phone is currently online.

A common way to handle messaging is to let the phone store a number of the latest messages for viewing, but the Cisco phones are not equipped with any local message storage. It is therefore up to the ECG/Cisco to implement this function, which is illustrated in figure 2. The ECG/Cisco keeps a small message database for each phone. Each database consists of the 20 latest received messages, and the messages are distributed first-hand in priority order and secondly, for messages with the same priority, in time order.



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Figure 2. The ECG/Cisco sends a stored message to a Cisco IP phone.

The first time a message is sent it is displayed on the phone together with a notification sound. If the user by accident clears the message, for example by answering a phone call and hanging up after it has been received, the ECG/Cisco will not be notified and still believes the message is on display. To make sure it is not lost, the ECG/Cisco has an option to make a silent resend of the message to the phone at a specified interval until it has been either rejected or deleted by the user.

3 Installation

For mounting and connection of cables, see the *Installation Guide, ELISE2, TD 92232GB*.

Note: The ECG/Cisco does not support System 900, or I/O Handler.

3.1 Description of LED Indicators

There are a number of LEDs on the ELISE hardware that indicate the status of the software, see [figure 3](#) below. These status indications are software dependent and are described in this chapter. For information regarding indications by other LEDs, see the *Installation Guide, ELISE2, TD 92232GB*.

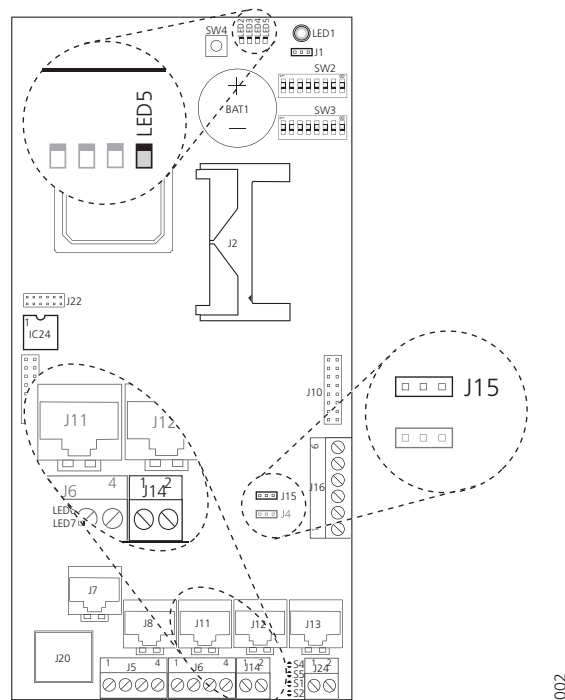


Figure 3. Location of the LEDs indicating the status of the ECG.

LED #	LED Status	Indication
LED5	ON	ECG applications are up and running.
	OFF	Problems when starting the applications. Check the log files on the ECG Administration web page for more information.

3.2 Error Relay

The error relay (J14 in [figure 3](#) above) can be used to see if the ECG is operating. When the ECG starts, the error relay operates. When the ECG is shutting down or rebooting, the error relay releases.

Whether the error relay output opens or closes on actual relay status, depends on how the jumper J15 is set. For connections of the error relay and error relay output configuration, see the *Installation Guide, ELISE2, TD 92232GB*.

3.3 Licences

For available licences, see *Data Sheet, ECG/Cisco, TD92416GB*.

3.3.1 Unlicensed Mode

When needed, the ECG can be started in unlicensed mode. The ECG will have full functionality for 2 hours in unlicensed mode. After that, the ECG needs to be restarted, either physically or from the ECG Administration web page.

How to set the ECG in unlicensed mode is described in the *Installation Guide, ELISE2, TD 92232GB*.

4 Configuration

The configuration is done both in the ECG/Cisco and in the Cisco Unified Communications Manager (CUCM). The ECG/Cisco contains settings for communications with the phones, communication with the CUCM and translations. In the CUCM users are created and phones are associated to the users.

4.1 CUCM Configuration

The administration of users and devices is done in the CUCM. Users are added and phones are associated to the users.

- 1 Go to the home page of the CUCM, [http\(s\)://xxx.xxx.xxx.xxx/CUCMAdmin](http(s)://xxx.xxx.xxx.xxx/CUCMAdmin).

- 2 Create a new user.

The default *Phone user* used in the ECG/Cisco is called *UniteSystem*, this can be changed in the configuration of the ECG/Cisco.

- 3 Associate the user to all phones that shall be used.

- 4 Set SNMP parameters.

4.2 ECG/Cisco Configuration

The administration of the communication between the ECG/Cisco and the CUCM is done in the administration web page of the ECG/Cisco.

The ECG uses SNMP to obtain the configured devices in the CUCM. The ECG supports both SNMP version 2 and 3, depending on the customer's requirements.

- 1 Go to the System Setup of the ECG/Cisco, <http://xxx.xxx.xxx.xxx/admin>.

- 2 Click "Settings"

Figure 4. The parameters for the Cisco Interface.

Note: Make sure that the phone user and the phone password is the same as in the setup for the CUCM, and that the SNMP parameters correspond to the SNMP parameters in the CUCM.

- 3 Enter IP address of the Unified Communications Manager.
- 4 Set the refresh interval value.

The complete device information is read at regular intervals, default once a day. To refresh too often in systems with huge amount of devices puts a heavy load for the CUCM. See also [5.5 Large Systems](#) on page 10.

- 5 Select SNMP version to use for the communication with the CUCM.
- 6 Set the SNMP parameters corresponding to the settings in the CUCM.

The only required parameter for SNMP version 2, is the community name.

- SNMP community (community name), version 2 only

For increased security in SNMP version 3, the following need to be set.

- SNMP privacy (encryption method)
- SNMP privacy password (encryption password)
- SNMP authentication (authentication method)
- SNMP authentication password
- SNMP user name for connecting

- 7 Use the same phone user and phone password that was given the user in the CUCM. See [4.1 CUCM Configuration](#) on page 6 step 2.
- 8 Optionally, change the file name of the default notification sound and the siren sound. See [4.3 Notification Sounds](#).
- 9 Optionally, change the *Message update interval*. The default is 60 seconds, which means that a message update will be sent to the phone every 60 seconds until a response of the message is selected by the phone user.
- 10 Click "Activate".

4.3 Notification Sounds

There are two "Ascom" notification sounds in a zip-file that can be downloaded from the System Setup > Documents. These files must be put in the Cisco TFTP server if they are used.

4.4 Send Messages to Cisco Phones

All Unite messaging tools can be used to send messages to Cisco phones.

The extension number connected to a device is used for accessing the device. The ECG also supports that a device has multiple extension numbers connected to itself. The extension number is used as the Call ID when sending a message from for example NetPage. The *Call iD* is found in the CUCM, *Find and List Phones* page.

If more than one messaging system is available (e.g. DECT or WLAN) the ESS or UPAC must be used for number planning.

4.5 Translation

This is where to set the text for soft keys which are displayed on the phone when receiving a message. The softkeys differ from different Unite messaging types. The length of the text can differ depending on the model of phone that is used. The text should be as short as possible.

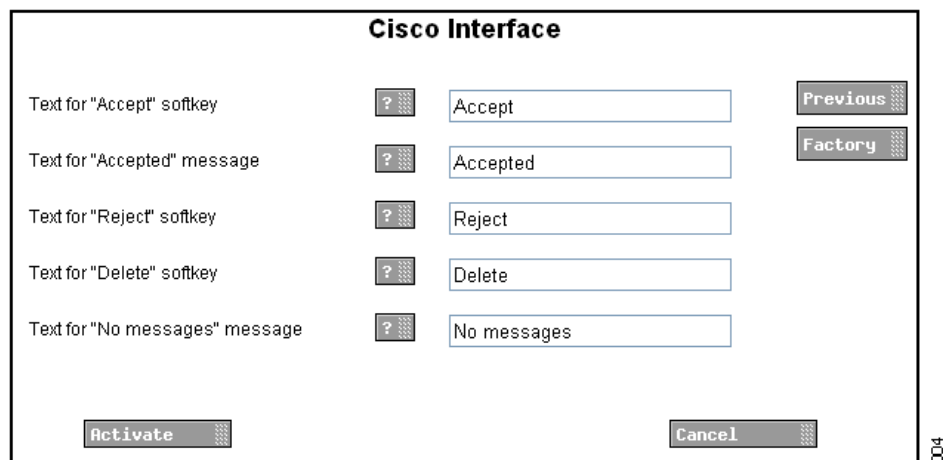


Figure 5. Translation of soft keys.

4.6 Backup/Restore

In the System Setup web page "xxx.xxx.xxx.xxx/admin" it is possible to backup the current configuration of the system. This should be done when an ECG/Cisco module is to be replaced with another ECG/Cisco module in case of hardware failure, or when a complete image upgrade is about to be performed.

To backup or restore, go to "Backup/Restore" in the left menu in the *Home* page.

Backup

- 1 Click "Backup".
- 2 In the dialogue window click "Save" and enter the file name and file path. The default name for the file is *backup*.

Restore

- 1 Click "Restore".
- 2 Locate the file and click "Submit file".

5 Considerations

5.1 Read new Messages in a Cisco Phone

The Cisco phone can only display one message at a time. The message with the highest priority is displayed first. To be able to read a new incoming message the previous one must first be accepted/rejected and/or deleted depending on type of message.

5.2 Cisco IP Phone 7920

- At the moment it is not possible to adjust the volume for the notification sounds.
- The vibrator is not enabled when receiving messages.

5.3 Send Test Messages

It is not possible to use a device name when test messages are sent directly from the System Setup > Troubleshoot > Send Test Message on the ECG/Cisco. You will have to use the UNS in the ESS to create a Call ID for the device name (the *Number/Address* should be the *Device Name* of the Cisco phone and the *Category* is set to ECG/Cisco). The test message is then sent by entering the created Call ID in the ECG/Cisco System Setup > Troubleshoot > Send Test Message.

See chapter *Message Routing* in the document *Installation and Operation Manual, Enhanced System Services, ESS, TD 92253GB* for Call IDs and Categories.

5.4 Interactive Messages

The only IM option supported by the ECG/Cisco is the possibility to call back a number by pressing a softkey.

5.5 Large Systems

When using the ECG/Cisco in large systems it is recommended to increase the interval time for reading the list of telephone numbers from the CUCM. This is done in the System Setup > Settings > "Unified Communications Manager device list refresh". To read the list often can degrade the Quality of Service for other telephony-functions.

5.6 Reboot the ECG/Cisco

By rebooting the ECG/Cisco the license counter that counts number of users will be reset.

Note: If you reboot the ECG/Cisco, all received messages will be lost.

5.7 Pause in Dialling

It is often required to include a pause in the dialling string. Unfortunately this is not possible in the current Cisco IP phones firmware.

6 Troubleshooting

Error Logs and Complete Logs can be found in the *System Setup > Troubleshoot*.

6.1 Message and call Interactions using 7920 IP phones

6.1.1 Receiving Messages during a Call

If a message is received during a call it will remain displayed until it has been taken care of, see [5.1 Read new Messages in a Cisco Phone](#) on page 10. This means that you will have to take care of the message to be able to disconnect the call.

6.1.2 Receiving calls when Interacting with Messages

There is a problem with a combination of an incoming message and receiving a call at the same time. To be able to answer the call and not read the message, you will have to press the On hook key to "cancel" the message and then press the Off hook key to answer the call. The message will be displayed again at a later time depending on the message update interval.

6.2 Not Possible to Send Messages

6.2.1 General

- In the Complete Log a log with the error message "Unauthorized to get devicelist from Unified Communications Manager" can indicate that the user and password is not correct. In the System Setup, check that Unified Communications Manager User and Password is correct.
- First check that the *System Setup > Troubleshoot > System Information > Cisco Interface* that *Cisco Communication* is marked. Then if a log appears in the Complete Log with the error message "Cisco IP Phone returned nothing..." (which appears when a message is sent), this can mean that a certain phone is not associated to a user. Check the configuration in the CUCM. See [4.1 CUCM Configuration](#) on page 6 on how to create a new user.

6.3 No Notification Sound when Receiving Messages

If the file name is not correct the message will be sent but without notification sound. Make sure that the name of the desired sound file is correct in the System Setup > Settings of the ECG/Cisco. If the "Ascom" notification sounds are used, make sure that these files are uploaded to the Cisco TFTP server.

7 Related Documents

Data Sheet, ECG/Cisco	TD 92416GB
Data Sheet, ELISE2 – Embedded LINUX Server	TD 92524GB
Function Description, Number Planning and Message Routing in Unite	TD 92554GB
Function Description, Activity Logging in Unite	TD 92341GB
Function Description, Interactive Messaging (IM)	TD 92168GB
Installation Guide, ELISE2	TD 92232GB
Installation and Operation Manual, ESS - Enhanced System Services	TD 92253GB
Installation and Operation Manual, NetPage	TD 92198GB

8 Document History

For details in the latest version, see change bars in the document.

Version	Date	Description
A	2006-10-05	First released version
B	2006-10-30	<ul style="list-style-type: none"> Added chapters 5.7 Pause in Dialling on page 10 and 6.1 Message and call Interactions using 7920 IP phones on page 11.
C	2009-04-07	<ul style="list-style-type: none"> Added Document History table The parameters "CallManager user" and corresponding password have been removed since SNMP now is used for accessing the CUCM. The extension number is now used to access a device, (instead of "SEPXXXXXXXXXXXX" where XXX was the MAC address). Refer to 4.4 Send Messages to Cisco Phones on page 8. Cisco CallManager (CCM) is changed to Cisco Unified Communications Manager.

Appendix A: ECG/Cisco Firewalls

If an application or unit has to communicate through a firewall with the ECG, communication has to be permitted on the ports that are used. The following applies:

Port	Application or unit	Transport protocol
80	Web configuration of the ECG	TCP
123	Network Time Protocol (NTP)	UDP
3217	Unite traffic	TCP
10140	Communication with Cisco phones	UDP