MiVoice MX-ONE

Emergency Calls, SOS Calls

Release 7.3

June 4, 2020

Mitel®

Notice

The information contained in this document is believed to be accurate in all respects but is not warranted by **Mitel Networks™ Corporation (MITEL®)**. The information is subject to change without notice and should not be construed in any way as a commitment by Mitel or any of its affiliates or subsidiaries. Mitel and its affiliates and subsidiaries assume no responsibility for any errors or omissions in this document. Revisions of this document or new editions of it may be issued to incorporate such changes.No part of this document can be reproduced or transmitted in any form or by any means - electronic or mechanical - for any purpose without written permission from Mitel Networks Corporation.

Trademarks

The trademarks, service marks, logos and graphics (collectively “Trademarks”) appearing on Mitel's Internet sites or in its publications are registered and unregistered trademarks of Mitel Networks Corporation (MNC) or its subsidiaries (collectively "Mitel") or others. Use of the Trademarks is prohibited without the express consent from Mitel. Please contact our legal department at legal@mitel.com for additional information. For a list of the worldwide Mitel Networks Corporation registered trademarks, please refer to the website: http://www.mitel.com/trademarks.

Contents

GENERAL

It shall be possible to make emergency calls from every extension in the system, and it is essential that all extensions, independent of Traffic Connect Class and extension type, are configured to allow calling emergency numbers.

This document describes configuration of IP extensions, both SIP and H.323, in the correct way for emergency call handling.

All other extension types shall be configured accordingly. One of the primary concerns around emergency situations involving calls from IP telephones is the fact that the calling user may reside, at the time of making the emergency call, anywhere on the corporate LAN/WAN. The standard method for the dialed emergency center to find the physical position of the calling user is a database look-up with the Calling Line Identity as identifier. Using IP, this may give a completely wrong address and direct the emer- gency team to another part of the country.

The CLI of an IP extension does not necessarily give the correct location as the user may have logged in at any corporate location, served by the same IP PBX. Emergency calls from such a location must have a CLI that can provide the correct address to the office in question and it may also be required that the call should be routed to a local emergency center.

The MX-ONE solution for emergency calls is based on the telephony domain concept. Per telephony domain, a DID number in the range that covers the applicable office is reserved for emergency call purposes and is delivered as CLI when emergency calls are made from any IP-terminal connected in that domain irrespective of which user that is making the call.

The emergency call data per domain is specified with command and includes the direc- tory number of a virtual extension (with a special type ‘emergency call back’), the CLI that shall be sent to the emergency center.

The virtual extension is used for call-backs from the emergency center. This virtual extension will forward incoming calls to the last telephone making an emergency call from this domain. This call forwarding is active for 30 minutes after the last made emer- gency call.

In situations where calls from a specific domain need to be routed to a local emergency center, the local area code valid for users in a specific domain can be automatically inserted between the LCR access code and the dialed local number. The LCR func- tionality is then used to route the call to the correct emergency center.

In situations where there are several emergency centers with the same area code, a dummy area code can be defined for each local office.

However, this requires careful configuration of LCR data as the correct area code needs to replace the used dummy code for all non emergency calls.

Note that for IP users having the home area code configured (via the extension command or web GUI), the home area code is not used for emergency calls.

The ELIN, Emergency Location Information Number, is supported for the Mitel 6800/6900 phones, and a similar function is also supported for H.323 DBC 4xx phones. Note that in some markets, the ELIN must be a DID number in the PBX number plan, to make it possible to call back from the public alarm center.

In addition to the ELIN (which is conveyed as caller name or number), the system also supports conveying of emergency Location Identity via SIP trunk, in the form of a PANI Header (Private Header Access Network Information), according to RFC 7315 and ES 203 178.

EMERGENCY CALLS FROM LOGGED-ON TERMINALS

Any logged-on (registered) IP telephone can make Emergency calls/SOS calls to an emergency center. The SIP users will when dialing the emergency number use SIP route functionality. The H.323 users establish an ordinary extension call to the emergency number (112, 911, etc.)

With Mitel 6900/6800/6700 SIP phones, it is possible to make emergency calls also when they are not registered to MX-ONE.

When the emergency call is made, the configuration in the emergency trunk's profile determines if a logged-on terminal number should be used as A-number, or domain associated number(s), or the route's number(s).

An IP softphone can make emergency calls.

A non-IP extension (analog, digital and so on) does not completely support this facility. It can make emergency calls as an ordinary call, which sends the A-number defined for it to the PSTN.

EMERGENCY CALLS FROM NOT LOGGED-ON TERMINALS

Not logged on terminals can make emergency calls under the assumption that the telephone supports the MX-ONE functionality.

For SIP terminals, all emergency calls are routed via SIP route functionality. For

call-backs, MX-ONE uses the received IP address to reach the not logged on terminal that was used for the call.

With DBC 42x, DBC 43x and DBC 44x IP telephones, which are referred to as DBC 4xx in the following text, you can make emergency calls even when the telephones are logged off from the exchange when the telephones are using the H.323 protocol. H.323 terminals use a specifically configured H.323 emergency route.

EMERGENCY NUMBER

The emergency number depends on each country's regulations (for example, 112 is used in Europe and 911 in the US).

The emergency number can be dialed using the following valid formats:

1. Emergency number (for example, 112 or 911)
2. PSTN route access code + Emergency number (for example, 0112)
3. Least Cost Routing Access Code (LAC)/Public Destination access Code (PDC)

+ Emergency number (for example, 00112 and 9911)

The emergency center is reached by a public route to the PSTN.

A-NUMBER SENT TO THE EMERGENCY CENTER

When a call to an emergency number is made from an IP telephone, the MX-ONE provides an A-number to the emergency center located in the PSTN. The A-number can be used by the emergency center to:

1. Dial back to the calling user
2. Locate the caller's geographical situation

The A-number is sent as the calling party number to the PSTN. The calling party number sent to the public exchange is normally within the direct-in-dialing number series; otherwise, the public exchange will usually replace the number.

The A-number is set by the system administrator in the H.323 telephone configuration file and in the system data associated to the domain to which the IP telephone belongs.

The configuration file is used when the H.323 telephone is logged off, and the system data when it is logged on. The system data is changed using O&M commands.

If ELIN, emergency location information number, is configured for the terminal, that number may replace the A-number in emergency calls. This is valid for the Mitel 6900/6800/6700 SIP phones. An alternative is to use the Location Identity that can be set per IP domain.

If ISDN is used as the only access to the public network for calls to the emergency center, there will be a need to configure how to handle location identity (ELIN) information, and there maybe limitations on the possibility to call back to the A-number. The ISDN trunk can be configured (with VARC D1 for TL60) to replace either A-number,

LOGGED-OFF SIP TELEPHONES

All emergency calls, from both logged-on and logged-off telephones, go through an incoming SIP route.

The A-number that will be presented at the emergency center is either the number configured for the SIP route when no domain data for emergency calls is found, or the number set on the domain.

LOGGED-OFF H.323 IP TELEPHONES

The A-number defined in the H.323 IP telephone configuration file is sent from the terminal to the MX-ONE Service Node at the initiation of the emergency call.

Logged-off IP telephones reach the MX-ONE Service Node by means of an H.323 route qualified as an emergency route.

The A-number is sent to the PSTN such as it was received from the IP telephone at the incoming H.323 emergency route.

SIP TELEPHONES AND LOGGED-ON H.323 IP TELEPHONES ASSIGNED TO AN IP DOMAIN

The A-number sent to the PSTN is the A-number associated to the domain to which the IP telephone belongs, that is, every IP telephone associated to a domain sends the same number.

MX-ONE SERVICE NODE CONFIGURATION

DATA CONFIGURATION

The following elements must be initiated in the MX-ONE Service Node to support emergency calls from IP telephones.

1. An emergency SIP route for SIP telephones, using SIP route profile.
2. An emergency H.323 route used as H.323 access point for logged-off IP telephones. This is only valid for the DBC 4xx H.323 telephones.
3. LCR tables to support the different emergency number valid formats.
4. At least one external destination qualified as an emergency destination, to access the route towards the PSTN. It may be the public access to the PSTN or a private route to the PBX connected to the PSTN.
5. The domain emergency data consists of:
6. The A-number (one or several)
7. Optionally, an “emergency-dial-back extension” directory number may be entered. It is the directory number of a virtual extension that will be diverted to the last calling IP telephone during the execution of the emergency call. Then, the last calling IP telephone may be reached from the emergency center by calling the virtual extension (during a limited time).

This mechanism allows the emergency center to reach all the IP telephones in the same domain by the same number. It is also suitable in scenarios where not all IP extensions have direct-in-dialing capability.

The use of this mechanism requires the initiation of a virtual extension. The A-number sent to the PSTN must allow the emergency center to reach the virtual extension, either directly or by using its own number translations.

1. The area code (one or several). In case the domain represents a different area than that in which the PBX is located, the area code is used to route the call to the PSTN break-out at the domain area in order to send the emergency call to the emergency center in that area. It is used typically in the Branch Office scenario, where the domain represents the Branch Office area (**1.10 Branch Office Scenario on page 9**).

Location Identity.

This information is optionally associated to the IP-domain, and shall be presented to the Emergency Centre if outgoing SIP trunk is used. The data will be sent as a PANI Header, in accordance with RFC 7315.

SNMP CONFIGURATION

When an Emergency/SOS call shall be notified to a supervision station by SNMP traps, the program ESNMP must be loaded in all LIMs.

Configuration to send the traps to the Network Monitoring Station is done to the net-snmp components (deamons) in the Operating System.

See Operational Directions document: MiVoice MX-ONE SNMP Support, Alarm Notification and Emergency Call Events.

TELEPHONE CONFIGURATION FILE (DBC 4XX USING

H.323 ONLY)

To allow these terminals to make emergency calls when they are logged off, the following parameters must be defined in the telephone configuration file:

1. Emergency number
2. Transport address (IP address and TCP port) of the MX-ONE Service Node that accepts emergency calls from logged-off terminals

1. The A-number to be sent to the emergency center as the calling party number. (A-number TON is not needed when the IP telephone is logged off, se**e 1.8.2Emergency Calls from Logged-Off MX-ONE IP Telephones (Using H.323) on**).

It is also possible to define the following data:

1. Route ID
2. An alternative IP address to set up the call when the emergency call using the main IP address fails
3. Access code (PSTN route / LAC / PDC). When logged off, the DBC 4xx only allows emergency number dialing. In order to allow the user to dial the emergency number in any of the valid formats (see **1.3 Emergency Number on page4**), the used access code can be stated in the configuration file.

FUNCTION ACTIVATION AND DEACTIVATION (DBC 4XX USING H.323 ONLY)

The capability to make emergency calls when the DBC 4xx is logged off can be enabled or disabled by the system administrator.

The emergency call function from logged-off terminals is enabled by defining the mandatory emergency information in the telephone configuration file.

As soon as this data is defined and the configuration file is loaded in the telephone, the capability to make emergency calls is displayed (as SOS text) on the terminal menu.

For an example of the menu, see Figure 1 **on page 7**.

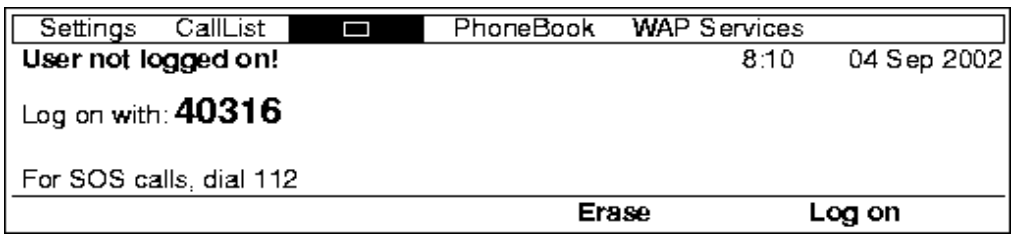

Figure 1:Menu example for a DBC 425 01 which is not logged-on

If no emergency data is defined in the terminal configuration file, the emergency call function is disabled. In this case, the SOS text is not shown, and it is not possible to make emergency calls when the terminal is logged off.

MAKING A CALL

EMERGENCY CALL FROM IP TELEPHONES (USING SIP)

For incoming SIP calls the INVITE-message is analyzed and all calls to emergency numbers are allowed regardless of whether the extension is registered or not. The emergency number is simply dialed in any of the valid formats. If the IP telephone tries to initiate a call with Transport Layer Security (TLS)/Secure Real-time Transport Protocol (SRTP) the call will be encrypted.

EMERGENCY CALLS FROM LOGGED-OFF MX-ONE IP TELEPHONES (USING H.323)

When the emergency call function is enabled and the user lifts the handset, the dial tone is heard, and the user can dial the emergency number. When the user dials the emergency number, in any of the valid formats, the telephone uses the defined transport address to establish the call to the MX-ONE H.323 access point. The H.225 Setup message is sent directly to the transport address without any admission check. No RAS signaling is used for these type of calls.

If the emergency call setup fails and there is a backup IP address stated in the configuration file, a new call setup attempt is made from the backup address without notifying the user.

If the emergency call setup eventually fails, the congestion tone will be heard and an error message will be shown on the display for three seconds. After that, the user can make a new attempt.

Once the emergency call is terminated, the telephone returns to the logged-off state.

Even if Voice over IP (VoIP) security is enabled in the phone and in the system, the call will be non-secure from a logged-off terminal.

EMERGENCY CALL FROM LOGGED-ON IP TELEPHONES (USING H.323)

If the telephone is logged on to the exchange, the emergency call is handled as an ordinary call using the IP extension interface. The emergency number is simply dialed in any of the valid formats.

LOCATION INFORMATION

The knowledge of the geographical location of the user calling to the emergency center is vital for a quick response of the emergency personnel. The emergency center uses the received calling number to obtain the user location.

To provide the emergency center with an accurate user geographical location is one of the main challenges for an enterprise PBX, which can be distributed in several location areas (branch offices).

The MX-ONE solves the provision of the user geographical location using the following solutions:

1. For emergency calls from logged-off IP telephones using H.323, the calling party number to be sent to the emergency center is initiated in the telephone configuration file as A-number. This number and its prefixing is defined by the system administrator.
2. For emergency calls from logged-on IP telephones using H.323 and logged-off IP telephones using SIP, the A-number to be sent to the emergency center is initiated per domain and per LIM. In this way, the calling user sends a different number depending on the location (domain) where the extension is registered.

As mentioned before, it is also possible to decide whether the A-number is to be prefixed by the system, according to the exchange PSTN route prefixes, or if it is to be sent to the emergency center, as initiated by the system administrator, avoiding the system number prefixing.

1. For emergency calls from logged-off or logged-on IP telephones (both SIP and H.323), but also for calls from other terminal types, a Location Identity initiated

per domain can optionally be sent to the Emergency center when an outgoing (public) SIP route is used. The data will be sent as a PANI Header, in accordance with RFC 7315. The location identity could be interpreted by the Emergency center as for example GPS coordinates, street address, radio cell, floor and room number or for TDM endpoints HW equipment information. (The HW equipment information is not transported in the PANI Header, but as ‘exten-

sion-access-info’).

These data can be initiated, removed, changed, and printed using O&M commands.

How the emergency center uses the received calling party number or location identity to know the user geographical location mostly depends on each center rules. The MX-ONE system administrator and the emergency center should agree about geographical location plan and numbers.

BRANCH OFFICE SCENARIO

In most cases, the country regulations force that the A-number sent to the public exchange is within the direct-in-dialling number series handled in that PSTN area.

In complex network configurations with remote branch offices in different geographical areas, when the emergency call is set up through the public trunk located in the main office, the remote branch offices must provide A-numbers associated to their remote geographical area, see Figure 2 **on page 9**.

Furthermore, the emergency calls made from the remote branch office must be set up to the local emergency centers.

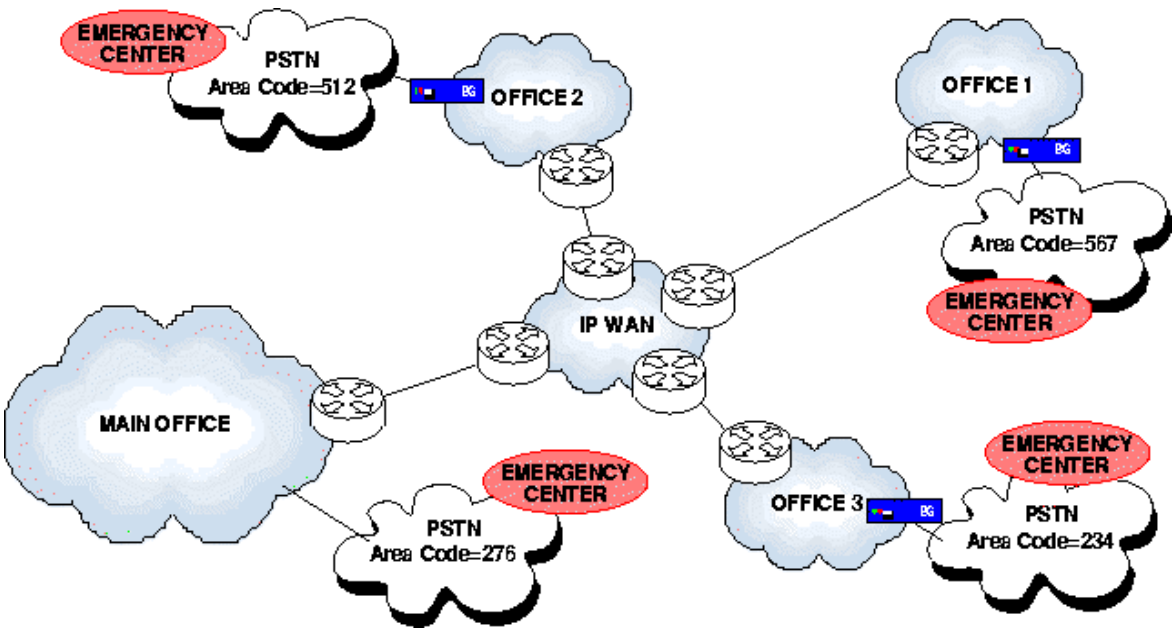

Figure 2:Example of a complex network configuration with Remote Branch Offices

The correct setup of the emergency calls to the local emergency center and the provision of the correct user location to the center are achieved by means of the configurations below.

When MX-ONE IP telephones are used in H.323 mode, there is functionality for registration towards the branch node when the connection with the main site is faulty. When

the connection towards the main site is up again, the telephones will register towards the main site.

1. EMERGENCY CALLS FROM REMOTE LOGGED-OFF IP TELEPHONES (USING H.323)

The local presence at the remote branch office can be achieved by using either a Survivable Branch Node (SBN) or an MX-ONE. In all the figures and examples in this document, the SBN is used.

The emergency calls are set up directly to the SBN and not to the main office. These calls are established to the local emergency center and the telephone configuration file must be initiated according to these premises.

The A-number is initiated by the system administrator, in the telephone configuration file, according to the geographical location of the remote branch office.

The A-number can be a local extension, operator group, hunt group, or a ring group initiated in the SBN.

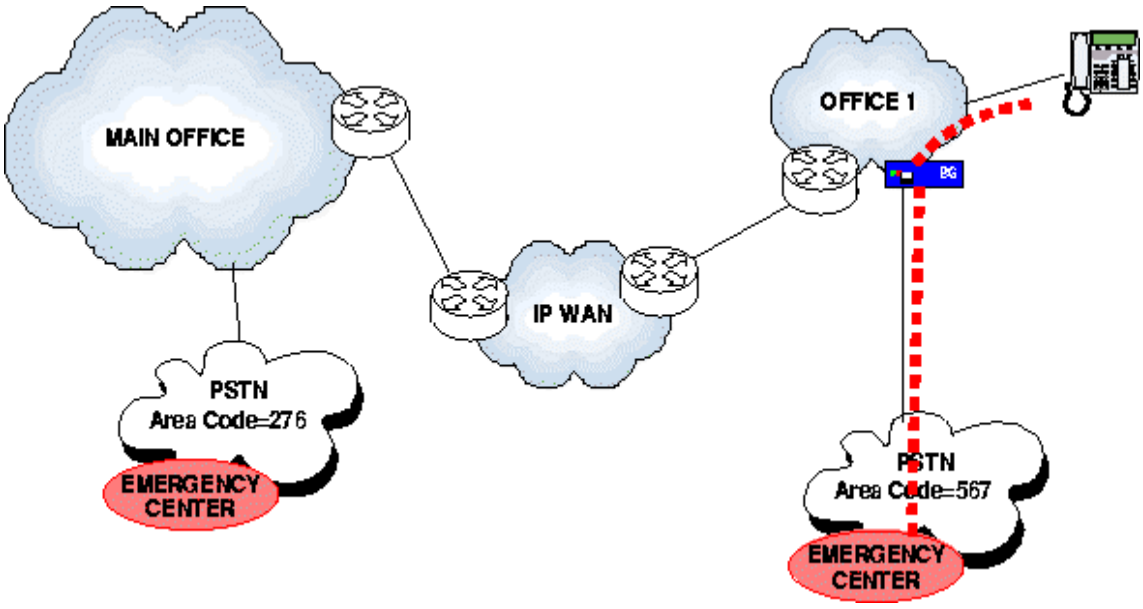

Figure 3:Emergency Call from a Remote Logged-Off IP Telephone

1. EMERGENCY CALLS FROM REMOTE LOGGED-ON IP TELEPHONES

The local presence at the remote branch office can be achieved by using either an SBN or an MX-ONE. The SBN is used in all figures and examples in this document.

The IP telephones of a remote branch office must belong to the same domain. The following data must be initiated for the remote branch office domain:

1. The A-number and the type of number, in such way that the A-number is prefixed by the main office according to the geographical location of the remote branch office. It is possible that the system administrator prefers to prefix the A-number manually and avoid the prefixing done by the system. In this case, the A-number must be initiated with all necessary prefixes, and the type of number must be initiated to avoid the system prefixing.
1. The area code for the user geographical location.

The logged-on IP telephones are registered in the main office gatekeeper; therefore, the calls made by these telephones are initiated from the main office. When remote branch offices exist, the main office normally distributes the public calls from remote IP telephones to the PSTN through the remote branch office SBN.

The domain area code of the remote branch offices is used to distribute the emergency calls from remote IP telephones to the remote branch office SBN. In this way the emergency calls are set up to the local emergency center. For the main office to distribute these calls to the proper SBN, LCR tables must be initiated.

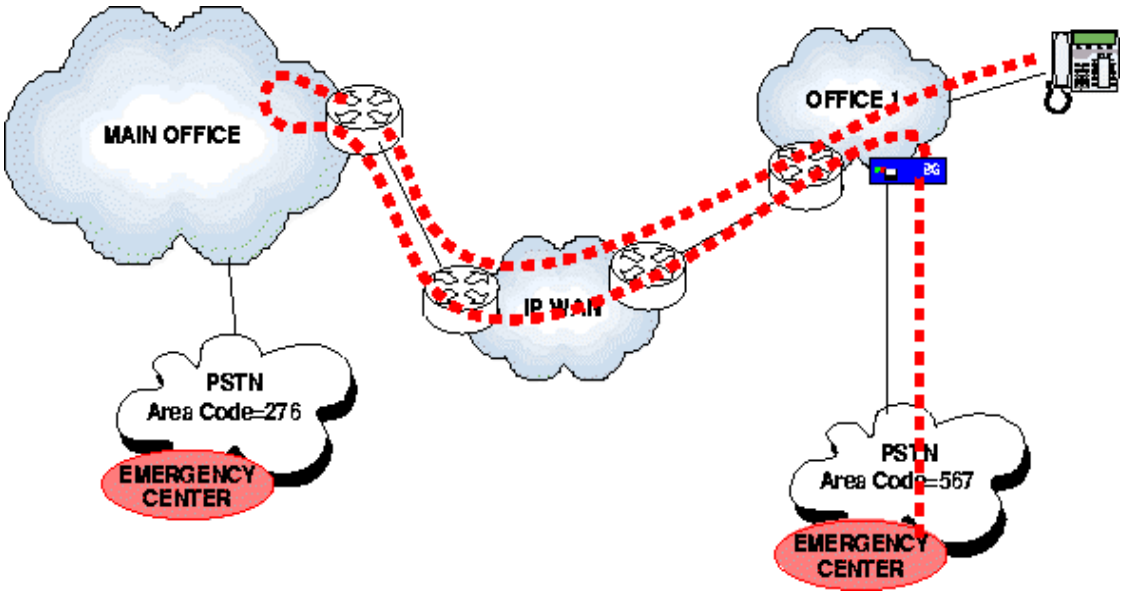

Figure 4:Emergency Call from a Remote Logged-On IP Telephone

1. CORPORATE LOGON

7444ip telephones have the feature Corporate Logon which enables logon to a remote IP PBX.

If the remotely logged on user dials a local emergency number, the phone will make the emergency call using the local IP PBX (by first logging out from the remote IP PBX and then using the Logged-Off procedure, see 1.2.1).

The prerequisite for this is that the telephone is configured with the normal mandatory emergency information in the telephone configuration file.

CORPORATE LOGON

See Description CORPORATE LOGON for details.

WITH MITEL 6800/6900 SIP PHONE

Mitel 6800 and 6900 SIP telephones have the feature Corporate Logon which enables logon to a remote IP PBX. VDP (Visitor Desk Phone logon) is a prerequisite. The Mitel 6700 models do not support it.

If the remotely logged on user dials a local emergency number, the phone can provide a special display message suggesting log-off to make the emergency call locally from the visited node, by first logging out from the remote IP PBX and then making the emergency call from the visited node (either logged on or not).

The prerequisite for this is that the private network is configured for corporate logon, and for emergency calls.

WITH MITEL 7444 H.323 PHONE

7444ip telephones have the feature Corporate Logon which enables logon to a remote IP PBX (normally the home node).

If the remotely logged on user dials a local emergency number, the phone will make the emergency call using the local visited IP PBX (by first logging out from the remote IP PBX and then using the Logged-Off procedure, described in section Emergency calls from not logged-on terminals).

The prerequisite for this is that the telephone is configured with the normal mandatory emergency information in the telephone configuration file.

EMERGENCY CENTER DIAL-BACK

The emergency center is able to dial back to the calling user for a time period after the emergency call was made.

As mentioned above, a virtual extension (or one per domain, with the special type ‘emergency’) is used for the call-backs from the emergency center. This virtual extension will forward incoming calls to the last telephone making an emergency call from this domain. This call forwarding is active for 30 minutes after the last made emergency call.

For dialing back, the emergency center uses the calling party number received in the emergency call (the CLI/A-number, which is the virtual extension’s number). Therefore, the A-number must be defined according to the emergency center requirements and regulations.

GLOSSARY

Branch Office

Remote Office with a limited number of extensions. This Office has a permanent connection to the company’s WAN from leased or company-owned point-to-point lines.

MX-ONE IP telephone

An IP telephone compliant with H.323 Version 4/Version 2, and which, in addition to the H.323 protocol stack, uses a proprietary protocol to communicate with the MX-ONE. These telephones can also be used with the SIP protocol.

Gatekeeper

The entity that basically provides address translation, bandwidth management, call management, and admission control for H.323 end points.

H.323

The ITU-T Recommendation for packet-based multimedia communication systems.

IP address

The network layer address that makes an entity to be addressable at this protocol level. It is used to identify a unique entity within a network.

IP extension

The feature which allows the connection of IP telephones to the MX-ONE. It covers the software and hardware within the exchange to allow that connection.

IP network

The data network, typically a LAN, to which the IP telephones are connected. The underlying protocol is TCP/IP.

Local Breakout (to PSTN)

The possibility to go out from the corporate network to the PSTN through the point in the corporate network closest to the destination of the call.

It is the ability of routing long-distance calls through the IP WAN up to the PSTN gateway closest to the destination of the call. This will enable toll bypass, which avoids long-distance call charges.

Local Hop-Off (to PSTN)

The same as Local Break out

Local presence

Regarded to Branch Office, it is a function that enables Branch Office extensions to make or receive local calls to and from a PSTN in the area where the branch node is located.

PANI

Private Header Access Network Information, optional data in the SIP signaling, which can contain for example location information.

SIP

Application-layer control (signaling) protocol for creating, modifying, and terminating sessions with one or more participants. These sessions include Internet telephone calls, multimedia distribution, and multimedia conferences.

Survivability

A function which means that if the IP connection gets lost, all IP telephones will be registered to the SBN instead of to the Main Office. When the connection is reestablished, the telephones will be registered back to the main office.

VDP

Visitor Desk Phone. A feature in the Mitel 6800/6900 SIP phones, which is a prerequisite for the Corporate logon feature.

PREREQUISITES

1. The IP telephones to be used must be Mitel 6900/6800/6700, DBC 42x, DBC 43x, or DBC 44x. Third party SIP phones can normally also be used.
2. A public destination and route to the PSTN in the MX-ONE must be initiated.
3. In configurations including branch offices with an own MX-ONE, the configuration must be completely set up for normal traffic between the branch offices and the main office. The IP route between the main office and the branch office

MX-ONE Telephony System must be completely set up so that Survivability and Local Presence are available for the branch office extensions.

1. The rules and regulations of every local emergency center with regard to the received A-number or Location Identity handling must be known by the system administrator, and agreed with the emergency center(s).

AIDS

I/O terminal.

REFERENCES

In these operational directions references are made to the following documents:

Description:

Configuration file for DBC 42x, Configuration file for DBC 43x and DBC 44x, Mitel 6800/6900 Series SIP phones configuration guide (and other relevant terminal configuration guides)

Operational directions:

Generic extension IP extension

IP networking, RI Least cost routing, LC Number analysis Route data, RO

Survivable Branch Node, SBN

PROCEDURE

The execution steps which must be followed to set up the system to support the Emergency calls are described in the following sections.

Depending on the network configuration, where the emergency calls are to be enabled, a different number and kind of execution steps must be carried out. Several configurations have been included in this document in order to cover a wide range of scenarios.

The following configurations are described in this document:

PROCEDURES FOR MAIN OFFICE WITHOUT REMOTE BRANCH OFFICES

For the scenario for the main office without branch offices, see Figure 5 **on page 15**.

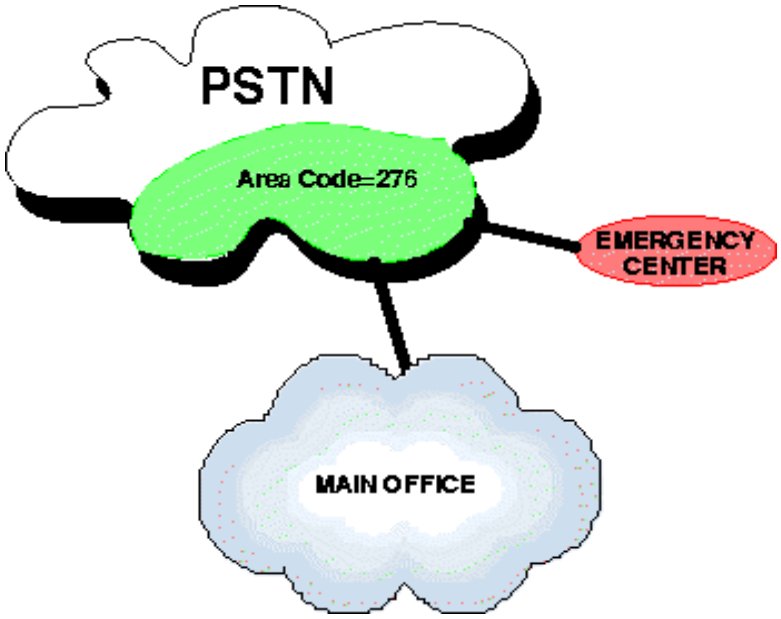

Figure 5:Example of a Configuration without Remote Branch Offices

1. PROCEDURES AT THE MAIN SITE
2. Initiate the emergency number valid formats (number series, LCR tables, and so on).
3. Initiate the emergency IP networking route to allow emergency calls from logged-off IP telephones.
4. Initiate the emergency SIP route.
5. Initiate the destinations associated to the IP networking route to allow the dialing back to logged-off IP telephones.
6. Initiate the domain emergency parameters.

7. Initiate the emergency destination.

1. PROCEDURES IN DBC 4XX TELEPHONES
2. Configure the telephone configuration file.
3. Load the updated configuration file for DBC 4xx, with the emergency call feature active, into all the IP telephones.

MAIN OFFICE WITH REMOTE BRANCH OFFICES IN THE SAME PSTN AREA (H.323 ONLY)

For the scenario for the main office with branch offices where the branch offices are located in the same PSTN area as the main office, see Figure 6 **on page 16**

The access to the PSTN from the branch offices is carried out through the main office public trunk.

Note: Although each branch office usually has an SBN installed for survivability, it has not been considered in this scenario, for illustrative purposes.

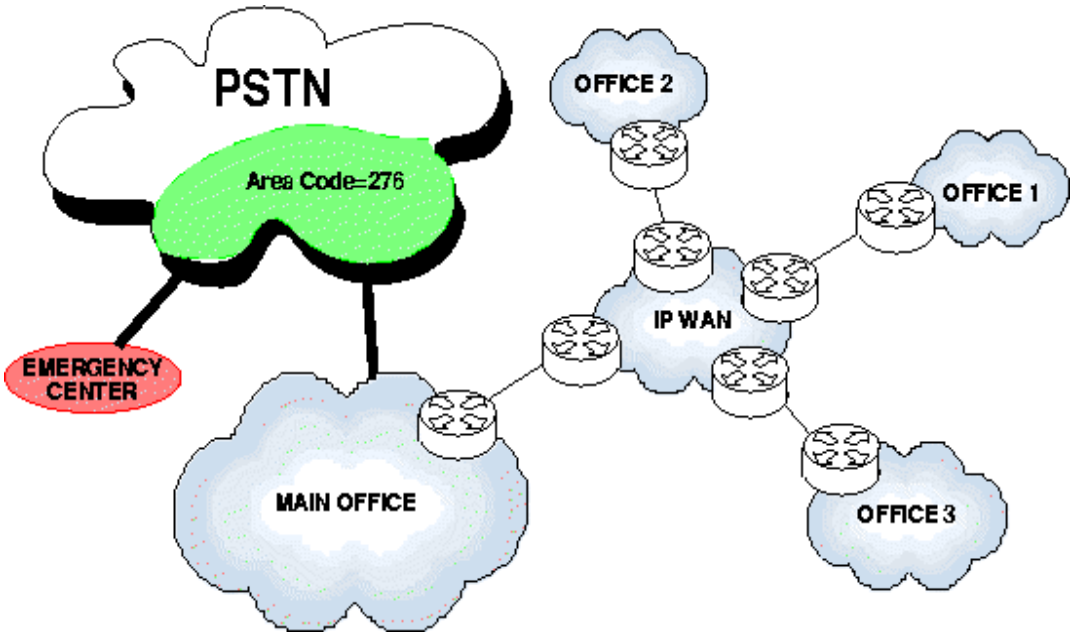

Figure 6:Example of a configuration with Remote Branch Offices in the same PSTN area.

1. PROCEDURES AT THE MAIN SITE
2. Initiate the emergency number valid formats (number series, LCR tables, and so on).
3. Initiate the emergency IP networking route to allow emergency calls from logged-off IP telephones.
4. Initiate the destinations associated to the IP networking route to allow the dialing back to logged-off IP telephones.
5. Initiate the domain emergency parameters.

6. Initiate the emergency destination.

1. PROCEDURES IN DBC 4XX TELEPHONES (H.323 ONLY)
2. Configure the telephone configuration file.
3. Load the updated configuration file for DBC 4xx, with the emergency call feature active, into all the IP telephones.

MAIN OFFICE WITH REMOTE BRANCH OFFICES LOCATED IN DIFFERENT PSTN AREAS (WITH SBN AND

H.323 OR SIP)

For the scenario for the main office with branch offices, see Figure 7 **on page 17**. Main and branch offices are located in different PSTN areas. Every branch office includes an SBN to enable the survivability and local presence functions.

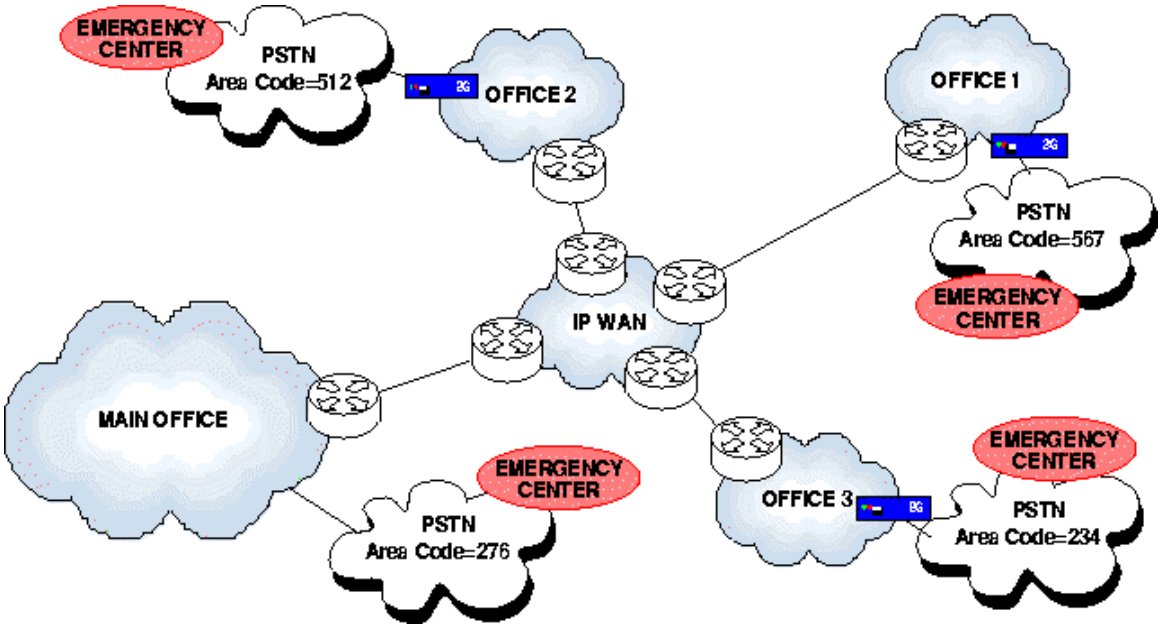

Figure 7:Example of a configuration with Remote Branch Offices in different Area Code areas.

1. PROCEDURES AT THE MAIN OFFICE
2. Initiate the emergency number valid formats (number series, LCR tables, and so on).
3. Initiate the emergency IP networking route to allow emergency calls from logged-off IP telephones.
4. Initiate the destinations associated to the IP networking route to allow the dialing back to logged-off IP telephones.
5. Initiate the domain emergency parameters.
6. Initiate the emergency destination.

1. PROCEDURES IN DBC 4XX TELEPHONES (H.323 ONLY)
2. Configure the telephone configuration file for each area where a branch node is located.

3. Set the IP telephone software server address to take the configuration file of the area where it is located.
4. Load the updated configuration files for DBC 4xx, with the emergency call feature active, into all the IP telephones.

PROCEDURES IN THE SBN

1. Initiate the alternative emergency IP networking route to allow emergency calls from logged off IP telephones.
2. Initiate the dial-back position.
3. Initiate the emergency destination.

EXECUTION

This section describes the steps to be executed in each element required to support Emergency calls in a system. According to the procedures per scenario listed in the previous sections, it can be seen that some scenarios do not need the whole range of the elements described below. Accordingly, the execution steps needed for each element are explained independently, in order that the system administrator select only those which apply to the specific scenario to be set up.

EMERGENCY NUMBER

The system must be set up by the system administrator to enable the user to dial the emergency number using different formats. The following are the most common formats:

1. Emergency number (for example, 112 and 911)
2. Route access code to the PSTN + emergency number (for example, 0112)
3. LAC/PDC + emergency number (for example, 00112 and 9911)

Below are the execution steps to enable the mentioned emergency number formats.

INITIATION IN SYSTEMS WITHOUT PREVIOUS LCR TABLES

This section describes the execution steps in those systems that do not use the LCR function in their current configurations. The LCR function must now be initiated to support the different emergency number formats.

Prerequisites

-

Execution

This configuration requires the use of LCR tables. The following steps must be carried out:

Step 1. Change the existing public destination configuration

Since the public access code (for example, 00) is going to be initiated as an LAC (Step 3 below), the public destination must be removed. It must also be removed from the External Destination number series. An auxiliary access code (for example, 10) must be added to the External Destination number series to replace it. The auxiliary destination must be associated to the public route with the same data that the actual public destination had.

See the operational directions for ROUTE DATA and see the operational directions for NUMBER ANALYSIS.

Notice that users can keep on dialing the public access code used so far to reach the public network for any type of call, either emergency or other. The auxiliary public access code will be reached as a result of applying LCR table translations to the usual public access code (Step 4 below).

Step 2. Initiate an emergency destination

The access code to be used as emergency destination is initiated in the External Destination number series and associated to the public route (see **6.3.1 Initiation of an Emergency Destination on page 27**).

Step 3. Initiate the LACs

In order for the user to dial the emergency number with or without the route access code to PSTN, the public access code (for example, 00) and the emergency number must be defined as LACs. Use NA commands as described in the operational directions for NUMBER ANALYSIS.

Step 4. Initiate LCR table with new entries

New entries must be initiated in the LCR tables for the public access code and for the emergency number (with and without leading route access code to PSTN). The tables must be initiated in the following manner:

1. When emergency number is dialed alone, the translation must lead to the emergency destination.
2. When public access code is followed by the emergency number, the translation must lead to the emergency destination.
3. When public access code is followed by any other number (that is, a public number is dialed), the translation must lead to the auxiliary public access code.

Use LCDDx commands to compose the LCR tables as described in the operational directions for LEAST COST ROUTING.

Example 1

The public access code is 00. The route to PSTN is route 99.

The emergency number is 112, so it can be dialed as 112 or 00112.

An auxiliary destination is chosen among free numbers, for example, 10. An emergency destination is chosen among free numbers, for example, 23.

1. Step 1. Change the existing public destination configuration RODDP:DEST=00; (Make note of the destination data). RODDE:DEST=00;

number_end -numbertype ed -number 00 number_initiate -numbertype ed -number 10 RODDI:DEST=10,ROU=99,...;

Set the same destination data as it was for 00. Notice that the SRT, TRC, and PRE parameters may need different values in order to compound the called party number in the form required by the PSTN (for example, leading 0).

Step 2. Initiate the emergency destination

number_initiate -numbertype ed -number 23
RODDI:DEST=23,ROU=99,SRT=3,ADC=03050000000000050005000010100;

Notice that the SRT, TRC, and PRE parameters may need specific values in order to compound the called party number in the form required by the PSTN (for example, leading 0).

Step 3. Initiate the LACs

number_initiate -numbertype lc -number 00

number_initiate -numbertype lc -number 112

1. Step 4. Initiate the LCR tables with the new entries LCDDI:TAB=ENT,ENTRY=00;
   LCDDI:TAB=FDT,FRCT=1,PRE=23,TZONE=1&&3;
   LCDDI:TAB=FDT,FRCT=2,PRE=10,TZONE=1&&3; LCDDI:TAB=DNT1,ENTRY=112,FRCT=1;

LCDDI:TAB=DNT1,ENTRY=00112,TRC=2,FRCT=1;
LCDDI:TAB=DNT2,ENTRY=00,TRC=2,FRCT=2;

Example 2

The public access code is 9. The route to PSTN is route 99.

The emergency number is 911, so it can be dialed as 911 or 9911.

An auxiliary destination is chosen among free numbers, for example, 10. An emergency destination is chosen among free numbers, for example, 23.

1. Step 1. Change the existing public destination configuration RODDP:DEST=9; (Make note of the destination data). RODDE:DEST=9;

number_end -numbertype ed -number 09 number_initiate -numbertype ed -number 10 RODDI:DEST=10,ROU=99,...;

Set the same destination data as it was for 9. Notice that the SRT, TRC, and PRE parameters may need different values in order to compound the called party number in the form required by the PSTN (for example, leading 0).

Step 2. Initiate the emergency destination

RODDI:DEST=23,ROU=99,SRT=3,ADC=03050000000000050005000010100;

Notice that the SRT, TRC, and PRE parameters may need specific values in order to compound the called party number in the form required by the PSTN (for example, leading 0).

Step 3. Initiate the LAC

number_initiate -numbertype lc -number 09

1. Step 4. Initiate the LCR tables with the new entries LCDDI:TAB=ENT,ENTRY=911; LCDDI:TAB=ENT,ENTRY=9911,TRC=1; LCDDI:TAB=FDT,FRCT=1,PRE=23,TZONE=1&&3; LCDDI:TAB=FDT,FRCT=2,PRE=10,TZONE=1&&3; LCDDI:TAB=DNT1,ENTRY=911,FRCT=1; LCDDI:TAB=DNT2,ENTRY=9,FRCT=2,TRC=1;

INITIATION IN SYSTEMS WITH LCR TABLES

This section describes the execution steps in those systems which use the LCR function in their current configurations. The LCR configuration must now be extended to support the different emergency number formats.

Prerequisites

-

Execution

In this case, the LAC is already initiated and the entries in the LCR tables for calls to the PSTN are also defined. The following steps are carried out:

Step 1. Initiate an emergency destination

The access code to be used as emergency destination is initiated in the External Destination number series and associated to the public route (see **6.3.1 Initiation of an Emergency Destination on page 27**).

Step 2. Initiate an additional LAC

In order for the user to dial the emergency number without the route access code to PSTN, the emergency number must be defined as LAC. Use NA commands as described in the operational directions for NUMBER ANALYSIS.

Step 3. Initiate the LCR tables with new entries

New entries must be initiated in the LCR tables for the emergency number (with and without leading route access code to PSTN). The tables must be initiated in the following manner:

1. When an emergency number is dialed alone, the translation must lead to the emergency destination.
2. When a public access code is followed by the emergency number, the translation must lead to the emergency destination.
3. When public access code is followed by any other number (that is, a public number is dialed), the translation must lead to the usual public destination associated to the route to PSTN.

Use the LCDDx commands to compose the LCR tables as described in the operational directions for LEAST COST ROUTING.

Example 1

The public access code is 00. The route to PSTN is route 99.

The emergency number is 112, so it can be dialed as 112 or 00112.

An emergency destination is chosen among the free numbers, for example, 23.

In this case, emergency calls done by dialing both 112 and 00112 need the LCR translations to obtain the appropriate route destination. Other public calls are currently using LCR translations to obtain a normal, non-emergency public destination.

Step 1. Initiate the emergency destination

number_initiate -numbertype ed -number 23

RODDI:DEST=23,ROU=99,SRT=3,ADC=03050000000000050005000010100;

Notice that the SRT, TRC, and PRE parameters may need specific values in order to compound the called party number in the form required by the PSTN (for example, leading 0).

Step 2. Initiate the LAC

number_initiate -numbertype lc -number 112

1. Step 3. Initiate the LCR tables with the new entries
   LCDDI:TAB=FDT,FRCT=1,PRE=23,TZONE=1&&3;
   LCDDI:TAB=DNT1,ENTRY=00112,TRC=2,FRCT=1; LCDDI:TAB=DNT1,ENTRY=112,FRCT=1;

Example 2

The public access code is 9. The route to PSTN is route 99.

The emergency number is 911, so it can be dialed as 911 or 9911.

An emergency destination is chosen among free numbers, for example, 23.

In this case, emergency calls done by dialing both 911 and 9911 need the LCR translations to obtain the appropriate route destination. Other public calls are currently using the LCR translations to obtain a normal, non-emergency public destination.

Step 1. Initiate the emergency destination

number_initiate -numbertype ed -number 23

RODDI:DEST=23,ROU=99,SRT=3,ADC=03050000000000050005000010100;

Notice that the SRT, TRC, and PRE parameters may need specific values in order to compound the called party number in the form required by the PSTN (for example, leading 0).

Step 2. Initiate the LAC

-

1. Step 3. Initiate the LCR tables with the new entries LCDDI:TAB=ENT,ENTRY=911; LCDDI:TAB=ENT,ENTRY=9911,TRC=1; LCDDI:TAB=FDT,FRCT=1,PRE=23,TZONE=1&&3; LCDDI:TAB=DNT1,ENTRY=911,FRCT=1;

REMOVAL OF EMERGENCY NUMBER

Execution

Step 1. Remove the LCR entries for the emergency number

Use the LCDDE commands. See the operational directions for LEAST COST ROUTING.

Step 2. Remove the emergency LAC

Use the number_end commands. See the operational directions for NUMBER ANALYSIS.

Step 3. Restore the destination configuration.

Use the number_x and RODDx commands. See the operational directions for

ROUTE DATA and see the operational directions for NUMBER ANALYSIS.

Example

1. Step 1. Remove the LCR tables new entries LCDDE:TAB=DNT2,ENTRY=00; LCDDE:TAB=DNT1,ENTRY=00112; LCDDE:TAB=DNT1,ENTRY=112; LCDDE:TAB=FDT,FRCT=1; LCDDE:TAB=FDT,FRCT=2; LCDDE:TAB=ENT,ENTRY=00;

Step 2. Remove the LAC

number_end -numbertype lc -number 00

number_end -numbertype lc -number 112

Step 3. Restore the public destination configuration

RODDE:DEST=23; RODDE:DEST=10;

number_end -numbertype ed -number 10 number_initiate -numbertype ed -number 00 RODDI:ROU=99,DEST=00,...;

PRINT AN EMERGENCY NUMBER CONFIGURATION

Execution

Use the commands LCDDP to print the LCR tables configuration. See the operational directions for LEAST COST ROUTING.

Use the number_print command to print the number series configuration. See the operational directions for NUMBER ANALYSIS.

Use the RODDP command to print the destination configuration. See the operational directions for ROUTE DATA.

Each outgoing SIP route has profile settings to configure how the “from Name”, “from User” and “PANI Header” (containing location information) should be composed, and which option should be used to convey the emergency location information. Together with information from the incoming/originating IP network route and IP domain information, the emergency location information will be sent to the Emergency center.

EMERGENCY IP NETWORKING ROUTE

INITIATION OF AN EMERGENCY IP NETWORKING ROUTE

A SIP route is used to allow the logged-off SIP telephones to make emergency calls and to receive dial-back calls from the emergency center.

An H.323 IP route is used to allow the logged-off H.323 telephones (only DBC 4xx terminals) to make emergency calls and to receive dial-back calls from the emergency center.

Execution

To initiate an emergency IP networking route using H.323, the following commands are needed:

1. ROCAI command as described in the operational directions for IP NETWORKING.
2. RODAI command as described in the operational directions for IP NETWORKING. The D06 digit of the VARI parameter must be set to Emergency route.
3. RIANI command as described in the operational directions for IP NETWORKING. For an emergency route, it is not allowed to use the IP and RROUID parameters in the command RIANI. The reason is that the IP address to send the dial-back call is not static, but that of the latest logged-off IP telephone that made an emergency call through this route. The same happens with the remote password.
4. ROEQI command as described in the operational directions for IP NETWORKING.

Note: All the trunk lines for the emergency IP networking route must be initiated in the same LIM.

Execution

To initiate an emergency IP networking route using SIP, the following commands are needed:

1. sip_route commands described in the command description for SIP ROUTE. Initiate the route (to the Emergency center) with one of the MXONE-emergency profiles.
2. ROCAI command as described in the operational directions for IP NETWORKING and ROUTE DATA.

3. RODAI command as described in the operational directions for IP NETWORKING and ROUTE DATA. The D06 digit of VARI parameter must be set to Emergency route.
4. ROEQI command as described in the operational directions for IP NETWORKING and ROUTE DATA.

Note: All the trunk lines for the emergency IP networking route must be initiated in the same LIM.

Example 1

Initiate an emergency IP networking route without entry password by using the following commands:

1)ROCAI:ROU=70,SEL=0110100000000010,SIG=011110101190,TRAF=03151515, TRM=4,SERV=0010000007,BCAP=001100;

2)RODAI:ROU=70,TYPE=TL65,VARC=00000001,VARI=00000101, VARO=00000000;

3)ROEQI:ROU=70,TRU=1-1&&1-16;

Example 2

Initiate an emergency IP networking route with route ID by using the following commands. Notice that in this case the route ID must be sent by the IP telephone:

1)ROCAI:ROU=70,SEL=0110100000000010,SIG=011110101190,TRAF=03151515, TRM=4,SERV=0010000007,BCAP=001100;

2)RODAI:ROU=70,TYPE=TL65,VARC=00000001,VARI=00000101, VARO=00000000;

3)RIANI:ROU=70,LROUID="ROUID70"; 4)ROEQI:ROU=70,TRU=1-1&&1-16;

Example 3

Initiate an emergency route using the SIP protocol by using the following commands: Route data:

1)sip_route -set -route 77 -profile MXONE-emergency -uristring0 sip:?@xx.xx.xx.xx -accept EMERGENCY -match 112,00112 -sosanumber 04

2)ROCAI:ROU=77,SEL=7110000000000010,SIG=0111111000A0,TRAF=03151515, TRM=4,SERV=3110000001,BCAP=000100;

3)RODAI:ROU=77,TYPE=TL66,VARI=00000011,VARC=00000001, VARO=00000000;

1. ROEQI:ROU=77,TRU=1-2;
2. ROEQI:ROU=77,TRU=2-2; Emergency callback destination(s):

1)RODDI:ROU=77,DEST=04,SRT=1,ADC=0505000000000250000000000000;

If more than one destination is wanted, also enter:
RODDI:ROU=77,DEST=05,SRT=1,ADC=0505000000000250000000000000;

2)number_initiate -numbertype ed -number 04,05 Domain data:

1. ip_domain -i --domain-name bilbao.es --ip-net 130.100.11.0/24 --emedir 1234,1235 --area-code 08
2. number_initiate -numbertype ex -number 1234

1. If more than one extension is wanted, also enter number_initiate -numbertype ex

-number 1235

1. extension -i -d 1234 --lim 1 --csp 3 --emergency yes and if more than one is wanted, also enter extension -i -d 1235 --lim 1 --csp 3 --emergency yes

CHANGE AN EMERGENCY IP NETWORKING ROUTE

Execution

An emergency IP networking route is changed just like any other type of IP networking route. See the operational directions for IP NETWORKING and see the operational directions for ROUTE DATA.

REMOVAL OF AN EMERGENCY IP NETWORKING ROUTE

Execution

An emergency IP networking route is removed just like any other type of IP networking route. See the operational directions for IP NETWORKING.

PRINT AN EMERGENCY IP NETWORKING ROUTE

Execution

Use the commands as described in the operational directions for IP NETWORKING

and See the operational directions for ROUTE DATA.

EMERGENCY DESTINATION

INITIATION OF AN EMERGENCY DESTINATION

An emergency destination is an external destination associated to the existing public route to the PSTN, which will be used for emergency calls.

In the branch office scenario, the emergency destination will be associated to the existing tie-line to the branch office SBN.

Prerequisites

A public route must already be initiated in the main site to the PSTN. A destination associated to this route for outgoing calls to the PSTN must already be initiated.

In the branch office scenario, a tie-line to the branch office SBN must already be initiated in the main site. A destination associated to this route for local hop-off to the PSTN must already be initiated.

Execution

Step 1. Initiation of the external destination in the number series

Use the number_x commands as described in the operational directions for

NUMBER ANALYSIS.

Step 2. Initiation of the emergency external destination

Use the RODDx commands as described in the operational directions for

ROUTE DATA.

Set the byte D26 of the ADC parameter to Emergency destination.

Set the other values of the ADC parameter exactly the same as the values in the existing destination to the PSTN.

Example 1

Step 1. Initiation of the external destination in the number series

number_initiate -numbertype ed -number 112

Step 2. Initiation of the emergency external destination

Initiation of an emergency destination associated to the route 38 to the PSTN network for the emergency number 112.

RODDI:DEST=112,ROU=38,SRT=1,ADC=030500000000005000500001010O;

REMOVAL OF AN EMERGENCY DESTINATION

Execution

Use the RODDE command as described in the operational directions for ROUTE DATA.

PRINT AN EMERGENCY DESTINATION

Execution

Use the RODDP command as described in the operational directions for ROUTE DATA.

DOMAIN EMERGENCY DATA

INITIATE THE DOMAIN EMERGENCY DATA

The emergency parameters of the IP telephone domain must be initiated.

Execution

Step 1. Initiate the dial back position

If the emergency extension directory number (emedir parameter) is to be entered to allow the dial back from the emergency center to the calling user, a virtual extension must be initiated according to operational directions for GENERIC EXTENSION. The A-number to be entered for the domain must contain the directory number for this extension plus the proper prefixes. The virtual extension must have the diversion categories allowed.

Otherwise, if the emergency extension directory number (emedir parameter) is not to be entered, any extension, operator, or group can be initiated to allow the dial back from the emergency center. The A-number to be initiated in the domain must match the directory number for this extension, operator, or group including the proper prefixes. See the operational directions for the extension type, group type, or operator to be initiated.

Step 2. Delete the domain to be initiated (if it already exists)

When emergency data have to be initiated in an existing domain, it must first be removed. Use the command ip_domain -e --domain-name as described in the operational directions for IP Handling.

Step 3. Initiate the domain with the emergency parameters

To initiate the domain, use the command ip_domain -i as described in the operational directions for IP Handling. Add the “emergency-dial-back extension” directory number, and Location identity data (if used), using the following emergency parameters respectively:

1. --emedir
2. --location-id

In configurations, where there are branch offices in other PSTN areas, the area code for the domain that represents the branch office must be initiated using the AC parameter, which can be used to prefix the dialed numbers before routing the call to SBN from the main office. If the domain area code is not initiated then media gateway or LIM area code is prefixed.

Following is the priority order of the area code:

1. Domain area code
2. Media gateway area code
3. LIM are code.

For a further description of these parameters, see the command description for

IP Handling.

Example 1

Initiate the following emergency requirements in an existing domain "madrid.es" in LIM 1:

1. The dial back from the emergency center must be made to the caller.
2. The A-number must not be prefixed by the system. The system administrator prefixes it manually according to the emergency center requirements.

The following steps must be carried out:

Step 1. Initiate a dial-back position

number_initiate -numbertype ex -number 2345

extension_profile -i --csp 1 --ext-cdiv 115000001000000 --ext-npres 0010000

--ext-roc 000001 --ext-serv 10115111200000000000000000001100 --ext-traf

1100151515

extension -i -d 2345 --lim 1 --csp 1 --emergency yes

1. Step 2. Remove the existing domain ip_domain -p. (Make note of the domain data) ip_domain -e --domain-name madrid.es

Step 3. Initiate the domain

ip_domain -i --domain-name madrid.es --ip-net 130.100.21.0/24 --emedir 2345

The number 913392345 is sent to the emergency center as the A-number.

Example 2

Initiate a new domain "barcelona.es" in LIM 1 with the following emergency requirements:

1. The dial back from the emergency center must be made to the caller.
2. The A-number must be prefixed by the system as a Local public number. The following steps must be carried out:

Step 1. Initiate the dial-back position

number_initiate -numbertype ex -number 2345

extension_profile -i -csp 1 --ext-cdiv 115000001000000 --ext-npres 0010000

--ext-roc 000001 --ext-serv 10115111200000000000000000001100 --ext-traf

1100151515

extension -i -d 2345 --lim 1 --csp 1 --emergency yes

Step 2. Initiate the domain

ip_domain -i --domain-name barcelona.es --ip-net 130.64.100.0/24 --emedir 2345

Example 3

Initiate a new domain "sevilla.es" in LIM 1 with the following emergency requirements:

1. The dial back from the emergency center must be made to the exchange operator.
2. The A-number must be prefixed by the system as a Local public number. The following steps must be carried out:

3. Step 1. Initiate the system operator (if not initiated yet) number_initiate -numbertype od -number 1000
   number_initiate -numbertype oi -number 1021
   OPERI:DIR=1021,EQU=1-0-52-1,TRAF=1515,TYPE=1;
   OPCTS:CORG=3,CALT=7,OACC=1000,ROU=99; OPCGS:DIR=1021,CORG=3,CHO=1;

Step 2. Initiate the domain

ip_domain -i --domain-name sevilla.es --ip-net 130.72.210.0/24 --emedir 1000

Example 4

Initiate a new domain "valencia.es" in LIM 1 with the following emergency requirements:

1. The dial back from the emergency center must be made to the group hunting group number 3500.
2. The A-number must be prefixed by the system as a National number. The following steps must be carried out:

Step 1. Initiate the system operator

number_initiate -numbertype ex -number 3500,1313,1323
GHGRI:GRP=3500,SERV=1000000,SEL=000000,TRAF=15,QUE=2;
GHGMI:GRP=3500,DIR=1313&1323;

Step 2. Initiate the domain

ip_domain -i --domain-name valencia.es --ip-net 130.82.90.0/24 --emedir 3500

Example 5

Initiate a domain "barcelona.es" in LIM 1 with the following emergency requirements:

1. The dial back from the emergency center must be made to the caller.
2. The A-number must be prefixed by the system as Local public
3. The users registered in this domain are located in a different PSTN area. There is a local gateway to PSTN (SBN) at that location, which is accessible from the main office by the area code 93. This domain is using a predefined location area (123456678) to be sent to the emergency center.

The following steps must be carried out:

Step 1. Initiate a dial-back position

number_initiate -numbertype ex -number 2345

extension_profile -i --csp 1 --ext-cdiv 115000001000000 --ext-npres 0010000

--ext-roc 000001 --ext-serv 10115111200000000000000001100 --ext-traf

1100151515

extension -i -d 2345 --lim 1 --csp 1 --emergency yes

Step 2. Initiate the domain

ip_domain -i -ip-domain-name barcelona.es --ip-net 130.64.100.0/24 --emedir 2345 --area-code 93
--location_id 123456678

Example 6

Initiate a new domain "130.210.10.0-24" for granada.es in LIM 1 with the following emergency requirements:

1. The dial back from the emergency center must be made to the caller.
2. The A-number must be prefixed by the system as a Local public number.

The following steps must be carried out:

Step 1. Initiate the dial-back position

number_initiate -numbertype ex -number 2345

extension_profile -i --csp 1 --ext-cdiv 115000001000000 --ext-npres 0010000

--ext-roc 000001 --ext-serv 10115111200000000000000000001100 --ext-traf

1100151515

extension -i -d 2345 --lim 1 --csp 1 --emergency yes

Step 2. Initiate the domain

ip_domain -i --ip-net 130.210.10.0/24 --domain-name granada.es --emenum 2345 --emedir 2345 --emeton 4

CHANGE THE DOMAIN EMERGENCY DATA

Execution

To change the emergency data of a domain, use the ip_domain -c command as described in the operational directions for IP Handling.

Example 1

To change the emergency extension directory number to 3425 for the “madrid.es” domain in LIM 1, the following steps must be carried out:

Step 1. Check that an emergency extension directory number has been initiated for the domain

ip_domain -p

Step 2. Check that virtual extension to be set as emergency extension directory number is already initiated

extension -p -d 3425

Step 3. Change the emergency extension directory number to 3425.

ip_domain -c --domain-name madrid.es --emedir 3425

REMOVE THE DOMAIN EMERGENCY DATA

Execution

To remove the emergency data of a domain, the whole domain must be removed and then reinitiated without emergency parameters. Use the ip_domain -e and ip_domain

-i commands as described in the operational directions for IP Handling.

PRINT THE DOMAIN EMERGENCY PARAMETERS

Execution

To print the emergency parameters of a domain, use the ip_domain -p command as described in the operational directions for IP Handling.

DIAL-BACK DESTINATIONS

The dial-back destination is used to reach the caller through the emergency IP networking route, when the emergency center dials back in case the emergency call has been made from a logged-off IP telephone.

INITIATE THE DIAL-BACK DESTINATION

Prerequisites

The emergency IP networking route used as entry point for the logged-off IP telephones must already be initiated in the system.

Execution

Step 1. Initiate the external destination in the number series

Use the number_initiate command. See the operational directions for NUMBER ANALYSIS.

Step 2. Associate the external destinations with the emergency route.

Use the RODDI command. See the operational directions for ROUTE DATA.

Example 1

Step 1. Initiation of the external destination in the number series

number_initiate -numbertype ed -number 3457

Step 2. Associate the external destinations with the emergency IP networking route.

RODDI:DEST=3457,ROU=99,SRT=1,ADC=030500000000005000500000000;

REMOVE THE DIAL-BACK DESTINATION

Execution

Step 1. Remove the external destination

Use the RODDE command. See the operational directions for ROUTE DATA.

Step 2. Remove of the external destination in the number series

Use the number_end command. See the operational directions for NUMBER ANALYSIS.

Example 1

Step 1. Remove the external destination

RODDE:DEST=3457;

Step 2. Remove the external destination from the number series

number_end -numbertype ed -number 3457

PRINT A DIAL-BACK DESTINATION

Execution

Use the RODDP command. See the operational directions for ROUTE DATA.

DBC 4XX BASIC CONFIGURATION

When DBC 4xx is used with the SIP protocol, emergency calls are only possible when the telephone is registered. No settings are required.

INITIATE THE EMERGENCY DATA WHEN H.323 IS USED

Define the values, to allow emergency calls when logged off, in the configuration file.

The IP telephones, located in a branch office with an SBN, must use the SBN to establish the emergency calls to the PSTN, so the emergency data of the configuration file must be initiated with the SBN values instead of the MX-ONE values.

The IP telephones located in a branch office without SBN and in the main office must use the MX-ONE to establish the emergency calls to the PSTN.

Execution

Step 1. Edit the configuration file and define the new emergency parameters

The configuration file defines the values for emergency calls at section [Emergency].

The following data can be defined:

1. The emergency number (the number to reach the emergency center).
2. The IP address of the emergency server in MX-ONE.
3. The port number of the emergency server in MX-ONE.
4. The A-number to be sent to the emergency center

See the description for CONFIGURATION FILE FOR DBC 4xx.

Step 2. Edit the config file and define the route access code to the PSTN

At section [Wap] define the route access code to the PSTN.

Step 3. Restart the IP telephone to load the new configuration file.

1. Example 1

Set up the configuration file to enable the emergency call to the 112 emergency number for logged-off IP telephones. The emergency calls are established to the IP address 130.100.26.154 and port 1720. The password needed to establish the emergency call to both IP addresses is “PASSWD”. The A-number to be sent to the emergency center is 913394532. The emergency number dialed by the user can be either 112 or 00112 (that is, PSTN access code + 112).

[Emergency]

1. System1=MX-ONE
2. EmergencyNr=112
3. Address1=130.100.26.154
4. Port1=1720
5. RouteID=PASSWD
6. A-Number=913394532

[WAP]

1. RouteAccessNumber=00

Example 2

Set up the configuration file to enable the emergency call to the 911 emergency number for logged-off IP telephones. The emergency calls are established to the IP address 130.100.26.154 and port 1720. The password needed to establish the emergency call to both IP addresses is PASSWD. The A-number to be sent to the emergency center is 913394532. The emergency number dialed by the user can be either 911 or 9911 (that is, LAC + 911).

[Emergency]

1. System1=MX-ONE
2. EmergencyNr=911
3. Address1=130.100.26.154
4. Port1=1720
5. RouteID=PASSWD
6. A-Number=913394532

[WAP]

1. RouteAccessNumber=9

Example 3

Set up the configuration file to enable the emergency call to the 112 emergency number for logged-off IP telephones located in a branch office with an SBN. The emergency calls are established to the SBN IP address 130.100.26.154 and port 1720.

The A-number to be sent to the emergency center is 933394532, which belongs to an SBN local operator group. The emergency number dialed by the user can be only 112.

[Emergency]

1. System1=MD-E
2. Address1=130.100.26.154
3. Port1=1720
4. EmergencyNr=112
5. A-Number=933394532

CHANGE EMERGENCY DATA

Execution

Step 1. Edit the configuration file

Change the required data under the [Emergency] header.

Step 2. Restart the IP telephone to load the new configuration file.

1. REMOVE THE EMERGENCY PARAMETERS
1. Execution
1. Step 1. Edit the configuration file

Remove the data under the [Emergency] header, by using a semicolon (;).

Step 2. Restart the IP telephone to load the new configuration file.

1. SURVIVABLE BRANCH NODE, SBN
1. INITIATION OF THE SBN
1. Prerequisites

The local presence at the remote branch office must be achieved using an SBN. See the operational directions for SURVIVABLE BRANCH NODE, SBN.

Execution

Step 1. Initiate the dial back position

A local extension, operator group, hunt group, or ring group must be initiated in the SBN to enable the emergency center to dial back to branch office logged-off extensions. See the operational directions for SURVIVABLE BRANCH NODE, SBN.

Step 2. Initiate the emergency destination

A destination code (for example, 112) must be initiated to route the emergency calls to the PSTN, when the user dials the emergency number directly without the PSTN access code. See the operational directions for SURVIVABLE BRANCH NODE, SBN.

EXAMPLE SCENARIOS

MX-ONE WITHOUT BRANCH OFFICES

DESCRIPTION

This scenario consists of a main office MX-ONE without branch offices and several IP telephones registered to it (see Figure 8 **on page 37**). All the IP telephones belong to the same domain (“madrid.es”). The main office has got a route to the PSTN (that is, route 63) and a public external destination (that is, 00) to access to such route.

It is required to enable the 112 emergency calls in the main office, where the following emergency number formats must be valid:

1. Emergency number (112)
2. Route access code to the PSTN + emergency number (00112)

The emergency calls must be enabled for logged-on and logged-off IP telephones. It is also required that the emergency center can dial back to the caller. In this case the emergency center uses the received calling number in the emergency call to dial back to the calling user.

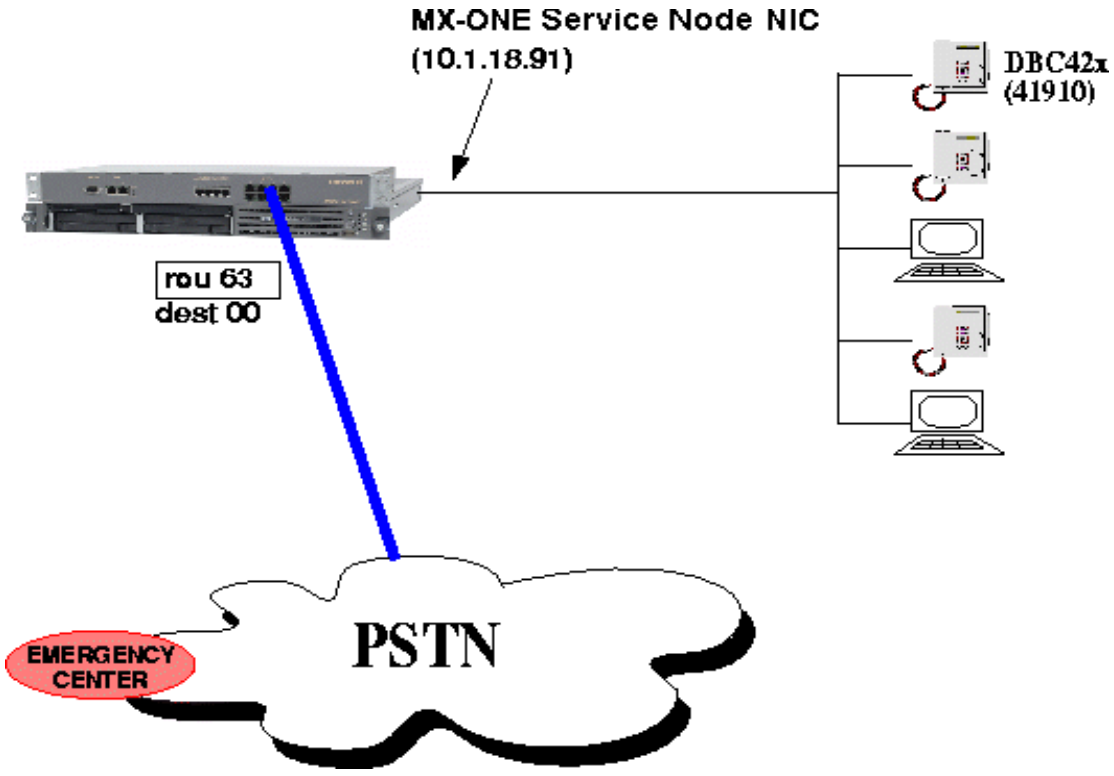

Figure 8:Main Site without Branch Offices

1. PREREQUISITES
2. The public route 63 and the public destination 00 to the PSTN must be completely initiated. The prefixes for Local public calls must be also initiated (that is, 91339). See the operational directions for IP NETWORKING.
3. The IP extensions must be initiated. See the operational directions for IP Handling.
4. The domain for the IP telephones must be initiated. See the operational directions for IP Handling.
5. The rules and regulations of the local emergency center must be known with regard to the A-number handling.
6. The non-emergency parameters of the IP telephones configuration file must already be initiated. The domain name initiated must be “madrid.es”. See the operational directions for IP Handling.

EXECUTION

The following steps must be carried out:

1. Initiate the emergency number valid formats, see **7.1.3.1 Emergency Number onpage 38**.
2. Initiate the emergency destination, see **7.1.3.2 Emergency Destination on page39**.
3. Initiate the emergency IP networking route to allow emergency calls from logged-off IP telephones, **7.1.3.3 Emergency IP Networking Route on page 39**.
4. Initiate the domain emergency data, see **7.1.3.4 Domain Emergency Data onpage 40**.
5. Initiate the destinations associated to the IP networking route to allow the dialing back to logged-off IP telephones, see **7.1.3.5 Initiation of Dial-Back Destinationon page 40**.
6. Update the DBC 4xx configuration file, see **7.1.3.6 DBC 4xx Configuration(H.323 Only) on page 40**.

Emergency Number

1. Step 1. Change the existing public destination configuration RODDP:DEST=00; (Make note of the destination data). RODDE:DEST=00;

number_end -numbertype ed -number 00 number_initiate -numbertype ed -number 10 RODDI:DEST=10,ROU=63,SRT=3,...;

Set the same destination data as it was for 00. Notice that the SRT, TRC, and PRE parameters may need different values in order to compound the called party number in the form required by the PSTN.

Step 2. Initiate the LAC

number_initiate -numbertype lc -number 00

number_initiate -numbertype lc -number 112

1. Step 3. Initiate the LCR tables with the new entries. LCDDI:TAB=ENT,ENTRY=00;
   LCDDI:TAB=FDT,FRCT=1,PRE=23,TZONE=1&&3;
   LCDDI:TAB=FDT,FRCT=2,PRE=10,TZONE=1&&3;

LCDDI:TAB=DNT1,ENTRY=00112,TRC=2,FRCT=1; LCDDI:TAB=DNT1,ENTRY=112,FRCT=1; LCDDI:TAB=DNT2,ENTRY=00,TRC=2,FRCT=2;

Emergency Destination

Step 1. Initiation of the external destination in the number series

number_initiate -numbertype ed -number 23

Step 2. Initiation of the emergency external destination

Initiation of an emergency destination associated to the route 63 to the PSTN network.

RODDI:DEST=23,ROU=63,SRT=3,ADC=03050000000000050005000010100;

Notice that the SRT, TRC, and PRE parameters may need specific values in order to compound the called party number in the form required by the PSTN.

Emergency IP Networking Route

It is possible to initiate the IP networking route using either the H.323 protocol or the SIP protocol.

Initiate the IP networking route using H.323 by using the following commands:

1)ROCAI:ROU=70,SEL=0110100000000010,SIG=011110101190,TRAF=03151515, TRM=4,SERV=0010000007,BCAP=001100;

2)RODAI:ROU=70,TYPE=TL65,VARC=00000001,VARI=00000101,VARO=0000000

0;

3)RIANI:ROU=70,LROUID="ROUID70"; 4)ROEQI:ROU=70,TRU=1-1&&1-16;

Initiate the IP networking route using SIP by using the following commands:

1)sip_route -set -route 77 -profile MXONE-emergency -uristring0 sip:?@xx.xx.xx.xx -accept EMERGENCY -match 112,00112 -priority 254 -sosanumber 04

Regarding trunk profiles in emergency calls, see also the SIP_emergency_readme.txt file located with the profiles.

2)ROCAI:ROU=77,SEL=7110000000000010,SIG=0111111000A0,TRAF=03151515, TRM=4,SERV=3110000001,BCAP=000100;

3)RODAI:ROU=77,TYPE=TL66,VARI=00000000,VARC=00000000,VARO=0000000

0;

(Note that the VAR-parameters are set all 0s, since SIP trunk profile shall be used.)

1. ROEQI:ROU=77,TRU=1-2;
1. ROEQI:ROU=77,TRU=2-2;

Domain Emergency Data

Step 1. Initiate the dial back position

number_initiate -numbertype ex -number 2345

extension_profile -i --csp 1 --ext-cdiv 115000001000000 --ext-npres 0010000

--ext-roc 000001 --ext-serv 10115111200000000000000000001100 --ext-traf

1100151515

extension -i -d 2345 --lim 1 --csp 1 --emergency yes

1. Step 2. Initiate the domain emergency parameters ip_domain -p (Make note of the domain data) ip_domain -e --domain-name madrid.es

ip_domain -i --domain-name madrid.es --ip-net 130.100.21.0/24 --emedir 2345

Initiation of Dial-Back Destination

Step 1. Initiation of the external destination in the number series

number_initiate -numbertype ed -number 4532

Step 2. Associate the external destinations with the emergency route

RODDI:DEST=4532,ROU=70,SRT=1,ADC=030500000000005000500000000000;

DBC 4xx Configuration (H.323 Only)

Step 1. Setup the configuration file using the following data:

1. [Emergency]
2. System1=MX-ONE

–Address1=10.1.18.91

–Port1=1720

1. EmergencyNr=112
2. RouteID=ROUID70

–A-Number=913394532

[WAP]

1. RouteAccessNumber=00

Step 2. Reboot all the DBC 4xx telephones in order that they load the last modified configuration file

1. VERIFICATION

These considerations should be taken into account:

1. Avoid using the live emergency number when testing.
1. When making a final test call to the emergency number, be careful to check the local regulations.

After the execution phase the following configuration is obtained, see Figure 9 **on page 41**.

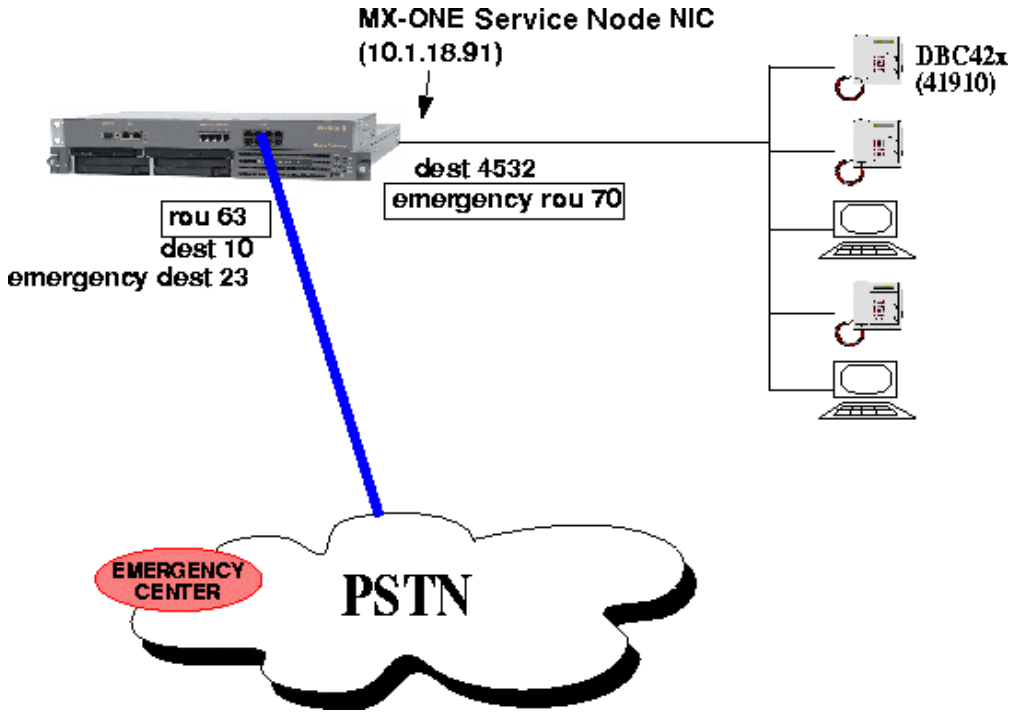

Figure 9:Configuration after Initiation of Emergency Calls

To verify the new configuration for emergency calls, the following actions can be done.

Emergency Calls from Logged-On IP Telephones

1. Dial the 112 emergency number from a logged-on IP telephone and check that the emergency center is called.
2. Dial the 00112 emergency number from a logged-on IP telephone and check that the emergency center is called.
3. Dial the received calling party number in the emergency center and check that the calling user is called.

Emergency Calls from Logged-Off IP Telephones

1. Dial the 112 emergency number from a logged-off IP telephone and check that the emergency center is called.
2. Dial the 00112 emergency number from a logged-off IP telephone and check that the emergency center is called.
3. Dial the received calling party number in the emergency center and check that the calling user is called.

MX-ONE WITH BRANCH OFFICES IN THE SAME AREA CODE

DESCRIPTION

This scenario consists of a main office MX-ONE with branch offices located in the same PSTN area, see Figure 10 **on page 42**All the IP telephones which belong to a branch office have their own domain (that is, madrid1.es", "madrid2.es", and "madrid3.es"). The main office has a route to the PSTN (that is, route 63) and a public external destination (that is, 00) to access that route.

The access to the PSTN from the branch offices is carried out through the main office public trunk.

Note: Although each branch office usually has an SBN installed for survivability, it has not been considered in this scenario, for illustrative purposes.

It is required to enable the 112 emergency calls in the main office and in the branches, where the following emergency number formats must be valid:

1. Emergency number (that is, 112)
2. Route access code to the PSTN + emergency number (that is, 00112)

The emergency calls must be enabled for logged-on and logged-off IP telephones, and it is also required that the emergency center can dial back to the calling user. In this case the emergency center uses the received calling number in the emergency call to dial back to the caller.

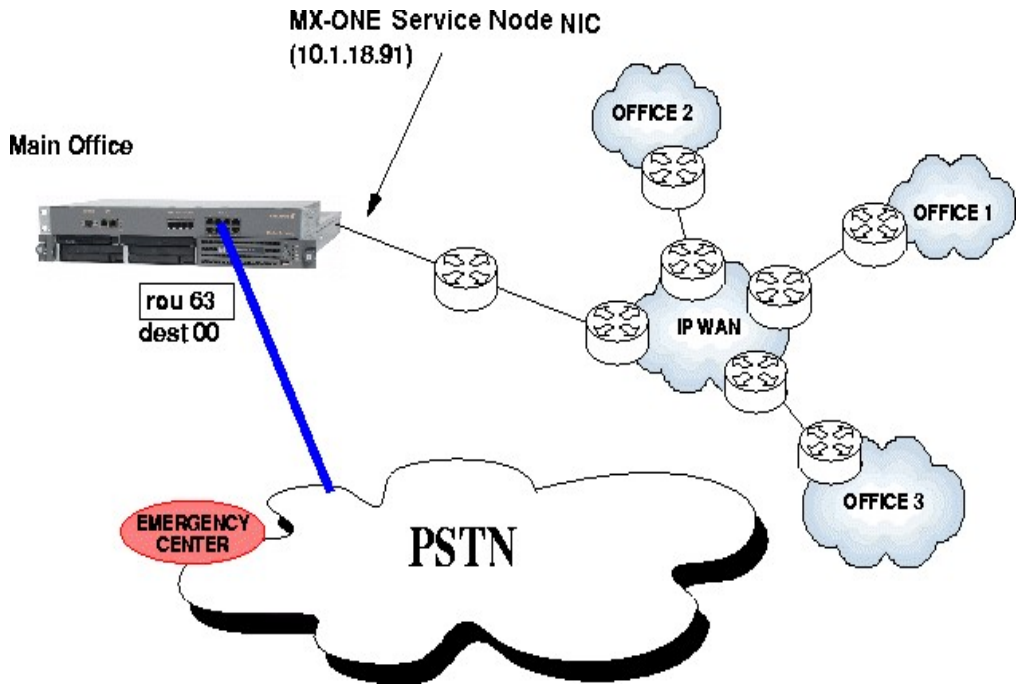

Figure 10: Main Site with Branch Offices in the Same PSTN Area.

1. PREREQUISITES

The same prerequisites as in the scenario without branch offices apply here (see **7.1.2 Prerequisites on page 38**).

EXECUTION

The same execution steps as in the scenario without branch offices apply here (see

7.1.3 Execution on page 38).

VERIFICATION

These considerations should be taken into account:

1. Avoid using the live emergency number when testing.
2. When making a final test call to the emergency number, be careful to check the local regulations.

After the execution phase the following configuration is obtained, see Figure 11 **on page 43**.

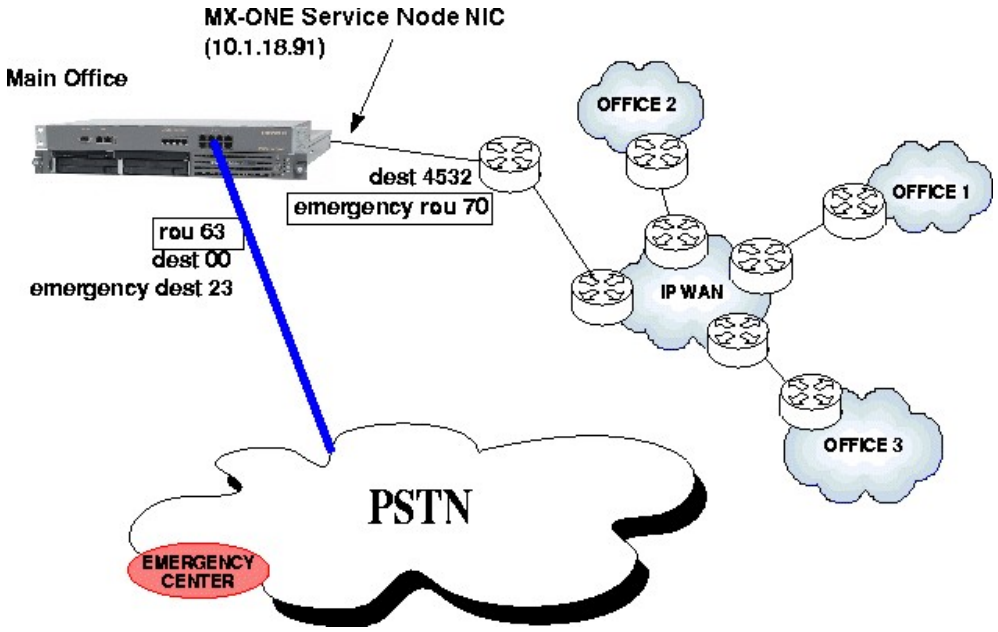

Figure 11: Configuration after initiation of data to support Emergency Calls.

To verify the new configuration for emergency calls, the following actions can be done.

1. Emergency Calls from Logged-On IP Telephones Located in the Main Office

1. Dial the 112 emergency number from a logged-on IP telephone and check that the emergency center is called.
2. Dial the 00112 emergency number from a logged-on IP telephone and check that the emergency center is called.
3. Dial the received calling party number in the emergency center and check that the calling user is dialed back.

Emergency Calls from Logged-Off IP Telephones Located in the Main Office

1. Dial the 112 emergency number from a logged-off IP telephone and check that the emergency center is called.

1. Dial the 00112 emergency number from a logged-off IP telephone and check that the emergency center is called.
2. Dial the received calling party number in the emergency center and check that the calling user is dialed back.

Emergency Calls from Logged-On IP Telephones Located in a Branch Office

1. Dial the 112 emergency number from a logged-on IP telephone and check that the emergency center is called.
2. Dial the 00112 emergency number from a logged-on IP telephone and check that the emergency center is called.
3. Dial the received calling party number in the emergency center and check that the calling user is dialed back.
4. Repeat the steps in every branch office.

Emergency Calls from Logged-Off IP Telephones Located in a Branch Office

1. Dial the 112 emergency number from a logged-off IP telephone and check that the emergency center is called.
2. Dial the 00112 emergency number from a logged-off IP telephone and check that the emergency center is called.
3. Dial the received calling party number in the emergency center and check that the calling user is dialed back.
4. Repeat the steps in every branch office.

MX-ONE WITH BRANCH OFFICES IN DIFFERENT PSTN AREAS

DESCRIPTION

The scenario in Figure 12 **on page 45**consists of a main office served by the MX-ONE Telephony System and a number of branch offices served by several IP telephones logging from the main office MX-ONE. The main office and the branch offices are located in PSTN areas with different area codes (91, 93, 95, and 96). Each branch office is represented by a different domain, so every IP telephone in an office is associated to the branch office domain.

The accesses to PSTN are set up at the main office MX-ONE (route 61) and at the branch offices' SBNs.

All extensions, both in main and branch offices, use the same code to access the PSTN (that is, 00). However, the MX-ONE configuration provides local presence to the extensions placed in branch offices. If a number is dialed without any area code, the call will be routed to the PSTN through the calling party branch office SBN and the calling party number will be prefixed with its own area code.

This is accomplished by adding the area code to the dialed external number so the proper SBN can be addressed. The addition of area code to the dialed external number is provided by LCR tables. For IP extensions in the branch offices, the area code is set per domain. For other extensions in main office, the area code is set per media gateway

or LIM. Notice that PSTN access code 00 must be defined as LCR access code (LAC) to be able to use the LCR tables.

The local presence and local hop-off functions are achieved by means of IP networking tie-lines between the MX-ONE and each of the SBNs and proper configuration of external destinations and prefixes. Separate routes allow to prefix the calling party number according to the PSTN area where the called party is located (that is, 91, 93, 95, and 96).

It is required to enable the 112 emergency calls in all offices, where the following emergency number formats must be valid:

1. Emergency number (that is, 112)
2. Route access code to the PSTN + emergency number (that is, 00112)

The emergency calls must be enabled for logged-on and logged-off IP telephones, and it is also required that the emergency center can dial back to the calling user. In this case the emergency center uses the received calling number in the emergency call to dial back to the calling user.

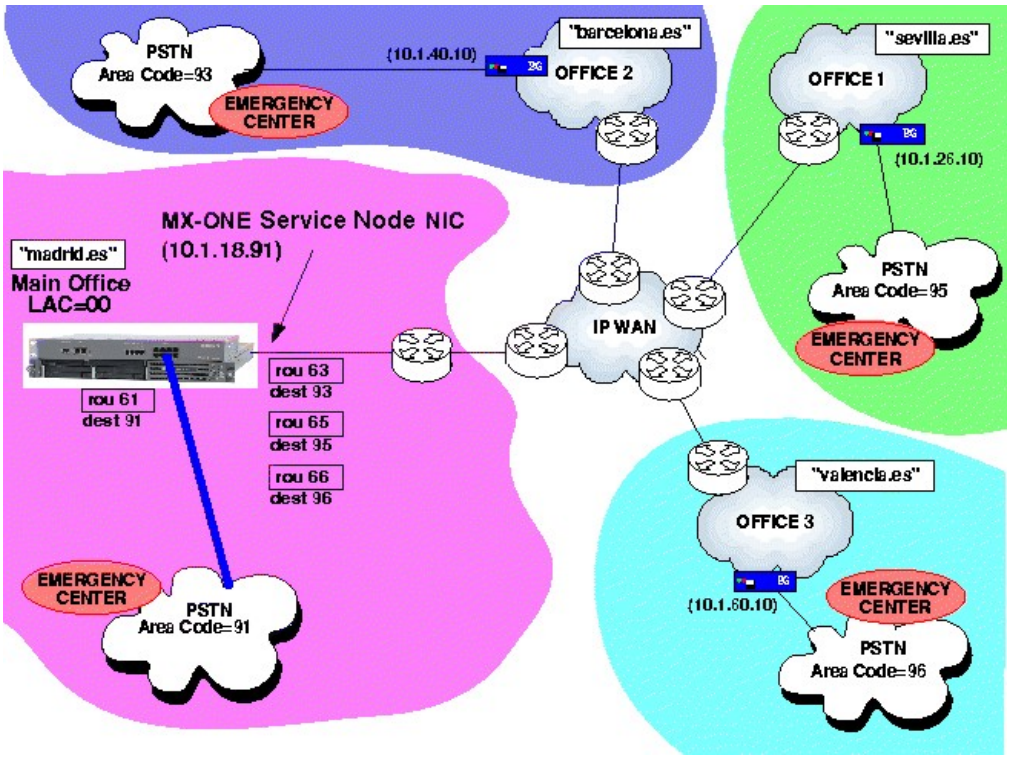

Figure 12: Example of an extended configuration with Remote Branch Offices

1. PREREQUISITES
2. The IP extensions must be initiated. See the operational directions for IP Handling.
3. The domains for the IP telephones must be initiated for all the branch offices. See the operational directions for IP Handling.
4. The area codes per LIM and per domain must be initiated. See the operational directions for LEAST COST ROUTING and the operational directions for IP Handling.

1. The public route 61 is already initiated. See the operational directions for IP NETWORKING.
2. The IP networking interfaces and tie-lines 63, 65, and 66 to the branch offices must be completely initiated. See the operational directions for IP NETWORKING and see the operational directions for ROUTE DATA.

3. The prefixes for public calls must be also initiated. See the operational directions for IP NETWORKING.
4. LCR tables are already set up to route the public calls to the SBN closest to the called party PSTN area. Therefore, the LAC=00 is already initiated and area codes added, so the translations lead to public destinations associated to the IP networking tie-lines to the SBNs that finally route the calls to the PSTN. See the operational directions for LEAST COST ROUTING.
5. The rules and regulations of every local emergency center must be known with regard to the A-number handling.
6. The non-emergency parameters of the IP telephones configuration file must be already initiated. The domain name initiated must be “madrid.es”. See the operational directions for IP HANDLING.
7. The SBN must be completely set up to enable the survivability, local presence, and local hop-off functions. See the operational directions for ENTERPRISE BRANCH NODE, SBN.
8. Prefixing of A-number must be initiated.

EXECUTION

The following steps must be carried out:

1. Initiate the emergency number valid formats, see **7.3.3.1 Emergency number onpage 46**.
2. Initiate the emergency destinations, see **7.3.3.2 Emergency Destinations onpage 48**.
3. Initiate the emergency IP networking route to allow emergency calls from logged-off IP telephones, see **7.3.3.3 Emergency IP Networking Route on page48**.
4. Initiate the domain emergency data, see **7.3.3.4 Domain Emergency Data onpage 48**.
5. Initiate the destinations associated to the IP networking route to allow the dialing back to logged-off IP telephones, see **7.3.3.5 Initiation of Dial-Back Destinationson page 50**.
6. Update the DBC 4xx configuration file, see **7.3.3.6 DBC 4xx Configuration(H.323 Only) on page 50**.
7. Set up the SBN in the Branch Office, see **7.3.3.7 Initiate the SBN in the BranchOffice with the Net Manager on page 51**.

Emergency number

Step 1. Change the existing public destination configuration

As LCR tables are already initiated, no changes are needed in the current destination configuration.

Example: In the scenario represented above (see **on page 45**), the call will be routed through IP networking route 63 when someone dials 00931234567 from an IP telephone in any office. The IP networking route 63 is associated to the external destination 93.

Step 2. Initiate the LAC

number_initiate -numbertype lc -number 112

Step 3. Modify the LCR tables

As the emergency number dialed is the same in every office (112 or 00112), LCR entries must be set to add the area code associated to the domain of the calling IP extension, so the call will be routed towards the local emergency center in that area.

In the scenario represented above (see **on page 45**), NLT (Number Length Table) should already be set up as follows:

LCDDI:TAB=NLT,ENTRY=00,ACF=Y;

Example: In this scenario, the call will be routed through IP networking route 63 when someone dials 001234567 from an IP telephone in "barcelona.es" (AC=93). The IP networking route is associated to the external destination 93.

Note: It is possible to dial external numbers with or without PSTN area code. This can be achieved by the following entries in External Number Table (ENT).

LCDDI:TAB=ENT,ENTRY=0091,TRC=2; LCDDI:TAB=ENT,ENTRY=0093,TRC=2;
LCDDI:TAB=ENT,ENTRY=0095,TRC=2; LCDDI:TAB=ENT,ENTRY=0096,TRC=2;

For the emergency number, it is needed to add the leading 00 when 112 is dialed.

LCDDI:TAB=ENT,ENTRY=112,PRE=00;

Once the area code is added, it is needed to manipulate the number in order to address the proper emergency destination. In other words, the area code added above allows to address existing destinations (that is, 91, 93, 95, and 96), which are not qualified as emergency destinations.

In this example, for each 9x destination there will be a 2x emergency destination.
LCDDI:TAB=FDT,FRCT=1,PRE=2,TZONE=1&&3;
LCDDI:TAB=DNT1,ENTRY=0091112,TRC=3,FRCT=1;
LCDDI:TAB=DNT1,ENTRY=0093112,TRC=3,FRCT=1;
LCDDI:TAB=DNT1,ENTRY=0095112,TRC=3,FRCT=1;
LCDDI:TAB=DNT1,ENTRY=0096112,TRC=3,FRCT=1;

Other public numbers will be processed according to the following entries:
LCDDI:TAB=FDT,FRCT=2,PRE=9,TZONE=1&&3; LCDDI:TAB=DNT2,ENTRY=00,TRC=3,FRCT=2;

Emergency Destinations

In order to route the emergency calls to the local emergency centers through the branch offices SBNs, emergency destinations have to be associated to IP networking routes between the main office and the SBNs.

Step 1. Initiate the external destination in the number series

number_initiate -numbertype ed -number 21,23,25,26

Step 2. Initiate the emergency external destination

Initiation of the emergency destination associated to the public route 63 to the PSTN network for the emergency center at main office.

RODDP:DEST=91; (Make note of destination data).
RODDI:DEST=21,ROU=61,SRT=3,ADC=03050000000000050005000010100;

Notice that the SRT, TRC, and PRE parameters may need specific values in order to compound the called party number in the form required by the PSTN.

Initiation of the emergency destination associated to the tie-lines to the SBNs for the emergency centers at branch offices.

RODDP:DEST=93; (Make note of destination data).

RODDI:DEST=23,ROU=63,SRT=3,ADC=03050000000000050005000010100;

RODDP:DEST=95; (Make note of destination data).
RODDI:DEST=25,ROU=65,SRT=3,ADC=03050000000000050005000010100;

RODDP:DEST=96; (Make note of destination data).
RODDI:DEST=26,ROU=66,SRT=3,ADC=03050000000000050005000010100;

Emergency IP Networking Route

Initiate the IP networking route by using the following commands:

1)ROCAI:ROU=70,SEL=0110100000000010,SIG=011110101190,TRAF=03151515,
TRM=4,SERV=0010000007,BCAP=001100;

2)RODAI:ROU=70,TYPE=TL65,VARC=00000001,VARI=00000101,VARO=0000000

0;

3)RIANI:ROU=70,LROUID="ROUID70"; 4)ROEQI:ROU=70,TRU=1-1&&1-16;

Domain Emergency Data

MAIN OFFICE, "madrid.es"

1. Step 1. Initiate the dial-back position number_initiate -numbertype ex -number 2345 extension -i -d 2345 --csp 1 --lim 1 --emergency yes

Step 2. Initiate the domain

ip_domain -p (Make note of the domain data)

ip_domain -e --domain-name madrid.es

ip_domain -i --domain-name madrid.es --ip-net 130.100.21.0/24 --emedir 2345

--area-code 91

Optionally also include the --location-id parameter, if outgoing SIP route with the PANI Header option is supported/used. This is also valid for the Branch office nodes below.

BRANCH OFFICE 1, "sevilla.es"

1. Step 1. Initiate the dial-back position

number_initiate -numbertype ex -number 2346

extension_profile -i --csp 1 --ext-cdiv 115000001000000 --ext-npres 0010000

--ext-roc 000001 --ext-serv 10115111200000000000000000001100 --ext-traf

1100151515

extension -i -d 2346 --csp 1 --lim 1 --emergency yes

Step 2. Initiate the domain

ip_domain -p (Make note of the domain data)

ip_domain -e --domain-name sevilla.es

ip_domain -i --domain-name sevilla.es --ip-net 130.72.210.0/24 --emedir 2346

--area-code 95

BRANCH OFFICE 2, "barcelona.es"

1. Step 1. Initiate the dial-back position

number_initiate -numbertype ex -number 2347

extension_profile -i --csp 1 --ext-cdiv 115000001000000 --ext-npres 0010000

--ext-roc 000001 --ext-serv 10115111200000000000000000001100 --ext-traf

1100151515

extension -i -d 2347 --csp 1 --lim 1 --emergency yes

Step 2. Initiate the domain

ip_domain -p (Make note of the domain data)

ip_domain -e --domain-name barcelona.es

ip_domain -i --domain-name barcelona.es --ip-net 130.64.100.0/24 --emedir 2347 --area-code 93

BRANCH OFFICE 3, "valencia.es"

1. Step 1. Initiate the dial-back position

number_initiate -numbertype ex -number 2348

extension_profile -i --csp 1 --ext-cdiv 115000001000000 --ext-npres 0010000

--ext-roc 000001 --ext-serv 10115111200000000000000000001100 --ext-traf

1100151515

extension -i -d 2348 --csp 1 --lim 1 --emergency yes

Step 2. Initiate the domain

ip_domain -p (Make note of the domain data)

ip_domain -e --domain-name valencia.es

ip_domain -i --domain-name valencia.es --ip-net 130.82.90.0/24 --emedir 2348

--area-code 96

Initiation of Dial-Back Destinations

Step 1. Initiate the external destination in the number series

number_initiate -numbertype ed -number 4532

Step 2. Associate the external destinations with the emergency route

RODDI:DEST=4532,ROU=70,SRT=1,ADC=03050000000000500050000000000;

DBC 4xx Configuration (H.323 Only)

Configuration in the main office MX-ONE

1. [Emergency]
2. System1=MX-ONE
3. Address1=10.1.18.91

4. Port1=1720

1. EmergencyNr=112
2. RouteID=ROUID70
3. A-Number=913394532

[WAP]

1. RouteAccessNumber=00

Configuration in the branch office 1

1. [Emergency]
2. System1=MD-E
3. Address1=10.1.26.10
4. Port1=1720

1. EmergencyNr=112
2. A-Number=953394532

Configuration in the branch office 2

1. [Emergency]
2. System1=MD-E
3. Address1=10.1.40.10
4. Port1=1720

1. EmergencyNr=112
2. A-Number=933394532

Configuration in the branch office 3

1. [Emergency]
2. System1=MD-E

1. Address1=10.1.60.10
2. Port1=1720

1. EmergencyNr=112
2. A-Number=963394532

Initiate the SBN in the Branch Office with the Net Manager

Step 1. Initiate the dial back position

A local extension, operator group, hunt group, or ring group must be initiated in the SBN to enable the emergency center to dial back to branch office logged off extensions. See the operational directions for SURVIVABLE BRANCH NODE, SBN.

Step 2. Initiate the emergency destination

A destination code (that is, 112) must be initiated to route the emergency calls to the PSTN, when the user dials the emergency number directly without the PSTN access code. See the operational directions for SURVIVABLE BRANCH NODE, SBN.

VERIFICATION

These considerations should be taken into account:

1. Avoid using the live emergency number when testing.
2. When making a final test call to the emergency number, be careful to check the local regulations.

After the execution phase the following configuration is obtained (see Figure 13 **on page 52**):

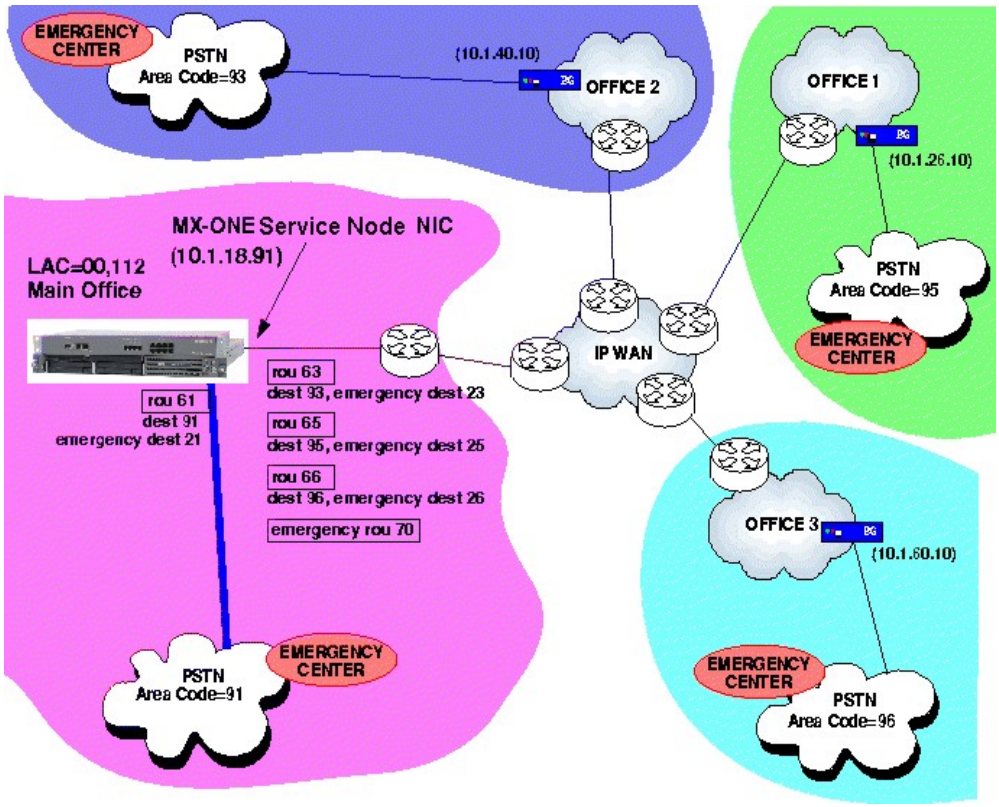

Figure 13: Configuration after initiation of data to support Emergency Calls

To verify the new configuration for emergency calls, the following actions can be done.

1. Emergency Calls from Logged-On IP Telephones Located in the Main Office
1. Dial the 112 emergency number from a logged-on IP telephone and check that the emergency center is called.
2. Dial the 00112 emergency number from a logged-on IP telephone and check that the local emergency center is called.
3. Dial the received calling party number in the emergency center and check that the calling user is dialed back.

Emergency Calls from Logged-Off IP Telephones Located in the Main Office

1. Dial the 112 emergency number from a logged-off IP telephone and check that the emergency center is called.
2. Dial the 00112 emergency number from a logged-off IP telephone and check that the local emergency center is called.

3. Dial the received calling party number in the emergency center and check that the calling user is dialed back.

Emergency Calls from Logged-On IP Telephones Located in a Branch Office

1. Dial the 112 emergency number from a logged-on IP telephone and check that the emergency center is called.
1. Dial the 00112 emergency number from a logged-on IP telephone and check that the local emergency center is called.
2. Dial the received calling party number in the emergency center and check that the calling user is dialed back.
3. Repeat the steps in every branch office.

Emergency Calls from Logged-Off IP Telephones Located in a Branch Office

1. Dial the 112 emergency number from a logged-off IP telephone and check that the emergency center is called.
2. Dial the 00112 emergency number from a logged-off IP telephone and check that the local emergency center is called.
3. Dial the received calling party number in the emergency center and check that the calling user is dialed back.
4. Repeat the steps in every branch office.

TERMINATION

If exchange data has been altered and no more commands are to be keyed, a dump to backup media must be initiated.

CAPACITY AND LIMITATIONS

CAPACITY

It is possible to initiate more than one emergency IP networking route for emergency calls, for example, one for each branch office.

LIMITATIONS

LIMITATIONS ON DIAL-BACK CAPACITY

If H.323 is used, only the information about the last calling party to dial the emergency number will be stored; therefore, the emergency center can only dial back the last calling user. This limitation is for calls from logged-on and logged-off IP telephones.

If SIP is used, information about one calling party per domain will be stored.

LIMITATIONS ON THE H.323 ACCESS POINT

The IP networking route for emergency calls from logged off IP telephones can only be initiated in a unique LIM. The trunk lines for this route cannot be defined in different LIMs.

LIMITATIONS ON LOGGED-OFF SIP TELEPHONES

It is possible to make emergency calls from logged-off Mitel 6900/6800/6700 tele- phones and most logged-off third party telephones.

Mitel 8000i video terminals cannot make emergency calls when logged-off.