Emergency Notification

DESCRIPTION

NOTICE

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TRADEMARKS

1 GENERAL

Using the emergency notification feature, emergency messages can be broad-casted to digital, analog, and IP (SIP and H.323) extensions in MX-ONE.

Emergency messages are communicated to users the following ways:

- Live voice messages, for digital and analog extensions.
- Recorded messages, for digital and analog extensions.
- Display messages and “emergency ringing” (callback recall ring signal), for IP (SIP and H.323) extensions.

Emergency notifications are initiated through calls to emergency numbers. An emergency number can be associated with 1-9 emergency notification groups (defined in a personal number list for the emergency number), where a group can correspond to, for example, a location.

By calling several emergency numbers, emergency notification broad-casts can be extended to comprise up to 249 emergency notification groups.

Emergency notifications are broad-casted using emergency notification functions in the internal group hunting group feature. Emergency notification groups are therefore configured as group hunting groups. When receiving an emergency call, the group hunting feature orders extensions included in the broadcast to prepare for the reception of an emergency notification. As all extensions are prepared, the emergency notification is executed.

Using the Music-on-Hold feature of the TMU board, or using a streaming configuration with Media Server, a live voice or recorded emergency message is now transferred to the extensions comprised by the broadcast.

Note: There is also an external application called Mitel Mass-Notification (MMN) which supports similar functions, which could be used as an alternative to Emergency Notification.

2 REQUIREMENTS

The following requirement applies for the emergency notification feature

- TMU boards or Media Server(s)
- A digital phone or IP terminal (with auto-answer)

3 CAPACITY AND LIMITATIONS

The following capacity limitation applies for the emergency notification feature:

- 249 emergency notification groups per server or system.
- 9 emergency notification groups per emergency number. The number of groups comprised by a broadcast can be extended by calling several emergency numbers.

The feature is also limited by the maximum number of simultaneously ringing analog phones. This value depends on the type of board used for initiating analog extensions.

For Mitel 6900/6800/6700 SIP terminals with the local Call Waiting feature in the terminal active, the Emergency Notification will fail (i.e. the terminal will neither be alerted, nor get any display message).

The function live voice messages in idle state is supported for Mitel 6900/6800 phones, but not for Mitel 6700.

4 USED MX-ONE FEATURES

The emergency notification feature uses the following MX-ONE features:

- Generic extension
- Personal number (call list)
- Internal group hunting
- Music-on-Hold
- Automatic answer on Digital Key System Phone or IP terminal (as Special Emergency Notification Terminal).
- Optionally a Media Server, configured for streaming.

For some of the features, only emergency notification specific functions within the features are used.

5 DETAILED DESCRIPTION

5.1 EMERGENCY NUMBERS

Emergency notifications are initiated through calls to emergency numbers, configured as generic extensions. An emergency number is associated with 1-9 emergency notification groups, where a group can correspond to, for example, a location. By calling several emergency numbers, emergency notifications can be broad-casted to a number of combinations of groups.

Called emergency number	Emergency notification groups associated to the emergency number	Emergency notification is broadcasted to
9000	A, B, C	A, B, C
9001	A, B	A, B
9002	D	D
9001 + 9002	A, B, D	A, B, D

Emergency numbers can be configured so that they can be called only from selected extensions.

5.2 ASSOCIATING EMERGENCY NOTIFICATION GROUPS TO EMERGENCY NUMBERS

The generic extension used for an emergency number is associated with a personal number list. Normally, personal number lists are used for routing incoming calls to a number of extensions until the calls are answered, one at a time and starting with the first position in the list. For the emergency notification feature, the list instead defines 1-9 group numbers (emergency notification groups) to which the emergency notification is to be broad-casted.

The group hunting feature contains functions for emergency notification, why emergency notification groups in the personal number list are configured as group hunting groups. Each group is configured with a unique customer number (this customer number is used for associating extensions with the emergency notification group). The personal number list also holds a group number dedicated to the emergency notification feature. The latter group number is always stored in the last position of the list.

Note: When including several emergency numbers in a broadcast, this position must instead be placed in the personal number list of a separate emergency number. See chapter 5.5, Including Several Emergency Numbers in a Broadcast

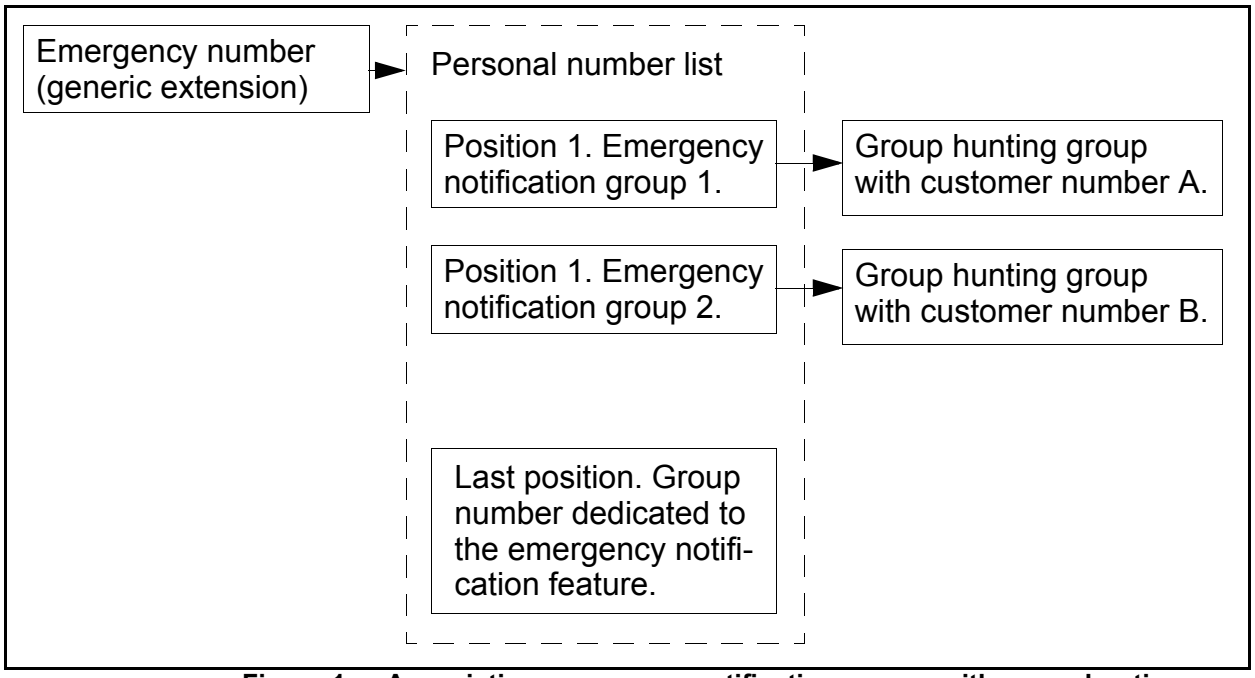

Figure 1: Associating emergency notification groups with group hunting groups. By including an emergency notification group in the personal number list for several emergency numbers, the group can be included in several broadcast scenarios.

5.3 INITIATING EMERGENCY NOTIFICATIONS USING THE INTERNAL GROUP HUNTING FEATURE

To indicate that a group hunting group in the personal number list corresponds to an emergency notification group, the group is configured according to the following:

- D6 in the SEL parameter of the GHGRI command is set to 3 (the group hunting group is dedicated to emergency notification)
- The group is given a unique customer number
- The group contains no members.

As an incoming call is routed to the first group in the list, the group hunting feature is executed. Since the called group hunting group is configured as an emergency notification group, the call is identified as an emergency call. When receiving the call, the group hunting group feature sends an order to all extensions having the same customer number as the group hunting group to prepare for reception of an emergency notification

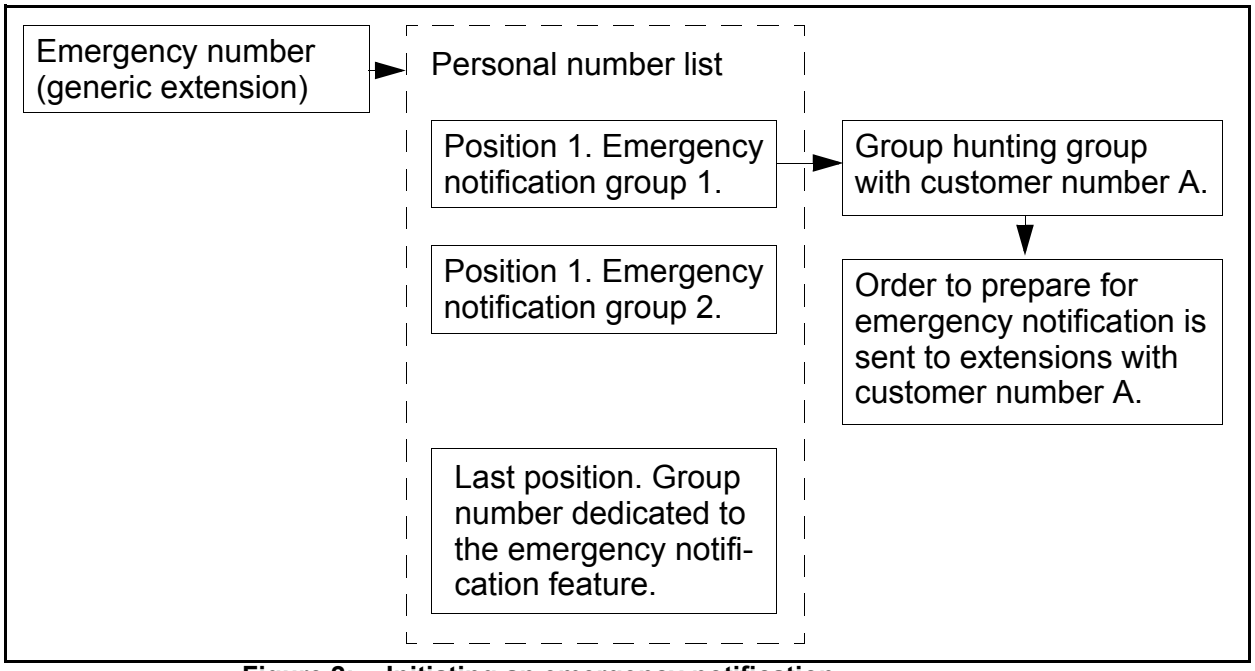

Figure 2: Initiating an emergency notification.

Since the group hunting group contains no members, the incoming emergency call is considered as not answered and the call is routed to the next position of the personal number list. If the list contains additional emergency notification groups, the procedure is repeated for these groups.

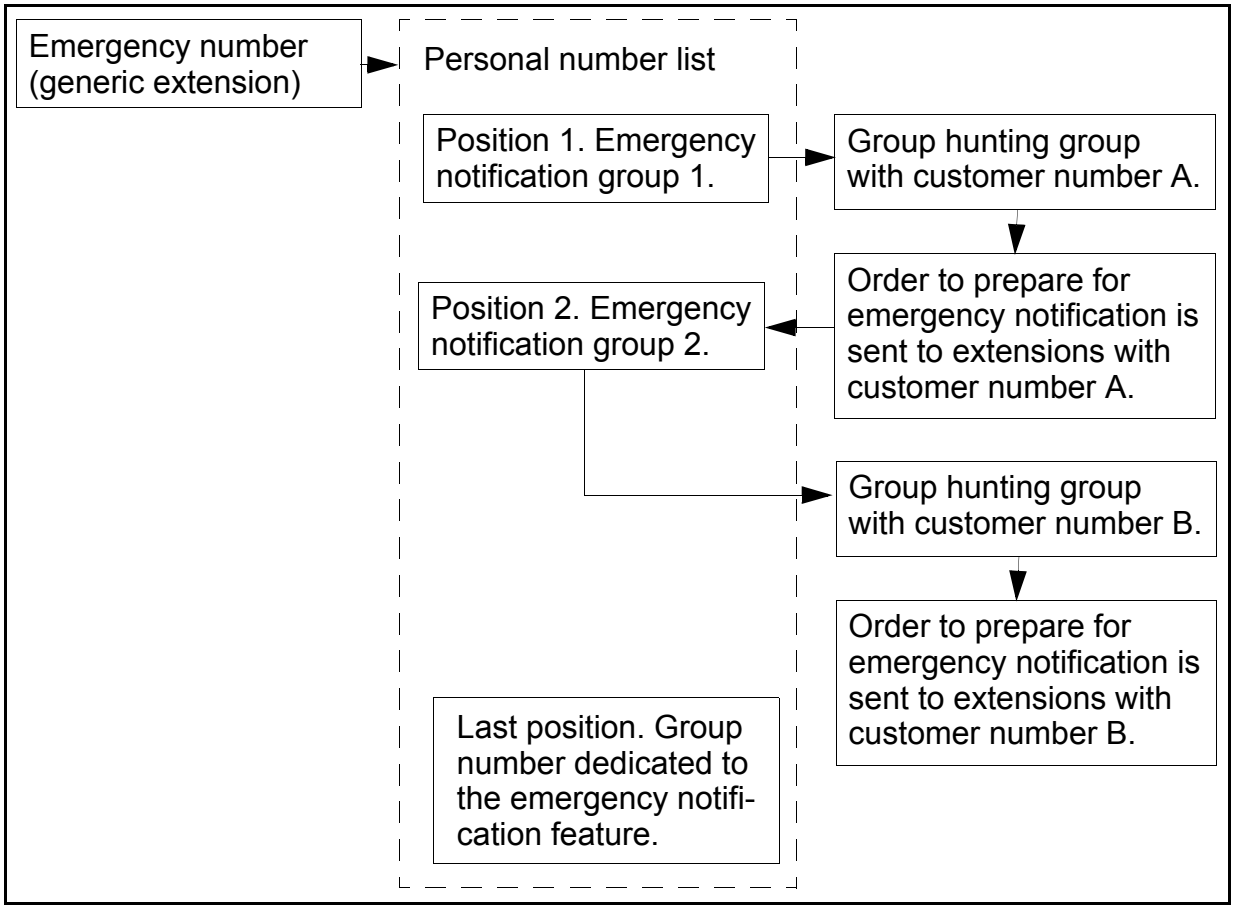

Figure 3: Initiating an emergency notification comprising two emergency notification groups.

When the call has been routed through all emergency notification groups in the personal number list, all extensions included in the broadcast are prepared for the reception of an emergency notification. The call is now routed to the last position of the list.

This position is associated to a group hunting group configured for emergency notification (like the previous positions) but containing a member, a digital phone or IP terminal dedicated to the emergency notification feature. This phone is referred to as the Special Emergency Notification Terminal (SENT). When a call reaches an internal group hunting group dedicated to emergency notification that contains a member, the group hunting feature performs the following:

- Analog phones that have been prepared for reception of an emergency notification are ordered to emit ring signal and, when going off-hook, connect to the Music-on-Hold output of a TMU board. Any ongoing call is disconnected.
- Digital phones that have been prepared for reception of an emergency notification are ordered to switch to loudspeaker mode and connect to the Music-on-Hold output of a TMU board. Any ongoing call is disconnected.
- IP (SIP and H.323) extensions that have been prepared for reception of an emergency notification are ordered to display message "Emergency Call" and Mitel SIP terminals are also rung with an emergency cadence. An ongoing call is not disconnected.
- The call is routed to the Special Emergency Notification Terminal.

5.4 TRANSFERRING SOUND MESSAGES

The last position in the personal number list is associated with the SENT. As the emergency call is routed to this last group hunting group, the call is forwarded to the SENT, which answers the call (the phone must be configured for automatic answer). Sound messages can now be transferred to analog and digital extensions comprised by the broadcast, using one of the following alternatives:

- Using live voice emergency messages, originating from the emergency number caller
- Using recorded emergency messages, available on a sound source connected to a Music-on-Hold input of the TMU board.

5.4.1 LIVE VOICE MESSAGES

To transfer live voice messages, there are two methods available:

One method is that the SENT headset connector is connected to the Music-on-Hold input of a TMU board. Since analog and digital extensions comprised by the emergency notification broadcast are connected to the Music-on-Hold output of the TMU board, live voice messages can be transferred from the emergency number caller, through the SENT and the TMU board, to the extensions comprised by the broadcast.

The other method is to utilize the media streaming function of the MX-ONE Media Server. Here the SENT headset connector is connected to a third party application which converts the live voice message to appropriate streaming format, for streaming to all SIP terminals which are in an appropriate state (idle). The limitation is that it only works for Mitel 6900/6800 SIP terminals, the extension must be in idle state, and have a dedicated key for the function.

5.4.1.1 Live Voice Messages to Remote LIM units

The SENT is connected to TMU boards using pair cables. Due to length limitations for this type of cable, it might not be possible to connect the SENT to a TMU board in a remote LIM unit. This is solved by installing an SENT for each remote LIM unit. By calling an emergency number associated to the remote LIM SENT when initiating the broadcast (using the conference call feature), live voice messages can be transferred also to remote LIM units.

Note: If the SENT in a remote LIM is involved in a conference, it has to be disconnected manually from the terminal.

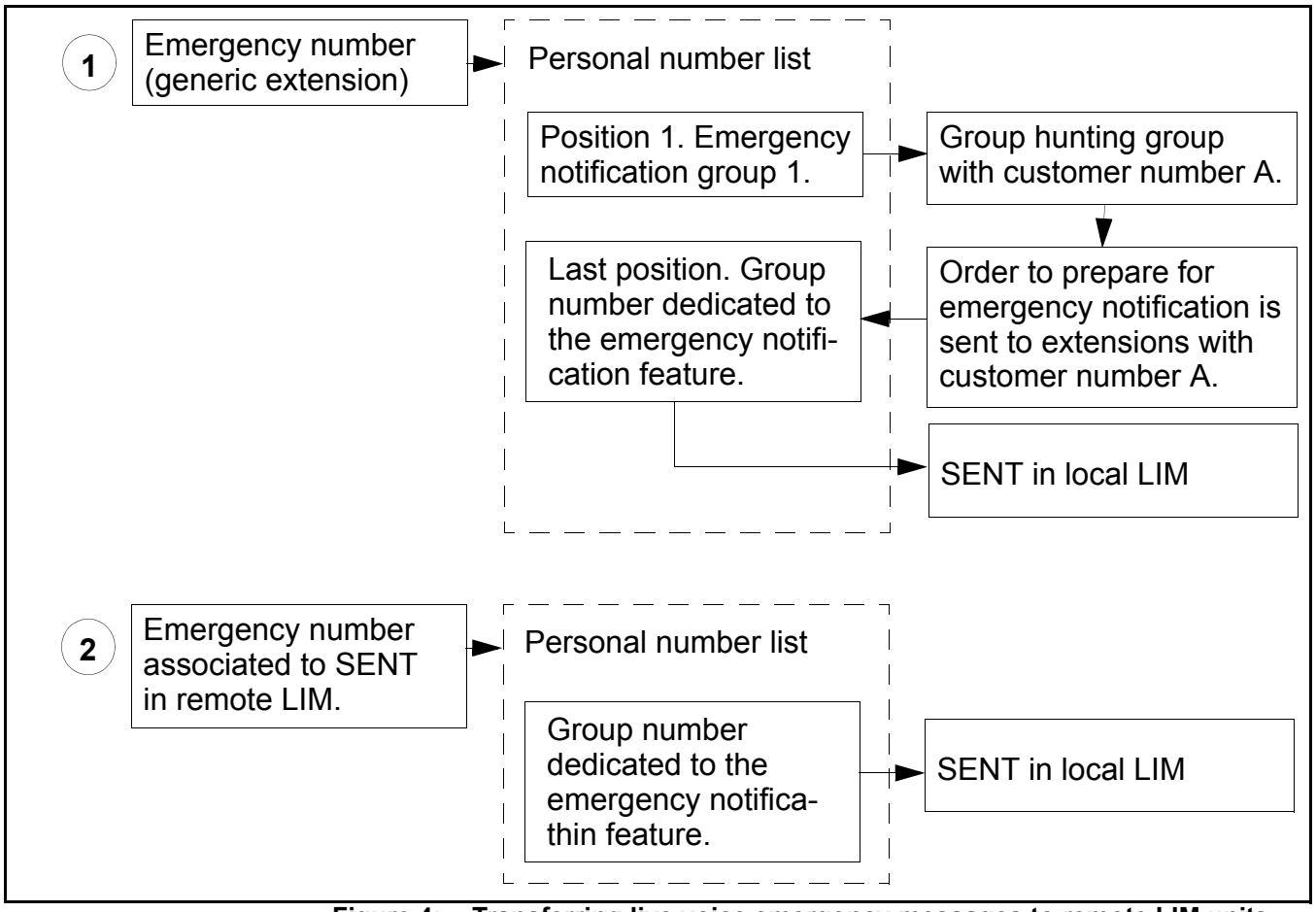

Figure 4: Transferring live voice emergency messages to remote LIM units.

5.4.2 RECORDED MESSAGES

By connecting a sound source to a Music-on-Hold input, a recorded emergency message can be played in the phones for all analog and digital extensions comprised by the broadcast. The SENT is not connected to the TMU board when using recorded messages.

Note: Recorded messages are only played as long as the emergency call is active. If the call initiating the emergency notification is terminated, the notification is terminated.

5.5 INCLUDING SEVERAL EMERGENCY NUMBERS IN A BROADCAST

Emergency numbers can be called in sequence. When using this feature, the personal number lists of the emergency numbers must not include the group hunting group containing a member (the SENT). Instead, a separate emergency notification group containing only this group is used. In this scenario, emergency notifications are initiated according to the following procedure:

1. The first emergency number is called. All extensions associated to this emergency number are prepared for reception of an emergency notification.
2. The call is terminated and a second emergency number is called. All extensions associated to this emergency number are prepared for reception of an emergency notification.
3. The call is terminated and the emergency number associated to the group hunting group containing the SENT is called. Emergency messages can now be transferred to all extensions that are prepared for the reception of an emergency notification, according to the standard emergency notification procedure.

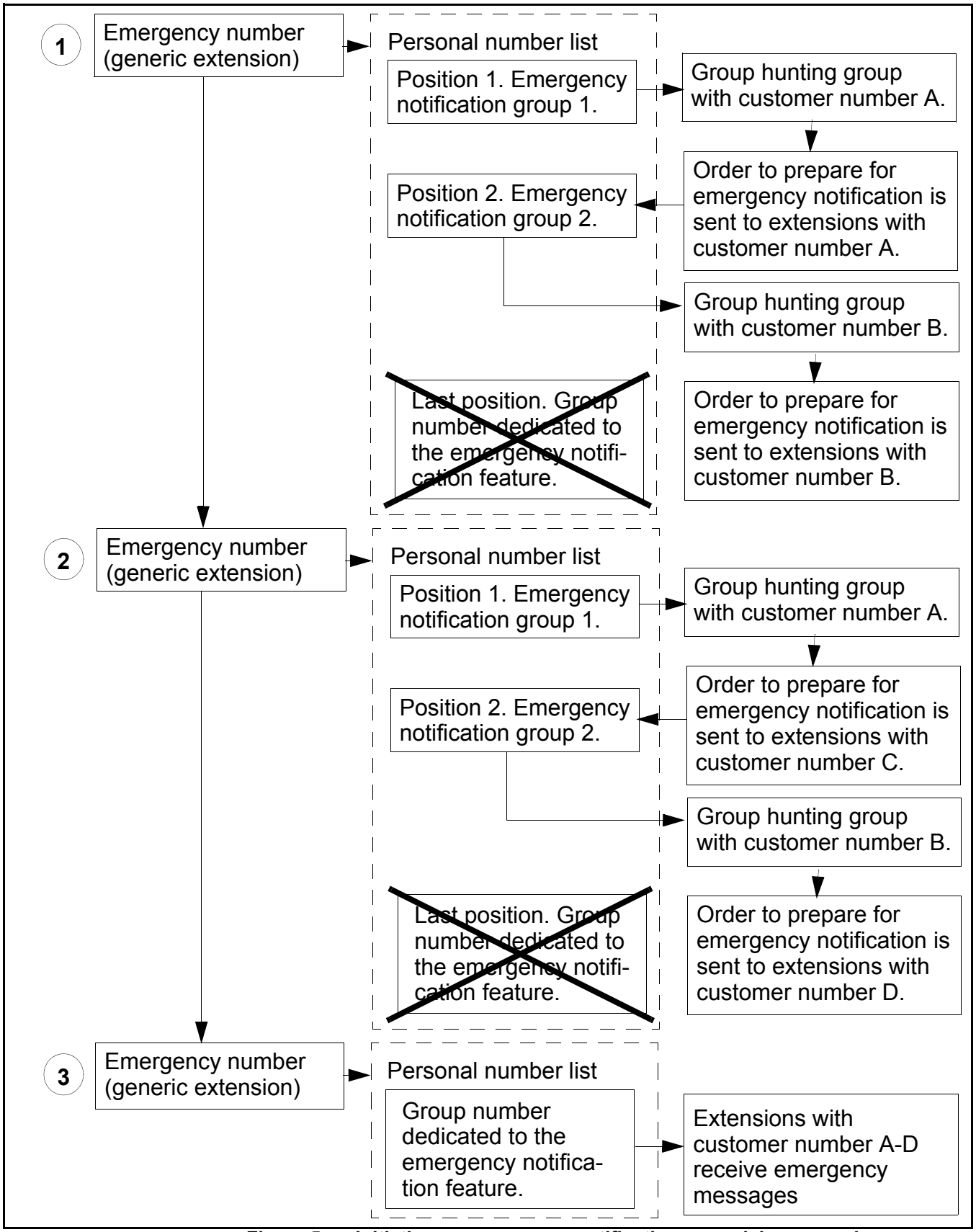

Figure 5: Initiating an emergency notification comprising several emergency numbers.