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Global Emergency Call Origination (GECO)

Revision: 0

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Note

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1. Introduction

In current system implementations, there exists the possibility that the phone number required to access emergency assistance in a given geographic area may not be known to the user. In North America, 911, *911, and #911 are all used. There are currently, however, strong pressures being brought to bear on the FCC to make support of a single Public Service Access Point (PSAP) (i.e., 911) mandatory for all areas, both urban and rural, in the U.S.

In Canada, 911 is also used as the Emergency Service Access Number (ESAN) but 911 support is not available in a significant portion of the geographic areas of that country. In eastern hemisphere markets, the required phone number may have no relationship to the 911 phone number adopted for use by many markets in the western hemisphere and, in many cases, multiple access numbers (i.e., police, fire, medical, etc.) may be required. Thus, the user may end up being unable to access emergency assistance due to lack of knowledge of the required phone number.

This document presents a Stage 1 description for a Global Emergency Call Origination (GECO) which will increase the probability that any user can originate a call to a PSAP even in those service areas where the ESAN is not known to the user.

The intent of GECO is described as follows:

- The MS may provide a means for the user to initiate an emergency call.
- A special form of the call origination message (defined as a Global Emergency Call Origination Message (GECO_MSG)) may be issued by the MS in lieu of the normal call origination message to indicate that the call origination being requested is an emergency call origination. GECO_MSGs may be accepted and the GECO call connected by the network from both subscribed and unsubscribed mobiles. The system may support "implicit registration" for GECO calls such that the use of registration request/acceptance protocol is not required prior to the issuance of a GECO_MSG.
- If the MS is currently registered on and accessing an operating network when the GECO call is initiated by the user, the MS may use that system to initiate the GECO call. If the MS is not currently accessing a system, the MS may attempt to access its preferred service as indicated by its internal system selection and system access restriction programming to maximize the probability that the GECO call will be accepted by the system. If no preferred system is available, the MS may override its internal system selection and system access restriction programming in an attempt to access any available system.
- Initiation of a GECO call by the MS shall in no way degrade the user's access to any other feature/service which would normally be available to him from the accessed service provider's network.

2. References

| | | |
|---|------------------------|---|
| 3 | TIA/EIA-95 | <i>Mobile Station-Base Station Compatibility Standard for Dual-Mode</i> |
| 4 | | <i>Wideband Spread Spectrum Cellular System</i> |
| 5 | ANSI-664 | <i>Wireless Features Description</i> |
| 6 | TIA/EIA/IS-683A | <i>Over the Air Service Provisioning of Mobile Stations in Wideband</i> |
| 7 | | <i>Spread Spectrum Systems</i> |

3. Definitions

9 **Global Emergency Call Origination (GECO).** MS initiated call to the Public Service Access
10 Point (PSAP) which does not assume any knowledge by the user of the Emergency Service
11 Access Number (ESAN).

12 **Global Emergency Call Origination Message (GECO_MSG).** Special form of the call
13 origination message to the network to initiate a GECO call.

14 **Emergency Service Access Number (ESAN).** Telephone number for the Public Service
15 Access Point (PSAP).

16 **Public Service Access Point (PSAP).** The organization or entity designated to provide
17 service that will handle emergency requests from the MS via an appropriate emergency agency
18 (e.g., fire, police, ambulance, poison control, suicide prevention center, etc.).

4. Global Feature Description

This section details the functionality of the GECO feature. The basic operations are indicated below:

- The MS may provide a means, either by dialing the emergency access number (e.g., 911) or other vendor specific means (i.e., hot button(s) or other), for the user to initiate an emergency call. The actual user interface for the user to initiate a GECO call is vendor specific and not the subject of standardization. However, internally programmed call restrictions shall not prevent the user from initiating a GECO call.
- A special call origination message (defined as an Global Emergency Call Origination Message (GECO_MSG)) may be issued by the MS in lieu of the standard call origination message to indicate that the call origination being requested is an emergency call origination. The GECO_MSG can be interpreted as follows:
 - In those networks that support a single PSAP, the GECO_MSG can be interpreted by appropriate programming of the network for connection to the PSAP without regard to the dialed digits included in the GECO_MSG.
 - Alternatively, in those networks that support multiple PSAPs, the network can be programmed to evaluate the dialed digits included in the GECO_MSG to determine more specific information regarding the type of emergency support requested and, therefore, the required routing of the call.
- For those networks supporting GECO, GECO_MSGs may be accepted and the GECO call connected by the network from both subscribed and unsubscribed mobiles.
- For those networks supporting GECO, the GECO_MSG may also be considered to be an implicit registration of the MS by the network to expedite the GECO call connection. That is to say that when the MS accesses a system for the purpose of initiating a GECO call, the GECO_MSG may be issued by the MS and shall be accepted by the network without an explicit registration by the MS on that system. Other actions by the network to prioritize and otherwise expedite the connection of a GECO call are vendor specific and not the subject of standardization.
- If the MS is currently registered on and accessing an operating network when the GECO call is initiated by the user, the MS may use that system to initiate the GECO call. If the MS is not currently accessing a system, the MS may attempt to access its preferred service as indicated by its internal system selection and system access restriction programming to maximize the probability that the GECO call will be accepted by the system. If no preferred system is available, the MS may override its internal system selection and system access restriction programming in an attempt to access any available system. Other actions by the MS to expedite the initiation and connection of a GECO call are vendor specific and not the subject of standardization.
- Initiation of a GECO call by the MS shall in no way degrade the user's access to any other feature/service which would normally be available to him from the accessed service provider's network

5. Feature Descriptions

The following sections describe individual features and services.

1 **5.1 Global Emergency Call Origination Operation**

2

3 **5.1.1. Normal Procedures With Successful Outcome**

4 **5.1.1.1. Authorization**

5 GECO support may be generally available to both subscribed and unsubscribed mobiles.

6 **5.1.1.2. De-Authorization**

7 GECO has no de-authorization.

8 **5.1.1.3. Registration**

9 GECO has no registration.

10 **5.1.1.4. De-Registration**

11 GECO has no de-registration.

12 **5.1.1.5. Activation**

13 GECO has no activation.

14 **5.1.1.6. Deactivation**

15 GECO has no deactivation.

16 **5.1.1.7. Invocation**

17 The GECO support from the network shall be invoked by the MS user when a GECO call is
18 initiated and the GECO_MSG is subsequently issued by the MS. The system may support
19 “implicit registration” for GECO calls such that the use of the registration request/acceptance
20 protocol is not required prior to the issuance of a GECO_MSG.

21 **5.1.1.8. De-Invocation**

22 The GECO support shall be automatically terminated when that call is terminated for any
23 reason.

24 **5.1.2. Exception Procedures or Unsuccessful Outcome**

25 **5.1.2.1. Registration**

26 If a standard MS registration access is denied by a system, the MS may use the GECO_MSG
27 to initiate a GECO call without explicit system registration.

1 **5.1.2.2. De-Registration**

2 None identified.

3 **5.1.2.3. Activation**

4 None identified.

5 **5.1.2.4. Deactivation**

6 None identified.

7 **5.1.2.5. Invocation**

8 If a GECO call (i.e., the GECO_MSG) is rejected, the MS shall attempt to place the emergency
9 call using standard registration and call origination procedures.

10 If the serving system still will not accept the call, the MS shall attempt to acquire service on an
11 alternate system in an attempt to place the GECO call. The user should be notified by the MS
12 that the MS is attempting to secure service on an alternate system.

13 The MS shall continue to attempt first a GECO call and, if the GECO call is not accepted, a
14 standard call origination on any available systems until it is able to complete the call, the user
15 terminates the GECO call, or the MS powers down.

16 **5.1.2.6. Exceptions While Roaming**

17 None identified.

18 **5.1.2.7. Exceptions During Intersystem Handoff**

19 None identified.

20 **5.1.3. Alternate Procedures**

21 None identified.

22 **5.1.4. Interactions With Other Wireless Services**

23 Once a GECO_MSG has been accepted by the network, the call transitions into a normal
24 Emergency Services (9-1-1) call (see TIA/EIA-664) with all its interactions and limitations.