Enterprise Wireless Alliance

8484 Westpark Drive, Suite 630
McLean, VA 22102
Phone: 703.528.5115
Fax: 703.524.1074
www.enterprisewireless.org

Digital Dispatch Surveillance Standard #1

Version 3.0

EWA Technical Committee
ESMR Dispatch Surveillance Working Group
March, 2006

Document status:

1.0 First Publication (AMTA 990721)

2.0 Second Publication (AMTA 040315)

3.0 Third Publication (EWA 060327)

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1. Abstract

This document is designed to provide a surveillance standard that is compatible with the iDEN® & QChat™ technologies and defines the specifications for the capability requirements between an iDEN® Enhanced Specialized Mobile Radio Dispatch Service Provider, here and after referred to as “EDSP”, or a QChat Dispatch Service Provider, here and after referred to as “QDSP” and a Law Enforcement Agency (LEA). Although an EDSP or QDSP may not have any obligations under the Communications Assistance for Law Enforcement Act (CALEA), an EDSP or QDSP that is found in compliance with a publicly available technical requirement or standard adopted by an industry association or standards-setting organization shall be found to be in compliance with the assistance capability requirements of CALEA.

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2. Forward

The Telecommunication Industry Association (TIA), in co-operation with the Alliance for Telecommunications Industry Solutions (ATIS) developed an Interconnect Industry Standard, J-STD-025, for wireline and wireless telephony. This standard is not applicable to ESMR Dispatch technology and therefore an ESMR Dispatch Surveillance Working Group (ESWG) has been established under the auspices of the American Mobile Telecommunications Association (AMTA) to formulate an electronic surveillance for iDEN® ESMR dispatch and QChat™ dispatch standard, here and after referred to as "ESED".

In this document, the AMTA ESWG defines the electronic surveillance specifications for the capability requirements between EDSPs and LEAs for iDEN® ESMR & QChat Dispatch services.

An EDSP, manufacturer, or support provider that is in compliance with this document will have "Safe Harbor" under Section 107 of CALEA, Public Law 103-414.

3. Introduction

This document defines the interfaces between an EDSP or QDSP and law enforcement (LE) to assist the LEA in conducting lawfully authorized electronic surveillance on ESMR & QChat Dispatch systems.

Although CALEA, which was enacted on October 25, 1994, may not have applied to an EDSP at that time, the FCC on August 4, 2004 adopted FCC 04-187 which clarified that CMRS carrier offerings of push-to-talk service that are offered in conjunction with interconnected service to the public switched telephone network ("PSTN") are subject to CALEA requirements. In general, CALEA requires certain telecommunications carriers to ensure that their equipment, facilities, or services have the capability to:

- Expeditiously isolate and enable the LEA to access reasonably available call-identifying information;
- Expeditiously isolate and enable the LEA to intercept all communications carried by a carrier within a service area to or from the equipment, facilities or services of a subscriber, concurrently with the communications' transmission;
- Make intercepted communications and call-identifying information available to the LEA in a format available to the carrier so they may be transmitted over lines or facilities leased or procured by the LEA to a location away from the carrier's premises;
- Meet these requirements with a minimum of interference with the subscriber's services and in such a way that protects the privacy of communications and call-identifying information, which are not authorized to be intercepted, and that maintains the confidentiality of the LEA's surveillance.

An EDSP, a manufacturer, or a support provider that is in compliance with this document will have a "safe harbor" under Section 107 of CALEA, Public Law 103-414: "a telecommunications carrier shall be found to be in compliance with the assistance capability requirements under [CALEA] Section 103, and a manufacturer of telecommunications transmission or switching equipment or a provider of telecommunication support service shall be found in compliance with [CALEA] Section 106".

The AMTA ESWG endeavors to provide a standard to facilitate an EDSP's ability to provide electronic surveillance assistance capabilities to an LEA, which if CALEA covered the EDSP, would meet the assistance capability requirements defined in Section 103 of CALEA.

4. Purpose

The purpose of this standard is to facilitate an EDSP's or QDSP's ability to provide electronic surveillance assistance capabilities to an LEA, which, if CALEA covered the EDSP, would meet the assistance capability requirements defined in Section 103 of CALEA.

This standard defines services and features to support ESED and the interfaces to deliver intercepted communications and call-identifying information to an LEA when authorized. This standard also defines a protocol for delivering specific parameters to LEAs. Compliance with the ESED Standard satisfies the "safe harbor" provisions of Section 107 of CALEA and helps ensure efficient and industry-wide implementation of the assistance capability requirements.

5. Scope

The scope of this standard is to define the services and protocol to support ESED and to define the interface between an EDSP and the LEA(s).

6. References

1. *DVSI AMBE+2 Vocoder High Level Description, Digital Voice Systems, Inc.*, Version 1.0, December 28, 2001.

2. Communications Assistance for Law Enforcement Act, Public Law 103-414, 108 STAT, 4279 (Oct. 25, 1994).

3. TIA/EIA ANSI J-STD-025-A *Lawfully Authorized Electronic Surveillance*, June 2003.

4. RTP Payload Format for Enhanced Variable Rate Codecs (EVRC) and Selectable Mode Vocoders (SMV), RFC 3558, July 2003.

7. Acronyms and Definitions

4GV: Fourth-Generation Vocoder

abandoned: a call attempt that is released by the originating party before it is answered.

Active: a listener on the SDGC call.

access: the technical capability to interface with a communications facility, such as a communications line or switch, so that intercepted call-identifying information and call content can be delivered to an LEA.

AF: ESMR dispatch surveillance Access Function.

AMBE+2: Advanced Multi-Band Excitation Enhanced. A voice compression algorithm.

answering party: the party answering a call.

associate: a telecommunication user whose equipment, facilities, or services are communicating with a subject under surveillance.

CALEA: Communications Assistance for Law Enforcement Act.

call: a sequence of events beginning with an initial connection or facility request and ending with the final release of all facilities used.

Call Alert: a service that allows one user to notify another user that voice communication is desired.

call content channel: the logical link between the device performing an electronic surveillance access function and the LEA that carries the call content passed between an intercept subject and one or more associates.

call data channel: the logical link that carries call-identifying information between the device performing an electronic surveillance delivery function and the LEA collection function.

call delivery: directs an incoming ESMR Dispatch call to a mobile subscriber.

call-identifying information: defined in CALEA Section 102 (2) to be "dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a telecommunications carrier." The ESMR Dispatch signaling information identifies destination and origin. Direction and termination are not applicable in ESMR Dispatch signaling.
For the purposes of this standard:
destination is the number of the party to which a call is being made (e.g., called party);
origin is the number of the party initiating a call (e.g., calling party).

called party: the destination party of a call.

calling party: the originating party of a call.

cell: in a wireless system, the sub-area to which a set of radio resources is allocated.

CF: electronic surveillance Collection Function.

channel: an independent, logical path for communicating between two points.

communication: in this standard, communication refers to any wire or electronic communication, as defined in 18 USC 2510.

communication intercept: see intercept.

complete: a call attempt that is answered.

connection: a relationship between two or more parties of a call to allow communication between them.

content: defined in 18 USC 2510 (8) to be "when used with respect to any wire or electronic communications, includes any information concerning the substance, purport, or meaning of that communication."

controlling party: the party invoking a feature.

destination: see call-identifying information.

DF: DSP surveillance Delivery Function.

disconnect: a request from one of the parties of the call to release all or part of a connection.

DPSO: Dispatch Packet Switching Office.

DSP: Dispatch Service Provider (either ESMR – EDSP or QChat – QDSP)

EDSP: ESMR Dispatch Service Provider

electronic communications: defined in 18 USC 2510 (12) to be "any transfer of signs, signals, writing, images, sounds, data, or intelligence of any nature transmitted in whole or in part by a wire, radio, electromagnetic, photoelectric, or photo-optical system."

electronic storage: defined in 18 USC 2510 (17) to be "(A) any temporary, intermediate storage of a wire or electronic communication incidental to the electronic transmission thereof; and (B) any storage of such communication by an electronic communication service for purposes of backup protection of such communication."

electronic surveillance: the statutory-based legal authorization, process, and associated technical capabilities and activities of LEAs related to the interception of wire or electronic communications while in transmission. Electronic surveillance also includes the acquisition of call-identifying information. As used in this Standard, *surveillance* refers to a single communication intercept, pen register, or trap and trace. Its usage in this Standard does not include administrative subpoenas for obtaining a subscriber's toll records and information about a subscriber's service that an LEA may request.

ESED: Electronic Surveillance for iDEN® ESMR Dispatch standard for implementing the CALEA features to be used with iDEN® trademark and QChat™ systems.

ESMR: Enhanced Specialized Mobile Radio system.

ESWG: ESMR Dispatch Surveillance Working Group, the AMTA sanctioned committee involved with writing the AMTA Digital Dispatch Surveillance Standard #1.

EVRC: Enhanced Variable Rate Codec.

FCC: Federal Communication Commission.

FMI: Fleet Member Identity.

functional entity: a system or subsystem capable of providing a defined service. A functional entity may be implemented as a separate physical entity or it may be incorporated with other functional entities in a common physical entity.

government: defined in CALEA Section 102 (5) to be "the government of the United States and any agency or instrumentality thereof, the District of Columbia, any commonwealth, territory, or possession of the United States, and any State or political subdivision thereof authorized by law to conduct electronic surveillance."

Group Call: a Group Call allows a user to communicate with a predefined group of subscriber units, or a subset of group members based on their current location.

Home System: the DSP system where a subscriber's subscription information is retained.

IAP: see Intercept Access Point.

iDEN® ESMR Dispatch Technology: a digital two-way radio technology developed by Motorola.

iDEN® ESMR Dispatch Service Provider: a provider of iDEN® ESMR Dispatch services for an Enhanced Specialized Mobile Radio system.

idle state: a state in which there is no active communication path between a subscriber and the network.

IMSI: International Mobile Subscriber Identity.

incomplete: a call attempt that cannot be routed to its destination or answered.

intercept: defined in 18 USC 2510 (4) to be "the aural or other acquisition of the content of any wire or electronic communication through the use of any electronic, mechanical, or other device."

Intercept Access Point (IAP): point(s) within a telecommunication system where the call content or call-identifying information of an intercept subject's services are accessed.

intercept subject: telecommunications service subscriber whose communications or call-identifying information has been authorized by a court to be intercepted and delivered to an LEA. The identification of the

subject is limited to identifiers used to access the particular equipment, facility, or communication service (e.g., network address, terminal identity, or subscription identity).

IP: Internet Protocol.

LE: Law Enforcement.

Law Enforcement Agency (LEA): a government entity with the legal authority to conduct electronic surveillance.

location: the cell where the subscriber may be located.

mobile station (MS): an ESMR Dispatch device using a radio link to a base station to access ESMR Dispatch services.

network address: an address appropriate to a particular network, e.g., a directory number for the Public Service Telephone Network or an IP address for the Internet.

origin: see call-identifying information.

origination: an outgoing call attempt.

packet-mode: a communication where individual packets or virtual circuits of a communication within a physical circuit are switched or routed by the accessing telecommunication system. Each packet may take a different route through the intervening network.

Paging response: in ESMR Dispatch call setup, the point where the ESMR Dispatch call is answered by the subscriber unit (facility).

pen register: defined in 18 USC 3127 (3) to be "a device or process which records or decodes dialing, routing, addressing, or signaling information transmitted by an instrument or facility from which a wire or electronic communication is transmitted, provided, however, that such information shall not include the contents of any communication, but such term does not include any device or process used by a provider or customer of a wire or electronic communication service for billing, for communications services provided by such provider or any device or process used by a provider or customer of a wire communication service for cost accounting or other like purposes in the ordinary course of its business."

Private Call: a service that provides a one-to-one half-duplex connection between two users for voice communication. Private Call is characterized by using a push-to-talk button to acquire talk privileges.

QChat Dispatch Technology: a digital two-way radio technology developed by Qualcomm.

QDSP: QChat Dispatch Service Provider

registration: in wireless systems, the process that informs the Home System (and visited system if roaming) of the mobile station's availability for service.

release: to place facilities used for a connection in the idle state where they can be used for other connections.

SDGC: Selective Dynamic Group Call.

SDGC Answer: In the context of Surveillance, SDGC Answer means that the call has started and the subject is also an active participant in the call (i.e., subject's Participation Status is either Active or Talker).

SDGC Complete: In the context of Surveillance, SDGC Complete means either that the call stopped, or that the subject is no longer an active participant in the call (i.e., the MS has been removed from the call).

Selective Dynamic Group Call: allows a user to communicate with a user selected group of subscriber units and is characterized by using a Push-to-Talk button to acquire talk privileges.

Serving System: the DSP system currently providing telecommunication service to a subscriber.

Service Area: the geographic area in which an ESMR system provides service to an intercept subject.

subject: see intercept subject.

surveillance: within this document, surveillance refers to electronic surveillance; see electronic surveillance.

Talker: the subject or associate who is talking.

Talkgroup: a predefined group of subscriber units.

Talkgroup Mode: when selecting which ESMR Dispatch Talkgroup(s) to monitor, the user selects a Talkgroup Mode. A Talkgroup Mode maps to one or more Talkgroups.

transmission: the act of transferring communications from one location or another by a wire, radio, electromagnetic, photoelectric, or photo-optical system.

transparent: end-to-end transmission without insertion or loss of information.

trap and trace device: defined in 18 USC 3127 (4) to be “a device or process which captures the incoming electronic or other impulses which identify the originating number or other dialing, routing, addressing, and signaling information reasonable likely to identify the source of a wire or electronic communication provided, however, that such information shall not include the contents of any communication”.

unobtrusive: not undesirably noticeable or blatant; inconspicuous; within normal call variances.

USC: United States Code.

UTC: Universal Time Coordinated.

Vector-Sum Excited Linear Predictive: A voice compression algorithm. Coding algorithm used in iDEN systems to code analog voice into a digital format.

virtual circuit: a packet-mode connection between two end-points. A virtual circuit may be *permanent* (with only a data transfer phase) or *switched* (with setup, data transfer, and release phases).

VSELP: Vector-Sum Excited Linear Predictive.

wire communications: defined in 18, USC 2510 (1) to be “any aural transfer made in whole or in part through the use of facilities for the transmission of communications by the aid of wire, cable, or other like connection between the point of origin and the point of reception (including the use of such connection in a switching station) furnished or by any person engaged in providing or operating such facilities for the transmission of interstate or foreign communications or communications affecting interstate or foreign commerce and such term includes any electronic storage of such communication.”

wireless: within this standard refers to ESMR or QChat Dispatch service.

8. Features and Services Overview

This standard defines the means to access communications through procedures developed specifically for surveillance. This intercept access service consists of two categories:

- content surveillance service which provides access to an intercept subject's content; and
- call-identifying service which provides reasonably available call-identifying information about calls that are associated with the intercept subject.

9. Assumptions

The ESED protocol allows DSPs to deliver the intercepted call content and reasonably available call-identifying information to an authorized law enforcement agency.

Call-identifying information is reasonably available if the information is present at a call processing access point and is used for call processing purposes. Network protocols (with the exception of this ESED protocol) do not need to be modified solely for the purpose of delivering call-identifying information. The specific elements of call-identifying information that are reasonably available at a call processing access point may change as technology evolves.

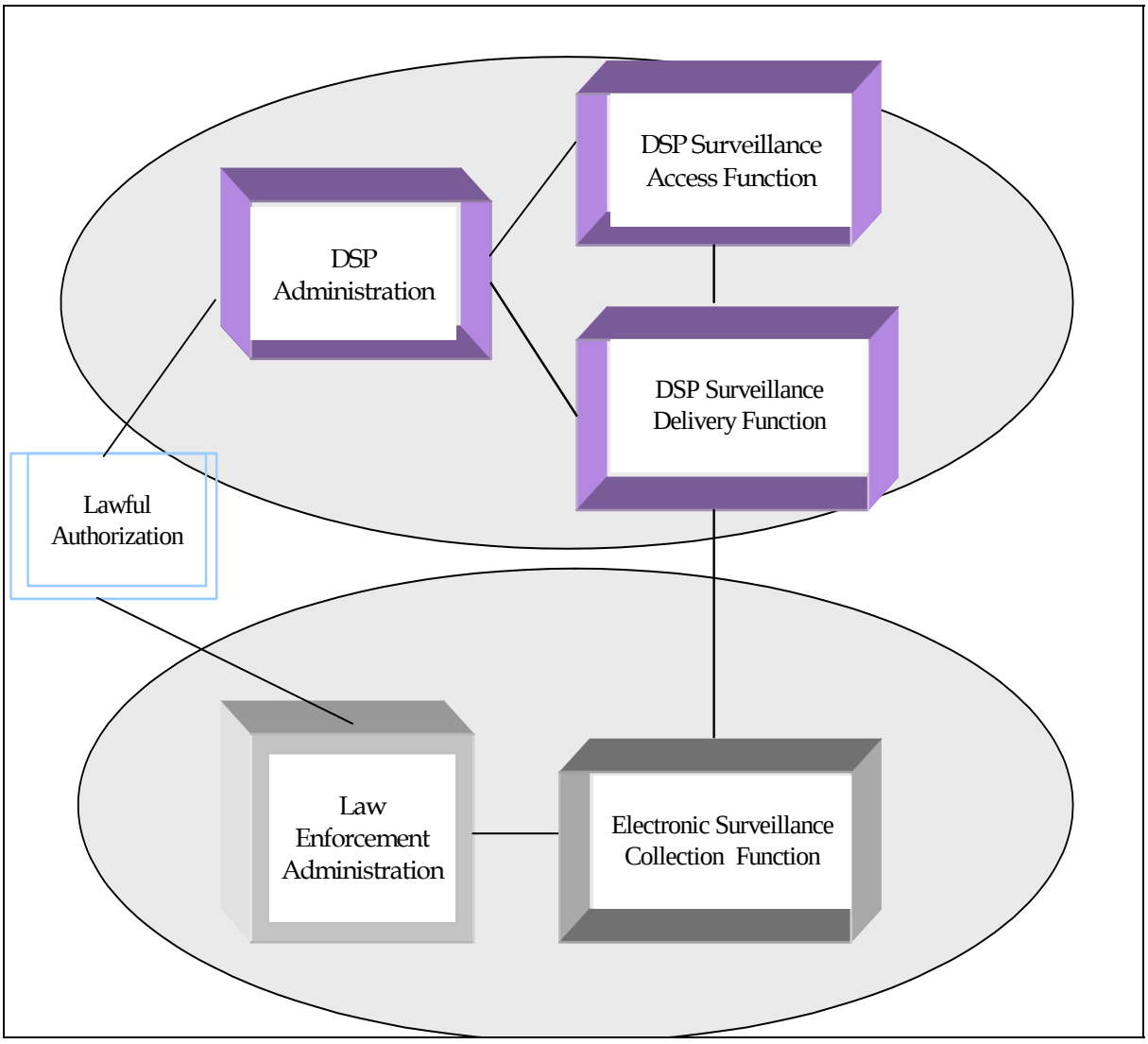
Call identities are used to correlate call content and call-identifying information.

The transmission media and security measures employed by the LEA are beyond the scope of this standard. The term "channel(s)" will be used when referencing the procured law enforcement delivery transport.

10. Stage 1: User Perspective

10.1 Network Reference Model

The intercept process consists of a set of functional entities and the actions between these entities. The entities are Dispatch Service Provider Administration (ESMR & QChat), Law Enforcement Administration, Dispatch Surveillance Access Function (ESMR & QChat), Dispatch Surveillance Delivery Function (ESMR & QChat), and Dispatch Surveillance Collection Function (ESMR & QChat). The relationship between these entities is shown below.



Network Reference Model

The **Lawful Authorization** is an important part of the ESED. No LEA intercepts shall take place without specific lawful authorization.

The **DSP Administration** is responsible for controlling and enabling the Access Function and the Delivery Function. The DSP controls the surveillance provisioning needed to ensure protection of the intercepted call content and call-identifying information. This provisioning includes the ability to unobtrusively make the call content and reasonably available call-identifying information available to the delivery function.

The DSP administrative functions are outside the scope of this standard.

The **Law Enforcement Administration** is responsible for the collection function. Thus, the LEA is responsible for providing the collection devices, their interface to the DSP, and the transmission media that carries the surveillance information from the delivery point to the collection point. In addition, the law enforcement administration is responsible for the capturing and processing of the delivered call content and reasonably available call-identifying information.

The law enforcement administrative functions are outside the scope of this standard.

The **DSP Surveillance Access Function** isolates the intercept subject's communications or call-identifying information unobtrusively. The DSP Surveillance Access Function is responsible for the collection of call content and reasonably available call-identifying information. The access function includes the ability to:

- accept reasonably available call-identifying information for each intercept subject for each signaling message received by the DPSO;

- accept call content for each intercept subject received by the DPSO; and

- gather the information required for providing the reasonably available call-identifying information, consisting of the call origin and the call destination (if private call), and the call content, if so authorized.

The **DSP Surveillance Delivery Function** includes the interface responsible for delivering intercepted communications expeditiously from the access function to the delivery interface of one or more LEAs. The DSP Surveillance Delivery Function delivers reasonably available call-identifying information and call content, based on the requirements of the lawful authorization. The DSP Surveillance Delivery Function includes the ability to:

- deliver call content and reasonably available call-identifying information for each intercept subject over the procured law enforcement channels (to a maximum of five agencies per intercept, up to the limit of intercept capacity);

- ensure that the call content and call-identifying information delivered from the ESMR or QChat Dispatch Surveillance Delivery Function is authorized for a particular LEA;

- protect (i.e. prevent unauthorized access, manipulation and disclosure) intercept controls, intercepted call content, and call-identifying information, through methods that are consistent with DSP security policies and practices;

- ensure that delivery of surveillance information is only available for the time stated in the lawful authorization; and

- deliver call content and reasonably available call-identifying information using the ESED protocol.

Enabling and disabling the DSP Surveillance Delivery Function is the responsibility of the DSP.

Electronic Surveillance Collection Function includes the interface responsible for collecting the lawfully authorized intercepted communications (call content and call-identifying information) for the LEA. The LEA-provided Electronic Surveillance Collection Function is the responsibility of the LEA.

The LEA-provided Collection Function includes the ability to receive and process call content and call-identifying information for each intercept subject using the ESED protocol.

Enabling and disabling the activation of the LEA-provided interface is the responsibility of the LEA Administrative Function and is beyond the scope of this standard.

10.2 Call Content and Call-Identifying Information

The DSP is required to provide access to the reasonably available call-identifying information and the call content of a particular subject under surveillance. This section describes the information provided by the DSP that will be received by the LEA through the Law Enforcement Monitor (LEM). This information will be delivered to the LEA over a transmission media mutually agreeable to the LEA and the DSP. This transmission media may be logically described as the Call Content Channel, which carries voice, and the Call Data Channel, which carries the signaling information messages associated with the intercepted call.

In cases where circumstances dictate that the call content and the call-identifying information associated with a particular subject need to be delivered to more than one LEA, as may occur when different LEAs are conducting independent investigation on the same subject, the delivered information shall be made available to each LEA as required (to a maximum of 5 agencies per intercept, up to the limit of intercept capacity) in a manner that protects the information regarding each LEA's interception of communications and access to call-identifying information from disclosure to other LEAs. In the event that an LEA is conducting investigation on more than one subject, the call-identifying or call content delivered information may be combined within the same connection to the LEA. However, the information is uniquely identified in such a manner that the LEA is able to determine the communications for each intercept subject.

The subject’s call content and reasonably available call-identifying information is transported to the LEA over a wireline connection. Call-identifying information is formatted into discrete messages using a specialized protocol, the Electronic Surveillance ESMR Dispatch (ESED) Protocol, formalized within this Standard.

ESMR Dispatch calls monitored include:

- Private Call
- Group Call
- Call Alert
- MS Status
- Selective Dynamic Group Call

QChat Dispatch calls monitored include:

- Direct Call
- Closed Group Call
- Call Alert
- Chatroom Call
- Ad-hoc Group Call

10.2.1 Call-Identifying Information Intercept Access Point Delivery

The Call-Identifying Information Intercept Access Point (IAP) provides expeditious access to the reasonably available call-identifying information for calls made by or to an intercept subject. This information is provided when reasonably available and is associated with the call content when call content is required by the lawful authorization.

This IAP shall access the call-identifying information for the intercept subject unobtrusively. Access to call-identifying information that is reasonably available shall not deny the availability of any service to any subscriber.

10.2.2. Call Content Intercept Access Point Delivery

The Intercept Access Point (IAP) for content surveillance is used to access the communications of an intercept subject. With proper lawful authorization, the content extracted by the call content surveillance IAP is delivered to law enforcement. The following event messages are associated with call content:

Call Start informs law enforcement that call content delivery of a call involving the intercept subject is ready to begin; and

Call Stop informs law enforcement that call content delivery of a call involving the intercept subject has ended.

The IAP for content surveillance accesses the transmission to and from the intercept subject unobtrusively. Access to call content shall not deny or degrade the availability of any service to either the subject or associates.

A DSP shall not be responsible for decrypting, or ensuring the government's ability to decrypt, any communication encrypted by a subscriber or customer, unless the encryption was provided by the DSP and the DSP possesses the information necessary to decrypt the communication.

The IAP for content surveillance accesses the call content communications to or from the equipment, facilities, or services of an intercept subject. Loss of any portion of call content should not occur between call completion (paging response) and call release.

10.3 Restrictions

Call intercept information (Call-identifying and Call-Content) is made available at the Delivery Function on a first-in, first-out, non-queued basis. Adequate transport capacity and buffering, to ensure no information loss, will be the responsibility of the LEA.

When there is congestion and a resource, such as a call content channel, is unavailable when the intercepted call begins the intercept will not include the content. In such circumstances, should a resource become available during the call that requested the resource, the resource will remain unused until the next call begins.

The delivery mechanism is a common format using readily available protocols and transport links. The description of specific implementations for the Delivery Interface to the Collection Interface is left flexible to handle a variety of connectivity solutions. The transporting, capturing, and processing of the delivered call content and call-identifying information is the responsibility of the Law Enforcement Administration.

The delivery interface provides access to the messages to and from the intercept subject unobtrusively and transparently. Access to reasonably available call-identifying information and call content does not deny the availability of, or degrade ESMR or QChat services to either the intercept subject or the associate.

If the DSP infrastructure encodes the voice then the encoding/decoding algorithm will be made available to LEA as appropriate. Licensing issues associated with such compression methods are beyond the scope of this standard and must be handled between the LEA and the licensor.

11. Stage 2 Description: Network Perspective

The call events described in Stage 1 convey the information for reporting the disposition of a call. This Stage 2 section describes the supporting messages to the call events. These supporting messages flow between the Dispatch Surveillance Delivery Function (DF) and the Dispatch Surveillance Collection Function (CF) to support lawful electronic surveillance. This DF to CF interface is comprised of packets containing Dispatch Voice and Dispatch Call Control Messages. Voice is delivered to the CF in the same format as it is received by the DF. Dispatch Call Control Messages are delivered with error correction enhancements. The network perspective focuses on the information being transferred and describes the content of the messages rather than the transport method, which is implementation dependent.

Messages between the DF and the CF are triggered and then delivered at the time of the event. Events are inter-related to the features to which a DSP subscribes. Not all DSPs subscribe to the same features. Therefore in some limited circumstances, one DSP may be able to send law enforcement certain messages while another DSP may not be able to send those same messages because such DSP does not subscribe to the features necessary to generate the particular message.

Messages between the DF and the CF are outbound towards law enforcement. There are no inbound (i.e. from the CF) messages described in this standard.

All messages are comprised of a message identifier, and mandatory (M) parameters are always in the message. Messages may also contain conditional (C) parameters. When the sequence of parameters is fixed, the message contains only the parameter values.

Each message consists of the following fields:

- ***Message Identifier***: a single octet field that includes a unique code assigned to the message to distinguish it from all other messages in the ESED protocol.
- ***Content***: a variable length field that is comprised of mandatory (M) and conditional (C) parameters. Mandatory parameters MUST always be present in the message and conditional parameters MAY be present in the message. The mandatory parameters that MUST be present and the conditional parameters that MAY be present are defined by each message definition. For iDEN signaling, 1) parameters which are mandatory MUST appear at the beginning of the message in the order specified in the message definition, 2) parameters which are mandatory do not include a Parameter Index, 3) parameters which are conditional are NOT required to maintain an explicit parameter ordering and 5) parameters MAY appear more than once. For QChat signaling, 1) each parameter (both mandatory and conditional) is preceded by a Parameter Index and 2) within the message body, parameters (both mandatory and conditional) are NOT required to maintain an explicit parameter ordering.

11.1 Group Call

Examples of call flows for Group Call messages may be found in Annex A.

11.1.1. Group Call Request

The Group Call Request message reports a Group Call origination attempt by the intercept subject, or by a member of an intercept subject's Talkgroup when the intercept subject is registered. This origination attempt is not immediately rejected by the system.

The Group Call Request message is triggered when:

- the intercept subject attempts to initiate a Group Call; or
- the intercept subject is registered and a member of the intercept subject's Talkgroup attempts to initiate a Group Call.

The Group Call Request message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area , associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
TalkgroupIndex	M	Uniquely identifies the Talkgroup	12.22
MobileIdentity	C	Identifies the calling party who originated the group call, if other than the intercept subject and known by the system	12.17.2

Table I. Group Call Request

11.1.2. Group Call Reject

The Group Call Reject message is used to convey a request for a group call which has been immediately rejected by the ESMR system.

The Group Call Reject shall be triggered when:

- the intercept subject is originating a Group Call which the system immediately rejects; or
- the intercept subject is registered and a member of the intercept subject's Talkgroup initiates a Group Call, which is immediately rejected by the system.

The Group Call Reject message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area , associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
TalkgroupIndex	M	Uniquely identifies the Talkgroup	12.22
Cause	M	Reports the type of call release if reasonably available at the intercept access point	12.7
MobileIdentity	C	Identifies the calling party who originated the Group Call if other than the intercept subject	12.17.2

Table II. Group Call Reject

11.1.3. Group Call Answer

The Group Call Answer message reports that a party in the Talkgroup has responded and voice content between the parties is beginning.

The Group Call Answer message is triggered when:

- the intercept subject is registered, and a member of the intercept subject's Talkgroup responds to a request for a group call.

The Group Call Answer message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
Case Identity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area , associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
BearerCapability	M	Identifies the vocoder type	12.6

Table III. Group Call Answer

11.1.4. Group Call Talker ID

The Group Call Talker ID message reports a change of talkers in the Talkgroup.

The Group Call Talker ID message is triggered when:

- the Talkgroup talker changes and the intercept subject is registered and a member of this Talkgroup.

The Group Call Talker ID message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
MobileIdentity	M	Identifies the current talker of the Talkgroup	12.17.2
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9

Table IV. Group Call Talker ID

11.1.5. Group Call Complete

The Group Call Complete message reports the release of the resources used during a group call in which the intercept subject is a member and is registered.

The Group Call Complete message is triggered when:
- the group call is abandoned by the calling party;
- the group call releases due to normal circumstances;
- the group call releases due to abnormal circumstances;
- the group call is preempted; or
- there is a loss of system resources.

The Group Call Complete message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
Cause	M	Reports the reason for the call release if reasonably available at the intercept access point	12.7

Table V. Group Call Complete

11.2 Private Call

Examples of call flows for Private Call messages may be found in Annex A.

11.2.1. Private Call Request

The Private Call Request message reports a Private Call origination attempt by the intercept subject, or by an associate towards the intercept subject, and the attempt is not immediately reject by the system.

The Private Call Request message is triggered when:
- a Private Call is attempted by the intercept subject; or
- a Private Call is attempted by an associate towards the intercept subject.

The Private Call Request message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
MobileIdentity	M	Identifies the associate's mobile	12.17.2
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
SurveillanceFlag	M	Call direction flag	12.21

Table VI. Private Call Request

11.2.2. Private Call Reject

The Private Call Reject message is used to convey a request for a Private Call by or to the intercept subject, which has been immediately rejected by the ESMR system.

The Private Call Reject shall be triggered when:

- the intercept subject is originating a private call which the system immediately rejects; or
- An associate of the intercept subject initiates a private call towards the intercept subject which is immediately rejected;

The Private Call Reject message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
MobileIdentity	M	Identifies the associate's mobile	12.17.2
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
SurveillanceFlag	M	Call direction flag	12.21
Cause	M	Reports the type of call release if available at the surveillance access point	12.7

Table VII. Private Call Reject

11.2.3. Private Call Answer

A Private Call Answer message reports the called party has responded and voice content between the parties is beginning.

The Private Call Answer message is triggered when:
- the called party responds to the Private Call request.

The Private Call Answer message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
BearerCapability	M	Identifies the vocoder	12.6

Table VIII. Private Call Answer

11.2.4. Private Call Complete

The Private Call Complete message reports the release of the resources used during a private call.

The Private Call Complete message is triggered when:
- the private call is abandoned by the calling party or by the called party;
- the private call releases due to normal circumstances;
- the private call releases due to abnormal circumstances; or
- there is a loss of system resources.

The Private Call Complete message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
Cause	M	Reports the reason for the call release	12.7

Table IX. Private Call Complete

11.3. Miscellaneous Messages

11.3.1. Call Alert Result

The Call Alert Result message reports the Call Alert attempt and the result of that attempt.

The Call Alert Result message shall be triggered when:

- the intercept subject under surveillance is the calling party for a Call Alert and is sent the result of the Call Alert attempt; or
- an associate is the calling party for a Call Alert towards the intercept subject and is sent the result of the Call Alert attempt.

The Call Alert Result message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
MobileIdentity	M	Identifies the associate's mobile	12.17.2
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
SurveillanceFlag	M	Call direction flag	12.21
Cause	M	Reports the result of the Call Alert	12.7

Table X. Call Alert Result

11.3.2. Cell Identity

The Cell Identity message reports the cell of the intercept subject's mobile terminal when the system knows the intercept subject is a participant in the call and the cell is known to the system, and the Law Enforcement Agency is authorized to receive this information.

The Cell Identity message may be reported with the following messages when appropriately authorized:

- Call Alert Result;
- MS Status Result;
- Group Call Reject, SDGC Reject, and Private Call Reject, when the intercept subject is the calling party;
- Group Call Request, SDGC Request, and Private Call Request, when the intercept subject is the calling party;
- Private Call Answer, when the intercept subject is the called party and responds.
- Private Call Complete, when the intercept subject is a participant in the call and the system learned the cell identity of the intercept subject during this call;
- Group Call Complete, when the intercept subject is a participant in the call and the system learned the cell identity of the intercept subject during this call;
- SDGC Answer, when the intercept subject responds; or
- SDGC Complete, when the intercept subject is a participant in the call.

The Cell Identity message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area, associates call content and call-identifying packets with the cell identity	12.9
CellIdentity	M	Include, when the location information is reasonably available and delivery is authorized, to identify the cell of an intercept subject's mobile terminal	12.12
TimeStamp	C	Included in location messages when the court order is for location only surveillance	12.24

Table XI. Cell Identity

11.3.3. MS Status Result

The MS Status Result message reports the MS Status attempt and the result of that attempt. When call content is authorized, the numeric ID of the pre-programmed message is also included.

The MS Status Result message shall be triggered when:

- the intercept subject under surveillance is the calling party for an MS Status and is sent the result of the MS
- Status; or
- an associate is the calling party for an MS Status towards the intercept subject and is sent the result of the MS Status.

The MS Status Result message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
Case Identity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
MobileIdentity	M	Identifies the associate's mobile	12.17.2
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
SurveillanceFlag	M	Call direction flag	12.21
Cause	M	Reports the result of the MS Status	12.7
NumericID	C	The numeric ID is included when call content delivery is authorized	012.18

Table XII. MS Status Result

11.3.4. Service Area Change

The Service Area Change message indicates that a mobile subscriber under surveillance has entered a different Service Area.

The Service Area Change message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject 's mobile	12.17.1
ServiceArea	M	Uniquely identifies the Service Area to which the intercept subject's mobile terminal is registered	12.20

Table XIII. Service Area Change

11.3.5. Voice Envelope Type 1

The Voice Envelope message is used to convey voice packets as they are intercepted. This message is valid only for the 6:1 4200 bps VSELP vocoder and contains 90 milliseconds of voice

The Voice Envelope message is triggered only when delivery of call content is authorized and:

- the intercept subject is registered, is a member of the Talkgroup and may be a participant in this Group Call;
- the intercept subject is the calling party or called party of a Private Call; or
- the intercept subject is registered, is a member of the selective dynamic group and is a participant of this SDGC.

The Voice Envelope message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CallIdentity	M	Uniquely identifies a call within a Service Area , associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
VoiceHeader	M	A duplicate of the voice header in the voice message that is routed within the ESMR system	12.17.1
VSELPVoiceContent	M	A duplicate of the 1st voice subpacket in the voice message that is routed within the ESMR system	12.5.2
VSELPVoiceContent	M	A duplicate of the 2nd voice subpacket in the voice message that is routed within the ESMR system	12.5.2
VSELPVoiceContent	M	A duplicate of the 3rd voice subpacket in the voice message that is routed within the ESMR system	12.5.2
ServiceArea	M	Identifies the Service Area within the system	12.20

Table XIV. Voice Envelope Type 1

11.3.6. Voice Envelope Type 2

The Voice Envelope message is used to convey voice packets as they are intercepted. This message is valid only for the 6:1 4400 bps AMBE+2 vocoder and contains 90 milliseconds of voice.

The Voice Envelope message is triggered only when delivery of call content is authorized and:

- the intercept subject is registered, is a member of the Talkgroup and may be a participant in this Group Call;
- the intercept subject is the calling party or called party of a Private Call; or
- the intercept subject is registered, is a member of the selective dynamic group and is a participant of this SDGC.

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The Voice Envelope message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CallIdentity	M	Uniquely identifies a call within a Service Area , associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
VoiceHeader	M	A duplicate of the voice header in the voice message that is routed within the ESMR system	12.17.1
AMBE+2VoiceContent	M	A duplicate of the 1st voice subpacket in the voice message that is routed within the ESMR system	12.5.3
AMBE+2VoiceContent	M	A duplicate of the 2nd voice subpacket in the voice message that is routed within the ESMR system	12.5.3
AMBE+2VoiceContent	M	A duplicate of the 3rd voice subpacket in the voice message that is routed within the ESMR system	12.5.3
AMBE+2VoiceContent	M	A duplicate of the 4th voice subpacket in the voice message that is routed within the ESMR system	12.5.3
ServiceArea	M	Identifies the Service Area within the system	12.21

Table XV. Voice Envelope Type 2

11.3.7. Voice Envelope Type 4

The Voice Envelope message is used to convey voice packets as they are intercepted. This message is valid only for the EVRC vocoder.

The Voice Envelope message is triggered only when delivery of call content is authorized and:

- the intercept subject is registered, is a member of the group and may be a participant in this Group Call;
- the intercept subject is the calling party or called party of a Direct Call; or
- the intercept subject is registered, is a member of the ad hoc group and is a participant of this group.

The Voice Envelope message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
QChatVoiceHeader	M	A duplicate of the voice header in the voice message that is routed within the QChat system	12.5.4
EVRCVoiceContent	M	A voice subpacket in the voice message that is routed within the QChat system	12.5.5

Table XVI. Voice Envelope 4

11.3.8. Voice Envelope Type 5

The Voice Envelope message is used to convey voice packets as they are intercepted. This message is valid only for the 4GV vocoder.

The Voice Envelope message is triggered only when delivery of call content is authorized and:

- the intercept subject is registered, is a member of the group and may be a participant in this Group Call;
- the intercept subject is the calling party or called party of a Direct Call; or
- the intercept subject is registered, is a member of the ad hoc group and is a participant of this group.

The Voice Envelope message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
QChatVoiceHeader	M	A duplicate of the voice header in the voice message that is routed within the QChat system	12.5.4
4GVVoiceContent	M	A voice subpacket in the voice message that is routed within the QChat system	12.5.6

Table XVII. Voice Envelope Type 5

11.4 Selective Dynamic Group Call (SDGC)

11.4.1. SDGC Request

The SDGC Request message reports an SDGC request attempt by the intercept subject or by a member of an intercept subject's selective dynamic group when the intercept subject is registered. This request attempt is not immediately rejected by the system.

The SDGC Request message is triggered when:
- the intercept subject attempts to initiate an SDGC; or
- the intercept subject is registered and a member of the intercept subject's selective dynamic group attempts to initiate a call.

The SDGC Request message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
OriginatorIndex	M	Identifies the calling party who originated the SDGC	12.15
MobileIdentity	C	Identifies the members of the selective dynamic group known by the system; repeated for each member of the SDG	12.17.2
GroupName	C	The user specific name for an SDG	12.14

Table XVIII. SDGC Request

Note: the originator index may not be correct when the SDGC Request is generated (due to race conditions), the complete list of group members may not be known, and the group name may not be known when the SDGC Request message is generated. The SDGC Answer message will contain correct and complete information. However, this information is included as the best available information in the SDGC Request message in the event that the intercept subject does not join the call (and therefore no SDGC Answer message is sent).

11.4.2 SDGC Reject

The SDGC Reject message is used to convey a request for an SDGC that has been immediately rejected by the ESMR system.

The SDGC Reject message shall be triggered when:
- the intercept subject is originating an SDGC that the system immediately rejects; or
- the intercept subject is registered and a member of the intercept subject's selective dynamic group initiates an SDGC, which is immediately rejected by the system.

The SDGC Reject message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
Cause	M	Reports the type of call release if reasonably available at the intercept access point	12.7
OriginatorIndex	M	Identifies the calling party who originated the SDGC	12.15
MobileIdentity	C	Identifies the members of the selective dynamic group known by the system; repeated for each member of the SDG	12.17.2
GroupName	C	The user specific name for an SDG	12.14

Table XIX. SDGC Reject

Note: the originator index may not be correct when the SDGC Reject is generated (due to race conditions), the complete list of group members may not be known, and the group name may not be known when the SDGC Reject message is generated. This information is included as the best available information in the SDGC Reject message.

11.4.3 SDGC Answer

The SDGC Answer message reports that the intercept subject in the selective dynamic group has responded.

The SDGC Answer message is triggered when:

- the intercept subject's subscriber unit has responded to the request for an SDGC.

The SDGC Answer message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
Case Identity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
BearerCapability	M	Identifies the vocoder type	12.6
OriginatorIndex	M	Identifies the calling party who originated the SDGC	12.15
MobileIdentity	C	Identifies the subscriber units of the selective dynamic group participating in the call; repeated for each member of the SDG	12.17.2
GroupName	C	The user specific name for an SDGC	12.14

Table XX. SDGC Answer

11.4.4. SDGC Participant Status

The SDGC Participant Status message reports the status of the members of the SDG and which is the current talker.

The SDGC Participant Status message is triggered when the intercept subject is participating in this selective dynamic group call and:

- the SDGC talker changes; or
- a change in a participant's status is detected.

The SDGC Participant Status message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
ParticipantStatusList	M	Identifies the participant status of the SDGC and which member is the current talker	12.16

Table XXI. SDGC Participant Status

11.4.5. SDGC Complete

The SDGC Complete message is sent when the MS that is under surveillance in an Urban Area is removed and no longer participates in the call.

The SDGC Complete message is triggered when:

- the intercept subject's subscriber unit is no longer involved in the call;
- the SDGC is abandoned by the calling party;
- the SDGC releases due to normal circumstances;
- the SDGC releases due to abnormal circumstances;
- the SDGC is preempted; or
- there is a loss of system resources.

The SDGC Complete message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message	12.3
CaseIdentity	M	Identifies the intercept subject	12.11
TimeStamp	M	Identifies the date and time the event was detected	12.24
SubjectIdentity	M	Identifies the intercept subject's mobile	12.17.1
CallIdentity	M	Uniquely identifies a call within a Service Area, associates the call-identifying information packets, and when call content delivery is authorized, associates call content packets with call-identifying packets	12.9
Cause	M	Reports the reason for the call release if reasonably available at the intercept access point	12.7

Table XXII. SDGC Complete

11.5. QChat Call & Related Messages

The following messages flow between the QChat Dispatch Surveillance Delivery Function (DF) and the QChat Dispatch Surveillance Collection Function (CF) to support lawful electronic surveillance. This DF to CF interface is comprised of packets containing Dispatch Voice and Dispatch Call Control Messages. Voice is delivered to the CF in the same format as it is received by the DF. Dispatch Call Control Messages are delivered with error correction enhancements.

11.5.1. QChat Call Talker Identity

The QChat Call Talker Identity message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
TalkerIdentity	M	Identifies the current talker.	12.17.3
TalkerSourceId	M	Identifies the system assigned source Id for the current talker	12.27
QChatCallId	M	Uniquely identifies the call within the system.	12.10

Table XXIII. QChat Call Talker Identity Parameters

11.5.2. QChat Cell Identity

The QChat Cell Identity message reports the cell of the intercept subject's mobile terminal when the system knows the intercept subject is a participant in the call and the cell is known to the system, and the Law Enforcement Agency is authorized to receive this information.

The QChat Cell Identity message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
QChatCallId	M	Uniquely identifies the call or alert within the system.	12.10
QChatCellIdentity	M	Identifies the cell location known to the system of the intercept subject's mobile terminal.	12.13

Table XXIV. QChat Cell Identity Parameters

11.5.3. QChat Direct Call Established

The QChat Direct Call Established message reports that the target has positively acknowledged the call contact information message and that voice content for the direct call is beginning.

The QChat Direct Call Established message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
QChatCallId	M	Uniquely identifies the call within the system.	12.10
BearerCapability	M	Identifies the vocoder type.	12.6

Table XXV. QChat Direct Call Established Parameters

11.5.4. QChat Direct Call Complete

The QChat Direct Call Complete message reports the release of the resources used during a call that was being intercepted.

The QChat Direct Call Complete message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
QChatCallId	M	Uniquely identifies the call within the system.	12.10
QChat Cause	M	Reports the reason for the call release	012.8

Table XXVI. QChat Direct Call Complete Parameters

11.5.5. QChat Direct Alert Result

The QChat Direct Alert Result message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChatMemberIdentity	M	Identifies the other member in the call.	12.17.3
QChatCallId	M	Uniquely identifies the alert within the system.	12.10
SurveillanceFlag	M	Call Direction Flag	12.21
QChat Cause	M	Reports the result of the call alert.	012.8
QChatMemberIPAddress	C	Identifies the IP address of the other member of the direct alert. If the member is the alert originator and the intercept level is a "Trap and Trace" or "Content" for the intercept subject, then this parameter is included.	12.19
AlertMessageID	C	The alert message identifier. If the intercept level is "Call Identifying Info and Content" for the intercept subject, then this parameter is included.	12.25

Table XXVII. QChat Direct Alert Result Parameters

11.5.6. QChat Direct Call Request

The QChat Direct Call Request message reports a direct call attempt involving an intercept subject as required by the intercept level for the subject's mark. This call origination is not immediately rejected by the system and a call announcement is sent to the target of the call.

The QChat Direct Call Request message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChatMemberIdentity	M	Identifies the other member in the direct call.	12.17.3
QChatCallId	M	Uniquely identifies the call within the system.	12.10
SurveillanceFlag	M	Call Direction Flag	12.21
QChatMemberIPAddress	C	Identifies the IP address of the other member in the direct call. If the member is the call originator and the intercept level is a "Trap and Trace" or "Call Identifying Info and Content" for the intercept subject, then this parameter is included.	12.19

Table XXVIII. QChat Direct Call Request Parameters

11.5.7. QChat Direct Call Reject

The QChat Direct Call Reject message reports a request for a direct call which is immediately rejected by the QChat system or the QChat client.

The QChat Direct Call Reject message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChatMemberIdentity	M	Identifies the other member in the direct call.	12.17.3
QChatCallId	M	Uniquely identifies the call within the system.	12.10
SurveillanceFlag	M	Call Direction Flag	12.21
QChat Cause	M	Reports the type of call release.	012.8
QChatMemberIPAddress	C	Identifies the IP address of the other member in the direct call. If call originator and intercept level is a "Trap and Trace" or "Call Identifying Info and Content" for the intercept subject, then this parameter is included.	12.19

Table XXIX. QChat Direct Call Reject Parameters

11.5.8. QChat Adhoc Group Call Request

The QChat Adhoc Group Call Request message reports an adhoc group call attempt involving an intercept subject as required by the intercept level for the subject's mark. This call origination is not immediately rejected by the system and call announcements to at least one or more targets of the call have been sent.

The QChat Adhoc Group Call Request message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChatCallId	M	Uniquely identifies the call within the system.	12.10
QChatMemberIdentities	M	Identifies the members of the call that were in the original invite known by the system, other than the intercept subject and call originator; repeated for each member of the group.	12.17.3
OriginatorIdentity	M	Identifies the calling party who originated the adhoc group call, including the intercept subject.	12.17.3
OriginatorIPAddress	C	Identifies the IP address of the member that originated the adhoc group call, if other than the intercept subject and only if intercept level is a "Trap and Trace" or "Call Identifying Info and Content" for the intercept subject, is this parameter included.	12.19

Table XXX. QChat Adhoc Group Call Request Parameters

11.5.9. QChat Adhoc Group Call Reject

The QChat Adhoc Group Call Reject message reports a request for an adhoc group call which is immediately rejected by the QChat system and no call announcements are sent to the targets.

The QChat Adhoc Group Call Reject message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChatCallId	M	Uniquely identifies the call within the system.	12.10
QChat Cause	M	Reports the type of call release.	012.8
QChatMemberIdentities	M	Identifies the members of the call that were in the original invite known by the system, other than the intercept subject and call originator; repeated for each member of the group.	12.17.3
OriginatorIdentity	M	Identifies the calling party who originated the adhoc group call, including the intercept subject.	12.17.3
OriginatorIPAddress	C	Identifies the IP address of the member that originated the adhoc group call, if other than the intercept subject and only if intercept level is a "Trap and Trace" or "Call Identifying Info and Content" for the intercept subject, is this parameter included.	12.19

Table XXXI. QChat Adhoc Group Call Reject Parameters

11.5.10. QChat Group/Chat Call Established

The QChat Group/Chat Call Established message reports that the intercept subject in the group/chat has responded.

The QChat Group/Chat Call Established message is triggered when:

- the intercept subject's subscriber unit has responded to the request for a group call.

The QChat Group/Chat Call Established message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
QChatCallId	M	Uniquely identifies the call within the system.	12.10
BearerCapability	M	Identifies the vocoder type.	12.6
QChatMemberIdentities	M	Identifies the members of the call that accept the initial invite known by the system, other than the intercept subject and call originator; repeated for each member of the group.	12.17.3
ConferenceId	C	Identifies the system assigned Conference ID for the group.	12.23
OriginatorIdentity	C	Identifies the calling party who originated the adhoc group call, if other than the intercept subject.	12.17.3
QChatGroupName	C	The user specific name for the group or chat	12.17.3

Table XXXII. QChat Group/Chat Call Established Parameters

11.5.11. QChat Group/Chat Member Leave

The QChat Group/Chat Member Leave message reports when a member of a QChat group call or chatroom leaves the call.

The QChat Group/Chat Member Leave message is triggered when:

- Any associate in the Group/Chat leave the call.

The QChat Group/Chat Member Leave message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
QChatCallId	M	Uniquely identifies the call within the system.	12.10
QChatMemberIdentity	M	Identifies the other member of the group/chat that has left.	12.17.3
QChatGroupName	C	The user specific name for the closed group or chat	12.17.3

Table XXXIII. QChat Group/Chat Member Leave Parameters

11.5.12. QChat Group/Chat Subject Leave

The QChat Group/Chat Subject Leave message reports when the subject in a QChat group call or chatroom leaves the call.

The QChat Group/Chat Subject Leave message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
QChatCallId	M	Uniquely identifies the call within the system.	12.10
QChatGroupName	C	The user specific name for the closed group or chat	12.17.3

Table XXXIV. QChat Group/Chat Subject Leave Parameters

11.5.13. QChat Adhoc Group Call Complete

The QChat Adhoc Group Call Complete message reports the release of the resources used during a call that was being intercepted.

The QChat Adhoc Group Call Complete message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
QChatCallId	M	Uniquely identifies the call within the system.	12.10
QChatMemberIdentities	M	Identifies the members on the call as it ended, known by the system, other than the intercept subject and call originator; repeated for each member of the group.	12.17.3
Cause	M	Reports the reason for the call release	012.8

Table XXXV. QChat Adhoc Group Call Complete Parameters

11.5.14. QChat Closed Group Call Request

The QChat Closed Group Call Request message reports a closed group call attempt involving an intercept subject as required by the intercept level for the subject's mark. This call origination is not immediately rejected by the system and call announcements to at least one or more targets of the call have been sent.

The QChat Closed Group Call Request message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChatCallId	M	Uniquely identifies the call within the system.	12.10
ConferenceId	M	Identifies the system assigned Conference ID for the group.	12.23
OriginatorIdentity	C	Identifies the calling party who originated the closed group call, if other than the intercept subject.	12.17.3
OriginatorIPAddress	C	Identifies the IP address of the member that originated the closed group call, if other than the intercept subject and only if intercept level is a "Trap and Trace" or "Call Identifying Info and Content" for the intercept subject, is this parameter included.	12.19
QChatGroupName	C	The user specific name for the closed group or chat	12.17.3

Table XXXVI. QChat Closed Group Call Request Parameters

11.5.15. QChat Closed Group Call Reject

The QChat Closed Group Call Reject message reports a request for a closed group call which is immediately rejected by the QChat system and no call announcements are sent to the targets.

The QChat Closed Group Call Reject message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChat Cause	M	Reports the type of call release.	012.8
QChatCallId	M	Uniquely identifies the call within the system.	12.10
ConferenceId	M	Identifies the system assigned Conference ID for the group.	12.23
OriginatorIdentity	C	Identifies the calling party who originated the closed group call, if other than the intercept subject.	12.17.3
OriginatorIPAddress	C	Identifies the IP address of the member that originated the closed group call, if other than the intercept subject and only if intercept level is a "Trap and Trace" or "Call Identifying Info and Content" for the intercept subject, is this parameter included.	12.19
QChatGroupName	C	The user specific name for the closed group or chat	12.17.3

Table XXXVII. QChat Closed Group Call Reject Parameters

11.5.16. QChat Closed Group Call/Chat Complete

The QChat Closed Group Call/Chat Complete message reports the release of the resources used during a call that was being intercepted.

The QChat Closed Group Call/Chat Complete message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
QChatCallId	M	Uniquely identifies the call within the system.	12.10
QChatMemberIdentities	M	Identifies the members on the call as it ended, known by the system, other than the intercept subject and call originator; repeated for each member of the group.	12.17.3
QChat Cause	M	Reports the reason for the call release	012.8
QChatGroupName	C	The user specific name for the closed group or chat	12.17.3

Table XXXVIII. QChat Closed Group Call/Chat Complete Parameters

11.5.17. QChat Group Call/Chat Late Join/JOIN Request

The QChat Group Call/Chat Late Join/JOIN Request message reports a late join or a JOIN request to a closed group call or chatroom that is in progress, by an intercept subject.

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChatCallId	M	Uniquely identifies the call within the system.	12.10
ConferenceId	M	Identifies the system assigned Conference ID for the group.	12.23
BearerCapability	M	Identifies the vocoder type.	12.6
QChatMemberIdentity	C	Identifies the member that has joined late, other than the subject.	12.17.3
QChatMemberIPAddress	C	Identifies the IP address of the member that joined the call. If call originator and intercept level is a "Trap and Trace" or "Call Identifying Info and Content" for the intercept subject, then this parameter is included.	12.19
QChatGroupName	C	The user specific name for the closed group or chat	12.17.3

Table XXXIX. QChat Group Call/Chat Late Join/JOIN Request Parameters

11.5.18. QChat Group Call/Chat Late Join/JOIN Reject

The QChat Group Call/Chat Late Join/JOIN Reject message reports a late join or a JOIN request to a call that is in progress by an intercept subject, but the request is immediately rejected by the system.

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
ConferenceId	M	Identifies the system assigned Conference ID for the call.	12.23
QChatCallId	M	Uniquely identifies the call within the system.	12.10
QChat Cause	M	Reports the reason for the Late Join/JOIN failure.	012.8
QChatMemberIdentity	C	Identifies the member that has attempted a late join.	12.17.3
QChatMemberIPAddress	C	Identifies the IP address of the member that attempted to join the call. If call originator and intercept level is a "Trap and Trace" or "Call Identifying Info and Content" for the intercept subject, then this parameter is included.	12.19
QChatGroupName	C	The user specific name for the closed group or chat	12.17.3

Table XL. QChat Group Call/Chat Late Join/JOIN Reject Parameters

11.5.19. QChat Add Member Request

The QChat Add Member Request message reports that a new member(s) is being added to a call by an intercept subject

The QChat Add Member Request message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the user address of the intercept subject that is adding new members to the call.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChatCallId	M	Uniquely identifies the call within the system.	12.10
QChatMemberIdentities	M	Identifies all new members added to the call, other than the intercept subject and the call originator, repeated for each member added.	12.17.3

Table XLI. QChat Add Member Request

11.5.20. QChat Add Member Reject

The QChat Add Member Reject message reports that a request to add a member(s) by an intercept subject has been rejected.

The QChat Add Member Reject message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the user address of the intercept subject that is adding new members to the call.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChatCallId	M	Uniquely identifies the call within the system.	12.10
QChat Cause	M	Reports the reason for the add member failure.	012.8
QChatMemberIdentities	M	Identifies all members that rejected the call, other than the intercept subject and the call originator, repeated for each member added.	12.17.3

Table XLII. QChat Add Member Reject

11.5.21. QChat Add Subject Request

The QChat Add Subject Request message reports that an intercept subject has been added to a call.

The QChat Add Subject Request message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
OriginatorIdentity	M	Identifies the user address of the party that originated the add request.	12.17.3
OriginatorIPAddress	M	Identifies the IP address of the party that originated the add request.	12.19
QChatCallId	M	Uniquely identifies the call within the system.	12.10
ConferenceId	M	Identifies the system assigned Conference ID for the call.	12.23
QChatMemberIdentities	C	Identifies all new members added to the call, other than the intercept subject and the call originator, repeated for each member added.	12.17.3

Table XLIII. QChat Add Subject Request

11.5.22. QChat Add Subject Reject

The QChat Add Subject Reject message reports that an add request that included the intercept subject in the members to be added to the call has been rejected.

The QChat Add Subject Reject message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
OriginatorIdentity	M	Identifies the user address of the party that originated the add request.	12.17.3
OriginatorIPAddress	M	Identifies the IP address of the party that originated the add request.	12.19
QChatCallId	M	Uniquely identifies the call within the system.	12.10
QChat Cause	M	Reports the reason for the add subject failure.	012.8

Table XLIV. QChat Add Subject Reject

11.5.23. QChat Closed Chatroom Call Request

The QChat Closed Chatroom Call Request message reports an intercept subject's attempt to join a closed chatroom as required by the intercept level for the subject's mark. This call origination is not immediately rejected by the system.

The QChat Closed Chatroom Call Request message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChatCallId	M	Uniquely identifies the direct call within the system.	12.10
ConferenceId	M	Identifies the system assigned Conference ID for the call.	12.23
QChatGroupName	C	The user specific name for the closed group or chat	12.17.3

Table XLV. QChat Closed Chatroom Call Request Parameters

11.5.24. QChat Closed Chatroom Call Reject

The QChat Closed Chatroom Call Reject message reports a request by an intercept subject to join a closed chatroom which is immediately rejected by the QChat system.

The QChat Closed Chatroom Call Reject message includes the following parameters:

Parameter	M/C	Usage	Reference Stage 3
MessageIdentifier	M	Identifies the message.	12.3
CaseIdentity	M	Identifies the intercept subject.	12.11
TimeStamp	M	Identifies the date and time the event was detected.	12.24
SubjectIdentity	M	Identifies the intercept subject's user address.	12.17.3
SubjectIPAddress	M	Identifies the intercept subject's IP address.	12.19
QChatCallId	M	Uniquely identifies the direct call within the system.	12.10
QChat Cause	M	Reports the type of call release.	012.8
QChatGroupName	C	The user specific name for the closed group or chat	12.17.3

Table XLVI. QChat Closed Chatroom Call Reject Parameters

12. Stage 3 Description: Implementation Perspective

The call events described in Stage 1 convey the information for reporting the disposition of a call. Stage 2 conveys the supporting Electronic Surveillance for ESMR Dispatch (ESED) protocol messages. This Stage 3 section describes, down to the bit level encoding, the definition of the ESED protocol. The encoding of these messages contains everything needed for the semantic exchange of the ESED protocol at the Application Layer of an Open System Interconnection (OSI) environment with a minimum of pre-coordination between law enforcement and the ESMR or QChat Service Provider (ES).

The Stage 3 description focuses upon the protocol for information transfer rather than the underlying protocol used to transfer these messages.

12.1 Objective

The protocol parameters in Stage 3 support the ESED messages from Stage 2. This chapter discusses the definitions, formats and encoding of these supporting parameters.

12.2 Parameter Structure

Each parameter consists of the following fields:

- ***Parameter Identifier***: a single octet field that includes a unique code assigned to the parameter to distinguish it from all other parameters in the ESED protocol.
- ***Length***: a 2-octet field that gives the length of the parameter content. Parameters of non-variable length will not include the length field.
- ***Content***: a variable length field that is comprised of mandatory (M) and conditional (C) fields.

Each field is comprised of one or more octets. Within each octet, bits within the parameter are numbered 1 through 8 with the highest number being the Most Significant Bit (MSB) and the lowest number the least significant bit (LSB). Within a field of more than one octet, the lowest numbered octet is the most significant octet and the highest numbered octet is the least significant.

Hexadecimal numbers are so indicated by a “$” while binary numbers are indicated by a “%”.

12.3 Message Identifiers

The following table summarizes the ESED Message names and identifying code. The description of the message is found in the section referenced.

Message Identifier Name	Message Identifier Code	Reference Stage 3
Group Call Request	$42	11.1.1
Group Call Reject	$41	11.1.2
Group Call Answer	$43	11.1.3
Voice Envelope Type 1	$61	11.3.5
Voice Envelope Type 2	$62	11.3.6
Voice Envelope Type 4	$64	11.3.7
Voice Envelope Type 5	$65	11.3.8
Group Call Talker ID	$44	11.1.4
Group Call Complete	$45	11.1.5
Private Call Request	$52	11.2.1
Private Call Reject	$51	11.2.2
Private Call Answer	$53	11.2.3
Private Call Complete	$54	11.2.4
Call Alert Result	$31	11.3.1
Cell Identity	$22	11.3.2
MS Status Result	$32	11.3.3
Service Area Change	$21	11.3.4
SDGC Request	$4A	11.4.1
SDGC Reject	$49	11.4.2
SDGC Answer	$4B	11.4.3
SDGC Participant Status	$4C	11.4.4
SDGC Complete	$4D	11.4.5
QChat Call Talker ID	$75	11.5.1
QChat Cell Identity	$20	11.5.2
QChat Direct Alert Result	$35	11.5.5
QChat Direct Call Established	$73	11.5.3
QChat Direct Call Complete	$74	11.5.4
QChat Direct Call Request	$71	11.5.6
QChat Direct Call Reject	$72	11.5.7
QChat Adhoc Group Call Request	$81	11.5.8
QChat Adhoc Group Call Reject	$82	11.5.9
QChat Late Join Request	$87	11.5.17
QChat Late Join Reject	$88	11.5.18
QChat Group/Chat Call Established	$83	11.5.10
QChat Group/Chat Member Leave	$85	11.5.11
QChat Group/Chat Subject Leave	$86	11.5.12
QChat Adhoc Group Call Complete	$84	11.5.13
QChat Closed Group Call Request	$91	11.5.14
QChat Closed Group Call Reject	$92	11.5.15
QChat Closed Group Call Complete	$93	11.5.16
QChat Add Member Request	$89	11.5.19
QChat Add Member Reject	$8A	11.5.20
QChat Add Subject Request	$8B	11.5.21
QChat Add Subject Reject	$8C	11.5.22
QChat Closed Chatroom Call Request	$A1	11.5.23
QChat Closed Chatroom Call Reject	$A2	11.5.24

Table XLVII. Message Identifiers

12.4 Parameter Identifiers

The following table lists the ESED Parameter Identifier names and codes. The description of the parameter is found in the section referenced. The parameter identifier will not appear in messages where the parameter is a mandatory field.

Parameter Identifier Name	Parameter Identifier Code	Reference
BearerCapability	$01	12.6
CallIdentity	$02	12.9
QChatCallIdentity	$19	12.10
CaseIdentity	$03	12.11
Cause	$04	12.7
QChatCause	$06	012.8
CellIdentity	$05	12.12
MobileIdentity	$09	012.17
NumericID	$0A	012.18
SurveillanceFlag	$0C	12.21
SubjectIdentity	$09	12.17.1
ServiceArea	$10	12.20
SubjectIPAddress QChatMemberIPAddress OriginatorIPAddress	$2A	12.19
TalkgroupIndex	$0E	12.22
TimeStamp	$0F	12.24
VoiceHeader	$13	12.5.1
VSELPVoiceContent	$14	12.5.2
AMBE+2VoiceContent	$15	12.5.3
QChatVoiceHeader	$1B	12.5.4
EVRCVoiceContent	$2B	12.5.5
4GVVoiceContent	$2C	12.5.6
GroupName	$16	12.14
OriginatorIndex	$17	12.15
ParticipantStatusList	$18	12.16
QChatAlertIDMessage	$1D	12.25
QChatCellIdentity	$1A	12.13
QChatMobileIdentity QChatSubjectIdentity QChatMemberIdentity(s) TalkerIdentity QChatGroupName	$27	12.17.3
ConferenceID	$1C	12.23
SubjectParticipationFlag	$2D	12.26
TalkerSourceID	$2E	12.27

Table XLVIII. Parameter Identifiers

12.5 Voice Packet Parameters

The intercepted Voice Message is delivered without modifying the content of the packet. The Voice Message consists of a Voice Header and Voice Content.

12.5.1 Voice Header

The Voice Header Parameter describes the set of voice content packets to follow.

Field	Value	Notes
Identifier	$13	
Length	3 octets	c
Contents		

8	7	6	5	4	3	2	1	Octet	Notes
Reserved	Slot Number							1	a
								2	
Talk Flag	Reserved – set to zero							3	b

Voice Header Parameter

Notes:

a. Slot Number: used to reassemble voice packets and gives timing information. Slot numbers increment by 6 for each packet (i.e. slot number 13 follows slot number 7). The slot number can be used to provide timing information and detection for out of order voice envelope messages. The slot number does not necessarily start at zero. Each slot number represents 15 milliseconds of real time. For the 6:1 4200 bps VSELP vocoder and the 6:1 4400 bps AMBE+2 vocoder the slot number is normally incremented by six for each message.

b. Talk Flag: see Table XLIX.

c. Parameters of non-variable length will not include the length field.

Value	Meaning
%00	Voice generated information
%01	Comfort noise generated during pauses in conversation to make the audio more pleasant to the listener.
%10 through %11	Reserved – treat as no voice information

Table XLIX. Talk Flag

12.5.2 VSELP Voice Content

The voice content packet(s) is associated with, and follows, the Voice Header.

Field	Value	Notes
Identifier	$14	
Length	16 octets	b
Contents		

8 7 6 5 4 3 2 1	Octet	Notes
Encoded Voice Packet	1	
	16	a

VSELP Voice Content parameter

Notes:

a. The type of vocoder for the encoded voice packet is described by the Bearer Capability parameter in the Group Call, Private Call, and SDGC Answer messages.

b. Parameters of non-variable length will not include the length field.

12.5.3 AMBE+2 Voice Content

The voice content packet(s) is associated with, and follows, the Voice Header.

Field	Value	Notes
Identifier	$15	
Length	13 octets	b
Contents		

8 7 6 5 4 3 2 1	Octet	Notes
AMBE+2 Packet	1	
	13	a

AMBE+2 Voice Content parameter

Notes:

a. Coded as defined in Reference 1.

b. Parameters of non-variable length will not include the length field.

12.5.4 QChat Voice Header

The QChat Voice Header parameter contains the Call Id assigned to the call which is used by the LEA to associate the voice packets with other signaling message for the call.

Field	Value	Notes
Identifier	$1B	
Length	6	
Contents		

8 7 6 5 4 3 2 1 Octet Notes

Call ID	1	
	2	
	3	
	4	
	5	
	6	

QChat Voice Header parameter

12.5.5 EVRC Voice Content

The EVRC Voice Content parameter is associated with, and follows the QChat Voice Header. It contains the RTP media packets for the call. This is for the EVRC Type 1 packet format that is used when the sender and receiver support interleaving and/or bundling of one or more codec frames per packet.

Field	Value	Notes
Identifier	$2B	
Length	Variable	
Contents		

8 7 6 5 4 3 2 1 OctetNotes

RTP Header	1	
	:	
	12	

R R L L L N N N 13 a,b, c

F	F	F	Count	14	d,e
TOC_1			TOC_2	15	f
TOC_3			TOC_4	16	

TOC_5	TOC_6/Padding	17	
One or more Codec frames/one or more TOC entry		:	
		:	
		:	
		:	

EVRC Voice Content parameter

Notes:

a. The R fields are Reserved
b. The L fields are the Interleave bits indicating the length of the interleaving group
c. The N fields are the Interleave Index bits indicating the index within an interleaving group
d. The F fields are flow control bits used to signal flow control information between receiver and sender
e. The Count field indicates the frame count of the number of TOC entries that follow this field
f. The TOC, type of content, field defines the frame type for each codec frame(s) in the packet. There is one TOC entry for each codec frame in the packet. Each TOC entry is 4 bits in length and indicates the frame type of the corresponding codec data frame in the RTP packet. For EVRC codecs, the frame type values and size of the associated codec data frame are described below;

Value	Rate	Total Codec Data Frame Size (bytes)
0	Blank	0 (0 bit)
1	$1/8^{th}$	2 (16 bits)
2	$1/4^{th}$	5 (40 bits)
3	½	10 (80 bits)
4	1	22 (171 bits; 5 padded at the end with zeroes)
5	Erasure	0 (0 bit; not transmitted by the sender)

12.5.6 4GV Voice Content

The 4GV Voice Content parameter is associated with, and follows the Voice Header. It contains the RTP media packets for the call. This section is currently a placeholder for the 4GV codec pending the release of the 4GV standard.

Field	Value	Notes
Identifier	$2C	
Length	variable	
Contents		

8 7 6 5 4 3 2 1 OctetNotes

RTP Header and Payload	1	
	2	
	3	
	:	
	n	

12.6 Bearer Capability

This parameter identifies the type of vocoder used for encoding.

Field	Value	Notes
Identifier	$01	
Length	1 octet	b
Contents		

8	7	6	5	4	3	2	1	Octet	Notes
Bearer Capability								1	a

Bearer Capability parameter

Notes:

a. Bearer Capability Values described in Table L.

b. Parameters of non-variable length will not include the length field.

Value	Usage
%0000 0001	6:1 4200 bps VSELP
%0000 0010	6:1 4400 bps AMBE+2
%0000 0011	Reserved
…	
%0000 1111	
%0001 0000	EVRC
%0010 0000	4GV
%0011 0000	Reserved
…	
%1111 1111	

Table L. Bearer Capability Value

12.7 Cause

The cause parameter reports the reason a call ended.

Field	Value	Notes
Identifier	$04	
Length	1 octet	b
Contents		

8	7	6	5	4	3	2	1	Octet	Notes
Cause								1	a

Cause parameter

Notes:

a. Cause values are dependent on the implementation.

b. Parameters of non-variable length will not include the length field.

iDEN specific cause values are described below;

Value	Description
$0000 0000	Normal release
$0000 0001	Abnormal release, unspecified
$0000 0010	Abnormal release, channel unacceptable
$0000 0011	Abnormal release, timer expiry
$0000 0100	Abnormal release, no activity on the radio path
$0000 0101	Preemptive release
%0100 0001	Call already cleared
%0101 1111	Invalid message, unspecified
%0110 0001	Message type non-existent or not implemented
%0110 0010	Message type not compatible with state or not implemented
%0110 0100	Invalid information element
%0110 0101	Not used
%0110 1111	Protocol error, unspecified
%1000 0000	Normal end of call
%1000 0010	Call aborted at user request

%1000 0011	User opted out
%1000 0100	Not authorized to initiate call
%1000 0101	Requested service not available
%1000 1000	Unrecognized Individual ID
%1000 1001	Registration required
%1001 0000	Incorrect Group ID
%1001 0001	Group non-existent
%1010 0000	Call target non-existent
%1010 0001	Insufficient number of call targets
%1010 0010	Call target busy in dispatch call
%1010 0011	Call target busy in packet data
%1010 0100	Call target not authorized to receive call
%1010 0101	Call target not reachable
%1010 0110	Call target busy in selective dynamic group call
%1010 0111	Too many call targets
%1100 0000	Call target not responding
%1100 0001	Required resources not available
%1100 0010	Temporary call failure
%1100 0100	Network out of order
%1110 0010	Call conflict
%1111 1111	Requested service not available
All others	Reserved

Table LI. iDEN Cause Parameter Values

12.8 QChat Cause

The QChat cause parameter reports the reason a call ended.

Field	Value	Notes
Identifier	$06	
Length	1 octet	b
Contents		

8	7	6	5	4	3	2	1	Octet	Notes
Cause								1	a

QChat Cause parameter

Notes:

a. Cause values are dependent on the implementation.

b. Parameters of non-variable length will not include the length field.

QChat specific cause values are described below;

Value	Usage
$00	Unknown
$01	Hangtime Timer Expired
$02	System Failure
$03	All Participants Left
All others	Reserved

Table LII. QChat Cause Parameter Values

12.9 Call Identity

The Call Identity parameter gives law enforcement a numeric identifier to relate the messages in a single dispatch call. This identifier is unique within a Service Area and is used to correlate call-identifying messages with each other and with call content.

Field	Value	Notes
Identifier	$02	
Length	4 octets	b
Contents		

8 7 6 5 4 3 2 1	Octet	Notes
Call Identity	1	
	4	a

Call Identity parameter

Notes:

a. Call Identity parameter expanded from 2 to 4 octets in version 2.

b. Parameters of non-variable length will not include the length field.

12.10 QChat Call Identity

The QChat Call Id parameter gives law enforcement a numeric identifier to relate the messages in a single dispatch call. This identifier is used to correlate call-identifying messages with each other and with call content.

Field	Value	Notes
Identifier	$19	
Length	6 or 10 octets	
Contents		

8 7 6 5 4 3 2 1	Octet	Notes
Call Id	1	
	:	
	6 or 10	

QChat Call Identity parameter

12.11 Case Identity

The Case Identity parameter is a unique identity assigned by law enforcement to identify the intercept subject.

Field	Value	Notes
Identifier	$03	
Length	Variable octets	
Contents		

8 7 6 5 4 3 2 1 Octet Notes

Case Identity	1	
	N	

Case Identity parameter

12.12 Cell Identity

The Cell Identity parameter identifies the cell location of the intercept subject.

Field	Value	Notes
Identifier	$05	
Length	3 octets	a
Contents		

8 7 6 5 4 3 2 1 Octet Notes

Site Identifier	1	
	2	
Sector Identity	3	

Cell Identity parameter

Notes:

a. Parameters of non-variable length will not include the length field.

12.13 QChat Cell Identity

The QChat Cell Identity parameter provides the location information for the intercept subject.

Field	Value	Notes
Identifier	$1A	
Length	6 octets	
Contents		

8 7 6 5 4 3 2 1 OctetNotes

Physical Layer		1	a
PN-Offset (9 bits)		2	
PN (lsb)	SID (15 bits)	3	
		4	
NID (16 bits)		5	
		6	

QChat Cell Identity parameter (1x)

Notes:

a. This field indicates the physical layer that the subject is camped on, 0 indicates a CDMA 2000 1x (the fields shown in Figure 15 illustrate a 1x scenario), 1 indicates a CDMA 1x EV-DO network (shown in Figure 16)

Field	Value	Notes
Identifier	$1A	
Length	17 octets	
Contents		

8 7 6 5 4 3 2 1 OctetNotes

Physical Layer		1	a
Sector ID (128 bits)		2	
		:	
		:	
		17	

QChat Cell Identity parameter (EV-DO)

Notes:

a. This field indicates the physical layer that the subject is camped on, 0 indicates a CDMA 2000 1x (the fields shown in Figure 15 illustrate a 1x scenario), 1 indicates a CDMA 1x EV-DO network (shown in Figure 16)

12.14 Group Name

The Group Name parameter contains the name assigned by a user for a selective dynamic group.

Field	Value	Notes
Identifier	$16	
Length	variable octets	
Contents		

8	7	6	5	4	3	2	1	Octet	Notes
Reserved – set to zero							flag	1	a
Name								2	
								n	

Group Name Parameter

Notes:

a. Character Flag: %0 identifies the name as encoded using ASCII; %1 identifies the name as encoded using UCS2.

12.15 Originator Index

The Originator Index parameter identifies the call originator in a list of Mobile Identities.

Field	Value	Notes
Identifier	$17	
Length	1 octet	b
Contents		

8	7	6	5	4	3	2	1	Octet	Notes
Index								1	a

Originator Index Parameter

Notes:

a. Index: Unsigned value. In a list of Mobile Identity parameters, specifies the entry of the call originator.

b. Parameters of non-variable length will not include the length field.

12.16 Participant Status List

The Participant Status List parameter identifies the participant status of subscriber units belonging to a Selective Dynamic Group.

Field	Value	Notes
Identifier	$18	
Length	variable octets	
Contents		

8	7	6	5	4	3	2	1	Octet	Notes
participant status 1								1	
….								…	
participant status n								n	a

Participant Status parameter

Notes:

a. For each member status that is not set to Active or Talker, a status of Not in Call is provided. The sequence of status bytes correspond to the sequence of members in the SDGC Answer.

Participant Status Values described in Table LIII.

Class	Value	Usage
Active	%0110 0000	Active (listener)
	%0110 0001	Talker
	%0110 0010 … %0111 1111	Reserved
Miscellaneous	%1000 0000	Not in call
	%1000 0001 … %1001 1111	Reserved
	All others	Reserved

Table LIII. Participant Status Value

12.17 Subject Identity and Mobile Identity Type

The Identity type of the intercept subject and the associate is described in the lower three bits of octet 1 in the content field. For the intercept subject, the International Mobile Subscriber Identity (IMSI) is the identity type. Although a Dispatch System does not typically use IMSI in the dispatch mode, special exception has been made for lawful electronic surveillance when the identity type involves the intercept subject. The identity type of the associate will be the IMSI, when available, or the Fleet Member Identity (FMI). 12.17.1 and 12.17.2 describes these two types of identification. For a QChat call, the Subject Identity is the actual SIP URI of the subject.

12.17.1 International Mobile Subscriber Identity

The Figure below illustrates the use of the IMSI in the Subject Identity parameter and in the Mobile Identity parameter.

Field	Value	Notes
Identifier	$09	
Length	8 octets	c
Contents		

8 7 6 5 4 3 2 1 Octet Notes

BCD-coded Digit 1	Odd/ Even	Type of Identity = IMSI	1	a, b
BCD-coded Digit 3	BCD-coded Digit 2		2	
BCD-coded Digit n	BCD-coded Digit n-1		n	

Subject Identity parameter

Notes:

a. Odd/even indicator: when set to %1 indicates an even number of BCD-encoded digits, when set to %0 indicates an odd number of BCD-encoded digits. The indicator is always set to odd.

b. Type of Identity described in Table LIV.

c. The length field is included.

12.17.2 Mobile Identity using Fleet Member Identity

The Fleet Member Identity is a unique identifier assigned by the ESMR dispatch system when the dispatch subscriber is provisioned by the system. The Fleet Member Identity is used to identify the associate when the IMSI is unavailable.

Field	Value	Notes
Identifier	$09	
Length	10 octets	b
Contents		

8	7	6	5	4	3	2	1	Octet	Notes
Reserved				0	Type of Identity = FMI			1	a
Urban Area Identity								2	c
								3	
								4	
Fleet Identity								5	c
								6	
								7	
Member Identity								8	c
								9	
								10	

Mobile Identity parameter

Notes:

a. Type of Identity described in Table LIV.
b. The length field is included.
c. 3 Unsigned bytes that are unsigned numbers.

Value	Usage
%000	No Identity Available
%001	International Mobile Subscriber Identity
%110	Fleet Member Identity
%011	SIP URI
%111	Alphanumeric Identity
All others	Reserved

Table LIV. Type of Identity

12.17.3 SIP_URI as Subject Identity

The Figure below illustrates the use of the SIP_URI in the Subject Identity parameter, the Mobile Identity parameter, the Member Identity, the Talker Identity, and the QChat Group Name.

Field	Value	Notes
Identifier	$27	
Length	Variable Octets	
Contents		

8 7 6 5 4 3 2 1 OctetNotes

Character Encoding	0	Type of Identity = SIP URI	1	a,b
Char 0			2	
Char 1			3	
Char n-1			n-1	
Char n			n	

QChat Subject Identity parameter

Notes:

a. Character Encoding: See 12.17.3.1

b. Type of Identity: See Table LIV.

12.17.3.1 Character Encoding

Value	Usage
%000	ASCII-8
All others	Reserved

Character Encoding Parameter Values

12.18 Numeric ID for MS Status

The MS Status Numeric ID is a user assigned number to indicate the status of the mobile.

Field	Value	Notes
Identifier	$0A	
Length	1 octet	a
Contents		

8 7 6 5 4 3 2 1 Octet Notes

MS Status Number = 1…255	1	

Numeric ID parameter

Notes:

a. Parameters of non-variable length will not include the length field.

12.19 IP Address

The IP Address parameter represents the QChatMemberIPAddress, the OriginatorIPAddress and the SubjectIPAddress.

Field	Value	Notes
Identifier	$2A	
Length	4 or 16	
Contents		

8 7 6 5 4 3 2 1 OctetNotes

IPv4 or IPv6 Address	1	
	4 or 16	

IP Address parameter

12.20 Service Area

The Service Area parameter uniquely identifies the geographical area in which an ESMR system provides service to an intercept subject.

Field	Value	Notes
Identifier	$10	
Length	3 octets	a
Contents		

8 7 6 5 4 3 2 1 Octet Notes

Service Area	1	
	2	
	3	

Service Area parameter

Notes:

a. Parameters of non-variable length will not include the length field.

12.21 Surveillance Flag

The Surveillance Flag parameter indicates if the intercept subject is the calling or called party.

Field	Value	Notes
Identifier	$0C	
Length	1 octet	b
Contents		

8 7 6 5 4 3 2 1 Octet Notes

Reserved – set to zero	Surveillance Flag	1	a

Surveillance Flag parameter

Notes:

a. %0, intercept subject is called party
%1, intercept subject is calling party.
b. Parameters of non-variable length will not include a length field.

12.22 Talkgroup Index

The Talkgroup Index parameter uniquely identifies the Talkgroup within a particular fleet.

Field	Value	Notes
Identifier	$0E	
Length	1 octet	a
Contents		

8 7 6 5 4 3 2 1	Octet	Notes
Talkgroup Index = 1…255	1	

Talkgroup Index parameter

Notes:

a. Parameters of non-variable length will not include the length field.

12.23 Conference ID

The Conference ID parameter identifies a system assigned conference ID for the call.

Field	Value	Notes
Identifier	$1C	
Length	5	
Contents		

8 7 6 5 4 3 2 1	Octet	Notes
Conference ID	1	
	2	
	3	
	4	
	5	

Conference ID parameter

12.24 Time Stamp

The Time Stamp parameter is a set of ASCII characters identify the date and time of the event, described in UTC.

Field	Value	Notes
Identifier	$0F	
Length	14 octets	a
Contents		

8 7 6 5 4 3 2 1 Octet Notes

Year	1	
	2	
	3	
	4	
Month	5	
	6	
Day	7	
	8	
Hour	9	
	10	
Minute	11	
	12	
Second	13	
	14	

Time Stamp parameter

Notes:

a. Parameters of non-variable length will not include the length field.

12.25 QChat Alert Message ID

This parameter provides the numeric index for the alert message which can be mapped to an alert message text.

Field	Value	Notes
Identifier	$1D	
Length	1 octet	
Contents		

8 7 6 5 4 3 2 1 Octet Notes

Alert Message ID	1	

QChat Alert Message ID parameter

12.26 Subject Participation Flag

The Subject Participation Flag indicates the call participation status of the intercept subject.

Field	Value	Notes
Identifier	$2D	
Length	1 octet	
Contents		

8	7	6	5	4	3	2	1	Octet	Notes
Reserved – set to zero							Sub. Par. Flag	1	a

Subject Participation Flag parameter

Notes:

a. Subject Participation Flag - %0, intercept subject is not participation in the call

%1, intercept subject is participating in the call.

12.27 Talker Source ID

The Talker Source Id parameter is set to the system assigned source Id value for the current talker of the system. This is used by the LEA to associate the voice packets with the talker of those packets.

Field	Value	Notes
Identifier	$2E	
Length	4 octets	
Contents		

8	7	6	5	4	3	2	1	Octet	Notes
TalkerSourceId								1	a
								2	
								3	
								4	

Talker Source ID parameter

Notes:

a. The *Synchronization Source* field in the header of the RTP media packet received as part of the QChat Voice Envelope message is set to the source Id assigned to the talker. The LEA will map the source Id received in the QChat Voice Envelope message with the Talker Source Id received in the QChat Call Talker Identity message, and will

use the TalkerIdentity parameter received in the QChat Call Talker Identity message as the identity of the talker for the voice packet.

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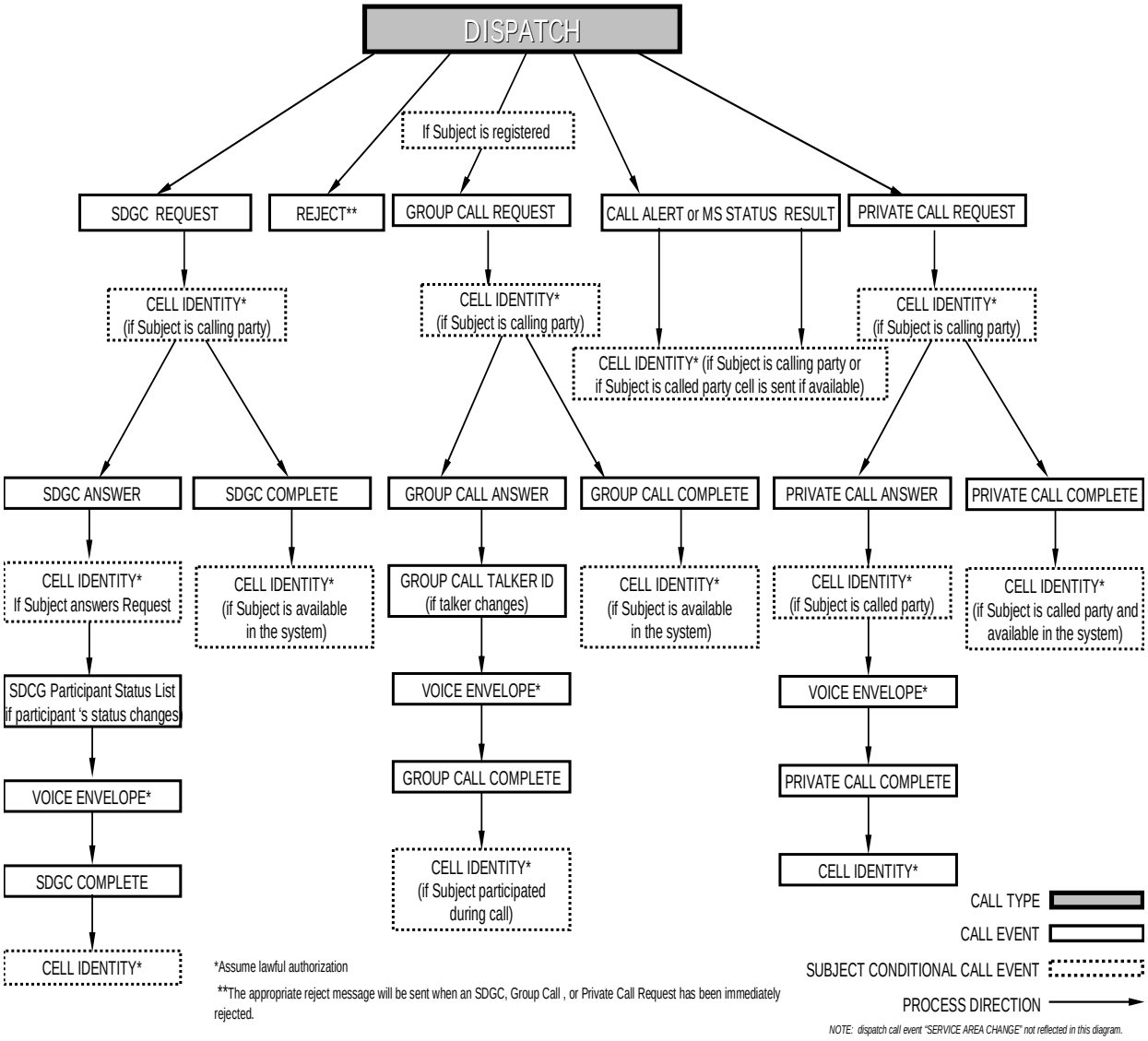
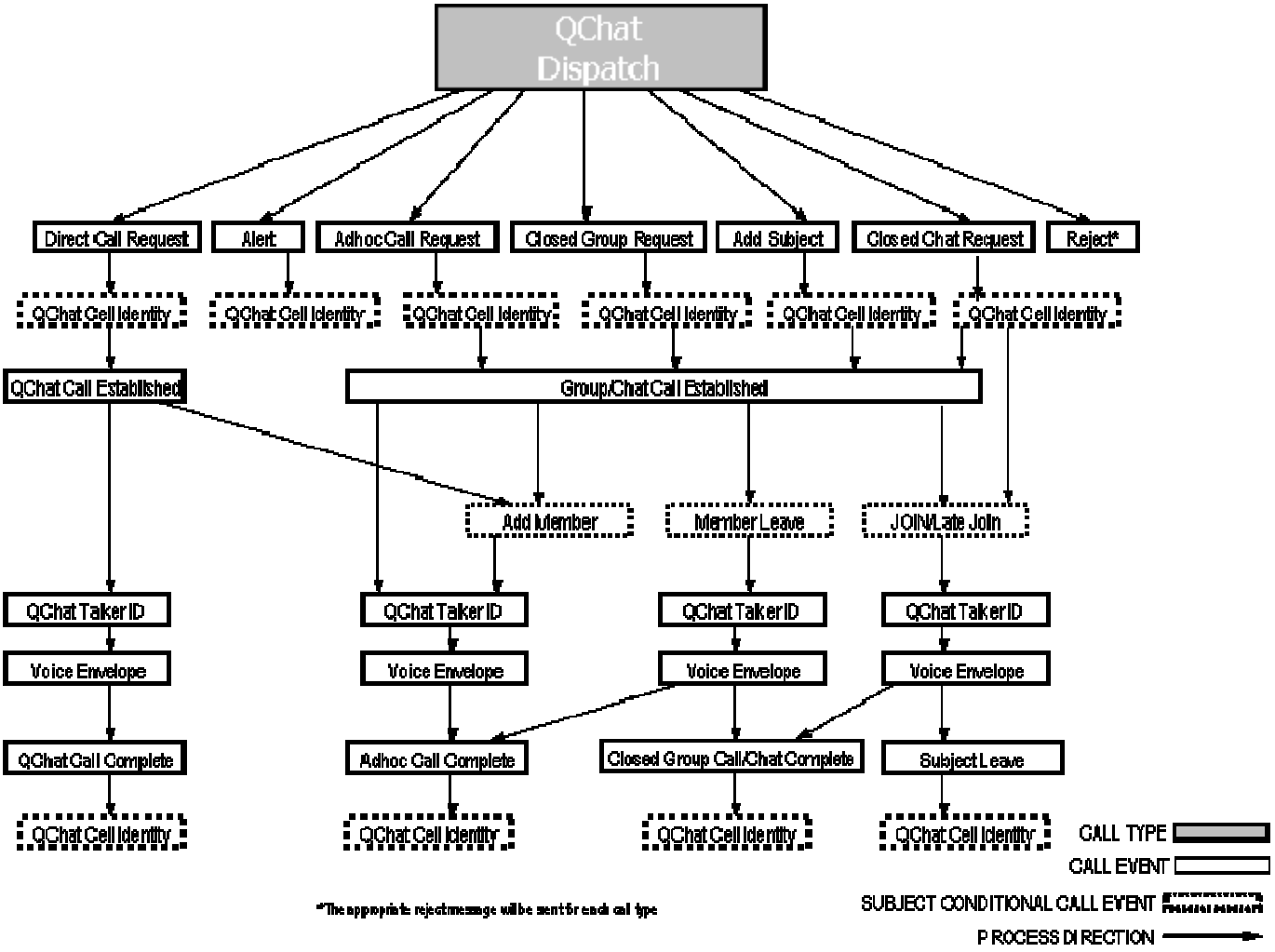
13. Annex A: Call Flows for Group Call, Selective Dynamic Group Call, and Private Call
This annex is for information only and is not to be considered a part of this standard.
The call flows described in this annex are intended to provide exemplary scenarios of how the various dispatch calls may progress. The intent of this annex is to show how and when the appropriate information may be conveyed to law enforcement in compliance with this standard. This annex is not meant to be definitive or exhaustive, but rather illustrative. The EDSP's may provide scenarios not shown and the EDSPs are not obligated to implement particular features in the way they are illustrated in these representative examples. This diagram applies to iDEN only.



14. Annex B: Call Flows for Direct Call, Adhoc Group Call, Alert, Closed Group Call, and Chatroom Call

This annex is for information only and is not to be considered a part of this standard. This diagram applies to QChat only. This diagram largely illustrates call identifying information with the exception of the voice envelope boxes which are specific to call content.