
**Emergency Data Exchange Language (EDXL)
Standard Format
For
Resource Messaging**

Supporting the Disaster Management e-Gov Initiative

Unclassified but Sensitive

**DRAFT
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Emergency Data Exchange Language (EDXL) Resource Messaging

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Change Log

Version #	Date	Change(s)
Version 1.0	03/14/05	Initial distribution
Version 2.0	03/28/05	<ul style="list-style-type: none"> • Incorporate comments received during 03/23/05 Draft Resource Message specification meeting • EDXL schema: Added EDXL context and description of each component • Added concept of resource “package” or “team” • Added concept of request for information / advise • Added Terms and Definitions • Added ICS compliance • Added NIMS, ROSS, ARMS compliance • Added definition suggestions in Resource Standard Message TABLES
Version 3.0	07/15/05	<ul style="list-style-type: none"> • Incorporate comments received during 04/21/05 Draft Resource Message specification meeting • Re-structured and revised resource message design per SWG feedback and adherence to DE approach • Adopted message definitions provided by SWG • Incorporated analysis results of Scenario / use example development. • Incorporated results and feedback from the 06/21/05 SWG session • Vetted for NIMS and ICS compliance • Vetted against properties in the NIEM Global Justice XML Data Model spreadsheet discussed in the 6/27/05 NIEM PMO meeting
Version 3.1		<ul style="list-style-type: none"> • Updated NIMS references to refer only to the “NIMS document”. Removed references to draft “NIC” documents. • Incorporated one additional resource message agreed during the 7/29/2005 Standards Working Group final review session • Minor edits incorporated from 7/29/2005 Standards Working Group final review session. • Removed EDXL overview sections and expanded technical sections for OASIS submission <ul style="list-style-type: none"> ○ Message Optionality matrix ○ XML Schema

Background & Approach

EDXL initiative background and overview has been removed from this document. For EDXL overview, Standards Working Group description and EDXL process refer to the following documents:

1. *EDXL Overview*
2. *Disaster Management Standards Working Group*
3. *Emergency Data Exchange Language (EDXL) Process and Activities*

The EDXL initiative is a national effort including a diverse and representative group of local, state and federal emergency response organizations and professionals, following a multi-step process. A group of practitioners from leading emergency response organizations prioritize specific message needs and define base requirements. Other standards efforts are consulted for process, content and participation. Specific requirements including message types and transactions needed are then defined by the DM EDXL Standards Working Group (SWG), comprised of representatives of national emergency response practitioner organizations, as well as representative experts of industry and technology organizations. Through an iterative process the SWG then turns the detailed requirements into a draft specification. This process includes testing messaging requirements against real-world scenarios through development of Use Examples. Following corrections by the SWG based on field demonstrations, a draft specification is approved by the SWG and forthcoming DM Executive Board and then submitted to a standards body to go through its process for establishment as a public standard.

Throughout this iterative process, NIEM will provide input and support at predetermined intervals in order to prevent unnecessary overlap and encourage collaboration with other efforts.

The EDXL Resource Message Set

Incident and event management professionals have begun defining requirements for specific messaging needs. They asked for messages to request (or respond to requests) for persons and things required in emergencies (later expanded beyond “emergencies” to also include everyday incidents and events). They said that messages were needed for resource requests related to persons and things. For the purposes of this document Resource Management is defined as:

Any action to identify sources and obtain resources needed to support emergency response activities; coordinate the supply, allocation, distribution, and delivery of resources so that they arrive where and when most needed; and maintain accountability for the resources used.

The EDXL Resource Message (EDXL RM) effort will be designed to create messages that will allow local, tribal, state, federal and non-governmental agencies, stakeholders, and systems providers to rapidly share information on incident and event management resources. The Resource message set will facilitate requests, orders, and requests for information, demobilization and tracking of all types of resources (human resources, vehicles, equipment, supplies, and facilities, as well as packages / teams composed of many of these). Resource Messaging facilitates coordination of multiple resource requests across multiple incidents or events (i.e. management of scarce resource).

As described above, the EDXL initiative is focused primarily on developing specific functional message standards - which today do not exist for communications among the wide variety of emergency response professions. It looks elsewhere for reusable “content” (e.g. resource definition). Specifically, it looks to the data dictionaries developed by other emergency and safety efforts. There are a number of public and private collaborative efforts in this regard (listed in the “References” section). The effort outlined in this document is intended to leverage all other known efforts at the time this document was written, and provide a message structure that meets the needs of as many entities as possible from a functional standpoint. Separate efforts will be made to define data elements and resource typing by evaluating these, and other, systems.

Resource Messaging Scope

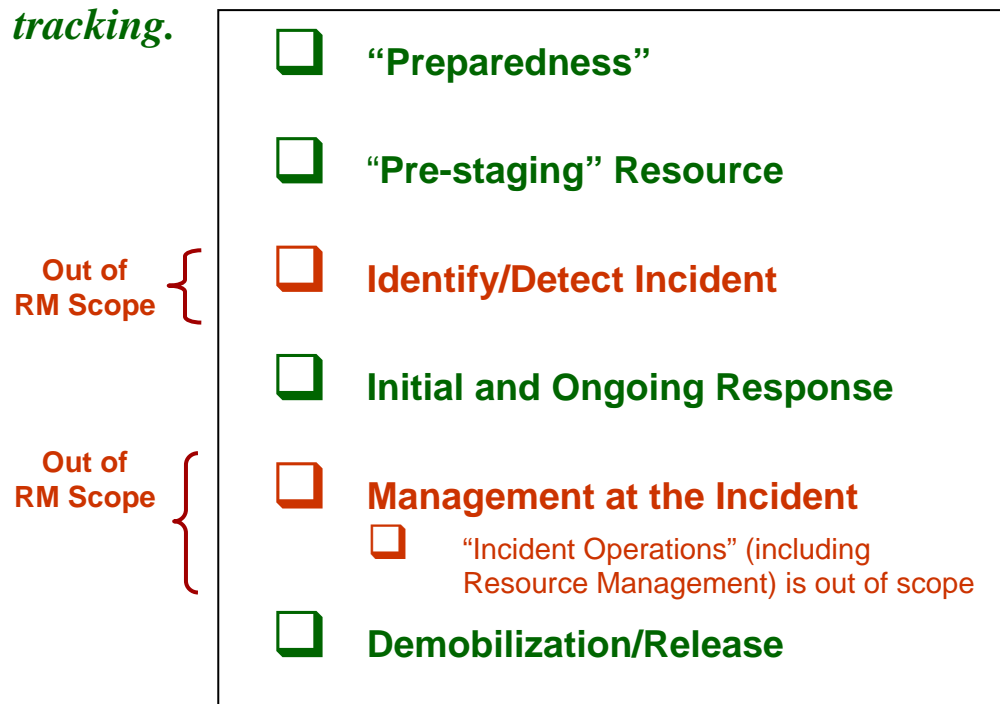
This document focuses on a message set supporting the Emergency Management *Resource Management* function, and should be considered a working document. It is subject to change as it is evaluated and reviewed by subject experts. This document is written using language and pictorial formats that are easily understandable by emergency response subject matter experts and non-technical personnel. The outcome of this effort will be an agreed-upon specification that will be submitted to become a set of public standards that governs emergency response resource messaging (information sharing). Once standardized, any technology vendor or organization can easily develop their EDXL-based messaging interface.

EDXL Resource Messages facilitate standard communication across emergency response communities on a National scope (local, state, tribal, and federal levels). Standards apply to communication between systems and/or personnel. Resource messages focus on finding, requesting and getting resources to the incident, demobilization and return from the incident, and tracking resource time-line of all types of resources (human resources, vehicles, equipment, supplies, and facilities, as well as packages / teams composed of many of these). Resource messaging also advises others of status and who is requesting what, but does not address processes at/within the actual incident (i.e. At-Incident Management).

Resource Messaging also applies to everyday events (non-incidents) and incident preparedness (e.g. planning activities, where no current incident exists / has been identified).

Resource Messaging Scope: “Incident Life-Cycle”

Focus on finding, requesting, and getting resources to the incident; demobilization and return from the incident; and tracking.



Out of Scope

In addition to the discussion above, the following is out of scope of Resource Messaging.

1. This specification primarily addresses EDXL Emergency Management Resource message structure (core message elements). Message Content (data model or dictionary describing resources) is out of scope and will be defined by a supporting process. Message design allows reference to tables or other solutions for addressing resource content.
2. Identification, definition, and notification of an incident or event are processes / procedural issues outside of Resource Messaging standards scope. EDXL messages will provide message elements that refer to incidents and events.
3. Aside from a resource price quote, cost information and tracking is out of scope.
4. Donations / donations management is out of scope of Resource Messaging.
5. Requesting an “Action” is out of scope, and is considered to be an incident operations requirement. Example: “Request evacuation of nearby school” is a request for an action rather than for a resource which specifies the need and provides authority but is managed by “outside” resources.

Resource Messaging Definition Methodology

The Standards Working Group (SWG) confirmed that Resource Messaging was a valid priority and agreed to pursue the definition of message structure. After reviewing a proposed draft requirements and message structure and discussing overall issues, the SWG decided to use four scenarios to generate detailed Use Examples. Four subcommittees were created and each group engaged in review of resource messaging needs with respect to a specific scenario. These scenarios were taken from actual experience (2003 Southern California Cedar fire) or official planning scenarios by other DHS initiatives (e.g. SAFECOMM Statement of Requirements). This review of Use Examples was done to see if a common message structure could serve widely differing circumstances.

The four Use Example subcommittees and the associated scenarios identified were:

- Fire – 2003 Southern California Cedar fire
- SAFECOM Explosion - Multi-Discipline/Multi-Jurisdiction Explosion Scenario
- Hurricane – Official DHS National Planning Scenario
- Pandemic Influenza – Official DHS National Planning Scenario

Since the key purpose of this effort is to enable cross-profession messaging, each scenario and subcommittee was designed to include participants from a broad range of emergency response practitioner organizations. They are:

- 9-1-1
- Emergency management
- EMS
- Fire
- Hospitals
- Law Enforcement
- Public Health
- Transportation

This multi-profession participation ensured that the team had perspectives from the different agencies during the development process. The list of participating organizations is provided in Appendix E. Not all organizations participated in all subcommittees, or in all meetings of the SWG, but all were provided full information at each step. Most provided substantive comments.

After team members signed up for one of the above focus groups, a series of conference calls were scheduled in which each focus group reviewed and discussed their specific scenario, developing Use Examples identifying the specific resource related messages that would be occasioned by that scenario. The Project Team then compiled and analyzed these results and from them identified a proposed set of common resource messages and message elements. These were then subjected to detailed discussion by the full SWG, and a revised proposal was produced.

GENERAL REQUIREMENTS - EDXL Resource Message Set

Resource messaging requirements focus on definition of specific messages and message elements defined in subsequent sections of this document. The following lists broad messaging requirements.

Specifically specify Resource	Resource messages must provide the ability to request or refer to specific resource. This provides the ability to select any value from a discrete managed list used to specify a resource (provided via a “keyword” element linked through a Uniform Resource Name to a published list of values and definitions).
Generally specify Resource	Resource messages must provide the ability to provide free-form general description of resource, in lieu of or in addition to use of “keyword” link to a managed list. This description may include (for example) general description of situation requiring resource, resource characteristics, requirements or capabilities, resource types or general needs, or may simply state broad mission to be addressed and support requirements of the resource.
Response to Resource Requests	Response to Resource Messages must allow sender to list resource which they feel represent a suitable reply to the previous requesting message (i.e. resource response may not directly match original request). Responder must have the ability for the message to contain multiple specific resources that could fill the need.
Advisory Resource Requests	EDXL messages must provide the ability to "Advise" any actor of any resource message as an "FYI", where the actor was not included on original distribution. The purpose is to keep others informed of Resource communications and to minimize resource response duplication.
Communicate Resource Accountability	EDXL messages must provide elements that allow basic “time-line” tracking of requested resources such as departure and arrival information.
Incident and Event Reference	EDXL Messaging (“Distribution Element”) will contain message elements referencing an identified incident or event if available, but will not contain descriptive information about the incident or event. Incident and Event references are not required fields because EDXL messaging may be applied outside the scope of an actual incident or event. For example, EDXL Resource Messages may be used to support Preparedness activities, pre-staging of resource, or training.

Open Issues

1. *General Requirement “Incident and Event Reference”.*

In the EDXL Distribution Element, this is handled using a “keyword” element providing the capability to link to any value from a discrete managed list. This could be used to specify an incident or an event using the Uniform Resource Name (URN) of a published list of values and definitions. This approach was pursued in an attempt to make the standard more flexible.

ISSUE: This approach makes the assumption that each resource message – even a resource message containing multiple payloads - will be referencing the same incident or event. This assumption must be tested and validated.

Resolution: Current general consensus is that an individual resource message will never address more than one incident or more than one event. This issue will be addressed during the OASIS technical committee review process, with continued input and feedback provided by the Standard Working Group through EDXL project team OASIS members.

2. *Additional Proposed Messages*

A list of proposed messages was recently submitted by Jon Skeels representing the USDA Forest Service and the ROSS system. Although it is believed that much of this list is represented in the core documentation, this list is submitted for additional consideration by the EM-TC, and may result in definition of additional resource messages. Refer to the document:

“Proposed EDXL Message List” – Jon Skeels (USDA Forest Service and the ROSS system).

EDXL Resource Standard Message Logical Structure

This section specifies the logical design to address Resource message requirements. The schema taxonomy, specific list of resource messages, and well-defined message elements provide the design foundation for writing XML for each resource message. As previously discussed, the Resource Standard Message applies to all types of resources such as human resources, vehicles, equipment, supplies, and facilities, as well as packages / teams composed of many of these.

This Resource Standard Message structure consists of several segments, supporting all Resource Messages identified by the EDXL Standards Working Group (**see Table 1**).

Segments include a <Resource Message> segment containing base Resource Message Elements, a <Resource> segment specifying the resource or resource requirement, an <Info> segment containing specific request, response, and tracking elements and a <Location> segment describing physical or geospatial locations associated with Resource activities.

This specification addresses message structure only for the Resource Message standard (elements that make up a message). Resource and other selected content will be defined by an external process outside of the Resource standard. In the place of enumerated values, Appendix D of this document provides a reference of some potential/example resource content.

Support for both *general* and *detailed* requests is a key resource messaging requirement supported by this schema.

General requests allow users to “ask for stuff” without knowing specifics (provide a general description).

Detailed requests may be supported through standard content (data elements), providing categorical descriptions or “pick lists”.

These “pick lists” may be accessed through a “*Keyword*” message element defined in the message standard, which links to any value from a discrete managed list using the Uniform Resource Name (URN) of a published list of values and definitions. This specification will not attempt to define resource content/descriptive data, nor will it specify the source of these managed lists.

Segments of the EDXL Resource Message

The following diagram represents the functional scope and structure of the Resource Standard Message set for review and consideration. Applied in conjunction with the EDXL Distribution Element message types and the specific messages defined by the EDXL SWG (Table 1), this message structure encompasses all Resource Message requirements.

EDXL Distribution Element (DE)

The EDXL Distribution Element is shown below only for context, and is out of scope of this Resource Message specification. However, this context is important because the Distribution Element provides message types that support Resource messaging functional requirements (e.g. “Response” or “Update” to a Resource Request).

The Distribution Element includes references to Incident or Event identifiers and names.

RESOURCE MESSAGE

The RESOURCE MESSAGE segment contains base Resource Message Elements such as Request Number and various contact information. Repeatable contact information is associated with Requester, SME, and Response contacts.

RESOURCE

The RESOURCE segment specifies the resource or resource requirement.

Actual resource or resource requirement identification and description will be accommodated two ways. 1) “Freetext” Message elements are provided to allow free-form textual reference to a resource name and description, and 2) A “Keyword” Message element, providing the capability to link to any value from a discrete managed list. This is used to specify a resource, using the Uniform Resource Name (URN) of a published list of values and definitions. This specification will not attempt to define resource content/descriptive data, nor will it specify the source of these managed lists.

A Resource message may be developed with or without external resource content, by using resource “FreeText”. Appendix C of this document provides a reference of some example content for reference only.

INFO

The INFO segment contains specific request information, response information, and “time line” elements which facilitate resource coordination, tracking and accountability.

LOCATION

The LOCATION segment describes physical or geospatial locations associated with Resource activities. For example, resource “Report-To Location” uses appropriate LOCATION elements to describe that physical location.

Figure 3: Functional Schema (“Information Model”) for Resource Messages – EDXL context

Error! No topic specified.

TABLE 1 - EDXL Resource Standard Message LIST

The following table lists each specific resource message encompassed by this specification. Messages listed have been logically grouped into specific “closed loop” business processes, although each message may stand on its own and be applied individually.

Numbering of messages below does not necessarily imply priority or sequence of standardization.

<i>Requesting Resource</i>		
<i>DE Message Type (reference only)</i>	<i>Resource Message Name</i>	<i>Definition</i>
Request	1- Request Resource	Message used to request resources either specifically or by general description (free-form text). A "Request Resource" may result in many subsequent / related messages providing resource options. An "Order Resource" message is used to confirm the specific resource or requirement to be requested / ordered. Any message may be acknowledged, updated, or reported to others.
Response	2- Response to Request Resource	Message used as the response to a Request Resource. Allows sender to list resource(s) which they feel represent a suitable reply to the previous requesting message. These may not match one to one unless the requested resources are able to be offered. Any message may be acknowledged, updated, or reported to others.
Request	3- Order Resource	Message used to confirm the specific resource or requirement desired to meet the original Request Resource. Message not required if “Request Resource” is clear and complete. The "Order Resource" message confirms which resource should actually be provided to meet the need. This is needed when many subsequent messages (e.g. responses) may result from an original Request Resource, offering different resources to meet the need. The "Order Resource" message confirms which resource should actually be provided (“ordered”) to meet the need. Any message may be acknowledged, updated, or reported to others.
Dispatch	4- Dispatch Resource	Message used to commit resource to any of the following messages: "Request Resource", "Order Resource", "Request Resource Quote", or "Request Return". Any message may be acknowledged, updated, or reported to others.
<i>Request for Information</i>		

<i>DE Message Type (reference only)</i>	<i>Resource Message Name</i>	<i>Definition</i>
Request	5- Request for Resource Information (RFI)	Message used to ask resource questions, provide description of situation / general resource requirement information (general description of situation and resources needs) to a recipient, regardless of whether the sender / recipient has authority to request resources) or request information about resource needs. This message does not request resources.
Response	6- Response to Request for Resource Information (RFI)	Message used as the response to an RFI message providing general description, feedback or to list resource that may meet the specified need or criteria.
<i>Unsolicited Resource Offer</i>		
<i>DE Message Type (reference only)</i>	<i>Resource Message Name</i>	<i>Definition</i>
Request	7- Unsolicited Resource Offer	Message used to offer available resources (that have not been requested) to assist with an emergency response. The response to this message may be either a DE message type "response" an indication that the offer is accepted or declined. Response could also be a "Request Resource" an "Order Resource" (which accepts the offer).
<i>Return Resource</i>		
<i>DE Message Type (reference only)</i>	<i>Resource Message Name</i>	<i>Definition</i>
Request	8- Release Resource	Message used by authorities at the incident to "release" (DEMOB) resource back to its original point of assignment or to another location / assignment, and provide notification (Incident may be ongoing or complete).
Request	9- Request to Return Resource	Message used to request DEMOB to bring a resource back to its original point of assignment or to another location / assignment (Incident may be ongoing or complete). This request may be initiated by the supplying organization ("I want my stuff back").
Response	10- Response to Request Return	Message used as the response to a "Request Return Resource" message indicating whether or not the resource may be released, with relevant time-line information. DE "dispatch" message type may be used to respond and

	Resource	commit resource to this request.
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Requesting Resource Quote

<i>DE Message Type (reference only)</i>	<i>Resource Message Name</i>	<i>Definition</i>
Request	11- Request Resource Quote	Message used to request a resource price quote from a seller or supplier. The seller / supplier may return a quote or a referral to another seller / supplier.
Response	12- Response to Request Resource Quote	Message used as the response to a RequestResourceQuote. Allows sender to list a set of resources which they feel represent a suitable reply to the previous requesting message with pricing information. These will not match one to one unless the requested. DE "dispatch" message type may be used to respond and commit resource to this request.

Resource Request Status

<i>DE Message Type (reference only)</i>	<i>Resource Message Name</i>	<i>Definition</i>
Request	13- Request for Resource Status	Message used to request an updated status of a previous Resource message. Response to this message could be an "Acknowledge", a "Response" or an "Update Resource Request Status" message.
Report	14- Resource Request Status	Message used to report on the current status of any resource request message. It provides all available resource elements, including resource "tracking/time-line" information for accountability such as "Date Committed" or "Estimated Date / Time Of Arrival". May be provided proactively (without solicitation), or in response to a "Request for Resource Status".

Ancillary Message Functions

In addition to the fourteen messages defined above, the following messaging capabilities are required providing additional utility for Resource Messaging. These additional functions are handled by the EDXL Distribution Element.

<i>DE Message Type (reference only)</i>	<i>Resource Message Name</i>	<i>Definition</i>
Request		A request for resources, information or action
Acknowledge	(Any Resource Message)	Message used to acknowledge receipt of any Resource Message.
Response	(Any Resource Message)	A response to a previous request
Update	(Any Resource Message)	Message used to provide information superceding a previous Resource Message that was sent (change/modify one or more information elements of the message). Example: Change requested resource quantity.
Dispatch		A commitment of resources or assistance
Report	(Any Resource Message)	This message provides the ability to ("Advise", "Notify", "Forward") any Resource Message to any recipients as an "FYI" - as a secondary action (after the original message was already sent). Purpose is to keep others informed of Resource communications and to coordinate resources and minimize multiple actors responding to the same requests.
Cancel	(Any Resource Message)	Message used to cancel or revoke any previous resource message. NOTE: This message may be used to "cancel" or "recall" resource: Resource requested and perhaps en route, but no longer needed.
Error	(Any Resource Message)	Message used to reject any previous resource message (for technical reasons)

EDXL Resource Messaging Use Example

This Use Example is provided as one example illustrating how Resource Messages might be used in tandem. This example is taken from the use example documents developed by the four Standards Working Group sub-committees.

Elements that make up each message are not included in this example and can be referenced in the Resource Message schema, with accompanying definitions contained in tables 2 – 5. Any element listed there is a candidate for use within these messages.

This Use Example applies resource messages from Standards 1, 2 and 6 (Table 1).

Use Example ID:			
Use Example Name:	Inquire about, request and receive resource		
Created By:	Components from the SWG scenario sub-committees	Last Updated By:	Tim Grapes
Date Created:	7/13/05	Date Last Updated:	7/13/05

Actors (example list):	Incident Commander (IC)	Dispatch (Disp)
	Emergency Manager (EM)	Logistics Section Chief (Log)
	LE Branch (LE)	Mobile Command (MC)
	Fire Branch (Fire)	EMS Branch (EMS)
	Public Works	State EOC
	DOT	Local Govt office
	Utility / Infrastructure company	Local EOC
	Damage Assessment personnel	FEMA
		Health Dept.
Description:	<p><i>This example illustrates several messages in sequence, representing one of many possible flows of information. Message elements and details (such as specific resource) are not included. Actors here are simplified to include only the State and Local EOC and FEMA. Throughout the exchange, all three organizations and others have been included on the messages to keep them informed. Note that message acknowledgement is a function provided by the EDXL Distribution Element.</i></p> <p>The Local EOC has a need for additional resource / support, but is unsure what specifically to request. A free-form request for information and resource availability is sent to the state EOC and other organizations (person to person), which initially is acknowledged by each. Responses are received. The state EOC response clarifies specific resource that will meet the need, but none is available.</p> <p>The state EOC system then sends a Request for Resource to FEMA</p>	

	<p>system, which automatically returns an acknowledgement. A response is then sent from the FEMA system specifying alternative resource to that requested (specific resource requested is not available). The state EOC system reply with an Order for this alternative resource, and an automatic acknowledgement again is returned.</p> <p>Subsequently, a Dispatch Resource message sent by FEMA system to commit resource. Later, status updates are sent when resource departs, and again when resource checks in at the scene.</p>
Preconditions:	<ol style="list-style-type: none"> 1. A Disaster has been declared 2. Initially, requestor does not know specifically what resource is needed. Once clarification is received, requestor requests specific resource.
Post conditions:	<ol style="list-style-type: none"> 1. Resource requested and has arrived on-scene
Normal Flow:	<ol style="list-style-type: none"> 1. Local EOC requests information and resource availability Message: “Request for Resource Information” (RFI) From: Local EOC representative to State EOC representative 2. Message is acknowledged Message: “Acknowledge” the “Request for Resource Information (RFI)” From: State EOC representative to Local EOC representative 3. The state EOC response clarifies specific resource required, but none is available. Message: “Response to Request for Resource Information (RFI)” From: State EOC representative to Local EOC representative 4. State EOC requests specific resource Message: “Request Resource” From: From State EOC system to FEMA system 5. Message is automatically acknowledged Message: “Acknowledge” the “Request Resource” From: FEMA system to State EOC system 6. A response is then sent from the FEMA system specifying alternative resource to that requested Message sent: “Response to Request Resource” From: FEMA system to State EOC system 7. The state EOC system reply with an Order for this alternative resource Message: “Order Resource” From: From State EOC system to FEMA system 8. Message is automatically acknowledged Message: “Acknowledge” the “Order Resource” From: FEMA system to State EOC system 9. The FEMA system sends a message to commit resource. Message: “Dispatch Resource” From: FEMA system to State EOC system 10. The resource departs from its current location for transit to the “Report-to Location”. A message is sent updating status information such as “Actual Departure Date / Time” and “Estimated Arrival Date / Time”. Message: “Resource Request Status” From: FEMA system to State EOC system and Local EOC

	11. The resource checks in at the scene. A message is sent updating status information such as "Actual Arrival Date / Time". Message: " Resource Request Status " From: Local EOC to FEMA system and State EOC system
Alternative Flows:	N/A – Single example only
Exceptions:	
Includes:	
Priority:	
Frequency of Use:	High Frequency
Business Rules:	
Special Requirements:	
Assumptions:	<ol style="list-style-type: none"> 1. For resources under management of the on-scene commander, normal / verbal communication and dispatch used 2. For outside resources, EDXL messages used to communicate about resources 3. These messages / message flow may apply to any type of resource
Notes and Issues:	

Element Definitions - EDXL Resource Standard Message

The following tables define the EDXL Resource Message elements. Example *Values* shown in the table represent possible examples for further discussion or expansion.

Resource Message Elements – Column Descriptions

The following defines the table columns that describe the proposed functional schema.

Names and Definitions

Names and definitions are extracted from the appropriate source effort (e.g. GJXDM) with as little variation as possible, or defined by the EDXL Resource Message Standards Working Group (SWG).for review if it does not exist elsewhere.

Examples

Examples record suggested entries for a message element, or the suggested possible layout of such entries.

Because this standard does not address resource and some other content, possible examples of content *values* are given for various message elements for clarification and discussion purposes. In these cases, <Keyword> is defined to link to any value from a discrete managed list.

Optionality

The *Optionality* area records whether a message element is required. The key to the abbreviations is:

- R = Required
- RA = Required if Applicable (an element may be required for one message, but not for another message)
- O = Optional

Repeatability

The *Repeatability* area supplies information on the unique or repeating nature of the message component.

Source

Source indicates the basis for definition of the message element. This column will indicate the external effort or standard (e.g. GJXDM), or will indicate that the element was defined by the EDXL Resource Message Standards Working Group (SWG).

Alt. Source (alternative source)

Alternative Source indicates other sources where definition for the message element exists, but this particular source was not used to define the element.

Table 2: Resource Message Elements

NOTE: Distribution Element contains Sender ID and Recipient ID and role of each

Message Element	Definition	Examples	Optionality (Reqd / Opt)	Repeat ability	Source	Alt. Source
<Request Number>	Each EDXL resource message contains an identifier "Request Number" that uniquely identifies each resource message. The EDXL Distribution Element contains the "Distribution ID", which identifies the "container" for the distribution message information.	(string)	R	N	ROSS, EDXL Resource Message SWG	
<Sent Date/Time>	The system stamped date and time the resource message was sent	(datetime)	R	N	ICS "Request Date/Time"	
<Request Status Keyword>	Description or Code used to identify the state of a resource request. Any value from a discrete managed list, used to specify a Request Status, in the form: <RequestStatuskeyword> <valueListUrn>valueListUrn</valueListURN> <value>value</value> </RequestStatuskeyword> where the content of "valueListUrn" is the Uniform Resource Name of a published list of values and definitions, and the content of "value" is a string denoting the value itself . Multiple instances MAY occur within a single <ResourceDataFrame> block.	valueListUrn="http://www.dhs.gov/NiemRequestStatus" and value="Approved"	RA	Y	ROSS, ICS Examples <ul style="list-style-type: none"> • Approved • Denied • Submitted • Acknowledged • Pending (ROSS) • In-progress • Filled • Complete • Denied • Cancelled Etc. 	Note that ROSS has Request Status / code but lists no values (gives example "pending")

<Requester>	The person or organization sending the request for resources	(FreeText)	R	N	NIMS, ICS, ROSS GJXDM has fully defined contact info	
<SME>	Person name or organization title of the person (subject matter expert) or organization that can answer questions or provide additional details regarding the request.	(FreeText)	RA	N	NIMS, ICS GJXDM has fully defined contact info	
<Response>	Person name or organization title of the person or organization responding to the request.	(FreeText)	RA	N	NIMS, ICS GJXDM has fully defined contact info	
<Contact>	Sub-segment used to support contact information (Name/title, phone, email, radio frequency) for the Requester, SME and Response contacts.		R	N		
<Name/Title>	Person name or organization title referred to in <ResourceMessage>	(FreeText)	RA	N	NIMS, ICS GJXDM has fully defined contact info	
<Phone>	Contact phone number of the person or organization referred to in <ResourceMessage>	(International phone number standard)	RA	Y	NIMS, ICS, ROSS. GJXDM has fully defined contact info	
<Email>	Contact email address of the person or organization referred to in <ResourceMessage>	(email address)	RA	Y	NIMS, ICS GJXDM has fully defined contact info	
<Radio Frequency>	Contact radio frequency of the person or organization referred to in <ResourceMessage>	(FreeText)	RA	Y	NIMS, ICS	
<FundCode>	Identifies the funds that will pay for the resource - Identified in support of NIMS Resource Management Guide NIC-GDL0004	(string)	RA	N	NIMS NIC-GDL-004, EDXL Resource Message SWG	
<Approve Name / Title>	Person Name or organization who reviewed, signed off, or otherwise approved the request or order	(FreeText)	RA	N	EDXL Resource Message SWG	

Table 3: Resource Elements

Message Element	Definition	Examples	Optionality (Reqd / Opt)	Repeat ability	Source	Alt. Source
<Resource Keyword>	Any value from a discrete managed list, used to specify a resource, in the form: <resourcekeyword> <valueListUrn>valueListUrn</valueListURN> <value>value</value> </resourcekeyword> where the content of “valueListUrn” is the Uniform Resource Name of a published list of values and definitions, and the content of “value” is a string denoting the value itself.	valueListUrn= "http://www.dhs.gov/NiemEquipmentResources" and value="Portable Radio", or valueListUrn= "http://www.eic.org/Package" and value="DMAT – burn"	RA	Y	EDXL Distribution Element Specification, NIMS, ICS	
<Resource ID>	This identifier (if available) must follow the resource / resource description during the entire trail of messages about that resource. May be selected via the <Resource Keyword> if available.	(string)	RA	Y		
<Resource Title>	A name or title of the resource. May be selected via the <Resource Keyword> if available.	(string)	RA	Y	NIMS, ICS	
<Resource Description>	Free Text alternative to "Resource Keyword" (or may be used in addition). Any description of resource or resource characteristics, situation requiring resource assistance, statement of mission resource must satisfy, or RFI text.	(Free Text)	R (if Resource Keyword not available)	Y	NIMS, ICS, IEEE1512, EDXL Resource Message SWG	
<Quantity>	Number of resources	(numeric)	RA	N	NIMS, ICS, EDXL Resource Message SWG	
<Special Needs>	A description of any special needs related to the requested resource (e.g. must carry protective	(Free Text)	O	N	ROSS	

equipment)						
------------	--	--	--	--	--	--

Table 4: Info Elements

Message Element	Definition	Examples	Optionality (Reqd / Opt)	Repeat ability	Source	Alt. Source
<Requested Location>	Where the requested resource is needed. Completed for Resource requests, returns, etc. Uses the "Location" message elements to specify the Location	(See <Location> Elements)	RA	N	NIMS, ICS	
<Report To Location>	Where the requested resource is to report-to, or checks in at the destination. This location may be different than the "Requested Location". Completed for Resource requests, returns, etc. Uses the "Location" message elements to specify the "Report To Location"	(See <Location> Elements)	RA	N	NIMS, ICS	ROSS has "Deliver To Location".
<Requested Arrival Date / Time>	When the resource is needed. Completed for Resource requests, returns, etc.	(datetime)	RA	N	ICS uses the term "delivery" vs. "arrival". "Arrival used here because this applies to Human Resources also.	
<Anticipated Incident Assignment>	Anticipated function, task, job, or role to be provided by the requested resource.	(Free Text)	O	N	NIMS, ICS	
<Anticipated Return Date>	When the resource is expected to be returned or DEMOBed. Completed for a "Request Resource". This element with the "Requested Arrival Date / Time" provides the estimated duration of resource deployment.	(date)	O	N	NIMS, ICS	
<Accept / Decline Request>	Used to accept or decline a Request, Response, Unsolicited Offer, or a Request Return. "Decline" indicates the request, response or offer is not accepted.	<ul style="list-style-type: none"> • Accept • Decline 	O	N	EDXL Resource Message SWG	ROSS
<Decline Reason>	Explanation for a declined Request, Response, Unsolicited Offer, or a Request Return.	(FreeText)	O	N		
<Navigation	Instructions that define how to get to the "report	(Free Text)	O	N	ROSS	

Instructions>	to location”					
<Reporting Instructions>	The name of the party that the requested item is to report to when they arrive at the incident.	(Free Text)	O	N	ROSS	
<Resource Status Keyword>	Any value from a discrete managed list, used to specify the general state of a resource if known., in the form: <ResourceStatuskeyword> <valueListUrn>valueListUrn</valueListURN> <value>value</value> </ResourceStatuskeyword> where the content of “valueListUrn” is the Uniform Resource Name of a published list of values and definitions, and the content of “value” is a string denoting the value itself . Multiple instances MAY occur.	valueListUrn= "http://www.dhs.gov/NIMSResourceStatus" and value="Available”	RA	Y	ROSS, NIMS, ICS Examples: • Resource maintenance • Out of Service • Depleted • Available • Committed • In transit • At incident (ROSS) • Assigned • In Camp • Reassignment • Return transit • Returned • DEMOBed Etc.	Note 1: “Dispatch” is a <i>commitment</i> of resources in the Distribution Element. Note 2: IEEE 1512 has “assetStatus” (Some Examples: ready for use, working incorrectly, on patrol, on break, low on water, missing...) Note 3: IEEE 1512 has “deploymentStatus” (Some Examples: atBase-available, enroute-Unavailable, on-scene-unavailable, returning-unavailable...)
<Current Location>	The location where the specified resource is physically located at the time of the request. Uses the "Location" message elements to specify the “Current Location”	(See <Location> Elements)	RA	N	NIMS, ICS	
<Available Date>	When the resource is available for use. Completed in response to a resource message.	(date)	O	N	NIMS, ICS	
<Order Number>	Number or ID assigned by the ordering system or personnel meeting the request for resources that has been made.	(String)	RA	N	NIMS, ICS	
<Committed Date>	When specified resource is committed to a request or order. Completed in response to a resource message. Specified resource is no longer available to be applied to other resource requests	(date)	RA	N	NIMS, ICS	Note 1: “Dispatch” is a <i>commitment</i> of resources in the Distribution Element
<Resource Price Quote>	Quoted cost to acquire a desired resource. Complete in response to a “Request Resource Quote”	(International standard currency)	RA	N	OASIS ebXML, EDXL Resource Message SWG	
<Condition Description>	Description of a condition governing the availability of resources. E.g. condition for	(Free Text)	O	Y	EDXL Resource Message SWG	

	number of beds available may be "if patents have insurance"					
<Place Of Departure>	The location where the specified resource is departing from when transported to or from an Incident. Uses the "Location" message elements to specify the "Place of Departure"	(See <Location> Elements)	RA	N	NIMS, ICS	
<Mode of Transportation>	Method or mode used to transport the resource to or from the incident.	(Free Text)	O	Y	NIMS, ICS	
<Estimated Departure Date / Time>	When the resource is expected to depart from its current location for transit to a "Report-to Location"	(datetime)	O	N	NIMS, ICS	
<Estimated Arrival Date / Time>	When the resource is expected to arrive at its "Report To Location".	(datetime)	O	N	NIMS, ICS	
<Actual Departure Date / Time>	Actual date and time when the resource departs from its current location for transit to a "Report To Location".	(datetime)	O	N	NIMS, ICS	
<Actual Arrival Date / time >	Actual date and time of arrival of the resource a "Report To Location".	(datetime)	O	N	NIMS, ICS	

Table 5: Location Elements

Message Element (E.g. these are from GJXDM)	Definition	Examples	Optionality (Reqd / Opt)	Repeat ability	Source	Alt. Source
<Address>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<AddressGrid>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<Area>	See GJXDM definition- has pt, circle, polygon...)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<CrossStreet>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<GeographicCoordinate>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<Highway>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<Locale>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<Location>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<MapLocation>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<MGRSCoordinate>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<RelativeLocation>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<UTM Coordinate>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<Altitude>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS
<Depth>	(See GJXDM definition)	(See GJXDM attributes)	RA	Y	GJXDM	FGDC, NIMS, ICS

Appendix A – Resource Message Optionality

Schema Seg.	Message Element	RESOURCE MESSAGE NAME														Note: "Order Resource" and "Dispatch Resource" messages may be used independently of other messages - without an associated request or response to a request - which renders some elements optional (conditional).
		Request Resource	Response to Request Resource	Order Resource	Dispatch Resource	Request for Resource Information (RFI)	Response to Request for Resource Information (RFI)	Unsolicited Resource Offer	Release Resource	Request to Return Resource	Response to Request Return Resource	Request Resource Quote	Response to Request Resource Quote	Request for Resource Status	Resource Request Status	
RM	RequestNumber	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
RM	SentDate/Time	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
RM	RequestStatus (Keyword)	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
RM	Requester	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
RM	SME	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
RM	Response	N/A	M	C	C	N/A	M	N/A	O	N/A	M	N/A	M	O	O	Order Resource: Mandatory only if a "Response to Request Resource" exists Dispatch Resource: Mandatory only if a "Response to Request Resource" exists
RM	Contact	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
RM	name/title	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
RM	phone	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
RM	email	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
RM	radio frequency	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
RM	FundCode	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
RM	Approve Name/Title	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
R	Resource (Keyword)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	Mandatory if no ResourceID or Resource Title or ResourceDescription is entered
R	ResourceID	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
R	ResourceTitle	C	C	C	C	C	C	C	C	C	C	C	C	C	C	Mandatory if no Resource (keyword)
R	ResourceDescription	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
R	Quantity	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
R	SpecialNeeds	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
INFO	RequestedLocation	O	O	O	C	O	O	O	O	C	O	C	C	O	O	May be mandatory for some processes
INFO	ReportToLocation	O	O	O	O	O	O	O	O	O	O	O	O	O	O	May be mandatory for some processes
INFO	RequestedArrivalDate/Time	O	O	C	C	O	O	O	O	C	O	C	C	O	O	May be mandatory for some processes
INFO	Anticipated Incident Assignment	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
INFO	AnticipatedReturnDate/time	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
INFO	Accept / Decline request	N/A	C	N/A	N/A	N/A	O	O	N/A	N/A	C	N/A	C	O	O	May be mandatory for some processes
INFO	DeclineReason	N/A	O	N/A	N/A	N/A	O	O	N/A	O	O	O	O	O	O	
INFO	NavigationInstructions	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
INFO	ReportingInstructions	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
INFO	ResourceStatus (Keyword)	O	O	O	C	O	O	O	O	O	O	O	O	O	O	May be mandatory for some processes
INFO	CurrentLocation	O	O	O	C	O	O	O	C	O	O	O	O	O	O	May be mandatory for some processes
INFO	AvailableDate	O	O	O	C	O	O	O	O	O	O	O	O	O	O	May be mandatory for some processes
INFO	OrderNumber	N/A	N/A	N/A	O	N/A	O	O	O	N/A	N/A	N/A	O	O	O	
INFO	CommittedDate	N/A	N/A	N/A	C	N/A	O	O	N/A	O	N/A	N/A	N/A	O	O	May be mandatory for some processes
INFO	PriceQuote	O	O	O	O	O	O	O	O	O	N/A	O	O	O	O	
INFO	ConditionDescription	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
INFO	PlaceOfDeparture	O	O	O	O	O	O	O	C	O	O	O	O	O	O	May be mandatory for some processes
INFO	ModeOfTransportation	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
INFO	EstimatedDepartureDate/Time	O	O	O	O	O	O	O	C	O	O	O	O	O	O	May be mandatory for some processes
INFO	EstimatedArrivalDate/Time	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
INFO	ActualDepartureDate/Time	N/A	N/A	N/A	O	N/A	O	O	O	N/A	O	O	O	O	O	
INFO	ActualArrivalDate/time	N/A	N/A	N/A	O	N/A	O	O	N/A	O	N/A	O	O	O	O	
LOC	<Address>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<AddressGrid>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<Area>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<CrossStreet>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<GeographicCoordinate>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<Highway>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<Locale>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<Location>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<MapLocation>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<MGRSCoordinate>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<RelativeLocation>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<UTM Coordinate>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<Altitude>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
LOC	<Depth>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	

Appendix B – Resource Messaging XML Schema

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XMLSpy v2005 rel. 3 U (http://www.altova.com) by Tim Grapes (self) -->
<schema xmlns="http://www.w3.org/2001/XMLSchema"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:rm="urn:oasis:names:tc:emergency:EDXL:RM:1.0"
targetNamespace="urn:oasis:names:tc:emergency:EDXL:RM:1.0" elementFormDefault="qualified"
attributeFormDefault="unqualified">
  <element name="EDXLResourceMessage">
    <annotation>
      <documentation>The container element of a Resource management message used in
conjunction with the EDXL Distribution Element</documentation>
    </annotation>
    <complexType>
      <sequence>
        <element name="ResourceMessage">
          <complexType>
            <sequence>
              <element name="RequestNumber" type="string">
                <annotation>
                  <documentation>Each EDXL resource message contains an identifier
"Request Number" that uniquely identifies each resource message. The EDXL Distribution
Element contains the "Distribution ID", which identifies the "container" for the
distribution message information.</documentation>
                </annotation>
              </element>
              <element name="SentDateTime" type="dateTime">
                <annotation>
                  <documentation>The system stamped date and time the resource message
was sent</documentation>
                </annotation>
              </element>
              <element name="RequestStatusKeyword" minOccurs="0" maxOccurs="unbounded">
                <annotation>
                  <documentation>where the content of "valueListUrn" is the Uniform
Resource Name of a published list of values and definitions, and the content of "value"
is a string denoting the value itself . </documentation>
                </annotation>
                <complexType>
                  <sequence>
                    <element ref="rm:value"/>
                    <element ref="rm:valueListUrn"/>
                  </sequence>
                </complexType>
              </element>
            </sequence>
            <element name="Contact">
              <complexType>
                <sequence>
                  <element name="NameTitle" type="string" minOccurs="0">
                    <annotation>
                      <documentation>Person name or organization title referred
to in ResourceMessage</documentation>
                    </annotation>
                  </element>
                  <element name="Phone" type="positiveInteger" minOccurs="0"
maxOccurs="unbounded">
                    <annotation>
```

```

        <documentation>Contact phone number of the person or
organization referred to in ResourceMessage</documentation>
        </annotation>
    </element>
    <element name="email" type="string" minOccurs="0"
maxOccurs="unbounded">
        <annotation>
            <documentation>Contact email address of the person or
organization referred to in ResourceMessage</documentation>
            </annotation>
        </element>
    <element name="RadioFrequency" type="string" minOccurs="0"
maxOccurs="unbounded">
        <annotation>
            <documentation>Contact radio frequency of the person or
organization referred to in ResourceMessage</documentation>
            </annotation>
        </element>
    </sequence>
</complexType>
</element>
</sequence>
<element name="Requester" type="nonNegativeInteger">
    <annotation>
        <documentation>The person or organization sending the request for
resources</documentation>
    </annotation>
</element>
<element name="SME" type="anySimpleType" minOccurs="0">
    <annotation>
        <documentation>Person name or organization title of the person
(subject matter expert) or organization that can answer questions or provide additional
details regarding the request.</documentation>
    </annotation>
</element>
<element name="Response" minOccurs="0">
    <annotation>
        <documentation>Person name or organization title of the person or
organization responding to the request.</documentation>
    </annotation>
</element>
<element name="FundCode" type="string" minOccurs="0">
    <annotation>
        <documentation>Identifies the funds that will pay for the resource -
Identified in support of NIMS</documentation>
    </annotation>
</element>
<element name="ApproveNameTitle" type="string" minOccurs="0">
    <annotation>
        <documentation>Person Name or organization who reviewed, signed off,
or otherwise approved the request or order</documentation>
    </annotation>
</element>
</sequence>
</complexType>
</element>
<element name="Resource">
    <complexType>
        <sequence>
            <element name="ResourceKeyword" minOccurs="0" maxOccurs="unbounded">

```

```

    <annotation>
      <documentation>Any value from a discrete managed list, used to
specify a resource. where the content of "valueListUrn" is the Uniform Resource Name of a
published list of values and definitions, and the content of "value" is a string denoting
the value itself</documentation>
    </annotation>
    <complexType>
      <sequence>
        <element ref="rm:value"/>
        <element ref="rm:valueListUrn"/>
      </sequence>
    </complexType>
  </element>
  <element name="ResourceID" minOccurs="0" maxOccurs="unbounded">
    <annotation>
      <documentation>This identifier (if available) must follow the
resource / resource description during the entire trail of messages about that resource.
May be selected via the ResourceKeyword if available.</documentation>
    </annotation>
  </element>
  <element name="ResourceTitle" type="string" minOccurs="0"
maxOccurs="unbounded">
    <annotation>
      <documentation>A name or title of the resource. May be selected via
the ResourceKeyword if available.</documentation>
    </annotation>
  </element>
  <element name="ResourceDescription" type="anySimpleType" nillable="true"
maxOccurs="unbounded">
    <annotation>
      <documentation>Free Text alternative to "Resource Keyword" (or may
be used in addition). Any description of resource or resource characteristics, situation
requiring resource assistance, statement of mission resource must satisfy, or RFI
text.</documentation>
    </annotation>
  </element>
  <element name="Quantity" type="nonNegativeInteger" minOccurs="0">
    <annotation>
      <documentation>Number of resources</documentation>
    </annotation>
  </element>
  <element name="SpecialNeeds" type="string" nillable="true" minOccurs="0">
    <annotation>
      <documentation>A description of any special needs related to the
requested resource (e.g. must carry protective equipment)</documentation>
    </annotation>
  </element>
</sequence>
</complexType>
</element>
<element name="Info">
  <complexType>
    <sequence>
      <element name="RequestedLocation" minOccurs="0">
        <annotation>
          <documentation>Where the requested resource is needed. Completed
for Resource requests, returns, etc. Uses the "Location" message elements to specify
the Location</documentation>
        </annotation>
      </element>

```

```

    <element name="ReportToLocation" type="anySimpleType" minOccurs="0">
      <annotation>
        <documentation>Where the requested resource is to report-to, or
checks in at the destination. This location may be different than the "Requested
Location". Completed for Resource requests, returns, etc. Uses the "Location" message
elements to specify the "Report To Location"</documentation>
      </annotation>
    </element>
    <element name="RequestedArrivalDateTime" type="dateTime" minOccurs="0">
      <annotation>
        <documentation>When the resource is needed. Completed for Resource
requests, returns, etc. </documentation>
      </annotation>
    </element>
    <element name="AnticipatedIncidentAssignment" type="anySimpleType"
minOccurs="0">
      <annotation>
        <documentation>Anticipated function, task, job, or role to be
provided by the requested resource.</documentation>
      </annotation>
    </element>
    <element name="AnticipatedReturnDateTime" type="dateTime" minOccurs="0">
      <annotation>
        <documentation>When the resource is expected to be returned or
DEMOBed. Completed for a "Request Resource". This element with the "Requested Arrival
Date / Time" provides the estimated duration of resource deployment.</documentation>
      </annotation>
    </element>
    <element name="AcceptDeclineRequest" type="dateTime" minOccurs="0">
      <annotation>
        <documentation>When the resource is expected to be returned or
DEMOBed. Completed for a "Request Resource". This element with the "Requested Arrival
Date / Time" provides the estimated duration of resource deployment.</documentation>
      </annotation>
    </element>
    <element name="DeclineReason" type="boolean" minOccurs="0">
      <annotation>
        <documentation>Used to accept or decline a Request, Response,
Unsolicited Offer, or a Request Return. "Decline" indicates the request, response or
offer is not accepted.</documentation>
      </annotation>
    </element>
    <element name="NavigationInstructions" type="anySimpleType"
minOccurs="0">
      <annotation>
        <documentation>Explanation for a declined Request, Response,
Unsolicited Offer, or a Request Return.</documentation>
      </annotation>
    </element>
    <element name="ReportingInstructions" type="anySimpleType" minOccurs="0">
      <annotation>
        <documentation>Instructions that define how to get to the "report to
location"</documentation>
      </annotation>
    </element>
    <element name="ResourceStatusKeyword" minOccurs="0"
maxOccurs="unbounded">
      <annotation>
        <documentation>Any value from a discrete managed list, used to
specify the general state of a resource if known. where the content of "valueListUrn" is

```

the Uniform Resource Name of a published list of values and definitions, and the content of "value" is a string denoting the value itself . Multiple instances MAY occur.</documentation>

```

    </annotation>
    <complexType>
      <sequence>
        <element ref="rm:value"/>
        <element ref="rm:valueListUrn"/>
      </sequence>
    </complexType>
  </element>
  <element name="CurrentLocation" type="anySimpleType" minOccurs="0">
    <annotation>
      <documentation>Where the requested resource is needed. Completed
for Resource requests, returns, etc. Uses the "Location" message elements to specify
the Location</documentation>
    </annotation>
  </element>
  <element name="AvailableDate" type="dateTime" minOccurs="0">
    <annotation>
      <documentation>When the resource is available for use. Completed in
response to a resource message.</documentation>
    </annotation>
  </element>
  <element name="OrderNumber" type="string" minOccurs="0">
    <annotation>
      <documentation>Number or ID assigned by the ordering system or
personnel meeting the request for resources that has been made.</documentation>
    </annotation>
  </element>
  <element name="CommittedDate" type="dateTime" minOccurs="0">
    <annotation>
      <documentation>When specified resource is committed to a request or
order. Completed in response to a resource message. Specified resource is no longer
available to be applied to other resource requests</documentation>
    </annotation>
  </element>
  <element name="PriceQuote" type="positiveInteger" minOccurs="0">
    <annotation>
      <documentation>Quoted cost to acquire a desired resource. Complete
in response to a "Request Resource Quote"</documentation>
    </annotation>
  </element>
  <element name="ConditionDescription" type="anySimpleType" minOccurs="0"
maxOccurs="unbounded">
    <annotation>
      <documentation>Description of a condition governing the availability
of resources. E.g. condition for number of beds available may be "if patents have
insurance"</documentation>
    </annotation>
  </element>
  <element name="PlaceOfDeparture" type="anySimpleType" minOccurs="0">
    <annotation>
      <documentation>The location where the specified resource is
departing from when transported to or from an Incident. Uses the "Location" message
elements to specify the "Place of Departure"</documentation>
    </annotation>
  </element>
  <element name="ModeOfTransportation" type="anySimpleType" minOccurs="0"
maxOccurs="unbounded">

```

```

        <annotation>
            <documentation>Method or mode used to transport the resource to or
from the incident</documentation>
        </annotation>
    </element>
    <element name="EstimatedDepartureDateTime" type="dateTime" minOccurs="0">
        <annotation>
            <documentation>When the resource is expected to depart from its
current location for transit to a "Report-to Location"</documentation>
        </annotation>
    </element>
    <element name="EstimatedArrivalDateTime" type="dateTime" minOccurs="0">
        <annotation>
            <documentation>When the resource is expected to arrive at its
"Report To Location". </documentation>
        </annotation>
    </element>
    <element name="ActualDepartureDateTime" type="dateTime" minOccurs="0"/>
    <element name="ActualArrivalDateTime" type="dateTime" minOccurs="0">
        <annotation>
            <documentation>Actual date and time of arrival of the resource a
"Report To Location". </documentation>
        </annotation>
    </element>
</sequence>
</complexType>
</element>
<element name="Location">
    <complexType>
        <sequence>
            <element name="Address" minOccurs="0" maxOccurs="unbounded">
                <annotation>
                    <documentation>(See GJXDM definition)</documentation>
                </annotation>
            </element>
            <element name="AddressGrid" minOccurs="0" maxOccurs="unbounded">
                <annotation>
                    <documentation>(See GJXDM definition)</documentation>
                </annotation>
            </element>
            <element name="Area" minOccurs="0" maxOccurs="unbounded">
                <annotation>
                    <documentation>See GJXDM definition- has pt, circle,
polygon...)</documentation>
                </annotation>
            </element>
            <element name="CrossStreet" minOccurs="0" maxOccurs="unbounded">
                <annotation>
                    <documentation>(See GJXDM definition)</documentation>
                </annotation>
            </element>
            <element name="GeographicCoordinate" minOccurs="0" maxOccurs="unbounded">
                <annotation>
                    <documentation>(See GJXDM definition)</documentation>
                </annotation>
            </element>
            <element name="Highway" minOccurs="0" maxOccurs="unbounded">
                <annotation>
                    <documentation>(See GJXDM definition)</documentation>
                </annotation>
            </element>
        </sequence>
    </complexType>
</element>

```

```

</element>
<element name="Locale" minOccurs="0" maxOccurs="unbounded">
  <annotation>
    <documentation>(See GJXDM definition)</documentation>
  </annotation>
</element>
<element name="Location" minOccurs="0" maxOccurs="unbounded">
  <annotation>
    <documentation>(See GJXDM definition)</documentation>
  </annotation>
</element>
<element name="MapLocation" minOccurs="0" maxOccurs="unbounded">
  <annotation>
    <documentation>(See GJXDM definition)</documentation>
  </annotation>
</element>
<element name="MGRSCoordinate" minOccurs="0" maxOccurs="unbounded">
  <annotation>
    <documentation>(See GJXDM definition)</documentation>
  </annotation>
</element>
<element name="RelativeLocation" minOccurs="0" maxOccurs="unbounded">
  <annotation>
    <documentation>(See GJXDM definition)</documentation>
  </annotation>
</element>
<element name="UTMCoordinate" minOccurs="0" maxOccurs="unbounded">
  <annotation>
    <documentation>(See GJXDM definition)</documentation>
  </annotation>
</element>
<element name="Altitude" minOccurs="0" maxOccurs="unbounded">
  <annotation>
    <documentation>(See GJXDM definition)</documentation>
  </annotation>
</element>
<element name="Depth" minOccurs="0" maxOccurs="unbounded">
  <annotation>
    <documentation>(See GJXDM definition)</documentation>
  </annotation>
</element>
</sequence>
</complexType>
</element>
</sequence>
</complexType>
</element>
<element name="value" type="string">
  <annotation>
    <documentation>
      A Value from a certified list maintained by the Community of Interest (COI)
      for the referenced element.
    </documentation>
  </annotation>
</element>
<element name="valueListUrn" type="string">
  <annotation>
    <documentation>
      The name of the certified list maintained by the Community of Interest (COI)
      for the value referenced.
    </documentation>
  </annotation>

```

```
</documentation>  
</annotation>  
</element>  
</schema>
```

Appendix C – NIMS and ICS compliance

Incident Command System (ICS) Support - "Incident Resources Management"

The EDXL Resource Management message set (EDXL RM) facilitates and supports information sharing for full life-cycle resource management as described by the ICS "all hazard – all risk" approach to managing crisis response operations. Of the four ICS resource management principles (Planning, Organizing, Directing and Controlling), EDXL RM directly supports information exchange supporting the Planning and Organizing principles.

Planning – EDXL RM provides information exchange about resource availability, kinds, types, quantities and locations; accommodates use of single resources, task forces and strike teams and teams of equipment with personnel to operate the equipment; and supports status conditions and changing resource status. It supports decisions on which resources should be used to achieve objectives in the most efficient and cost-effective manner.

Organizing – EDXL RM facilitates information sharing to help bring together essential personnel and equipment resources, and to augment existing resources as incident requirements grow. Since most resource orders today are communicated by voice or FAX from the incident to an agency dispatch center, EDXL RM messages can make these information exchanges faster and more effective.

EDXL RM supports information sharing for four of five ICS resource management processes:

1. **Establishing resource needs** by inquiring about and requesting various resources.
2. **Resource Ordering** communication to meet requests for resource. EDXL RM allows for both general and specific requests because agencies vary considerably in their requirements and formats for resource ordering. Effective information exchange is particularly important supporting both single and multipoint resource ordering.
3. **Check-in process** by communicating resource status information such as date/time of arrival.
4. **Resource use as defined by ICS is *not* supported by EDXL RM, although resource messages can contain price quotes, which may be used to prepare cost estimates for planning,**
5. **Resource demobilization** using a Request Return resource message, used to request DEMOB to bring a resource back to its original point of assignment or to another location / assignment (Incident may be ongoing or complete). This request may be initiated by the supplying organization ("I want my stuff back"), or by the Incident (We not longer need resource and are demobilizing).

NIMS ICS Requirement for Resource Information & Status

The NIMS Document defines the following:

Assigned Resources: Status condition where personnel, teams, equipment, or facilities are checked in (or in the case of equipment and facilities, receipted for) and are supporting incident operations. EDXL resource messages provide date / time of arrival (check-in at scene).

Available Resources: Status condition where personnel, teams, equipment, or facilities are checked in, or in the case of equipment and facilities receipted for, assigned to an incident, and are ready for a specific work detail or function.

Tactical resources at an incident can have one of three status conditions:

- Assigned resources
- Available resources
- Out-of-service resources

The NIMS Document defines the following:

1. Concepts.

The underlying concepts of resource management in this context are that:

- It provides a uniform method of identifying, acquiring, allocating, and tracking resources.
- It uses effective mutual-aid and donor assistance and is enabled by the standardized classification of kinds and types of resources required to support the incident management organization.
- It uses a credentialing system tied to uniform training and certification standards to ensure that requested personnel resources are successfully integrated into ongoing incident operations.
- Its coordination is the responsibility of EOCs and/or multi-agency coordination entities, as well as specific elements of the ICS structure.
- It should encompass resources contributed by private-sector and nongovernmental organizations.

2. Principles.

Five key principles underpin effective resource management:

a. Advance Planning.

Preparedness organizations (as defined in Section III.B.1) work together in advance of an incident to develop plans for managing and employing resources in a variety of possible emergency circumstances.

b. Resource Identification and Ordering.

Resource managers use standardized processes and methodologies to order, identify, mobilize, dispatch, and track the resources required to support incident management activities. Resource managers perform these tasks either at an IC's request or in accordance with planning requirements.

c. Categorizing Resources.

Resources are categorized by size, capacity, capability, skill, and other characteristics. This makes the resource ordering and dispatch process within jurisdictions, across jurisdictions, and between governmental and nongovernmental entities more efficient and ensures that ICs receive resources appropriate to their needs. Facilitating the development and issuance of national standards for "typing" resources and "certifying" personnel will be the responsibility of the NIMS Integration Center described in Chapter VII.

d. Use of Agreements.

Pre-incident agreements among all parties providing or requesting resources are necessary to enable effective and efficient resource management during incident operations. Formal

pre-incident agreements (e.g., mutual aid and the Emergency Management Assistance Compact [EMAC]) between parties, both governmental and nongovernmental, that might provide or request resources are established to ensure the employment of standardized, interoperable equipment, and other incident resources during incident operations.

e. Effective Management of Resources.

Resource managers use validated practices to perform key resource management tasks systematically and efficiently. Examples include the following:

(1) Acquisition Procedures.

Used to obtain resources to support operational requirements. Preparedness organizations develop tools and related standardized processes to support acquisition activities. Examples include mission tasking, contracting, drawing from existing stocks, and making small purchases.

(2) Management Information Systems.

Used to collect, update, and process data; track resources; and display their readiness status. These tools enhance information flow and provide real-time data in a fast-paced environment where different jurisdictions and functional agencies managing different aspects of the incident life cycle must coordinate their efforts. Examples include geographical information systems (GISs), resource tracking systems, transportation tracking systems, inventory management systems, and reporting systems.

(3) Ordering, Mobilization, Dispatching, and Demobilization Protocols.

Used to request resources, prioritize requests, activate and dispatch resources to incidents, and return resources to normal status. Preparedness organizations develop standard protocols for use within their jurisdictions. Examples include tracking systems that identify the location and status of mobilized or dispatched resources and procedures to “demobilize” resources and return them to their original locations and status.

ICS training materials state that even though different formats may exist, every resource order should contain the following essential elements of information. Although EDXL RM is a resource message and not an ordering system, the message structure does support exchange of this resource information:

- a. *Incident name*
- b. *Order and/or request number (if known or assigned)*
- c. *Date and time of order*
- d. *Quantity, kind, and type*
- e. *Reporting location*
- f. *Requested time of delivery*
- g. *Radio frequency to be used (N/A or free text?)*
- h. *Person/title placing request (EDXL distribution element)*
- i. *Callback phone number or radio designation for clarifications or additional information*

NIMS Resource Management Guide defines notification as the following:

Provide personnel with the following at the time of notification:

- * *Date, time and place of departure*
- * *Mode of transportation*

- * *Estimated date and time of arrival*
- * *Reporting location (address, contact name, and phone number)*
- * Anticipated incident assignment
- * Anticipated duration of deployment
- * Resource order number
- * Incident number
- * Applicable cost/funding codes

In support of NIMS child elements will contain a minimum of the categories below:

- Size
- Capacity
- Capability
- Skill
- Other characteristics

These areas are defined in the NIMS document located at http://www.fema.gov/nims/nims_compliance.shtm#nimsdocument, and are designed to make the resource ordering and dispatch process within jurisdictions, across jurisdictions, and between governmental and non-governmental entities:

- More efficient
- Ensure that ICS receive resources appropriate to their needs

The NIMS document is responsible for facilitating the development and issuance of national standards for typing resources and certifying personnel.

Although the intent of this effort is not to cover Resource typing the above considerations were made for message structure to facilitate future resource typing efforts.

Appendix D – Participants List

EDXL Resource Messaging Standards Working Group

Emergency practitioner organizations and agencies

- ❖ Association of Air Medical Services (AAMS)
- ❖ California Department of Forestry and Fire Protection
- ❖ CapWIN
- ❖ COMCARE
- ❖ IEEE 1512 Transportation standards project
- ❖ International Association of Emergency Managers (IAEM)
- ❖ Healthcare Information and Management Systems Society (HIMSS)
- ❖ International Association of Fire Chiefs (IAFC)
- ❖ DC Office of Chief Technology Officer
- ❖ DHS National Incident Management System Integration Center (NIC)
- ❖ DHS Office of CIO (National Information Exchange Model)
- ❖ DHS Disaster Management Program; eGov Initiative
- ❖ Department of Commerce
- ❖ Department of Interior
- ❖ Maryland Department of Transportation (MDOT)
- ❖ Montgomery County (Maryland) Fire and Rescue
- ❖ Nashville (Tennessee) Emergency Communications Center
- ❖ National Association of Counties (NACo)
- ❖ National Association of State Emergency Medical Services Directors (NASEMSD)
- ❖ National Association of EMS Physicians
- ❖ National Emergency Number Association (NENA)
- ❖ National Highway Traffic Safety Administration (NHTSA)
- ❖ National Wildfire Coordinating Group (NWCG)
- ❖ Orange County (Florida) Fire and Rescue
- ❖ Public Health Systems Development/ National Center for Public Health Informatics
- ❖ Sandia National Laboratory
- ❖ State of Maine Public Health Department
- ❖ University of North Carolina Department of Emergency Medicine

Technology advisors

- ❖ AMR Corporation
- ❖ Anteon
- ❖ Blue292
- ❖ Buffalo Computer Graphics
- ❖ Cable Cam Systems
- ❖ Emergency Interoperability Consortium (EIC)
- ❖ EMSystem
- ❖ Emergency Services Integrators (ESi)
- ❖ ETeam
- ❖ HBF, Inc.
- ❖ International Business Machines (IBM)
- ❖ Intrado
- ❖ MyStateUSA
- ❖ National Engineering Technology Corporation
- ❖ OASIS Emergency Management Technical Committee
- ❖ Onstar
- ❖ Positron
- ❖ Safer Services

Appendix E - References

- “Diagram Report – FEMA_Content_Std.DM1” Version 1.7
- **ARMS** (FEMA) – Automated Resource Management System
- **ATIS** - Alliance for Telecom Industry Solutions
- **CAP** – Common Alerting Protocol
- **DEEDS** – (CDC) – Data Elements for Emergency Department Systems
- **DMIS** – Disaster Management Information System
- **EMAC** – Emergency Management Assistance Compact
- **ESIF**– Emergency Services Interconnect Forum
- **FEMA Resource Typing** Effort
- **GJXDM** – Global Justice XML Data Model / dictionary
- **HAVE** – Hospital Availability Exchange Specification
- **HIMSS** – Healthcare Information and Management Systems Society
- **HL7** – Health Level 7 Healthcare Standards
- **ICS** - Incident Command System Incident Resources Management
- **IEEE 1512** - Transportation Emergency data Standards
- **IHE** – Integrated Healthcare Enterprise
- **JRIES** – Joint Regional Information Exchange System
- **MIPT** – National Memorial Institute for the Prevention of Terrorism
- **NDMS** – National Disaster Medical System
- **NEMESIS** - National EMS Information System
- **NENA** (911) - National Emergency Number Association
- **NIEM** – National Information Exchange Model
- **NIMS** - National Incident Management System
- **NIST** - National Institute of Standards and Technology
- **NWCG** – National Wildfire Coordinating Group
- **OASIS** – Organization for the Advancement of Structured Information Standards
- **PHIN** – Public Health Information Network
- **ROSS** – Resource Ordering and Status System
- **SAE** – Society of Automotive Engineers
- **VEDS** - Vehicular Emergency Data Set

Appendix F - Glossary

(EDXL context)

Content – Refers to the set of standard data / standard data model associated with a component of a message that describes or provides substance for that component.

Data model – A model / diagram representing data objects, attributes and their relationships.

Distribution Element – The <Distribution> element contains information that informs routing and/or processing of properly formatted messages.

Distribution Element Distribution Type – Specifies the function of the message. Values include:

Request – A request for resources, information or action

Ack – Acknowledgement of receipt of an earlier message

Response – A response to a previous request

Update – Updated information superceding a previous message

Dispatch – A commitment of resources or assistance

Report – New information regarding an incident or activity

Cancel – A cancellation or revocation of a previous message

Error – Rejection of an earlier message (for technical reasons)

EDXL – The Emergency Data eXchange Language is a standard Messaging Format. The goal of the EDXL initiative is to facilitate emergency information sharing and data exchange across the local, state, tribal, national and non-governmental organizations of different professions that provide emergency response and management services.

Exchange / data exchange – refers to the sharing of information using the EDXL standard message format.

Message – A one-way transmission of a set of information sent / received between people or systems. Also referred to as a “payload” of a message container.

Messaging interface – Refers to the application or systems layer of messaging between entities. Once the EDXL message format is standardized, any technology vendor or organization can easily develop their EDXL-based messaging interface.

Message structure / schema – A model / diagram representing the organization and composition of a standard message or message set, creating an XML vocabulary. This model is **NOT to be confused with a data model**, which is a diagram representing data objects, attributes and their relationships.

Message Schema Segment – Refers to the major components of the message structure diagram (e.g. “Resource Message” or “Location” segments).

Message element – The building blocks (“information place holders”) that make up an XML message.

Multipoint Resource Ordering (ICS) – This process of ordering is when the incident command orders resources from several different agency dispatch centers. Multipoint ordering is most often used when there are several different agencies, e.g., law, fire, medical, public works, at the same incident, and all are ordering resources at the same time.

OASIS - Organization for the Advancement of Structured Information Standards.

Payload – Any standard XML message or set of messages carried within the SOAP (or other messaging protocol) “body” element. For example, a specific resource request message is referred to as a “payload”. The EDXL distribution element provides a methodology to relate different payloads together.

Practitioner – A group of professionals and subject matter experts representing the broad needs and detailed requirements of the Emergency Response community. The Practitioner group drives priorities and requirements for specific EDXL messages sets and messaging components, and governs the outcomes of the DM EDXL initiative.

Related Efforts / standards – Refers to other public and private emergency and safety collaborative efforts to standardize both messaging and data content. The purpose is to minimize duplication, encourage consistency, and apply reusable “content” to EDXL message sets.

Scenario – The description of a relevant situation (actual or contrived) used to demonstrate application or typical uses of the EDXL message set from an end-user perspective. One scenario may cover one or many messages / requirements. The objective is to identify scenarios sufficient to cover most (if not all) of the required functional capabilities.

Scenario Use Example – An example that applies the EDXL RM structure and potential uses against a given scenario. One or more Use Examples may be written against each scenario, each providing one demonstration of possible applications of the messaging framework. The purpose is to develop use examples sufficient to validate EDXL RM requirements and structure.

Standards Working Group (SWG) - A diverse national industry working group comprised of emergency response and business subject matter experts representing the diversity of organizations in the field. This group turns EDXL message requirements into complete detailed specifications for submission to the public standards body. Practitioner representatives also participate in the Standards Working Group.

Single Point Ordering (ICS) – The process of ordering where the burden of finding the requested resources is placed on the responsible jurisdiction/agency dispatch center, and not on the incident organization.

Value – Values are actual data associated with a data model. For example, the entity “eye color” may have valid values of “blue” and “brown” but not “orange”.

XML – (eXtensible Markup Language). XML is a simple and flexible text format that establishes a formal standard syntax specification for messaging; facilitating the exchange of a wide variety of information on the web.

Appendix G – Resource Categories

The list of Resource Data Categories with their definitions is provided only for context / scope, defining the types of resources (i.e. logical groupings of content data) applicable to Resource Messaging. IEEE 1512 refers to these as “Data Frames”. Many existing efforts also contain categories and definitions, which may or may not match exactly with this break-out (for example, ROSS categories (“catalogs”) include “Equipment”, “Aircraft”, “Crew”, “Overhead” and “Supply”), and ICS “categories” describe resource function or use.

Resource Category	Definition	Examples	Repeat ability	Source	Alt. Source
<Information>	Facilitates a request for information or advice about resources	(None Provided)			
<HumanResource>	Describes persons in terms of identifiable capabilities, skills, and specialties.	(See Resource Category Examples Tables)		GJXDM, DEEDS, NEMESIS, ROSS, FEMA resource typing	
<Vehicle>	A motor-driven conveyance designed to carry or transport something (Operator, passengers, cargo)	(See Resource Category Examples Tables)		IEEE 1512, GJXDM, VEDS, FEMA Resource Typing (FRT), ROSS	NOTE 1: GJXDM uses the term “Property” for Aircraft, Boats, Commercial Vehicles etc. It excludes trailers and boats from “vehicle” NOTE 2: GJXDM also has “Property Physical Details” (physical desc)
<Equipment>	Non-vehicular powered articles or physical resources used in work operation or activity. Note that equipment such as Fire Engines fall here because their primary purpose is not to transport something. This is used for items that would be acquired and accounted for through a tool-cash such as computers, shovels, radios and consumables that are used to mitigate the incident.	(See Resource Category Examples Tables)		NIMS, FEMA resource typing	NOTE 1: “Equipment” is a “catalog” in the ROSS system. Then asks for “category” (e.g. engine) NOTE 2: GJXDM also has “Property Physical Details” (physical desc)
<Supplies>	Non-powered commodities or other goods required to fill a need for camp operations. Anything used by the incident management group to support the staff and is not intended for public use	(See Resource Category Examples Tables)		NIMS, FEMA Resource Typing	NOTE 1: GJXDM also has “Property Physical Details” (physical desc)
<Facilities>	Something that is built established or installed to serve a particular purpose because of the incident. This includes existing infrastructure.	(See Resource Category Examples Tables)		NIMS, GJXDM, FGDC	NOTE 1: GJXDM also has PropertyPhysicalDetails

					(physical desc)and “Structure” details NOTE 2: GJXDM also has <i>Facility</i> , but definition specific to enforcement
<Services>	A type of assistance focused on a specific end result provided for a fee (e.g. Garbage Collection)	(See Resource Category Examples Tables)			
<Package>	Standard combinations (or teams) of Human and/or non-human resources that are logically delivered together such as a response team, task force, strike team or a special skills team.	(See Resource Category Examples Tables)		ARMS http://www.fema.gov/preparedness/mutual_aid.shtm NIMS, FEMA resource typing, ICS	

Appendix H – Resource Category Examples

This specification addresses message structure only for the Resource Message standard. Content is not defined or addressed herein. Content refers to standard data / standard data model that describes or provides a “pick list” for a resource. The following tables provide some example content for reference only. Actual content definition will be addressed by an external process.

NOTE: ROSS “catalogs” include Equipment, Aircraft, Crew, Overhead and Supply).

Table H1: Resource Examples – Human Resources Category

Resource Category	Definition	Examples	Repeat ability	Source	Alt. Source
<Industry>	A distinct group of productive or profit-making enterprises. A department or branch of a craft, art, business, or manufacturer.	<ul style="list-style-type: none"> • Medical • Finance • Insurance • Real Estate • Construction • Transportation and Public Utilities • Etc. 	Y	NEMISIS	Note: “Medical” not found in any source
<Occupation>	A specific type of employment	<ul style="list-style-type: none"> • Emergency Physician • Cardiologist • Psychiatrist • Healthcare Support • Buildings and Grounds Cleaning • Transportation and Material Moving • Aircraft Pilot • Etc. 	Y	GJXDM, DEEDS, NEMISIS	NOTE 1 - DEEDS calls this “Practitioner Type” (occupation or profession). Value examples are from DEEDS and NEMISIS NOTE 2 – GJXDM has “Employment” which has occupation information
<Field>	An area or division of an Industry or Occupation requiring one or more specialties		Y	No source found	NOTE: Eliminate “field” as duplicate or not adding value? Not found in other sources.

<Specialty>	An ability of a special kind or of special ability, expertise, proficiency or aptitude	<ul style="list-style-type: none"> • EMT – paramedic • Cardiology • Infectious Disease • Psychiatric • Neurology • Neonatology • Evacuation • Hazmat • Firefighter • Toxic substance • Law enforcement • Etc. 	Y	NEMESIS, HAVE, FEMA Resource Typing, NIMS	
<Skill>	A learned ability of doing something competently - a developed aptitude or ability to use one's knowledge effectively and readily in execution or performance	<ul style="list-style-type: none"> • Infusion Treatment Therapy • Contract negotiation • Etc. 	Y	No source found	
<Qualification>	Provides details on the types of qualifications that each resource has. Any resource can have one or more qualifications. Qualifications may relate to the catalog item used to fill a request to “qualify” it further (e.g. “trainee”). (Qualifications may relate to Human or Logistics Resources – apply as child to Logistics child components?)	<ul style="list-style-type: none"> • Education • Years of Experience • Etc. 	Y	ROSS “Resource Qualifications”	No source found for values
<Position>		•		ROSS	

Table H2: Resource Examples – Vehicle Category

Resource Category	Definition	Examples	Repeat ability	Source	Alt. Source
<VehicleType>	A type of motor-driven conveyance designed to carry or transport something (Operator, passengers, cargo)	<ul style="list-style-type: none"> • Passenger Car (VEDS) • Bus (VEDS) • Motorcycle • Two-axle Truck (VEDS) • Three or more axle truck (VEDS) • Transit vehicle (1512) • Emergency Vehicle (1512) • Commercial Vehicle (GJXDM & 1512) • Cargo Vehicle (1512) • Maint. & Constr. Vehicle (1512) • Aircraft (GJXDM & ROSS) • Boat (GJXDM) • DumpTruck (1512) • Farm Tractor (1512) • Mobile Communications Center (FRT) • Ambulance – Ground (FRT) • Helicopter • Etc. 	Y	IEEE 1512, GJXDM, VEDS, FEMA Resource Typing (FRT), ROSS	<p>SAE?</p> <p>NOTE 1: GJXDM uses the term “Property” for Aircraft, Boats, Commercial Vehicles etc. It excludes trailers and boats from “vehicle”</p> <p>NOTE 2: GJXDM also has PropertyPhysicalDetails (physical desc)</p>
<OtherAttributes>		•			

Table H3: Resource Examples – Equipment Category

<EquipmentType>	<p>A type of Non-vehicular powered articles or physical resources used in work operation or activity. Note that equipment such as Fire Engines fall here because their primary purpose is not to transport something.</p> <p>Rick Garza: This is used for items that would be acquired and accounted for through a tool-cash such as computers, shovels, radios and consumables that are used to mitigate the incident.</p>	<ul style="list-style-type: none"> • Laptop computer • Portable Radio • Navigation • Personnel Protective • Fire Engine • Fire Boat • Helicopter - firefighting • Communication • Safety Glasses • Generator • Hospital Bed (HAVE) • Etc. 	Y	NIMS, FEMA resource typing	<p>NOTE 1: “Equipment” is a “catalog” in the ROSS system. Then asks for “category” (e.g. engine)</p> <p>NOTE 2: GJXDM also has PropertyPhysicalDetails (physical desc)</p>
<OtherAttributes>		•			

Table H4: Resource Examples – Supplies Category

Resource Category	Definition	Examples	Repeat ability	Source	Alt. Source
<SupplyType>	<p>Non-powered commodities or other goods required to fill a need</p> <p>Rick Garza: (items used for camp operations) anything used by the incident management group to support the staff and is not intended for public use</p>	<ul style="list-style-type: none"> • Medical Aid • Gasoline • Water Container • Ink Cartridge • Etc. 	Y	NIMS, FEMA Resource Typing	<p>NOTE 1: GJXDM also has PropertyPhysicalDetails (physical desc)</p>
<OtherAttributes>		•			

Table H5: Resource Examples – Facilities Category

Resource Category	Definition	Examples	Repeat ability	Source	Alt. Source
<FacilityType>	Something that is built, installed, or established to serve a particular purpose. This includes existing infrastructure used for a particular emergency response purpose. Rick Garza: Something that is built, established or installed to serve a particular purpose because of the incident	<ul style="list-style-type: none"> • Mobile Hospital • School • Building • Structure 	Y	NIMS, GJXDM, FGDC	NOTE 1: GJXDM also has PropertyPhysicalDetails (physical desc)and “Structure” details NOTE 2: GJXDM also has Facility, but definition specific to enforcement
<OtherAttributes>		•			

Table H6: Resource Examples – Services Category

Resource Category	Definition	Examples	Repeat ability	Source	Alt. Source
<>			Y		

Table H7: Resource Examples – Package Category (NIMS = “Teams”)

Resource Category	Definition	Examples	Repeat ability	Source	Alt. Source
<PackageName>	Name or Acronym given to the package or team	<ul style="list-style-type: none"> • DMAT (Disaster Medical Assistance Team) – Basic • DMAT – burn • NDMS Mgmt Spt Team • Internal Medical Surgical 	Y	ARMS http://www.fema.gov/preparedness/mutual_aid_shtm NIMS, FEMA resource typing, ICS	

		Response Team • Mountain Search & Rescue Team • Task Force • Strike Team Etc.			
<PackageType>	(e.g. Type I, II, III)			FEMA Resource Typing Effort	
<PackageDesc>	Specifies the type and kind of the response team, task force, strike team or a special skills team.	(free-form text)	Y		