

## XchangeCore Quick Start Guide to the Alert Service And Alert Work Product

XCORE-ALERT-R03C01

The XchangeCore Community  
[www.XchangeCore.com](http://www.XchangeCore.com)





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## 1.0 About This Quick Start Guide

The purpose of this Quick Start Guide is to enable providers of Common Alerting Protocol software to efficiently map their data to the XchangeCore Alert Service in order to create, update, close, and archive sensor data shared through XchangeCore.

The Quick Start Guide is intended to be a stand-alone document; however, it goes hand-in-hand with the XchangeCore *Getting Started Guide* and other XchangeCore *Quick Start Guides* which provide details on other XchangeCore services and work products. All guides can be found on the XchangeCore Collaboration Portal at [www.XchangeCore.org](http://www.XchangeCore.org). So after exploring this guide, please refer to the Getting Started Guide for more technical information about XchangeCore.

Finally, the Quick Start Guide is accompanied by references to example code that can be downloaded from GitHub under open source license.

In the sections that follow, the Quick Start Guide will provide:

- An overview of the Alert Service including references to the Emergency Data Exchange Language Common Alerting Protocol that is the basis of the XchangeCore Alert Work Product
- A flowchart of an external application's interface with the XchangeCore
- A list of common names of data elements contained in many incident management applications and their corresponding XchangeCore data element names that can guide the mapping of an application to the work product
- The Alert Work Product Template that is the XML document that is used to post application data to XchangeCore
- Example of the XML document for posting (including the SOAP envelope)
- Example of how to associate the Alert Work Product with an incident
- Example of the response received after successfully posting the XML document
- A quick, proof-of-concept method for posting the XML document
- The XchangeCore Alert Work Product (containing Metadata, Digest, and Payload) is created and stored within XchangeCore and results from the successful submission of the XML document by the application and which becomes the atomic unit of information sharing through XchangeCore.
- Three methods for retrieving or inspecting the XchangeCore Alert Work Product to validate it, including programmatically, using the XchangeCore using the XchangeCore Console, and an external look at the results of the work product using Google Earth™
- A description of the UCore Digest process including mapping of the Payload to the Digest
- Best Practices for that Pesky "Other" Data
- Link to the Alert Service WSDL



## 2.0 Alert Service Overview

The Alert Service allows client applications to create an Alert Work Product, update information contained in the Alert Work Product, close the work product, and archive the work product.

Operationally, the Incident Work Product in XchangeCore is the beginning of the “XchangeCore Tree of Incident Knowledge.” Thus, the Alert Work Product can be “associated” with an Incident Work Product. An Alert Work Product also can be independent because, in many cases, an alert precedes an Incident or never becomes an incident. As a result, the Alert Work Product can be independent, can be associated, or can create an Incident. This will be described in sections below.

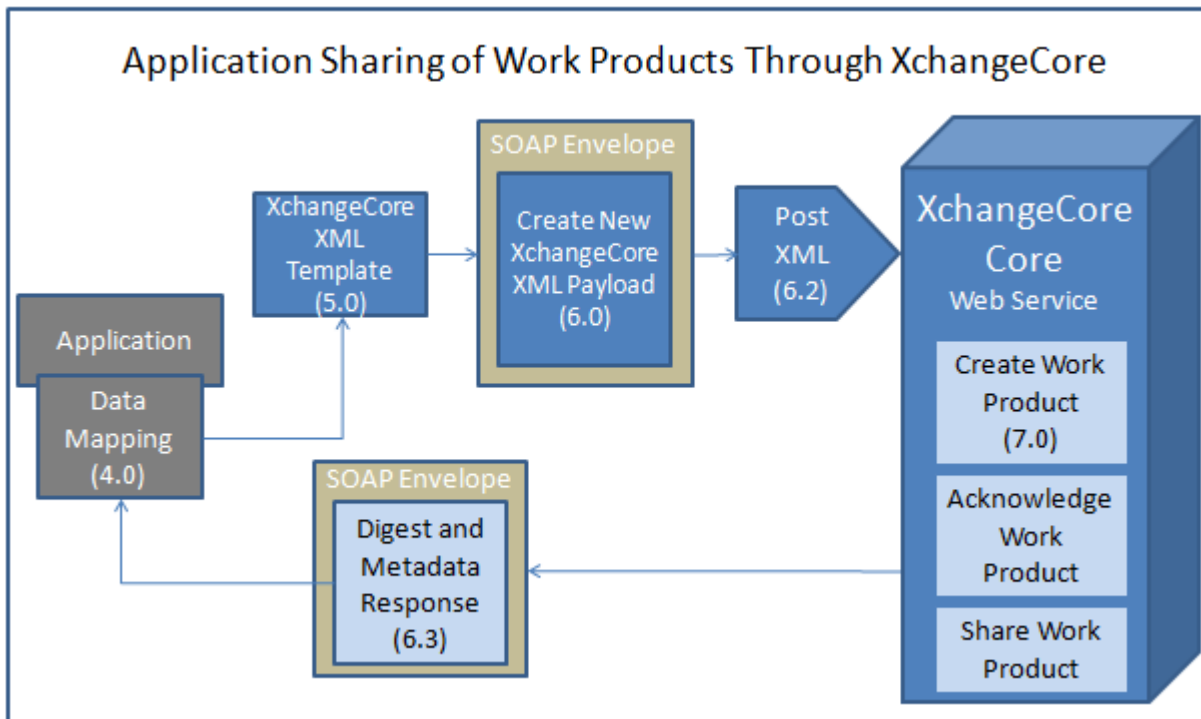
The Alert Service allows XchangeCore compatible client applications to create, retrieve, and cancel XchangeCore Alerts Work Products that conform to the Common Alerting Protocol (CAP) version 1.1 specification. The required and optional data elements for the Work Product associated with the Alert Service are described below.

Work Product	Alert Work Product Data
Standard	EDXL Common Alerting Protocol (CAP 1.1)
Reference	<a href="http://www.oasis-open.org/committees/download.php/15135/emergency-CAPv1.1-Corrected_DOM.pdf">http://www.oasis-open.org/committees/download.php/15135/emergency-CAPv1.1-Corrected_DOM.pdf</a>
Required Data	Identifier Sender Sent Date/Time Status Message Type Scope Category Event Urgency Severity Certainty
Optional Data	Source Restriction Addresses Code Note References Incidents Language Response Type Event Code Effective Onset Expires



	Sender Name Headline Description Instruction Web Contact Parameter Resource Area
--	--

### 3.0 Application Interactions with the XchangeCore Alert Work Product



External applications interact with the XchangeCore by creating XchangeCore Work Products, an XML document, and communicating with the core through SOAP calls.



External applications interact with and share data through XchangeCore by creating and updating XchangeCore Work Products. This exchange consists of several steps. First, an application maps its data to the XchangeCore XML data element structure (Section 4). The application then inserts this data into the XchangeCore XML Template data elements (Section 5) to form the Payload, an XML document that will become part of the Work Product. The application then wraps the payload in a SOAP envelope (Section 6) for transmission using Internet Protocols over local networks, private Internet, or public Internet. The application POSTs the SOAP message to the XchangeCore (Section 6.2) and XchangeCore creates a Work Product (7.0). XchangeCore acknowledges receipt of the Work Product through a transmission back to the application that includes the Digest and Metadata for the work product (Section 6.3).

Details of these steps follow.

### 4.0 Mapping to the XchangeCore Alert Work Product

The following table shows the common name of the data element as often used in Alert applications in the first column. The second column is the EDXL Common Alerting Protocol version 1.1 data element name contained in the XchangeCore Alert Work Product schema (shown below). The third column is blank in order to map your application to the XchangeCore Alert Work Product. Required XchangeCore data elements are shown in beige and optional in blue.

XchangeCore Common Data Element Name	XchangeCore Data Element	Map Your Data
Identifier	<cap:identifier>	
Sender	<cap:sender>	
Sent Date/Time	<cap:sent>	
Status	<cap:status>	
Message Type	<cap:msgType>	
Scope	<cap:scope>	
Category	<cap:category>	
Event	<cap:event>	
Urgency	<cap:urgency>	
Severity	<cap:severity>	
Certainty	<cap:certainty>	
Source	<cap:source>	
Restriction	<cap:restriction>	
Addresses	<cap:addresses>	
Code	<cap:code>	
Note	<cap:note>	
References	<cap:references>	
Incidents	<cap:incidents>	
Language	<cap:language>	
Response Type	<cap:responseType>	
Event Code	<cap:/eventCode> <valueName> <value>	
Effective	<cap:effective>	



Onset	<cap:onset>	
Expires	<cap:expires>	
Sender Name	<cap:senderName>	
Headline	<cap:headline>	
Description	<cap:description>	
Instruction	<cap:instruction>	
Web	<cap:web>	
Contact	<cap:contact>	
Parameter	<cap:parameter>	
Resource	<cap:resource>	
Area Description	<cap:areaDesc>	
Area	<cap:geoCode> <cap:polygon> <cap:circle>	

## 5.0 Payload Template for Required Data

The Payload Template will be the end product of your mapping of your data to the XchangeCore Work Product schema. All of this will be done programmatically by the external application.

```
<as:CreateAlertRequest xmlns:as="http://ucids.org/AlertService"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:cap="urn:oasis:names:tc:emergency:cap:1.1"
  xsi:schemaLocation="http://ucids.org/AlertService AlertService.xsd">
  <!-- NOTE: provide the incident ID to associate with here -->
  <!-- NOTE: if the CAP alert is not associated with an incident, omit the incidentid element -->
  <as:incidentId xmlns:as="http://ucids.org/AlertService">IG-3e59949d-057b-41ef-924c-
2e7a4ca3cb85</as:incidentId>
  <cap:alert>
    <cap:identifier>UICDS-Test-Identifier1</cap:identifier>
    <cap:sender>IncidentManagement@agency.gov</cap:sender>
    <cap:sent>2009-09-15T12:00:00</cap:sent>
    <cap:status>Actual</cap:status>
    <cap:msgType>Alert</cap:msgType>
    <cap:scope>Public</cap:scope>
    <cap:info>
      <cap:language>en-US</cap:language>
      <cap:category>CBRNE</cap:category>
      <cap:event>A hazardous chemical event has occurred</cap:event>
      <cap:urgency>Immediate</cap:urgency>
      <cap:severity>Extreme</cap:severity>
      <cap:certainty>Observed</cap:certainty>
      <cap:effective>2009-09-15T12:00:00</cap:effective>
      <cap:onset>2009-09-15T12:00:00</cap:onset>
      <cap:senderName>Bob McGillicuddy</cap:senderName>
      <cap:headline>A hazardous chemical event has occurred</cap:headline>
      <cap:description>Overturned tanker on the highway.</cap:description>
      <cap:area>
        <cap:areaDesc>The highway, mile marker 128</cap:areaDesc>
        <cap:polygon>38.8,-77.3 38.8,-77.1 39.0,-77.1 39.0,-77.3 38.8,-77.3</cap:polygon>
```





```
</cap:area>
</cap:info>
</cap:alert>
</as:CreateAlertRequest>
```

## 6.0 Create a New Alert Work Product

Creating a new Alert in XchangeCore entails mapping your data to the Payload Template (Section 5.0, above), wrapping the Payload (containing the application data) in a SOAP envelope (Section 6.1), and submitting the XML document to the Alert Service (Section 6.2) by posting the document (Section 6.3).

### 6.1 Wrapping the Payload in a SOAP Envelope

The Payload Template becomes the XchangeCore Alert Payload when external application data is inserted into it. The payload is then wrapped in a SOAP envelope for submission to the XchangeCore. Below are the SOAP envelope instructions to connect to the Alert Service.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"/>
  <soapenv:Body xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
<.....>
Insert Alert Payload XML Document
.....>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

### 6.2 Associating a Work Product with an Incident Work Product

Most work products are most often used when associated with an incident. This is how the “XchangeCore Tree of Incident Knowledge” is developed – many applications submit their relevant data and XchangeCore manages that content by associating data with an incident.

The IG number is the unique value contained in an Incident Work Product that allows other work product to be associated with the incident.

The IG number, or AssociatedGroup/Identifier, is formatted like this: IG-e0051cbc-aea5-4a9f-977a-915a3a7db7a7.

The IG number is returned from XchangeCore in the following ways:

When an incident is submitted, the response contains the AssociatedGroup/Identifier as the IG number in a statement like this:

```
<base:AssociatedGroups xmlns:base="http://www.saic.com/precis/2009/06/base">
```



```
<base:Identifier>IG-3ad1df44-6b85-48af-a1ac-bef5b56f7cdd</base:Identifier>
```

To associate the Work Product with an incident, the IG number is placed in the Template (Section 5, above) in the incidentId, as shown below:

```
<ns1:incidentId>IG-e0051cbc-aea5-4a9f-977a-915a3a7db7a7</ns1:incidentId>
```

### 6.3 Location of the Alert Service

The Alert Service can be found at the following URL:

```
https://<FQDN>/uicds/core/ws/services/AlertService
```

Where “<FQDN>” is your Fully Qualified Domain Name of the XchangeCore and you are connected to a network. If the XchangeCore was installed on your computer, replace <https://<FQDN>> with <http://localhost>.

For example, developers have access to hosted XchangeCore servers for testing. With access credentials, you may post your test XchangeCore templates to:

<https://test3.xchangecore.leidos.com/uicds/core/ws/services/AlertService>

### 6.4 Quick Test Posting of the XchangeCore XML Message

The example request below (Section 6.3) can be used to test out your connectivity with your local or hosted test XchangeCore (see Section 6.1 for URL) as well as to see the results of posting a work product.

There is a manual method of posting XchangeCore Work Products that you might want to use to see a proof of concept and test core connectivity.

*This is not a recommended method of posting to XchangeCore that would substitute for writing code to transform your data into a XchangeCore Work Product.*

To use this manual proof of concept method of posting, use a freely available commercial tool like Mozilla FireFox™ Poster™ available at <https://addons.mozilla.org/en-us/firefox/addon/poster/> to simply post the example request (obviously, feel free to modify the content) and receive a response.

Section 8.0, below, describes two methods of viewing data that you post to the XchangeCore using this manual, test method.

### 6.5 Example Request: Alert



Below is an example XML Alert Payload document, wrapped in SOAP, for posting to the Alert Service on an XchangeCore.

```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
    <as:CreateAlertRequest xmlns:as="http://uicds.org/AlertService"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xmlns:cap="urn:oasis:names:tc:emergency:cap:1.1"
      xsi:schemaLocation="http://uicds.org/AlertService AlertService.xsd">
      <!-- NOTE: provide the incident ID to associate with here -->
      <!-- NOTE: if the CAP alert is not associated with an incident, omit the incidentid element -->
      <as:incidentId xmlns:as="http://uicds.org/AlertService">IG-3e59949d-057b-41ef-924c-
2e7a4ca3cb85</as:incidentId>
      <cap:alert>
        <cap:identifier>UICDS-Test-Identifier1</cap:identifier>
        <cap:sender>IncidentManagement@agency.gov</cap:sender>
        <cap:sent>2009-09-15T12:00:00</cap:sent>
        <cap:status>Actual</cap:status>
        <cap:msgType>Alert</cap:msgType>
        <cap:scope>Public</cap:scope>
        <cap:info>
          <cap:language>en-US</cap:language>
          <cap:category>CBRNE</cap:category>
          <cap:event>A hazardous chemical event has occurred</cap:event>
          <cap:urgency>Immediate</cap:urgency>
          <cap:severity>Extreme</cap:severity>
          <cap:certainty>Observed</cap:certainty>
          <cap:effective>2009-09-15T12:00:00</cap:effective>
          <cap:onset>2009-09-15T12:00:00</cap:onset>
          <cap:senderName>Bob McGillicuddy</cap:senderName>
          <cap:headline>A hazardous chemical event has occurred</cap:headline>
          <cap:description>Overturned tanker on the highway.</cap:description>
          <cap:area>
            <cap:areaDesc>The highway, mile marker 128</cap:areaDesc>
            <cap:polygon>38.8,-77.3 38.8,-77.1 39.0,-77.1 39.0,-77.3 38.8,-77.3</cap:polygon>
          </cap:area>
        </cap:info>
      </cap:alert>
    </as:CreateAlertRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

## 6.6 Expected Response: Alert

When a XML template is successfully posted to an XchangeCore, the core returns an XML document that provides validation that the work product was created. The document contains the XchangeCore Alert Work Product (a) Metadata shown in red and (b) Digest shown in green that will allow you to later update, close, and archive the work product.



```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header />
  <SOAP-ENV:Body>
    <aler:CreateAlertResponse
      xmlns:aler="http://uicds.org/AlertService">
      <wor:WorkProductPublicationResponse
        xmlns:wor="http://uicds.org/WorkProductService">
        <str:WorkProductProcessingStatus
          xmlns:str="http://www.saic.com/precis/2009/06/structures">
          <base:Status
            xmlns:base="http://www.saic.com/precis/2009/06/base">Accepted</base:Status>
          </str:WorkProductProcessingStatus>
          <str:WorkProduct
            xmlns:str="http://www.saic.com/precis/2009/06/structures">
            <ulex:PackageMetadata
              xmlns:ulex="ulex:message:structure:1.0">
              <ulex:DataItemID>Alert-5b251981-83e6-4026-b28d-d9f523b364cf</ulex:DataItemID>
              <ulex:DataItemReferenceID>Alert-5b251981-83e6-4026-b28d-
d9f523b364cf</ulex:DataItemReferenceID>
              <ns:DataItemStatus
                xmlns:ns="http://ucore.gov/ucore/2.0"
                ns:code="Active"
                ns:codespace="http://uicds.org/1.0/codespace/workproduct/status"
                ns:label="XchangeCore Work Product Status" />
              <ulex:DataOwnerMetadata>
                <ns:DataOwnerIdentifier
                  xmlns:ns="http://ucore.gov/ucore/2.0">
                  <ns1:Organization
                    xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0/">
                    <ns1:name>ucids.org</ns1:name>
                  </ns1:Organization>
                </ns:DataOwnerIdentifier>
                <ns:DataOwnerContact
                  xmlns:ns="http://ucore.gov/ucore/2.0">
                  <ns1:Organization
                    xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0/">
                    <ns1:name>http://uicds.us</ns1:name>
                  </ns1:Organization>
                </ns:DataOwnerContact>
                <ulex:DataOwnerMetadataDomainAttribute>
                  <ulex:DomainName>XchangeCore EM Domain</ulex:DomainName>
                </ulex:DataOwnerMetadataDomainAttribute>
              </ulex:DataOwnerMetadata>
              <ns:DisseminationCriteria
                xmlns:ns="http://ucore.gov/ucore/2.0" />
              <str:WorkProductIdentification>
                <base:Identifier
                  xmlns:base="http://www.saic.com/precis/2009/06/base">Alert-5b251981-83e6-4026-b28d-
d9f523b364cf</base:Identifier>
                <base:Version
                  xmlns:base="http://www.saic.com/precis/2009/06/base">1</base:Version>
                <base:Type
                  xmlns:base="http://www.saic.com/precis/2009/06/base">Alert</base:Type>
                <base:Checksum
```



```
xmlns:base="http://www.saic.com/precis/2009/06/base">Wed Oct 03 09:38:14 MDT
2012:1:1:889837687</base:Checksum>
  <base:State
    xmlns:base="http://www.saic.com/precis/2009/06/base">Active</base:State>
  </str:WorkProductIdentification>
  <str:WorkProductProperties>
    <base:Created
      xmlns:base="http://www.saic.com/precis/2009/06/base">2012-10-03T09:38:14.337-
06:00</base:Created>
    <base:CreatedBy
      xmlns:base="http://www.saic.com/precis/2009/06/base">admin@9zwgns1</base:CreatedBy>
    <base:LastUpdated
      xmlns:base="http://www.saic.com/precis/2009/06/base">2012-10-03T09:38:14.337-
06:00</base:LastUpdated>
    <base:LastUpdatedBy
      xmlns:base="http://www.saic.com/precis/2009/06/base">admin@9zwgns1</base:LastUpdatedBy>
    <base:Kilobytes
      xmlns:base="http://www.saic.com/precis/2009/06/base">1</base:Kilobytes>
    <base:MimeType
      xmlns:base="http://www.saic.com/precis/2009/06/base">application/uicds+xml</base:MimeType>
    <base:AssociatedGroups
      xmlns:base="http://www.saic.com/precis/2009/06/base">
      <base:Identifier>IG-3e59949d-057b-41ef-924c-2e7a4ca3cb85</base:Identifier>
    </base:AssociatedGroups>
  </str:WorkProductProperties>
</ulex:PackageMetadata>
<ns:Digest
  xmlns:ns="http://ucore.gov/ucore/2.0">
  <ns:Event
    id="Event-28dad0a6-b540-42bd-b8ef-4d0f4961c7aa">
    <ns:Descriptor>Overturned tanker on the highway.</ns:Descriptor>
    <ns:Identifier
      ns:code="identifier"
      ns:codespace="urn:oasis:names:tc:emergency:cap:1.1"
      ns:label="ID">Alert - A hazardous chemical event has occurred</ns:Identifier>
    <ns:What
      ns:code="AlertEvent"
      ns:codespace="http://ucore.gov/ucore/2.0/codespace/" />
    <ns:What
      ns:code="CBRNE"
      ns:codespace="urn:oasis:names:tc:emergency:cap:1.1" />
    </ns:Event>
  <ns:Location
    id="Location-9ffb189d-631f-4de8-9b86-7eda15ce47bf">
    <ns:GeoLocation>
      <ns:Polygon>
        <ns1:Polygon
          xmlns:ns1="http://www.opengis.net/gml/3.2"
          ns1:id="Polygon-0bf99a2d-01ad-4d93-b31d-819ac7a57426"
          srsName="EPSG:4326">
          <ns1:exterior>
            <ns1:LinearRing>
              <ns1:pos
```



```
        srsName="EPSG:4326">38.8 -77.3</ns1:pos>
    <ns1:pos
      srsName="EPSG:4326">38.8 -77.1</ns1:pos>
    <ns1:pos
      srsName="EPSG:4326">39.0 -77.1</ns1:pos>
    <ns1:pos
      srsName="EPSG:4326">39.0 -77.3</ns1:pos>
    <ns1:pos
      srsName="EPSG:4326">38.8 -77.3</ns1:pos>
  </ns1:LinearRing>
</ns1:exterior>
</ns1:Polygon>
</ns:Polygon>
</ns:GeoLocation>
</ns:Location>
<ns:OccursAt
  id="OccursAt-86fc41f4-6cf8-4986-8c18-5ed04fed8e5f">
  <ns:Time>
    <ns:TimeInstant>
      <Value
        xmlns="http://ucore.gov/ucore/2.0">2009-09-15T12:00:00-06:00</Value>
      </ns:TimeInstant>
    </ns:Time>
  <ns:EventRef
    ref="Event-28dad0a6-b540-42bd-b8ef-4d0f4961c7aa" />
  <ns:LocationRef
    ref="Location-9ffb189d-631f-4de8-9b86-7eda15ce47bf" />
  </ns:OccursAt>
</ns:Digest>
</str:WorkProduct>
</wor:WorkProductPublicationResponse>
</aler:CreateAlertResponse>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

## 7.0 The Resulting Work Product Example

An XchangeCore Work Product consists of (a) Metadata shown in red, (b) Digest shown in green, and (c) Payload shown in blue. The Metadata is returned when the Alert Work Product is created and was shown in the example above. The Digest also is created and returned when the Alert Work Product is created and was shown in the example above. The Payload is the data mapped from the external application to the template. The work product is the atomic unit of sharing in XchangeCore and contains all three parts.

An example of an Alert Work Product is shown below:

```
<str:WorkProduct
  xmlns:str="http://www.saic.com/precis/2009/06/structures">
  <ulex:PackageMetadata
    xmlns:ulex="ulex:message:structure:1.0">
    <ulex:DataItemID>Alert-12160513-c75e-4f3b-87a4-1101a265e9a7</ulex:DataItemID>
```



```
<ulex:DataItemReferenceID>Alert-12160513-c75e-4f3b-87a4-
1101a265e9a7</ulex:DataItemReferenceID>
<ns:DataItemStatus
  xmlns:ns="http://ucore.gov/ucore/2.0"
  ns:code="Active"
  ns:codespace="http://ucids.org/1.0/codespace/workproduct/status"
  ns:label="XchangeCore Work Product Status" />
<ulex:DataOwnerMetadata>
  <ns:DataOwnerIdentifier
    xmlns:ns="http://ucore.gov/ucore/2.0">
    <ns1:Organization
      xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0/">
      <ns1:name>ucids.org</ns1:name>
    </ns1:Organization>
  </ns:DataOwnerIdentifier>
  <ns:DataOwnerContact
    xmlns:ns="http://ucore.gov/ucore/2.0">
    <ns1:Organization
      xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0/">
      <ns1:name>http://ucids.us</ns1:name>
    </ns1:Organization>
  </ns:DataOwnerContact>
  <ulex:DataOwnerMetadataDomainAttribute>
    <ulex:DomainName>XchangeCore EM Domain</ulex:DomainName>
  </ulex:DataOwnerMetadataDomainAttribute>
</ulex:DataOwnerMetadata>
<ns:DisseminationCriteria
  xmlns:ns="http://ucore.gov/ucore/2.0" />
<str:WorkProductIdentification>
  <base:Identifier
    xmlns:base="http://www.saic.com/precis/2009/06/base">Alert-5b251981-83e6-4026-
b28d-d9f523b364cf</base:Identifier>
  <base:Version
    xmlns:base="http://www.saic.com/precis/2009/06/base">1</base:Version>
  <base:Type
    xmlns:base="http://www.saic.com/precis/2009/06/base">Alert</base:Type>
  <base:Checksum
    xmlns:base="http://www.saic.com/precis/2009/06/base">Wed Oct 03 09:38:14 MDT
2012:1:1:889837687</base:Checksum>
  <base:State
    xmlns:base="http://www.saic.com/precis/2009/06/base">Active</base:State>
  </str:WorkProductIdentification>
  <str:WorkProductProperties>
    <base:Created
      xmlns:base="http://www.saic.com/precis/2009/06/base">2012-10-03T09:38:14.337-
06:00</base:Created>
    <base:CreatedBy
      xmlns:base="http://www.saic.com/precis/2009/06/base">admin@9zwwgns1</base:CreatedBy>
    <base:LastUpdated
      xmlns:base="http://www.saic.com/precis/2009/06/base">2012-10-03T09:38:14.337-
06:00</base:LastUpdated>
    <base:LastUpdatedBy
      xmlns:base="http://www.saic.com/precis/2009/06/base">admin@9zwwgns1</base:LastUpdatedBy>
    <base:Kilobytes
```



```
xmlns:base="http://www.saic.com/precis/2009/06/base">1</base:Kilobytes>
<base:MimeType>
xmlns:base="http://www.saic.com/precis/2009/06/base">application/uicds+xml</base:MimeType>
  <base:AssociatedGroups
    xmlns:base="http://www.saic.com/precis/2009/06/base">
      <base:Identifier>IG-3e59949d-057b-41ef-924c-2e7a4ca3cb85</base:Identifier>
    </base:AssociatedGroups>
  </str:WorkProductProperties>
</ulex:PackageMetadata>
<ns:Digest
  xmlns:ns="http://ucore.gov/ucore/2.0"
  xmlns:ns2="http://www.opengis.net/gml/3.2"
  xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0/"
  xmlns:base="http://www.saic.com/precis/2009/06/base"
  xmlns:ulex="ulex:message:structure:1.0">
  <ns:Event
    id="Event-41bd31c0-352e-4c91-8d16-7ba4db4b4980">
    <ns:Descriptor>Overturned tanker on the highway.</ns:Descriptor>
    <ns:Identifier
      ns:code="identifier"
      ns:codespace="urn:oasis:names:tc:emergency:cap:1.1"
      ns:label="ID">Alert - A hazardous chemical event has occurred</ns:Identifier>
    <ns:What
      ns:code="AlertEvent"
      ns:codespace="http://ucore.gov/ucore/2.0/codespace/" />
    <ns:What
      ns:code="CBRNE"
      ns:codespace="urn:oasis:names:tc:emergency:cap:1.1" />
    </ns:Event>
  <ns:Location
    id="Location-6530da62-55d2-4627-8760-3addecfe9f00">
    <ns:GeoLocation>
      <ns:Polygon>
        <ns2:Polygon
          ns2:id="Polygon-b0585192-39ce-4561-b4a6-d3c2d03884af"
          srsName="EPSG:4326">
          <ns2:exterior>
            <ns2:LinearRing>
              <ns2:pos
                srsName="EPSG:4326">38.8 -77.3</ns2:pos>
              <ns2:pos
                srsName="EPSG:4326">38.8 -77.1</ns2:pos>
              <ns2:pos
                srsName="EPSG:4326">39.0 -77.1</ns2:pos>
              <ns2:pos
                srsName="EPSG:4326">39.0 -77.3</ns2:pos>
              <ns2:pos
                srsName="EPSG:4326">38.8 -77.3</ns2:pos>
            </ns2:LinearRing>
          </ns2:exterior>
        </ns2:Polygon>
      </ns:Polygon>
    </ns:GeoLocation>
  </ns:Location>
  <ns:OccursAt
```





```
id="OccursAt-02a25fc6-df5d-4b0d-b132-81c2916e654e">
<ns:Time>
  <ns:TimeInstant>
    <Value
      xmlns="http://ucore.gov/ucore/2.0">2009-09-15T12:00:00-06:00</Value>
    </ns:TimeInstant>
  </ns:Time>
<ns:EventRef
  ref="Event-41bd31c0-352e-4c91-8d16-7ba4db4b4980" />
<ns:LocationRef
  ref="Location-6530da62-55d2-4627-8760-3addecfe9f00" />
</ns:OccursAt>
</ns:Digest>
<ulex:StructuredPayload
  xmlns:ulex="ulex:message:structure:1.0">
  <ulex:StructuredPayloadMetadata>
    <ulex:CommunityURI>Alert</ulex:CommunityURI>
    <ulex:CommunityVersion />
  </ulex:StructuredPayloadMetadata>
  <cap:alert
    xmlns:cap="urn:oasis:names:tc:emergency:cap:1.1"
    xmlns:ns2="http://www.opengis.net/gml/3.2"
    xmlns="http://www.saic.com/precis/2009/06/structures"
    xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0/"
    xmlns:ns="http://ucore.gov/ucore/2.0"
    xmlns:base="http://www.saic.com/precis/2009/06/base"
    xmlns:as="http://uicds.org/AlertService"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <cap:identifier>UICDS-Test-Identifier1</cap:identifier>
    <cap:sender>IncidentManagement@agency.gov</cap:sender>
    <cap:sent>2009-09-15T12:00:00</cap:sent>
    <cap:status>Actual</cap:status>
    <cap:msgType>Alert</cap:msgType>
    <cap:scope>Public</cap:scope>
    <cap:info>
      <cap:language>en-US</cap:language>
      <cap:category>CBRNE</cap:category>
      <cap:event>A hazardous chemical event has occurred</cap:event>
      <cap:urgency>Immediate</cap:urgency>
      <cap:severity>Extreme</cap:severity>
      <cap:certainty>Observed</cap:certainty>
      <cap:effective>2009-09-15T12:00:00</cap:effective>
      <cap:onset>2009-09-15T12:00:00</cap:onset>
      <cap:senderName>Bob McGillicuddy</cap:senderName>
      <cap:headline>A hazardous chemical event has occurred</cap:headline>
      <cap:description>Overturned tanker on the highway.</cap:description>
      <cap:area>
        <cap:areaDesc>The highway, mile marker 128</cap:areaDesc>
        <cap:polygon>38.8,-77.3 38.8,-77.1 39.0,-77.1 39.0,-77.3 38.8,-77.3</cap:polygon>
      </cap:area>
    </cap:info>
  </cap:alert>
</ulex:StructuredPayload>
</str:WorkProduct>
```



## 8.0 WorkProductIdentification is Essential for Update, Close, and Archive

Any changes to a work product (Update, Close, Archive) must start from the most current version of the Work Product. The identification for the work product is found in *WorkProductIdentification*.

The current version is defined by the following fields found in the WorkProductIdentification element:

- Identifier which provides a unique reference to the work product. In the example below, the Identifier is highlighted in yellow and includes “Alert” as the type of work product and the unique number that follows.
- Version which indicates the current working revision number of the work product.
- Type which indicates the “kind” of work product this is. Each service deals with a unique type. Arbitrary types can be managed directly via the Work Product Service. Checksum provides a unique check for versioned documents to enable multiple cores to update documents and stay in sync.

WorkProductIdentification is available from:

- Response to the CreateIncident
- Received in a Notification
- GetProductCurrentVersion Request

```
...
<preciss:WorkProductIdentification>
  <precisb:Identifier>Alert-5b251981-83e6-4026-b28d-d9f523b364cf</precisb:Identifier>
  <precisb:Version>1</precisb:Version>
  <precisb:Type>Alert</precisb:Type>
  <precisb:Checksum>Wed Oct 03 09:38:14 MDT 2012:1:1:889837687</precisb:Checksum>
  <precisb:State>Active</precisb:State>
</preciss:WorkProductIdentification>
...
```

### 8.1 Get Alert by CAP Alert ID

A CAP Alert can be obtained via the Alert Service by submitting a GetAlertByAlertIdRequest as shown below.

```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"/>
  <soapenv:Body xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
    <as:GetAlertByAlertIdRequest xmlns:cap="urn:oasis:names:tc:emergency:cap:1.1"
      xmlns:as="http://uicds.org/AlertService">
      <!-- NOTE: This is the CAP Identifier, NOT the XchangeCore WP ID -->
      <as:AlertID>UICDS-Test-Identifier1</as:AlertID>
    </as:GetAlertByAlertIdRequest>
  </soapenv:Body>
```



```
</soapenv:Envelope>
```

## 8.2 Response to Get Alert by CAP Alert ID

The following is the XML response to the Get Alert by CAP Alert ID. The WorkProductIdentification obtained when you get a specific CAP Alert work product is used to close a CAP Alert.

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header />
  <SOAP-ENV:Body>
    <aler:GetAlertByAlertIdResponse
      xmlns:aler="http://ucids.org/AlertService">
      <str:WorkProduct
        xmlns:str="http://www.saic.com/precis/2009/06/structures">
        <ulex:PackageMetadata
          xmlns:ulex="ulex:message:structure:1.0">
          <ulex:DataItemID>Alert-12160513-c75e-4f3b-87a4-1101a265e9a7</ulex:DataItemID>
          <ulex:DataItemReferenceID>Alert-12160513-c75e-4f3b-87a4-
1101a265e9a7</ulex:DataItemReferenceID>
          <ns:DataItemStatus
            xmlns:ns="http://ucore.gov/ucore/2.0"
            ns:code="Active"
            ns:codespace="http://ucids.org/1.0/codespace/workproduct/status"
            ns:label="XchangeCore Work Product Status" />
          <ulex:DataOwnerMetadata>
            <ns:DataOwnerIdentifier
              xmlns:ns="http://ucore.gov/ucore/2.0">
              <ns1:Organization
                xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0/">
                <ns1:name>ucids.org</ns1:name>
              </ns1:Organization>
            </ns:DataOwnerIdentifier>
            <ns:DataOwnerContact
              xmlns:ns="http://ucore.gov/ucore/2.0">
              <ns1:Organization
                xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0/">
                <ns1:name>http://ucids.us</ns1:name>
              </ns1:Organization>
            </ns:DataOwnerContact>
            <ulex:DataOwnerMetadataDomainAttribute>
              <ulex:DomainName>XchangeCore EM Domain</ulex:DomainName>
            </ulex:DataOwnerMetadataDomainAttribute>
          </ulex:DataOwnerMetadata>
        </str:WorkProduct>
      </aler:GetAlertByAlertIdResponse>
    </SOAP-ENV:Body>
  </SOAP-ENV:Envelope>
```



```
<ns:DisseminationCriteria
  xmlns:ns="http://ucore.gov/ucore/2.0" />
<str:WorkProductIdentification>
  <base:Identifier
    xmlns:base="http://www.saic.com/precis/2009/06/base">Alert-5b251981-83e6-4026-
b28d-d9f523b364cf</base:Identifier>
  <base:Version
    xmlns:base="http://www.saic.com/precis/2009/06/base">1</base:Version>
  <base:Type
    xmlns:base="http://www.saic.com/precis/2009/06/base">Alert</base:Type>
  <base:Checksum
    xmlns:base="http://www.saic.com/precis/2009/06/base">Wed Oct 03 09:38:14 MDT
2012:1:1:889837687</base:Checksum>
  <base:State
    xmlns:base="http://www.saic.com/precis/2009/06/base">Active</base:State>
</str:WorkProductIdentification>
<str:WorkProductProperties>
  <base:Created
    xmlns:base="http://www.saic.com/precis/2009/06/base">2012-10-03T09:38:14.337-
06:00</base:Created>
  <base:CreatedBy
    xmlns:base="http://www.saic.com/precis/2009/06/base">admin@9zwwgns1</base:CreatedBy>
  <base:LastUpdated
    xmlns:base="http://www.saic.com/precis/2009/06/base">2012-10-03T09:38:14.337-
06:00</base:LastUpdated>
  <base:LastUpdatedBy
    xmlns:base="http://www.saic.com/precis/2009/06/base">admin@9zwwgns1</base:LastUpdatedBy>
  <base:Kilobytes
    xmlns:base="http://www.saic.com/precis/2009/06/base">1</base:Kilobytes>
  <base:MimeType
    xmlns:base="http://www.saic.com/precis/2009/06/base">application/uicds+xml</base:MimeType>
  <base:AssociatedGroups
    xmlns:base="http://www.saic.com/precis/2009/06/base">
    <base:Identifier>IG-3e59949d-057b-41ef-924c-2e7a4ca3cb85</base:Identifier>
  </base:AssociatedGroups>
</str:WorkProductProperties>
</ulex:PackageMetadata>
<ns:Digest
  xmlns:ns="http://ucore.gov/ucore/2.0"
  xmlns:ns2="http://www.opengis.net/gml/3.2"
  xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0/"
  xmlns:base="http://www.saic.com/precis/2009/06/base"
  xmlns:ulex="ulex:message:structure:1.0">
  <ns:Event
    id="Event-41bd31c0-352e-4c91-8d16-7ba4db4b4980">
    <ns:Descriptor>Overturned tanker on the highway.</ns:Descriptor>
    <ns:Identifier
      ns:code="identifier"
      ns:codespace="urn:oasis:names:tc:emergency:cap:1.1"
      ns:label="ID">Alert - A hazardous chemical event has occurred</ns:Identifier>
    <ns:What
      ns:code="AlertEvent"
      ns:codespace="http://ucore.gov/ucore/2.0/codespace/" />
```



```
<ns:What
  ns:code="CBRNE"
  ns:codespace="urn:oasis:names:tc:emergency:cap:1.1" />
</ns:Event>
<ns:Location
  id="Location-6530da62-55d2-4627-8760-3addecfe9f00">
  <ns:GeoLocation>
    <ns:Polygon>
      <ns2:Polygon
        ns2:id="Polygon-b0585192-39ce-4561-b4a6-d3c2d03884af"
        srsName="EPSG:4326">
        <ns2:exterior>
          <ns2:LinearRing>
            <ns2:pos
              srsName="EPSG:4326">38.8 -77.3</ns2:pos>
            <ns2:pos
              srsName="EPSG:4326">38.8 -77.1</ns2:pos>
            <ns2:pos
              srsName="EPSG:4326">39.0 -77.1</ns2:pos>
            <ns2:pos
              srsName="EPSG:4326">39.0 -77.3</ns2:pos>
            <ns2:pos
              srsName="EPSG:4326">38.8 -77.3</ns2:pos>
          </ns2:LinearRing>
        </ns2:exterior>
      </ns2:Polygon>
    </ns:Polygon>
  </ns:GeoLocation>
</ns:Location>
<ns:OccursAt
  id="OccursAt-02a25fc6-df5d-4b0d-b132-81c2916e654e">
  <ns:Time>
    <ns:TimeInstant>
      <Value
        xmlns="http://ucore.gov/ucore/2.0">2009-09-15T12:00:00-06:00</Value>
    </ns:TimeInstant>
  </ns:Time>
  <ns:EventRef
    ref="Event-41bd31c0-352e-4c91-8d16-7ba4db4b4980" />
  <ns:LocationRef
    ref="Location-6530da62-55d2-4627-8760-3addecfe9f00" />
</ns:OccursAt>
</ns:Digest>
<ulex:StructuredPayload
  xmlns:ulex="ulex:message:structure:1.0">
  <ulex:StructuredPayloadMetadata>
    <ulex:CommunityURI>Alert</ulex:CommunityURI>
    <ulex:CommunityVersion />
  </ulex:StructuredPayloadMetadata>
  <cap:alert
    xmlns:cap="urn:oasis:names:tc:emergency:cap:1.1"
    xmlns:ns2="http://www.opengis.net/gml/3.2"
    xmlns="http://www.saic.com/precis/2009/06/structures"
    xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0"
    xmlns:ns="http://ucore.gov/ucore/2.0"
    xmlns:base="http://www.saic.com/precis/2009/06/base"
```



```
xmlns:as="http://uicds.org/AlertService"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<cap:identifier>UICDS-Test-Identifier1</cap:identifier>
<cap:sender>IncidentManagement@agency.gov</cap:sender>
<cap:sent>2009-09-15T12:00:00</cap:sent>
<cap:status>Actual</cap:status>
<cap:msgType>Alert</cap:msgType>
<cap:scope>Public</cap:scope>
<cap:info>
  <cap:language>en-US</cap:language>
  <cap:category>CBRNE</cap:category>
  <cap:event>A hazardous chemical event has occurred</cap:event>
  <cap:urgency>Immediate</cap:urgency>
  <cap:severity>Extreme</cap:severity>
  <cap:certainity>Observed</cap:certainity>
  <cap:effective>2009-09-15T12:00:00</cap:effective>
  <cap:onset>2009-09-15T12:00:00</cap:onset>
  <cap:senderName>Bob McGillicuddy</cap:senderName>
  <cap:headline>A hazardous chemical event has occurred</cap:headline>
  <cap:description>Overturned tanker on the highway.</cap:description>
  <cap:area>
    <cap:areaDesc>The highway, mile marker 128</cap:areaDesc>
    <cap:polygon>38.8,-77.3 38.8,-77.1 39.0,-77.1 39.0,-77.3 38.8,-77.3</cap:polygon>
  </cap:area>
</cap:info>
</cap:alert>
</ulex:StructuredPayload>
</str:WorkProduct>
</aler:GetAlertByAlertIdResponse>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

## 9.0 Update an Alert Work Product

In accordance with the CAP 1.1 specification, CAP Alerts are not updated. If information in a CAP Alert is outdated, i.e. needs to be updated, that CAP Alert is canceled (CAP 1.1 specification parlance) and a new CAP Alert is created with the updated information. XchangeCore follows this workflow.

## 10.0 Close and Archive an Alert Work Product

### 10.1 Understanding Close and Archive

Closing a work product removes it from the notification list and removes it from any GetProductCurrentVersionRequest. But it does NOT remove the work product (or any previous versions of the work product) from XchangeCore.

Archiving a work product permanently deletes it from XchangeCore.



The purpose of closing before archiving is to give the XchangeCore owner a chance to do whatever he or she wants to do with the set of work products. This is the point to save work products for the record, if desired. The principle behind XchangeCore is that XchangeCore is not a system of record – it is the transport path for data. Your system of record is the application you are using. Thus, there is no inherent way to create a long-term historical record of XchangeCore transactions except to copy the data from XchangeCore between the close process and the archive process.

In practice, because XchangeCore is not a system of record, most applications Close and Archive Work Products in one step. But that is entirely up to you.

## 10.2 Cancel CAP Alert (Close and Archive Operations)

Close and Archive use the WorkProductService for ALL Work Products. The same message is submitted to the WorkProductService for any work product in XchangeCore with the specific instruction being provided to XchangeCore by the WorkProductIdentification which specifies which work product to close or archive.

XchangeCore has adapted this workflow to enable XchangeCore to adhere to the the CAP 1.1 specification as follows. When an end user wishes to cancel (CAP 1.1 specification parlance) a CAP Alert in XchangeCore, a CancelAlertRequest is issued to the Alert Service. This effectively closes and archives the Cap Alert.

### 10.2.1 Cancel CAP Alert Message

Below is an example of a Cancel CAP Alert message.

```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
    <as:CancelAlertRequest
      xmlns:as="http://uicds.org/AlertService"
      xmlns:precisb="http://www.saic.com/precis/2009/06/base"
      xmlns:preciss="http://www.saic.com/precis/2009/06/structures">
      <preciss:WorkProductIdentification>
        <precisb:Identifier>Alert-5b251981-83e6-4026-b28d-d9f523b364cf</precisb:Identifier>
        <precisb:Version>1</precisb:Version>
        <precisb:Type>Alert</precisb:Type>
        <precisb:Checksum>Wed Oct 03 09:38:14 MDT 2012:1:1:889837687</precisb:Checksum>
        <precisb:State>Active</precisb:State>
      </preciss:WorkProductIdentification>
    </as:CancelAlertRequest>
  </soapenv:Body>
```

Note that Identifier and Checksum identify what Work Product you are closing. You must substitute the Identifier and Checksum numbers from the work product you want to close. See Section 8.0 for further details.



## 10.2.2 Expected Response to a Cancel CAP Alert Message

You will get a response by Cancelling that contains confirmation that it was cancelled (closed and archived).

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header />
  <SOAP-ENV:Body>
    <aler:CancelAlertResponse
      xmlns:aler="http://uicds.org/AlertService">
      <wor:WorkProductPublicationResponse
        xmlns:wor="http://uicds.org/WorkProductService">
        <str:WorkProductProcessingStatus
          xmlns:str="http://www.saic.com/precis/2009/06/structures">
          <base:Status
            xmlns:base="http://www.saic.com/precis/2009/06/base">Accepted</base:Status>
          </str:WorkProductProcessingStatus>
          <str:WorkProduct
            xmlns:str="http://www.saic.com/precis/2009/06/structures">
            <ulex:PackageMetadata
              xmlns:ulex="ulex:message:structure:1.0">
              <ulex:DataItemID>Alert-5b251981-83e6-4026-b28d-d9f523b364cf</ulex:DataItemID>
              <ulex:DataItemReferenceID>Alert-5b251981-83e6-4026-b28d-
d9f523b364cf</ulex:DataItemReferenceID>
              <ns:DataItemStatus
                xmlns:ns="http://ucore.gov/ucore/2.0"
                ns:code="Inactive"
                ns:codespace="http://uicds.org/1.0/codespace/workproduct/status"
                ns:label="XchangeCore Work Product Status" />
              <ulex:DataOwnerMetadata>
                <ns:DataOwnerIdentifier
                  xmlns:ns="http://ucore.gov/ucore/2.0">
                  <ns1:Organization
                    xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0/">
                    <ns1:name>ucids.org</ns1:name>
                  </ns1:Organization>
                </ns:DataOwnerIdentifier>
                <ns:DataOwnerContact
                  xmlns:ns="http://ucore.gov/ucore/2.0">
                  <ns1:Organization
                    xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0/">
                    <ns1:name>http://uicds.us</ns1:name>
                  </ns1:Organization>
                </ns:DataOwnerContact>
                <ulex:DataOwnerMetadataDomainAttribute>
                  <ulex:DomainName>XchangeCore EM Domain</ulex:DomainName>
                </ulex:DataOwnerMetadataDomainAttribute>
              </ulex:DataOwnerMetadata>
              <ns:DisseminationCriteria
                xmlns:ns="http://ucore.gov/ucore/2.0" />
            </str:WorkProductIdentification>
          </str:WorkProduct>
        </wor:WorkProductPublicationResponse>
      </aler:CancelAlertResponse>
    </SOAP-ENV:Body>
  </SOAP-ENV:Envelope>
```





```
<base:Identifier
  xmlns:base="http://www.saic.com/precis/2009/06/base">Alert-5b251981-83e6-4026-b28d-
d9f523b364cf</base:Identifier>
  <base:Version
    xmlns:base="http://www.saic.com/precis/2009/06/base">2</base:Version>
  <base:Type
    xmlns:base="http://www.saic.com/precis/2009/06/base">Alert</base:Type>
  <base:Checksum
    xmlns:base="http://www.saic.com/precis/2009/06/base">Wed Oct 03 09:51:16 MDT
2012:2:1:3623644064</base:Checksum>
  <base:State
    xmlns:base="http://www.saic.com/precis/2009/06/base">Inactive</base:State>
</str:WorkProductIdentification>
<str:WorkProductProperties>
  <base:Created
    xmlns:base="http://www.saic.com/precis/2009/06/base">2012-10-03T09:38:14.337-
06:00</base:Created>
  <base:CreatedBy
    xmlns:base="http://www.saic.com/precis/2009/06/base">admin@9zwgns1</base:CreatedBy>
  <base:LastUpdated
    xmlns:base="http://www.saic.com/precis/2009/06/base">2012-10-03T09:51:16.447-
06:00</base:LastUpdated>
  <base:LastUpdatedBy
    xmlns:base="http://www.saic.com/precis/2009/06/base">admin@9zwgns1</base:LastUpdatedBy>
  <base:Kilobytes
    xmlns:base="http://www.saic.com/precis/2009/06/base">1</base:Kilobytes>
  <base:MimeType
    xmlns:base="http://www.saic.com/precis/2009/06/base">application/uicds+xml</base:MimeType>
  <base:AssociatedGroups
    xmlns:base="http://www.saic.com/precis/2009/06/base">
    <base:Identifier>IG-3e59949d-057b-41ef-924c-2e7a4ca3cb85</base:Identifier>
  </base:AssociatedGroups>
</str:WorkProductProperties>
</ulex:PackageMetadata>
<ns:Digest
  xmlns:ns="http://ucore.gov/ucore/2.0"
  xmlns:ns2="http://www.opengis.net/gml/3.2"
  xmlns:ns1="http://metadata.dod.mil/mdr/ns/DDMS/2.0"
  xmlns:base="http://www.saic.com/precis/2009/06/base"
  xmlns:ulex="ulex:message:structure:1.0">
  <ns:Event
    id="Event-28dad0a6-b540-42bd-b8ef-4d0f4961c7aa">
    <ns:Descriptor>Overturned tanker on the highway.</ns:Descriptor>
    <ns:Identifier
      ns:code="identifier"
      ns:codespace="urn:oasis:names:tc:emergency:cap:1.1"
      ns:label="ID">Alert - A hazardous chemical event has occurred</ns:Identifier>
    <ns:What
      ns:code="AlertEvent"
      ns:codespace="http://ucore.gov/ucore/2.0/codespace/" />
    <ns:What
      ns:code="CBRNE"
      ns:codespace="urn:oasis:names:tc:emergency:cap:1.1" />
```



```
</ns:Event>
<ns:Location
  id="Location-9ffb189d-631f-4de8-9b86-7eda15ce47bf">
  <ns:GeoLocation>
    <ns:Polygon>
      <ns2:Polygon
        ns2:id="Polygon-0bf99a2d-01ad-4d93-b31d-819ac7a57426"
        srsName="EPSG:4326">
        <ns2:exterior>
          <ns2:LinearRing>
            <ns2:pos
              srsName="EPSG:4326">38.8 -77.3</ns2:pos>
            <ns2:pos
              srsName="EPSG:4326">38.8 -77.1</ns2:pos>
            <ns2:pos
              srsName="EPSG:4326">39.0 -77.1</ns2:pos>
            <ns2:pos
              srsName="EPSG:4326">39.0 -77.3</ns2:pos>
            <ns2:pos
              srsName="EPSG:4326">38.8 -77.3</ns2:pos>
          </ns2:LinearRing>
        </ns2:exterior>
      </ns2:Polygon>
    </ns:Polygon>
  </ns:GeoLocation>
</ns:Location>
<ns:OccursAt
  id="OccursAt-86fc41f4-6cf8-4986-8c18-5ed04fed8e5f">
  <ns:Time>
    <ns:TimeInstant>
      <Value
        xmlns="http://ucore.gov/ucore/2.0">2009-09-15T12:00:00-06:00</Value>
    </ns:TimeInstant>
  </ns:Time>
  <ns:EventRef
    ref="Event-28dad0a6-b540-42bd-b8ef-4d0f4961c7aa" />
  <ns:LocationRef
    ref="Location-9ffb189d-631f-4de8-9b86-7eda15ce47bf" />
</ns:OccursAt>
</ns:Digest>
</str:WorkProduct>
</wor:WorkProductPublicationResponse>
</aler:CancelAlertResponse>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```



## 11.0 IAP Service Methods Summary

Developers have the option of using any of the following methods to elicit performance from XchangeCore services.

Alert Service Method Summary
<b><a href="#">cancelAlert</a></b> Allows the client to cancel an existing alert work product.
<b><a href="#">createAlert</a></b> Allows the client to create an alert work product and optionally associate it to an incident.
<b><a href="#">createAlertRawCap</a></b> Allows the client to create an alert work product from a raw CAP XML element.
<b><a href="#">getAlert</a></b> Allows the client to get an alert work product using the XchangeCore Work Product Identification.
<b><a href="#">getAlertByAlertId</a></b> Allows the client to get an alert work product using the CAP identifier value.
<b><a href="#">getListOfAlerts</a></b> Allows the client to get a list of all alert work products or a limited list by using the QueryString.
<b>Reference:</b> <a href="https://uicds-test3.saic.com/secure/apidocs/com/saic/uicds/core/em/endpoint/AlertServiceEndpoint.html">https://uicds-test3.saic.com/secure/apidocs/com/saic/uicds/core/em/endpoint/AlertServiceEndpoint.html</a>

## 12.0 Viewing XchangeCore Work Products for Confirmation

There are three methods for inspecting the XchangeCore Alert Work Product to validate it. The programmatic way to obtain the Alert Work Product is by submitting the CAP Alert ID to the Alert Service (See Sections 8.1 and 8.2). An internal look at the work product on the XchangeCore uses the XchangeCore Console. An external look at the results of the work product can be obtained using Google Earth™

### 12.1 Using the XchangeCore Console

Use the XchangeCore Console (or AdminConsole if you have permissions) to view the resulting work product after posting.

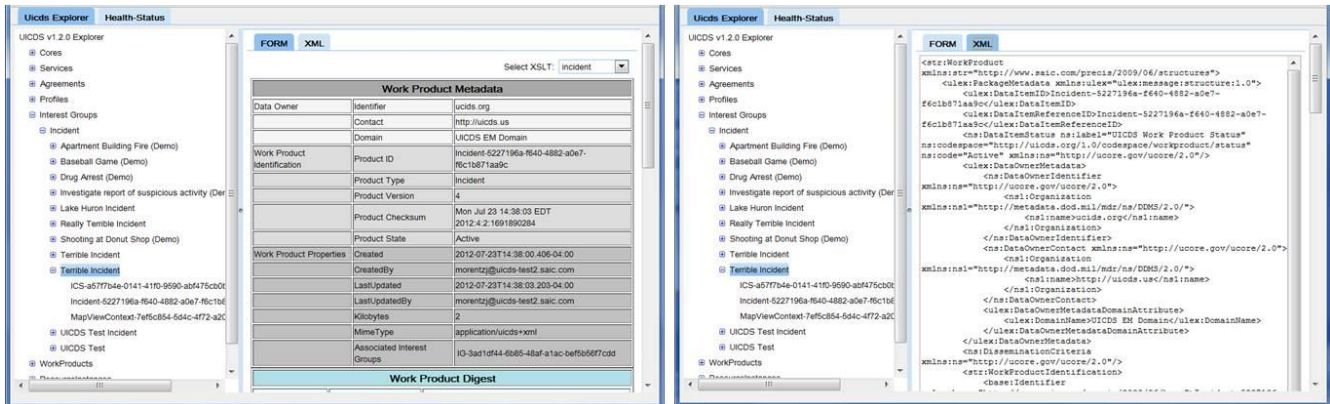
Access your XchangeCore Console at <https://localhost/uicds/Console.html> where “localhost” is your XchangeCore Fully Qualified Domain Name.



For example, developers have access to hosted XchangeCore servers for testing. With access credentials, you may use the Console to view your test XchangeCore Work Products to:

<https://test3.xchangecore.leidos.com/uicds/Console.html>

The XchangeCore Console will provide two views of the XchangeCore Work Product as shown below. One is in a structured form (XSLT) and the second as an XML document. Note that the XSLT is user-defined if you wish to create your own view of the work product.



These views of the XchangeCore Console show, on the left, the XSLT view of work product Metadata, Digest, and Payload and on the right the XML view of the XchangeCore Work Product.

## 12.2 Using Google Earth™

In the Appendix (Section 13.4) is a guide to looking at these same work products in Google Earth™ as one no-cost tool to check your Alert Work Products.

## 13.0 Mapping of the Payload to the UCore Digest

XchangeCore automatically digests selected NIEM data elements contained in the payload into the UCore standard data elements. The following table shows those NIEM elements in the payload and the UCore Digest data element name. Required XchangeCore data elements are shown in beige and optional in blue.

The Digest data is contained in the KML and GeoRSS feeds as well as in the notification of the successful posting of an XchangeCore XML template and the successful creation of an Alert Work Product.

XchangeCore Common Data Element Name	Payload XchangeCore Data Element	Digest Data Element (from UCore)
Identifier	<cap:identifier>	
Sender	<cap:sender>	
Sent Date/Time	<cap:sent>	<ns:TimeInstant>



Status	<cap:status>	
Message Type	<cap:msgType>	
Scope	<cap:scope>	
Category	<cap:category>	<ns:What>
Event	<cap:event>	<ns:Identifier>
Urgency	<cap:urgency>	
Severity	<cap:severity>	
Certainty	<cap:certainty>	
Source	<cap:source>	
Restriction	<cap:restriction>	
Addresses	<cap:addresses>	
Code	<cap:code>	
Note	<cap:note>	
References	<cap:references>	
Incidents	<cap:incidents>	
Language	<cap:language>	
Response Type	<cap:responseType>	
Event Code	<cap:/eventCode> <valueName> <value>	
Effective	<cap:effective>	
Onset	<cap:onset>	
Expires	<cap:expires>	
Sender Name	<cap:senderName>	
Headline	<cap:headline>	<ns:Identifier>
Description	<cap:description>	<ns:Descriptor>
Instruction	<cap:instruction>	
Web	<cap:web>	
Contact	<cap:contact>	
Parameter	<cap:parameter>	
Resource	<cap:resource>	
Area Description	<cap:areaDesc>	
Area	<cap:geoCode> <cap:polygon> <cap:circle>	<ns:GeoLocation>

## 14.0 Best Practices for that Pesky “Other” Data

XchangeCore follows standards. The Alert Work Product is derived from NIEM. Thus, occasionally an application developer may find it necessary to transmit data that does not fit conveniently in the NIEM, or other standard, structure.



To accomplish this, XchangeCore has created a “best practice” for employing a data element to contain “other” data. Because this data is usually also important to the application end-user, the XchangeCore best practice is designed to make the data easily (a) understandable by other applications that receive the XchangeCore Work Product and (b) viewable in a nicely structured format. Thus, the best practice for incorporating data into the description is to use HTML formatting to define key:value pairs. As shown below, because the key:value pairs are clearly delimited, applications can understand them. In addition, XchangeCore digests the Description data element into a KML feed. When Google Earth or other KML-compliant applications consume that KML feed, they are smart enough to understand the HTML inserted into the KML feed and provide formatting in a end-user-friendly visualization.

To insert additional data into any data element, the following HTML formatting should be used as a best practice.

```
<Descriptor><![CDATA[<br />
    <b>Name:</b> Value <br />
    <b>Name:</b> Value <br />
    <b>Name:</b> Value <br />]]></Descriptor>
```

This HTML structure ensures (through CDATA) that the inserted HTML is not parsed by an XML parser. The <b> allows the Name element to display in bold face on Google Earth™ or other KML-enabled applications and <br/> inserts a return after each value forming a nicely formatted column.

## 15.0 Links to the Alert Service WSDL

The XchangeCore Alert Service WSDL can be found locally after the XchangeCore has been downloaded or is available from the XchangeCore test cores.

From the downloaded local XchangeCore:

<http://localhost/uicds/core/ws/services/AlertService.wsdl>

From a hosted XchangeCore

<https://test3.xchangecore.leidos.com/uicds/core/ws/services/AlertService.wsdl>

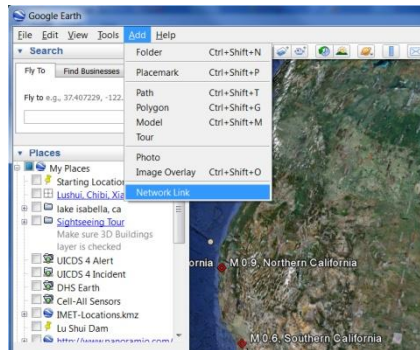
## 16.0 Appendix

### 16.1 View Alert Work Products in Google Earth™

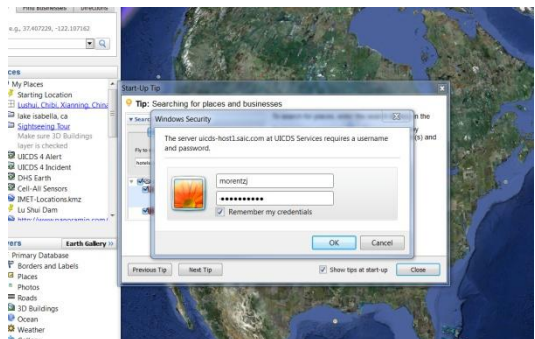
1. Download Google Earth from <http://www.google.com/earth/download/ge/agree.html>



2. Use the Add menu item to add a Network Link. Select a name that will appear in the Places section of Google Earth.



3. There are options to adding the network link
  - a. Note: The local Pilot XchangeCore URL should be substituted for the “uicds-host4.saic.com” link shown in the URLs below.
  - b. This is an example of a network link just for Incidents:  
<https://test3.xchangecore.leidos.com/uicds/pub/search?format=kml&productType=Incident>
  - c. You can add several XchangeCore Work Products to a single link making all of them display at once. This URL will get you XchangeCore Incidents and Alerts and Resources and Sensor Observations and Link Work Products of type text and html.  
<https://test3.xchangecore.leidos.com/uicds/pub/search?productState=Active&productType=Incident&productType=Alert&productType=ResponseToRequestInformation&productType=Alert&productType=text/html&format=kml>
4. Click the Refresh tab and select Periodically in the dropdown box. Select a time (minutes rather than seconds makes sense.)
5. Click OK.
6. You will be prompted to enter your access credentials to the XchangeCore named in the network link. (For the hosted XchangeCore test cores, these are the credentials you received when the Software User Agreement was signed and you have used them to download the XchangeCore Development Kit.)
7. The network link name you entered will appear in the Places directory on the left. Check the box to display content on the XchangeCore.
8. The link will refresh at the period you set. To force refresh, right click on the name and select refresh.





9. Navigate the tree below the link name by clicking on the + sign.

10. You can force the map to the location of any item shown in Places by double clicking on it.

### Example Incidents in Google Earth

Below the results of posting the two example incidents, the Terrible Incident located toward the top of the map as a point and the Really Terrible Incident polygon showing the formatting of the text from the XchangeCore Work Product into a KML format.

