CDR Data Elements (v1.3)

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1. Introduction

The purpose of this document is to specify a protocol for communicating between a client web service and the XDDS via the Internet. The CDR data uses the Hypertext Transfer Protocol (HTTP), pushed to the client web services, the specification of which is available on the Internet at http://www.w3.org/Protocols/rfc2068/rfc2068. The CDR data is in XML format. This will allow our customers or third party developers to implement their own clients for communicating with the XDDS via the Internet.

After client web services received CDR data, an XML formatted acknowledgement response must be returned to the XDDS system. The response contains a *Status Code* and *Status Message* field. The *Status Code* field contains an integer value that indicates success or failure. On failure, the value indicates the cause of the failure. The *Status Message* field is a text field, in US-English, for developer purposes only.

2. Dependencies

This document is intended to be a reference to the data elements used in Call Detail Records results. Familiarity with the services offered by EasyLink Services (particularly XDDS and MR message switches) is assumed.

3. Descriptions

This section includes tables that describe the elements of the XML documents that are used in CDR results. Special attention should be paid to the "#" column of these tables, which indicates the number of the particular element that may occur. The values in this column should be interpreted as follows:

# of Elements	Description
1	required element, and only one is allowed
1 -	required element, there must be at least one, but there may be more
0 - 1	optional element, but no more than one allowed
0 -	optional element, any number may appear

The elements are arranged in indented columns to indicate the hierarchy within the XML document – child elements appear indented under the parent element.

Tag Name	#	Description
JobDeliveryStatusResult	1	
JobDeliveryStatus	1	
JobData	0 -	Contains the delivery status result for a job associated with the requested JobId.
JobId	1	Identifies the job whose data is contained in this JobData element.
XDN *	1	The domain name (XDN = EasyLink Domain Name)
MRN	1	The job number (MRN = Message Reference Number)
BillingCode *	0 - 1	Job's billing code.
CustomerReference *	0 - 1	Job's customer reference.
DeliveryPriority *	1	Indicates the scheduling used for the job. Valid values include: • express • offpeak • scheduled
StartTime *	0 - 1	Time the job was scheduled to start.
EntryTime *	1	Time the job entered the system.
Subject *	0 - 1	Job-level subject string.
UserId *	0 - 1	The user ID associated with this job.
PostedTime *	0 - 1	The time the job completed posting, i.e. all primary deliveries completed.
CompletionTime *	0 - 1	Job's completion time.
DestinationCount *	0 - 1	The number of primary destinations for this job.
Filename *	0 - 1	Filename associated with this job.

Att *				0 - 1	Job-level Att value.
FaxTo *				0 - 1	Job-level FaxTo value.
DeliveryGroup				1 -	Deliveries associated with the job are assigned to different types of delivery groups depending on whether they are primary destinations specified for the job, or job reports, or friend reports.
	attribute **type**			1	Indicates the type of the delivery group. Level value is: Normal
	DeliveryDetail			0 -	This element contains the actual detailed delivery information for a single destination, and one will be present for each destination.
		attribute **xqn**		1	A numeric identifier for each destination in the DeliveryGroup.
		Ref		0 - 1	The ref value for the destination, sometimes used as an identifier for the destination.
		Destination		1	The delivery address in normalized form.
			attribute **type**	1	Specifies the type of destination and must be one of the following: fax internet mbox x400 telex cablegram mailgram ddd dedLine softswitch voice sms fod list smQuery
		State		1	Indicates the state of this destination. The value may be one of Error Cancelled Held Sent Expired
			attribute **code**	1	The value will be the number corresponding to the state. 4 Error 5 Cancelled 6 Held 7 Sent 8 Expired
			attribute **gammacode**	0 - 1	Optional code that may provide more detailed status information, mainly applicable to the Error state. PGS can provide a table of these error codes and their meaning.
		ListId		0 - 1	Indicates the list from which this destination was taken for this job. See **Error! Reference source not found.**. For destinations not taken from a list, a value of "adhoc" may appear here.
		DocumentPageCount		0 - 1	Pages in document.
		FirstAttemptTime		0 - 1	Time of first delivery attempt.
		LastAttemptTime		0 - 1	Time of last delivery attempt.

				Attempts	0 - 1	Number of delivery attempts made.
				DeliveryUnits	0 - 1	Indicates the number of applicable delivery units from the last delivery.

				attribute **unit**	1	Indicates the type of unit. May be:
						   seconds
						   pages
						   bytes

				CumulativeUnits	0 - 1	Indicates the number of applicable delivery units from all delivery attempts.

				attribute **unit**	1	Indicates the type of unit. May be:
						   seconds
						   pages
						   bytes

				BaudRate	0 - 1	Indicates the delivery baud rate, if applicable.
				Att *	0 - 1	The attention string used for this destination.
				FaxTo *	0 - 1	The recipient name or subject used for this destination.
		EndJobStatus			0 -	
			XDN *		1	The domain name (XDN = EasyLink Domain Name)
			MRN		1	The job number (MRN = Message Reference Number)
			StatusCode		1	Contents will be a string "END" to indicate the job end (entire job delivery was finished).

* These elements are supported in CDR v1.3. And, all supported keywords are configurable.

4. CDR Templates

The CDR job delivery XML is generated based on a XML template. The template name/version number must be specified in user's profile. The pre-defined templates are shown in the table below.

CDR Template Names	Supported in CDR version	Note
cdr.xml	All CDR versions	
cdr-1.0.xml (default)	All CDR versions	Supported keywords: **MRN, Ref, Destination, State, ListId, DocumentPageCount, FirstAttemptTime, LastAttemptTime, Attempts, DeliveryUnits, CumulativeUnits, BaudRate, StatusCode**
cdr-2.0.xml	CDR v1.3	Support cdr-1.0.xml AND additional keywords **XDN, BillingCode, CustomerReference** and **UserId**
cdr-all.xml	CDR v1.3	Support all keywords as below, **XDN, MRN, BillingCode, CustomerReference, DeliveryPriority, StartTime, EnrtyTime, Subject, UserId, PostedTime, CompletionTime, DestinationCount, Filename, Att, FaxTo, Ref, Destination, State, ListId, DocumentPageCount, FirstAttemptTime, LastAttemptTime, Attempts, DeliveryUnits, CumulativeUnits, BaudRate, StatusCode**
cdr-endonly.xml	CDR v1.3	Support the job END XML only – **XDN, MRN** and **StatusCode**
Customized templates	CDR v1.3	Please contact Customer Care to create, install and set up it for you. The available keywords are listed in cdr-all.xml section above.

5. XML Formatted Data Samples

There are generally intended to be simple illustrations that might help understand the CDR XML data format.

5.1 Sample 1 (supported in CDR v1.0 and v1.1 with cdr-1.0.xml template):

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<Envelope>
  <Body>
    <JobDeliveryStatusResult>
      <JobDeliveryStatus>
        <JobData>
          <JobId>
            <MRN>397216</MRN>
          </JobId>
          <DeliveryGroup type="Normal">
            <DeliveryDetail xqn="1">
              <ListId>!test1000</ListId>
              <Ref>AAA</Ref>
              <Destination type="fax">7323897812</Destination>
              <State code="7">SENT</State>
              <DocumentPageCount>1</DocumentPageCount>
              <FirstAttemptTime>2006-04-
                   27T21:51:39.000Z</FirstAttemptTime>
              <LastAttemptTime>2006-04-
                   27T21:51:39.000Z</LastAttemptTime>
              <Attempts>1</Attempts>
              <DeliveryUnits unit="seconds">40</DeliveryUnits>
              <CumulativeUnits unit="seconds">40</CumulativeUnits>
              <BaudRate>9600</BaudRate>
            </DeliveryDetail>
          </DeliveryGroup>
        </JobData>
        <JobData>
          <JobId>
            <MRN>397216</MRN>
          </JobId>
          <DeliveryGroup type="Normal">
            <DeliveryDetail xqn="838">
              <ListId>!test1000</ListId>
              <Ref>JJJ</Ref>
              <Destination type="fax">7320000000</Destination>
              <State code="7">SENT</State>
              <DocumentPageCount>1</DocumentPageCount>
              <FirstAttemptTime>2006-01-
                   27T22:12:34.000Z</FirstAttemptTime>
              <LastAttemptTime>2006-04-
                   27T23:12:34.000Z</LastAttemptTime>
              <Attempts>5</Attempts>
              <DeliveryUnits unit="seconds">58</DeliveryUnits>
              <CumulativeUnits unit="seconds">110</CumulativeUnits>
              <BaudRate>9600</BaudRate>
            </DeliveryDetail>
          </DeliveryGroup>
        </JobData>
```

```xml
        <EndJobStatus>
            <MRN>397216</MRN>
            <StatusCode>END</StatusCode>1s
        </EndJobStatus>
      </JobDeliveryStatus>
    </JobDeliveryStatusResult>
  </Body>
</Envelope>
```

5.2 Sample 2 (supported in CDR v1.3 with cdr-2.0.xml template):

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<Envelope>
  <Body>
    <JobDeliveryStatusResult>
      <JobDeliveryStatus>
        <JobData>
          <JobId>
            <XDN>dev</XDN>
            <MRN>397216</MRN>
          </JobId>
          <BillingCode>Billing code 123</BillingCode>
          <CustomerReference>Customer ref 123</CustomerReference>
          <UserId>pgi/id</UserId>
          <DeliveryGroup type="Normal">
            <DeliveryDetail xqn="1">
              <ListId>!test1000</ListId>
              <Ref>AAA</Ref>
              <Destination type="fax">7323897812</Destination>
              <State code="7">SENT</State>
              <DocumentPageCount>1</DocumentPageCount>
              <FirstAttemptTime>2006-04-
                    27T21:51:39.000Z</FirstAttemptTime>
              <LastAttemptTime>2006-04-
                    27T21:51:39.000Z</LastAttemptTime>
              <Attempts>1</Attempts>
              <DeliveryUnits unit="seconds">40</DeliveryUnits>
              <CumulativeUnits unit="seconds">40</CumulativeUnits>
              <BaudRate>9600</BaudRate>
            </DeliveryDetail>
          </DeliveryGroup>
        </JobData>
        <JobData>
          <JobId>
            <XDN>dev</XDN>
            <MRN>397216</MRN>
          </JobId>
          <BillingCode>Billing code 123</BillingCode>
          <CustomerReference>Customer ref 123</CustomerReference>
          <UserId>pgi/id</UserId>
          <DeliveryGroup type="Normal">
            <DeliveryDetail xqn="838">
              <ListId>!test1000</ListId>
              <Ref>JJJ</Ref>
              <Destination type="fax">7320000000</Destination>
```

```xml
                        <State code="7">SENT</State>
                        <DocumentPageCount>1</DocumentPageCount>
                        <FirstAttemptTime>2006-01-
                                27T22:12:34.000Z</FirstAttemptTime>
                        <LastAttemptTime>2006-04-
                                27T23:12:34.000Z</LastAttemptTime>
                        <Attempts>5</Attempts>
                        <DeliveryUnits unit="seconds">58</DeliveryUnits>
                        <CumulativeUnits unit="seconds">110</CumulativeUnits>
                        <BaudRate>9600</BaudRate>
                      </DeliveryDetail>
                    </DeliveryGroup>
                  </JobData>
                  <EndJobStatus>
                    <XDN>dev</XDN>
                    <MRN>397216</MRN>
                    <StatusCode>END</StatusCode>
                  </EndJobStatus>
                </JobDeliveryStatus>
              </JobDeliveryStatusResult>
          </Body>
        </Envelope>
```

5.3 Sample 2 (EndJobStatus only supported in CDR v1.0 and v1.1 with cdr-1.0.xml template):

```xml
        <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
        <Envelope>
          <Body>
            <JobDeliveryStatusResult>
              <JobDeliveryStatus>
                <EndJobStatus>
                  <MRN>397215</MRN>
                  <StatusCode>END</StatusCode>
                </EndJobStatus>
              </JobDeliveryStatus>
            </JobDeliveryStatusResult>
          </Body>
        </Envelope>
```

5.4 Sample 2 (EndJobStatus only supported in CDR v1.3 with cdr-2.0.xml, cdr-endonly.xml template):

```xml
        <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
        <Envelope>
          <Body>
            <JobDeliveryStatusResult>
              <JobDeliveryStatus>
                <EndJobStatus>
                  <XDN>dev</XDN>
                  <MRN>397215</MRN>
                  <StatusCode>END</StatusCode>
                </EndJobStatus>
              </JobDeliveryStatus>
            </JobDeliveryStatusResult>
```

</Body>
</Envelope>

6. HTTP Server Push

The CDR data will be pushed to client web service URL use HTTP POST method and are multi-part form data encoded as per RFC1867 (http://rfc.net/rfc1867.html). The field name is "XMLTrackUploader".

Content-Type: multipart/form-data; boundary=----------------------------53d7e4c94fdb

Example:

```
----------------------------53d7e4c94fdb
Content-Disposition: form-data; name="XMLTrackUploader"

<?xml version="1.0" encoding="UTF-8"
standalone="yes" ?><Envelope><Body><JobDeliveryStatusResult><JobDeliveryStatu
s><JobData><JobId><MRN>397575</MRN></JobId><DeliveryGroup
type="Normal"><DeliveryDetail xqn="1"><Ref>FAXOUT</Ref><Destination
type="fax">7323897812</Destination><State
code="7">SENT</State><DocumentPageCount>1</DocumentPageCount><FirstAttemptTim
e>2006-04-28T21:38:14.000Z</FirstAttemptTime><LastAttemptTime>2006-04-28T
21:38:14.000Z</LastAttemptTime><Attempts>1</Attempts><DeliveryUnits
unit="seconds">40</DeliveryUnits><CumulativeUnits
unit="seconds">40</CumulativeUnits><BaudRate>9600</BaudRate></DeliveryDetail>
</DeliveryGroup></JobData><JobData><JobId><MRN>397575</MRN></JobId><DeliveryG
roup type="Normal"><DeliveryDetail xqn="1"><Ref>MAILBOX</Ref><Destination
type="mbox">xsi/qian</Destination><State
code="7">SENT</State><DocumentPageCount>0</DocumentPageCount><FirstAttemptTim
e>2006-04-28T21:44:11.000Z</FirstAttemptTime><LastAttemptTime>2006-04-
28T21:44:11.000Z</LastAttemptTime><Attempts>1</Attempts><DeliveryUnits
unit="seconds">777</DeliveryUnits><CumulativeUnits
unit="seconds">777</CumulativeUnits><BaudRate>0</BaudRate></DeliveryDetail></
DeliveryGroup></JobData><EndJobStatus><MRN>397575</MRN><StatusCode>END</Statu
sCode></EndJobStatus></JobDeliveryStatus></JobDeliveryStatusResult></Body></E
nvelope>
----------------------------53d7e4c94fdb—
```

7. Response

The Response element will be included in responses sent from client to the EasyLink server. It is required after the client web service receiving the CDR data successfully. The response string must be in XML format.

Tag Name	#	Description
Response		
StatusCode	1	Contents will be an integer value. The value 0 indicates successful processing of the message, and any non-zero value indicates something less than complete successful processing.
		In general, a value of 1 will indicate an xml validation failure or problem, and 2 may

			indicate client side any other errors.
	StatusMessage	0-1	If present, this will contain a text message associated with the StatusCode. This is intended as an aid only – EasyLink CDR server will rely only on the StatusCode, and will not count on any particular text string or pattern in StatusMessage.

Example:

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"
?><Response><StatusCode>0</StatusCode><StatusMessage>success</StatusMessage
></Response>
```