

Electronic Information Environment (EIE)

Error Processing Model

**Describes the recommended runtime error
reporting and recommended correction action**

**For Industry partners who have been contracted to
participate in an In-Service-Support phase of a
Weapon System or Platform with Canada Department
of National Defence.**

EIE Project

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1. Overview

In the course of the service interaction between Industry and Canada during the technical transmission phase either Industry or Canada will encounter certain error conditions. Some of the error conditions will be as a result of issues with the specific message content, while other may be as a result of failure induced due to the transport mechanism or software that is supporting the services.

As per the Service Interaction Model the known set of error condition that are encountered from a message perspective have been defined. However, the particular treatment of them by the recipient of the errors has not been described.

The next section below describes the treatment of the various classes of errors using a model as listed below.

- Recoverable – where the runtime engine is configure to reattempt the transmission of the message to a finite number of attempts
- Non-recoverable – where the runtime engine will not attempt to retry since the errors falls into the category that is not a candidate for retrying.

2. Failure Conditions and Corrective Action

The failure conditions and the appropriate corrective actions that are applicable are listed below.

Note: The specific authoritative error codes for each failure reason are available as part of the “Reference Data” artifact that is shared with industry partners.

Failure Reason (Error Code)	SOAP Fault?	Context for Error Code Usage	Recoverable	Possible Actions To Be Undertaken By the Caller (Service Consumer)
UNAUTHENTICATED_MESSAGE	Yes	Transmitted message does not contain the required authentication credentials.	Yes	The consumer resends message with proper credentials in accordance with the service interaction model.
UNAUTHORIZED_MESSAGE	Yes	The target system using its authorization model rejects the message as per the authorization scheme for accessing a service	No	The caller will need to determine as to the reason for the authorization failure and proceed with the appropriate corrective action.
TAMPERED_MESSAGE	Yes	The target system is unable to properly validate the caller SOAP message’s digital signature	Yes	The consumer resends message in accordance with the Service Interaction Model.

The information being provided is to illustrate the model that exists for business processes and information exchange within the Performance Based Contracting (PBC) solution for the Department of National Defence. The information is provided to facilitate an understanding of the business architecture and the solution architecture that exist for the PBC program. The content is not intended to reflect the end state specifications for all of the PBC EIE related services.

Failure Reason (Error Code)	SOAP Fault?	Context for Error Code Usage	Recoverable	Possible Actions To Be Undertaken By the Caller (Service Consumer)
SERVICE_UNAVAILABLE	Yes	The target system is experiencing a temporary or unplanned outage.	Yes	The consumer resends message in accordance to the service interaction model.
MALFORMED_MESSAGE	Yes	The payload failed schema validation on the target system.	No	The consumer does not attempt to resend same message.
HEADER_ERROR	Yes	The target system finds an error with the caller's request message business header.	No	The consumer does not attempt to resend same message.
DUPLICATE_MESSAGE	Yes	The consumer has sent a duplicate message that the target system has already acknowledged.	No	The consumer does not need to proceed further after the receipt of the fault message.
UNKNOWN_ERROR	Yes	The consumer receives a unknown fault as a result of internal failure of the target system while processing the received message	No	The consumer uses internal process to resolve it with the provider.
BUSINESS_ERROR	No	Error reported from business fulfillment systems.	Yes	The consumer may correct the erroneous condition and submit a new instance of the message.
MESSAGE_IN_FAILURE_STATE	Yes	The consumer sends a message and receives a fault message since a previously submitted correlated transaction had failed.	No	The consumer terminates sending any further messages associated with the failed message.
MESSAGE_IN_DEAD_STATE	Yes	The consumer sends a message and receive a fault, since the target system has already marked the message as not being valid for transmission	No	The caller will have to use internal process and determine how to send a new message

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Failure Reason (Error Code)	SOAP Fault?	Context for Error Code Usage	Recoverable	Possible Actions To Be Undertaken By the Caller (Service Consumer)
UOW_HAS_NO_COUNTER_FOR_EXCHANGE_TYPE	Yes	The consumer will receive a fault message when a UOW message is subjected to the validation process and fails the validation since one of the exchange type declared has no count associated with it.	No	The consumer will have to terminate the current UOW of processing and rectify the erroneous condition.
UOW_COUNT_EXCHANGE_TYPE_EXCEEDED	Yes	The declared count is exceeded as a result of the message received	No	The consumer will have to now proceed to treat the entire UOW package as a failed transmission and follow the appropriate process to reissue a new UOW transaction and its associated messages.
UOW_ID_IS_NOT_UNIQUE	Yes	The unit of work ID must be unique across an industry partner and Fleet. If it fails this check and UOW ID is reused, the caller will receive a fault.	No	The consumer has to issue a new UOW instance with a unique UOW ID.
UOW_TIME_TO_LIVE_EXPIRED	Yes	A UOW that was received previously has exceeded its time-to-live and no other related messages against the UOW will be accepted.	No	The consumer will have to terminate the current UOW of processing and follow the appropriate reissuance model for UOW related transactions.
UOW_IN_INVALID_STATE	Yes	A received/previously messages caused the UOW to be in a invalid state.	No	The consumer will have to follow the appropriate reissuance model for UOW related transactions.

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Failure Reason (Error Code)	SOAP Fault?	Context for Error Code Usage	Recoverable	Possible Actions To Be Undertaken By the Caller (Service Consumer)
VIRUS_FOUND	Yes	A Message that has been sent contains a virus in an attachment or in the message content	No	The Service consumer will have to follow the appropriate cleansing process and resubmit the message after it has been cleansed of the virus
MTOM_ENCODING_INVALID	Yes	A message that was received which is classified as being subject to the MTOM specification contains an invalid encoding scheme	No	The service consumer will fix the non-compliance to MTOM encoding standard and re issue a message.
MESSAGE_TOO_LARGE	Yes	A message that was received from a service consumer that contains attached binary/text content has exceeded the threshold limit for the size that the service provider can accept for the service.	No	The service consumer will choose an alternate delivery path for the offending payload
INVALID_CONTEXT	Yes	A message that was received from a service consumer that contains data that is not known to the service provider or is incorrect for the context of the message that is being sent	Yes	The service consumer can fix the context and re-issue the message if applicable.

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3. Document History

Revision No.	Description	Date
1.0	Release to Boeing	29 August 2012
1.1	Added 4 error codes	15 January 2013
1.2	Remove PROTECTED-A marking from document and add proviso in footer.	10 June 2013
1.3	Reference PBC rather than ISSCF and correct formatting errors	8 October 2015