

OPRA SIP Functional Differences - Current Platform vs Pillar Platform

Differences impacting Retransmission for Data Recipients:

	Retransmission - Current Platform	Retransmission - Pillar Platform
Connectivity	<ul style="list-style-type: none"> • Clients can simultaneously connect to primary and backup retransmission servers 	<ul style="list-style-type: none"> • Clients can establish connection to either Primary or Backup server. Connecting to second server will automatically disconnect the first
Data Publication	<ul style="list-style-type: none"> • Retransmitted data is published via a single multicast data stream 	<ul style="list-style-type: none"> • Retransmitted data is published via two distinct multicast data streams for redundancy
Sequence Number Handling	<ul style="list-style-type: none"> • Retransmission request contains the Block Sequence numbers for the message blocks that need to be retransmitted 	<ul style="list-style-type: none"> • Retransmission request contains the actual Message Sequence numbers for the message blocks that need to be retransmitted. Client needs to keep track of total messages received, and request retransmission accordingly
Output Sequence Number Reset Handling	<ul style="list-style-type: none"> • In the event of message sequence number rollover, the Retransmission Facility internally maintains the actual message sequence number. As such, the Data Subscriber is required to request the actual message sequence number 	<ul style="list-style-type: none"> • In the event of message sequence number rollover, the Retransmission Facility internally maintains the actual message sequence number. Additionally, in the event of output sequence number reset to 1 upon DR Activation or Site Failure and Recovery, the message sequence number is offset from last published sequence number up to the 4-byte maximum value of 4,294,967,295. As such, the Data Subscriber is required to apply the offset up to 4,294,967,295 to request the actual message sequence number

	Retransmission - Current Platform	Retransmission - Pillar Platform
Request Validation	<ul style="list-style-type: none"> • Duplicate requests for same retransmission requested at same time are rejected • Request for out of bound sequence numbers is rejected 	<ul style="list-style-type: none"> • Duplicate requests for same retransmission are de-duplicated internally. No explicit reject is sent to the client for the request • Request for out of bound sequence numbers is not rejected E.g. If last processed Sequence is 1000 and Request comes for 900-1100, Messages with Sequence 900-1000 will be retransmitted
Request Priority	<ul style="list-style-type: none"> • Retransmission request with higher (most current) sequence number takes priority 	<ul style="list-style-type: none"> • Retransmission requests are not prioritized based off sequence numbers
Request Limit	<ul style="list-style-type: none"> • Maximum number of retransmission requests that each Data Subscriber can make is imposed per system multicast line per user 	<ul style="list-style-type: none"> • Maximum number of retransmission requests that each Data Subscriber can make is imposed per retransmission connection line per user
Denial of Service	<ul style="list-style-type: none"> • There is no Denial of Service for invalid requests. Incorrect login or invalid retransmission requests are rejected until client sends correct request. 	<ul style="list-style-type: none"> • Incorrectly formatted Retransmission requests or invalid login attempts are rejected. Reaching a limit of 100 rejects will result in Denial-of-Service for a minimum of 60 seconds
Retransmission Facility timelines	<ul style="list-style-type: none"> • Retransmission requests are accepted starting with OPRA Extended Session commencing at 2:30 AM till Regular Session ending at 6:30 PM, ET 	<ul style="list-style-type: none"> • Retransmission requests are accepted during system up-time between 1:30 AM till 6:05 PM, ET

OPRA Pillar SIP
Version 1.1 – February 19, 2021

Document Version History:

Date	Document Version #	Change Summary
February 19, 2021	1.1	<ul style="list-style-type: none">Retransmission handling when output Block Sequence reset to 1
January 22, 2021	1.0	<ul style="list-style-type: none">Initial version of the document