

TOTSCo Bulletin No 16**DATE: 6 July 2023****SUBJECT: Request for Feedback – TOTSCo Message Delivery Policies**

As part of the One Touch Switch (OTS) process, the TOTSCo Hub will receive messages from one RCP and deliver the message to another RCP. After discussion with the Hub vendor, this document contains our suggested **policies for the delivery of these messages**.

TOTSCo would welcome feedback on the message delivery policies detailed in this document. Please address any comments to enquiries@totsco.org.uk by 14 July 2023.

We are proposing three separate models - one model for match related messages, one model for residential switch order/update/trigger/cancellation requests and one model for all other message types. These policies have been designed to suit the different requirements of the OTS message sets whilst not impacting on the Hub's performance level.

When you attempt to send an OTS message to the Hub, the Hub will perform a series of validation checks on the message (detailed in the TOTSCo Hub API Specification document) which, if successful, will generate an HTTP202 back to you from the Hub to confirm receipt of the message. It is at this point that the Hub will attempt to deliver the message in line with the message delivery policy.

Message Types	Connection Timeout	Response Timeout	Retries attempted (time measured from HTTP202 generated by the hub to the sender)	Period that message is held before failing
Match Related Messages	1 second	5 seconds	After 10 seconds, then 20 seconds	30 seconds
Switch Order / Update / Cancellation / Trigger Requests	1 second	5 seconds	After 5 minutes, 10 minutes, 30 minutes, 60 minutes, then every hour	24 hours
All Other OTS Messages	1 second	5 seconds	After 5 minutes, 10 minutes, 30 minutes, 60 minutes, then every hour	12 days

For all OTS message types, we propose that the Hub will attempt a connection with the message recipient's endpoint for 1 second and if this is not obtained it will move to an optional failover endpoint. The endpoints will be determined by the RCP and assigned when onboarding or through the account management portal.

The Hub will then attempt to deliver the message and will wait 5 seconds for the recipient to receive it and generate an HTTP202 response back to the Hub to confirm receipt. If either the connection is not successful within 1 second or the response is not received within 5 seconds, the Hub will attempt delivery again in differing intervals depending on the message type:

For Residential Switch Match Requests, Residential Switch Match Confirmations and Residential Switch Match Failures, the Hub will retry deliver after 10 seconds and then again at 20 seconds from the time the HTTP202 was generated by the Hub to the message sender to confirm receipt. If 30 seconds have elapsed since the Hub confirmed receipt of the message, a message delivery failure will be generated by the Hub and returned to the sender.

For Residential Switch Order Requests, Residential Switch Order Update Requests, Residential Switch Order Trigger Requests and Residential Switch Order Cancellation Requests the Hub will retry delivery after 5 minutes, then 10 minutes, then 30 minutes, then 60 minutes before then trying at 60 minute intervals from the time the HTTP202 was generated by the Hub to the message sender to confirm receipt. After 24 hours have elapsed since the Hub confirmed receipt of the message, a message delivery failure will be generated by the Hub and returned to the sender.

For all other OTS message types, the Hub will retry delivery after 5 minutes, then 10 minutes, then 30 minutes, then 60 minutes before then trying at 60 minute intervals from the time the HTTP202 was generated by the Hub to the message sender to confirm receipt. After 12 days have elapsed since the Hub confirmed receipt of the message, a message delivery failure will be generated by the Hub and returned to the sender. Additionally, the Technical Operations team will be notified 48 hours after the endpoint initially failed to receive a message and will perform a check with the technical contact for the RCP whose endpoint was down for that period.

The message delivery failure will be generated by the Hub and sent back to the endpoint that is defined by the message sender and can vary depending on the type of message that the original, failed message was. For example, an RCP may want a notification that a match request has failed to be delivered to go to a different end point than a notification that a match confirmation has failed to be delivered.

This proposal assumes that it is preferable to deliver the match related messages quickly and to know that your message has been received rather than to allow a longer time for delivery. For other message types, it is assumed users would rather the hub attempted to deliver for a much longer period as the sender of the message is not concerned if the delivery was successful, particularly the confirmation and failure messages from the losing to the gaining provider.

Each endpoint will have an associated queue and only one message will be attempted to be delivered to that endpoint at a time. In practice, this means that if an endpoint is down, a queue could form behind the message that is currently trying to be sent. Any match related messages held in a queue will fail after 30 seconds has passed even if delivery was never attempted, similarly any other OTS message held in a queue will fail after 24 hours or 12 days even if delivery was never attempted because the endpoint remains down for that period. This concept means that when an endpoint is operational again, the messages in the queue will either have failed with notifications sent to the original sender, or they will remain in the queue to be delivered in the sequential order in which they were received.

We have considered, but not included, the possibility of the Hub providing users with a delay notification to inform them that the Hub has not yet delivered the message and that it remains in the queue. It was felt, on balance, that this notification was not worthwhile as, for a match related message, you will know within 30 seconds if the message has failed. For any other message, it is believed there is little to no benefit to know if the message has not yet been delivered after, for example 1 hour, when the Hub will attempt delivery for another 23 hours or up to 12 days.

TOTSCo would welcome feedback on the message delivery policies detailed in this document. Please address any comments to enquiries@totsco.org.uk by 14/07/23.

TOTSCo
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