MP100 'Service Response Traffic Management'

Business requirements – version 0.2

About this document

This document contains the business requirements that support the solution(s) for this Modification Proposal. It sets out the requirements along with any assumptions and considerations. The Data Communications Company (DCC) will use this information to provide an assessment of the requirements that help shape the complete solution.

1. Business requirements

This section contains the functional business requirements. Based on these requirements a full solution will be developed.

	Business Requirements
Ref.	**Requirement**
1	DCC will create a time-critical priority list of messages/responses where in the event of restoration after an outage, these listed messages/responses will be sent to Users first.
2	DCC will create a throttling mechanism to slow down any messages/responses deemed with a lower priority so that Users' systems can cope with messages/responses in the event of restoration.
3	DCC will create a means of reducing the number of hypertext transfer protocol (HTTP) 501/503 response codes once a User has received a configurable number of this code so that additional response traffic is avoided.

2.   Considerations and assumptions

This section contains the considerations and assumptions for each business requirement.

2.1   General

After a maintenance period or an outage, when the DCC Systems are restored, all queued messages are sent to the User at once and can overwhelm their systems. A high volume of these can be low priority messages that are not urgent, and the result is high priority messages are not dealt with immediately. Given the time critical nature of some of these messages (e.g. Pre-Payment and certificate related activity) the Proposer wishes to place those high priority messages over messages which are less time critical.

The DCC should also take into account the in-flight DCC CR on message cache/storage when considering its solution.

This solution will be applied to Smart Metering Equipment Technical Specifications (SMETS)1 and SMETS2 Devices.

2.2   Requirement 1: DCC will create a time-critical priority list of messages/responses where in the event of restoration after an outage, these listed messages/responses will be sent to Users first.

This requirement requests the DCC to create a time-critical priority list of messages and/or responses where those with shorter targeted turnaround times and that are essential to on site activities are prioritised over messages and/or responses that can be dealt with by Users later.

This priority list of time-critical responses should include, but not be limited to:

- Responses relating to Unique Transaction Reference Numbers (UTRNs);
- Responses relating to certificate/joining/on site activity that requires personnel at a location;
- Responses relating to Installing and Commissioning;
- Responses covering Service Responses and Alerts

This list should be configurable so that future priority messages and/or responses can be added and removed from the list as appropriate. The priority list should be able to take into account any Responses and alerts. For example, N24/25 alerts that are a key aspect of business orchestrations according to the Proposer. This priority list would likely be agreed with a SEC sub group such as TABASC to be reflective of overall industry priorities as part of its wider governance.

Regarding business as usual Service Request/Response/Alert, any activity occurring during the clearing of the backlog would ideally be prioritised in line with Requirement 1 until the backlog is cleared. If this is not possible then the DCC may not have much option other than just treat them as BAU and send them straight through.

2.3 Requirement 2: DCC will create a throttling mechanism to slow down any messages/responses deemed with a lower priority so that Users' systems can cope with messages/responses in the event of restoration.

This requirement requests the DCC to create a means of slowing down the messages and/or responses that aren't included on the priority list. This is so that a Users' systems can handle and process the number of messages and/or responses that they receive after the DCC Systems is restored after an outage or maintenance period. Currently, the Proposer has stated a HTTP 501 code is used. However, the Proposer has concerns that this will contribute to the amount of traffic in the DCC Systems and takes up space where additional messages and/or responses could be given.

2.4 Requirement 3: DCC will create a means of reducing the number of HTTP 501/503 response codes once a User has received a configurable number of this code so that additional response traffic is avoided.

This requirement requests the DCC to devise a means of reducing the number of HTTP response codes (both 501 – wait and 503 – service unavailable) so that a User's capacity of received messages and/or responses aren't comprised of a large volume of HTTP response codes. This adds wasted traffic to the DCC System and to the User's systems. The Proposer requests a system should be developed where the response codes are reduced if a number of repeated and expected HTTP response codes exceed a reasonable amount for the User.

3. Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

Glossary	
Acronym	**Full term**
DCC	Data Communications Company
HTTP	Hypertext Transfer Protocol
SMETS	Smart Metering Equipment Technical Specifications
UTRN	Unique Transaction Reference Number

Managed by

Gemserv