ESB

Scheduled Non Interval Meter Readings

Version Number	Date Issued	Reason
1.0	23 Dec 2003	Final - MOIP
1.1	29 October 2012	Changed due to Harmonisation (HSP)
1.2	03 July 2019	Smart Metering Project

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1 Introduction & Background

Under the existing market design Non Interval Reads will be communicated to market participants via a series of market messages. These market messages can be divided into two broad categories:

1. Non Interval Readings generated as a result of specific business transactions

300W	Scheduled Meter Read Withdrawal
300S	Special Read.
305	Non-settlement Estimates
332	Meter Works
332W	Meter Works Withdrawn Reading
306	De-Energisation
306W	Withdrawn De-Energisation read
307	Energisation
307W	Withdrawn Energisation read
310	CoS Read
310W	CoS Withdrawn Read
320	Validated CoS Reading
320W	Withdrawn validated CoS read

2. Non Interval readings generated as a result of cyclical meter reading activity:

300	Scheduled Non Interval Meter Readings

3. 303R Customer Read - If the meter can be read remotely, a reading provided on the messages 210, 010 and 016 will be rejected on 303R with rejection code RIR (Remote Site Invalid Read).

At the Technical Implementation Group (TIG) meeting of 26 November 2003 ESB MOIP outlined the current functional specification for the Scheduled Non Interval Meter Readings message which is for a separate 300 message for each MPRN. Market participants were invited to submit their views on this proposal.

Based on the feedback received from market participants a workshop was held on 17 December under the auspicious of the TIG to:

- Enable market participants to hear the views of other market participants.
- Discuss the broader issues associated with the communicating and subsequent processing of Non Interval readings.

The key points arising from the workshop in relation to the batching of Non interval scheduled readings were as follows:

- There was not a single view amongst market participants in relation to whether message 300 should support multiple MPRNs or whether a separate 300 message should be created for each MPRN,
- The issue was not viewed as a critical by the market participants.
- The majority view amongst market participants was tending towards favouring the design supporting multiple MPRNs per instance of the 300 market message.

- Evaluation criteria were agreed for assessing the options were agreed.
- It was agreed that ESB MOIP should prepare a document setting out its recommendation for review and agreement by the TIG.

2 Purpose of Document

The purpose of this document is to present a recommended way forward in relation to the Non Interval scheduled read message.

3 Recommended Way Forward

Based on an evaluation of the issue in accordance with the criteria agreed and set out below, ESB MOIP recommends that the market design provides for a separate instance of the 300 message to be created for each MPRN.

Evaluation Criteria	Single MPRN per 300 message	Multiple MPRNs per 300 message
Impact on Supplier's Design Flexibility	▲	▼
Impact on Volume of Network Traffic associated with Market Messages	▼	▲
Impact on Reliability of message communications	◀▶	◀▶
Impact on the Required Level of ESB MOIP System Development Effort	▲	▼▼
Impact on the Required Level of Suppliers System Development Effort	◀▶	◀▶
Impact on Suppliers Ability to track and match market messages	◀▶	◀▶
Consistency of Approach with Remainder of readings processing	◀▶	◀▶

Key to Evaluation Table	
▲ ▲	Positive impact
▲	Minor Positive impact
◀▶	Neutral Impact
▼	Minor Negative Impact
▼ ▼	Negative impact

The remainder of this document sets out the basis for the recommendation set out above.

4   Basis for Recommendation

4.1   Impact on Supplier's Design Flexibility

Sending a single MRPN per instance of the 300 message maximises the flexibility available to suppliers (both existing and potential new) in the design of their systems. Suppliers are free to decide if they wish to (and how to) batch readings before processing or whether they wish to process each individual reading as and when it is received.

4.2   Impact on Volume of Network Traffic associated with Market Messages

Sending a single MRPN per instance of the 300 message has no significant impact on Network traffic compared to a possible batched design. In terms of data, the upper bound for the additional information is approximately 5.2 MB per day or approximately 3.3% of daily network traffic for this message.

In terms of numbers of messages, there is no significant difference between the options. A RosettaNet business message transports one or more market messages (MIMs) – as determined by the messages available to send and the maximum size limitation of 1 Mb.

Some more information is given below:

Volume of Data
Single MPRN per message
300 message header segment size: 180 bytes Approx.
No. of readings per day: 40,000
Total header volume: (40,000*180):   7.2MB

Multiple MPRNs per Message
Additional line detail to identify readings: 50 bytes per MPRN
No. of readings per day: 40,000
Total header volume: (40,000*180):   2 MB

Difference (7.2 – 2MB):   5.2 MB   (approx. < 3.3% of 300 network traffic of 160MB)

Number of Messages
From a RosettaNet Implementation Framework (RNIF) perspective there is no significant network traffic implication associated with sending a single as opposed to multiple MPRNs per instance of the 300 message. This is because the payload associated with a given RosettaNet business message contains one or more instances of a market message (MIM) - subject to the maximum size limitation of 1 Mb (i.e. sending either 250 instances of 300 message or one instance containing 250 MPRNs will still only require one RosettaNet business message.

Accordingly a decision to send a single MPRN per instance of the 300 message does not imply a corresponding increase in the number of RosettaNet business messages. The primary driver of the number of RosettaNet business messages is the volume of data to be transported and not the number of market messages (MIMs).

4.3   Impact on Reliability of Message Communications

Sending a single MRPN per instance of the 300 message will have no impact on the reliability of market message communications.

RosettaNet provides a reliable messaging mechanism to guarantee that messages exchanged between the MPs and the Gateway cannot be lost.

The mechanism works as follows:

1. Sender sends message to partner;
2. Sender waits for an acknowledgement message from the recipient.
3. If an acknowledgement is returned then the sender knows the message has been received;
4. If no acknowledgement is returned then the sender will resend the message;
5. If the message cannot be resent then an error message is created on the sender's site for follow-up.
    This will be a rare event - particularly if the market agrees to the non-internet network proposal.

4.4   Impact on the Required Level of ESB MOIP System Development Effort

The impact of the MOIP of developing the functionality to send multiple MPRNs for each instance of a 300 market message is significant. In the context of the existing development workload, the available development window and the criticality of this message to suppliers, MOIP view it as a significant potential risk.

The existing development inventory does not include provision of such functionality. This inventory fully accounts for the MOIP resources during the available development window. It is estimated that the provision of the functionality to implement several MPRNs per 300 message (either within the SAP application or via the HUB) would require of the order of 50 - 80 days build and test effort. In the context of the existing development workload and the available development window, the MOIP view is that this is a significant additional development and risk.

4.5   Impact on the Required Level of Suppliers System Development Effort

Based on the technical requirements and initial feedback from the TIG workshop, it is expected that sending a single MRPN per instance of the 300 message will not have a significant impact on suppliers' system development effort. A new design to accommodate the sending of multiple MPRNs per instance of the 300 message would remain subject to the overall HUB recommended maximum file size of 1 MB.

This is equivalent to a maximum of approximately 250 MPRNs per message based on the current structure of the 300 message. The optimum design for a supplier would require the capability to process multiple daily instances of the 300 message. There are a number of reasons:

- A number of suppliers currently operate at this level in the Non Interval Reads market share.
- This design avoids coding in a system limit on a supplier's capacity to provide a service to
- Non Interval customers and market share.
- This design is proof against the possibility of a future revision of the message by the market to add more data per MPRN.

4.6 Impact on Suppliers Ability to Track and Match Market Messages

Sending a single MRPN per instance of the 300 message will not in essence affect the capability of the Supplier to determine if a Non Interval readings file was missing.

A 300 message design for multiple MPRNs per message would reduce the number of 300 messages in a supplier's inbound message directory. However the presence of a 300 message would still not guarantee receipt of all Non Interval scheduled readings for a given day. This is because - with or without batching - the concept of a single daily file containing Non Interval scheduled readings for that day will not exist in the new system.

4.7 Consistency of Approach with Remainder of Readings Processing

Sending a single MRPN per instance of the 300 message is consistent with the remainder of readings processing and the market design.

Non interval Reads Market

As set out in the Introduction above suppliers receive Non Interval readings across a variety of different market messages. In all cases other than the scheduled readings, the Non interval readings are communicated to the suppliers on the basis of a single MPRN per market message. Therefore sending scheduled reads on the basis of one MPRN per instance of market message would be consistent with this approach.

QH Market

The design of the QH consumptions message contains multiple MPRNs per market message. This apparent difference arises from the differences in QH, Non Interval Reads billing processing. These fundamental differences require different treatments. These differences are summarised below:

- The QH market is billed on consumption information, Non Interval Read on Register readings.
- In the QH Market, only two* messages carry consumption information; one of them infrequently used; in the Non Interval Market, 14 messages contain readings information.
- QH consumption replacements are rare; Non Interval Read replacement messages will be relatively frequent. (Arising from factors particular to Non Interval Read e.g. customer readings.)
- QH Energy billing processing is not affected by transactions such as meter works and de-energisations; Non Interval Data processing is critically dependent on these transactions.

* These are scheduled consumptions and consumption replacements.

5.   Smart Considerations

➢ 'Non Interval Read ' will replace ESBN reference to Non Quarter Hourly Meter Readings after deployment of Smart Metering .Smart Meter maybe read remotely or manually dependent on the CTF (Comms technically feasible) attributes. Billing remains as is for Non Interval Data Customers.

- Non Interval Legacy meter and Non Interval without remote capability - Manually read. 4 schedule reads.(BAU)
- Non Interval Register Reads with remote capability - Remotely read 6 schedule reads.New skip code to support NO Comms 98.

Changes;
➢ A Supplier may provide readings (determined by the Supplier or obtained from the customer) for any meter point except maximum demand sites or remotely read sites
➢ Remotely read sites where comms is sufficient to support will be read 6 periods
➢ Sites where comms fails will be supported with skip code 98, no comms where communications to the meter is deemed to be normally Technical Feasible but meter is not accessible during read window.
➢ Change to reflect reconfiguration of Smart meter from Non Interval to HH and use of End of Day read as closing read
➢ If the meter can be read remotely, a reading provided on the messages 210, 010 and 016 will be rejected on the message 303R with Code RIR (Remote Site Invalid Read)
➢ If a reading provided on the messages 210 , 010 and 016 for a Half Hourly site, it will be rejected on the message 303R with Code IRI
➢ MM303R : Customer Read Rejection used to advise Supplier that Customer read is rejected
➢ A Customer read received for a Smart Half Hourly meter will be rejected
➢ IRI – Invalid Request for Half Hourly site
➢ A Customer read received for a Smart Non Half Hourly meter which can read remotely will be rejected
➢ RIR – Remote Site Invalid Read.   Read received on 010, 016 or 210 where site can be read remotely