Comms Technically Feasible (CTF)

Briefing Document

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Date	Details of changes	Version
10/02/2021	Document introduced as part of Schema Release V13.0 (Smart) MCR 1158 Smart Metering Customer Data Changes	1.0
04/08/2021	Document updated to provide clarification around the 30-day proving period	1.1
25/10/2022	Document updated to provide clarification on Enduring CTF Assessment MCR 1222 SPAYG – CTF Algorithm Suitability for SPAYG Service Provision	2.0
10/01/2024	Document updated to reflect the inclusion of Remote Switch capability of the meter at an MPRN for CTF 04	2.1
22/10/2024	Document updated to align to new CTF calculation method which will go live as part of the v14.00.00 cutover activities planned for 16th December 2024	2.2

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1. Purpose of Document

This document is intended to provide Market Participants with understanding of:

- What Comms Technically Feasible (CTF) is
- How CTF is proven and how this information is advised to Supplier
- When remote reading will take place
- Ongoing CTF assessment
- Provide Market Participants with an understanding of how Suppliers will need to check CTF value before issuing any requests for Smart Data Services
- Information that Market Messages that CTF value will issue in
- When CTF value will be shared with Market Participants

2. What is CTF?

CTF (Communications Technically Feasible) is a check that ESB Networks will perform daily on each meter installation to establish the reliability of communications from the Smart Meter to the respective AMI Systems across the telecommunications network.

CTF will be used by ESB Networks to determine the method for reading and managing the meter (remote or manual), including the operation of the Remote Switch.

ESB Networks expects approx. > 95% population coverage for the advanced meter infrastructure.

ESB Networks expects coverage to fluctuate for a small number of meter locations due to a variety of reasons including but not limited to local propagation issues, atmospheric conditions, tree coverage, radio access network failure, changes in network topology, communications interference sources, customer actions etc.

3. Initial CTF Assessment

Initial CTF Assessment determines the CTF at a site for the first time. This may be in the case of a new connection or a legacy to Smart Meter exchange at an existing site. The CTF is a measure of ESB Networks' service offering to its suppliers and their customers at an MPRN. The CTF value is primarily an attribute of the site and not of the individual meter, however from v14.00.00 Go-Live, CTF04 will also take into account the capability of the Smart Meter at a site to operate the Remote Switch.

The CTF is calculated using information from the scheduled data retrieval processing reports and Interval Success Rate (CTF04 only) for a proving period of 30 days. This 30-day period is the duration that ESB Networks has factored into the functional design and associated technical specifications. The reporting capability of the Smart Meter is assessed and assigned a value between 01 and 04.

Interval Success Rate

The Interval Success Rate is an additional parameter used to determine whether a value of CTF04 can be assigned to an MPRN. It measures the success rate of interval data retrieval every two hours over the 30-day proving period.

CTF Values:
01 (Comms proving failed)
02 (Non-Interval Service Standard)
03 (Interval Service Standard)
04 (Remote Re-Energisation Pre Payment standard of quality)

CTF Value	Description	Indicative success rate*	Interval success rate
01	Communications proving for the MPRN has failed – only manual reading is possible for this meter	0 – 4 days within the past 30 days	Not applicable
02	The meter can be Remotely read but not reliably	5 – 11 days within the past 30 days	Not applicable
03	The meter can be Remotely read regularly but not every day	12 – 27 days within the past 30 days	Not applicable
04	The meter can be Remotely read every day with very good reliability and has the capability to operate the Remote Switch**	> 28 days within the past 30 days	>= 78%

*Please note that the algorithm to calculate the CTF value has been tuned based on the initial subset of meters but will be continually assessed as more Smart Meters are installed.

**Where a value of 04 is determined based on the scheduled data retrieval processing reports but the Smart Meter installed at the site does not have the capability to operate the remote switch, a value of 03 will be assigned.

4. Reading of Smart Meters

Where communications cannot be established (CTF = 01) the meter registers will be manually read as is the current practice.

Where communications can be established (CTF = 02 / 03 / 04) the meter will transmit its associated data packages each night, where possible. On occasions where the meter cannot be read, estimates will be provided. For MPRNs configured to MCC12 (HH Interval Smart Data Services), estimated data provided to the Supplier will be replaced with actuals where possible when communications with the meter are re-established. For MPRNs configured to MCC16 (Non-Interval Smart Data Services), estimates provided to the Supplier will not be replaced (as the meter reading order window will have closed once the estimate is generated and sent to the Supplier).

Manual collection of HH Interval Data will not be provided by ESB Networks.

5. Enduring CTF Assessment

The CTF value at every MPRN with a Smart Meter will be re-evaluated daily by ESB Networks. The evaluation will take into account the meter communication success or failure record over the previous 30 days (rolling). The rules governing the CTF value calculation have been calculated through a tuning process over multiple iterations. These rules are detailed in the table below and have been designed to ensure that daily/weekly fluctuations of CTF will not occur and that the CTF value remains relatively stable once initial assessment is complete. If the CTF value does move up or down the Supplier will be notified via the 114 Market Message.

CTF Values		Standard Calculation		Hysteresis Calculation*	
CTF Value	Description	Min Success Rate (days)	Max Success Rate (days)	Lower bound (days)	Upper bound (days)
01	Comms Proving Failed	0	4	0	6
02	Non-Interval Service Standard	5	11	2	16
03	Interval Service Standard	12	27	8	29
04	Remote Re-Energisation Prepayment Standard	28	30	22	30

Additional CTF04 Assessment Criteria based on receipt of Interval Data

CTF Values		Interval Success Rate			
CTF Value	Description	Min Success Rate (%)	Max Success Rate (%)	Lower bound (%)	Upper bound (%)

04	Remote Re-Energisation Prepayment Standard	78%	100%	60%	95%

These parameters state that a meter must communicate between the min and max standard calculation days for any CTF value to be given that value after the 30 days proving period.

The hysteresis calculation will take effect where a meter's comms average is changing. The meter must hit the Hysteresis upper or lower to have its CTF changed and communicated to the Market.

For an increase from CTF 03 to 04, both the upper bound (days) and upper bound (%) for must be met.

If an MPRN is CTF 04 and either the lower bound (days) or lower bound (%) are met, the CTF will reduce to 03.

ESB Networks will monitor communications coverage with our telecommunications service supplier and work to improve coverage levels and associated system performance on a continuous improvement basis. As a result of these activities, some MPRNs with low CTF values may improve over time. Supply companies will not be expected to notify ESB Networks when estimated readings are produced.

Where the CTF value changes from 01 to 02 / 03 / 04, the device will be updated as remotely read and the MPRN will be moved to a remotely read Meter Reading Unit (MRU). Where the CTF value changes from 04 / 03 / 02 to 01, the device will be updated as manually read and the MPRN will be moved to a manually read MRU. The initial tuning and calculation banding have been designed to eliminate as much of this movement as possible to avoid MPRNs fluctuating between CTF values and accurately reflect the Smart Data Services offered.

A CTF update will result in the issue of MM114 (the message status code will be "A" (Advice) to the registered Supplier (or to the Old and New Supplier where a CoS is in progress) notifying them of the current CTF Value. The CTF Value will be available on Retail Extranet, Downloadable Files or Web Service.

Business process to prohibit incidents from negatively impacting the CTF value.

- Excluding impacted MPRNs from CTF calculation application while a non-comms network related incident is active.
- Central Market Systems will continue to get a daily CTF Update, but it would contain no new values for the impacted MPRNs.
- When the non-comms network related incident is resolved and data is flowing in from SEMs again, the CTF calculation process will be resumed for the impacted MPRNs.

    Please Note: If the CTF Value updates while there is an open COS, COLE or open meter reading orders the issue of the MM114 is delayed until completion of the processes.

    Please Note: Where a customer is on MCC12 (HH Interval Data) and the CTF value is reduced to 01 or 02, actual HH readings cannot be guaranteed. Estimated HH readings will be provided where no actual readings can be collected. The onus is on the Supplier to request a change to Non-Interval Smart Data Services to change the

MCC to MCC16. ESB Networks will not change the MCC of a customer unless instructed to do so by their Supply Company.

6. De-energised Sites

When a site with a Smart Meter is de-energised or de-energised remotely, the CTF value in Central Market Systems is "frozen" and remains visible on the Retail Extranet, Downloadable Files and Web Service.

If a site is de-energised during the proving period, the proving period will pause until the site is then re-energised again.

7. Supplier requests for Smart Data Services Dependent of CTF Value

All market process (COS, COLE etc.) will complete based on the v14.00.00 Market Design.

ESB Networks will reject requests from Suppliers for Smart Data Services that cannot be supported by the CTF level.

MM013 requesting Smart Data Services change will be rejected where the CTF at the MPRN does not support the request. For Interval Smart Data Services CTF must be 03 or 04. For Non-Interval Smart Data Services CTF must be 01, 02, 03 or 04. The rejection will be sent via MM014R with reason code SCI (Smart Configuration Code Invalid).

MM016 requesting CoLE with Smart Data Services change will be rejected where the CTF at the MPRN does not support the request. For Interval Smart Data Services, the CTF must be 03 or 04. For Non-Interval Smart Data Services, the CTF must be 01, 02, 03 or 04. The rejection will be sent via MM116R with reason code SCI (Smart Configuration Code Invalid)

MM017 with Smart Data Services change will be rejected where the CTF at the MPRN does not support the request. For Interval Smart Data Services, the CTF must be 03 or 04. For Non-Interval Smart Data Services, the CTF must be 01, 02, 03 or 04. The rejection will be sent via MM117R with reason code SCI (Smart Configuration Code Invalid)

MM010 with Smart Data Services change will be rejected where the CTF at the MPRN does not support the request. For Interval Smart Data Services, the CTF must be 03 or 04. The rejection will be sent via MM102R with reason code SCI (Smart Configuration Code Invalid)

MM010 for registration of a previously de-registered site requesting Smart Data Services change will be rejected where the CTF at the MPRN does not support the request. For Interval Smart Data Services, the CTF must be 03 or 04. The rejection will be sent via MM101R with reason code SCI (Smart Configuration Code Invalid).

Note: Where Smart Data Services exist at an MPRN, the Smart Data Services segment on any subsequent MM010, MM016 and MM017 submitted for that MPRN must be populated, even where no change to Smart Data Services is requested. If the CTF does not support the Smart Data Services specified, the MM010 / MM016 / MM017 will be rejected in its entirety.

For example, if an MPRN is currently configured to MCC12, but the CTF has deteriorated to 01 or 02, an MM016 requesting a CoLE and Smart Data Services 01 / MCC12 will be rejected in its entirety via MM116R with reject reason SCI.

The following exception applies:

Where an MPRN is currently configured to MCC16 but is still within the 30-day Comms Proving Period (i.e., no CTF value is present), an MM010 / MM016 / MM017 with Smart Data Services 02 / MCC 16 will not be rejected.

For example, in the case of an MCC16 New Connection that is still within the 30-day Comms Proving Period, an MM016 requesting a CoLE and Smart Data Services 02 / MCC16 will not be rejected, even though the required CTF value (01 / 02 / 03 / 04) is not present at the MPRN.

8. Additional Market Messages that CTF Value will issue on

The CTF Value will also issue on the following Market Messages where Comms has been proven.

- • MM101 – New Connections Registration Acceptance
- • MM102 – Change of Supply Registration Acceptance
- • MM105 – Change of Supplier Confirmation
- • MM101P – New Connections Provisional Acceptance (Registration of a previously deregistered site only)
- • MM102P – Change of Supplier Provisional Acceptance

9. When will CTF Value be shared with Market Participants?

In addition to being provided to the registered Supplier via the 114 Market Message, the CTF value for each MPRN with a Smart Meter where Comms have been proven will also be published on the Extranet and will be visible via the MPRN Lookup Web Service.