

SEC Modification Proposal, SECMP0293, CR5807, MSAC0068

Deferment of DCC Planned Maintenance during Adverse Weather

Preliminary Impact Assessment

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1 Executive Summary

All the Service Providers that are part of the DCC Total System have been asked to assess if they are impacted by this Modification. Different solutions could be selected. The DCC recommends Change Board consideration of the As Is DSP, delivery of “Must and Should” Requirements option, without the DR site, and for this option the Change Board are asked to approve the following:

- Cost to complete the Full Impact Assessment of **£34,167**.
- The timescales to complete the Full Impact Assessment of 40 Working Days.
- ROM costs for SECMP0293, up to the end of Pre-Integration Testing (PIT) for the As Is DSP of £680,000 to 900,000.

Problem Statement

During Storm Daragh in December 2024, DCC carried out a Planned Maintenance activity. Following a request from a Network Party seeking a deferment; some Network Parties reported problems arising from business-as-usual adverse weather recovery activities. Network Parties also reported that the overlap resulted in their inability to realise the benefits to Network Operators of being a DCC User during that outage.

In addition, DCC is required to report on prepayment vend failures for each High Impact Maintenance Window and averaged 30,093 failures per impact window.

The typical occurrence of As Is DSP Planned Maintenance events is about one per month on average, and the outage is usually from 20:00 to 02:00 hours. The As Is DSP is expected to be in place, and running, until the completion of the As Is DSP to Future DSP2 migration in late 2028.

Modification Benefits

Delivery of the “Must and Should” Requirements solution on the As Is DSP, without the DR site option, would meet the requirements of both Network Operators and Suppliers, reducing or eliminating the current impact of monthly six-hour planned maintenance outages for essential Service Reference Variants (SRV) and Alerts, potentially for a period from November 2026 to the full implementation of DSP2 in September 2028.

Specifically, this solution mitigates the risks Network Operators manage where there is a power outage due to named storm, while Suppliers would benefit from reduced, failed prepayment vends during planned maintenance periods and other impacting events such as Price Control Update Events.

2 Document History

2.1 Revision History

Revision Date	Revision	Summary of Changes
03/02/2026	0.1	Initial version, for DCC internal review
06/02/2026	0.2	Review complete
11/02/2026	0.5	Added extra information from Service Providers, plus minor changes

2.2 Associated Documents

This document is associated with the following documents:

Ref	Title and Originator's Reference	Source	Issue Date
1	MP293-Modification-Report-v0.3	SECAS	06/01/2026
2	Business Requirements	DCC	06/01/2026

References are shown in this format, [1].

2.3 Document Information

The Proposer for this Modification is Catherine Duggan of SPNWL. The Modification was raised on 9th June, 2025.

The Preliminary Impact Assessment (PIA) was requested of DCC on 12th January, 2026.

3 Context and Requirements

In this section, the context of the Modification, assumptions, and the requirements are stated.

The requirements have been provided by SECAS, the Proposer, and the Working Group.

3.1 Current Arrangements

A High Impact Planned Maintenance event is one in which there is Material Risk of disruption to the provision of services. SEC Section A 'Definitions & Interpretations' defines it based on one or more of the following criteria being met:

- i. end-to-end communications between Users and Communications Hubs in either direction
- ii. install & commission activities
- iii. previously scheduled SMETS1 migrations

3.2 What is the Issue?

During Storm Daragh in December 2024, DCC carried out a Planned Maintenance activity. Following a request from a Network Party seeking a deferment; some Network Parties reported that this overlap exacerbated existing operational and logistical complexities arising from business-as-usual adverse weather recovery activities. Network Parties also reported that the overlap resulted in their inability to realise the benefits to Network Operators of being a DCC User during that outage.

The typical occurrence of As Is DSP Planned Maintenance events is about one per month on average, and the outage is usually from 20:00 to 02:00 hours. The As Is DSP is expected to be in place, and running, until the completion of the As Is DSP to Future DSP2 migration in late 2028.

3.3 Modification History and Potential System-Based Solution

The Proposer raised this Modification with a view to codifying a defined set of criteria which would need to be met to trigger the deferment of DCC Planned Maintenance event. During the development of the Modification, the DCC proposed a mechanism by which a selected subset of SRVs and/or Alerts might be kept available during a Planned Maintenance event, allowing Parties to remain in communication with Devices during an Adverse Weather event with outage times being reduced. This PIA focusses exclusively on the development of an Enhanced Availability (EA) Service for this purpose.

3.4 Business Requirements

DCC have calculated the daily and hourly maximum volumes of the selected SRVs and Alerts during named storms to identify the required capacity. The headline values are provided in Appendix C at the end of this document, and have been used to calculate the capacity required to support the solution.

The high-level business requirements are as follows. All the following requirements are categorised as Must, except for those marked as [Should].

1.	Using the EA Service, Users shall be able to send the following on demand SRV and receive appropriate responses: 7.4, Read Supply Status
2.	Using the EA Service, Users shall be able to receive this alert: AD1, Power Outage Alerts
3.	Using the EA Service, Users should be able to send the following on demand SRVs and receive appropriate responses: 2.2, Prepay Top-up device 4.3, Read Instantaneous Prepay Values
4.	Using the EA Service, Users should be able to receive appropriate responses [Should]: N56, Prepay Top-up device
5.	The EA Service must be available for SMETS2+ and SMETS1 Devices.
6.	To use the EA Service, there shall be no changes to User-required actions or configurations. Users must not be able to distinguish between services.
7.	When a major incident, planned maintenance, or BCDR impacts the EA Service specifically, it will not be available.
8.	Both the DCC Total System and EA Service must not be taken down at the same time for Maintenance or BCDR Tests.
9.	The EA Service shall have at least 99.5% availability.
10.	The EA Service shall be as secure as the corresponding DCC Total System components, and use the same DUIS schema.
11.	The EA Service must: Have the capacity to handle at least 1,400,000 SRV7.4 plus corresponding Responses per day Have the capacity to handle at least 1,400,000 AD1 Alerts per day Ensure processing as close as possible to the existing standard DCC Total System functionality in terms of logging and messages Maintain Target Response Times (TRT)
12.	When in use as part of the "Should scenarios" identified, the EA Service should additionally: Have the capacity to handle at least 9million SRVs per day plus corresponding responses [Should] Have the capacity to handle at least 500,000 N56 Alerts per day [Should]

Table 1: Business Requirements, SECMP0293

3.5 Notes on DCC Alerts and Service Reference Variants

This section provides supporting information on the Alerts and SRVs specified in the requirements above. The functionality is defined by DCC User Interface Specification (DUIS), DCC User Gateway Interface Design Specification (DUGIDS), and SMETS1 Supporting Requirements (S1SR).

Alert	Availability	Eligible Users	Usage
AD1, Power Outage Alerts	SMETS2+ Devices, Communications Service Provider (CSP) notification of loss of DC power as detected at the Communications Hub in Premises for a time equal to or greater than three minutes	Import Supplier (IS), Electricity Distributor (ED), Gas Supplier (GS), Gas Transporter (GT)	Used by Network Operators (NO) to diagnose and track recovery of power outages
N56, Pre-Pay Top-Up	SMETS1 Service Provider Provision of prepayment top-up UTRN	Trigger is a User request for a prepayment top-up.	Service Request sender

Table 2: Alert Availability and Eligible Users

AD1 DCC Alerts are triggered by a power device failure. These are not sent by SMETS1 Devices.

AD1 alerts are managed by SMETS2 Service Providers as defined in their individual Code of Connections, e.g., Device Manager SMWAN Gateway Interface defines the interface between the DSP and Device Manager over which the Device Manager sends Power Outage Notifications received from Communications Hubs via the WAN Provider; in this case the Service Provider is Accenture Device Manager (Accenture DM).

The SMETS2 CSPs throttle the number of AD1 Alerts at the CSP, rather than sending all the AD1 Power Outage Notifications over the SM WAN. The following table lists the threshold for each Service Provider at which throttling will occur, and the rolling time period over which the threshold applies.

Impacted CSP	Maximum Rate and Time Period
Accenture (DM)	5000 per minute
CSP North	5000 per minute
CSP S&C	5000 per minute

Table 3: AD1 Throttling by CSPs

Any N56 DCC Alerts are triggered by a SMETS1 Service Provider. The trigger event is the provision of a prepayment top-up Unique Transaction Reference Number (UTRN) from the S1SP in response to a SRV 2.2. N56s are not sent by SMETS2 Devices.

The following table gives supporting information relevant to the SRVs listed in the requirements above.

SRV	Service Request Name	Command Variants	Eligible Users	Usage
2.2	Top Up Device	1, 2, 3	IS Gas Supplier (GS)	Prepayment top up to maintain supply
4.3	ReadInstantaneousPrepayValues	1, 2, 3	IS, GS	Check that a Prepayment device has credit
7.4	Read Supply Status	1, 2, 3	IS, GS, Registered Supplier Agent (RSA) ED GT	NOs use this SRV to check if supply is available to specific premises

Table 4: Service Request Users and Usage

For further details such as Response Codes generated, refer to DUIS for each Service Request. If a User sends a Scheduled or Future Dated Mode of Operation SRV 2.2, 4.3, or 7.4, then the sending of the SRV remains at that set time, and is not advanced or changed in any way by this solution.

4 Description of Solution

This Preliminary Impact Assessment has been completed based on the provision of functionality in the As Is DSP and Future DSP (DSP2) to meet the requirements. PIAs were requested from all potentially impacted Service Providers to understand if changes were required to their systems.

The Enhanced Availability (EA) Service will ensure that a selected subset of DCC Total System functionality is available in the DSP even in the following scenarios:

- Planned Maintenance
- Unplanned Maintenance
- Business Continuity and Disaster Recovery (BCDR) tests that result in a customer facing outage

It should be noted that in a Major Incident scenario, if the DSP is down, it is possible that EA Service would not function, but DCC will undertake reasonable endeavours to ensure availability if possible.

4.1 DSP Changes

The As Is DSP proposed solution comprises an alternative deployment of existing DSP motorway components to meet the requirements of the EA Service. The architecture for this deployment is shown below.

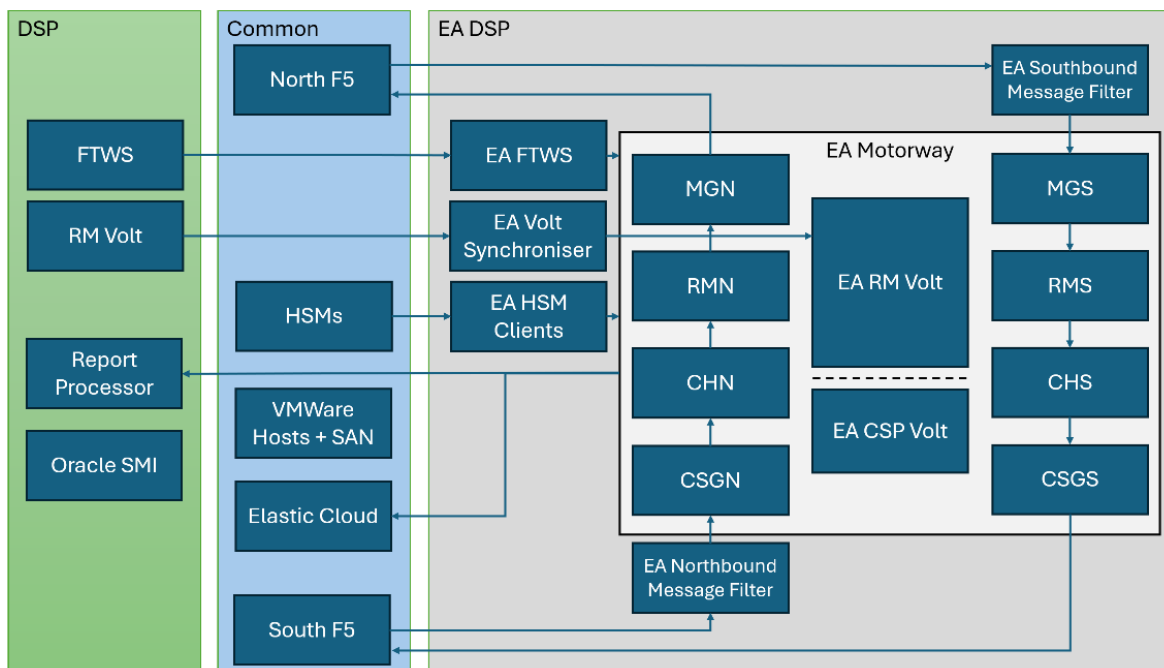


Figure 1: High-Level Architecture of the Enhanced Availability Service

The EA Service will always be running but will remain inactive during normal operational use (i.e. will not be processing Service Request, Response, or Alert Traffic). Switching to the EA Service requires a manual configuration change in the F5 Load Balancer by the DSP team to redirect motorway traffic to the EA Service deployment of the DSP motorway. Reversion to the core DSP deployment requires the DSP team to reverse configuration change.

Use of the EA Service shall be mandated during standard planned outage windows, with the required configuration change applied at the start of each such window. For unplanned outage windows, activation of the EA Service will require additional manual intervention.

Maintenance of the EA Service deployment will be carried out during the Working Day following the successful completion of maintenance on the core DSP deployment. This approach ensures that the EA Service remains aligned with the core DSP functionality.

Several applications required by the EA Service deployment will be shared with the core DSP. The availability of the EA Service shall be dependent upon these shared components, including:

- the outer network components (i.e., the F5 Load Balancers)
- the Hardware Security Modules (HSMs)
- the physical servers and Storage Area Network (SAN)

Loss of access to these common components will result in the EA service becoming unavailable.

DSP and the DCC will agree appropriate requirements for availability of the EA Service, ensuring that the solution is available when required whilst being deployed and managed in a cost effective manner. Within the EA deployment of the DSP motorway, applications that interact with the Smart Metering Inventory (SMI) shall be removed, or significantly reduced, such that those interactions result in graceful exception processing within the EA service. Applications that do not interact with the SMI shall remain unchanged. The proposed EA deployment includes the components below.

Component Name	In EA Service?
Message Gateway South	✓
Request Management South	✓
Anomaly Detection	✓
COS ACB	✗
Comms Handler South	✓
CSP Gateway South	✓
CSP Gateway South Vodafone	✓
CSP Gateway SMETS1	✓
CSP Gateway North Arqiva	✓
CSP Gateway North VMO2	✓
CSP Gateway North Vodafone	✓
Comms Handler North	✓
Request Management North	✓
Message Gateway North	✓
Data Management Web Service	✓
Feature Toggle Web Service	✓
Log Monitor	✓
File Processing Web Service	✗
Northbound Buffering Service	✗

Component Name	In EA Service?
CSP Management Gateway	✗
S1SP Management Gateway	✗
ECOS Gateway	✗
CSS Gateway	✗
Master Key Store Web Service	✗
DSP Access Layer	✗

Because not all components are deployed within the EA Service, not all DSP supporting functions will be available. Services that will not be available include, but are not limited to:

- Service Management incident creation
- Anomaly Detection Threshold (ADT) quarantine services
- response buffering
- install and commission functions
- Switching (CSS) message processing
- Enduring Change of Supplier (ECoS) functions

The absence of the standard DSP response buffering capability means that responses and alerts will be delivered to Users as quickly as the EA Service receives them. If a message fails delivery Northbound, it will be logged as failed and discarded.

Although the EA service does not require access to the SMI, many DSP applications rely on access to the motorway cache services provided by VoltDB. As such, a deployment of the cache is required by the EA service. To maintain appropriate segregation between the core DSP and EA DSP deployments, the EA Service requires a dedicated instance of the VoltDB cache. Synchronisation between these VoltDB instances shall be provided by a new application component that streams the required data from the core DSP to the EA Service.

Access to functions managed by the EA Service shall be controlled by new filtering components deployed at the boundaries of the EA deployment. At the Message Gateway, SRVs shall be filtered based on only permitted SRVs delivered to CSPs. At the CSP North Gateway, functions will be restricted based on the GBCS Messages Code of received responses and alerts. Attempts to access functions not allowed in the EA Service will result in an error response being returned to the SRV sender in exactly the same manner as would occur during a DSP service outage.

4.1.1 Selection of Service Requests and Alerts

The list of SRVs and Alerts permitted by the EA Service would be a configurable item. It should be noted that the DSP has been sized for two options, first the Must requirements, and secondly the Should requirements, as defined in Table 1. More SRVs and Alerts could be added to the second option, subject to some constraints, such as 8F35 and 8F36.

In particular, the EA Service cannot support any SRVs that result in a database update, as this version of the SMI is as a read-only copy to support SRV processing. In addition, capacity would also be a consideration.

4.1.2 Infrastructure Changes and Disaster Recovery

To support the new EA Service, additional infrastructure will be required that is independent of the existing infrastructure solution. Additional Virtual Machines (VM) and associated storage are required for the instances of the DSP applications and databases. Where appropriate, the VMs will host multiple applications to reduce the overall hardware footprint. To reduce the total cost of implementation, any updates to the EA Service would be deployed as a maintenance release and that there is no requirement for Users to make use of the EA Service in a test scenario.

Note that the ROM Pricing on expansion of the existing data centre-based infrastructure. It may be possible to implement the EA Service within public cloud, which would have the advantage of decoupling the EA Service from DSP- hosted infrastructure and potentially further reduce non-availability risk in specific failure scenarios. DCC will investigate this option as part of a future Full Impact Assessment (FIA).

The EA Service shall reuse the existing networking and cryptographic resources, including F5s, DataPower, Firewalls, HSMs plus network switches etc. However, in the event of a total failure of any one or all of these components, the EA Service will be inoperable.

The considerations of providing a Disaster Recovery (DR) option for the EA Service are significant both in terms of infrastructure and cost. If the DCC were required to run the EA Service across both the As Is DSP data centres, then this would require additional virtual machines and Volt Database licences at the DR site. The implications of not having the capability at the DR site would be that DCC couldn't provide the EA Service during a high impact window if the DSP was operating solely out of the DR site (i.e. the DCC Total System had completely lost the Production site). However, it is extremely unlikely that DCC would want to carry out additional high impact window changes in that scenario.

The ROM costs for the addition of the DR site would add a significant amount to the overall cost. This is presented as an additional, optional infrastructure cost in section 6.

4.1.3 Security

This Modification results in a material change to the DSP security solution; there is the addition of new infrastructure to the DSP as well as changes to F5's and internal firewalls to allow for routing. This Change requires penetration testing in the SIT-A, and Production environments and there are changes required to the protective monitoring and vulnerability management implementation.

4.2 Future DSP

The architecture of Future DSP is significantly different from that of As Is DSP, including the use of two zone, cloud-based infrastructure. As a result:

The Future DSP maintenance service measure is no more than two High Impact Maintenance Windows (HIMW) per annum, each no more than 2-hours. (SOW 2 - Run, Annex E - Performance Measures).

As per the approved BCDR Plan, currently DCC do not expect any Future DSP system downtime due to BCDR testing. (SOW 3 - Hosting, Annex H - BCDR).

The Future DSP platform production environment availability service measure is 99.99% measured monthly, that equates to just 4.38 minutes of non-availability per month. (SOW 3 - Hosting, Annex E - Performance measures).

However, the Future DSP Service Provider has provided a ROM figure and FIA estimate associated with providing effectively 99.999% as identified in section 6.1.

4.3 Other Service Providers

The EA Service does not include changes to Service Provider roles, user behaviour, or security responsibilities. It should be noted that the EA service as described in the sections above is only responsible for ensuring further availability of the DSP during Maintenance windows or BCDR testing.

Other Service Providers will either be not impacted, or require changes to support, or be unable to support the new service. While the communications networks, including Vodafone (SMETS1, 4G, and DSP Global Connect) are **not** impacted by outages associated with Planned Maintenance window, they do not process the SRVs or Alerts, and they will continue to be able to pass messages from, or to, the DSP.

Other Non-Impacted Service Providers include the following:

Critical Software	No impact.
Enduring Change of Supplier (ECoS)	None of the specified SRVs and Alerts are processed by the ECoS Service Provider. Hence No Impact

The responses from other Service Providers are summarised following.

Accenture (Device Manager)	For Device Manager (DM) the only Alert affected by this Modification is the AD1 Alert. Other Alerts and SRVs will not be impacted. During planned or unplanned outages as well as Disaster Recovery (DR), AD1 alerts¹ are queued for up to seven days and are processed on the services resumption, once there is the required network connectivity. The current infrastructure is Production in Azure UK South (UKS, two availability zones) with a warm DR in UK West (UKW, one availability zone). The current DM service was chosen by DCC to reduce the overall cost and running costs for DCC rather than a more resilient solution, i.e. hot/hot UKS/UKW. To implement an Accenture (DM) always on solution would increase infrastructure and application costs considerably with development and test over £1million, and a significant period of time of at least 18 months to design and deploy.
Future Service Management	None of the specified SRVs and Alerts are processed by the Future Service Management (FSM) application. No impact.
DCO	N56s are not processed by DCO, so no impact. Solution is to create a “mini-DCO” dedicated to processing solely the selected SRVs and Alerts. Incoming messages will be filtered and directed to the appropriate DCO instance or queued. Some duplication of processing may be anticipated.
Initial Operating Cohort (IOC), CGI Instant Energy	IOC can support continued processing of the in-scope SMETS1 Service Requests in limited scenarios, where maintenance activities involve small, backwards-compatible changes, IOC can deploy updates using rolling deployment techniques. However, certain changes, including non-backwards-compatible schema updates or changes to Redis message structures, require a full outage to avoid data integrity and operational issues. As a result, IOC cannot guarantee continuous processing of SRVs 2.2, 4.3, and 7.4 during all planned / unplanned maintenance or BCDR testing scenarios, even where the DCC EA Service is active.

¹the AD1 Alert queue processing happens using a throttling mechanism as described in Table 3

	A solution to constrain functionality to processing the SRVs and Alerts only has been designed. It requires some additional functionality and infrastructure, with relatively low costs.
Middle Operating Cohort, (MOC), Secure	Two options to support the EA Service are available: • Design a near zero-downtime solution with changes at Application level, of Backend Technologies at infrastructure level, and adopting add-on technologies. • Use some of the above technology changes to reduce down time to between 0.5 and 1 hours. However, this would not positively impact less frequent, major deployments.
FOC, Trilliant	Trilliant and the FOC ANSO currently make use of scheduled High Impact Windows to take down the FOC S1SP to allow for both application software and system software/hardware upgrades and maintenance. Deployment scripting could be updated to allow for rolling updates to software versions, with software development modified to allow separate versions to run alongside each other.
CSP North	CSP North has indicated that by implementing small configuration changes to the configuration of the network and firewalls, it would be able to pass any SRVs and Alerts from the EA Service to Devices or the DSP respectively for further processing without delay.
CSP S&C Central and South (CSP C&S)	<u>During the planned outages, unplanned outages and BCDR exercises, the technical intent would be to introduce a bolt on function to the core CSP C&S solution, enabling traffic to continue to be sent to a new DSP end point in line with the expected service availability. This would enable the requirements of the Modifications to be fulfilled, whilst recognizing that other service offerings may be paused during the planned outage periods.</u>

5 Implementation Timescales and Approach

Implementation of this change is assumed to follow a hybrid of agile and waterfall methodology. The release lifecycle duration will be confirmed as part of the FIA. Changes for the As Is DSP are expected to take between three and six months to complete Design, Build, and Pre-Integration Testing (PIT).

5.1 Testing and Acceptance

Pre-Integration Testing (PIT) is carried out by each Service Provider to prove their design and build on separate systems.

For each SEC Release, there is a Post-PIT Change Request that provides the System Integration Testing (SIT) and User Integration Testing (UIT) response for the SEC Release as a whole, covering the testing of individual changes in the scope of the release, as well as activities that are common to all changes in the scope (e.g. test plans, system regression testing, test management and governance). Costs and durations are not included in this PIA.

5.1.1 Pre-Integration Testing

As part of PIT, As Is DSP will produce and execute new or updated tests that demonstrate the successful:

- changes to code for the minimum number of components that will have an “EA instance” to achieve the required solution
- new functionality and software components facilitating synchronisation of Volt data to the EA Volt instance, filtering-out SRVs and alerts that are unsupported, and performing a “heartbeat” function to verify the health of the EA motorway

5.1.2 System Integration Testing

The SIT team will plan, prepare, and execute testing to verify the implementation functions as expected when integrated with the DCC Total System. In cases where the core DSP service is available:

- install and commission one SMETS2+ device set per CSP, i.e., CSP North, CSP South and Central and 4G Comms Hub
- verify SRV 2.2, SRV 7.4, and SRV 4.3 are executed successfully
- verify N56 (SMETS1) and AD1 alerts are generated and received successfully

In cases where the core DSP service is unavailable and the EA Service is available:

- verify SRV 2.2, SRV 7.4 and SRV 4.3 are executed successfully
- verify N56 (SMETS1) and AD1 alerts are generated and received successfully
- ensure that SRVs not supported by the EA are rejected, as expected

Once testing is complete on the EA, when the core DSP service is available:

- verify SRVs are processed successfully.

To execute the scope of testing, one SMETS2+ device set per CSP will be required. For the second option Must and Should requirements as shown in Table 1, this will be approximately 480 tests.

5.1.3 User Integration Testing

As the solution is only to be available in the SIT-A environment, there will not be any UIT testing in scope of this Modification.

5.1.4 Implementation, Application Support, and Running Costs

Although not included in the costs and effort in the following sections, there will be costs associated with implementing the EA Service in a maintenance release. These costs are expected to be relatively small.

Running costs to support the As Is EA Service solution are anticipated to be of the order of £300,000 per year.

6 Costs and Charges

The scope of supply under this PIA includes design, development (build), system testing, testing within the PIT environments.

The Rough Order of Magnitude cost (ROM) shown below describes indicative costs to implement the functional and non-functional requirements defined in section 3.4 and Appendix B. The price is not an offer open to acceptance. It should be noted that the change has not been subject to the same level of analysis that would be performed as part of a FIA and as such there may be elements missing from the solution or the solution may be subject to a material change. As a result, the final offer price may result in a variation.

6.1 Design, Build, and Testing Cost Impact

The table below details the cost of delivering the changes and Services required by the As Is DSP Service Provider to implement this Modification. For a PIA, only the Design, Build, and PIT indicative costs are supplied.

As Is DSP, £ ROM	Design, Build, and PIT	Cost to Create FIA
As Is DSP, delivery of “Must” Requirements	610,000 -820,000	£34,167
As Is DSP, delivery of “Must and Should” Requirements	680,000 – 900,000	£34,167

If the addition of a DR site for the EA Service was required as described in section 4.1.2, this would add about £250,000 to the ROM cost.

Although not usually included in a PIA, the annual running costs for both the As Is DSP solutions above are estimated at £300,000.

For the Future DSP, the Service Provider have effectively quoted for a separate and additional “always on” DCC Total System providing 99.999% availability, rather than the requirements as stated above.

Future DSP, £ ROM	Design, Build, and PIT	Cost to Create FIA
Future DSP	£2million – 3million	£119,659

For the CSPs, if the As Is DSP option is implemented, and no changes are made to the SMETS2 CSP configurations, then the EA Service will queue the selected SRVs and Alerts until the outage for the SMETS2+ CSPs is completed. This outage is expected to be significantly shorter than the current As Is DSP Planned Maintenance outage.

CSPs, £ ROM	Design, Build, and PIT	Cost to Create FIA
SMETS2 CSPs	<u>400,000 – 450,000</u>	£ <u>6447</u> ,000

If the EA Service is considered for As Is DSP, the change to extend the EA Service to the SMETS2+ CSPs would ensure continuous service with Target Response Times for the selected SMETS2+ SRVs and Alerts being met during the operation of the EA Service. This would also positively impact Users and customers after the migration to DSP2, because it means that the CSPs can continue to process the selected SRVs and Alerts during their own maintenance periods. [It should be noted that the ROM provided by CSP North is a relatively lower cost at £50,000.](#)

For the supporting Service Providers, the costs of supporting the EA Service fully are as follows.

Supporting Service Providers, £ ROM	Design, Build, and PIT	Cost to Create FIA
SMETS1 Service Providers (IOC, MOC, FOC, DCO)	2,500,000 – 4,000,000	133,000
SMETS 2 (4G Comms Hubs), AD1 Alert Only	1,000,000	25,000
Total ROM	£3.5million – 5million	158,000

If the option for 4G Comms Hubs is not implemented, AD1s will be queued until the As Is DSP is available.

Although not included in this PIA, it is expected there will be some integration testing costs associated with this Modification. If the targeted release date includes another Modification or Change Request with regression testing, that cost will be shared equally between the two (or more) changes, and the share of integration testing for this Modification will come down.

6.2 DCC Recommendations

DCC recommends consideration of the As Is DSP, delivery of “Must and Should” Requirements option, without the DR site. This option meets the needs of both Network Operators and Suppliers, and addresses the current impact of monthly 6-hour planned maintenance outages for essential SRVs and Alerts. While not fully removing the impacts associated by the supporting Service Providers, particularly the S1SPs, this option reduces the time that the SRVs and Alerts are not available from the As Is DSP outage of typically up to six hours, to the times required by the supporting Service Providers, which are typically two hours. Extending the list of SRVs and Alerts means the EA Service delivers benefits to Suppliers and customers, and adds less than 15% to the overall cost of the Modification.

Using this solution option, these design elements, and actual operational data on this option’s usage by DCC customers could usefully inform considerations on how to strengthen DCC Critical National Infrastructure (CNI) type resilience in certain Disaster Recovery scenarios.

With the high availability and low planned maintenance of the Future DSP implementation, the costs provided by the Service Provider do not present a worthwhile, value for money solution.

If the EA Service is considered for As Is DSP, the costs to extend the EA Service to the SMETS2+ CSP Norths looks to provide a strong case for the selected SRVs and Alerts to be passed to end Devices or the DSP as required. This would ensure continuous service with Target Response Times for the selected SMETS2+ SRVs and Alerts being met during the operation of the EA Service. Without these changes, there would be a limited outage for both CSP North and CSP South and Central where the selected SRVs and Alerts are not processed. This would also positively impact Users and customers after the migration to Future DSP, because it means that the CSPs can continue to process the selected SRVs and Alerts during their own maintenance periods without requiring an outage or downtime.

DCC believes the combination of the costs to extend the EA Service to SMETS1 Service Providers, and the anticipated End of Life for SMETS1 devices does not provide a financially viable solution, and note that the time to implement is quoted as at least one year from Change Board approval. DCC does not recommend this option on the grounds of financial viability matching benefits, and a risky time to implementation.

7 RAID and Design Decisions

In the following sections, any Risks, Assumptions, Issues, and Dependencies (RAID) have been identified, and Design Decisions listed.

No Issues, or Dependencies have been identified at this time.

Risks

Ref	Description	Status/Mitigation
SECMP293-R1	SIT will be conducted in the SIT-A environment only.	
SECMP293-R2	Data reconciliation between the EA Service being used and not used needs to be covered. Is this covered by common SAN storage?	
SECMP293-R3	Traffic on the EA Service is not subject to ADT restrictions.	Open, but is limited to selected SRVs and Alerts for only the duration of the EA service.
SECMP293-R4	Will traffic handled by the EA service be counted as part of DCC's measures?	
SECMP293-R5	The EA Service shall reuse the existing networking and cryptographic resources, including F5s, DataPower, Firewalls, HSMs plus network switches etc. In the event of a total failure of any one or all of these components, the EA Service will be inoperable.	Accepted, Closed

Assumptions

Ref	Description	Status/Mitigation
SECMP293-A1	The core DSP service will not be available while the EA Service is under test, therefore daily regression testing in the SIT-A environment will need to be paused throughout this period.	Accepted, Closed
SECMP293-A2	To reduce the total cost of implementation, any updates to the EA Service will be deployed as a maintenance release and that there is no requirement for Users to make use of the EA Service in a test scenario.	Accepted, Closed
SECMP293-A3	ROM Pricing is on expansion of the existing data centre-based infrastructure. It may be possible to implement the EA Service within public cloud, which would have the advantage of decoupling the EA Service from DSP- hosted infrastructure and potentially further reduce non-availability risk in specific failure scenarios. DCC will investigate this option as part of a future FIA.	To be decided in FIA
SECMP293-A4	The EA Service cannot support any SRVs that result in a database update.	Accepted, Closed
SECMP293-A5	DCC couldn't provide the EA Service during a high impact window if the DSP was operating solely out of the DR site (i.e. the DCC Total System had completely lost the Production site).	Accepted, Closed

Design Decisions

DCC are recommending the approach of As Is DSP, delivery of “Must and Should” Requirements with no extended DR functionality.

If the As Is DSP option is implemented, implementing the changes for the SMETS2+ CSPs would ensure continuous service with Target Response Times for the selected SRVs and Alerts being met during the operation of the EA Service.

Appendix A: Glossary

Acronym	Definition
BCDR	Business Continuity and Disaster Recovery
Comms Hub	Communications Hub
CAN	Contract Amendment Note
CNI	Critical National Infrastructure
CR	Change Request
CSP	Communication Service Provider
DCC	Data Communications Company
DM	Device Manager
DR	Disaster Recovery
DSP	Data Service Provider
DSP2	Future DSP, DSP Two, To Be DSP
EA	Enhanced Availability (EA) Service
ECoS	Enduring Change of Supplier
FIA	Full Impact Assessment
FSM	Future Service Management
MAP	Meter Asset Provider
NO	Network Operator
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
ROM	Rough Order of Magnitude (cost)
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
S1SP	SMETS1 Service Provider
SMETS	Smart Metering Equipment Technical Specification
SMI	Smart Metering Inventory
SM WAN	Smart Metering Wide Area Network
SR	Service Request
SRV	Service Reference Variants
TRT	Target Response Time
UIT	User Integration Testing
UTRN	Unique Transaction Reference Number
WAN	Wide Area Network

Appendix B: Volumetrics Recorded During Storms

The following table shows the daily maximum values of specific SRVs and Alerts recorded both during Met Office named storms and peak values throughout 2025.

Hourly volumes will be included and analysed as part of the FIA.

Storm	Date	Met Office Rating	Daily Maximum (millions)				
			7.4	AD1	2.2	4.3	N56 (and S1UT)
Ashley	18-21 Oct 2024	Amber and Yellow	n/a	0.28	n/a	n/a	n/a
Bert	22-25 Nov 2024	Yellow	0.54	0.37	0.88	3.13	n/a
Conall	26-27 Nov 2024	Yellow	0.56	0.13	0.66	2.92	n/a
Darragh	5- 9 Dec 2024	Red	0.71	0.99	0.75	3.04	n/a
Eowyn	21 -27 Jan 2025	Red	0.71	0.56	0.87	3.14	n/a
Floris	4-5 Aug 2025	Amber	0.69	0.21	0.7	3.8	0.22
Amy	3-4 Oct 2025	Amber and Yellow	0.74	0.28	0.82	4.17	0.25
Bram	8-9 Dec 2025	Amber	0.73	0.2	0.89	4.06	0.26
Peak	2025	Millions (date)	1.08 (13/10)	0.3 (1/10)	1.29 (20/10)	5 (19/9)	0.33 (4/12)

Note that the number of Smart Meter installations on premises and corresponding messages has increased from ~30.5million at the start of October 2024 to ~37million in mid-December 2025.