

Digital Capability Assertion Framework Access Point Criteria

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All information in this document, except for the background and test assertions, is to be treated as DCAFOne commercial-in-confidence

Table of Contents

1. Background	3
2. Definitions	4
3. Access Point Implementation Notes	5
3.1. Restatement of Access Point Profile	5
3.1.1. Message Exchange Patterns	5
3.1.2. Message Partitioning	5
3.1.3. Message Packaging	5
3.1.4. User Message	5
3.1.5. Signal Message	7
3.1.6. Error Handling	7
3.1.7. Security	7
3.1.8. Reliable Messaging and Reception Awareness	8
3.1.9. Processing Mode Parameters	8
3.2. Access Point Profile Enhancement	10
3.2.1. Addressing and Party Identification	10
3.2.2. P-Mode Parameter	11
3.3. Example AS4 header:	12
4. DCAF Criteria	13
4.1. Service Features	13
4.1.1. Adherence to the interoperability framework	13
4.1.2. Availability	13
4.1.3. Costs and charges	13
4.1.4. Client Data Ownership	13
4.1.5. Logging	13
4.1.6. Security	13
4.1.7. Incident resolution	13
4.1.8. General Messaging Response times	14
4.1.9. Business Continuity and or Disaster Recovery	14
4.2. Required Technical Interoperability Features	15
4.2.1. Messaging	16
4.2.2. Semantic	17
5. Test Assertions (Implementation guide specific)	19
6. Criteria Tables for publishing on DCAFOnline	45
6.1. General criteria	45
6.2. Required Service Features	45
6.3. Required Service Information	45
6.4. Required Technical Interoperability Features	46
6.4.1. Messaging	46
6.4.2. Semantic	46

1. Background

The Digital Business Council’s (Council) Interoperability Framework (**Framework**) introduces a set of standards, policies and guideless to improve digital interoperability between Business’ natural systems (such as ERP and accounting systems).

An Access Point is a key component for the functioning of an open standards based digitally interoperable ecosystem as defined by the Framework. Access Points, commonly associated with e-commerce gateways, act as corners 2 & 3 in the four-corner model. They provide a service that sends and receives electronic business documents and electronic messages with other Access Points and passes them onto the respective participants in corners 1 & 4.

In order to provide the degree of interoperability as defined in the Framework the Access Point must conform to a minimum set of criteria. While commencing with eInvoicing it is intended that the types of transactions implemented will expand over time to include other aspects of the procure to pay life cycle.

This document sets out the criteria as defined by the Digital Capability Assertion Framework (DCAF) – further details on DCAF can be found on <http://DCAFOOnline.com>.

More information on the relevant standards can be found in the following sources:

Digital Interoperability Framework	http://digitalbusinesscouncil.com.au/interoperability-framework/
Access Point Implementation Guide	http://digitalbusinesscouncil.com.au/access-point/
Digital Capability Locator (DCL) Implementation Guide	http://digitalbusinesscouncil.com.au/digital-capability-locator/
Digital Capability Publisher (DCP) Implementation Guide	http://digitalbusinesscouncil.com.au/digital-capability-publisher/
eInvoicing Semantic Model and Implementation Guide	http://digitalbusinesscouncil.com.au/invoicing-semantics/
e-SENS AS4 Profile specification	https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+AS4+-+1.13
[EBMS3]	http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/core/os/
[AS4]	https://dics.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/os/AS4-profile-v1.0-os.html
[XML 1.0] specification	http://www.w3.org/TR/xml
[XML 1.0] specification	http://www.w3.org/TR/xml
[Unicode] specification	http://www.unicode.org/versions/Unicode7.0.0/
[XML-DSIGv1.1]	https://www.w3.org/TR/xmlsig-core1/

Table 1- Reference documents

2. Definitions

For the purposes of this Criteria unless otherwise specified:

Access Point means a software messaging service which sends and receives electronic Messages and which can be implemented internally by an organisation or business or provided by an external provider to a Client.

Access Point Provider means a provider of Access Point services to a Client.

Available means with respect to a Access Point, being capable of receiving and sending electronic Messages in accordance with the Framework.

Implementation Practice Note means a notification issued by the DCAFOne that outlines operational guidance on methods or practices for implementing the Framework.

Business Day means any day other than a Saturday, Sunday or public holiday in Canberra, Australian Capital Territory.

Business Hours means anytime between 9am and 5pm (local time) on a Business Day which are for the purposes of the execution of this Agreement.

Business Documents means structured documents, as defined by the DCAFOne list of semantic documents used by the business in its day-to-day activities such as invoicing which are for the purposes of checking adherence to this criteria document.

Client means a business, organisation or any other entity, for which the Access Point Service Provider provides its Access Point services. The use of the term client implies there is a business or commercial relationship between the entity and Access Point Service Provider.

DCAFOne means the service which provides assertion publication services to Interoperability Framework Service Providers.

DCAFOne Website means the Website accessible at: <http://DCAFOne.com>

Defect means any characteristic that makes the whole or any part of Access Point Provider Service inoperable or inconsistent with the requirements of this criteria document including any Implementation Practice Note issued by the DCAFOne and the relevant Interoperability Framework Implementation Guide.

Digital Capability Locator is a service for looking up the location of the Access Point for a Participant.

Digital Capability Publisher is a service for Participants to store their details of their capabilities, and includes what scenarios they can process, the data formats they support and the delivery address for their Business Documents.

Digital Capability Publisher Provider is a provider of Digital Capability Publisher Services

Participant means a business, organisation or any other entity, for which the Access Point Provider provides its Access Point services.

3. Access Point Implementation Notes

3.1. Restatement of Access Point Profile

The Council's documentation on its use of the AS4 ebHandler Profile is restated in this document for clarity and to address minor inconsistencies in the Council's Access Point Implementation Guide.

It should be noted that conforming to this Profile does not mean conformance to the AS4 standard. However, if an implementation conforms to the AS4 standard, it will also conform to this Profile.

3.1.1. Message Exchange Patterns

Support is required for the One Way/Push Message Exchange Pattern:

The sending of an eb:Receipt MUST be supported to allow reliable messaging as per the AS4 standard.

This Profile only REQUIRES support for the 'response' reply pattern. An eb:Receipt or eb:Error signal message is returned on the back-channel of the underlying transport protocol.

3.1.2. Message Partitioning

Pulling of messages is NOT REQUIRED for this Profile when sending or receiving between Access Points which negates the need for message partition channels.

3.1.3. Message Packaging

The AS4 message structure includes a standard message header based on SOAP and MIME enveloping. This Profile does not support payloads in the SOAP body element, all payloads (e.g. both * for the invoice and application response) are encoded as MIME parts. A message is either a user message or a signal message. Multiple payloads MAY be present and relate to PayloadInfo elements. Payloads MUST be compressed according to the AS4 Additional Features Compression.

3.1.4. User Message

Only one user message is allowed in the SOAP header. The user message describes the transport of business information and includes sender and receiver information.

Party Identifiers

Party identifiers are used in the following instances:

- Querying DNS for a DCP endpoint (DCL Implementation Guide)
- Querying DCP for a list of capabilities (DCP Implementation Guide) and
- Identifying participants of a message exchange.

The format is:

Type: urn:oasis:names:tc:ebcore:partyid-type:iso6523:<scheme id>

Value: <identifier>

Currently 3 scheme id's are supported:

0151 – Australian Business Number

0088 – GS1 Global Location Number

0060 – DUN and Bradstreet Number

```
Example:  
<ns:PartyId type="urn:oasis:names:tc:ebcore:partyid-type:iso6523:0151">987654321</ns:PartyId>
```

Agreement Identifier

Agreement value defined by the Council:

```
<ns:AgreementRef>http://resources.digitalbusinesscouncil.com.au/dbc/services/exchange/ebms3profile/current</ns:AgreementRef>
```

Service Identifier

The service identifier corresponds to the process identifier in the Digital Capability Publisher Implementation Guide. This in turn, is aligned to the Profile ID in the eInvoicing Implementation Guide.

Example:

```
<ns:Service>dbc-procid::urn:resources.digitalbusinesscouncil.com.au:dbc:einvoicing:ver1.0</ns:Service>
```

Action Identifier

The action identifier corresponds to the document identifier in the Digital Capability Publisher Implementation guide. This in turn, is aligned to the Customisation ID in the eInvoicing Implementation Guide.

Invoice example:

```
<ns:Action>dbc-docid::urn:resources.digitalbusinesscouncil.com.au:dbc:invoicing:documents:core-invoice:xsd::core-invoice-1##urn:resources.digitalbusinesscouncil.com.au:dbc:einvoicing:process:einvoicing01:ver1.0</ns:Action>
```

RCTI example:

```
<ns:Action>dbc-docid::urn:resources.digitalbusinesscouncil.com.au:dbc:invoicing:documents:core-invoice:xsd::core-invoice-1##urn:resources.digitalbusinesscouncil.com.au:dbc:einvoicing:process:einvoicing02:ver1.0</ns:Action>
```

Adjustment/Credit Note example:

```
<ns:Action>dbc-docid::urn:resources.digitalbusinesscouncil.com.au:dbc:invoicing:documents:core-invoice:xsd::core-invoice-1##urn:resources.digitalbusinesscouncil.com.au:dbc:einvoicing:process:einvoicing03:ver1.0</ns:Action>
```

Application Response example:

```
<ns:Action>dbc-docid::urn:resources.digitalbusinesscouncil.com.au:dbc:invoicing:documents:response:xsd::response-1##urn:resources.digitalbusinesscouncil.com.au:dbc:einvoicing:process:einvoicing04:ver1.0</ns:Action>
```

For testing purposes there are 2 options:

a) Testing AS4 connectivity - the Action identifier will be specified as follows:

```
<ns:Action>test::http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/test</ns:Action>
```

b) Testing end to end document delivery – the Service identifier will be specified as follows:

```
Example:<ns:Action>test::urn:resources.digitalbusinesscouncil.com.au:dbc:invoicing:documents:core-  
invoice:xsd::core-invoice-  
1##urn:resources.digitalbusinesscouncil.com.au:dbc:invoicing:process:invoicing01:ver1.0</ns:Action  
>
```

Message Identifier

A globally unique identifier to identify a message exchange between two Access Points which MUST BE conformant with RFC2822 (<https://www.ietf.org/rfc/rfc2822.txt>)

```
Example :  
<ns:MessageId>2018-820@5209999001264.@example.com</ns:MessageId>
```

Conversation Identifier

A unique identifier to track a message through the system. This value MUST be a universally unique identifier as described by RFC4122 (<https://www.ietf.org/rfc/rfc4122.txt>)

3.1.5. Signal Message

Signal messages do not carry a user message. A signal message is used as a response to a user message. A response can be an acknowledgement of a receipt or a transport error. The RefToMessageId will refer to the user message for which the response is sent.

3.1.6. Error Handling

Transport errors MUST be reported as a response to a request. Sending errors as a separate request is NOT REQUIRED.

Application errors, including payload processing errors MUST be reported as a separate asynchronous application response message

3.1.7. Security

Access Points MUST implement security measures when using the public internet for message exchanges.

Transport Layer Security

Transport layer security provides message confidentiality between Access Points. Implementations MUST support TLS version 1.2. Fall-back to or earlier versions of TLS or SSL MUST NOT be used. TLS versions with known vulnerabilities MUST NOT be used.

Access Points are REQUIRED to implement mutual exchange of certificates. Receiving Access Points SHOULD only process messages from Access Points that send a known client certificate or from a set of whitelisted access points.

Message Layer Security

Encryption and signing of business messages is the responsibility of business systems and is NOT REQUIRED for this Profile between Access Points.

3.1.8. Reliable Messaging and Reception Awareness

When a receiving Access Point is not available due to unforeseen errors, reliability and reception awareness ensure the message will be delivered once the receiving Access Point becomes available. This is enabled by REQUIRING receipts on the synchronous return leg of the transport protocol. Reception awareness errors SHOULD BE reported to the message producer.

3.1.9. Processing Mode Parameters

This section contains a summary of PMode parameters relevant to AS4 features for this conformance Profile. An AS4 handler MUST support and understand those that are mentioned as 'required'. For each parameter, either:

- Full support is required: An implementation MUST support the possible options for this parameter.
- Partial support is required: Support for a subset of values is required.
- No support is required: An implementation is not required to support the features controlled by this parameter, and therefore is not required to understand this parameter.

An AS4 handler is expected to support the PMode set below both as a Sender (of the user message) and as a Receiver.

General PMode parameters

- **(PMode.ID: support not required)**
PMode.ID is required by AS4 but not required by this Profile. PModes are identified by the PMode.Agreement setting
- **PMode.Agreement:** support required
- **PMode.MEP:** support required for: <http://www.oasis-open.org/committees/ebxml-msg/one-way>
- **PMode.MEPbinding:** support required for: <http://www.oasis-open.org/committees/ebxml-msg/push>
- **PMode.Initiator.Party:** support required
- **PMode.Initiator.Role:** support required for: <http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/defaultRole>
- **(PMode.Initiator.Authorization.username and PMode.Initiator.Authorization.password):** support not required
- **PMode.Responder.Party:** support required
- **PMode.Responder.Role:** support required for: <http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/defaultRole>
- **(PMode.Responder.Authorization.username and PMode.Responder.Authorization.password):** support not required
-

PMode[1].Protocol

- **PMode[1].Protocol.Address:** support required for 'http' protocol
- **PMode[1].Protocol.SOAPVersion:** support required for SOAP 1.2
-

PMode[1].BusinessInfo

- **PMode[1].BusinessInfo.Service:** support required
- **PMode[1].BusinessInfo.Action:** support required
- **PMode[1].BusinessInfo.Properties[]:** support not required
- **PMode[1].BusinessInfo.PayloadProfile[]:** support not required
- **PMode[1].BusinessInfo.PayloadProfile.maxSize:** support required for 10000 kilobytes

PMode[1].ErrorHandling

- **PMode[1].ErrorHandling.Report.SenderErrorsTo:** support not required
- **PMode[1].ErrorHandling.Report.ReceiverErrorsTo:** support not required
- **PMode[1].ErrorHandling.Report.AsResponse:** support required (true).
- **PMode[1].ErrorHandling.Report.ProcessErrorNotifyConsumer:** support not required
- **PMode[1].ErrorHandling.Report.ProcessErrorNotifyProducer:** support required (true/false)
- **PMode[1].ErrorHandling.Report.DeliveryFailuresNotifyProducer:** support required (true/false)

PMode[1].Reliability

Support not required.

PMode[1].Security

- **PMode[1].Security.WSSVersion:** support not required
- **PMode[1].Security.X509.Sign:** support not required
- **PMode[1].Security.X509.Encryption:** support not required
- **PMode[1].Security.UsernameToken:** support not required
- **PMode[1].Security.PModeAuthorize:** support required (false)
- **PMode[1].Security.SendReceipt:** support required (true)
- **PMode[1].Security.SendReceipt.NonRepudiation:** support required (false)

PMode[1].PayloadService

- **PMode[1].PayloadService.CompressionType:** support required for application/gzip

PMode[1].ReceptionAwareness

- **PMode[1].ReceptionAwareness:** support required and when set to true, the **PMode[1].Security.SendReceipt** must also be set to true
- **PMode[1].ReceptionAwareness.Retry:** support required
- **PMode[1].ReceptionAwareness.Retry.Parameters:** support required
- **PMode[1].ReceptionAwareness.DuplicateDetection:** support required
- **PMode[1].ReceptionAwareness.DetectDuplicates.Parameters:** support required.

3.2. Access Point Profile Enhancement

The DCAF Enhancement practice notes are based on reconciling the Australian approach with latest enhancement to the PEPOL and e-SENS access point implementation guides and messaging profiles. This profile enhancement practice note has become necessary due the need to clarify the use of dynamic discovery for determining endpoint addresses.

The OASIS ebMS3 and AS4 specifications are specifications for point-to-point message exchange between two Message Service Handlers. However, as per the interoperability Framework AS4 is also used in situations where messages are exchanged by Access Points on behalf of other parties. In this so-called four corner topology, from an end-to-end perspective, there are four rather than two parties involved in the message exchange. Two parties are the original sender and final recipient parties. The other two parties are Access Points that route messages from the original sender to the final recipient and reverse route response messages. The four parties are conventionally referred to using Cn labels, where C stands for "corner" and the n is one of the digits 1 to 4:

- C1 is the original sender party.
- C2 is an Access Point that sends messages on behalf of C1.
- C3 is an Access Point that receives messages on behalf of C4.
- C4 is the final recipient party.

3.2.1. Addressing and Party Identification

This Enhancement to the Profile is based on the use of the Interoperability Framework eDelivery AS4 profile in four corner message exchanges. It defines conventions for the use of ebMS3 message headers and configuration of the corresponding processing mode parameters.

For Message Packaging this Profile Enhancement further constrains values for several elements in the AS4 message header and the overall message structure. In scenarios where AS4 is used for point-to-point communication between end entities, the **eb:From** and **eb:To** headers in the **eb:UserMessage/eb:PartyInfo** identify the Sender and Receiver respectively. In a four-corner-model, the Sender and Receiver of AS4 messages are the inner corner Access Points (C2, C3), not the outer corner parties (C1, C4). To facilitate the use of unmodified AS4 messaging implementations and to simplify configuration of AS4 message service handlers, **eb:From/eb:PartyId** MUST be configured as the C2 PartyID, **eb:To/eb:PartyId** MUST NOT be statically configured in the PMode. The lookup is performed by C2 based on the C4's entry in the DCP.

To be able to route a received message, the receiving Access Point (C3) needs to be able to determine the final recipient (C4). This information is generally available in a structured payload. However, using information from a structured payload assumes an understanding of the schema on which the payload is based. In order to allow Access Points to process payloads of any type, it is desirable to adopt a mechanism that is independent of particular schemas. Furthermore, in some situations there MAY be a requirement to route unstructured or encrypted data. This Profile Enhancement therefore uses the ebMS3 property mechanism to identify C1 and C4. The property mechanism allows the use of arbitrary property-value pairs in an AS4 message and is independent of payload format or structure.

When used in a Four Corner typology:

- A property named **originalSender** MUST be added to the message that identifies the original sender (C1) party.
- A property named **finalRecipient** MUST be added to the message that identifies the final recipient (C4) Party

Example :

```
<ns:MessageProperties>
  <ns:Property name="originalSender">urn:oasis:names:tc:ebcore:partyid-
type:iso6523:0088::9897654231</ns:Property>
  <ns:Property name="finalRecipient">urn:oasis:names:tc:ebcore:partyid-
type:iso6523:0151::15633137876</ns:Property>
</ns:MessageProperties>
```

A key advantage of the use of ebMS3 message properties is that no constraints are imposed on message payload. It is possible to transport, route and forward any payload, or combination of payloads, even if unstructured, binary or encrypted.

When using the eDelivery AS4 Four Corner Topology Profile Enhancement:

- Values for the four corner properties MUST be set by the Producer in the submission to the C2 AS4 MSH.
- The use of the four corner properties MUST be consistent with the P-Mode configuration of the C2 AS4 MSH and the C3 AS4 MSH.
- The receiver C3 AS4 MSH MUST include information about these properties and their values in message delivery and MUST use the party identified in the **finalRecipient** property as C4.

The use of a specific **transportProfile** attribute, transportProfile="dcaf01-transport-ebms3-as4", for the endpoint ensures that the specification of the base AS4 profile within the interoperability framework indicates use of this enhancement.

3.2.2. P-Mode Parameter

If static P-Mode configurations are used then the following values should be included

Processing Mode Parameter	Value in four corner topology enhancement
PMode[].BusinessInfo.Properties	Support required. In four corner exchanges, mandatory inclusion of originalSender and finalRecipient .

These parameters are P-Mode parameters that can be set for individual P-Modes. A conformant MSH MAY be engaged in Four Corner Topology exchanges for some partners, or for some services, and not for others.

3.3. Example AS4 header:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<soap:Body
  xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:ns="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.w3.org/2003/05/soap-envelope file:../xsd/ebms-header-3_0-200704.xsd">
  <ns:Messaging soap:mustUnderstand="1">
    <ns:UserMessage>
      <ns:Message>
        <ns:MessageInfo>
          <ns:Timestamp>2006-05-04T18:13:51.0</ns:Timestamp>
          <ns:MessageId>2018-820@5209999001264.@example.com</ns:MessageId>
        </ns:MessageInfo>
        <ns:PartyInfo>
          <ns:From>
            <ns:PartyId type="urn:oasis:names:tc:ebcore:partyid-type:iso6523:0151">987654321</ns:PartyId>
            <ns:Role>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/defaultrole</ns:Role>
          </ns:From>
          <ns:To>
            <ns:PartyId type="urn:oasis:names:tc:ebcore:partyid-type:iso6523:0151">12345678</ns:PartyId>
            <ns:Role>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/defaultrole</ns:Role>
          </ns:To>
        </ns:PartyInfo>
        <ns:CollaborationInfo>
          <ns:AgreementRef>http://resources.digitalbusinesscouncil.com.au/dbc/services/exchange/ebms3profile/current</ns:AgreementRef>
          <ns:Service>dbc-procid::urn:resources.digitalbusinesscouncil.com.au:dbc:invoicing:ver1.0</ns:Service>
          <ns>Action>dbc-docid::urn:resources.digitalbusinesscouncil.com.au:dbc:invoicing:documents:core-invoice:xsd::core-invoice-
1##urn:resources.digitalbusinesscouncil.com.au:dbc:invoicing:process:invoicing01:ver1.0
          </ns>Action>
          <ns:ConversationId>22B74363-4608-4EC3-BD14-A3F8717C73CD</ns:ConversationId>
        </ns:CollaborationInfo>
        <ns:MessageProperties>
          <ns:Property name="originalSender">urn:oasis:names:tc:ebcore:partyid-type:iso6523:0088::4035811611014</ns:Property>
          <ns:Property name="finalRecipient">urn:oasis:names:tc:ebcore:partyid-type:iso6523:0151::987654321</ns:Property>
        </ns:MessageProperties>
        <ns:PayloadInfo>
          <ns:PartInfo href="cid:payload">
            <ns:PartProperties>
              <ns:Property name="MimeType">application/xml</ns:Property>
              <ns:Property name="CompressionType">application/gzip</ns:Property>
            </ns:PartProperties>
          </ns:PartInfo>
        </ns:PayloadInfo>
      </ns:Message>
    </ns:UserMessage>
  </ns:Messaging>
</soap:Body>
```

4. DCAF Criteria

The DCAF criteria outlines the information that service providers will voluntarily and transparently publish in order to attain the appropriate DCAF level credential.

4.1. Service Features

4.1.1. Adherence to the interoperability framework

Adheres to the Interoperability Framework and the Access Point Implementation Guide referenced in Table 1

4.1.2. Availability

Availability details (e.g. hours of operation, percentage of availability) and non-availability details (e.g. outages and notices of outages) are published at a known URL.

4.1.3. Costs and charges

There are no interconnection fees between Access Points for exchanging Business Documents. Charges to clients for the services rendered may be advertised at a known URL.

4.1.4. Client Data Ownership

All data including the registration and connectivity data in the Access Point Provider Service is owned by the Client. In particular and without limiting the preceding sentence, the Access Point Provider ensures that the Client has given its acceptance to publish the Client's metadata to both the Digital capability Publisher and the Digital Capability Locator (where applicable). If the registration is done by a third party and not the Access Point Provider who has the commercial arrangement with the Client, the Access Point Provider must ensure it is able to provide evidence of any transfer of responsibility.

Written approval is obtained prior to disclosing or publishing the Client's data or information. The Access Point Provider may distribute information about a Client or Participant only to the extent required for operation of the Access Point infrastructure.

An audit trail of the authorisation by the Client or Participant to carry out any necessary update is maintained. The authorisation may be obtained by email.

4.1.5. Logging

All registration, editing or deletion of entries in the Access Point is logged and logs are retained for a minimum of 2 years.

4.1.6. Security

For the purposes of associating the DCAF compliance credentials with the Services providers digital certificate the certificate (public key) is published at a known URL.

This public key can be retrieved in order to validate whether the sending access point is a DCAF recognised access point.

4.1.7. Incident resolution

General information on incident resolution, including response times is published at a known URL.

4.1.8. General Messaging Response times

General information on maximum message processing response time is published at a known URL.

4.1.9. Business Continuity and or Disaster Recovery

General information about business continuity and or disaster recovery is published at a known URL.

4.2. Required Technical Interoperability Features

The technical interoperability features outline a set of features that enables overall digital interoperability. Adherence to the required features provides the minimum needed to achieve interoperability.

The required features are based on the Access Point Implementation guide and included in this document are a set of test assertions are labelled as AP_TAXX to very adherence to the required features. It should be noted that test assertions only serve to prove adherence to the AS4 profile outlined in the Access Point implementation guide. Generic AS4 compliance is a product compliance activity and that should be done with Drummond or any other software product compliance service.

For details on the MSHs configuration, please refer to the Access Point Implementation Guide. When used, configurations are described in test assertions as:

Configuration in predicate	PMode parameters
SMSH and RSMH are configured to exchange AS4 messages according to the Council's AS4 profile.	PModes are set according to the Access Point Implementation Guide.
SMSH and RMSH are configured to exchange AS4 messages: One-Way/Push MEP.	<ul style="list-style-type: none">• PMode[1].MEP: set to One-way• PMODE[1].MEPBinding: set to Push

In order to cover some requirements, MSHs are sometimes 'misconfigured' or 'simulated' to produce AS4 messages that do not conform to the AS4 profile as per the Access Point Implementation Guide. This can also be achieved by intercepting the messages and altering them before they reach their destination.

4.2.1. Messaging

#	Name	Short Description	Test Assertion
1	ebHandler MEP and processing modes	<ul style="list-style-type: none"> Support is required for the following Message Exchange Patterns: One-Way/Push PMode.MEP: support required The parameter for sending error reports to the sender must not be set The Ping Message feature must be supported so that the business partners can perform a basic test of the communication configuration (including security at network, transport and message layer, and reliability) in any environment, including the production environment. PMode parameter for business info service and action must be replicated from the DCP entry 	AP_TA01 AP_TA11 AP_TA13 AP_TA14 AP_TA15
2	User Message	<ul style="list-style-type: none"> Both UserMessage/PartyInfo/From and UserMessage/PartyInfo/To must NOT include more than one PartyId element. The setting of MessageID, RefToMessageID and ConversationId must be supported 	AP_TA02 AP_TA16
3	Payload Packaging	<ul style="list-style-type: none"> Payload charset must be encoded with UTF-8 AS4 compression with type set to application/gzip is mandatory The payload mime type must be set before compression is applied The compressed payload is carried in a separate MIME part and the SOAP body is empty. A single AS4 UserMessage MUST reference, via the PayloadInfo header, a single structured business document 	AP_TA23/TA 24/TA25 AP_TA03 AP_TA19 AP_TA20 AP_TA21

		<p>and may reference one or more other (structured or unstructured) payload parts. The business document is considered the 'leading' payload part for business processing.</p> <ul style="list-style-type: none"> Uncompressed payloads may not be rejected 	<p>AP_TA22</p> <p>AP_T04</p> <p>AP_T05</p>
4	Payload Delivery	<ul style="list-style-type: none"> Payloads must be decompressed before delivery Decompression errors must return a standard error code The RMSH successfully processes the AS4 message and sends an <ul style="list-style-type: none"> a) eb:Receipt response OR b) eb>Error response 	<p>AP_TA06</p> <p>AP_TA07</p> <p>AP_TA27</p> <p>AP_TA26</p>
5	External Payloads	<p>The ebMS3 mechanism of supporting 'external' payloads via hyperlink references must not be used.</p> <p>eb>Error response is returned</p>	<p>AP_TA08</p>
6	Reception awareness	<p>This feature provides a built-in Retry mechanism that can help overcome temporary network or other issues and detection of messages duplicates.</p> <ul style="list-style-type: none"> a) resend is tested b) duplicates ignored is tested <p>Reception awareness errors should be reported to the sending application</p>	<p>AP_TA09</p> <p>AP_TA10</p> <p>AP_TA12</p>
7	TLS	<p>TLS1.2 must be used</p>	<p>AP_TA28/TA29/TA30</p>

4.2.2. Semantic

The adherence to the Digital Business Councils Semantic and eInvoicing Implementation Guides, which recommend a standardised set of definitions and syntax for the business document, is considered by DCAF as required for credential purposes but businesses may choose to opt out for the following reasons:

- a) Vendors of business management systems (BMS) usually check the data in the business document from a lexical, structural and business rules perspective. Without this final check the BMS may become compromised and would disrupt business operations.
- b) Clients may prefer for access points not to introspect their business documents. In a future release of DCAF guidelines and criteria will be published on how to encrypt and digitally sign the data so that it can only be visible to the ultimate recipient of the business document.

Initially, DCAFOnline will support the Digital Business Council endorsed UBL eInvoicing document model but over time will gradually support other models as well, including prescribed approaches to mapping between models. Participants will also be able to advertise their capability to process alternative business document models through their nominated digital capability publishers.

The UBL eInvoicing criteria are as follows

- a) Lexical and structural integrity checking via XML schema validation.
- b) Value validation (Code lists).
- c) Business rules validation (BMS application logic)
 - Tax reporting - Conforming to the Goods and Services Tax Act (1999) (Australian Government, 1999);
 - Verification - Allowing identification of the commercial transaction covered by the Invoice;
 - Matching – If allowances and charges are present the relevant codes and descriptions must match defined values
 - Payment - Specifying how payments are to be made.

Resources for these criteria can be found at.

- <https://dcafonline.com/Resources/DigitalProcurement/Resources.html>.

5. Test Assertions (Implementation guide specific)

TA Id	AP_TA01
Requirement	<p>The AS4 ebHandler Conformance Profile is the AS4 conformance profile that provides support for sending and receiving roles using Push channel bindings.</p> <p>Support is required for the following Message Exchange Patterns:</p> <ul style="list-style-type: none"> • One-Way/Push • PMode.MEP: support required
Target	One-Way/Push MEP
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the Council's AS4 profile: One-Way/Push MEP. • SSMH sends an AS4 User Message to the RSMH.
Expected Result	<p>The RSMH returns an eb:Receipt.</p> <p>For further information please refer to sections 7.2.1, 10.3 and 10.3.1 in the Access Point Implementation Guide.</p>
Prescription Level	Mandatory
Tag	Message exchange Pattern, One-Way/Push.
Variable	N/A

TA Id	AP_TA02
Requirement	Both UserMessage/PartyInfo/From and UserMessage/PartyInfo/To must NOT include more than one PartyId element.
Target	User Message single exchange parties.
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. • SSMH and RSMH exchange several AS4 user messages.
Expected Result	<p>Each exchanged AS4 message contains single ORIGIN and DESTINATION PartyId element.</p> <p>For further information please refer to sections 10.2 and 10.2.1 in the Access Point Implementation Guide.</p>

TA Id	AP_TA02
Prescription Level	Mandatory
Tag	User Message, party info
Variable	ORIGIN: XML element Messaging/UserMessage/PartyInfo/From DESTINATION: XML element Messaging/UserMessage/PartyInfo/To

TA Id	AP_TA03
Requirement	Note: This test assertion is created to verify that non compressed payloads (in case it happens) are also processed and delivered to the Consumer. Due to the mandatory use of AS4 compression, XML Payloads are exchanged as compressed binary data.
Target	Payload compression
Prerequisite	<ul style="list-style-type: none"> • SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. • SMSH is simulated to produce 'uncompressed' payloads. • SMSH sends the AS4 message with 'uncompressed' payload to the RMSH.
Expected Result	The RMSH returns an eb:Receipt and delivers the message to the Consumer. For further information please refer to sections 10.3 and 10.3.1 in the Access Point Implementation Guide.
Prescription Level	Mandatory
Tag	Payload, compression
Variable	N/A

TA Id	DBC_TA04
Requirement	Due to the mandatory use of AS4 compression, XML Payloads are exchanged as compressed binary data, which is carried in separate MIME parts and not in the SOAP body. Therefore, AS4 messages based on this profile always have an empty SOAP Body.

TA Id	DBC_TA04
Target	Payload location
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. • Producer submits a message with metadata information and an XML payload to the SSMH. • SSMH generates the AS4 message to send to the RSMH.
Expected Result	<p>In the AS4 message created by the SSMH, the compressed payload is carried in a separate MIME part and the SOAP body is empty.</p> <p>For further information please refer to section 7.2.3 in the Access Point Implementation Guide.</p> <p>and section 5.1.1 in:</p> <p>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/core/os/ebms_core-3.0-spec-os.pdf</p>
Prescription Level	Mandatory
Tag	Payload packaging
Variable	N/A

TA Id	DBC_TA05
Requirement	<p>Due to the mandatory use of AS4 compression, XML Payloads are exchanged as compressed binary data, which is carried in separate MIME parts and not in the SOAP body. Therefore, AS4 messages based on this profile always have an empty SOAP Body.</p> <p>and;</p> <p>A single AS4 UserMessage MUST reference, via the PayloadInfo header, a single structured business document and may reference one or more other (structured or unstructured) payload parts. The business document is considered the 'leading' payload part for business processing.</p>
Target	Payload location
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the DBC AS4 profile (One-Way/Push MEP).

TA Id	DBC_TA05
	<ul style="list-style-type: none"> • Producer submits a message to the SSMH with metadata information, an XML payload (leading business document) and other payloads (XML and non XML).
Expected Result	<p>In the AS4 message created by the SSMH, the compressed payloads are carried in separate MIME parts and the SOAP body is empty.</p> <p>For further information please refer to sections 7.2.3, 10.2 and 10.2.1 the Access Point Implementation Guide.</p> <p>and section 5.1.1 in:</p> <p>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/core/os/ebms_core-3.0-spec-os.pdf</p>
Prescription Level	Mandatory
Tag	Payload packaging
Variable	N/A

TA Id	DBC_TA06
Requirement	<p>A single AS4 UserMessage must reference via the PayloadInfo header, a single structured business document and may reference one or more other (structured or unstructured) payload parts. The business document is considered the 'leading' payload part for business processing. Any payload parts other than the business document are not to be processed in isolation but only as adjuncts to the business document.</p>
Target	Payload processing
Prerequisite	<ul style="list-style-type: none"> • DBC_TA05 • SSMH sends the AS4 message to the RSMH
Expected Result	<p>The RSMH successfully processes the AS4 message and sends an eb:Receipt to the SSMH.</p> <p>For further information please refer to sections 7.2.3, 10.3 and 10.3.1 in the Access Point Implementation Guide.</p> <p>and section 5.1.1 in:</p> <p>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/core/os/ebms_core-3.0-spec-os.pdf</p>

TA Id	DBC_TA06
Prescription Level	Mandatory
Tag	Payload packaging
Variable	N/A

TA Id	DBC_TA07
Requirement	A single AS4 UserMessage must reference via the PayloadInfo header, a single structured business document and may reference one or more other (structured or unstructured) payload parts. The business document is considered the 'leading' payload part for business processing. Any payload parts other than the business document are not to be processed in isolation but only as adjuncts to the business document.
Target	Payload processing
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. • SSMH is simulated to send an AS4 message to the RSMH with non XML payloads and without a leading business document payload. • The SSMH sends the AS4 UserMessage to the RSMH.
Expected Result	<p>The RSMH sends back a synchronous eb:Error response.</p> <p>For further information please refer to sections 7.2.3, 10.4 and 10.4.1 in the Access Point Implementation Guide.</p> <p>and section 5.1.1 in:</p> <p>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/core/os/ebms_core-3.0-spec-os.pdf</p>
Prescription Level	Mandatory
Tag	Payload packaging
Variable	N/A

TA Id	DBC_TA08
Requirement	<p>The ebMS3 mechanism of supporting 'external' payloads via hyperlink references (as mentioned in section 5.2.2.12 of the ebMS3 Core Specification) must not be used.</p> <p>For further information please refer to the ebMS v3.0 core specification: http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/core/os/ebms_core-3.0-spec-os.pdf</p>
Target	Payload location
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push • SSMH is simulated to send an AS4 UserMessage with a payload hyperlink reference.
Expected Result	<p>The RSMH sends back a synchronous eb:Error response.</p> <p>For further information please refer to sections 10.4 and 10.4.1 in the Access Point Implementation Guide published on the Council's website. http://digitalbusinesscouncil.com.au/einvoicing-interoperability-framework</p>
Prescription Level	Mandatory
Tag	Payload reference
Variable	N/A

TA Id	DBC_TA09
Requirement	<p>This profile requires the use of the AS4 Reception Awareness feature. This feature provides a built-in Retry mechanism that can help overcome temporary network or other issues and detection of messages duplicates.</p> <ul style="list-style-type: none"> • The parameter PMode[1].ReceptionAwareness must be set to true. • The parameter PMode[1].ReceptionAwareness.Retry must be set to true. • The parameter PMode[1].ReceptionAwareness.DuplicateDetection must be set to true. <p>Note: The parameters PMode[1].ReceptionAwareness.Retry.Parameters and related PMode[1].ReceptionAwareness.DuplicateDetection.Parameters are set of parameters for configuring retries and duplication detection.</p>

TA Id	DBC_TA09
Target	Message integrity
Prerequisite	<ul style="list-style-type: none"> • SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. • Simulate the RMSH to not send receipts (can be done by intercepting the receipts e.g. using SOAP UI). • SMSH attempts to resend the AS4 UserMessage to the RMSH.
Expected Result	<p>The SMSH tries to resend the AS4 UserMessage to the RMSH.</p> <p>For further information please refer to the Access Point Implementation Guide (Appendix A: PMode Parameters)</p>
Prescription Level	Mandatory
Tag	Reception Awareness
Variable	N/A

TA Id	DBC_TA10
Requirement	<p>This profile requires the use of the AS4 Reception Awareness feature. This feature provides a built-in Retry mechanism that can help overcome temporary network or other issues and detection of message duplicates.</p> <p>The parameters PMode[1].ReceptionAwareness.Retry.Parameters and related PMode[1].ReceptionAwareness.DuplicateDetection.Parameters are set of parameters used in configuring retries and duplicate detection.</p> <p>Detection duplicate parameters are:</p> <p>maxsize=10Mb; checkwindow=7D</p> <p>Maximum log size is 10Mb for checking. Duplicate check window is guaranteed of seven (7) days minimum.</p> <p>Retry parameters are:</p> <p>maxretries=3; period=120000</p> <p>Period is two (2) minutes which corresponds to the lowest tier (bronze) SLA value for response.</p>
Target	Message reliability

TA Id	DBC_TA10
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. • Simulate the RSMH to not send receipts (can be done by intercepting the receipts using SOAP UI). • SSMH tries to resend (retry) the AS4 UserMessage to the RSMH. • Before a TIME_OUT is reached the network connection is restored (i.e. RSMH is able to send a receipt).
Expected Result	<p>The RSMH sends back an eb:Receipt to the SSMH and delivers only one user message to the Consumer and the SSMH stops resending the original AS4 UserMessage.</p> <p>For further information please refer to appendix A: PMode Parameters and sections 10.3 and 10.3.1 in the Access Point Implementation Guide .</p>
Prescription Level	Mandatory
Tag	Reception Awareness
Variable	TIME_OUT: deadline (in terms of time or number of retries) allocated for resending messages.

TA Id	DBC_TA11
Requirement	The parameter PMode[1].ErrorHandling.Report.SenderErrorsTo MUST NOT be set.
Target	Message reliability
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push
Expected Result	<p>PMode parameter 'PMode[1].ErrorHandling.Report.SenderErrorsTo' is not set.</p> <p>For further information please refer to section 2.1.3.4 in the following specification: http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/AS4-profile-v1.0.pdf and; Access Point Implementation Guide (Appendix A: PMode Parameters).</p>

TA Id	DBC_TA11
Prescription Level	Mandatory
Tag	Error report
Variable	N/A

TA Id	DBC_TA12
Requirement	<p>Reception awareness errors generated by the Sender MUST be reported to the submitting application.</p> <ul style="list-style-type: none"> The parameter PMode[1].Errorhandling.Report.MissingReceiptNotifyProducer must be set to true.
Target	Message reliability
Prerequisite	<ul style="list-style-type: none"> DBC_TA09 TIME_OUT for resending the messages is reached.
Expected Result	<p>The SMSH reports an error (message delivery failure) to the message Producer.</p> <p>For further information please refer to Appendix A: PMode Parameters and section 10 in the Access Point Implementation Guide .</p> <p>and;</p> <p>sections 2.1.3.4 and 5.2.2 in the following specification;</p> <p>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/AS4-profile-v1.0.pdf</p>
Prescription Level	Mandatory
Tag	Reception Awareness
Variable	TIME_OUT: deadline (in terms of time or number of retries) allocated for resending messages.

TA Id	DBC_TA13-1
Requirement	<p>Appendix F (F.2.5.3) in the core ebMS v3.0 specification defines a server test feature that allows an organization to ‘Ping’ a communication partner. The feature is based on messages with the values of:</p> <p>UserMessage/CollaborationInfo/Action set to http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/test</p> <p>This feature must be supported so that the business partners can perform a basic test of the communication configuration (including security at network, transport and message layer, and reliability) in any environment, including the production environment. This functionality may be supported as a built-in feature of the AS4 product. If not, a PMode MUST be configured with these values.</p>
Target	Test service
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. • Producer submits a ‘ping’ message with metadata information to the SSMH (to ‘ping’ the Consumer).
Expected Result	<p>The SSMH generates an AS4 message with values and sends it to the RSMH:</p> <p>UserMessage/CollaborationInfo/Action set to http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/test</p>
Prescription Level	Mandatory
Tag	Ping message
Variable	N/A

TA Id	DBC_TA13-2
Requirement	The AS4 product must be configured so that messages with these values (Service/Test) are not delivered to any business application.
Target	Test service
Prerequisite	<ul style="list-style-type: none"> • DBC_TA12 • The Consumer is reachable.
Expected Result	The RSMH sends back a receipt within a HTTP response with status code 204 and the Consumer does not receive any message.

TA Id	DBC_TA13-2
Prescription Level	Mandatory
Tag	Ping message
Variable	N/A

TA Id	DBC_TA14
Requirement	The value for this element must be copied from the Digital Capability Publisher values when using dynamic discovery. PMode[1].BusinessInfo.Service
Target	Business Discovery
Prerequisite	<ul style="list-style-type: none"> • SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. • SMSH performs dynamic discovery to connect and send a user message to the RMSH.
Expected Result	The value for PMode[1].BusinessInfo.Service is copied from the Digital Capability Publisher. For further information please refer to section 7.2.10.3 and Appendix A: PMode Parameters in the Access Point Implementation Guide .
Prescription Level	Mandatory
Tag	Business Info
Variable	N/A

TA Id	DBC_TA15
Requirement	The value for this element is copied from the Digital Capability Publisher values when using dynamic discovery. PMode[1].BusinessInfo.Action
Target	Business Discovery

TA Id	DBC_TA15
Prerequisite	<ul style="list-style-type: none"> SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. SMSH performs dynamic discovery to connect and send a user message to the RMSH.
Expected Result	<p>The value for PMode[1].BusinessInfo.Action is copied from the Digital Capability Publisher.</p> <p>For further information please refer to section 7.2.10.3 and Appendix A: PMode Parameters in the Access Point Implementation Guide .</p>
Prescription Level	Mandatory
Tag	Business Info
Variable	N/A

TA Id	DBC_TA16
Requirement	A compliant product MUST allow the Producer, when submitting messages, to set values for MessageID, RefToMessageID and ConversationId (to support correlation).
Target	User Message exchange parameters
Prerequisite	<ul style="list-style-type: none"> SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. Producer submits a Message including metadata information and payload to the SMSH with setting message parameters: MessageId, RefToMessageId and ConversationId.
Expected Result	<p>The SMSH returns a successful submission notification and the AS4 Message generated by the SMSH contains the same parameter values set by the producer.</p> <p>For further information please refer to sections 7.2.1 and 10.2.1 in the Access Point Implementation Guide .</p>
Prescription Level	Mandatory

TA Id	DBC_TA16
Tag	User Message
Variable	<p>MessageId: XML element Messaging/UserMessage/MessageInfo/MessageId</p> <p>RefToMessageId: XML element Messaging/UserMessage/MessageInfo/RefToMessageId</p> <p>ConversationId: XML element Messaging/UserMessage/CollaborationInfo/ConversationId</p>

TA Id	DBC_TA17
Requirement	<p>Section 5.1.1 of the ebMS3 Core Specification: http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/core/os/ebms_core-3.0-spec-os.pdf requires implementations to process both non-multipart (simple SOAP) messages and multipart (SOAP-with-attachments) messages. This is a requirement for the AS4 ebHandler Conformance Profile.</p>
Target	AS4 Message Format
Prerequisite	<ul style="list-style-type: none"> • SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. • SMSH sends an AS4 message (UserMessage with payload) to the RMSH.
Expected Result	<p>The RMSH sends an eb:Receipt to the SMSH. For further information please refer to section 10.3.1 in the Access Point Implementation Guide .</p>
Prescription Level	Mandatory
Tag	Message format, Message packaging, SOAP-with-attachments
Variable	N/A

TA Id	DBC_TA18
Requirement	Section 5.1.1 of the ebMS3 Core Specification:

TA Id	DBC_TA18
	<p>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/core/os/ebms_core-3.0-spec-os.pdf</p> <p>requires implementations to process both non-multipart (simple SOAP) messages and multipart (SOAP-with-attachments) messages.</p> <p>This is a requirement for the AS4 ebHandler Conformance Profile.</p>
Target	AS4 Message Format
Prerequisite	<ul style="list-style-type: none"> • DBC_TA17
Expected Result	The SSMH sends a success notification to the Producer
Prescription Level	Mandatory
Tag	Message format, simple SOAP
Variable	N/A

TA Id	DBC_TA19
Requirement	Due to the mandatory use of AS4 compression, XML Payloads are exchanged as compressed binary data.
Target	Payload compression
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. • Producer submits a Message with metadata information and XML payload to the SSMH.
Expected Result	<p>This generates an AS4 message with a gzip compressed payload.</p> <p>For further information please refer to section 10.2.1 the Access Point Implementation Guide published on the Council's website.</p> <p>http://digitalbusinesscouncil.com.au/einvoicing-interoperability-framework and section 3.1 in:</p> <p>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/AS4-profile-v1.0.pdf</p>

TA Id	DBC_TA19
Prescription Level	Mandatory
Tag	Payload compression
Variable	N/A

TA Id	DBC_TA20
Requirement	The PartInfo element in the message header that relates to the compressed message part, must have a Property element with @name = 'CompressionType'. The content type of the compressed attachment must be 'application/gzip'.
Target	Payload compression
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. • Producer submits a Message with metadata information and payload to the SSMH.
Expected Result	<p>In the AS4 message generated by the SSMH, a property element with name 'CompressionType' and value set to 'application/gzip' is present.</p> <p>For further information please refer to section 10.2.1 the Access Point Implementation Guide .</p> <p>and section 3.1 in:</p> <p>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/AS4-profile-v1.0.pdf</p>
Prescription Level	Mandatory
Tag	Payload compression, compression type
Variable	N/A

TA Id	DBC_TA21
Requirement	Packaging requirement:

TA Id	DBC_TA21
	<ul style="list-style-type: none"> A PartInfo/PartProperties/Property/@name = 'MimeType' value is required to identify the MIME type of the payload before compression was applied.
Target	Payload compression
Prerequisite	<ul style="list-style-type: none"> SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. Producer submits a message to the SMSH with payload (ex: XML document) and metadata information including a property element with name 'MimeType' and value (application/xml).
Expected Result	<p>The SMSH generates an AS4 message with the property 'MimeType' present and set to the value specified by the producer (application/xml).</p> <p>For further information please refer to section 10.2.1 the Access Point Implementation Guide.</p> <p>and section 3.1 in:</p> <p>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/AS4-profile-v1.0.pdf</p>
Prescription Level	Mandatory
Tag	Payload compression, Mime Type
Variable	N/A

TA Id	DBC_TA22
Requirement	<p>Packaging requirement:</p> <ul style="list-style-type: none"> A PartInfo/PartProperties/Property/@name = 'MimeType' value is required to identify the MIME type of the payload before compression was applied.
Target	Payload compression
Prerequisite	<ul style="list-style-type: none"> SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push.

TA Id	DBC_TA22
	<ul style="list-style-type: none"> The SSMH is simulated to send an AS4 message without property 'MimeType' present to the RMSH.
Expected Result	<p>The RMSH sends a synchronous ebMS error message.</p> <p>For further information please refer to sections 10.4 and 10.4.1 in the Access Point Implementation Guide published on the Council's website.</p> <p>http://digitalbusinesscouncil.com.au/einvoicing-interoperability-framework and section 3.1 in:</p> <p>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/AS4-profile-v1.0.pdf</p>
Prescription Level	Mandatory
Tag	Payload compression, Mime Type
Variable	N/A

TA Id	DBC_TA23
Requirement	<p>Packaging requirement:</p> <ul style="list-style-type: none"> For XML payloads, a PartInfo/PartProperties/Property/@name = 'CharaterSet' value is recommended to identify the character set of the payload before compression was applied. The value of this property MUST conform to the values defined in section 4.3.3 of (XML 1.0) http://www.w3.org/TR/xml/
Target	Payload compression
Prerequisite	<ul style="list-style-type: none"> SSMH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. Producer submits a message to the SSMH with XML (UTF-16) payload and metadata information including payload CharSet info.
Expected Result	<p>The SSMH generates an AS4 message with the property 'CharacterSet' present and set to the value 'UTF-16'.</p> <p>For further information please refer to section 3.1 in:</p>

TA Id	DBC_TA23
	http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/AS4-profile-v1.0.pdf and section 4.3.3 in: http://www.w3.org/TR/xml/#sec-references
Prescription Level	Mandatory
Tag	Payload compression, CharSet
Variable	N/A

TA Id	DBC_TA24
Requirement	Packaging requirement: <ul style="list-style-type: none"> For XML payloads, a PartInfo/PartProperties/Property/@name = 'CharaterSet' value is recommended to identify the character set of the payload before compression was applied. The value of this property MUST conform to the values defined in section 4.3.3 of (XML 1.0). http://www.w3.org/TR/xml/
Target	Payload compression
Prerequisite	<ul style="list-style-type: none"> SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. Producer submits a message to the SMSH with XML (UTF-8) payload and the metadata information including payload CharSet info.
Expected Result	The SMSH generates an AS4 message with the property 'CharacterSet' present and set to the value 'UTF-8'
Prescription Level	Mandatory
Tag	Payload compression, CharSet
Variable	N/A

TA Id	DBC_TA25
Requirement	<p>Packaging requirement:</p> <ul style="list-style-type: none"> For XML payloads, a PartInfo/PartProperties/Property/@name = 'CharaterSet' value is recommended to identify the character set of the payload before compression was applied. The value of this property MUST conform to the values defined in section 4.3.3 of (XML 1.0). http://www.w3.org/TR/xml/ <p>and;</p> <p>https://issues.oasis-open.org/browse/EBXMLMSG-87</p> <p>and;</p> <p>https://issues.oasis-open.org/browse/EBXMLMSG-88</p>
Target	Payload compression
Prerequisite	<ul style="list-style-type: none"> SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. SMSH is simulated to send an AS4 message with property element 'CharaterSet' set to value not conforming to section 4.3.3 of (XML 1.0) (example '!utf*'). The SMSH sends the AS4 message to the RMSH.
Predicate	<p>The RMSH returns a synchronous ebMS error message.</p> <p>For further information please refer to sections 10.4 and 10.4.1 in the Access Point Implementation Guide published on the Council's website.</p> <p>http://digitalbusinesscouncil.com.au/einvoicing-interoperability-framework</p>
Prescription Level	Mandatory
Tag	Payload compression, CharSet
Variable	N/A

TA Id	DBC_TA26
Requirement	<p>In case of an error during decompression, the following error MUST be used: Code = EBMS:0303, short description = Decompression failure, Severity = Failure, Category = Communication</p> <p>Error Handling</p>

TA Id	DBC_TA26
	<p>For the error handling this profile specifies that errors must be reported and transmitted synchronously to the Sender and should be reported to the Consumer.</p> <ul style="list-style-type: none"> The parameter PMode[1].ErrorHandling.Report.AsResponse must be set to the value_true.
Target	Message compression
Prerequisite	<ul style="list-style-type: none"> SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push. SMSH is simulated to send an AS4 User Message with compressed but damaged payloads. The SMSH sends the AS4 User Message to the RMSH.
Expected Result	<p>The RMSH sends back a synchronous error response to the Consumer with error code: Code = 'EBMS: 0303', Short description = 'DecompressionFailure', Severity = 'Failure', Category = 'Communication'.</p> <p>For further information please refer to sections 7.2.10.4, 10.4 and 10.4.1 in the Access Point Implementation Guide published on the Council's website.</p> <p>http://digitalbusinesscouncil.com.au/einvoicing-interoperability-framework</p> <p>And 5.2.2 in:</p> <p>http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/AS4-profile-v1.0.pdf</p>
Prescription Level	Mandatory
Tag	Payload compression, error handling
Variable	N/A

TA Id	DBC_TA27
Requirement	The RMSH must decompress any payload part(s) compressed by the SMSH before delivering the message.
Target	Payload reception
Prerequisite	<ul style="list-style-type: none"> SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push.

TA Id	DBC_TA27
	<ul style="list-style-type: none"> SMSH sends an AS4 User Message with a compressed payload to the RMSH.
Expected Result	The RMSH delivers the message with decompressed payload to the Consumer.
Prescription Level	Mandatory
Tag	Payload delivery
Variable	N/A

TA Id	DBC_TA28
Requirement	<ul style="list-style-type: none"> It must be possible to configure the accepted TLS versions(s) in the AS4 message handler. It must be possible to configure accepted TLS cipher suites in the AS4 message handler.
Target	Transport Layer Security
Prerequisite	<ul style="list-style-type: none"> SMSH and RMSH are configured to exchange AS4 messages according to the DBC AS4 profile: One-Way/Push.
Expected Result	<p>Parameters to configure TLS version and cipher suites exist.</p> <p>For further information please refer to section 7.2.7.1 in the Access Point Implementation Guide published on the Council's website.</p> <p>http://digitalbusinesscouncil.com.au/einvoicing-interoperability-framework</p>
Prescription Level	Mandatory
Tag	TLS
Variable	N/A

TA Id	DBC_TA29
Requirement	The ENISA and BSI reports state that TLS 1.0 and TLS 1.1 should not be used in new applications. Older versions such as SSL 2.0 (RFC6176) and SSL 3.0 MUST NOT be used. Products compliant with this profile SHOULD therefore support TLS 1.2 (RFC5246).
Target	Transport Layer Security
Prerequisite	<ul style="list-style-type: none"> • DBC_TA28 • RMSH is configured with TLS v1.2 • SMSH is configured with TLS v1.0 or TLS v1.1 • SMSH tries to submit an AS4 message to the RMSH.
Expected Result	Connection is not established between the SMSH and the RMSH.
Prescription Level	<p>Preferred</p> <p>For further information please refer to section 7.2.7.1 in the Access Point Implementation Guide published on the Council's website.</p> <p>http://digitalbusinesscouncil.com.au/einvoicing-interoperability-framework</p>
Tag	TLS, Error
Variable	N/A

TA Id	DBC_TA30
Requirement	The ENISA and BSI reports state that TLS 1.0 and TLS 1.1 should not be used in new applications. Older versions such as SSL 2.0 (RFC6176) and SSL 3.0 MUST NOT be used. Products compliant with this profile SHOULD therefor support TLS 1.2 (RFC5246).
Target	Transport Layer Security
Prerequisite	<ul style="list-style-type: none"> • DBC_TA28 • RMSH is configured with TLS v1.2 • SMSH is configured with SSL v2.0 or SSL v3.0 • SMSH tries to submit an AS4 message to the RMSH.
Expected Result	<p>Connection is not established between the SMSH and the RMSH.</p> <p>For further information please refer to the Access Point Implementation Guide (Section 7.2.7.1) published on the Council's website.</p> <p>http://digitalbusinesscouncil.com.au/einvoicing-interoperability-framework</p>

TA Id	DBC_TA30
Prescription Level	Mandatory
Tag	TLS, Error
Variable	N/A

TA Id	DBC_TA31
Requirement	<p>(Note: This test assertion is only valid when TLS is handled by the AS4 message handler)</p> <ul style="list-style-type: none"> IANA publishes a list of TLS cipher suites (TLSP), only a subset of which the ENISA Report considers future-proof. Products must support cipher suites included in this subset. Vendors must add support for newer, safer cipher suites, as and when such suites are published by IANA/IETF. Support for SSL 3.0 and for cipher suites that are not currently considered secure should be disabled by default. Perfect Forward Secrecy, which is required in (BSITLS), is supported by the TLS_ECDHE_* and TLS_DHE_* cipher suites, which are therefore preferred and should be supported.
Target	Transport Layer Security
Prerequisite	<ul style="list-style-type: none"> DBC_TA28 RMSH is configured with TLS v1.2 and list_accepted_cipher_suites. SMSH is configured with TLS v1.2 and cipher_suites not in list_accepted_cipher_suites. SMSH submits an AS4 message to the RMSH.
Expected Result	<p>Connection is not established between SMSH and RMSH.</p> <p>For further information please refer to the Access Point Implementation Guide (Section 7.2.7.1) published on the Council's website.</p> <p>http://digitalbusinesscouncil.com.au/einvoicing-interopability-framework</p>
Prescription Level	Mandatory
Tag	TLS

TA Id	DBC_TA31
Variable	List_accepted_cipher_suites: subset of list of TLS cipher suites (TLSSP) and TLS_ECDHE_* and TLS_DHE_* cipher suites.

TA Id	AP_TA32
Requirement	<ul style="list-style-type: none"> IANA publishes a list of TLS cipher suites (TLSSP), only a subset of which the ENISA Report considers future-proof Products must support cipher suites included in this subset. Vendors must add support for newer, safer cipher suites, as and when such suites are published by IANA/IETF. Support for SSL 3.0 and for cipher suites that are not currently considered secure should be disabled by default. Perfect Forward Secrecy, which is required in (BSITLS), is supported by the TLS_ECDHE_* and TLS_DHE_* cipher suites, which are therefore preferred and should be supported.
Target	Transport Layer Security
Prerequisite	<ul style="list-style-type: none"> DBC_TA28 RMSH is configured with TLS v1.2 and list_accepted_cipher_suites. SMSH is configured with TLS v1.2 and cipher_suites in list_accepted_cipher_suites. SMSH submits an AS4 message to the RMSH.
Expected Result	<p>The MSH returns an HTTP response code 2XX. (Success)</p> <p>For further information please refer to sections 10.3 and 10.3.1 in the Access Point Implementation Guide published on the Council's website.</p> <p>http://digitalbusinesscouncil.com.au/einvoicing-interoperability-framework</p>
Prescription Level	Mandatory
Tag	TLS
Variable	List_accepted_cipher_suites: subset of list of TLS cipher suites (TLSSP) and TLS_ECDHE_* and TLS_DHE_* cipher suites.

TA Id	AP_4CT_TA01 (Access Point Four Corner Topology Profile Enhancement)
Source	<p>DCAFOne enhanced implementation practice note</p> <p>"To be able to route a received message, the receiving Access Point (C3) needs to be able to determine the final recipient (C4). This information is generally available in a structured payload. However, using information from a structured payload assumes an understanding of the schema on which the payload is based. In order to allow Access Points to process payloads of any type, it is desirable to adopt a mechanism that is independent of particular schemas. Furthermore, in some situations there MAY be a requirement to route unstructured or encrypted data. This Profile Enhancement therefore uses the ebMS3 property mechanism to identify C1 and C4. The property mechanism allows the use of arbitrary property-value pairs in an AS4 message and is independent of payload format or structure.</p> <p>When used in a Four Corner typology:</p> <ul style="list-style-type: none"> • A property named originalSender MUST be added to the message that identifies the original sender (C1) party. • A property named finalRecipient MUST be added to the message that identifies the final recipient (C4) Party"
Target	Messaging Reliability
Prerequisite	<ul style="list-style-type: none"> • Producer submits a business document with the information "Sender" and "destination" to the SSMH • SSMH and RSMH are configured to exchange AS4 messages according to the eDelivery AS4 profile (One-Way/Push MEP). • SSMH sends an AS4 User message to the RSMH.
Predicate	The message received by the RSMH contains 2 property elements in the MessageProperties node with attribute name. One has name = "OriginalSender" and value producerID and the other has name = "finalRecipient" and value consumerID (producerID and consumerID are provided by the original message submitted by the producer).
Prescription Level	Mandatory
Tag	User message, end entity Addressing
Variable	N/A

TA Id	AP_4CT_TA02 (Access Point Four Corner Topology Profile Enhancement)
Source	DCAFOne enhanced implementation practice note <p>"In a four-corner-model, the Sender and Receiver of AS4 messages are the inner corner Access Points (C2, C3), not the outer corner parties (C1, C4). To facilitate the use of unmodified AS4 messaging implementations and to simplify configuration of AS4 message service handlers, eb:From/eb:PartyId and eb:To/eb:PartyId MUST identify the inner corner Access Points."</p>
Target	Messaging Reliability
Prerequisite	<ul style="list-style-type: none"> • SSMH and RSMH are configured to exchange AS4 messages according to the eDelivery AS4 profile (One-Way/Push MEP). • SSMH sends an AS4 User message to the RSMH.
Predicate	In the message sender receiver elements reference the MSHs and not the (producer,consumer).
Prescription Level	Mandatory
Tag	Addressing
Variable	sender receiver: XML elements of AS4 user message <i>Messaging/UserMessage/PartyInfo/{From to}/PartyId</i>

6. Criteria Tables for publishing on DCAFOne

6.1. General criteria

Requirement	Confirmation of Agreement
DCAFOne Terms and conditions of use	
DCAFOne Privacy Policy	

6.2. Required Service Features

Feature	Confirmation of Agreement
Adherence to the interoperability framework	
Costs and charges (No interconnection and roaming fees)	
Client Data Ownership	
Logging	

6.3. Required Service Information

Feature	URL for further information
Availability	
Costs and charges	
Security (for public key retrieval)	
Incident resolution	
General Messaging Response times	
Business Continuity and or Disaster Recovery	

6.4. Required Technical Interoperability Features

6.4.1. Messaging

Feature	Confirmation of Agreement
ebHandler MEP and processing modes	
User Message	
Payload Packaging	
Payload Delivery	
External Payloads	
Reception awareness	
TLS (1.2)	
Access Point Profile Enhancement	

6.4.2. Semantic

UBL eInvoicing Features	Confirmation of Agreement
Lexical & Structural Integrity (UBL)	
Value Validation (Code Lists)	
Tax reporting	
Verification	
Matching	
Payment	