

1
2
3
4
5
6
7
8

EASEE-gas

European Association for the Streamlining of Energy Exchange - gas

Explanatory Notes

9
10
11
12
13
14
15
16
17
18
19
20
21
22
23

Number: CBP 2019-001/01
Subject: Explanatory notes accompanying CBP 2019-001/01 "Agreement update & Certificate exchange"

24
25
26
27
28
29
30

Summary

CBP 2019-001/01 – Version 1, final

31 **About EASEE-gas**

32 <https://easee-gas.eu/about-easee-gas>

33

34 **Version List**

35

Number/ Version	Approved	Implementation date
0.2	TSWG	
1	ExCom	22-10-2019

36

37 **Reference List**

38

Reference	Document name	Version
1	CBP 2019-001/01 "Agreement update & Certificate exchange"	1

39

40

41

42

43

44

Explanatory Notes CBP 2019-001/01:
“Agreement update & Certificate exchange”

1. INTRODUCTION

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

78

79

80

81

This document will explain the process of the CBP and also gives some implementation guidelines. In general it follows the ENTSOG recommendations for this specific subject.

The CBP on “Agreement update & Certificate exchange” implies the implementation of additional AS4 functionality which was initiated for the following reasons:

1. ENTSOG choose a new standard for exchanging public keys using AS4;
2. When using the AS4 for agreement updates, which can also include the updates of the certificates, the coordinated project for updating certificates (MoC) is no longer needed.

The ENTSOG document on Agreements and Agreement updates [AAU] explains the underlying concepts and the formats and protocol of the update mechanism.

The main benefits include:

- New certificates are distributed securely, using signed and encrypted AS4 messages, between peers.
- The certificate updates are linked to the messaging configurations (P-Modes) to which they apply.
- The updates are in a structured electronic format that supports automated validation and loading.
- New certificates can be introduced without shutting down the AS4 system and/or stopping the exchange of AS4 messages.
- Old and new certificate configurations can be used in parallel during a transition phase. In case of a problem with the new certificate, the old configuration is still available and can continue to be used temporarily until a fix is found (As long as the old certificate is still valid).
- Individual certificates can be updated. There is no need to synchronize multiple certificate updates and having a coordinated project.
- The identification of the agreement update is also given in the message to avoid typing mistakes.

It is still strongly recommended to use EASEE-gas certificates because they follow the requirements and therefore interoperability with partners and AS4 systems is guaranteed.

2. ORGANISATION

82

83

84

The CBP was developed by the EASEE-gas TSWG (Technology Standards Working Group). The following segments were involved: TSOs, Shippers, Producers and Service providers. The nationalities represented were: B, D, DK, F, I, N, NL and GB.

85

86 **3. GENERATION PROCESS**

87 The CBP is created because most parties in the gas market will have document
88 exchanges using AS4.

89 *Alternatives*

90 Manual updates of certificates and agreements. Changing the certificates have to be
91 organised by each individual company. EASEE-gas will not organise a MoC in the
92 future.

93 *Pros and Cons*94 **Pros:**

- 95 • Implementing this this CBP makes configuration and certificate changes easier
96 and also improves the quality (errors caused by manual actions).
- 97 • The MoC project won't be needed anymore which saves money for the EASEE-
98 gas organisation.
- 99 • Less operational work for individual companies.

100 **Cons:**

- 101 • At the release of the CBP it is not clear which AS4 software supports this
102 messages partly or completely. (ENTSOG will perform interoperability tests in
103 2019).
- 104 • There will be no central signalling of certificate expiration.

105

106 *Final approach*

107 It seems feasible to set an end date of ??? for the EASEE-gas members. (outcome of
108 PoC tests)

109

110

111 4. IMPLEMENTATION GUIDE

112 EASEE-gas encourages the possibility of supporting multiple agreementrefs each
 113 referencing a different set of certificates, to support ease of change of certificates.

114
 115 Also the use of exchange of configuration parameters through AS4 messages is
 116 recommended in order to support ease of setting up a partner.

117
 118 Each company will be responsible for monitoring the expiration date of the
 119 certificates and send the agreementupdate to their communication partners.

120
 121 EASEE-Connect helps in organising all relations between the companies. Certificates
 122 are also uploaded to the system.

123
 124 Implementation procedure for production:

- 125 1. Update EASEE-Connect and create a new agreement
- 126 2. Send agreement update message
- 127 3. Agree on the update*
- 128 4. Use the ebMS3 testservice (in production)
- 129 5. If test is OK, use the new agreement in production

130
 131 * It is possible to decline the suggested implementation date and send a proposed
 132 new date in return.

133
 134 Since the support of the agreementupdate is tested in acceptance at the initial
 135 connection test, the agreementupdate can be performed in production without using
 136 the test/acceptance systems.

137 138 5. TECHNICAL SET UP

139 In this chapter the technical set up of the AS4 system is given.

140

141 *Set up Current Configuration*

142 P1 and P2 must both deploy P-Modes using a current certificate for P1.

143 Note that there is a need to deploy P-Modes for:

- 144 • At least one EDIG@S **Service**, involving exchange of at least one EDIG@S
 145 document (referenced as Part Property) between P1 and P2 or P2 and P1.
- 146 • A test service message from P1 to P2.
- 147 • A test service message from P2 to P1.
- 148 • Certificate Update message from P1 to P2 and Response or Exception from P2
 149 to P1.
- 150 • Certificate Update message from P2 to P1 and Response or Exception from P1
 151 to P2

152 All these P-Modes use the same value for **AgreementRef** as explained in the
153 referenced specifications.

154 ***Verify Correct Functioning of CONF-CUR***

155 To verify the correct deployment of the configuration:

- 156 • P1 can send a test message to P2, which P2 acknowledges with an AS4
157 receipt (not error).
- 158 • And/or P1 sends a test message to P1, which P1 acknowledges with an AS4
159 receipt (not error).

160 ***P1 Preparation of Update to CONF-NEW***

161 To initiate an update of a certificate, P1 must prepare a proposed new agreement,
162 to which new P-Modes are to be added as are defined in the existing agreement,
163 supporting the same types of messages in all directions but using a distinct
164 **AgreementRef** and differing in one associated certificate.

165 P1 must deploy, or schedule the future deployment of, this new updated
166 configuration in its own system. This is done using its configuration management API
167 ([**Error! Reference source not found.**], section 2.2.8).

168 The future deployment case relates to cases where the agreement is scheduled to be
169 activate some time in the future (e.g. some number of working days ahead, to allow
170 all parties to process the update).

171 Note that the existing agreement and its P-Modes are not removed, at least not yet.

- 172 • As described in section 2.3 of the ENTSOG document on Agreements and
173 Agreement Update [**Error! Reference source not found.**], for all incoming
174 connections, the update adds new P-Modes, allowing P1 to receive messages
175 from P2 using either the old or the new agreement.
- 176 • For outgoing messages, as described in section 2.4 of the ENTSOG document
177 on Agreements and Agreement Update [**Error! Reference source not
178 found.**], the update adds new P-Modes, allowing P1 to send messages to P2
179 using either the old or the new agreement.
- 180 • To be safe, it is possible to initially only deploy, for outgoing messages, the
181 test service for the new agreement. See section 0.

182 ***Requesting an Update to P2***

183 P1 must agree with P2 to deploy this new agreement. This is done by sending a
184 Certificate Update XML message to P2 that has an ebCore Agreement Update XML
185 message that expresses the requested update. This message includes an XML
186 document containing the current and new certificate, the current and new agreement
187 identifier.

188 ***P2 Preparation of Update to CONF-NEW***

189 When receiving an update request, P2 is expected to review it. If the request is
190 accepted, P2 must deploy, or schedule the future deployment of, this new updated
191 configuration in its system. This is done using its configuration management API
192 ([**Error! Reference source not found.**], section 2.2.8). Note that the existing
193 agreement and its P-Modes are not removed, at least not yet.

- 194
- 195 • As described in section 2.3 of the ENTSOG document on Agreements and
196 Agreement Update [**Error! Reference source not found.**], for all incoming
197 connections, the update adds new P-Modes, allowing P2 to receive messages
198 from P1 using either the old or the new agreement.
 - 199 • For outgoing messages, as described in section 2.4 of the ENTSOG document
200 on Agreements and Agreement Update [**Error! Reference source not**
201 **found.**], the update adds new P-Modes, allowing P2 to send messages to P1
202 using either the old or the new agreement.
 - 203 • To be safe, it is possible to initially only deploy the test service for the new
204 agreement. See section 0.

204 ***Communicating the Update Acceptance or Rejection to P1***

205 If in step 0 P2 accepted the update request, this is to communicated by P2 to P1
206 using an update response message. P2 must prepare the corresponding XML
207 document and send it using an AS4 message with the appropriate **Service** and
208 **Action** values.

209 ***Confirming the new configuration in P1***

210 If P2 receives a confirmation from P2, it knows that P2 will deploy the new
211 agreement and related P-Modes and certificates at the agreed activation date and
212 time.

213 ***P1 Validating the new configuration***

214 P1 may use the test service, referencing the new configuration using the new
215 **AgreementRef** value, to verify correct deployment at both sides.

216 If this is successful, the new configuration can now also be activated for outbound
217 business messages (if this had been postponed to be safe, as mentioned in section
218 0).

219 ***P2 Validating the new configuration***

220 Similarly to P1 (see section 0), P2 can test the new deployment using the test service
221 and use it for business messages if successful.

222 ***Retire existing configuration***

 223 Once P1 (respectively P2) has successfully tested and deployed the new
 224 configuration for messages to P2 (P1), and has noticed that P2 (P1) has similarly
 225 tested and deployed the new configuration for messages to P1 (P2), the old
 226 configuration can be retired. This does not need to be done immediately.

227

228

 229 **6. DEFINITIONS**

 230 AS4: Applicability Statement 4 [AS4], a web services based protocol for
 231 transporting documents.

 232 ENTSG: The European Network of Transmission System Operators for Gas
 233 <http://entsog.eu/>.

234 API: Application Programming Interface.

235 TSWG: EASEE-gas Technical Standard Working Group.

236

237

 238 **7. REFERENCES**

239

240 [AS4] AS4 Profile of ebMS 3.0 Version 1.0. OASIS Standard, 23 January 2013.

 241 [http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-](http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/AS4-profile-v1.0.html)
 242 [profile/v1.0/AS4-profile-v1.0.html](http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/AS4-profile-v1.0.html)

243

244 [AAU] ENTSG AS4 Agreements and Agreement Updates. Rev_1 9 January 2017.

 245 [https://entsog.eu/public/uploads/files/publications/INT%20Network%20Code/2016/INT1](https://entsog.eu/public/uploads/files/publications/INT%20Network%20Code/2016/INT1049-)
 246 [049-](https://entsog.eu/public/uploads/files/publications/INT%20Network%20Code/2016/INT1049-)

 247 [170109_ENTSG%20AS4%20Agreements%20and%20Agreement%20Updates_Rev_1.p](https://entsog.eu/public/uploads/files/publications/INT%20Network%20Code/2016/INT1049-170109_ENTSG%20AS4%20Agreements%20and%20Agreement%20Updates_Rev_1.pdf)
 248 [df](https://entsog.eu/public/uploads/files/publications/INT%20Network%20Code/2016/INT1049-170109_ENTSG%20AS4%20Agreements%20and%20Agreement%20Updates_Rev_1.pdf)

249
