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SECMP0009 'Centralised Firmware Library'

Working Group - Meeting 5

5th May 2017, 10am – 3pm,

Gemserv Office, 8 Fenchurch Place, London, EC3M 4AJ

Meeting Headlines

Organisation	Working Group Member
Npower (Proposer)	Mark Pitchford
E.On	Robert Williams
BEAMA	Andrew Willman
EDF Energy	Paul Saker (teleconference)
ITRON	Russ Martin
SSE	Rachel Goozee
Utiligroup	Karen Lee
British Gas	Justin Caveill

Representing	Other participants
SECAS	Jill Ashby (Chair)
	Samuel Browne (Lead Modification Analyst)
	Urszula Thorpe (Technical Support)
DCC	Parmjeet Dayal (teleconference)
	Nicola Roteglia

Overview

SECAS stated that the draft Design Note is a working document and is not intended as a set of instructions. It aims to provide a background to this modification and bring to light meter firmware management challenges as assets churn between suppliers through Change of supplier (CoS) events. The implementation and operation of the processes the draft Design Note describes will vary depending on each supplier - MAP - manufacturer set up, which are the subject of bi-lateral arrangements outwith the SEC or other Industry Codes.

The Working Group (WG) restated that the objective of SECMP0009 is to address firmware management challenges faced by suppliers when meter assets churn between them. A central solution is being proposed to better facilitate gaining suppliers having a consistent mechanism to access firmware images to maintain meters and mitigate early replacement of assets. Potential inefficiencies with bilateral communication were initially

highlighted during design stage discussions under the Smart Implementation Programme (SMIP) and a solution in the form of a Central Firmware Library (CFL) arose. There is currently no established mechanism for a supplier and the manufacturer to communicate, which might arise due to a need for a firmware image or to notify each other of identified vulnerabilities on meters. This can be more acute for a gaining supplier who may not have any existing relationship with that manufacturer and therefore needs to investigate a means of communication. In the absence of a timely communication chain being established, there is a risk suppliers may choose to replace the inherited meters so that they continue to comply with the SEC obligations in relation to both maintaining SMETS compliance as well as relevant SEC Section G obligations (Duty to notify and be notified). Whilst there is no obligation to use firmware upgrades, experience to date has suggested this will be the preferred route to maintain devices.

The aim of the CFL is to facilitate transparency and efficiency through a common exchange for obtaining firmware and the WG noted that the CFL has the potential to eliminate some of the inefficiencies by specifying a standardised format for firmware images and a method of transmitting them.

Options

Three options for discussion were presented:

- Option 1 – a CFL with images uploaded by suppliers
- Option 2 – a CFL with images uploaded by manufacturers
- Option 3 – a bilateral interface between each supplier and each manufacturer

Both Option 1 and 2 would need to consider the framework to support the upload of images into the CFL. In addition it would need to better understand how factors such as any charges for images would be handled.

The WG agreed that Option 1 was unfavourable as it would introduce further processing complications, such as duplication management when two different suppliers upload the same image. A further consideration would be liabilities, i.e. any falling to the uploading party where an image is used by another party and any 'duty of care' responsibilities.

Viability of Option 2 depends on manufacturers uploading images but there are no means to place such a mandate on manufacturers under the SEC. In the absence of this, there is no guarantee that any manufacturer would use the CFL, and manufacturers have not supported this option and, even if some did it could not be certain that all would. The Proposer noted that EUK have contacted CMAP to further inform the prospect of this option.

Options 1 and 2 could both offer the benefit of transparent controls and an audit trail, which may be useful in addressing some of the concerns that have been raised by manufacturers. However, this would be dependent on overcoming other impediments to uploading the images. Option 3 is the only option which is supported by manufacturers since it preserves their IPR and duties to protect those rights. The WG noted that Option 3 is 'As Is' and did not address either the transparency of the process or inefficiencies in multiple bilateral communications across a wide range of manufacturer and supplier organisations. Furthermore, the number of suppliers that will be involved in the SMETS2 arrangements will exacerbate the issue for manufacturers and MAPs.

The WG considered that, for completeness, it should be noted that other options had been discussed:

- Option 4 - a multilateral interface between suppliers and manufacturers; and
- Option 5 - manufacturers to provide images to the DCC, and the DCC distribute them to Devices.

The WG recognised that Option 5 requires too many material changes to the current technical and security architecture, and discounted it on this basis.

Option 4 was not considered achievable in the short term. However, the WG agreed a staged approach could be considered for progressing the aims of this Option. Such as: a first step to develop a contact list for

manufacturers and suppliers which could be published on the SECAS website to support first-line identification of an appropriate contact. The Chair confirmed this could be posted to the SEC website without the need for completion of the Mod process, although SECAS would seek prior Panel approval, eg through a Panel Paper, to publish the contact information.

The Proposer noted this as a next step but stated that the CFL proposal in the modification would still need to be progressed.

Additional Considerations

The Intellectual Property (IPR) considerations previously raised would merit further discussion in the context that suppliers are the only DCC Users with rights to deploy firmware upgrades to smart meters.

Input from the Security Sub-Committee will be needed to provide their view on any secure storage utilised by a CFL. The extent of their advice is likely to depend on the handling of release notes in a manner that addresses concerns previously raised to the SMIP.

The WG agreed that the scope of the CFL is not intended to include any firmware images that provide bespoke additional functionality. Only images that meet the specified SEC provisions, eg to maintain SMETS or Assurance Certification compliance, are intended to be held in the CFL.

SECAS highlighted the potential for other factors to inform the WG's deliberations, that were not available at the time the modification was raised. Examples include:

- learnings from firmware upgrades to Communication Hubs or SMETS2 meters during R1.3 testing; and
- firmware management experience pre- and post- DCC Live Services (eg SMETS2→SMETS3).

A Design Note can be prepared for pre- and post-conclusion of SECMP0009, so that suppliers are aware of the factors they need to be aware of, subject to the appropriate governance sign-off.

Actions:

ACTION_MP9_0505_01 - SECAS will continue to develop the draft Design Note to a version for external consumption.

ACTION_MP9_0505_02 - SECAS to liaise with the BEAMA representative to obtain a list of manufacturer's contact details in order to facilitate development of a contact list.