Communication Profile (CP) Template

19 mars 2016

Innehåll

Document title	Document type
SysDD Temaplate - White box design	Template
Date	Version
19 mars 2016	1.2
Author	Status
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Contact	Page
fredrik.blomstedt@bnearit.se	2(4)

1 Communication Profile Overview

In this section a complete description of technologies and specifications that build the Communication Profile must be provided. A Communication Profile Identifier must be the outcome of the present document. The Communication Profile Identifier should be described in a subsection. The identifier is composed by the Transfer protocol (e.g. CoAP), by the Security that will be used for the transportation of data (e.g. DTLS), and by the data format (e.g. EXI). Therefore, an example of an identifier can be the following: CoAP-DTLS-EXI.

2 Message Exchange Patterns / Protocols

This chapter explains how to implement a common set of message exchange patterns using this communication profile.

Every message exchange patterns must be described in detail in its sub-sections. Examples of Message Exchange Patterns can be: Request-Response, Publish-Subscribe, One-to-Many, etc.

For each message exchange pattern, a number of Protocols will be described. These ones are are the the list of transfer protocols employed in the communication profile, such as CoAP.

Later in this section, the protocols are instantiated to be used to interact with the resources on the communication profile. For example, this section can report how the REST operations are mapped over the functions.

This section describes how the capabilities related to the Communication Profile are used.

For instance, iIn a CoAP- based exampleapplication the functions used to encode and transfer data using this communication profile, thus according to CoAP, should be documented like in Table 2, in a subsection. Adaptation of this section are allowed to fit the specificities of the use case.:

Table 1 Function description

Function	Service	Method	Input	Output

Another subsection regarding data, either input or output should be described using XML Schemas.See the examples in the repository.

3 Security

Define in detail how the proposed Communication Profile handles security issues, regarding Authentication, based on the protocol specifications. For instance in the use of CoAP, DTLS is enabled.

4 Endpoint Description

For instance, in a CoAP based example, an endpoint utilizing this communication profile must expose the following information to its communicating parties.

Table 2 Endpoint characteristics – IP based protocol

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IP	IP address
Port	UDP port
Service	Resource identifier

Table 2 Endpoint characteristics - XMPP

Server URL	URL of the XMPP server
Chat Room	XMPP Chat room id

A valid URL should be provided to allow connection to the service.

Note that this table must be adapted for the specificities of the use case. In XMPP, these is no IP/Port for the endpoint, but instead chat rooms. In AMQP there are exchanges and queues.

5   Metadata

If any metadata is available should be presented in this section.

6   Data Encoding

Describe the data format used by the communication profile and, if possible, provide an example of a message. Examples could be XML, EXI, JSON etc.

7   Description Format

This section describes how the capabilities related to the Communication Profile are used.

For instance, in a CoAP based example the functions used to encode and transfer data using this communication profile, thus according to CoAP, should be documented like in Table 2, in a subsection:

Table 3 Function description

Function	Service	Method	Input	Output

Another subsection regarding data, either input or output should be described using XML Schemas.

8   Standards and Demarcations

Present a list of specifications used by the Communication Profile, in the following format:

Table 4 Specifications list

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Fredrik Blomstedt		Proposed
Contact		Page
fredrik.blomstedt@bnearit.se		4(4)

Specification	Type	Version

Any demarcations in the usage of standards should be presented in this section.

9 References

Any references must be placed here

10 Revision history

10.1 Amendments

No.	Date	Version	Subject of Amendments	Author
1	2015-02-20	1.0	Revision of text	Michele Albano / Luis Ferreira
2	2015-09-3018	1.1	Refinement of the textstructure	Michele Albano / Luis Ferreira
3	2016-03-19	1.2	Transfer to Latex	Jerker Delsing

10.2 Quality Assurance

No.	Date	Version	Approved by
1			
2			