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| CHANGE REQUEST |
| Meeting ID:\* | < e.g. SEC#34> |
| Source:\* | <Saïd Gharout>, <ORANGE>, <said.gharout@orange.com> |
| Date:\* | 2017-03-13 |
| Reason for Change/s:\* | Add of new feature |
| CR against: Release\* | 3 |
| CR against: WI\* | [x]  Active <WI-0073> [ ]  MNT maintenance / < Work Item number(optional)>Is this a mirror CR? Yes [ ]  No [x] mirror CR number: (Note to Rapporteur - use latest agreed revision)[ ]  STE Small Technical Enhancements / < Work Item number (optional)>Only ONE of the above shall be ticked |
| CR against: TS/TR\* | TR48 v0.0.3 |
| Clauses \* | New clause before clause 9 |
| Type of change: \* | [ ]  Editorial change[ ]  Bug Fix or Correction[ ]  Change to existing feature or functionality[x]  New feature or functionalityOnly ONE of the above shall be ticked |
| Impacted other TS/TR(s) | <TS/TR number>, <Version Number>, and <Description on which aspect should be reflected in this TS/TR> |
| Post Freeze checking:\* | This CR contains only essential changes and corrections? YES [ ]  NO [x] This CR may break backwards compatibility with the last approved version of the TS? YES [ ]  NO [x]  |
| Template Version: January 2017 (Do not modify) |

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\*\*\*\*\*\*Start of change 1 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

# 2 References

References are either specific (identified by date of publication and/or edition number or version number) or non‑specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

## 2.1 Normative references

The following referenced documents are necessary for the application of the present document.

Not applicable.

## 2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] oneM2M TR-0004 Definitions and Acronyms

[i.2] W3C Recommendation “Canonical XML Version 1.0”, 2001, <http://www.w3.org/TR/xml-c14n>

[i.3] IETF RFC 7165: “Use Cases and Requirements for JSON Object Signing and Encryption (JOSE)”

[i.4] IETF RFC 5166: “An Interface and Algorithms for Authenticated Encryption”, 2008

[i.5] oneM2M drafting rules (draft)

[i.6] oneM2M TS-0001 Functional Architecture

[i.7] oneM2M TS-0002 Requirements

[i.8] oneM2M TS-0003 Security Solutions

[i.9] oneM2M TS-0004 Service Layer Core Protocol Specification

[i.10] GlobalPlatform Card - Digital Letter of Approval - Version 1.0

# 3 Definitions, symbols, abbreviations and acronyms

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in [i.1] and the following apply:

|  |  |
| --- | --- |
| Digital Letter Of Approval | A digital representation of a Letter of Approval, signed by a DLOA Authority. |
| DLOA Authority | An entity that provides a certification, evaluation, approval, qualification, or validation scheme that delivers Digital Letters of Approval. |
| DLOA Registrar | A role that stores DLOAs and provides an interface to enable a Management System to retrieve them. |

NOTE: This may contain additional information.

## 3.2 Symbols

For the purposes of the present document, the [following] symbols [given in ... and the following] apply:

|| Concatenation

## 3.3 Abbreviations

For the purposes of the present document, the [following] abbreviations [given in ... and the following] apply:

TBD

## 3.4 Acronyms

For the purposes of the present document, the abbreviations [i.1] apply:

AND Application Dedicated Node

AE Application Entity

AE-ID Application Entity Identifier

App-ID Application Identifier

ARA App-ID Registration Authority

ARF App-ID Registry Function

ASN Application Dedicated Node

BYOD Bring Your Own Device

CA Certificate Authority

CCB Compliance Certification Body

CRL Certificate Revocation List

CRUD Create Retrieve Update Delete

CSE Common Services Entity

DLOA Digital Letter Of Approval

DM Device Management

IN Infrastructure Node

IoT Internet of Things

MAF M2M Authorisation Function

MEF M2M Enrolment Function

MN Middle Node

OS Operating System

PKI Public Key Infrastructure

SP Service Provider

SSL Secure Socket Layer

\*\*\*\*\*\*\*\*\*\*\* End of change 1 \*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\* Start of change 2 \*\*\*\*\*\*\*\*\*\*\*\*\*

# 9 Available Options

## 9.1 Review of Existing Technology for use in the functionality

### 9.1.1 Digital Letter of Approval

#### 9.1.1.1 Introduction to Technology N

The DLA (Digital Letter of Approval) is digital representation of a Letter of Approval, signed by a DLOA Authority. The DLOA is an XML document as defined in GlobalPlatform DLOA [i.10]. This method is largely used by GlobalPlatform and GSMA to verify all the certifications (e.g. functional conformance, security certification, accreditation) related to a component.

The DLOA Registrar (figure x) is a role that stores DLOAs and provides an interface to enable authorised Management System to retrieve them. In the context of M2M systems, DLOA Registrar could be defined (i.e. a well-known URL could be defined), containing all the valid (not expired and not revoked) DLOAs delivered by the DLOA Authority. A DLOA authority could be a certification body (e.g. GCF) which should be recognised by M2M ecosystem.

DLOA Registrar

Management system

DLOA retrieval

**Figure x: DLOA retrieval**

The figure above shows the link between the DLOA Registrar which stores all the valid DLOAs and the Management System.

In the context of M2M/IoT, a Management System is any authorised system (e.g. a M2M Service Provider, ARF) interested in verifying the level of certification, evaluation, approval, qualification, or validation of a M2M/IoT component (e.g. Device, Server, etc).

The following table describes the potential fields that a DLOA could contain.

| Field | Description |
| --- | --- |
| Authority\_Label | This field contains the DLOA Authority Identifier (e.g. OID)  |
| LOA\_Identifier | This field contains the identifier of the LOA assigned by the DLOA Authority. |
| LOA\_Scope | This field indicates the scope of the certification, evaluation, approval, qualification, or validation covered by the LOA. |
| Platform\_Identifier | This field contains the identifier of the certified element (e.g. platform unique name and manufacturer name) |
| Issuance\_Date | This field contains the date of issuance of the related LOA. |
| Expiration\_Date | Expiration date of the LOA |
| LOA\_Url | This field contains the URL where the original LOA as issued by the DLOA Authority can be retrieved. |
| Signature | The signature of the DLOA as defined in GlobalPlatform DLOA [i.10]. |

1. Table 67: Platform\_DLOA description

## 9.2 A Solution for providing DLOA functionality

### 9.2.1 General procedure for providing DLOA functionality

The ARF may obtain all the certifications related to a component (e.g. service, application, application) via the DLOA Registrar. According to the result, the ARF determines which services are appropriate for the request.

\*\*\*\*\*\*\*\*\*\*\*\*\*end of change 2\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

# 9 Conclusions and recommendations

The present document offers an overview of the use cases, requirements, architecture proposals and available solutions for an App-ID Registry Function.

Some of the contents have been normalized as Release 2 Technical Specification. Others may be used to facilitate future normative work resulting in oneM2M Technical Specifications.

# History

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| **Publication history** |
| V.0.0.1 | 21-Sep-2017 | Initial Baseline for TR |
| V.0.0.2 | 11-Oct-2017 | New Baseline with agreed text for scope and use cases |
| V.0.0.3 | 4-Dec-2017 | Update with approved contributions at TP32 |
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