**3GPP TSG-SA3 Meeting #119 draft\_S3-244683-r3**

**Orlando, US, 11 -15 November 2024** **(revision of xx-yyxxxx)**

**Source: Cisco Systems**

**Title: New WID on Automatic Certificate Management Environment (ACME) for the Service Based Architecture (SBA)**

**Document for: Approval**

**Agenda Item: 6**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>   
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: Automatic Certificate Management Environment (ACME) for the Service Based Architecture (SBA)

Acronym: ACME\_SBA

Unique identifier:

Potential target Release: Rel-19

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  |  | X |  |
| No | X | X | X |  |  |
| Don't know |  |  |  |  |  |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
|  | Study |
|  | Normative – Stage 1 |
| x | Normative – Stage 2 |
|  | Normative – Stage 3 |
|  | Normative – Other\* |

**\* Other = e.g. testing**

## 2.2 Parent Work Item

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |  |  |  |
| --- | --- | --- | --- |
| Parent Work / Study Items | | | |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| FS\_ACME\_SBA | SA3 | 1020040 | Study of ACME for Automated Certificate Management in SBA |

### 2.3 Other related Work Items and dependencies

|  |  |  |
| --- | --- | --- |
| Other related Work /Study Items (if any) | | |
| Unique ID | Title | Nature of relationship |
|  |  |  |

**Dependency on non-3GPP (draft) specification:**

IETF RFC 8555: "Automatic Certificate Management Environment (ACME)".

IETF RFC 8738: "Automated Certificate Management Environment (ACME) IP Identifier Validation Extension".

IETF RFC 8739: "Support for Short-Term, Automatically Renewed (STAR) Certificates in the Automated Certificate Management Environment (ACME)".

IETF RFC 8823: "Extensions to Automatic Certificate Management Environment for End-User S/MIME Certificates".

IETF RFC 9447: "Automated Certificate Management Environment (ACME) Challenges Using an Authority Token".

IETF RFC 9448: "TNAuthList Profile of Automated Certificate Management Environment (ACME) Authority Token".

IETF RFC 7519: " JSON Web Token (JWT)".

IETF RFC 9110: "HTTP Semantics".

IETF RFC 7515: "JSON Web Signature (JWS)".

IETF RFC 4122: "Universally Unique IDentifier (UUID) URN Namespace".

IETF RFC 5280: “Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile”.

IETF RFC 8738: "Automated Certificate Management Environment (ACME) IP Identifier Validation Extension".

# 3 Justification

The TR 33.776: "Study on Automatic Certificate Management Environment (ACME) for the Service Based Architecture (SBA)" is concluding. It is proposed to start the normative work as described in this WID.

# 4 Objective

The objective of this work item is normative work according to the conclusions from TR 33.776: "Study on Automatic Certificate Management Environment (ACME) for the Service Based Architecture (SBA)", as described in clause 7. This is addressed in a single Work Task (WT#1), which includes the following:

* Specify ACME as an alternative protocol to CMPv2 for automated certificate management in 5G SBA.
* A separate clause can be added for ACME in TS 33.310.
* Details can be captured in an informative Annex of TS 33.310.

|  |  |  |  |
| --- | --- | --- | --- |
| Work Task ID | **TU Estimate**  **(Study)** | **TU Estimate**  **(Normative)** | **Dependencies** |
| WT#1 |  | 1.0 | WT is self-contained |

# 5 Expected Output and Time scale

***{If this WID covers both stage 2 and stage 3, clearly indicate the different completion dates.}***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| New specifications {One line per specification. Create/delete lines as needed} | | | | | |
| Type | TS/TR number | Title | For info  at TSG# | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} | | | |
| TS/TR No. | Description of change | Target completion plenary# | Remarks |
| TS 33.310 | Enable use of ACME as an optional protocol for Automated Certificate Management (ACM) for 5GC Service Based Architecture (SBA) | SA #108 |  |

# 6 Work item Rapporteur(s)

{Mandatory: <FamilyName>, <GivenName>, <Company>, <email address>}

{Optional: <FamilyName>, <GivenName>, <Company>, <email address>: Secondary task(s)}

{The first listed Rapporteur is the work item primary Rapporteur. The role of a Rapporteur is further described in [www.3gpp.org/specifications-groups/delegates-corner/writing-a-new-spec](http://www.3gpp.org/specifications-groups/delegates-corner/writing-a-new-spec). By default, the primary Rapporteur shall ensure the production of the post-completion summary.   
Secondary Rapporteur(s) are possible for specific secondary task(s), such as: "Write the post-completion summary"; "In charge of a specific aspect of the work item (specify which)"; "Rapporteur for a secondary responsible WG (specify which)"}

# 7 Work item leadership

SA WG3

# 8 Aspects that involve other WGs

To be defined according to further conclusions. If any, CT4 for stage 3 work.

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Cisco Systems |
| Johns Hopkins University APL |
| US National Security Agency |
| Charter Communications |
| Google |
| NCSC |
| CableLabs |
| AT&T |
| BT |
| Deutsche Telekom |