Privacy Protected Subscriber Identification in 5G Network

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Abstract.

1 Introduction

2 Authentication

Applicability of Existing Authentication Practices in 5G: TR 33.899 discusses that existing authentication practices wouldn't readily be applicable in 5G. Because of the complex business model and diversified end-user devices, the authentication requirements become wide and complex. Unlike the legacy networks, the user equipment identifiers are required to authenticated in 5G. There will be UEs which would not have 3GPP subscription credentials. So, 5G needs authentication mechanism that can authenticate non-3GPP credentials. UEs will connect with 3rd parties different from the UE's HN. There will be large number of IoT devices activated almost simultaneously. These bulk activations would create a huge pressure on a central authentication server if such a server's involvement is required in every authentication run. And like the other legacy networks, the user subscription authentication is also required in 5G. All these concerns are under discussion in 3GPP TR 33.899. In this document, contributors are discussing about developing authentication frameworks that would support all the different scenario. Potential solutions have also been proposed based on EPS-AKA, EAP-AKA, EAP-AKA' etc.

Effective use of mutual authentication to protect 5G Networks Against Unauthorized Access:

Effective use of mutual authentication to protect End-user Device against attaching to malicious network components:

Perceived Limitations and Drawbacks of mutual authentication:

What are the specific considerations applicable to 5G:

Circumstances when mutual authentication is essential:

Circumstances when Mututal Authentication would not be benefical:

Other Authentication Methodologies:

Authentication Challenges in IoT Networks:

Authentication in IoT:

Identity Credentialing and Access Management:

References