Home Control of AKA Issues

1   Revocation of AVs

In response to 3GPP S3's request for clarification regarding Authentication Vector (AV) revocation, the TR-45 AHAG and TR-45.2 request that the HLR (HE) have the capability to:

1)   Revoke all AVs associated with a particular subscriber immediately (Service-affecting).

2)   Revoke the current AV after current services are rendered (Non-service-affecting).

Either command may be accompanied by new AVs.

2   Authentication Success Report

At the HLR's option, the Serving Network (SN) must send an authentication success report to the HLR (HE) when a new Security Association (SA) is created (i.e. new AV is used).

The authentication success report allows the HLR (HE) to monitor the duration of the SA within the SN, which may be helpful to ANSI-41 service providers in preventing/reducing fraud. Also, it may prevent certain denial of service attacks unique to ANSI-41 networks due to the method in which ESN/MSID pairs are validated within ANSI-41 UIMs.

3   3GPP–3GPP2 Reporting

The positive authentication reporting mechanism may be limited to only apply to 3GPP-3GPP2 communications. However, a 3GPP SN must handle a 3GPP2 HLR (HE) request for authentication success reporting.