LS to 3GPP on IPv4/v6 IMS roaming and interworking

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N.B. All GSM Association meetings are conducted in full compliance with the GSM Associationís anti-trust compliance policy

High Level Document Summary:

This document is an LS to 3GPP on reserving certain domain names for WLAN implementation

To: 3GPP TSG CN
Copy: 3GPP TSG CN WG 1, 3GPP TSG CN WG4

From: GSMA IREG Packet
Subject: Reservation of two new sub domains under ".3gppnetwork.org"
Date: 2/12/2004

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GSMA IREG Packet thanks 3GPP TSG-CN WG4 for their LS on ìReservation of two new sub domains under .3gppnetwork.org" in connection with WLAN Interworking and the Generic Authentication Architecture.

CN4 asked GSMA IREG Packet to:
1) reserve certain proposed sub domains of ".3gppnetwork.org" in connection with:
     i) discovering the address of the Boot Strapping Function (BSF) in the PLMN. Specifically reserving the domain name:
     `bsf.mnc<MNC>.mcc<MCC>.3gppnetwork.org`
     ii) mechanisms being defined to allow the UE to perform a WLAN manual PLMN selection. Specifically reserving the domain name:
     `nonrouteable.3gppnetwork.org`
2) never service DNS requests to the latter proposed domain name on the GRX so that all DNS look ups to it will fail;

GSMA IREG Packet approves item i) reserving the domain name:
`bsf.mnc<MNC>.mcc<MCC>.3gppnetwork.org`

IREG Packet is not currently in a position to approve item ii) reserving the domain name:
`nonrouteable.3gppnetwork.org`

IREG Packet is concerned that this practice is not using DNS in the way it was designed to be used. Specifically, DNS is intended to lookup a requested domain and return one of a number of error codes if the requested domain could not be found. It was never intended to deliberately fail to look-up a particular domain. Different DNS implementations may return different failure codes and have an unintended impact, particularly since the system needs to distinguish between an ìintendedî failure (domain not found) and an ìunintendedî failure (DNS encountered a problem).

It is also unknown as to the potential increase in DNS traffic that will occur on the GRX, and, more importantly, the increased load on the GRX's Root DNS servers with having to constantly deal with requests to a domain that does not exist (since the Root DNS server cannot set the cache time of responses to a domain that does not exist).

Therefore GSMA IREG Packet asks 3GPP CN to carry out a thorough investigation of the various DNS failure scenarios and traffic load increases, and also to investigate alternative ways of implementing this functionality.