# LIAISON STATEMENT

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| Title: | LS to W3C Regarding "WID 279 - DANE 1.0 – Device Apps Network Efficiency" | ☒ Public ☐ Confidential LS[1] |
| Date: | 17 January 2013 | |
| To: | W3C Web Applications WG, W3C Device APIs WG, W3C System Applications WG | |
| Source: | Requirements Working Group (REQ WG) of the Open Mobile Alliance | |
| Send Replies to: | OMA REQ WG, OMA-LIAISON@mail.openmobilealliance.org | |
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| Attachments: | n/a | |

## 1   Overview

This Liaison Statement is intended to make aware the W3C of the activity OMA is working on named OMA Device Apps Network Efficiency (DANE) Enabler, as well as the scope and the current status of this work.

**OMA DANE Introduction and Rational**

Smartphones and Tablets Devices have completely reshaped the nature of Mobile Services, having become the drivers of the industry growth: Devices and their ecosystem (on-line Stores) offer thousands of Services, in the form of Apps running on such popular Terminals.

In addition, Device owners (and then the Mobile Customers) tend to install and use many Apps, but Apps are very often unable to take advantage of Network resources/capabilities Providers can offer.

Moreover, Apps' behaviour, with respect to Wireless Network capabilities exploitation, is often not rational and left to chance, resulting in less Apps' quality, less Customers satisfaction and waste of wireless resources.

In order to address such issues, OMA has started to work on the Device Apps Network Efficiency (DANE) Work Item, approved by OMA Technical Plenary at the end of December 2012.

The scope of DANE Work Item is:

- Definition of a set of Device APIs to be exposed to Device Apps by a Device Service Optimizer; through those APIs authorized Apps will register to the Optimizer declaring their needs in terms of QoS, tolerance to delay etc

- Definition of mapping rules (applied by the Device Service Optimizer) between Apps requesting a particular QoS, the related IP flows and network interfaces on Device

In this way, DANE will make available to Applications Developers/Service Providers a standard, clearly defined Device APIs to be consumed by Device Apps to exploit Network capabilities, reduce Apps impact on Network and increase QoE.

The core of DANE will be the Device Service Optimizer (DSO), as shown in Figure 1. Authorized Apps (running in the device) will interact with the Optimizer through a set of Device APIs in order to (for example):

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- Get assigned a premium/real-time QoS;

- Indicate the preferred access network (Wi-Fi, 3GPP, …);

- Indicate how many IP flows the App is going to generate;

- Indicate the delay the App may manage (e.g. for the second IP flow the App is delay-tolerant up to 15min).
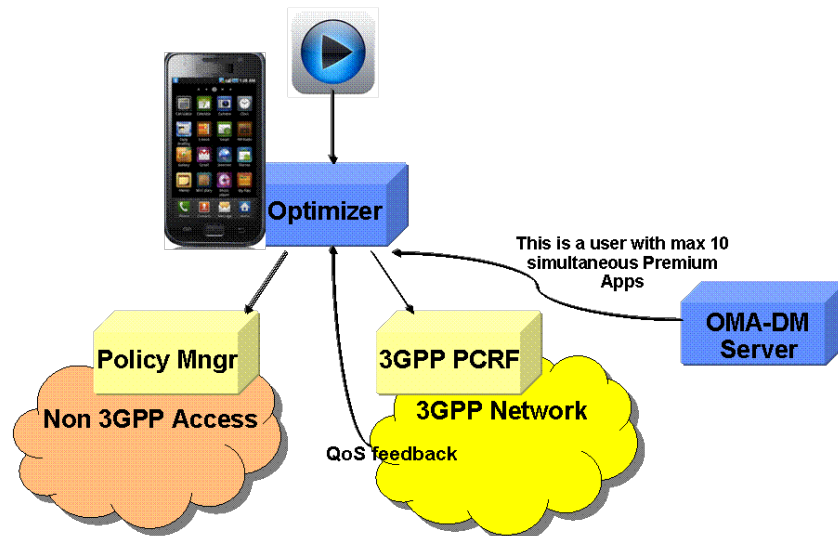


**Figure 1: High level architecture for the DANE enabler**

Having received the request of an authorized App through the Device APIs, the Optimizer will react consequently to what is declared in such request. As shown in the figure, in case of 3GPP network, the Optimizer will interact with the 3GPP PCRF (through Rx interface or through a more generic QoS API exposed by the Mobile Network) in order to establish a dedicated bearer for the Device and in particular for a specific IP flow; in case of non-3GPP access, the interaction may be towards an alternative Policy Manager.

While an App can own a valid credential and then be able to contact the Optimizer through the Device APIs, not any request can be granted by the Optimizer. A policy will regulate, for instance, how many simultaneous top QoS levels the Device (i.e. the Optimizer) can successfully to the Network and if that number is exceeded then the latest App request will be denied with a consistent reason field. The policy mentioned in this example will be formalized as an OMA-DM Management Object and shall be set to the Optimizer by a remote OMA-DM Server managed by the Mobile Operator.

**Market Benefits**

The benefits of such mechanism, implemented accordingly to the OMA DANE, are for all involved players:

- Customers:

  o Device Apps have higher performances and reliability

- Applications Developers

  o Developers don't have to think: how each of my Apps can more efficiently use Network resources and then be more appealing for end-users?  OMA is going to provide the solutions: a Device enabler in charge of this and to whom authorized Apps simply have to locally register, declaring their QoS needs

- Device and OS Vendors

  o If currently Apps are unable to take advantage of Network capabilities, this can also be seen as a lack of tools/APIs in commercial Devices… let's work all together within OMA to make available

new enablers/logics/APIs on commercial Devices. Vendors benefit from Operators expertise on Networks usage and from Operators awareness of end-users habits

- Operators
  - Finally OTT Apps on Devices will behave in a fair and smart way towards Networks. To have OTT Apps profitably leverage Networks' capabilities, Operators and OTT players are encouraged to set-up new win-win agreements

**Schedule and Time to Market**

OMA has just started the activity on DANE. The work is on the Requirements phase (conducted in the OMA Requirements Working Group – OMA REQ WG). When the requirements phase will be finalized, the Work Item will be moved to a Technical Working Group for the completion of architecture and technical specifications. **The DANE Enabler (complete set of specifications) is expected to be released by OMA at the end of 2013**.

**Supporting companies**

OMA is pleased to highlight that this Work Item is led by Telecom Italia and supported by most Operators (DTAG, Orange, AT&T, China Mobile, China Unicom, Bell Mobility).

**Relationship with other initiatives**

OMA is aware that GSMA has released (June 2012) some White papers on "Optimisation and Overload Management Techniques to Support Smart Phones", clearly identifying the overload situations that arise in 3GPP networks due to heavy penetration of Smart Phones and tablet PCs due to the applications and services running on them.

## 2    Proposal

OMA would like to propose to W3C to take the status and activity of OMA DANE into consideration in their future works.

OMA would be also interested in liaison exchange and collaboration to accelerate the working progress of both sides and provide information on status of activities.

**References**

[1] The "WID 279 - DANE 1.0 – Device Apps Network Efficiency" Work Item approved by OMA

http://member.openmobilealliance.org/ftp/Public_documents/TP/Permanent_documents/OMA-WID_0279-DANE-V1_0-20121219-A.zip

## 3    Requested Action(s)

1) OMA kindly asks W3C to review and provide feedback on the referred OMA document, specifically in the areas of complementarities with the W3C activities;

2) Moreover, W3C is kindly requested to provide information on the scope and status of their activity highlighting specific areas that could be of interest for the OMA DANE Work Area as well as details on the planned roadmap and the foreseen publishing dates for the related documents, if appropriate.

## 4    Conclusion

OMA thanks W3C for their continuing interest in OMA activities and looks forward to further cooperation.