

**IETF LEMONADE interim meeting  
Richardson, TX - June 10-11, 2004**

**Title:** LEMONADE for MMS over 3GPP Interworking WLANs  
**Response to:** 3GPP SA2 - Tdoc S2-041675  
**Release:** Rel-6  
**Work Item:** WLAN

**Source:** IETF LEMONADE  
**To:** SA2, T2, OMA TP  
**Cc:** SA3

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**1. Overall Description:**

The IETF LEMONADE work group (WG) is tasked to provide a set of enhancements and profiles of Internet email submission, transport, and retrieval protocols to facilitate operation on platforms with constrained resources, or communications links with high latency or limited bandwidth. A primary goal of this work is to ensure that those profiles and enhancements continue to interoperate with the existing Internet email protocols in use on the Internet, so that these environments and more traditional Internet users have access to a seamless service.

The full description of the LEMONADE Charter, including documents and milestones, can be found here:  
<http://ietf.org/html.charters/lemonade-charter.html>

**2. Response to SA:**

IETF LEMONADE has reviewed your liaison and TS 23.234. We would like to provide the following comments on the questions asked in your liaison:

1. What is the status of the two MM1 implementations (WAP-based or IP-based) and which would be most appropriate for MMS support over WLAN?

The IETF LEMONADE group has for some time been working on extensions to the standard Internet Mail protocols referenced in TS 23.140 (in particular SMTP and IMAP) which would make these appropriate for working with 'thin' clients on low-bandwidth and/or high-latency links. This would then fulfil the requirements for the MM1 interface. This work is nearing completion with stable drafts expected in Q4 2004 and RFCs to be published in early 2005.

In addition, some of the work items undertaken by the LEMONADE group address issues raised in the MM3 interface, such as notification from legacy messaging and e-mail systems.

2. Whether they consider the architecture and procedures described in TS 23.234 enable a WLAN UE to send and receive MMS while connected to a Public Land Mobile Network (Home or Visited) via a-WLAN which supports interworking with a 3GPP system (an Interworking WLAN or I-WLAN) using the procedures for tunnelled access to external IP networks? Also, whether they see any difference in this respect between the WAP-based and IP-based implementations?

TS 23.234 describes how a WLAN terminal can establish a secure VPN connection to a private network of a 3G operator. The specification expects this traffic to be routed over some private inter-operator backbone, rather than the Internet, but there is nothing to stop it being done over the Internet.

LEMONADE protocols can work over any IP connection and as a result we see no problem operating those protocols over the IP VPN connections described in the TS. Furthermore, security solutions for these protocols exist which would make them suitable for use over the Internet, i.e., without the IP VPN techniques described in the TS, only using the basic WLAN connectivity to the Internet.

LEMONADE protocols are designed to support whatever level of authentication, authorization and privacy are desired. The protocols provide encryption, authentication, and verification services, applied as needed. Much of these facilities are transparent to the application.

Another benefit of running directly on IP protocols is that LEMONADE could be used to extend the MMS system to non-3G wireless handsets, namely personal computers (PC), personal digital assistants (PDA), or any other IP-based devices. In particular, LEMONADE does not require HTTP or WSP.

We understand that the WAP-based implementation assumes that the network connection is itself secure, as is the case with GPRS, and that the user can be authenticated by means of a binding between their user identity and IP address. Such techniques could equally be applied to SMTP and IMAP by supplying the IP address/identity binding to the SMTP/IMAP servers in a similar fashion to the WAP case.

3. Whether they foresee any work needed on specifications under their control to enable this, and if so, what timescales are foreseen for the completion of this work?

Please refer to the IETF LEMONADE Charter Page for an overview of the work scope and delivery dates of the various documents.

4. Whether any work is ongoing to allow these protocols to be used over insecure networks, such as the Internet?

As noted above, the design of LEMONADE assumes a hostile, insecure, open environment such as found in the WLAN environment. Security solutions leverage existing SMTP and IMAP facilities, as well as new features, as needed.

Feel free to contact us for further information.

### 3. Date of Next IETF meetings:

IETF 60	1-6 August 2004	San Diego, CA, USA
IETF 61	7-12 November 2004	Washington, DC, USA