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STUDY GROUP 7 AND ITS WORKING PARTIES   <u>Original: English</u>

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Question(s): Q 2,6,8 & 19/7

<u>SOURCE:</u>   H. V. Bertine (Chair, ITU-T SG-7)
<u>TITLE:</u>   Communication to IEEE 802 on Draft Recommendation R-LAN from ITU-R
             Working Party 9B

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At its meeting of 26 June to 7 July, ITU-T Study Group (SG) 7, dealing with Public Data
Networks and Open Systems, received a liaison from ITU-R Working Party 9B containing a
preliminary draft Recommendation on Radio Local Area Networks (RLANs). Recognizing the
work already under development within IEEE 802 on similar aspects and given the document's
reference to the work of IEEE 802.11, I am passing this information to you as provided for
under the TSAG guidelines (see below). In addition, the SG-7 response to ITU-R WP-9B is also
included for your information. Is IEEE 802 aware of or involved in this work?

You should be aware that the ITU Telecommunication Standardization Advisory Group (TSAG)
has established guidelines whereby an ITU-T SG may establish communications with an
organization that is not a member of the ITU-T such as a forum or consortium. There are
several scenarios whereby such communications can take place. If the IEEE 802 believes
ongoing communications with ITU-T SG-7 would be beneficial, please contact me so the
appropriate actions can be undertaken.

<u>SG-7 Response to ITU-R WP-9B on RLAN:</u>
SG 7 has reviewed the Draft Recommendation on Radio Local Area Networks (RLANs) that the
ITU-R Working Party 9B submitted to us for comments. A special review session was
conducted to enable a careful review on how SG-7 could contribute to the work of ITU-R WP-
9B and/or how SG-7 could continue the efforts within SG-7. As a result of our meetings we
have found two possible areas of study:

1. The study of RLANs as an <u>access mechanism</u> to the Public Data Network (PDN) and/or

2. The study of the data protocols applicable for use on RLANs.

The two areas of study are quite different. After further review, we determined that the second area of study (applicable data protocols for RLANs), while being an area of intrigue, is outside the purview of SG-7 as it deals strictly with local protocol matters. Accordingly, our continued efforts were focused on the first area: RLANs as an access mechanism to the PDN.

We spent some time looking at the concept that RLANs could be considered strictly local collection of terminal devices, irrespective of their being 'wireless'. In other words, treat the RLAN-connected terminals the same as any other LAN. This could be seen in several of your figures, including Figure A2B where the gateway can be found clearly labeled on the bottom. In this scenario, the interface to the PDN would be via a bridge or gateway. Several methodologies already exist for the connection of wired LANs to PDN, including Recommendation X.25 for packet mode DTE connection, X.36 for Frame Relay connectivity to PDNs, and others. As such, in this scenario, no further work specific to RLANs is envisioned.

However, when we expanded our view of RLANs we realized that in many ways, the RLAN access to the PDN is much like the access via VSAT networks to the PDN. Our thoughts progressed along this path, it became clear that a potentially far more flexible environment with increased capabilities could be realized if the Control Modules (CM) as defined within the RLAN Recommendation were to be co-located with the access interface to the PDN. If one looks again at Figure A2B, this time connecting the 'other network' link directly to the CM, one has defined a sort of 'super router' now enabling access to any device without knowledge by the PDN of where the device may connect.

SG-7 would like to pursue this effort with the ITU-R WP-9B. Several areas of concern and related interest give rise, including the following:
- When a gateway acts as a DCE, what delay characteristics can be tolerated on the RLAN-PDN interface?
- If the gateway, as a DCE, is connected to one end of a LAN (such as shown in figure A2B), how does a remote DTE and/or incoming call signal the correct end DTE to be accessed? What technology and/or protocol need to be put in place to enable the detection by the PDN of possible/valid destinations?
- If the gateway, as a DCE, is connected directly to a CM, what identification scheme needs to be put in place to enable the 'roaming' and 'dynamic networking' to take place envisioned by WP-9B?
- General interworking characteristics have been defined within the ITU-T X series of Recommendations concerning PvtPDN ⇔ PSPDN interworking. How do these need to be enhanced and/or modified to support the view of an RLAN being considered a form of PvtPDN?

Finally, SG-7 would like to comment on one specific section of the draft Recommendation. Specifically, section 2.3 caught our attention due to a possible misunderstanding. Work within the ITU-T as well as in I SO, etc. has been quite extensive in the development and clarification of the OSI protocol stack. Section 2.3 seems to imply a simple 'plug-and-play' environment. Careful selection of the correct interface protocols at each layer of the model must be done to ensure compatibility.

SG-7 looks forward to the progression of the RLAN work and close interaction with the ITU-R WP-9B in the months ahead.

ATT: Preliminary Draft on RLAN