NOV. 1998 NWEST MTG.

Global Standards for Broadband Wireless Access

Amarpal (Paul) Khanna
Wireless Semiconductor Division
Hewlett Packard
Paul_Khanna@hp.com

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Global Standards for BWA

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- Scope and Options
- International Standards Bodies
- Forums and User groups
- Organizations and Major Projects

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Need for Global Standards

- Changing Standardization Environment
- Changing Structure of Telecommunications
- Technology Convergence
- Changing Role of Governments
- To benefit Customers, Vendors, Network and Service Providers

Challenges for Global Standards

- To develop new and ever more complex standards in shorter time periods
- Standards have to be developed in cooperation by networking global and regional standards making bodies.
- Flexible decision making structures necessary, to respond to rapid technological change and changing priorities
- Standards need to be driven by market and not by technology
- The standards explosion has to be contained

BWA Standardization
Options & Scope

• Mobility	Fixed vs. Mobile
• Configuration	Hub vs. CPE
• Application	Satellite vs. Terrestrial
• Frequency Regulation	Licensed vs. Unlicensed
• Frequency Ranges	2 to 60 GHz ?
• Data Rate	> 2 Mb/s ?

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International Standards Bodies

Standards Setting, Regulatory & Coordinating bodies

- *Traditional*
- *Forums & User Groups*
- *Organizations*
- *Projects*

http://www.nwest.nist.gov/other_stds.html

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International Traditional Bodies - I

- **International Traditional Bodies Names and Websites:**
  - **International Telecom. Union (ITU)** *www.itu.org*
    ITU-R *www.itu.int/ITU-R*, **ITU-T** *www.itu.int/ITU-T* & **ITU-D**
  - **IEEE Standards Board**
    IEEE 802.11WLAN *grouper.ieee.org/groups/802/*
    IEEE 802.14 Cablemodem
  - **European Telecommunications Standars Institute(ETSI)**
    BRAN *www.etsi.fr*
    TM4 *www.etsi.org/Tm/*
  - **European conf. for post and telecommunications (CEPT)**
  - **FCC** *www.fcc.gov*

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International Traditional Bodies - II

- **International Traditional - Study Groups:**
  - **ITU-R**

    SG1 - Spectrum Management

    SG3 - Radiowave Propagation

    SG4 - Fixed Satellite Service

    SG7 - Science Services

    SG8 - Mobile, Radiodetermination, Amateur and related Satellite Services

    SG9 - Fixed Service

    SG10 - Broadcasting Service - Sound

    SG11 - Broadcasting Service - Television

International Traditional Bodies - III

- **International Traditional - Study Groups:**
  - **ITU-R**

    SG8 *www.itu.int/brsg/sg8/*

    Systems and networks for the mobile, radio determination and amateur services, including related satellite services.

    SG9 *www.itu.int/brsg/sg9/*

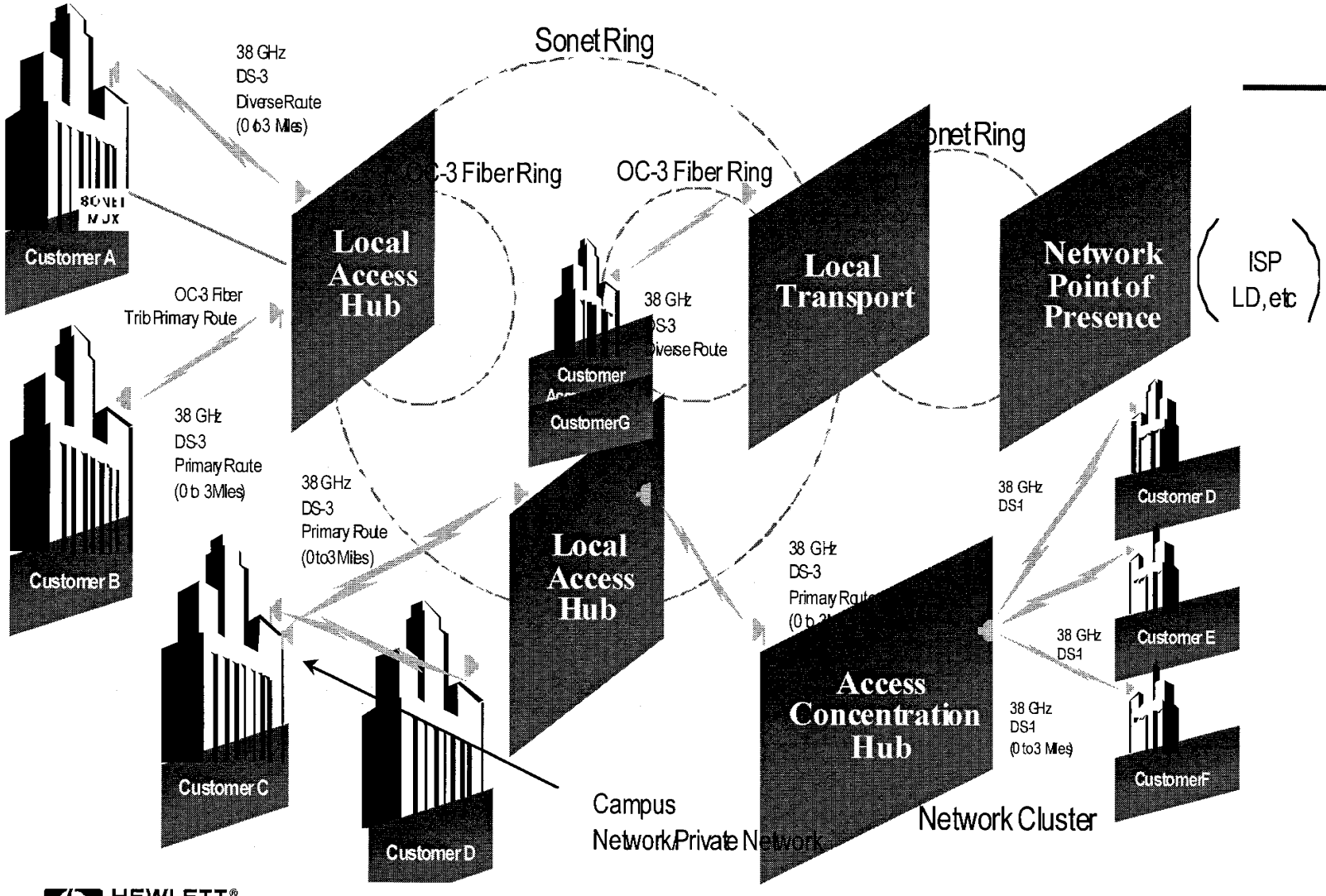
    Systems and networks of the fixed service operating via terrestrial stations.

    JRG 8A-9B *www.itu.int/was/*

    Joint Rapporteur Group of Working Parties 8A and 9B (JRG 8A-9B) is handling Wireless Access Systems

38 GHz system deployment in a US metropolitan area

(From ITU-R Document ITU-R 8A-9B/35-E)



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International Traditional Bodies - IV

- **ETSI Transmission and Multiplexing (TM)**

  www.etsi.org/TM/tm_wg.htm

  TM is responsible for all aspects of standardization of transport networks and their elements (inluding radio relay, excluding satellite systems), and for transmission aspects of transport network interfaces..

  – TM 1: Core networks, fibres and cables

  – ***TM 4: Fixed radio systems***

    www.etsi.org/TM/tm4_ToR.htm

  – TM 6: Access networks (Wired)

International Traditional Bodies - V

- **ETSI *Fixed radio systems (TM4)* Terms of Reference**
  www.etsi.org/TM/tm4_ToR.htm
  - Specifications for point-to-point and point-to-multipoint radio systems, in the fixed service used in core and access networks, covering all equipment aspects including antenna parameters.
  - Functional requirements for radio-frequency equipment interface, including allocation of overhead.
  - Proposals to CEPT, in co-ordination with ETSI WG ERM/RM, for channel arrangements in the frequency bands allocated to fixed service and for new bands allocation.
  - .....

International Traditional Bodies - VI

- **ETSI** ***Fixed radio systems (TM4) Documents***

  Related Documents:

  – Point-to-multipoint digital radio systems in the band 24,5 GHz to 29,5 GHz with different access methods.

  Part 1: DEN/TM04050-1 Basic Parameters

  Part 2: DEN/TM04050-2 Frequency Division Multiple Access Methods

  Part 3: DEN/TM04050-3 Time Division Multiple Access Methods

  – Point-to-multipoint digital radio systems in the frequency band 3 to 11 GHz with different access methods:

TDMA	EN 301 021 / DEN/TM-04062
FDMA	EN 301 080
FH-CDMA	EN DEN/TM-04059

International Forums and User Groups

- **International Forums & User Groups Names and Websites:**

– DAVIC	*www.davic.org*
– DVB	*www.dvb.org/*
– **NWEST**	*nwest.nist.gov*
– WATM Forum	*www.atmforum.com*
– MCNS	

Other Related Documents

1. Digital Video Broadcasting (DVB); Interactive Channel for LMDS

   ETSI ETS 300 800.

2. LMDS broadcast systems (DVB-MC) ETSI ETS 300 748
3. Performance Specification for Analog Multipoint Video Distribution Systems (MVDS) Transmitters and Transmit Antennas in the freq. Band 40.5 to 42.5 GHz
2. Digital Multipoint Video Distribution Systems (MVDS) Transmitters and Transmit Antennas in the frequency band 40.5 - 42.5 GHz

   MPT 1560 Radio Communications Agency UK.

Major BWA Projects

- **ACTS** *www.infowin.org/ACTS/ANALYSYS/INTRO/*
  - **ATMmobil** *www.comnets.rwthaachen.de/project/ATMmobil/home.html*
  - **ATM Radio-in-the-Local-Loop** *www.comnets.rwth-aachen.de/~ftp-matm/RLL.htm*
  - **Magic Wand** *www.tik.ee.ethz.ch/~wand/*
  - **SAMBA** *http://hostria.cet.pt/samba/General/GeneralMain.htm*
  - **Cellular Access to Broadband Services and Interactive Television (CABSINET)** *www.uk.infowin.org/ACTS/RUS/PROJECTS/p066.htm*
  - **Cellular Radio Access for Broadband Services (CRABS)** *www.uk.infowin.org/ACTS/RUS/PROJECTS/ac215.htm*
  - **Fiber Radio ATM Networks and Services (FRANS)**