Proposal for Layer Separation of 802.16.3 Application

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Burcak Besser
Pacific Broadband Communications
3103 N. First St.
San Jose, CA 95134

Voice: 408-468-6137
Fax: 408-468-6297
E-mail: burcak@pbc.com

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Purpose:

Explain contribution

Proposal for Layer Separation of 802.16.3 Application

Burcak Beser, Victor Hou, Chao-Chun Wang

Pacific Broadband Communications

Outline

What is happening?

Some history

Proposal

Advantages

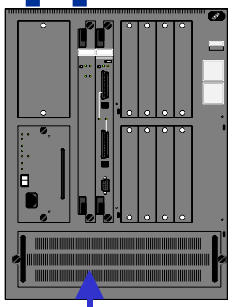
Questions

What is Happening?

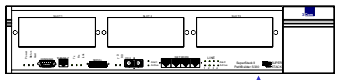
DHCP Server

TOD Server

TFTP Server



IP LAN



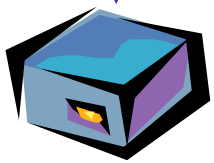
Base Station

IP aware with DHCP RA

Layer 3 /Layer 2 Connection

Subs. Station

IP Host



- Scan for downstream channel and establish synchronization with the BS.
- Obtain transmit parameters (from UCD message)
- Perform ranging

SS Supports ATM Protocol but not IP

- Perform registration
- Privacy initialization

History

The idea comes from Bay/LanCity proprietary system

Proposed to CableLabs and Adopted by DOCSIS

Found dangerous by experts and fixed many times

Carries unnecessary baggage

- TFTP Server Timestamp
- TFTP Server Provisioned SS Address
- BS MIC
- SS MIC

Proposal

- Make personality determination (download) a BS property.

  - Add a new Vendor Specific Information Field to Registration.
    - Add only the primary CID via registration.
    - The remaining CID's has to be added after the registration.
    - Add a separate section for each protocol (e.g. IP, ATM, MPEG) supported.

Advantages

- The whole initialization process does not have any dependency to other protocols.
  - Since the SS does not play any role in personalization the method is more secure than bootstrapping initialization information.
  - Separating the protocol being transported to a distinct appendix makes:
    - More efficient use of resources
    - Better interoperability

Questions

- Should the external interfaces of the BS to WAN be specified per protocol supported?

- Should the management interfaces and constructs (e.g. MIBs) be specified?

Questions?

burcak@pbc.com