



IP over ETH over IEEE802.16

draft-ietf-16ng-ip-over-ethnet-over-802.16-01

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Outline

- **Achievements since IETF-67**
- **Discussion on 16ng mailing list: Issues and solutions**
- **Updated I-D draft-ietf-16ng-ip-over-ethernet-over-802.16-01.txt**
- **Adoption of RFC4562**
- **Conclusion and next steps**

Achievements since IETF-67

- **Dec '06: Submission of initial WG I-D on IPoETH:**
 - Draft-ietf-16ng-ip-over-ethernet-over-802.16-00.txt
- **Quite a lot discussion on the mailing list in December '06 and January '07**
 - Mostly for clarification of architectural principles applied in I-D
 - Detail list of raised issues on the following slides
- **Discussion and review of I-D in ETH-CS subteam of WiMAX Forum NWG**
 - Main issue: use of GRE as tunnel protocol between BS and bridge
 - Helpful input for providing more clarity in the text
- **February/March '07: Revision of I-D covering most of the raised issues**
 - A couple of sections need further input

Issues raised on mailing list

No	Issue	Comment	Source	Remedy
1	MTU	The document has to talk about MTU	A. Petrescu	More details in Sec 9.3
2	ND Relay	No ND modification needed	Jarri Arkko	ND Relay deleted
3	Split in IPv4 and IPv6 specific document	Split would make document more simple	A. Petrescu	Not adopted
4	Bridging on SS	Can SS perform bridging based only on IEEE802.16 or is 802.16k needed?	Bernard Aboba	Reference to IEEE802.16k added
5	Multi Port Bridge	Bridges in the document are specialized for deploying IPoEth over IEEE 802.16.	Bernard Aboba	Section 6 describes the special bridge more detailed
6	Multi Port Bridge	In presented figure, BS seems to be attached to a single bridge port. Don't all the SSs look like they are attached to a separated bridge ports.	Bernard Aboba	Modify bridge architecture figure and add description about separate bridge ports corresponding each SSs in Section 5.
7	BS	The document should describe how to forward frame on BS and the relationship between the BS and bridge.	Bernard Aboba	Details added in Sec 5.1

Issues raised on mailing list

No	Issue	Comment	Source	Remedy
8	GRE Tunnel between BS and Bridge	Off-the-shelf bridges does not provide the GRE tunnel. How BS to decapsulate the frame received via the GRE tunnel? Only GRE tunnel is assumed? This should not be specified in this document.	Bernard Aboba, David Johnston Burcak Beser	Tunneling between BS and Bridge removed from document. Generic description applied.
9	ARP Proxy agent and ND Relay agent on bridge	IEEE 802.1D based bridges don't support layer 3 filtering. Is the bridges in the document more sophisticated device?	Bernard Aboba	ND Relay agent is removed; bridge behavior more clearly explained.
10	ICT	Information of all hosts in ICT is accomplished via learning on bridge	Bernard Aboba	ICT removed
11	ARP Proxy	Why is an ARP Proxy necessary?	Bernard Aboba	Explanation provided in 6.2
12	IP multicast / broadcast transmission	Unspecified in the document: - Multicast Join and Leave operation - Mapping rule for IPv6 address to Ethernet address	A. Petrescu	Standard IP behavior; references added to provide specification
13	IP multicast / broadcast transmission	The document should describe explicitly how to replicate and transmit the IP multicast and broadcast packets?	Bernard Aboba	Added to Section 6.

Issues raised on mailing list

No	Issue	Comment	Source	Remedy
14	IP multicast	Classifier on BS should identify IP multicast through Join/Leave messages	A. Petrescu	IP multicast is handled in bridge not on BS
15	VLAN	Section 6.2 'VLAN Scenario' make readers confuse in that direct host-to-host communication is possible by using VLAN.	Bernd Aboba	Rename 'VLAN Scenario'
16	VLAN	VLAN scenario seems to behave more like an enterprise switch than a carrier Ethernet switch (with support of 802.1ad and 802.1ah) offering VLAN services.	Narvaez Paolo	Rename "VLAN Scenario" to "Enterprise LAN Scenario" and add section on VLAN deployment
17	Editorial	Section 4.4 'Discovery of MAC Addresses' is not necessary. It is confusing people.	A. Petrescu Bernard Aboba	Section 4.4 is deleted.
18	Editorial	Expand the term "MBS"	Bernard Aboba	"MBS" extended to "Multicast and Broadcast Service"
19	Editorial	Section 5.3 'Default processing of Ethernet frames' is confusing.	Bernard Aboba, David Johnston	Section removed; information added to 6.

Revision -01.txt

- **Text of -00.txt I-D was refined and restructured to address the issues and provide more clarity**
- **Main goal was to provide a clear description of the architectural model applied for IP over ETH over 80216**
 - For Public Access Scenario
 - For Enterprise LAN Scenario**eventually deploying VLANs for segregation of scenarios and user domains**
- **Separate chapters on bridge considerations, access router considerations and prefix assignment**
- **Normative behavior of bridge and access router not yet fully detailed**
 - Normative language missing

Does RFC4562 solve the issues?

-----Original Message-----

From: Daniel Park [<mailto:soohongp@gmail.com>]

Sent: Monday, March 19, 2007 2:12 PM

To: 16ng@ietf.org

Subject: [16NG] Ethernet CS reference

In case 16ng folks missed it.

Ethernet CS presentation will be taken place in Friday Morning session. I've got a relevant reference here which mentions MAC-Forced Forwarding on a Ethernet Access Networks, RFC 4562.

It can be found at:

<http://www.ietf.org/rfc/rfc4562.txt?number=4562>

Please take a look at it before Ethernet CS discussion.

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RFC4562 for 16ng IP over ETH over 802.16

- **RFC4562 covers quite well the Public Access Scenario for IPv4**

- Missing support for reattached hosts behind bridges on SS
- Non-DHCP clients require manual configuration of 'bridge'

- **Missing:**

- Support for Enterprise LAN Scenario
- MIP support
- IPv6 Support

- **Biggest issue: RFC4562 is Informational RFC**

- No normative language
- Often full details missing

- **Nevertheless:**

RFC4562 may be leveraged for Public Access for IP over ETH over 802.16

Conclusion and further proceeding

□ **Open: How to handle references to Informational RFCs**

- RFC4541 is informational
- RFC4562 is informational

How to write a normative specification making normative references to informational RFCs?

□ **Next steps:**

- Careful review of sections 6. Bridge Considerations, 7. Access Router Considerations, 8, Prefix Assignment and necessary of 9. Transmission of IP over Ethernet
- Submission of Revision -02.txt beginning of May '07
- WGLC with Revision -02.txt in June '07