

Network Management Study Group Pre-Meeting Inputs

IEEE 802.16 Presentation Submission

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Purpose:

Summarize and categorize inputs to the Network Management Study group.

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Network Management SG Inputs

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Inputs By Subject Area

Interfaces

- BS-AAA server
- MIB Access
 - Local
 - Over link
- L3 Compatibility
 - Mobility
 - Triggers
- 802 Compliant CS

Handover

- Roaming
- BS-BS Neighbour querying
- Context blob
 - Structure
 - Semantics
- Service flow HO context switching
 - And inter operator
 - And ARQ management

RRM

- Distributed interference mgmt
- Network wide RRM

Infrastructure

- Reference models
- AAA norms

Security

- Secure Key Exchange
- Mutual Authorization
- Mutual SS-AAA authentication
- Fast key re-establishment
- Auth only link cipher
- Crypt only link cipher
- Efficient link cipher
- Efficient Broadcast protection

.16e changes

- Removing Reference models

Information

- Neighbour lists
- Transport for low latency & predictive info
- RF environment info

Common Elements

- Backwards compatibility
 - Use standards negotiation mechanisms
- Balanced Security Requirements
 - Methods that combine efficiency and security
- Advanced Mobility Management
 - HO signaling optimizations
- RRM
 - Distributed interference management
 - Spectrum management

MIBs

- Want Hiperlan alignment
- Text ready now
- Mobility needs to be addressed sooner or later
- MIB access signaling independent from MIB definition

Security Requirements

- A DES fix mode..
 - A way of using legacy DES-CBC implementation with SW upgrades to IV use to enable secure operation
- An auth only mode..
 - Prevents service theft, spoofing and replay without the overhead of encryption
- A crypto only mode..
 - Requirements not clear (to me at least)
- Industrial strength authorization and authentication
 - Mutual, \geq 128 bit strength, FIPS

Infrastructure / Network Models

- Alignment with common network models needed for various deployment scenarios
- Network models out of scope for normative text of the 802.16 stack
- Can we adopt informative models?
- Can we refer to external specs?
 - WiMax, 3GPP, 3GPP2, IETF

Interfaces

- Service & Primitive definitions
 - Allows defined management service primitives (not physical interfaces!)
 - Adds structure to management plane
 - Improves spec quality and consistency
 - Enables network state signaling
 - Triggers, etc.
 - Enables support for 802.21 primitives
 - Can bring spec into line with 802.1
 - Enables provider bridging, OAM, 802.1Q etc
 - Enables implementation compatibility with 802.3/11/17 bridges
 - Is simpler – See 802.1ad_D2 section 6.4.1

.16e/Netman Issues

- Advanced Mobility Management
 - HO signaling optimizations
 - Do we finish it in .16e or leave the more elaborate optimizations to Netman?
- EAP
 - .16e defines primitive EAP support
 - Fix it in .16e or remove it and wait for PKMv2 to do more complete integration?
- Reference Models
 - .16e has a model already
 - Sufficient for some purposes
 - Not sufficient for the needs of core network integration
 - Does it need trimming in .16e?