

802 Architecture Group

Intent

- Improve alignment between WG projects and existing 802 architecture by:
 - Identifying current problems, omissions, conflicts, ramifications, and their potential resolution
 - Identifying potential refinements or changes to the architecture
 - Providing a regular forum in which such discussion can take place, in a lower pressure environment than is possible during the core Plenary cycle.

Mechanism

- A meeting per Plenary cycle
 - Chaired by 802.1 Chair
 - Time slot: 2-5 PM Sunday prior to Plenary
 - Participants: Initially, WG Chairs plus one (or more) “architects” or “technical leads”; long term, whoever the Chair determines is appropriate/willing
 - Meeting Topic: Architectural issues known to each WG & how they might be resolved
- First meeting: July 2004

Purpose

- To actually have a recurring discussion on architectural issues
- To improve cross-WG discussion/understanding
- To promote a common view

Outputs

- Not detail document oriented
- Consensus, frame of mind, consciousness raising
- Maybe slideware if appropriate
- Topics/thoughts for the focus of the next discussion
- Encouragement to WGs to fix identified problems in appropriate ways
- Simple architecture
- Preservation of layering

Actions

- SEC to formally establish the activity as a SEC standing committee.
- WG Chairs to appoint max 2 nominated participants per WG
 - Qualifications for participants: Capable of generating a durable architecture. Capable of knowing the difference between an architecture, a product, and a standard. Respected within their WG as subject matter experts.
- Report to SEC on status at each meeting.

Known issues – 802.1

- MAC Service definition (currently a revision PAR in place)
- QoS – could be better expressed
- Security expressed as a set of procedures after network entry
- Management – scope and interface
- MIB definition for service discovery
- Where work gets done – 802.1 vs 802.X

Known issues – 802.3

- QoS/class of service
 - Timing, synchronous, guaranteed bandwidth, low jitter/latency, congestion management...
- Protocol definition vs scope
- Security/link agg
- Ethernet/TCP-IP interdependence
 - Do we care about anything non-TCP?
- Dual homing/resilience/robustness

Known issues – 802.11

- QoS/class of service
 - Timing, synchronous, guaranteed bandwidth, low jitter/latency, congestion management...
- Protocol definition vs scope
- Security
- Bridging compatibility – handling of multicasts
- LLC – acts as a block to passing additional (e.g., QoS) parameters
- Mesh
- What is the (future) .11 architecture
 - Structure of an AP
 - DS
 - ...etc

Known issues – 802.15

- Protocol definition vs scope
- Security
- Bridging compatibility – handling of multicasts, no clause 6 section for .1D
- LLC – acts as a block to passing additional (e.g., QoS) parameters
- Mesh (not the same as the .11 issue though)
- QoS
- Architectural consistency across three MACs

Known issues – 802.16

- Security
 - has to roll its own EAP transport as .1X/AF
 - is above the LLC
 - No PKI model in .1X/AF
 - No 3 party key establishment/authentication model in .1X/AF
- Model
 - ISS definition is in flux in .1
- QoS
 - No standard way to pass upper layer QoS requirements through to MAC level QoS parameters
 - LLC acts as a block
- Bridging compatibility – handling of multicasts, no clause 6 section for .1D
- .1AE assumes that frames look like 802.3 frames; not flexible enough to accommodate .16 frame structure

Known issues – 802.17

- Security
- CFI – improve bridging for spatial re-use
- CoS/QoS & bridging

Known issues – 802.20

- Needs to support handoff – not clear how to deal with L2 handoff in current architecture
- Security
 - has to roll its own EAP transport as .1X/AF
 - is above the LLC
 - No PKI model in .1X/AF
 - No 3 party key establishment/authentication model in .1X/AF
- QoS
 - No standard way to pass upper layer QoS requirements through to MAC level QoS parameters
 - LLC acts as a block
- Compatibility between 802.20 frame and LLC frame

Known issues – 802.21

- QoS mapping across heterogeneous interfaces
- Authentication mechanisms – different mechanisms in different technologies
- Security – how do you re-establish the security context
- Service discovery

Topics for next meeting (November '04)

- Solicit input on:
 - Further refinement of current issues list
 - New issues to be added
 - Proposals for resolution of issues on the list