OUTLINE
FOR
BROADBAND WIRELESS
SYSTEM FUNCTIONAL REQUIREMENTS
DOCUMENT

1.0 Scope

- Functional Requirements-what not how.
- Level 1,2; PHY/MAC
- Requirement that includes IDU MAC interface and Hub MAC interface.
- Air interface; Frequency, Modulation and Format/Protocol.

2.0 Overview-Reference Model

- Reference diagram
- Define reference model, (DAVIC?).
- Radio Channel,(PHY)
  -How shared or used?

2.1 System Services and Target Markets

- Services
  -Data
  -Video, (multicast/broadcast)
  -Video, (conference)

- Markets
  -Business
  -Private Networks
  -Home/Residential

2.2 External Interfaces

- By reference for subscriber and hub.
  - Subscriber
    -Data; (10BaseT-100BaseT, ATM)
    -NTST/High Definition Video
    -Telephony, RJ47
  - Hub; (Physical, LLC, Network)
    -IP
    -PSTN
    -MPEG Source

2.3 Capacity Requirements-Scalability

- Future technology developments
- Small or Large bandwidths, (64 kbps minimum)
- Modulation, bps/Hz
- Number of users
- Modulation; (QPSK, 8-PSK, 16-PSK, 16 QAM)

2.4 Performance Goals

BER, Quality, Latency, Availability

2.5 System Availability and Reliability

2.5.1 System Availability

-The amount of time the system is available.

-The ratio of the total time a system is available during a given interval and the time interval.

2.5.2 Reliability

-A measure of how dependable a system is during use.

2.6 Layer Management

-Layering is a technique to write complex software faster and easier. Used with public, open software where each performs a specific task. The seven-layer OSI (Open Systems Interconnection) model is the most referenced layered software in 802 Standards. The flexibility offered through the layering approach allows products and services to evolve.

-Management of a layer and the layers beneath it that is provided to the upper layer entities at the boundary between that layer and the next higher layer.

2.7 Security

-A way of insuring data on the network is protected from unauthorized users. Network security measures can be software-based, where passwords restrict users' access, audit trails or system based on system configuration and network management.

3.0. Compliance, 802.1/802.2

4.0 Annex
-References
-Abbreviations
-Glossary

INTEROPERABILITY

- Capable of being operated in the mist of, among, or between others.

- Ability to have different subscriber equipment and hub equipment from different suppliers.

- Standard such that manufacturers can be assured of compatible, (format) but allows enhanced features.

-Protocol: Frequency Plan, Modulation, Format (MAC). [DOCSIS/DAVIC, cable modem/ATM cell structure].

-Define a primitive protocol, (bandplan map-set some minimum and maximum increment).

-Modulation: QPSK, 8PSK, 16PSK, 16/32/64QAM

- Different Levels; Coexistence to full inter-changeable equipment.

COEXISTENCE

- To exist together in the same place or at the same time.

- Excludes co-frequency, coexistence issues from a single manufacturer. This implies that co-frequency and coexistence factors are predominantly related to separation distances between BTA's and country boundaries.

- Facilitate systems from different manufacturers to have different services with out interference.

- Two systems on the same tower with different bands with out interference.