陕西广电网络
SHAANXI BC&TV NETWORK INTERMEDIARY CO.,LTD

Cable Network Introduction, EPOC Requirements and Expectation from SXBCTV

Yang tao Li mengling Liu yanpeng Nie zhao

Agenda

- Company Introduction
- Cable plant status
- Requirement of spectrum and rate
- Requirement of EPOC network architecture
- Requirement of physical layer
- Requirement of services

Company Introduction

SXBCTV, jointly founded in June, 2001 by 117 departments within Shaanxi Province with the registered capital of RMB977M, performs the unified planning, construction, operation and management for whole provincial broadcasting and TV networks. It's a Trinitarian Operator with integrated video, data and information services. The company has a SARFT Digital CATV Application Technologies Labs. The company and its branches in cities and counties have almost 4000 employees.

1、Network has covered all cities, counties and 80% towns & villages within Province. The coverage rate of the population reached 90%+.

2、5M CATV subscribers, 3.5M of them are digitalized.

3、Data services: 1000 networks for e-Government, e-commerce and Private network, 1.5M+ Internet POIs and 150K online subscribers.

4、200K Two-way Interactive subscribers in 2012.

Cable Plant

" Current status and planning in 3 years "

1、Length and Subs

- *<200m*
- *<50 subs: 50%,*
  <100 subs: 45% ,
  <200 subs: 5%.

2、Access technology

- *EOC*
  (Home Plug AV)

3、 Network coverage

- *FTTB: 80% ,*
  95% in 3 years.
- *Target in 3 years:*
  <50 subs coverage: 90% ,
  <70 subs coverage: 10%.

Spectrum

EOC

Two-way enabled

Video

110-494MHz，for VOD (IPQAM)

494-558MHz，reserved for analog channels

570-766MHz，SD TV

766-852MHz，HD/3D TV

Reservation

EPOC

HINOC

Other technologies

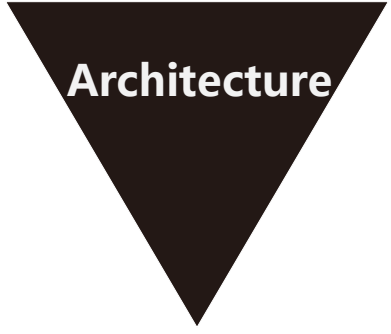
Requirement of EPOC Network Architecture

LLID

At least 16 LLID for CNU
(Predictable: Bandwidth, IPQAM, VOIP, IPTV, Video Surveillance, IoT, etc.)

End to End Control

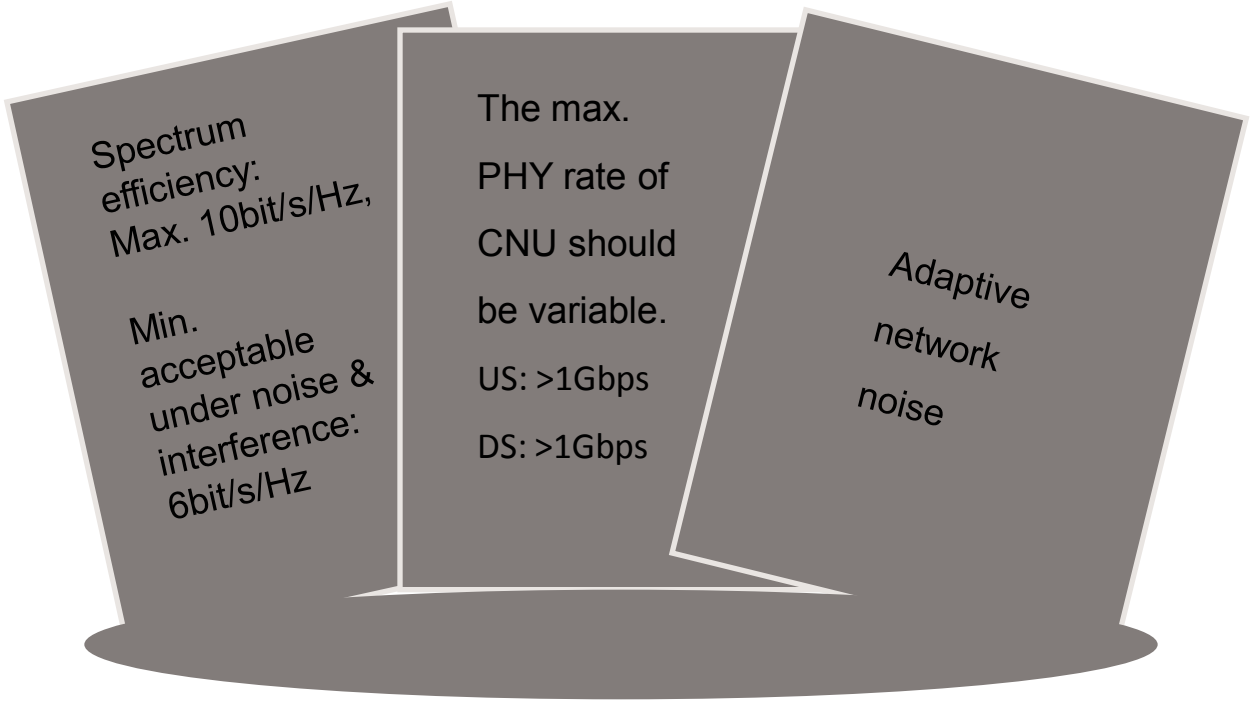
OLT should controls both EPON and EPOC networks simultaneously to achieve an unified transport with fewer effort in network adjustment due to service growth.



Interoperability

IOP enabled for different vendor systems.
Compatible CNU.
Zero configuration for CNU.

Requirement of Physical Layer



Service Requirements

1	2	3	4
Existing 2-way service: Internet	**Existing 2-way service: VOD**	**2-way service in planning: VoIP**	**2-way service in planning: Video Communication**
Total 200K subs, US: 1~2M per subs DS: 2~4M per subs Requirement: BER<10E-6, Packet loss<1%, Latency<200ms, Jitter<80ms	Total 200K subs, US: 0.5M per subs DS: 4M per subs Requirement: BER<10E-6, Packet loss<1%, Latency<200ms, Jitter<80ms	Total 200K subs, US: 0.5M per subs DS: 0.5M per subs Requirement: BER<10E-8, Packet loss<0.1%, Latency<100ms, Jitter<20ms	Total 200K subs, US: 8M per subs DS: 8M per subs Requirement: BER<10E-8, Packet loss<0.1%, Latency<100ms, Jitter<20ms

Expectation

- EPOC system will be capable of handle the high speed traffic, including classifying the traffic based on MAC/IP/Port/Protocol type, identifying these classified traffic and performing the scheduling and distribution according to specific rules and policies. EPOC system should provide the flexible policy support capability for access control and traffic management and privide a consistent support capability for services.

- EPOC should support full access in full coverage. The total throughput can not vary with the change of the accessed subscribers. The difference in performance between 1:4 and 1:64 should be less than 10%.

- EPOC will support commercial operation with fine management for services and subscribers. It should support DBA scheme to provide minimum guaranteed bandwidth for subscribers based on SLA and services related QoS.

- EPOC will support various IP based video services with multicast functionality, such as IPTV, OTTV (Internet TV like CNTV), etc.

- CNU should be a passive terminal without software configuration. It will have a low cost and will be backward compatible.

Thank You ！