

ZTE IPTV: a great IPTV solution from China

LIANG BING

An inspiring news comes in June 2006: ZTE wins the IPTV project of Shanghai Branch of China Telecom. Shanghai is the economic center of China, and China telecom is the largest fixed line operators in China. According to the contract, the network will serve 49,000 customers in Shanghai Pudong by provisioning video services including Live TV, video on demand (VoD), time-shifted TV (TSTV), network private video recorder (NPVR) and near video on demand (NVoD) as well as value-added services such as interactive games, information services, instant communications, media sharing etc.

The Shanghai IPTV project follows ZTE's three previous IPTV contracts winning from China Telecom which includes Jiangsu Telecom, Guangdong Telecom and Shannxi Telecom. Besides the repeated success in China Telecom, ZTE is also a winner of IPTV projects of Beijing Netcom which is the first formal IPTV bidding of China Netcom. In the overseas market ZTE was awarded the triple play contract by Columbia operator Emcali in October 2005, which covers 13,000 IPTV subscribers and 140,000 VoIP subscribers.

With the remarkable H.264 ZTE IPTV solution, ZTE gets the first IPTV market share in China and consolidated the position as one of the world's leading telecommunications equipment providers in IPTV market.

ZTE IPTV total solution is an end-to-end solution specifically designed for employing multimedia services over an IP network. ZTE's IPTV is a mature, advanced system with excellent operability, manageability and scalability, helping to expand the range of services of many fixed network operators. ZXBIV provides fixed network operators with a platform for providing abundant broadband interactive value-added services to a broad range of clients.

System Architecture & Components

The ZXBIV consists of head end system, middleware, the content distribution network (composed of VoD servers and corresponding management system), CAS & DRM system, HG, STB and IP network(s).

Head End System

The head end system receives, demodulates and decrypts video and audio content from a variety of sources including satellites, terrestrial, studio and storage, while encoders convert it into an IP multicast stream in the desired coding format. In the ZXBIV solution, the head end's MPEG4 AVC compression sets a new benchmark for low bit rate, high quality encoding of both video and audio.

Middleware

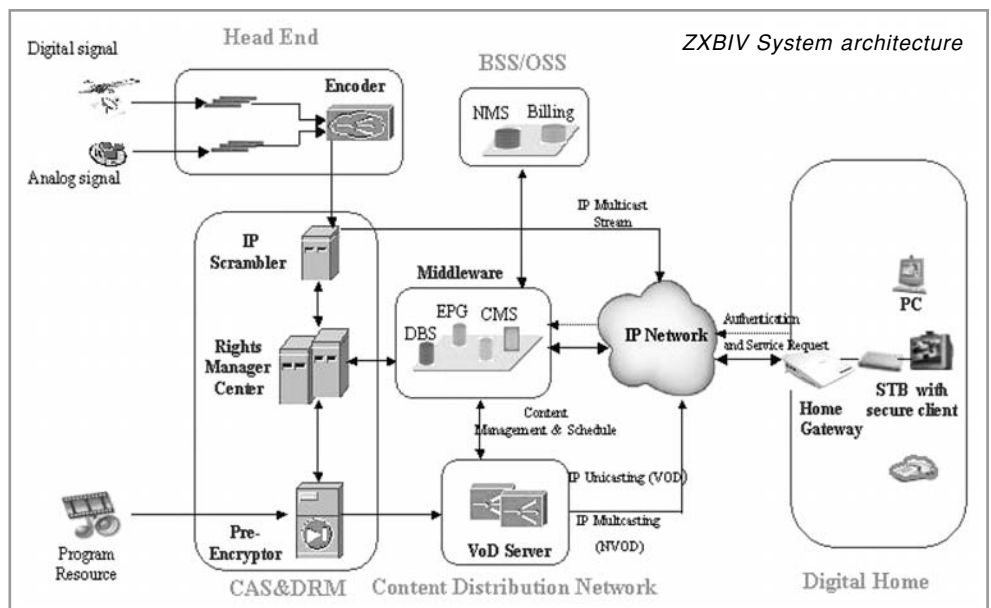
ZXBIV middleware provides concise subscriber, SP, content and report management in conjunction with EPG and STB version management functions, all while remaining open for future services integration. The ZXBIV IPTV system is a genuinely easy to operate and administrate, fully reliable, commercial system.

Content Distribution Network

The ZXBIV content distribution network (CDN) is made up of video server clusters, with contents distributed between CDN nodes according to flexible distribution policies. The distributed CDN structure allows operators to economically scale the system, proportionate the subscriber load and service demand.

CAS/DRM System

As we all know, the average IP network security is just that... average. How do telecom operators protect content from being captured while riding on an IP network? To get the content, operators must prove they are adequately securing the content they purchase.



ZTE's IPTV solution provides end-to-end security policies to help solve these problems. A ZXBIV solution integrates the major vendor's CAS & DRM systems to protect content distribution including live TV descrambling, VOD content pre-encryption, and secure client integrated in STB.

Digital Home

HG

Home Gateway (HG) is a very important part of the ZTE IPTV Total Solution. It is the integrated access gateway for home users. As the core of the home network, HG controls and coordinates all equipment in the home; it also provides users with a uniform and convenient user interface. The ZTE home gateway HG has a diversified interface. The HG acts as a connecting link between upstream and downstream resources, connecting different home application equipment, and connecting this equipment to various external networks. It improves the scope, depth and entertainment level of all home equipment and applications.

STB

The ZXV10 series STB supports advanced MPEG4 AVC decoding. In addition, ZXV10 series STB can also provide HDTV, picture-in-picture (PIP), connectivity with external storage devices and so on, all of which help to make IPTV services more competitive.

Highlights of ZXBIV Solution

Diversified IPTV services, customized for operators

- Live Broadcast Television (IPTV) – TV viewing via IP network
- Video on Demand (VOD, NVOD) – Movie or TV, music, MTV etc.
- Network Personal Video Recorder (NPVR) – Allows users to record live TV content at a certain period and play it later at a time of their choice
- Time-shifted Television (TSTV) – When watching live-TV programs, users can pause and continue viewing later, according to their schedule and interests
- TV on demand (TVOD) – The live channels could be viewed any time
- Video Communication – Extend communications to television, a revolution of home communication. A Bluetooth handset is designed for conveniently calling and dialing.
- Short message service – Send short message to mobile network
- Instant messages
- Walled garden (for customized web site)
- Advertising – Insert advertisements or system messages as required
- Gaming
- Media sharing – Share the media, photo album with your friends

The perfect end-to-end solution

ZTE offers an end-to-end solution, which includes the head end system, middleware, VOD server, encoder, network platform, HG and STB as one complete package. This seamless integrity not only ensures the quality and interoperability of all products, it simplifies system implementation and maintenance.

Scalable CDN architecture, flexible for expansion

ZXBIV solution supports a flexible video distribution network architecture, which allows for centralized, distributed and hybrid CDN deployment. Networks can smoothly evolve at different development stages, using current network resources and improving the performance-cost ratio of IPTV as fast or slow as conditions allow.

Open system architecture

ZXBIV is initially designed in accordance with open system platform. ZXBIV has special interfaces to support third party application. The system may interoperate with third party IP TV components effectively and efficiently. The openness also guarantees new service generating capability.

A unified network management platform

Because the middleware, VOD server and STB are all from ZTE, the unified network management comes true. The middleware, VOD server and STB could be managed by ZXNM01 management platform.

At the same time, ZTE data network products, soft switch, DSLAM, home gateway products are all based on ZXNM01 network management platform. It eases the telco's network management.

Able to response the market customization requirement promptly

Because IPTV system is so complicated and made up of several parts, integration is necessary in an IPTV project. So any new function or service extension may effect all parts of the system.

How to control the project process? That's really a great challenge for integrators.

There's no worrying for this with ZXBIV IPTV solution. Because the main body of ZXBIV IPTV solution are from ZTE, we can response to customizing requirements promptly.

Advanced system architecture, commit to IPTV future

Grasping the IPTV core technology and taking advantages the experience accumulated in voice, broadband, data network, multi media, value added services for several years, ZTE will support more and more new IPTV services with the technical development. Concerning the IPTV services extending to the mobile field, ZTE has strength to support related services with the deep understanding and achievement of 3G.

(x)