GLOBAL SUCCESS FROM LOCAL WISDOM

Triple-play Drives Network Transformation

1.Triple-play can promote telecom operators to obtain new profit.

Recent years, the deep end in fixed-line communication market has emerged gradually because of the intensifying challenges from Internet and Mobile. As the fig.1, both of operators and suppliers have to face the same problem about how to keep from profit declining under the condition of saturated or being saturated fixed-line voice market.

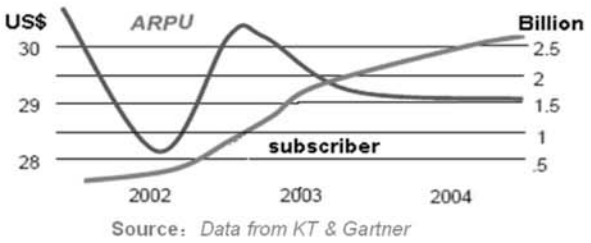

Fig.1 Problem of fixed operators

As we known, in the past 10 years, the gain mode of Telecom is correspondingly simple with its glancing management only pursuing subscriber increase because the cash flow of operators is plenitudinous. While the subscriber increase became slower, the first thing most Telecom operators considered is to seek the finance-driven increase. That means to pursue the growing scale and range based on the existing market to reduce cost and enhance growing speed. However, the basic gain mode of Telecom can not be changed in essence only through the way because it is just one layer of transformation. However, what is the essential change? More and more research shows that the transformation on service and operation mode might be the essential change which could bring new gain.

Nowadays, voice communication isn't only function for telephone, new multimedia services have brought a serial industry chains that relating to more providers besides the telecom operators. Then, by sharing the profit with other providers on the different nodes on the industry chain, the potential and covert operation scale might be magnified greatly with new growing.

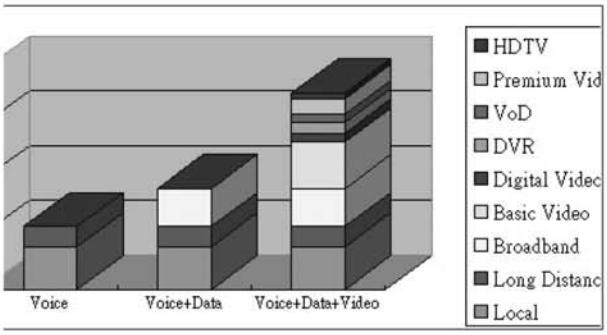

Fig.2 Relative services of telecom

However, another question is which kind of service provision mode will be the better way to form the larger industry chains for fixed-line operators? Triple-play mode might be an appropriate choice. Triple-play is becoming a popular topic since 2004. Triple-play means a service-converged experience for subscribers, which is integrated with VoIP(Voice over IP), Video, Data services features. As Fig2., the application research cases in US. show that Triple-play services will enhance ARPU (Average Revenue Per Unit), promote user loyalty and reduce 50% user losing ratio than VoIP only services, with differentiated and customized multi-service combination. Moreover, Triple-play services also bring better effect on ROI (Return on Investment) aspect. For example, for DSL network, the ROI is usually 5-6 years if only traditional services were provided, while it might be 2-3 years if video services were provided additionally.

Generally, Triple-play industry chain is composed of six parties: Content Providers, Content integration Providers, Network Operators, Platform Providers/Service Providers, Equipment Suppliers and terminal users. The Triple-play services refer to three branch-chain including Voice services, Video/IPTV services, broadband internet access services, the nodes on each branch are linked and related with other branch, that means more covert branch-chain are included in Triple-play mode, and it is more great and complex than any operation modes before. So Triple-play based operation mode might bring larger business scale and profit sharing space for fixed-line operators.

2.Network requirement of Triple-play services

Even though the advantages of Triple-play and more opportunities for the fixed-line operators, for the operators, it is still a question about how to make the various combinations of three kinds of services to meet the differentiated requirement from different user groups. And it is ales an important factor for successful deploying Triple-play to provide differentiated services from existing Cable/TV broadcast services. Moreover, traditional fixed network environment is still difficult to provide Triple-play services quickly and conveniently for its old architecture, un-opened service provision mechanism and limited bandwidth resource etc. That means, in order to provide Triple-play services, network transformation is inevitable to suffer for the operators.

Therefore, the network technology developing is necessary for Triple-play services provision. And following points might be the key to deploy Triple-play services:

Converged and opened service platform: For the Triple-play operators, following features are very important to increase ARPU and reduce operation cost:

1.Integrated Subscribers management and authentication
2.Open services provision to third part
3.Unified service management and service security
4.Unified Charging and Billing
5.Control-enable end to end QoS
6.Multiple service blending and fast deployment

As the bottleneck of whole network, following features are necessary for Triple-play user access:

1.Broadband features: As the most important service feature, video-related services (especially, IPTV service) will use up largest bandwidth resource than other twos. On the equipment side, enough uplink bandwidth and user bandwidth are necessary. And, on other aspect, it is also important to choose appropriate video codes which can occupy as less as possible bandwidth under definite signal quality.
2.Multicast features: For the IPTV large scale application, the controllable multicast capability of access network is mandatory to comply. And it also shall be considered to choose the appropriate position for control and replicate point.

3.ZTE F3G total solution helps operators to realize network transformation

In order to help fixed operators to transform successfully to Triple-play mode, ZTE launches F3G total solution focusing on how to provide Triple-play services effectively to users, how to resolve broadband access issues for Triple-play, how to build a unified and opened service provision platform and how to get to the target of constructing a converged network. The respective and optional sub-solution in different layers are contained in ZTE F3G solution to provide whole-network transformation consideration.

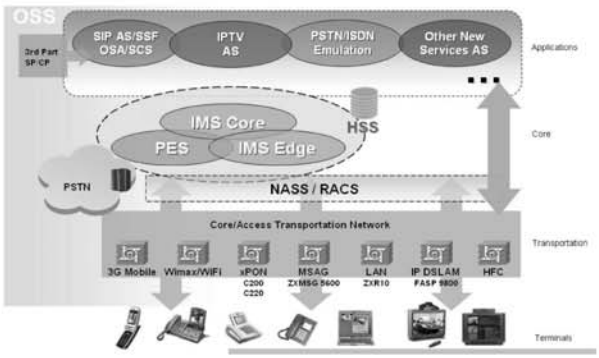

Fig.3 ZTE F3G architecture

As Fig.3, the architecture of ZTE F3G solution is composed of Applications, Core control modules, Transportation Network and terminals. The applications includes SIP AS(providing SIP based services), SSF(providing legacy Intelligent Network services), IPTV AS(providing IPTV services), PSTN/ISDN emulation service, and more services provided by third part CP(Content Provider)/SP(Service Provider). The core layer includes IMS(IP Multimedia Subsystem) and PES(PSTN Emulation Subsystem) that implement core session control functions for every service flow. The transportation network is to bear and switch all service flow between different accessed users, or between the Applications and terminals. It is a complete NGN architecture recommended by TISPAN.

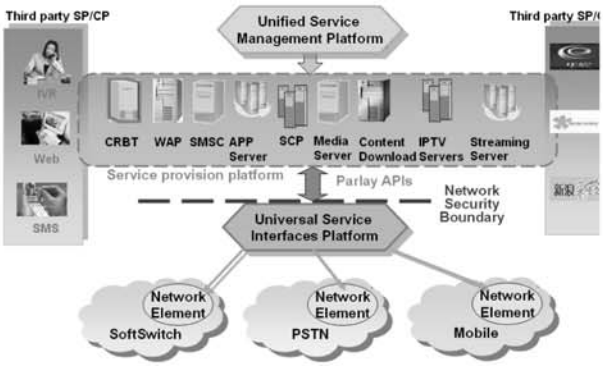

Fig.4 Converged service platform of ZTE F3G

The key technology features of ZTE F total solution are as following:

Converged service platform: As Fig 4., ZTE F3G solution provides a converged service platform to deliver the combined services including multimedia services, data services, streaming services, legacy voice/IN services, IPTV services, and 3G services. It is composed of unified service management, unified service provision, unified service interface and integrated user management platforms to support flexible and combined services deploying, unified service management, integrated authorization and charging etc. It is opened for third part CP(Content Provider)/SP(Service Provider) via Universal Service Interfaces Platform, and also is converged on CP/SP, Service, Content, and Subscriber management via Unified Service Management Platform.

Unified core control: It is fully complied with TISPAN IMS (IP Multimedia Subsystem) architecture that could provide unified session or non-session control for every service flow. It also provides complete QoS control for any kinds of service flow.

Multi-service broadband access technologies:

1."GE(Gigabit Ethernet) to slot" technique of ZTE access equipments make it is possible to provide GE-Level non-blocking architecture, at least 1 Gigabit Date Bus for per slot, multiple GE uplinks (4Gb/s), non-blocking more than 13 Mb/s per subscriber bandwidth.
2.Multicast control and replication capability of ZTE access equipments.
3.FTTx(Fiber to the x) via xPON(Passive Optical Network) sub-solution: Currently, FTTx networks via GPON/EPON techniques are becoming a trend of wire-line access networks for its larger bandwidth resource, longer transport distance, long use-period, higher QoS guarantee. ZTE FTTx via xPON sub-solution completely supports Triple-play services with its fully end-to-end QoS and security guaranteeing, as Fig. 5.
4.Hybrids solution: This method can optimize the access network, for the last passage existing twist pairs will keep being used, only the primary pairs will be replaced with fibre optical. This is the best option for most fixed-line operators

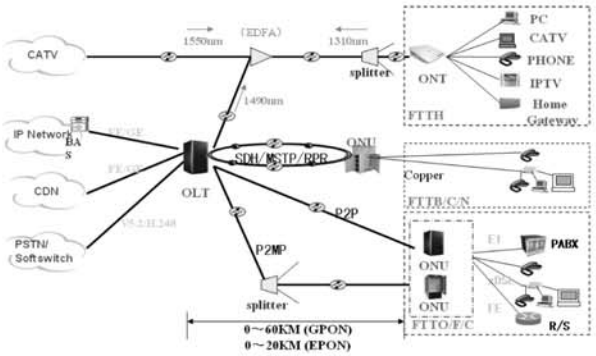

Fig. 5 ZTE FTTx via xPON solutions

Moreover, ZTE F3G solution also provide smooth migration proposal for fixed-line operators.

With ZTE F3G solution, it is expected that a perfect industry chain could be generated to establish multi-win relationship among operators, ZTE, and other cooperators.