3D TGNT Co., Ltd
5F, Shenghong Building, No.98 Eastern 3rd Ring Road South, Chaoyang District, Beijing 100021
Tel (8610) 58692700 Fax (8610) 58611008

Shanghai Yangpu District Government VOIP Network Case Study

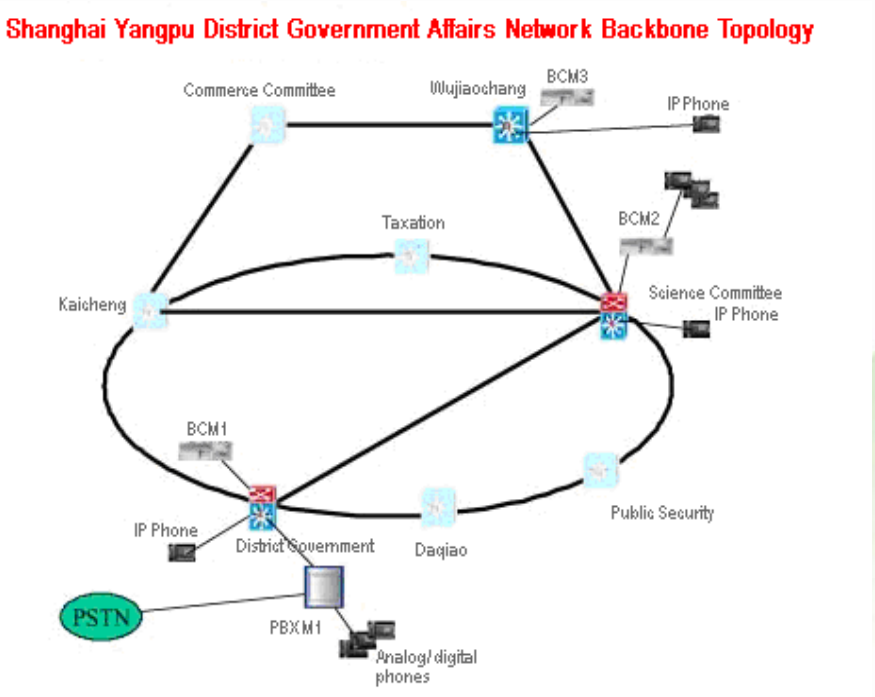
In recent years, informatization in government has become an increasingly important part of city informatization. Deployment of government network system is a cornerstone for government informatization and it acts as a vehicle of all e-government application systems. Therefore government network system is an important way to increase government productivity dramatically.

Based on requirements of Shanghai Yangpu District Government on building government network systems, combined with actual situation of Shanghai Yangpu District, Shanghai Yangpu District Government office and Informatization Committee defined specific objectives for network deployment project of Shanghai Yangpu District Government. Once the government network covering the entire district is deployed and fully interconnected with the existing government networks, the district government will be able to exchange information and communicate instantly with other provincial or regional governments throughout the country, meanwhile creating various business opportunities through extended horizontal and vertical communication to drive economical growth of the entire district.

Overview of District Government Network

Network of Shanghai Yangpu District Government can be divided into the following three major parts: Government Affairs Network, Public Service Network and Internet access. The current project is focused on Government Affairs Network. In the Government Affairs Network, 8 tandems were deployed to provide access for 51 subordinate entities.

District government and district science committee are two major intercross nodes in the entire network, as shown in figure below:



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VoIP Phone System with Immediate Effect

Among the above 4 points, the third point, i.e. VoIP phone system throughout the district, is the most important application with immediate effect, especially in the eyes of consumers.

In recent years, rapid development of IP technology has improved information exchange greatly. With continuous development of IP technology, various IP based application systems have experienced great improvement and are used for various applications. VoIP technology provides enterprises and institutions with a new way for voice communication. It can not only enable voice transmission capability using the existing data network, but also reduce capital expense and operational cost. More important, it can increase efficiency, productivity and service level of government agencies effectively.

To provide the customer with a practical and useful VoIP voice communication solution, 3D TGNT has taken the following major customer considerations into account:

Saving of communications cost

Practicability as a voice communication system

Voice service is critical for any organizations or enterprises, and its reliability and voice quality have to be ensured first

Capability to provide more functions and applications to increase productivity is another major consideration

Unified Voice and Data Solution

To this end, 3D TGNT provided Shanghai Yangpu District Government with a Unified Voice and Data Solution composed of recognized and award-winning Nortel VoIP products BCM and M1+ITG to build a district-wide communication and transmission platform that converges voice, video and data.

In district government building, the widely recognized Nortel PABX Meridian 1 (M1) was deployed. The M1 is configured with gateway module ITG card for VOIP as well as a BCM400 Multi-service Communication Router; In District Science Committee building, a BCM400 Multi-service Communication Router is deployed (configured with analog voice module to meet demands of legacy analog phones). In addition, at the largest convergence node Wujiaochang, a BCM400 Multi-service Communication Router is deployed for tandem. This way, with data routing, VOIP gateway and trunking functions provided by the BCM system, converged IP and traditional voice communication services can be provided easily for Shanghai Yangpu District Government.

Nortel Networks BCM Multi-service Communication Router is a product that combines functions of router, key systems and VOIP gateway. The product has incorporated a number of advanced technologies of Nortel Networks in voice and data communications. As a voice communication system, BCM can support over 150 PBX functions, including voice message, call transfer, call waiting, 3-party call and phone call recording. In addition, it can support a wide range voice applications like fax message, unified messaging, call center and Interactive Voice Response, etc.

A single BCM system can store voice message of 200 hours. BCM can not only support dedicated digital phone set, but also support common analog phone, IP phone and soft phone using H.323 protocol, as well as mobile H.323 terminals compliant with 802.11 standard from Symbol.

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With respect to data function, BCM can provide a number of functions like routing, VPN, packet filtering firewall, NAT, DHCP and DNS, etc. In addition, through DiffServ protocol, it can provide reliable QoS (Quality of Service) guarantee for delay-sensitive applications and critical services, including voice and video, etc. In the event of any failure or poor QoS in IP network, the BCM can reroute calls through public phone network automatically through real-time monitoring, thus ensuring that normal voice calls will not be affected by IP network failures. Nortel Networks integrates all these functions onto a single device in an innovative manner to provide a complete unified solution for SME and branch offices.

3D TGNT: Expert in Converged Communication Solution & Nortel: Pioneer in Converged Network Field

Of course, the converged voice system is only a part of the converged network solution provide by 3D TGNT and Nortel for Shanghai Yangpu District Government.

At present, backbone of MAN of Shanghai Yangpu District Government uses high performance routing switch Passport8600 of Nortel Networks to form a highly reliable backbone transmission network with high performance and scalability. In the future, with increase of transactions and other applications within Yangpu District government, the backbone transmission network will be used to support various new services and applications. Therefore, the entire network structure has to provide relatively high performance and scalability. The converged network solution provided by Nortel Networks can exactly meet such requirements of the user.

As an expert in converged communication solution, 3D TGNT will partner with Nortel Network – a recognized leader in voice and data technologies – to drive technical development, in order to provide users with more advanced products and solutions to their satisfaction.