

3G Video Applications Enter a New Era

USTC iFLYTEK uses Dialogic® products to create its new interactive 3G video application delivery system in China

CASE SUMMARY

Challenge

Now that 3G networks are available in China, innovative 3G commercial applications have become a major means of increasing profitability. To support diverse applications and devices and interconnect them, a 3G application delivery system is required that also provides a user-friendly experience and an increased level of personalization through an Interactive Voice and Video Response (IVVR) interface.



Solution

By taking advantage of its powerful world-class speech technology, developed over many years, and using Dialogic® media and signaling products, USTC iFLYTEK built an interactive 3G application delivery system with an IVVR interface based on a new “human-computer interaction” model, which adds a powerful impetus to the development and deployment of 3G applications. The new interactive 3G application delivery system has been officially launched and was immediately praised for its flexibility in delivering applications, such as CRBT and music search. According to preliminary reports, the CRBT application has already been widely deployed in the networks of the three major carriers in China, inaugurating a new era of 3G video applications.

Challenge

With the availability of 3G licenses and the restructuring of China’s three major carriers (China Unicom, China Mobile, and China Telecom), the communications industry in China has entered the 3G era. Although they foresee new opportunities for growth, the major carriers also face enormous challenges, and they view application innovation as a major way to enhance profitability.

Along with meeting diverse business, equipment, and connectivity challenges, 3G application delivery systems must also provide a user-friendly and more personalized experience. Anhui USTC iFLYTEK decided to combine field-proven, carrier-level media and signaling equipment with its world-class intelligent speech technology to create an interactive 3G video application delivery system with a powerful Interactive Voice and Video (IVVR) interface and seamless connectivity.

Founded in 1999, USTC iFLYTEK is the largest intelligent speech technology provider in China, supporting activities such as intelligent speech and language technology research, software and related product development, and speech information services. The company has developed an innovative intelligent speech core technology, which includes speech synthesis and speech recognition, and makes human-computer communication as easy as interpersonal human communication. Speech synthesis makes a machine “talk,” while speech recognition enables a machine to understand what people say to it. Also included are related technologies, such as speech coding, tone conversion, dialect evaluation, noise cancellation, and speech enhancement. Because of such technologies, future 3G video applications will be able to handle command input, information inquiry, identification, and information transmission through speech

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alone. As Jiang Tao, Vice President of USTC iFLYTEK says, “Since speech is the most natural and convenient way for people to communicate with each other and access information, our intelligent speech technology will have broad application, since it can effectively solve awkward input problems and the inconvenience of pre-recording messages, as is done in traditional telecom value-added services.”

For Quality of Service (QoS), the system gateway must deliver a high level of throughput and processing capacity. “Our system requires carrier-class QoS, so we require our partners to provide very stable speech boards to avoid problems, such as system instability, processing interrupts, and slow response time while processing a large amount of speech data or other types of media. In addition, we ask equipment manufacturers to provide an effective and efficient development environment as well as quick and professional technical support services during system development,” explains Huang Yong, Senior R & D Manager at USTC iFLYTEK.

Solution

To use its leading intelligent speech technology to its greatest advantage, USTC iFLYTEK decided on Dialogic® media and signaling products, and chose Dialogic® CG Series Media Boards for media processing, and Dialogic® TX Series SS7 Network Interface Boards to create its interactive 3G video application delivery system. Using IVVR, the system can deliver a broad range of commercial 3G applications, including mobile TV, video-on-demand, KTV internet TV, voice query, and voice messaging.

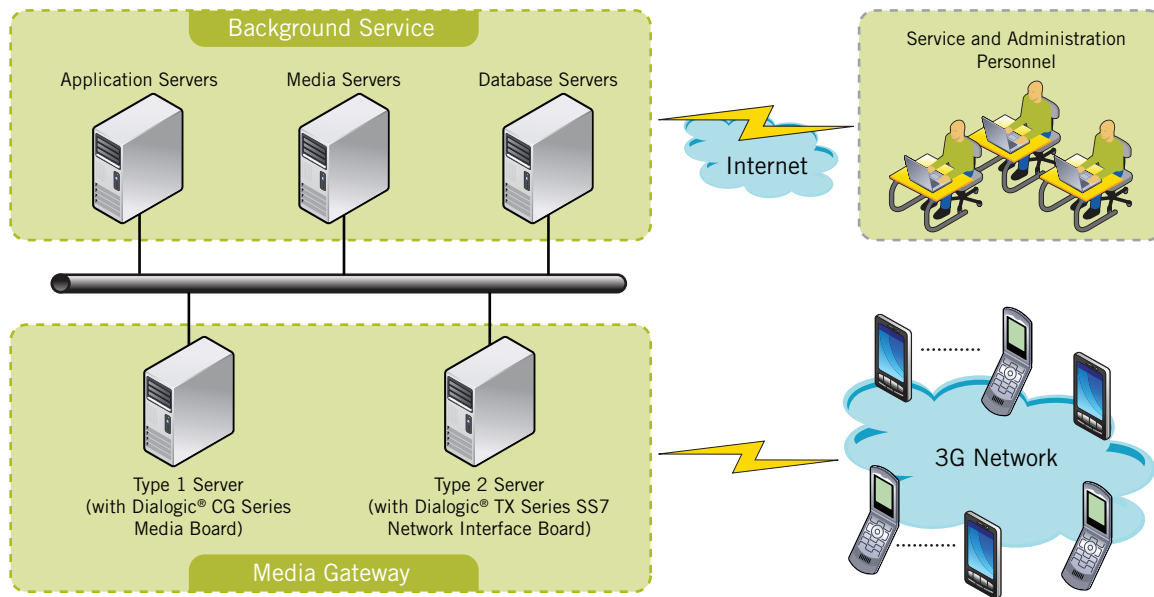


Figure 1. Structure of USTC iFLYTEK's 3G Video Delivery System

USTC iFLYTEK's 3G video delivery system has two parts: media gateway and background service. (See Figure 1 for an illustration of the delivery system's structure.) The media gateway uses two types of servers, one of which contains a CG Series Board, which includes speech functionality. This server (Type 1) is responsible for the accessing, processing, and conversion of speech media signals.

The second server (Type 2) contains a TX Series Board, and is responsible for the establishment, maintenance, and release of communications channels. The Dialogic® NaturalAccess™ Software for these boards (Dialogic® NaturalAccess™ Development Environment, Dialogic® NaturalAccess™ Signaling Software, and Dialogic® Video Access Toolkit) together provide the functionality, which allows the USTC iFLYTEK team to create a wide variety of innovative 3G applications.

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The background service consists of three types of servers: media servers, application servers and database servers. The media servers store the video and audio clips that end users can play on demand, and they provide Real Time Streaming Service (RTSS), which can automatically generate specific service content upon request. For example, if end users ask to see their current phone bills, the results of the inquiries can be streamed to their 3G mobile handsets using the Real Time Streaming Protocol (RTSP). The application servers perform specific service functions, such as processing, logic control, and management. The database servers are responsible for basic data management and the storage of data generated by the applications.

“Dialogic has provided us with multimedia technology that already supports tens of thousands of ports, and we expect the number of ports deployed to continue to increase in the future. The CG Series Media Boards support up to 16 T1/E1 trunk interfaces and are equipped with high-density DSP processing resources, built-in IP capabilities, and high-speed PowerPC co-processors. The TX Series SS7 Boards provide us with feature-rich support for up to 32 SS7 channelized links, and a comprehensive and flexible SS7 signaling stack (MTP, ISUP, and TUP). The boards have a high processing capacity and handle host processing very efficiently, allowing us to allocate more resources to other applications. Both the CG Series Boards and the TX Series Boards have proven to be very stable and efficient while providing powerful functionality along with excellent performance,” says Senior R & D Manager Huang.

Results

USTC iFLYTEK’s interactive 3G video application delivery system has been officially launched in the Chinese market, and is valued for its flexibility in delivering diverse applications, such as CRBT and music search. With CRBT, for example, the delivery system allows quick ring tone search with simple speech commands, download, and distribution, along with statistics and management functions, which together provide a satisfying experience for both the customer and the carrier. The CRBT application and the USTC iFLYTEK delivery system have already been deployed in all three major carriers in China.

“With the increasingly intense 3G market competition in China, our interactive 3G video delivery system with IVVR, which is implemented with Dialogic® products, helps carriers take advantage of breakthroughs in speech-based interfaces, personalized service, and diversified entertainment services, which can significantly enhance a carrier’s competitiveness in the 3G marketplace,” comments Vice-President Jiang.

In the promising 3G video application field, USTC iFLYTEK’s world-class speech technology has added human-computer communication to commercial applications, bringing interactivity to a new level and 3G video applications into a new era. USTC iFLYTEK’s achievements in applying its core research to the commercialization of speech technology have attracted a great deal of attention in various sectors, including finance and education, and enhanced its reputation as a leader in the Chinese speech industry.

About Anhui USTC iFLYTEK Company, Ltd

Anhui USTC iFLYTEK is the leading provider of Chinese speech and language technology, and serves consumers, businesses, and government organizations. Founded in June 1999 at the University of Science and Technology of China (USTC), USTC iFLYTEK today specializes in fundamental speech technology research, the development and marketing of software applications, systems integration, hardware products, and comprehensive technical support.

For more information, visit www.iflytek.com.

About Dialogic Corporation

Dialogic Corporation is a leading provider of world-class technologies based on open standards that enable innovative mobile, video, IP, and TDM solutions for Network Service Providers and Enterprise Communication Networks. Dialogic’s customers and partners rely on its leading-edge, flexible components to rapidly deploy value-added solutions around the world.

For more Information, visit www.dialogic.com.

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Information about Anhui USTC iFLYTEK has been provided by Anhui USTC iFLYTEK for this case study.