

Design and Application of Communication Multimedia System based on BS

Yilin Liu

International College, Beijing University of Posts and Telecommunications, Beijing, 100876, China.

RealynLiu@126.com

Abstract. With the rapid development and diversity of communication terminals, the existing terminal business functions cannot meet the growing communication needs of users. It requires multiple terminals to complete all kinds of communication. According to different user needs, functional reorganization can be carried out, which will be more flexible and convenient for manufacturers and end users, and has good application prospects. Communication multimedia system based on BS architecture. This new type of system fundamentally solves the above-mentioned drawbacks, which breaks the time and space constraints of use. A multi-threaded technology was used to design and implement a multimedia communication system, and it was tested in the laboratory LAN, and the system communication process and communication performance were analyzed. And several key technologies for multipoint multimedia communication over wireless LANs. It has the characteristics of multimedia real-time transmission, command interaction, service quality negotiation control and high transparency of application programming.

Keywords: BS, Communication, Multimedia System.

1. Introduction

VCommunication protocols should be system-independent. However, in order to run the protocol stack on an operating system, some system-related support must be provided to integrate the protocol stack into the operating system [1]. More than one of these technologies is often used in many occasions. Among various single-function device terminals and one integrated multi-function device terminal, the latter is simpler, lighter and cheaper [2]. Text and digital information are input directly by keyboard. The multimedia integrated information is generated after information conversion, stored in the multimedia integrated information database. The database management system integrates the multimedia integrated information. Multimedia teaching did bring great improvement to teaching at the beginning. Using these data to control multimedia conversations [3]. These data include location information, push-in parameters and service trigger information, security information authentication and authorization information, user profile information, subscriptions to users, and assignments to users. However, with the continuous expansion of information volume and the speed of knowledge update, traditional multimedia has also exposed many drawbacks [4]. Visual information gives people an intuitive and vivid image, and the pursuit of long-distance visual and audio synchronization has become a new fashion. It can fully meet the general network transmission requirements, and has the advantages of flexible networking, physical barriers, easy to move, economical and practical. Therefore, people are no longer satisfied with the communication between fixed terminals on a wired computer network [5].

It realizes the functions of multimedia wireless connection and data network access between different devices, and forms a specific personal wireless multimedia communication network [6]. The performance and complexity of terminal devices are also improving. The latest digital video coding standard promotes the research and application of video solutions with its higher compression efficiency and network affinity. These new developments are bound to greatly increase the complexity of mobile communications and video processing systems [7]. The BS structure is a three-level or multi-level, BS structure, which solves the cross-platform problem. The browser can access several application platforms to form a one-to-many, many-to-many structure mode. One or more logical channels having a certain bandwidth are established between the endpoints, and the logical channels for real-time communication are all unreliable channels. Provide an authorization decision according to the stored session and media related information. When the session change process

modifies the session and media related information, update the corresponding authorization policy to abolish the authorization decision function at any time to enable the authorized bearer capability, disable Authorized bearer. A star network structure is formed, and the port is connected to the wired network at the same time, so that the terminals of the entire wireless network can access the resources of the wired network [8].

2. Materials and Methods

It simplifies the load of client computer, reduces the cost and workload of system maintenance and upgrading, and reduces the total cost of users. In terms of current technology, it is relatively easy to grasp and low cost to establish network application of LAN structure and to apply database in physical mode. Integrative processing of multimedia information and design of data structure with fixed and non-fixed length regions. The core is to store formatted text, digital data, non-formatted image and voice data in the same integrated database for unified management. It can effectively utilize the transmitting power of signals, connect with the existing wired LAN easily, user equipment is simple, network management is single, more valuable is the combination of micro-cellular technology, currently more widely used. The protocol uses RTP protocol to transmit real-time services such as video and voice. The client mainly provides application programs for clients to input, checks the validity of input data according to various set rules, and submits them to the back-end server for processing, and finally displays the results returned from the back-end server. Due to the large amount of data in the image processing process and the high complexity of the algorithm, the real-time performance of the system is difficult to guarantee. If a dedicated algorithm chip is used to build the system separately, the flexibility of the system will be greatly reduced. The network supports real-time media data transmission control protocols that enhance the Internet's audio, video, and interaction based on compatibility with existing network infrastructure. The multimedia integrated information generated after the conversion process is designed as a database of a variable length record format as shown in Table 1.

Table 1. Multimedia Integrated Information Database

	Structure	Describe
Index part	7.13	0.35
Data part	6.85	0.18

Figure 1 shows the elements of the proposed topology and their relationships. The architecture has three operational levels: hardware infrastructure, logical management and management interface. The hardware infrastructure level consists of different types of nodes (regular cluster nodes, gateway nodes and header nodes) that construct physical topologies and clusters that construct logical topologies. When new nodes join the network, they have regular cluster node roles. A regular cluster node cannot communicate with nodes or external devices of other clusters, but only with nodes of the same cluster. When a new regular cluster node tries to join the network, it searches for nodes under its coverage area.

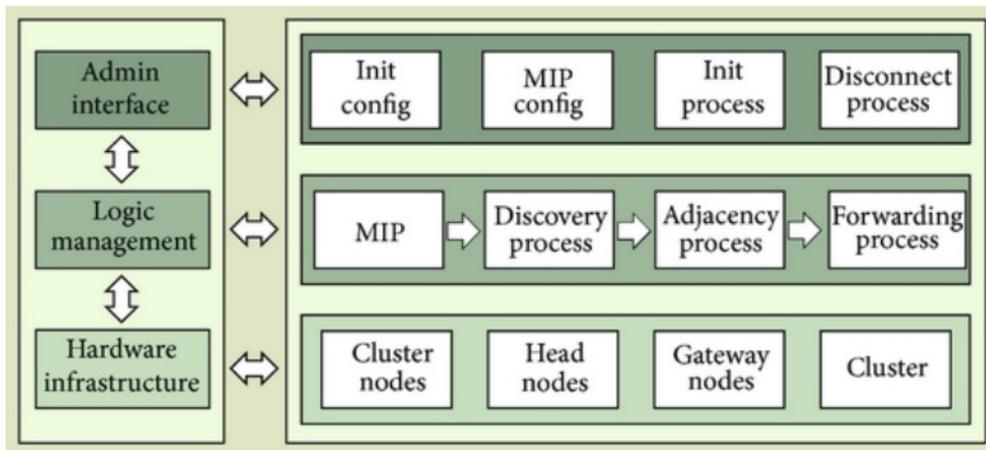


Fig.1 Multimedia ad hoc wireless network architecture elements

Logic management level also defines the logical processes performed by the nodes automatically as a function of their states and the events given in the network: discovery process, adjacency process, and forwarding process. When a node starts up correctly, it executes the discovery process and seeks other nodes with the same under its wireless coverage area. When it finds other nodes, the adjacency process starts in order to establish a neighborhood between both nodes. The process is repeated every time it finds a new node with the same, allowing the system to build the network clusters. When a cluster is built, it has the capability and resources to retransmit the multimedia streams whose features meet the of the nodes of the cluster. Forwarding process is started when a node starts a new stream query. The query can be started inside the cluster or can be started by another cluster node or by an external network in this case the query comes from a gateway node.

Most of the traditional methods are based on address and data bus. However, due to a large number of multimedia processors and the restriction of large-scale occupancy of bus resources, how to use the limited I/O interface to expand multi-functional peripheral devices is very necessary. In this way, client applications usually do not directly process the data in the back-end database, and all requests must be transmitted to the database on the back-end server through network protocols and database interfaces. Implementing integrated service communication including real-time communication services in IP networks. IP network technology, improve the speed of packet switching, increase the bandwidth of the network, and fundamentally solve the communication quality problem of IP networks. When the network size is larger than the coverage radius of a single access point, multiple access points may be respectively connected to the wired network to form a wireless network with multiple access points of the wired network as the backbone. Server software includes server networking, management, and resource management. The database consists of two parts: the structure description area and the data area. The content of the structure description includes not only the modification date and number of records of the library, but also information about the variable length domain.

With the increase of records, when the index block is full, the system automatically opens up a new index block for it, which is connected by the pointer of the index block above. The data part not only records multimedia data, but also provides information such as the actual length of the variable-length domain. The status rendering business is specifically decomposed into several steps of subscription, publication and notification. The simplest business process is that a user subscribes to the presentation information of another user he is interested in, and the subscribed user receives the subscription request, and then every time the subscribed user's information changes. Interprocess communication messages are called commands. The command is divided into two types: the main command and the auxiliary command. The command directly used between the main commands and the auxiliary command are attached to a main command and cannot be used alone. Through the messages and processes defined by the protocol, the communicating parties exchange mutual information, decide how to transmit voice, video signals and data, and how to handle errors. It can only be implemented as part of the application on top of the transport layer protocol. To transmit RTP

data packets and RTCP control packets separately, the lower layer transport protocol must have multiplexing capabilities. It improves computational efficiency to a certain extent, and it also has data security and integrity constraints.

3. Result Analysis and Discussion

The network congestion has been solved fundamentally. In BS architecture, after the client application establishes a connection with the server, the server generates a new process, which is not destroyed until the connection terminates. After the embedded operating system is powered on, a bootstrap program is needed to download the kernel image file to the hardware target platform. The boot program is a non-universal hardware-related program. Its purpose is to close the watchdog, change the system clock, and initialize the storage register. Supporting the mobility of terminals; signal transmission is not affected by visual distance; full duplex mode of work is the best way to carry out voice services; supporting point-to-multipoint connection, easy to form a small local area network. Used to carry data with real-time attributes, including transmission media type, format, serial number, timestamp, and whether there is additional data. The wireless access point port is connected to the wired router to interconnect with the Internet; the computer in the local area network is plugged into the wireless network card, and the central control node of the conference invites the user to join the conference. If any party in this mode withdraws from the conference, it will not affect the progress of other member conferences. It is only when the user scales up or the geographical distribution is wide, it is necessary to consider the situation of multiple mixers.

The system consists of multimedia integrated information database and multimedia information database management system. It can realize the integrated management of multimedia information's input, modification, deletion, query, analysis and output. State presentation is the basis of various businesses. On the one hand, state presentation information is useful not only for end users, but also for other users. Other services can utilize the application capability of state presentation. And according to the current computer system resources, CPU utilization, available memory) and network resources to allow control calculation, decide whether to accept customer connection requests. The advantage of multicast is to reduce the burden of terminals. This advantage increases with the increase of network size and the number of receivers. However, it must be noted that the reduction in terminal load is at the expense of increasing the burden on the router. It mainly implements streaming communication control functions, including key functions such as endpoint registration, call admission, call connection, and media control. In the BS structure, there is no such problem. After the client makes the request, the 1/2 server classifies and converts the requests to the data layer server, which reduces the workload of the 1/2 server. The node uses the multicast group address of the cluster to notify its neighbors that it is leaving the cluster. Then the neighbors can update their status tables in order to reorganize their forwarding process.

When the node finds another node with the same, and the cluster does not arrive to the maximum number of hops defined by the, the system starts the adjacency process, in which both nodes exchange their network information and lets the new node join the cluster. When a node, belonging to a cluster, receives a query for multimedia stream transmission and checks that it is possible to guarantee requirements, forward process is started. Through BS structure principle, the browser sends a request, and transmits it to 1/2 server through 3432/+4/5 (332+73/6) for preprocessing. After classifying and transforming the format, it is handed over to database server and application server for processing. After the data layer server has finished processing, the final result is handed over to 1/2 server. Indexed by state and event. Each item of the jump matrix represents a function that handles a particular event in a particular state. When the protocol is initialized, the FSM is set to the initial state. And there are different applications. As the main digital signal processing tool, the DSP chip has the advantages of small size, high reliability and easy expansion. It has a strong advantage for matrix computing speed and is widely used in the field of multimedia processing. A separate DSP chip is used to build the system, and the system lacks sufficient flexibility in transaction management. End-to-end transmission services for real-time data (such as interactive audio and video) by encapsulating

streaming media data for real-time transmission and control of media streams. The voice and video data are numbered and verified before they are transmitted to detect transmission errors and adjust the order in which the packets are received. The sending and receiving of the offline message of the user is realized through interaction with the offline message function module, and the execution of various policies set by the user is realized through interaction with the policy processing unit.

4. Summary

This paper studies the design and application of BS communication multimedia system. That is, the interface between the status rendering platform and the information service platform, and the signaling process between the client and the related services of these platforms, that is, the analysis of the typical signaling process of the online status and instant messaging services. In addition, the integrated multimedia information can be deleted, queried, summarized, analyzed and maintained. The results of query and analysis can be displayed on screen or printed by printer. The distance between the new input objects of computer users and the existing objects in the knowledge base can be used to judge whether they are the same or similar. At the same time, the access point is equipped with corresponding network management software, and has other network management functions such as access authentication, security management and network monitoring. Provides more powerful support for data dynamic update, comprehensive analysis, and decision-making, reflecting the greatest degree of code reusability and portability. The work done to migrate to different platforms is only to achieve platform-related interfaces, further develop the city. Planning model libraries and knowledge bases, enhancing the system's auxiliary decision-making functions, moving from information support to decision support, and improving the level of intelligence of the system.

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