Design and implementation of tax law enforcement service management system of Heilongjiang National Taxation Bureau

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Abstract. With the continuous deepening of the reform of the state's fiscal and taxation system, the introduction of a new tax system, and the revision and matching of tax collection and management laws and regulations, the role of computers in the technical support of tax collection and management has become increasingly important. In particular, the State Administration of Taxation has proposed the development strategies of “increasing tax revenue through science and technology” and “developing taxation electronically”. The tax collection and management business is gradually forming "based on tax declaration and optimization services, relying on computer networks, and centralized collection. Audit "new collection and management model [1]. Therefore, the application of the computer information management system plays an increasingly important role in tax collection and management [2].

Keywords: introduction, modern, technology, application, network

In recent years, the microcomputers of most of the branches of the IRS are still based on the local area network to carry out their respective tax collection and management processes. Daily communication is also simple file transmission, even manual written delivery[3-4]. Obviously, it cannot meet the needs of tax business development and modern management. The emergence and rapid development of the Internet and related technologies has provided the IRS with the use of the Internet for information release Great opportunity for communication, management and management. It can be said that the development of the Internet / Intranet has provided a rare opportunity for the IRS to implement the electronic tax system. Therefore, the IRS urgently needs to establish an intranet-based tax information system to improve the management efficiency of the IRS and optimize the service quality.
1. Demand analysis
The IRS Intranet intranet system is a large-scale network system integrating computer technology (Figure 1. Heilongjiang tax statistics), network communication technology, and database management technology. It takes management information as the main body and connects systems of declaration collection, tax audit, tax management, office automation and other systems. It is a computer information network system oriented to the daily work of the IRS, based on taxation, social services, and assisting decision-making.

Aiming at the current information technology application situation of the IRS, the strategy of computer network construction should be based on the application of the idea of network development for development. Instead of immediately investing in the establishment of a large-scale comprehensive information system, it should promote the development of network systems with practical applications. Come and promote the development of applications and form a virtuous circle.

2. Overall design
The first is to design the structure of the system. The client / server model is chosen here. This model has the following advantages: The structure is based on applications, and programs can be flexibly selected to run on clients. It is an open application mode. The client / server model of the DBMS and database is placed on the database server. Its applications run on the client, and data processing can be separated from applications and distributed on the front end.

The client and server have the ability to co-process CPU resources, and the front and back ends have the ability to automate and share. The processed data does not have to be transmitted frequently on the network. What is transmitted on the Internet is the client's request command, the server's response, and the data record, which solves the bottleneck of data processing and data transmission.

On the basis of structured wiring, a 100M switched fast network is selected as the backbone network, and traditional star Ethernet is used as the departmental LAN.

This system uses the 100M backbone switch as the network center to connect the server and the
secondary network equipment. The 100BASE-T network card on the server is connected to the backbone switch. The secondary network equipment is connected to the backbone switch, and the downstream switching 10BASE-T is connected to the desktop workstation.

3. Technology selection
At present, there are many mature products. The more mature products are: 100BASE-T, FDDI, ATM, etc. Which technology to choose should be considered from two aspects: First, the characteristics of the business requirements of the IRS. The IRS network system needs to process a large amount of tax collection data and analysis data, and the network transmission volume is large. The business characteristics of the IRS require the network system to be fast, stable, and expandable and open. Second, we must consider the maturity and stability of technology products. The use of advanced and mature network technology can protect investment and reduce the cost of network construction and use.

Judging from the operating results of some examples using FDDI technology, the technical effect is comparable to that of 100BASE-T plus switching technology. The FDDI network is reliable, stable, and has a large capacity. But the installation is complicated, the maintenance work is heavy, and the connection to the original Ethernet network requires a conversion unit.

This network uses virtual network technology (VLAN). The virtual network logically divides the network composed of switches into several broadcast domains, which reduces the broadcast traffic of each domain and further improves the performance of the switching network. Different virtual networks generally cannot directly communicate, which is beneficial to network management and network security. The composition of the virtual network can be independent of geographical location and flexible in configuration. The composition of the virtual network can be changed at any time without changing the physical distribution frame. The combination of virtual networks and switching technologies constitutes the core technology of enterprise computer networks. Refer to figure 2.

\[\text{Figure 2. Tax increase}\]

4. Engineering Schedule
The IRS intranet network consists of a fast Ethernet backbone network, a branch office LAN, an Internet access network, and a remote access (WAN) system.

4.1. Network topology design
Fast Ethernet is a fully dynamic switched network that fully supports network management and multimedia communications. The backbone should use enterprise-grade switches such as Catalyst 3000/5000, 3Com, Intel, and Bay's high-end switch series. Catalyst 5505 was selected for this solution. This switch has extremely high performance and scalability. Compared with similar products, it has the characteristics of high cost performance.

The entire backbone network is centered on the computer center room of the IRS and radiates outward. The backbone network is formed by several nodes such as departments and units. The central computer room is configured with an enterprise-level switch as the network center switch. In order to achieve dynamic network management and virtual local area network, a third-layer switching module and a network monitoring module are also configured on the central node switch. The backbone nodes and servers use 100M connections, and ordinary workstations use switched 10M connections.

4.2. LAN design
The original small-scale LAN server in the IRS has basically maintained step changes, or upgraded to 100M speed. The LAN is connected to the backbone network of the IRS via DDN / ISDN. The departmental LAN is recommended to use department-level switches, such as 3Com linkswitch 1100, etc., Or use the original 10M switch.

4.3. Design of Internet access network
The Internet access system consists of a fast Ethernet backbone network connection part, a firewall part, an Internet information service part, a user management and a charging network part. The network server and network management workstation all use HP's high-end PC server and workstation, and the router uses Cisco 2501 to connect to CHINANET through a DDN dedicated line. The firewall uses PROXY or CA's GuardIT. The web server uses Microsoft IIS 4.0.

4.4. Design of remote access system (WAN)
The IRS's remote access system includes two parts of an enterprise's internal virtual private network (VPN) via DDN / ISDN or via CHINANET. It is suitable for users outside the Internal Revenue Service Headquarters in the city (such as network users at various branches) that cannot be connected by Fast Ethernet. These departments remotely access the Intranet network of the central office through DDN / ISDN. For departments and units outside the urban area, the public telephone network or an internal virtual private network (VPN) composed of CHINANET and Internet networks and data encryption technology is used to achieve connection with the network of the State Administration of Taxation, as shown in the following topology diagram.

4.5. Topological graph one
In addition to paying attention to the positive impact of the Internet on the IRS 'business, we must also fully consider the security issues of using the Internet as an extension of the IRS' internal computer network. Without a proper firewall solution, your system will be the target of hackers.
Malicious intrusions come from all directions and perform simple malicious acts, such as information theft and even have a high level of technical support staff, to provide users with the latest relevant advanced technology at any time, so that the user's application system is constantly upgraded and updated, to develop more application functions for users, so that the best return on system engineering investment.

In addition to providing normal warranty services, a regular customer return visit system is also set up, and a person in charge is assigned to identify problems in time and solve problems for customers in a timely manner to protect customers' interests from loss. And has opened a hotline consultation phone in Guilin.

The company not only has a comprehensive after-sales service system, but also has a strong after-sales service team. Their timely response speed, superb troubleshooting capabilities and maintenance skills, and the service attitude of excellence, have solved the worries of users.

Sign a time-limited response agreement with customers to provide customers with fast processing guarantee. Provide technical training for personnel according to customer business needs and reserve talent for customers.

5. Conclusion
As far as the current status of microcomputer usage management is concerned, first of all, enterprises and institutions must invest a large amount of manpower to upgrade a large number of workstation software, and secondly, they must invest a lot of effort to eliminate workstation software failures, and IT managers must use their spare time. Time to prepare for the upgrade of old workstation hardware, and invest a lot of time to maintain and update application software in different departments; multiple employees share workstations using disorderly, administrated for a long time to install new software for new users, large company users encountered online. It is difficult to find administrators, how to restrict users from changing workstation configurations and wallpaper without permission, client printer driver management tasks are arduous, and workstation 2000 problems are detected. These are the disadvantages and problems of computer management.

Acknowledgement
The study of optimization of pay taxes services based on the merger of national and land tax in Heilongjiang province, Source of the project: Basic scientific research expenditure research project of Heilongjiang Provincial Institutions of Higher Learning in 2018, subject number: 2018-KYYWF-005.

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