

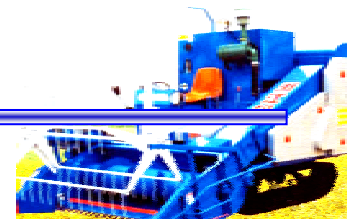


Development of Database and Establishment of Information Network for Agricultural Byproducts Processing

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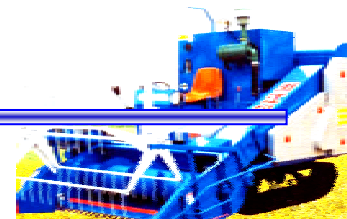
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1 Background and Contents of the System

As we all know, resources for agricultural byproducts are abundant in China. To make reasonable and full use of them and pay attention to post-harvest processing will give additional value and improve the development of rural economy.

With the fast development of Information Network technology, it is urgent to use it to be an activator in the traditional agricultural byproducts processing industry.

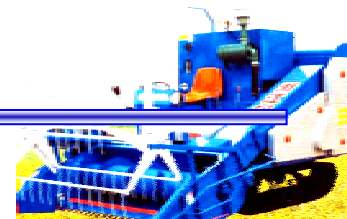


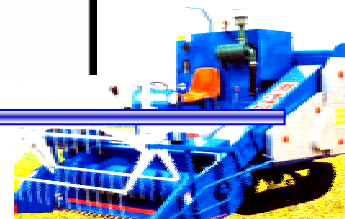
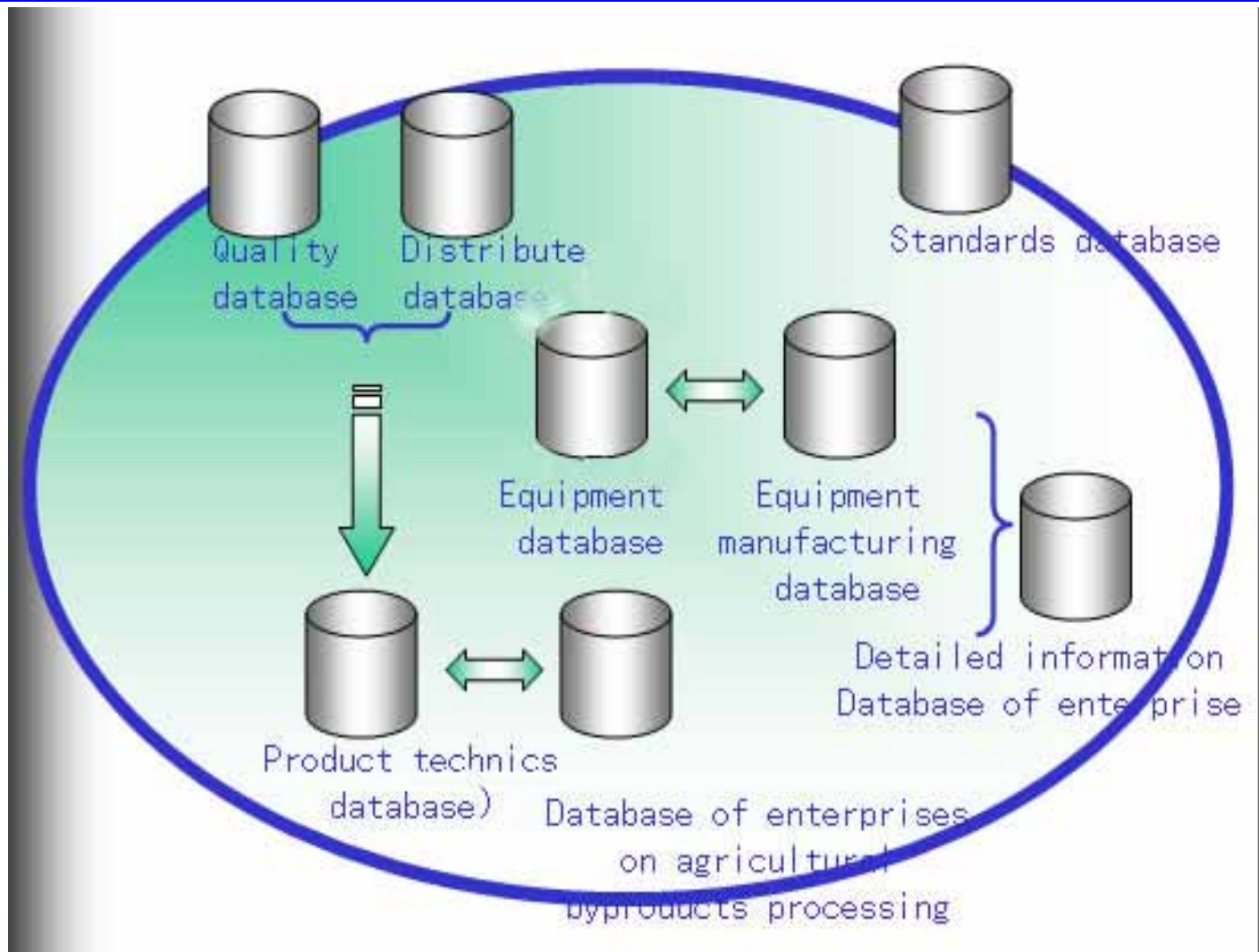


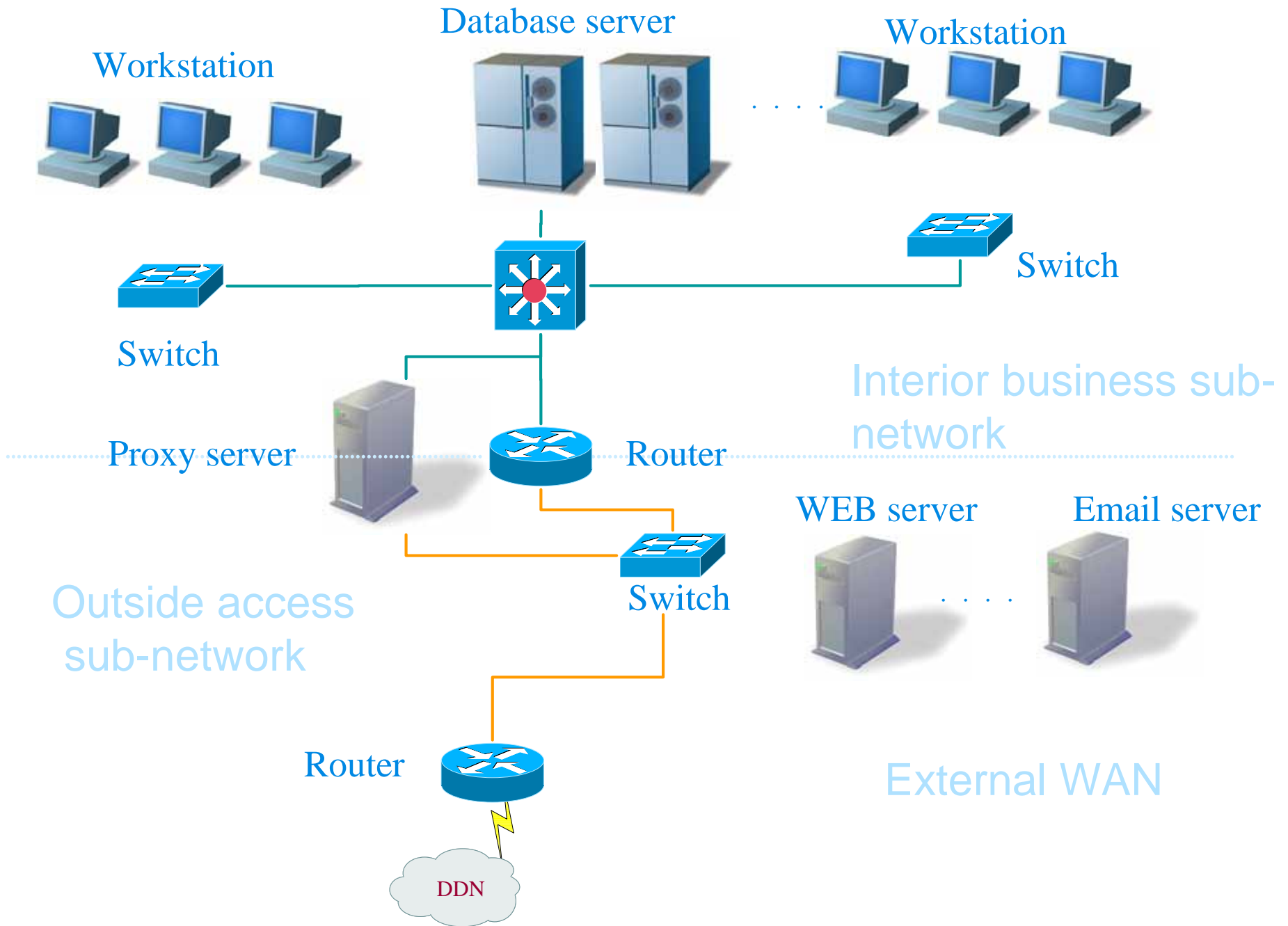
Agricultural byproducts processing industry plays an important role in agricultural fields and is an effective way to increase income of farmers’.

At present, under the management of multi-departments, there are thousands standards about agricultural products processing and so many smartcards as to be an obstacle to the development of agricultural byproducts processing industry.

To meet the requirements of developments, we construct a system based on database and network technology, which is called database and information net on agricultural by products processing.



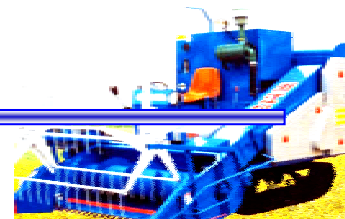






And on the basis of the system, nine database has been completed, products processing technics, material and quality, output and distributions of agricultural products, equipments and manufacturing companies etc, with the core of agricultural byproducts processing flow.

It is the domestic most substantial national-level database system, the most comprehensive in content of basic data of agricultural byproduct processing trade at present, which occupy the very latest position domestically.

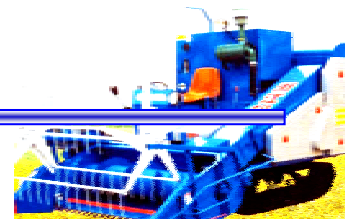




2 Solution to the Network Building

The technology based on C/S (Client/Server) mode could not meet users' urgent requirements of information system. With the development of Web, the advantages of data Constance existing in different machines and multi-operating system was introduced to the develop of information system and then C/S/S (client / server / server) also been changed to B/S/S (Browser / Server / Server).

In B/S/S, three tier pattern, Web server will send replies to the clients' requests, at the same time combining with the application server to complete applications. Application Server includes all the logical applications but only presentation layer lies in the client. We call the architecture as “thin client”.



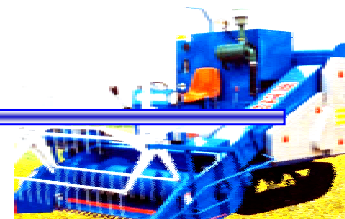


The advantages of three tier (B/S/S) architecture are good expansibility, maintainability and security:

(1) good expansibility means the ability that the expense on hardware, system management etc. is less than the incensement of the whole system when the scale is larger

(2) good maintainability: every layer of (B/S/S) architecture is independent and connected to others by middleware, so it is easy to develop the system synchronously. That is to say, the client ends only needs to focus on the interface and have access to the common data module with other clients, so make the maintenance of client simple.

(3) Good security: In B/S/S mode, Applications program and access to database are performed by middleware and database server mostly so it is transparent for users. Checking the authority of each transaction components is necessary in order to ensure the security, reduce the dataflow transferred and resist illegal access.

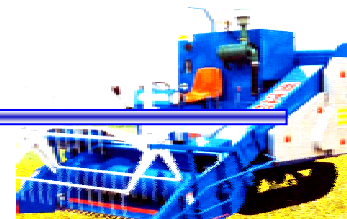




The system construct agricultural byproducts processing quality database, which can provide convenient information and full text searching, ensure the security by firewall, provides different services to user at different levels, encrypt data with RSA algorithm.

We establish the system based on IIS (internet Information Server) and SQL server 2000. Asp included IIS5 is applied to connect Web and database to construct Chinese Information Network of Agricultural Byproducts Processing. Fig.2 shows the framework of that:

Database server mainly processes data, such as saving, transferring, sorting, indexing, searching etc. Microsoft SQL server is a relational database management system with good performance, multithread and parallel database development, which provides integrated software package to manage database and meets the requirements of reliability, data integrity and security. The logical module of network is shown at fig3:

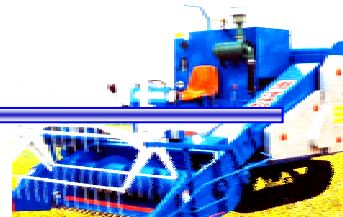




3 Technologies Adopted for the System

COM+ is applied to the system to construct database management mode, which is separated into presentation layer, transaction layer and data layer. So the management system is Internet-based and users can get access to web pages connected to database by ASP technology.

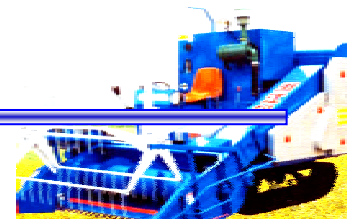
Active Server Pages, script runtime environment, runs at servers and develops real-time, interactive programs. if combined with web pages, script languages and ActiveX components, it is easy to develop web-based application program.





At client ends, users can access to the website to inquire and search the database of agricultural byproducts processing. when clients send a request to web server, web server finds the right file and runs then sends results to clients in the form of web pages.

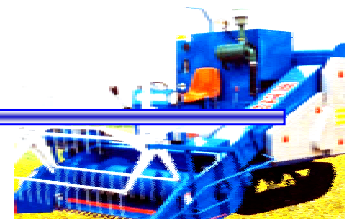
Because scripts run at servers, not clients, those pages sent to explore are formed to standard HTML at web server. That is to say, only results are sent to clients and ASP sources can not be seen at clients, too, so it's helpful to ensure the security.



4 Concluding Remarks

The database and network on agricultural byproducts processing is valuable to development of agricultural by products processing industry in china, which not only provides detailed information to research, management technicians, companies, engineers in improving breeds of agricultural byproducts to speed up the progress of breeding, but also provides timely, accurate information to agriculture, food processing, rural enterprises.

The basic database of the resources of agricultural byproducts is set up now. It includes the enterprises and information database of the agricultural byproduct processing, agricultural byproduct processing technology-procedure database, relevant information database of agricultural byproduct processing equipment, and relevant standard database of agricultural byproduct processing. Total eight basic sub-databases are set-up. The total amount of basic data is over 8 million.





Thank You!

