

An Introduction to UC-Monitor

UC-Monitor, based upon the Internet application services, is a new generation of large-scale Distributive real time monitor system, as well as a server administration system which has been especially designed for small- and middle-scale computer network companies.

UC-Monitor enables us to keep track of the real time status of great server nodes and, therefore, full fry service-oriented monitoring and long distance control with ease.

UC-Monitor covers a vast variety of services, users may select whatever they like to display on the use interface, depending on the services and parameters they are most concerned about, Not only can UC-Monitor offer parameters, charts and tables of all kinds that reflect system Operation, but also it can help users find out the cause of abnormal operation so quickly and accurately that problems can get solved and the system can return to normal in due course with a minimum loss, Besides, UC-Monitor produces various charts and reports out of all the information and data available, which will be generalized reported regularly to users in the light of their own needs, In so doing, it helps users get a whole picture of how well server functions.

Information today tend to be more and more expansively distributed, UC-Monitor, distinguished by the properties of distribution and long-distance administration, is fully capable of meeting the trend. Depending on JAVA, UC-Monitor has been independent of OS, and manages as well as controls in a centralized way server families scattered in distant places, It makes it possible for us to “keep everything under control,”

Wherever you are, in a control room, in your overseas office or even on a journey, providing there is a terminal of UC-Monitor available, you'll be able to get access to real time tables and charts reflecting the system status.

With service-orientation, long-distance control and real time properties, UC-Monitor Is the best choice for small-and middle-scale computer network businesses and similar systems network control center in other trades, large-scale websites, etc.

The following chart shows clearly the changes in the kinds and manners of services provided by computer network companies, these changes are mainly reflected on alterations of monitor object, focus and manners. Taking all of them into account, UC-Monitor provides relevant solutions as is shown below.

	Shift in requirements	UC---Monitor	Traditional Monitors
Change of Object	Shift from complex Network to equipments And services.	Its OO monitor mode Enables it to inspect Service quality of a Number of server nodes.	They are only able To administrate Routers, Commutaters and other hardware equipments on the Internet
Change of focus	Shift from the few key Network equipments To a large amount of server Information.	It adopts user simulation And Agent methods to Focus on monitoring Information of the application and display layers.	Most only have access to basic operation status of network through SNMP protocol They can only reach As far as between the network layer and the conversation layer.
Change of Manners	Shift from limited Application within network operator to Distributive, long distance control	Its loose coupling, enables It to conduct distributive And long distance control Over quantities of nodes	They can only be applied in the unifoNOC

More detailed introduction to functions and characters of UC---Monitor.

Following a brief introduction of UC-Monitor's functions and characters, a more detailed description will be devoted to its functions in terms of function modules and application techniques. We'll focus on those functions and characters that make its functions in terms of function modules and application techniques. We'll focus on those functions and characters that make it superior to traditional products and unique, In short, why is UC-Monitor the best choice and what advantages and convenience will it bring to you?

UC-Monitor structure.

UC-Monitor, with its function modules built upon JAVA, has been able to operate independent of OS by overcoming their differences. These modules mainly include real time inspection, reporting, event monitoring, periodical statistics as well as auxiliary modules of event intellectual analysis.

Geographically speaking, UC-Monitor, apart from supervising local servers, may exercise real time monitoring from a far through the Internet. With methods of conveying cogs defined, UC-Monitor will be able to provide detailed status analysis and error diagnosis.

Support projects with multiple protocols and monitoring involved.

The service-oriented UC-Monitor expands its monitoring from the equipment level up to the service level. From the perspective of technology, UC-Monitor aims at demonstrating the application status of all services by testing and supervising a series of parameters in application of the network application protocol. UC-Monitor covers over ten significant TCP/IP or UDP/IP services, including HTTP, DNS, FTP, SMTP, POP3, IMAP, RADIUS, TCP/PORT, ICMP, LDAP. A thorough and meticulous monitoring of any of the protocols may involve dozens of related parameters such as service status and version, the time necessary for connecting or IP inquiry, data uploading and downloading speed, etc.

Event warning

There is a vast variety of services, each involving a considerable amount of parameters. So users and administrators are likely to yet confused and unable to exercise efficient management in a positive way. In this sense. Event warning is an extraordinarily important function calling attention to abnormal operation status.

Event administration plays a significant role in network and system management in that information pertinent to IT resources administration appears in the form of event. The information includes shortage of system resources, alteration of system settings, slowing down of network service, interruption of network communication, outflow of system files. Users' invalid operations against safety rules, and so on. Event warning is another major component of network and system administration since end users expect to discover events as soon as possible, find out take relevant measures.

Event warning system of UC-Monitor has the following advantages compared with traditional products.

Independent of Operator Flat, UC-Monitor event warning is solution to event administration, independent of operator flat and OS. Thus it can be easily combined with functions of other administration software in a united way. Traditional event administration, on the contrary, has to depend on operator flat.

Quick error location, by gathering mistakes from events all over the network, the system can focus the administrator's attention on pertinent events and avoid repetition. Traditional event relevant or irrelevant, and therefore has difficulty locating errors.

Quick alarm in various ways, Event can be sent straight to the terminal, or the e-mail box, mobile phone by SMS, beepers, etc. traditional alarm system is too simple to send an alarm on its own in addition to showing the mistakes.

Besides, the following qualities are unique to UC-Monitor. Programming technology of multiple process /thread. It can react to concurrence of a number of events and relieve occupation of system resources.

High durability. The system can offer service round the clock all year. High security. Administration can only be conducted after being authorized. The administrator is only allowed to administrate and monitor those events in the charge of him.

Good manageability, It provides maintenance staff with managing and inspecting interface based on the browser, supporting long distance administration; offers different users different event filters, with which users can just collect information concerned, check historical records of events and delete them when necessary. Users may filter events in terms of level, user's name,

type of server and other factors, to narrow the focal points.

Data analysis

Users apply UC-Monitor to administrating network services mainly in three ways. This first way is event warning when abnormal operation occurs. The second is to display tables, charts and parameters on screen to show operating status, informing the user of the normal real time status. The third is through tables and charts to users, which show the object under inspection in a historical, systematic and clear way.

Users should learn about the events as well as their locations and causes with the event warning function described above. Apart from that, they are supposed to be aware of the real time states of servers in normal and smooth operation to take precautions. To serve that purpose, UC-Monitor reflects the system status directly in the form of tables and charts on terminals, and makes out statistics reports to meet users' needs.

Statistics module, which is an important part of UC-Monitor, helps users analysis and sort out great quantities of data, and the uses them to produce useful reports and charts, reflects the system status directly in the form of tables and charts, which are of great help for users to manage and make decisions.

The statistics are based on the original parameters collected from service inspection, such as data transferring speed, the time necessary for domain name parsing, etc. For instance, to make a service analysis report for the HTTP service of some domain name, we may select data out of the results of analyzing data transferring speed, the time necessary for domain name parsing or connecting and other basic factors.

Real time monitoring.

Form different users, UC-Monitor provides three ways of delivering long distance files form the purpose of long distance control and analysis. They are TELNET, FTP and socket method, which ensure long distance control as well as data safety. Password is necessary in cases of TELNET and FTP while the socket method guarantees randomness of the socket and encrypts the data. Form UC-Monitor, long distance and local real time monitoring bear the same effect.

Long distance monitoring functions of UC-Monitor include:

Event inspecting and aptitude analysis, event inspecting refers to selective display of event warning described in the text. On starting UC-Monitor system are sent to the inspector, and displayed and analyzed when necessary in the interface. Users may define filtering themselves and focus on what they're concerned about.

Real time monitoring of service status. Users can immediately make out wrong data in the trend charts.

Periodical statistics. Users may choose daily report, weekly report, monthly report, annual report or their combination. Reports are produced automatically and periodically by the system. UC-Monitor RM lists and categorizes all the reports produced. Users may scan through the reports by starting the report browser directly in UC-Monitor RM. Plain reports help users know better about functions and status of servers, and on that basis, study, analyze and store them.

UC-Monitor's characters run as follows:

Thin client server. It refers to non computing client server. Any computer with the proper privilege may be used to start UC-Monitor. Centralized administration of users settings, every user may adjust UC-Monitor to meet their individual requirements. Default settings can also be adopted.

Independent of operator platform, UC-Monitor is produced based entirely on JAVA. JAVA is an OO language product of SUN Company, independent of Hardware and OS. Therefore, UC-Monitor is capable of running on various operation systems without being modified.

Two applications. UC-Monitor has two editions, application and web (JAVA Applet). The former may be installed in the local fixed disk while the latter requires users to visit the designated web address, then to inspect the real time status of the server by using the web browser with JAVA plug in installed.

Key technology

JAVA technology

JAVA, produced by SUN Company, is a pure OO language. Which has been developed into a development platform independent of hardware and operating system. Today most of the common OS can run on a variety of OS without modification, adoption of JAVA makes it convenient for users to install and use UC-Monitor based on the Internet.

A list of services monitored by UC-Monitor

UC-Monitor can supervise ten Internet protocol services that are optional. Users may choose all or part of them. Their contents and applications, we'll be described and explained with view to helping users know better about it.

The ten protocols include:

HTTP	Monitor
DNS	Monitor
LDAP	Monitor
FTP	Monitor
SMTP	Monitor
POP3	Monitor
IMAP4	Monitor
RADIUS	Monitor
TCP PORT	Monitor
PING/ICMP	Monitor

HTTP Monitor—Hyper Text Transport Protocol

It tests usability of the web server and supervises the contents on the web pages. The inspecting system will send a timely alarm when abnormal status or any changes on the web pages occur. Meanwhile, it analyses statistics and locates errors by analyzing the server's logs, and provides statistics reports and charts of important parameters. Such as run off, overage run off, average time for response, distribution of visitors, distribution of time, page layout, etc.

DNS Monitor---Domain Name Service

It tests usability of domain name service in two ways, that is, by submitting IP address to the domain name server to conduct domain name inquiry and vice versa. DNS Monitor determines whether the current DNS is normal by thoroughly analyzing feedback, such as mail exchange record on the mail server and the return time of each inquiry, and comparing it with historical records and set values. It also presents analysis of important parameters by interpreting the logs, including distribution of inquirers, distribution of time, distribution of run off, frequency of making errors, average interaction time, etc.

LDAP Monitor---light weight Directory Access Protocol

Connected to any directory service supporting LDAP port, LDAP Monitor checks the current status of directory service to make out whether it is usable and able to give a correct answer to a common inquiry.

FTP Monitor---File Transport Protocol

Connected to the FTP server, FTP Monitor is able to check the usability of file transport service by uploading and downloading. At the same time, the system also records the restoration time and file transport speed in the process, and further examines the disk space and the integrity of files on the FTP server. It provides reliable data for sustain development of the server by checking its historical records and analyzing statistics, such as downloading volume, downloading speed, overall downloading volume, distribution of time, aim and address of downloading, etc.

SMTP Monitor---Simple Mail Transport Protocol

SMTP Monitor tests the usability of mail sending service. It works with SMTP, POP3 server, it logs in the server as a virtual user and judges the usability of the current mail receiving service with statistics offered, by testing text information sent by SMTP and calculating time needed to transport mails from point to point.

IMAP Monitor---Internet Message Access Protocol

IMAP monitor inspects the whole process of mail sending connected to IMAP sever, it logs in as a virtual user and determines the usability of the current mail reception service by checking text information sent by SMTP and calculating time needed to transport mails from point to point.

RARIUS Monitor---Remote Authentication Dial—In User Service

RARIUS Monitor conducts a complete dial—in test on the server providing remote authentication dial—in user service and examines the indices including the time needed for logging in the ISP plat and completing registration as well as authentication.

TCP Port Monitor---Transmission Control Protocol

TCP Port tests the service status on the TCP port through the dynamic configured script of a virtual user's action. For example, Telnet is just monitored in this way.

PING/ICMP Monitor---Packed Internet Groper/Internet Control Message Protocol

ICMP Monitor is able to determine the time for executing designated services of different standards. It reports the package missing rate and the time for the ICMP package to be executed on the Internet, which are comparatively significant indices for voice over IP and QOS.

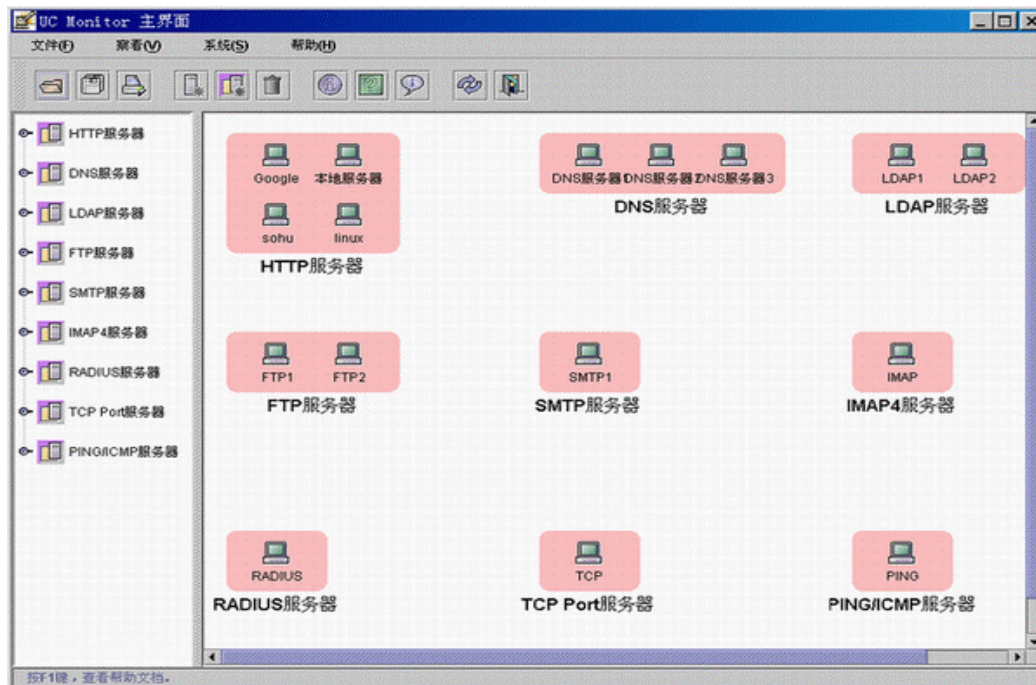
A brief summary of UC---Monitor's application qualities:

Qualities	Detailed Explanation
Have a united message sending plat.	Messages can be sent to all kinds of wire or wireless terminals through the Internet and Other networks.
Two display methods: installation and web Browsing	If we install the application program, it will run Farter, but it takes some time to in stall. It is quicker to start UC---Monitor by means of Web, which is a JAVA---Applet.
Distributive long distance monitoring	Whenever and wherever there is UC---Monitor RM, users may monitor services.
Independent of operating plat and OS	Application modules based on JAVA are able to be independent of operating plat and OS.
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Distributive long distance monitoring	Whenever and wherever there is UC---Monitor RM, users may monitor services.
Independent of operating plat and OS	Application modules based on JAVA are able to be independent of operating plat and OS.
Support multiple protocols	UC---Monitor supports over ten network protocols and monitor hundreds of parameters. Users may choose the functions.
Free to monitoring periods	Users are free to set monitoring periods.
High usability	All---the---clock service all year long

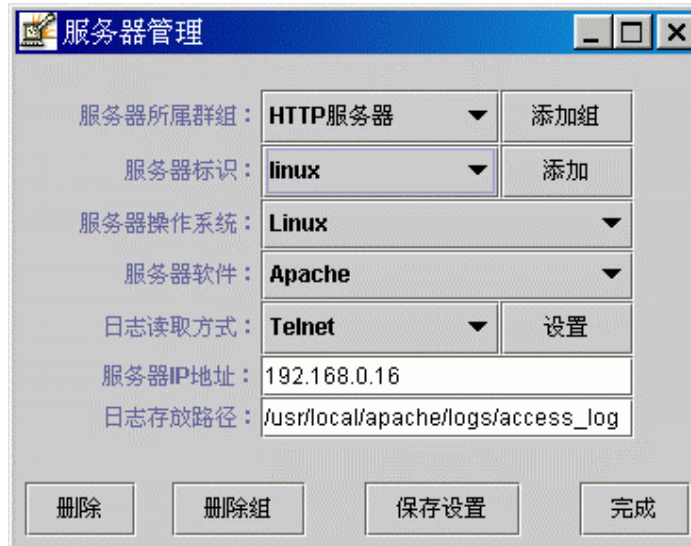
	guarantees the high usability of the system
Complete and flexible reports	<p>Reports are produced automatically by the system provided that users have selected the function.</p> <p>Reports can be left electronic or printed.</p>
Custom events and objects	<p>Events can first be filtered by the first chosen by users and them be displayed.</p> <p>UC---Monitor adopts aptitude event analysis historical records of event warning are stored for analysis of deletion.</p>

Introduction to the UC---Monitor interface

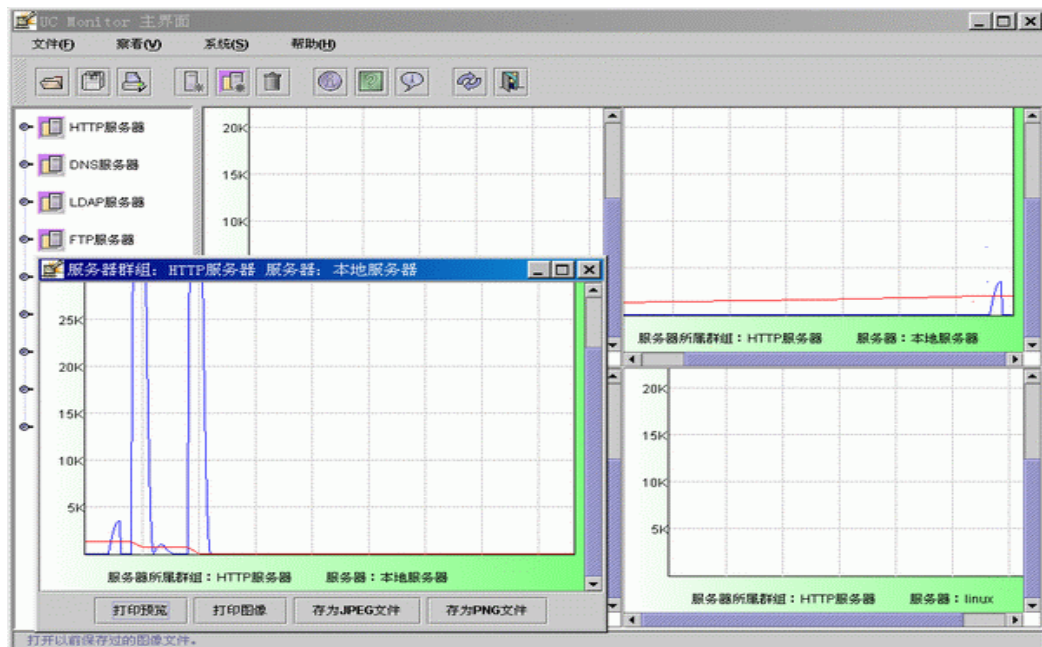
The following is the main interface of UC---Monitor, where the servers and server families may be added or deleted as you like.



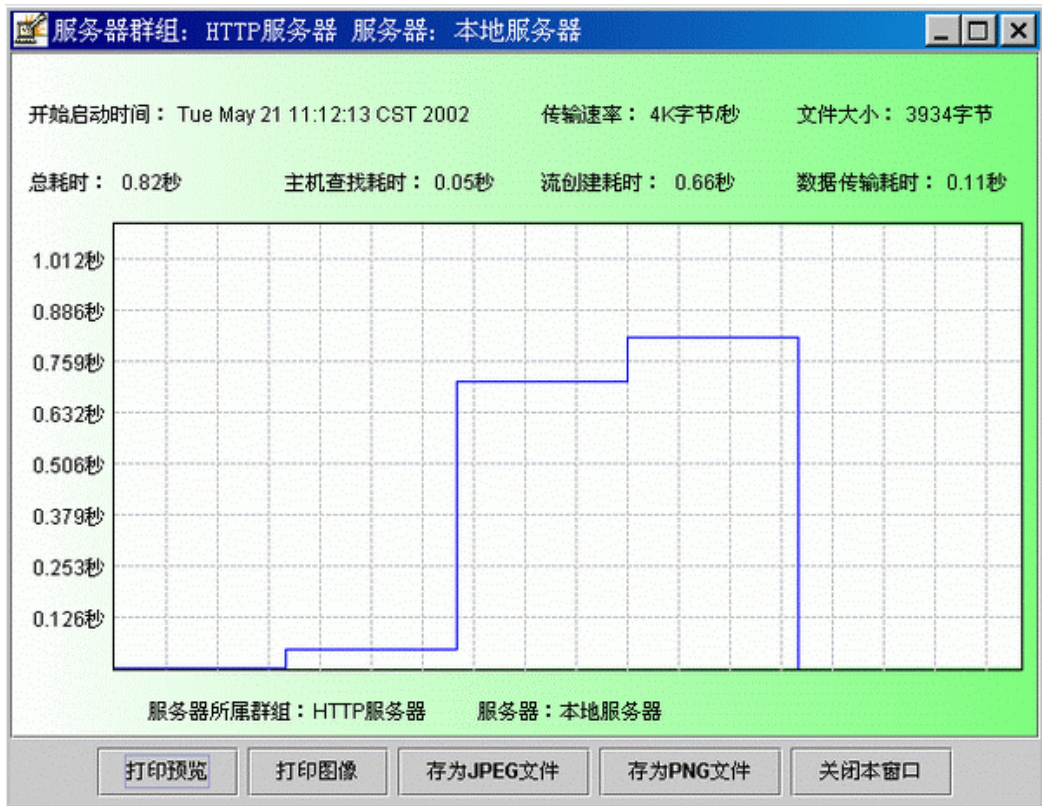
Through the server management interface, users may dispose settings as is shown in the chart below, they can choose from different OS (commonly used ones), different log reading methods(Telnet, Socket), and so on.



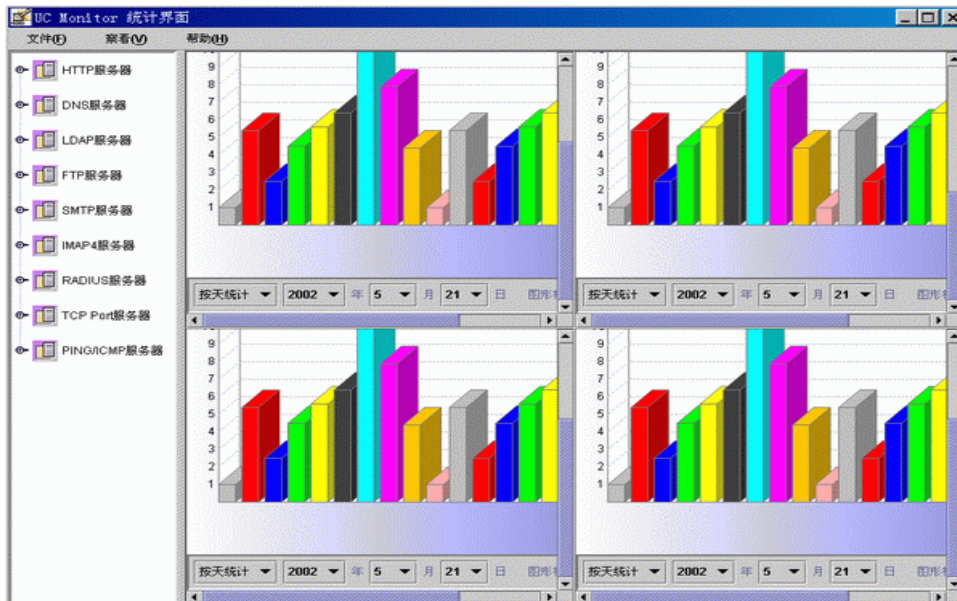
The following interface will appear after entering a server family (by double clicking the corresponding area or choosing in the left window). Users are able to get an overall picture of operation of all servers in the family, or to inspect operation of any of the servers.(left bottom)



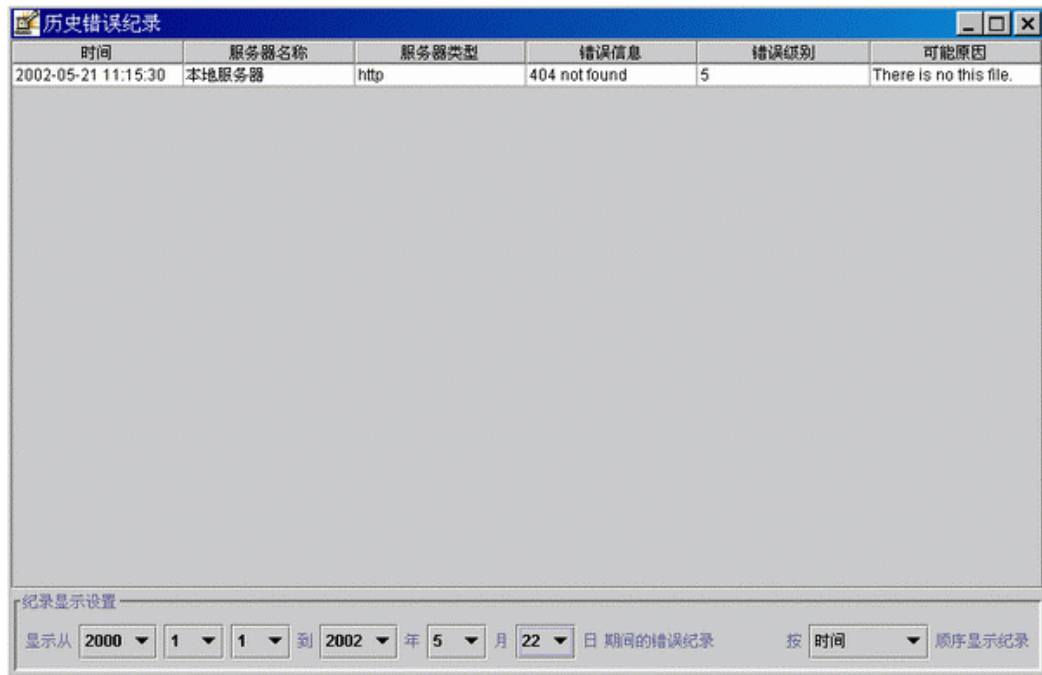
UC---Monitor may also conduct real time analysis of time cost by a single service as is shown in the following:



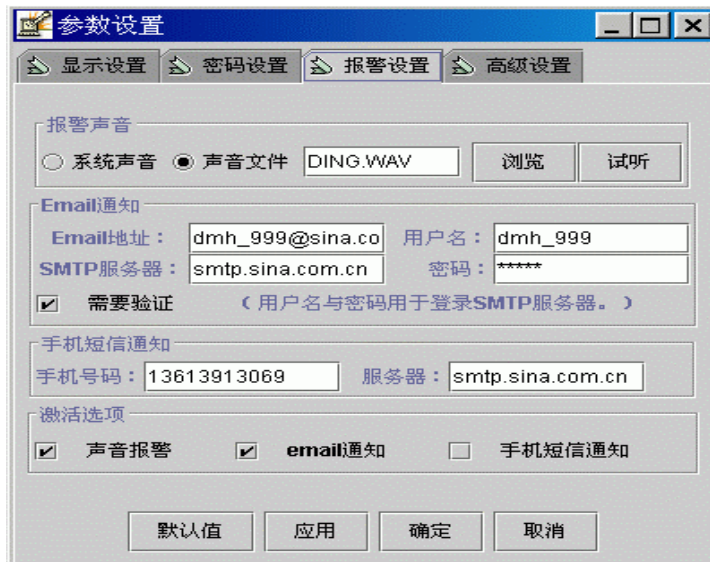
In addition, UC---Monitor has rather strong statistics function and can analyze and compare run off in different periods of time and of different servers through pie or column graphs. The mode is flexible and direct.



UC---Monitor records and analyses all the abnormal situations, and provides reliable evidence for the administrator to correct the mistakes.



Besides, UC---Monitor offers individualized settings to meet different users' requirements. Users may set size and unit of display different from server to server, to make monitoring easier. Password guarantees that only authorized staff can start and shut off UC---Monitor, the three different ways of warning make sure that staff concerned will be notified in time whenever problems occur.



This is a brief introduction to UC---monitor. To know more about it, please refer to the instructions of UC---Monitor.