Stand-Alone Mail Server

The purpose of designing this section is to provide a modern electronic mail system, most of which is already designed and has unique features that make it different from commercial servers such as IMail, Microsoft Exchange Server 2003 And MDaemon makes quite a difference. In the following section, we try to examine parts of this advanced system in detail. This e-mail system is based on Microsoft .NET Framework 1.1, Visual C#.NET, according to the latest technology days. It is based on Oracle and Visual C++.NET, ASP.NET 1.1, MSSQL2000 being multi-platform. be

Electronic mail service features

Available Protocols Support

(a system of four basic protocols to form a comprehensive email architecture: SMTP (Simple Mail Transport Protocol), POP3 (Post Office Protocol) : MIME (Multipurpose Internet Mail Extensions) and IMAP4 (Internet Message Access Protocol) All these protocols are designed according to our experiences in the world of computer networks, the advanced concepts of Processing Fiber & Multi Thread available in today's operating systems and Programming API Socket Level-Low in order to increase the quality of the entire system and optimal use of the operating system resource. and have been implemented. An SMTP server is designed to receive electronic mail. This service can work in two modes: SMTP server, Normal Mode, Rely Mode (2) Normal Mode (1) and can be executed in two ways: a) It can receive e-mails received from other SMTP servers such as yahoo and after identifying whether it is spam or not, it can be placed in the user's Inbox or Bulk. b) In the second case, the SMTP server can to the secure server (Simple Extended Mail Transport Protocol) ESMTP has changed and will have this feature that the email sender must identify himself to our ESMTP server or perform the so-called authentication process and if the ESMTP server recognizes him as authorized, the email sender can enter the body of his email. to send, it is worth mentioning that this mechanism occurs by exchanging username and password between the sender and receiver of the electronic mail. This work is usually used only sub-organizations of that company or network are used. Use ESMTP/SMTP as an interface or Transparent Proxy only to carry and transmit electronic mails of other ESMTP/SMTP servers in Rely Mode. This mode is usually used may in huge mega or gigabit networks that form the backbone of the Internet and provide a wide range of services to their sub-networks. Use business software such as Microsoft Outlook Office to manage and read your e-mail boxes, it is designed for POP3 and IMAP4 server system and all security categories in the design and implementation of these sensitive services to establish the security of all mailboxes. Post users are adopted. Remember servers

security in the networks that

have been designed in such a way that if they are implemented on today's dual processors, the best performance can be obtained from operating system resources such as memory and cpu cycle. It is worth noting that all the services mentioned above can be implemented on the Secure Socket Layer (SSL3) so that the system can be fully secured.

Multiple Domain Support (b)

considering the idea that this software package can be used for a Hosting Solution, so the support of this electronic mail system from multiple domains seems obvious. According to how many hosting companies has a customer and has registered a email account for his users in this system (for example, tom.example@user.com (for example, tom.example@user.com (mited

SQL-Based Log System (c)

This e-mail system has an advanced system based on databases such as MySql, 2000 MSSQL, and Oracle, which can inform the hosting or network administrator about the events of the entire system. The system is based on SQL. Log can provide very useful statistical information to the system administrator using complex SQL commands.

FTP Support (d)

One of the unique features of this system is that it will have FTP instead of POP3 or IMAP4. They will be able to manage their mailboxes through FTP and any operating system without using additional software such as Microsoft Outlook Office. In fact, the software simulator will be designed to communicate between the client and MSSQL 2000, which stores mailbox information of users. and it will simulate the contents stored in users' mailboxes in the form of a file system so that users can manage their e-mails through FTP. Also, to increase the security of this system, it runs on the SSL3 layer, it will be used (Protocol Transport File Secure (FTPS). Such features are not seen in any of the commercial electronic mail services.

Reverse Look Up Technology (e) is

used to increase the security of received e-mails and whether their senders are authentic: as stated in the ESMTP/SMTP protocol, the following sentence is used before sending an e-mail, the sender must have one of the EHLO domain statements /HELO to the SMTP server receiving the email, also after announcing such a phrase, the sender must tell the other party who this email is coming from. This notification is determined by using the following command: FROM MAIL <com .domain@user, <in both cases, the system intelligently looks for the IP address of the mail server of the domain part through DNS (finding the IP address of the mail server of the email sender is done by querying the MX records through DNS), after finding this IP address of the system with the SMTP server of the electronic mail sender

Called and the validity of domain and user is checked. If the correctness of the information shows that the sender is a real person, the system realizes that the e-mail being received in the intended user's mailbox is system will cut off the connection and no e-mail from The sender will not be found and the spammer will fail.

Task and Mail Scheduler System (f)

This system will have the ability that users can retrieve the emails that are already stored in their mailbox based on the schedule scheduled by the users with special settings in the system and with the desired timing. sent to the recipient's email address.

Mailing List and Address Book (g)

This system has an advanced address book that allows users to enter the e-mail addresses of the people or companies they need with complete details and be able to use them in their electronic mail system. benefit from it properly.

Multi-Database Support (h)

Considering that this electronic mail system is designed in such a way that it can be installed and launched on all existing operating systems, to increase the flexibility of this system, it is designed in such a way We have made it to support at least three global databases MySql, 2000 MSSQL and Oracle.

Web-Mail (i)

Considering that many users may not have software such as Microsoft Outlook Office or that these users are located in local LAN networks, which according to the policies of that network with regard to existing proxies and firewalls In those networks, users' direct access to IP/TCP is prohibited to use services such as IMAP4, POP3 and FTP, so an advanced design of the web side interface was made based on NET.ASP technology so that all users can manage through the web. and read their e-mails. It is worth noting that this web interface is based on HTTPS and SSL3 to ensure the security of all users' mailboxes.

Instant Messenger (j) in order to increase the possibility of notifying the users of the electronic mail system that a new electronic mail has arrived in their mailbox, a software with NET++.VC technology will be designed so that by being placed in the Windows Taskbar, it can prevent the user from receiving The new e-mail will inform him and guide him to his mailbox. Before running the program, the user will be asked for his username and password, and all information will be sent to the server using the SSL3 protocol in order to maintain the privacy and security of users. Considering that this software is based on WIN64/WI

APIs will be designed, it will be able to be installed as an InstallShield Package on all 32 and 64-bit Windows operating systems.

Multi-Language Support (k)

From the beginning, this system was designed with the attitude of supporting all the common languages of the world. Therefore, the entire electronic mail system was designed based on the architecture of UTF-32, UTF-7, UTF-8 For example, Unicode (Universal Encoding) currently, the system inherently and by default supports two languages, English and Farsi, and other languages can be easily added to the system str

Easy to Backup and Restore (l) on platforms (Platforms) with the idea that this will provide a system to be installed also considering that operating systems may have problems And all user information and their system settings may be lost, so instead of storing this information in the Windows Registry, all of them are stored in the database so that backup and restore can be done with more security and confidence.

Distributed Systems Architecture (m) was the main purpose of designing this electronic mail system in the beginning to make it distributable so that it can be used on very large networks in which the related organizations can even be continents apart. Installed and managed, according to the unique experiences of the system design team in the field of Distributed Systems architecture and Parallel Processing in distributed computer networks from DNS Distributed, Web Services, SOAP, XML Distributed Message and Distributed Databases, Distributed Memory, Distributed Web & Mail Servers, Servers Manager & Queue were used to increase the efficiency of the system and this capability is to such an extent that this system can compete with huge systems like Yahoo and MSN. Therefore, according to the explanations given, this electronic mail software package can be very useful for very large organizations such as government agencies and ministries with the consultation and advice of its design team, because this electronic mail system can, for example, Cover a vast organization at the level of a country, continent and even at the international level. Such a feature is not seen in any of the commercial electronic mail services.

High-Performance Memory Management (n)

according to the valuable experience of the system designer group in the field of advanced data building and optimal memory management of operating systems, the system is designed in such a way that it can have a complete management on the system memory. It is worth mentioning This system is also designed in such a way that it can be used on the new generation of 64-bit CPUs (such as 64-bit Athlon AMD (and their address space can be terabytes) (maximum 18446744073709551616 addresses). implemented and get the best performance from the sys

64 and 32 bit Package Installers (o

Due to the exceptional experience of the system designer group in the field of working with systems Microsoft Windows and SUSE 9.2 Linux Enterprise Edition including 64-bit operating systems Edition bit 64 2003 Server as well as new programming of Athlon AMD processors On Windows platforms and GCC bit 64 using NET++.VC Microsoft on Unix and Linux platforms, e-mail system designed intrinsically and designed and compiled separately based on each of the 32-bit and 64-bit platforms It is The ability to install both 32 and 64 bits using the InstallShield Package Installer has. The whole system is on the first official version of Windows Server April 2005 by Microsoft and Edition Enterprise Linux 2.9 SUSE tested and Its stability has been confirmed. The design team has more than two years of experience This software can be produced from the first category of software 64-bit systems. 64-bit commercial in the world.

Microsoft Outlook and Mozilla-Firefox for Linux Support (p

Electronic mail system users can benefit from mozila, outlook and firefox software to manage their On electronic mailboxes by POP3 and IMAP4 protocols on Windows and Linux operating systems.

Compose Messages in RichText or HTML Format (q

Electronic mail systems in the early days only allowed the transmission of pure ASCII texts After the emergence of the MIME1 protocol, electronic mail technologies They said that the users themselves were transformed. This system also uses MIME in its structure so that Users can use the advanced environment of the system editor, which is similar to Microsoft FrontPage is to design and edit your electronic posts using the format HTML. It is worth mentioning that the attachments related to electronic mail are also They are encoded and sent using the MIME protocol. The designed system has a complex component that fully and optimally implements the MIME protocol and in its design from the advanced principles of data structures in the field of tree structure that can have nodes with n outgoing edges, has been used.

Anti-Spam Technology (r

From the science of neural networks (Neural Networks) and artificial intelligence (Intellectual Intelligence) to design a fully intelligent system to deal with Spammers who release hundreds of millions of spam in mail transmission networks every year Electronics impose huge losses on companies and the Internet community has been From existing algorithms and DNS Queries in DNSBL systems org.spamhaus.www is also used.

Storing Emails in XML Files (s

This system has the ability to store all system information and funds Post users on structured files and documents (Extensible Markup Language (XML

Save and restore. This increases the portability of the system even to protocols
It will be like WAP.

WAP and WML Support (t

Due to the fact that the use of mobile phones and pocket PCs is increasing day by day
find, we have decided to according to our experience in this field and that Microsoft .NET as
It supports mobile devices natively, we provide this field so that users can
through their mobile phones that have browsers (Language Markup Wireless (WML) and protocol
They support WAP (Wireless Application Protocol), they can send posts
Read your email or send a new text email. like that
There is no such feature in any of today's commercial electronic mail products.

Multi-Layer System Architecture (u

Considering the valuable experiences of the designer team in the field of architecture and multi-layer design structures,
This system is based on this architecture. For this reason, the structure
The system has a very high capacity for updating and development. The reason for success
This system in multilayer architecture is based on the fact that the whole system is based on
The basis of XML structure is developed.

DCOM & CORBA Architectures (v

In the design of this electronic mail system, according to the nature of its distributability
DCOM (Distributed Component Object Model) and CORBA (Common Object Broker Architecture)
Used. But this system is not based on any of these two architectures
The foundation has not been laid.

Various Email File Size Support (w

The system has this ability that can provide this possibility for the system administrator
Can be or volume in order to be able to increase the size of the electronic mail that is sent to
the user box, the electronic mail that each user can send a new electronic mail in each session
to send, to organize

Word Suggestion & Spell Checking Technologies (x

For the electronic mail system, a correction technology (Checking Spell) and suggestion
(Suggestion) The dictionary is designed using data structures and especially Trie.

Resistant against DDOS and Stack Overflow Hacking Attacks (y

The electronic mail system is designed in such a way that against security attacks from
Hacker people are resistant. Such attacks include DDOS attacks and
Attacks Hacking Overflow Stack mentioned.