



QUESTIONS AND ANSWERS TO THE EMBEDDED E-MAIL SERVER

1. HARDWARE

What is it and for what is it suitable?

The EMBEDDED E-MAIL SERVER is an electronic device, based on microprocessor and compact flash technology, which combines all functions of conventional (PC) e-mail servers, thus it receives, sends and distributes e-mails, includes webmail, spam filters and virus protection. But it is not a PC! Thus the EMBEDDED E-MAIL SERVER offers a high data security, is absolutely safe against viruses and truly noiseless. It is designed for users with fast-operating internet connections (e.g. DSL, ADSL). Its high performance capability can be maximized if the user has a permanent internet connection. (A)DSL modem router with integrated n-port 10/100Mbit switch is sufficient for installation.

The EMBEDDED E-MAIL SERVER can be used for different ranges:

- as efficient e-mail server with integrated spam and virus filter
- as spam and virus filter for the following types:
 - as relay, upstream before another e-mail server (i.e. vor MS Exchange)
 - as POP3, for retrieving and internally distributing from existing e-mail accounts.
 - as multi-drop, for fetching and internal distributing of existing e-mail accounts
- as backup MX server

What hardware properties does it possess?

- Processor: RISC Processor Renesas M30626FHPGP
- Memory: Compact Flash
 - Standard 128 MB
 - special model 512 MB
 - special model 1 GB

- Type of housing: Plastic housing
- Network interface: 10 Base T
- Power supply unit type: plug power supply unit
- Capacity: approx. 100mW
- Firmware: Development of NCT AG (automatic & free Updates)
- Mass: broad = 120mm, height = 40mm, depth = 110mm
- Weight net: 220 Gram
- FCC Verification: FCC, Part 15, Class A/B verification, USA & Canada
- CE-Marking: Advice guidelines: 89/336/EWG. Standards: EN 55022, EN 50082-1.
- Performance: The e-mails commonly remain on the e-mail server only until the user has read them.

Capacity calculation with 25 KB per e-mail:

Number of users	standard 128 MB	special model 512 MB	special model 1 GB
with 10 users	512 e-mail / user	2097 e-mail / user	4194 e-mail / user
with 25 users	204 e-mail / user	838 e-mail / user	1676 e-mail / user
with 50 users	102 e-mail / user	419 e-mail / user	838 e-mail / user
with 100 users	51 e-mail / user	209 e-mail / user	418 e-mail / user

What firmware properties does it possess?

- Administration of several e-mail domains:
 - Dynamic and static DNS
 - POP 3
 - Multidrop (Support for Mailqueues)
 - Mail Relay internal/external
 - Mail Relay User Check
- Spam filter (URL/E-Mail Whitelist, URL/E-Mail Blacklist)
- Extensionfilter (z.B. *.exe, *.vbs)
- Autoreply (Reporting text administration per user)
- SMTP Authentication
- WEB-Mail (needs permanent internet access)
- Possible restriction of size of the data memory per e-mail account
- Protocol: Detailed descriptions to the specified RFC's you find under: <http://www.faqs.org/rfcs>
 - ARP (RFC 826), DHCP (RFC 2132)
 - IP (RFC 791)
 - TCP (RFC 793, 1122, 2581, TCP "Urgent" and "Precedence & Security" not implement because not relevant)
 - ICMP (RFC 792, ICPM Echo replay; additionally can by means of ICMP Echo request the IP adress to be set, if the equipment is in the appropriate mode)
 - http (RFC 2616, only product relevant features)
 - SMTP (RFC 1123)
 - SMTP extension (RFC 2554, 1985, 2920)
 - POP3 (RFC 1939, POP3-Server. Additionally POP3-client-software for support of multi-drop accounts as well as for inquiry of other accounts)
 - NTP (RFC 1305)
 - NCT IP Configure (Priority, remote configuration of the IP parameters with NCT EES installation program)
 - NCT Fw-Update (Priority, automatic update of the firmware based on http data transfer)

2. SECURITY

What protection does the firmware offer?

- The firmware of the EMBEDDED E-MAIL SERVER is located completely within the processor in an internal flash memory. The firmware is at no point in time on the data bus nor is it visible from outside. New firmware that the device automatically installs is coded by a 128-bit symmetric coding process. The decoding of the firmware for controlling the check sums and the installation take place exclusively in the internal RAM of the RISC processor.
- There is no possibility of changing the firmware on one's own. Only the firmware updates of NCT become certified, which runs off only controlled by the above-mentioned procedure.
- The firmware cannot load any executable files. This is what differentiates it fundamentally from an operating system as it is used, for example, in PC-based systems. Many potential possibilities of attack are thereby eliminated.
- The functionality is determined by the firmware in connection with the hardware design. The firmware is developed exclusively for the EMBEDDED E-MAIL SERVER and is operable only in connection with its hardware; it cannot be used for other purposes. Hardware properties of the processor in connection with the design of the firmware effectively prevent every attack that aims at bringing a foreign code into execution on the EMBEDDED E-MAIL SERVER or to cause the e-mail server to develop undesired activities in any other way.

How does it function for blocking of viruses?

It identifies "dangerous" attachments and prevents them from being executed. The user can program the device to reject all "dangerous" attachments or to rename. The last letter is always replaced with the "-" symbol. For example, the ending ".exe" becomes ".ex-". If the attachment was expected, its name can be restored when saving. In the case of attachments in ZIP format, the EMBEDDED E-MAIL SERVER checks whether these contain files that are dangerous. If such files are found, irrespective of the configuration, either the ZIP file is renamed or the e-mail deleted. If one wishes that e-mails with attachments are principally deleted, there is just one exception. If the sender of the e-mail is in the white list, then the attachment is renamed and the e-mail is delivered to the receiver.

How does it function as an spam filter?

An integrated filter of the EMBEDDED E-MAIL SERVER checks all incoming e-mails according to pre-defined criteria (spam filter):

- URL filtering
- Employment of the addresses Blacklist and addresses Whitelist
- Recognition so-called "Dictionary attempts"
- Use of NCT URL Blacklist data base (constantly updated)
- Use of the option "Spam/Honeypot account"
- Definition: "Simplified Chinese" equal spam (configurable)

In this way, it can be determined whether it is an e-mail advertisement or not. In order to be able to effectively react to the latest tricks of the e-mail advertisement senders (SPAMMER), the firmware is updated automatically and free of charge. Identified e-mail advertisements are - according to the configuration - either ignored or sent to special accounts. These accounts can be checked by the user. So that memory space is not unnecessarily consumed, the deletion of spam should not be delayed more than 5 days. The EMBEDDED E-MAIL SERVER automatically checks every 4 hours whether a new version of the URL black list is available and updates the local URL black list if a new version has been found. NCT updates the URL black list continuously and provides this service for the customer free of charge.

There are addresses and URL black and white lists. In these lists, URLs or e-mail addresses are deposited that are either not permitted (black list) or permitted (white list) for all users. The received e-mails are checked. E-mails with senders whose URL is deposited in the white list are sent directly to the receiver. If the sender's URL is listed among those in the black list, the e-mail is deleted. Depending upon the configuration, the attachments are renamed or the e-mails are deleted. Both lists can be personally expanded and changed.

3. INSTALLATION

How do I proceed with the installation?

The installation is very simple. With the purchase of a EMBEDDED E-MAIL SERVER you receive an installation guidance. It shows you step by step how to have to proceed. You receive an installation CD and you are guided by the installation.

For all questions that arise, please contact your seller. If he is not able to help you, the NCT customer service is at your disposal at 041 220 14 70. Outside of hours of business, you can reach us per e-mail at hotline@nct-technology.com.

How do I connect it to the internet?

The EMBEDDED E-MAIL SERVER requires a free LAN connection. Often DSL routers are used with an integrated switch. In this case, it is simply connected to a free port, using the enclosed Ethernet cable. If no free LAN connections are available, it is necessary to purchase a switch (hub).

Diagram connection port (A) DSL routing with integrated Switch

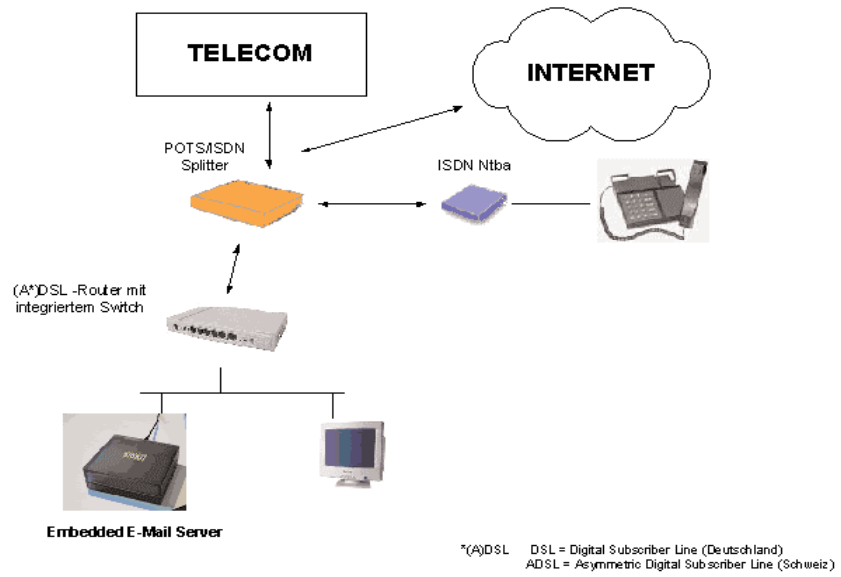


Diagram connection port DSL modem/routing

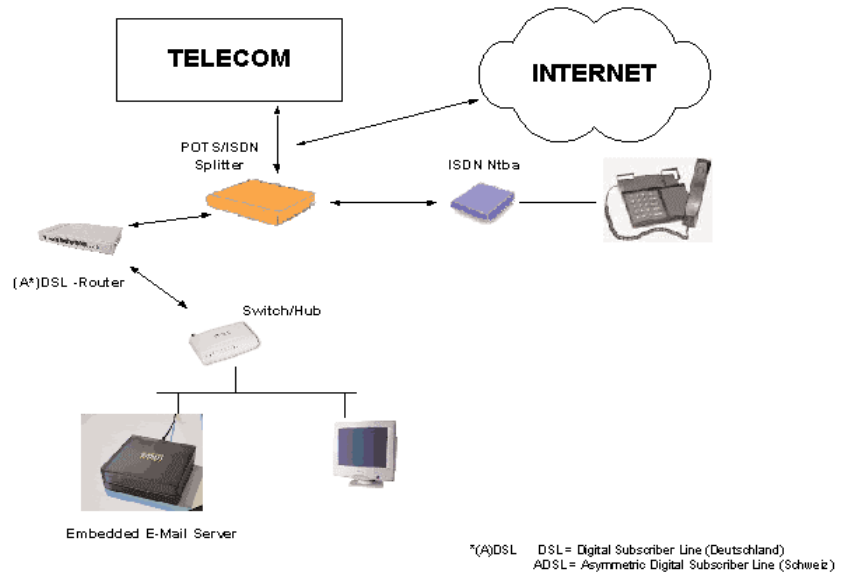
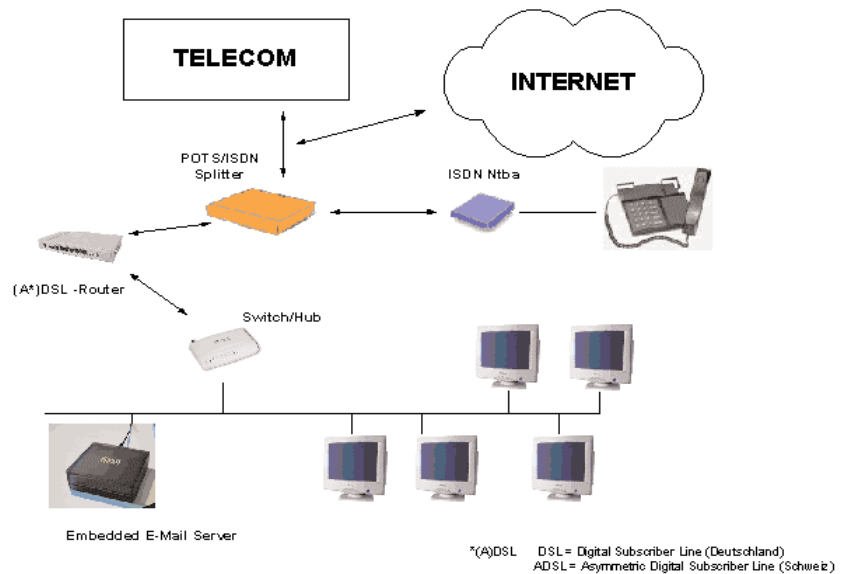


Diagram connection variant network



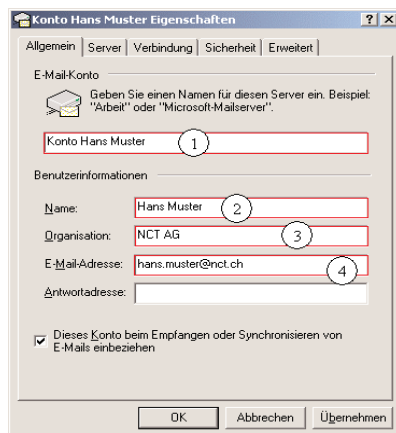
What ports have to be available on my router / firewall?

Port	Notes
25	SMTP port; e-mail is received from outside over port 25
80	Normally, access to the EMBEDDED E-MAIL SERVER is available over port 80 for webmail (The device can be configured to use an alternative port for webmail!)
110	POP3 port; e-mail clients (e.g. Outlook, Outlook Express, ...) retrieve e-mails from the Embedded E-mail Server over port 110

Can it work with static and dynamic IP addresses?

Just like every conventional e-mail server, it works with static IP addresses and also supports dynamic ones. In the case of static IP addresses, your provider provides for the correct resolution of your domain name in your IP address. If you use dynamic addresses, you allow your domain to be managed by a provider that supports dynamic IP addresses (e.g. zoneedit.com). The EMBEDDED E-MAIL SERVER makes sure that, when your IP address is changed, your provider that manages your domain (e.g. zoneedit.com) is automatically informed of this. In this way, it is possible to use web mail from anywhere on the Internet.

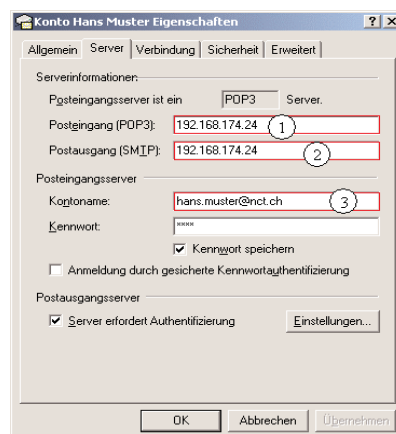
Which attitudes do I have to make, in order to regard the e-mails in Outlook/Outlook Express?



You can call up e-mail in Outlook under Extras in the submenu "Accounts" by highlighting the e-mail and clicking properties. The following display appears. Now enter your data according to the instructions below:

The following settings are activated in the rubric "General:"

- 1 Enter here your name of the account
- 2 Name of user
- 3 Organisation, Firm
- 4 Enter here the whole e-mail address



The following settings are activated in the rubric "Server:"

- 1 Enter the IP address of the EMBEDDED E-MAIL SERVERS
- 2 Enter the IP address of the EMBEDDED E-MAIL SERVERS
- 3 Name of the account (e-mail address)

How do I call up my e-mails externally (i.e. internet cafe)?

Very simply. You start up any Webbrowser and enter the IP address or the name of the e-mail server (i.e. mail.muster.com). You arrive at the login side. Enter e-mail address and password and confirm with "Login". Now you can read and administrate your e-mails.

What do I need to account for when using a T-Online T-DSL connection?

To operate the EMBEDDED E-MAIL SERVER with a T-Online T-DSL connection it is important to note that for private T-DSL connections T-Online automatically blocks outgoing e-mail traffic. When sending e-mail via the T-Online SMTP Server the sender's e-mail address defaults to the sender's T-Online address. Both of these restrictions can be avoided!

You will need to subscribe to T-Online's SMTP e-mail dispatch service (order via <http://service.t-online.de/c/00/01/35/1350.html>) and then configure the EMBEDDED E-MAIL SERVER in Menu <Administration> <Outgoing Mail Server> with "smtprelay.t-online.de".

This entry ensures that the sender's outgoing e-Mail is no longer modified by T-Online. An additional advantage is that the receiving e-mail server identifies the e-mail as originating from a known e-mail server. Also with this configuration you can use the e-mail client of your choice or web mail to send e-mail from other networks.

4. REGISTER AND CONNECT A DOMAIN

How do I register and connect a domain?

You can register your domain through your internet service provider or by yourself. When registering yourself, it matters whether you want a domain with an international ending such as

i.e. ".com", ".net", ".org", ".biz", ".info" etc.,

or a national ending such as

i.e. ".de", ".ch", ".dk", ".fr", ".it" etc.

Depending on the ending, you must contact the right registrar. The registrar reserves your domain for you and requires a fee for this that varies regardless of the ending. You can register international domains for example at VeriSign, Inc. National domain names must be registered at registrar specific to the countries. A comprehensive list of all accredited registrars can be found at Internic (www.internic.net) or directly, using the following link: <http://www.internic.net/regist.html>

After you have registered a domain, this still has to be "connected" to your internet connection. This is necessary

so that e-mails that are sent to you also arrive at your EMBEDDED E-MAIL SERVER. If you have registered the domain at your Internet service provider, it will make the required so-called "MX entry" (MX = Mail eXchanger) for you.

If you want to be independent from your provider, you can make the required entries at a free DNS (domain name system) server yourself. There are providers in internet that offer this service for free (e.g. www.zoneedit.com). You can call upon the assistance of printscreens on our homepage at www.nct-technology.com. After entering your domain in the DNS database of the DNS provider, you must inform the registrar at which you have registered your domain which DNS server you now use. You receive the required information when entering in the DNS server. Commonly it is composed of two DNS server names (first and second DNS) or of appropriate IP addresses. In technical terminology, this process is called "domain transfer." Because the domain name system is a worldwide-distributed database, it takes in the worst case up to 72 hours, but often just a day until your EMBEDDED E-MAIL SERVER is accessible from outside. Immediately after bringing the EMBEDDED E-MAIL SERVER into service, you can send e-mails.