

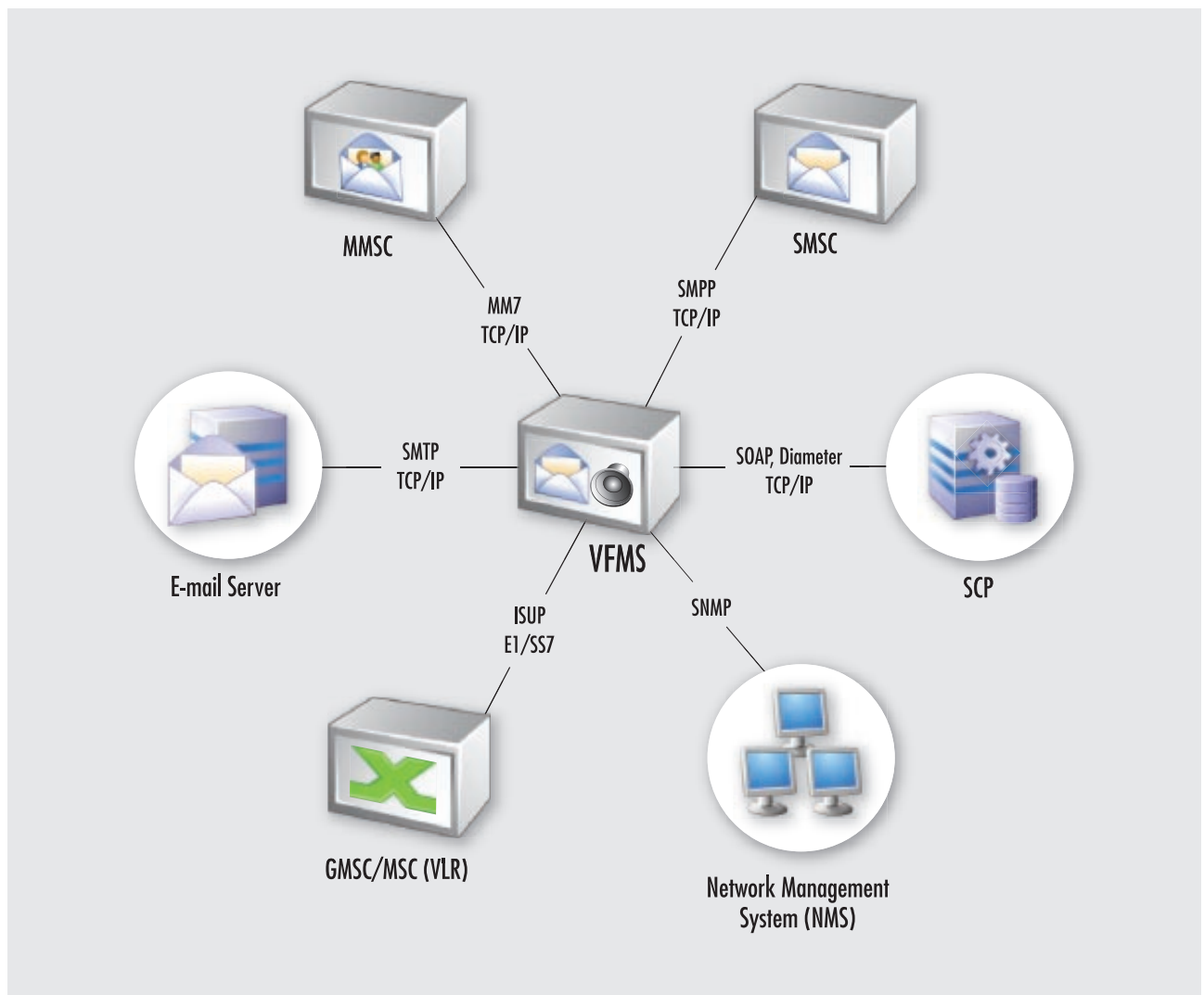
MEDIO VOICE FAX MAIL SYSTEM

Voice and Fax Mail System

As many operators are embarking upon migration to all IP networks and are considering which exciting new IMS-based services to offer, the fact remains that many subscribers rely on operators to provide convenience-enhancing products for now standard means of communication. Convenience-enhancing services are a significant and reliable source of revenue and when marketed correctly, they can be a decisive factor for customer retention. Moreover, recent technological advances mean that with the right application and optimal configuration, revenues from 'standard' convenience services can be boosted significantly.

One such useful service that both fixed and mobile operators can offer their customers is a voice and fax mail service. This service has already won over millions of users and will continue to be popular in the future in all types of network. However, in order to maintain and improve profit margins from these services, they must be streamlined, modular, scalable and flexible.

SITRONICS TS has developed its Voice and Fax Mail System on the basis of experience from years of close cooperation with customers in order to develop customer-centric solutions, and close analysis of consumer trends.



The Voice and Fax Mail System acts as an automatic answering service, handling calls that the end user cannot answer. This allows callers to leave messages and users can retrieve these messages when convenient.

Not only can deployment of the SITRONICS TS Voice and Fax Mail solution boost ARPU and raise customer satisfaction, it can also preserve previous investments into network architecture because it is compatible with standard third-party systems.

The system is also horizontally and vertically scalable meaning that it can be enlarged as the operator's customer base grows. Capacity is expanded by simply adding plug-in modules.

The Voice and Fax Mail system is based on the powerful and flexible MEDIO standard switching system platform from SITRONICS TS, which was designed to expand the service functionalities of digital switches, including digital switches from other manufacturers. The system also has immense capacity; a single unit can accommodate up to 5 million mailboxes.

Benefits

The system is extremely reliable thanks to hardware redundancy and distributed controls. With this flexible and robust system, operators can reap significant benefits including:

- **Increased ARPU**
Users who use Voice and Fax Mail as an automated answering service increase their ARPU through message retrieval and increased network usage
- **Investment protection**
The Voice and Fax Mail system from SITRONICS TS is compatible with third party and legacy systems
- **Reduce customer churn**
Convenience enhancing services lead to greater customer loyalty
- **Compact design**
The Voice and Fax Mail from SITRONICS TS boasts capacity for up to 5,000,000 mailboxes into very compact housing, saving space at the operator's premises and lowering operating costs through lower power consumption

Product Description

The STROM telecom Voice and Fax Mail system handles the following basic functions ensuring stable, secure and reliable operation:

Call Control – Processing of incoming calls and generating outgoing calls and notifications

Message Deposit – Storage of messages from calling parties

Mailbox Database – Containing all relevant system and subscriber data

Stored Data Security – All messages stored on RAID module or on a pair of mirrored disks

Compression – Storage of higher volumes of messages on the medium as messages can be compressed

Real Time Access – Handling deposit calls, owner access calls and other functions in real time without latency

Loop Back Protection – Recognition of its own call in cases where the outcall notification is not answered and routed back to the system

Statistical Data Gathering – Gathering statistical data, events and alarm reports for further handling

Monitoring – Generation of alarms according to definable criteria

Provisioning and Maintenance – Setting up mailboxes

Features

Basic Features

- Deposit call
- Owner access
- Notification – the ability to provide information about a new message stored in the mailbox, to the owner via:
 - SMS
 - MMS

- Outcall
- E-mail
- Message waiting indicator (prompt, dial tone)
- Notification login
- Common access
- Mailbox navigation
- Help
- Customisation of the mailbox
- User tutorial
- New user tutorial
- Message category – 4 categories of received messages are supported:
 - Urgent
 - Reply Requested
 - Confidential
 - Normal
- Full mailbox notification

Additional features

- Message sending
- Message replying
- Message forwarding
- Call return
- Call forwarding announcement
- Fraud prevention
- Personal message hosting
- Deposit barring
 - Missed call alert – when no message is recorded mailbox owner can receive notification about missed call
- Fun greeting

Subscriber group functions

- Group mailbox
- Group notification
- Family mailbox

Fax functions

- Fax call detection
- Fax deposit
- Fax print
- Fax auto print
- Fax on demand

Personal mailbox settings

The mailbox owner can change parameters of the mailbox via IVR, web or WAP interfaces.

- Language selection
- Personal greeting
- Voice signature
- Mailbox parameters
 - New message archive time
 - Old message archive time
- Subscriber profiles

E-mail functions

- Voice to e-mail
- Fax to e-mail
- E-mail push
- Attachment support

WEB Access

- Web access interface allows subscribers to access messages and set up their mailboxes. The web interface offers the following options:
 - Listening to voice message
 - Reading fax messages
 - Message forwarding and sending
 - Voice mail set up

MMS functions

- Voice to MMS
- Fax to MMS
- Voice animation

Technical Information

Signalling

- SS7 ISUP (ITU-T/ETSI and ANSI variants, national variants are also supported)
- CAS (R1.5, R2, national variants of CAS signalling)

Interfaces

- E1/T1
- E3, DS3
- STM-1
- Ethernet

Speech codecs

- G.711
- G.723
- G.729A; G.729B; G.729AB; G.729
- GSM

Fax protocols

- T.30 and T.38

External SMSC protocols

- SMPP 3.4
- UCP 4.0

External MMSC interfaces

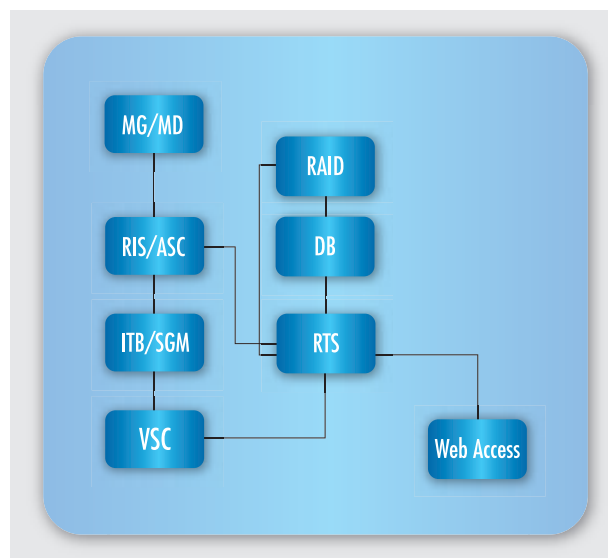
- MM7
- MM3

Billing system interconnection

- FTP
- SFTP
- Diameter
- SOAP
- http/XML

E-mail server protocols

- SMTP
- POP3
- IMAP4



MEDIO VFMS Internal architecture

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