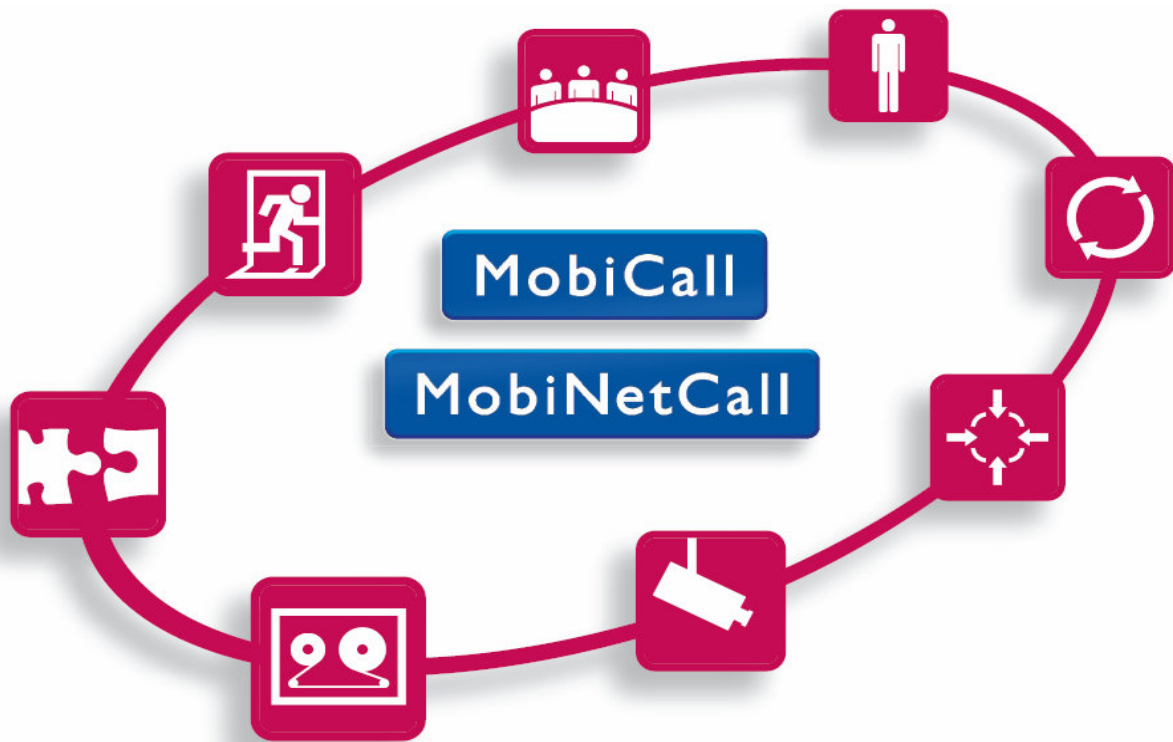


MobiCall MobiNetCall Presentation

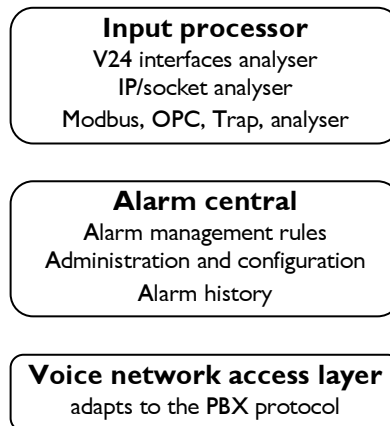


Summary

1.	QUICK OVERVIEW.....	3
2.	ARCHITECTURE FOR SECURITY SOLUTIONS.....	4
2.1	HIGH AVAILABILITY.....	4
2.1.1	Redundancy.....	4
2.1.2	Self supervision.....	5
2.2	SUPERVISION : FROM THE ALARM SOURCE TO THE TERMINAL.....	5
3.	MOBICALL - MOBINETCALL.....	6
3.1	DESCRIPTION OF THE SOLUTION.....	6
3.1.1	Introduction.....	6
3.1.2	General principles.....	7
3.1.3	Notification terminals.....	7
3.1.4	Alarm management.....	8
3.1.5	Connecting to the system.....	9

I. QUICK OVERVIEW

The Mobicall MobiNETcall solution is based on an evolutive, non proprietary technology and modular concept. The concept is shown on the following diagram :



Input processor or Middleware to alarm systems

This module is used for input parsing and analysis. Mobicall has a powerful analysis module enabling massive system integration. This processor will then trigger alarm scenario if the programmed conditions are met.

Alarm central

This is the mail application module. It contains all the routines, the mechanisms necessary for alarm management, going from the easiest scenario (broadcast only) to complex configurations with conditioned escalation, mobilization, schedule management, ...

This module also handles all the mechanisms for redundancy, load sharing, ...

Voice network access layer or Middleware to telecom systems

There are currently two types of modules : the CAPI and VoIP access layer. Given the settings of the PBX, it will be possible to access advanced functions. Base mechanism is of course voice message broadcast. Advanced feature are for instance : message display, mini-messages, GAP & GAP+ devices localization, XML message sending, XML applications management, image and video sending, ...

A close collaboration with PBX constructors has allowed us to highly enrich the features accessible from the Alarm central.

The association of these modules have opened the Mobicall MobiNETcall solution to applications like :

- Global risk management (Health, industry, banking, hotels, ...)
- Voice Recording
- Conferencing
- Evacuation
- Intelligent Voice Response system
- VoiceMail
- ACD or Hotline functions (for small solutions)

2. ARCHITECTURE FOR SECURITY SOLUTIONS

The Mobicall MobiNETcall server is the key element linking security systems and applications (localization, technical alarms, firesystems, ...) to telecommunication environments.

- Alarm acquisition
- Implemented scenario rules management
- Transmission / mobilization

What for security solutions, it is vital to ensure that all elements of the alarm process chain is operational. Mobicall MobiNETcall solution is clearing oriented in that way and performs all tasks of alarm management from its capture to its resolution, by going through multimedia messages delivery and confirmation/escalation process.

Security systems are usually based on very reliable solutions. To best integrate these security requirements, we identify 3 security levels :

- Highest risk : no service loss is acceptable
- Medium risk : service loss is acceptable for a short period, but intervention group has to be notified instantly
- Low risk : service loss is acceptable and non critical. No specific monitoring required

The global philosophy of the Mobicall MobiNETcall architecture is to be able to fit to these requirements. Thus architectures can be design to integrate these different risk levels, or even mixed risk level systems :

- High risk architectures : Mobicall MobiNETcall can perform a full communication monitoring, from the alarm system to the terminal. Redundant Mobicall MobiNETcall architecture, alarm systems links and telecom infrastructure is then highly recommended.
- Medium risk architectures : Mobicall performs a full communication monitoring, from the alarm system to the terminal. If any element is down, a specific scenario can be launched (over mail/popup if the PBX is down)
- Low risk architectures : No specific task is performed.

2.1 HIGH AVAILABILITY

The Mobicall system being a middleware between alarm sources and communication architectures, high availability is necessary to ensure that alarm procedures can be run without interruption.

For all the Mobicall functions it is necessary to identify its availability requirements among : strategic, medium or low level.

The system architecture can then be adapted to those requirements to offer the right level of availability.

2.1.1 Redundancy

The Mobicall system can be redundant, from 2 to 100 servers in network. There are several redundant options, the main ones being :

- Hot standby
- Cold standby
- Load sharing / backup
- ...

The concept is based on the following principle :

- all alarm sources have to be sent to each Mobicall server. If this cannot be achieved, you have to rely on the alarm generator to distribute alarms to the right Mobicall server, should the master be down.
- The concept is based on master/slave concept. It is possible to configure a server to be master, slave, or both. This allows Hot standby redundancy for 2 or more servers, by chaining the masters and slaves
- It is also possible to define for each alarm which server is the master, and which is the slave. By doing this is allows load sharing

- ...

2.1.2 Self supervision

In complement to the redundancy possibilities, the Mobicall system can also run self monitoring.

Each process is monitored and restarted if stopped. It can also monitor space disk left, network connection, ... and launch an alarm scenario

2.2 SUPERVISION : FROM THE ALARM SOURCE TO THE TERMINAL

As mentioned before, Mobicall is a key system in the global alarm chain. Should any element of this chain be down the whole alarm management cannot be done which can have dramatic consequences.

To prevent such a situation to happen, or to reduce as much as possible the unavailability of the system the Mobicall system can do the following things :

- Monitor systems over IP (Ping)
- Monitor SNMP traps from all type of equipment (network, servers, ...)
- Monitor data flow for serial interfaces
- Monitor the PBX
- Monitor the terminals (phones) – Alcatel OXE only
- Self monitoring (process monitoring)

If any of this system is not responding or not sending data for a long time, an alarm scenario can be triggered

The implementation of these mechanisms make it possible, on a given infrastructure, to detect as fast as possible any default (loss of service). The mechanism can thus secure and ensure a best availability for the whole alarm process.

3. MOBICALL - MOBINETCALL

3.1 DESCRIPTION OF THE SOLUTION

3.1.1 Introduction

The purpose of the installation of an infrastructure of a Mobicall server is to notify and mobilize various intervention groups, should an alarm be triggered. Its main benefit is that it makes it possible to save the first minutes or even seconds which are the most important for emergency alarms such as fire, evacuation, production chain problem...

The existing alarm centrals send information to Mobicall which will then launch a scenario, to automatize mobilization of the appropriate persons. Mobicall consults, with interval of regular time, the source servers (e.g. the alarm central that sent the message) to start an alarm scenario in case of a problem.

Being based on a time calendar, the Mobicall solution guarantees a secured mobilization system adapted to many needs H24.

The mechanism of acknowledgment by password (or other) makes it possible for the server to take the initiative to call a reinforcement group of person, if the answer ratio of the first group is too low.

The web interface grants access to the alarm management, log file, history, messenger, supervision and many other web-applications from any PC connected to the network. User rights can be set to limit the access of each user to their own attribution, thus preventing them from accessing strategic data or functions. For instance, firemen do not need to have access to technical alarms neither have the right to acknowledge this type of alarm.

3.1.2 General principles

Mobicall supports sequential research (a person after the other one the same line) and parallel (all the members of a group at the same time through all available lines) and the combination of both. If a number is occupied, Mobicall calls the other numbers and groups in order to find a person who can undertake the problem of the applicant.

Mobicall is based on the four following elements grouped around the server:

Alarm sensors, events that trigger alarms

- Dry contacts
- Protocol via serial interface
- Alarm triggering from a phone call / emergency call
- Automatic or manual triggering
- IP systems : mail, SNMP trap, OPC (requires validation)
- ...

Alarm receivers, persons and devices that must be called

- Calls on intern and external phones
- Calls on DECT – mobile handsets, GSM, IP Wireless phones
- Text messages over pager/IRP systems
- Text message : SMS over GSM, mobile handset and DECT
- Alarm notification by fax and or email, SNMP trap
- ...

Person and group editor

- to manage persons and groups
- The system can connect to a LDAP database to synchronize personal information

Supervision tool and alarm unfolding analysis

- also available from the web interface

3.1.3 Notification terminals

The Mobicall server can send voice and text message, image, run mini IVR applications, run XML applications, send information via IP (socket) or serial interface, send an email, an SNMP trap, SMS, MMS, ... I

3.1.3.1 INTERNAL TERMINALS

The following devices are supported :

Analog phone

- Voice :
 - voice message, message recording, mini IVR, ...
 - text to speech (custom alarm information transformed into a voice message)

IP and numeric phone

- Voice :
 - voice message, message recording, mini IVR, ...
 - text to speech (custom alarm information transformed into a voice message)
 - “Broadcast” : Alcatel feature only – allows automatic hook off on speakerphone

- Text :
 - On ringtone : CLI replaced by custom text (static or dynamic)
 - On off hook : custom text (static or dynamic) – only on Alcatel
 - Mini-messages : UUI (for alcatel), XML (Alcatel & Cisco)

Mobile devices (DECT, Deadman handsets, Wi-Fi DECT (spectralink))

- Voice and text : same as IP and numeric phones

3.1.3.2 EXTERNAL DEVICES

The following devices are supported :

- GSM :
 - Voice : all functions
 - Text : SMS, MMS. No specific CLI display possible due to PSTN.
- Pager systems (requires technical validation)
 - Text only
- Email :
 - Text only
 - Can receive an email to trigger an alarm, can send an email to push info or alarm report
- SNMP trap
 - Can receive trap (NewVoice MIB of custom MIB) to trigger an alarm
 - Can send a trap (NewVoice MIB of custom MIB) to notify a remote SNMP platform

It is important to take into account the specifications of each device that is used. Depending on its type , it may not be possible to send voice, text, have confirmation, receive a reception acknowledgment, ...

3.1.4 Alarm management

The process can be presented in 3 points :

3.1.4.1 ALARM ACQUISITION

Mobicall systems can connect to many different types of alarm sources :

- Protocol on serial interface : ESPA 4.4.4, ESPA 4.4.4+, genprinter, NIRA, CRMS, ...
- Protocol on IP interface : socket TCP/IP, Modbus (requires technical validation), OPC (requires technical validation), ...
- SMS reception
- Incoming call : vocal guide to trigger alarms (with PWD, ID/PWD or whitelist)
- Dry contact systems : WAGO systems, others on request
- Specific functions, on request

By having multiple alarm sources, NewVoice can access to as many systems as fire alarm, nurse call, production, hotel, resource management ,technical alarms, ...

3.1.4.2 SCENARIO PROCESSING

Upon the reception of each alarm, a scenario is launched. The main idea is to send information to persons. There are many side options allowing to program even the most complex scenarios :

- Group selection : contains the list of person to be reached
- Notification method : parallel (all at once) or sequent (one after the other)
- Confirmation : no confirmation, by pressing key 3, or specific confirmation (i.e. for qualification of an event)
- Escalation : if the confirmation level is to low, can escalate up to 90 levels
- Use calendar : to take into account team shifts (day night mode, or fine definition by week, by year, ...)

- Phone call parameters : number of ringtones, auto hook off on speakerphone, ...
- Launch second alarm

It is very important to identify precisely what are the scenario to set up for alarm management. Mobicall allows many configurations and can address almost every scenario.

3.1.4.3 GLOBAL ALARM MANAGEMENT

The Mobicall alarm server can handle many simultaneous tasks :

- incoming and outgoing calls
- IVR and vocal guides
- Alarm processing
- Logs and history updates
- ...

The whole system is task-based : each scenario is independent from its beginning (alarm reception), to its end (log files written, history updated). Different modules can run on the same server to allow multiple functions to run on the same machine.

3.1.5 Connecting to the system

There are two types of access : GUI on the server or web interface.

The server GUI is for administration only and allows unrestricted access to all functions.

The web interface handles user accounts to restrict access to information or functions. Almost all functions can be accessed from the web interface