

MEDIA CONTACT

VERSION 4

For Windows 2000 / 2003, XP, VISTA
and Windows CE, Mobile 5.0 / 6.0

TECHNICAL GUIDE



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Introduction

The MediaContact Suite automates the management of **data flow** between stand-alone applications located on computers linked by the IP protocol (local network, local network extended via routers, private access servers, Internet, shared intranet, etc.).

MediaContact is especially adapted to the **needs of mobile users** (mobile sales force, field technicians, executives out on business, etc.), **fixed site networks** (shops, agencies, machines, terminals, etc.) and communicating machines (MtoM).

MediaContact is a tool that enables you to schedule, and control data and processing flows from a central point. It works transparently for the remote end user.

Therefore, through its design, MediaContact enables the simple, centralized management of:

- Information flow of remote professional applications
- Multimedia and office data flows
- Software and hardware resources of remote terminals

Anomalies detected on a remote station can be signaled by alarms sent to the server or terminal.

Tasks Managed by MediaContact

- Execution / sequence of batch type applications
- Collection and distribution of data
- Extraction of customized data from central databases
- Import of data to central databases
- Exchange of data with FTP sites
- Exchange of data between the server and terminals
- Distribution / installation of applications
- Inventory of hardware and software
- Monitoring remote computers and alarms for incidents
- Administrative command of remote computers
- Provisioning of remote systems.
- Centralized backup and restoring
- Messaging agents (Lotus Notes, Microsoft Outlook, Microsoft Outlook Express): synchronization of databases (Lotus), folders, messages
- Centralized logging of remote control software usage NetOp, Symantec pcAnywhere, VNC and others

MediaContact Architecture

MediaContact Server

Components:

- A central database
- A scheduler
- One or more communication servers



- One or more “full-featured” administration consoles executable from every machine on the network
- One or more help desk administration consoles that run via a simple Internet browser
- A SNMP MIB (Management Information Base) to monitor server activity
- APIs (Application Programming Interface)

Notes:

The different components can reside on a single machine or on several machines linked to a local network.

The central database can be Microsoft SQL Desktop Engine, Microsoft SQL Server or Oracle (version 8i and higher).

In all instances the **availability** of the scheduler and its central database must be assured by the solutions provided by operating system, software and hardware manufacturers.

Minimum configuration:

- Windows 2003 SP1, 2000 SP2
- Memory: 512 MB
- Processor frequency > 500 MHz

MediaContact Client PC

Components:

- A local database (Microsoft Jet)
- A scheduler
- A communications automaton
- A GUI (Graphical User Interface)
- APIs

Minimum configuration:

- Windows 2003 , NT4 SP4, 2000 SP1, XP, VISTA
- Memory: 64 MB

MediaContact Client (Pocket PC)

Components:

- A local database (XML files)
- A scheduler
- A communications automaton
- A GUI (Graphical User Interface) restricted to the administrator
- APIs

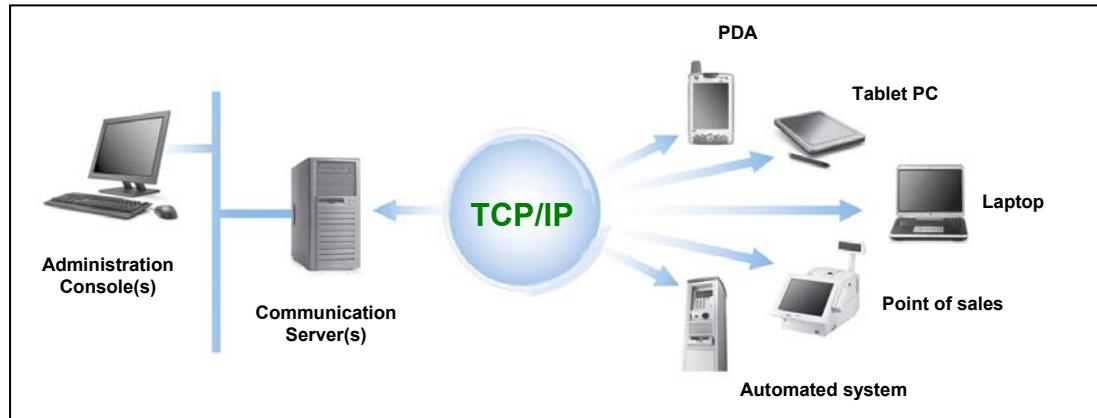
Minimum configuration:

- Windows Mobile 5.0 , 6.0 , Smartphone Edition, Windows CE
- Memory: 2 MB available storage memory + 2 MB available program memory



IP Network

An IP network is used to establish a link between MediaContact Server and MediaContact clients. Depending on the characteristics of the network, the link can be initiated by MediaContact Server, MediaContact Client, or by both.



Operating Principles

The administrator describes the **'Processes'** (Which jobs are to be executed? For whom? When? Where? How?) with the help of the MediaContact Server administration console. Descriptions of the processes are stored in the **central database**.

The MediaContact Server **scheduler** scans the central database, executes the scheduled processes and establishes connections when necessary. When a connection is established between a MediaContact Server and a MediaContact Client, initiated by one or other:

- The MediaContact Client local database is synchronized in order to include the processes created or modified by the administrator,
- The MediaContact Server database is synchronized in order to include the MediaContact Client histories.

The **MediaContact Client scheduler** scans the local database, executes the scheduled processes and establishes connections when necessary.

Directories

Given that one of MediaContact's objectives is to automate data flows between computers, it is necessary to declare the individual attributes of each computer: name of computer, IP number, telephone number to dial, messaging profile, etc.

This information, which is centralized and managed in the **'Users'** directory of MediaContact Server, can be entered manually or imported/refreshed from a source external to MediaContact (company directory kept in a DBMS or in an LDAP directory...).

It is possible to group users within a **'Company'**, with each user belonging to one and only one company. This feature enables the management of several companies on a single MediaContact Server (subsidiaries of a parent company, different hosted companies...) and the production of statistics by company. Within the same company it is possible to group those 'Users' with common characteristics in **'Groups'** and thus assign jobs to a subset of users in one operation.

Use MediaContact Server to define **'Aliases'** (an alias is an additional identifier for the entity within a data source external to MediaContact Server). These aliases are used to extract information individual to each entity based on its identification in these data sources: thus a user,



'user1', can be identified by the alias 'Personnel-Identifler'=150 in the Human Resources database and by the alias 'Commercial-Identifler'=5677 in the commercial database.

Populations

The entities 'Company', 'Users', 'Groups' (combined or otherwise) are used by MediaContact Server to make up '**Populations**' which define the '**For whom?**' of the jobs to be executed. These populations are evaluated when the jobs are executed. This, together with the use of MediaContact **variables** (see Variables), constitutes a powerful administration mechanism.



Take the example of a MediaContact process, which collects data from all the members of a company's mobile sales force: to begin collecting data from a new member, you only need to add the new member to the sales force population and the new member's data will be collected automatically.

Populations can be **static**:

- Listed: listing of entities (company, user, group) defined in the directories

Or **dynamic**:

- Selected: based on the value of one or several individual attributes of each entity
- Retrieved: based on a process's execution result
- External: based on the contents of an external data source accessible via ADO

Communications

Configurations

MediaContact Server and MediaContact Client must communicate with each other in order to transport data. It is therefore necessary to indicate how MediaContact Server and MediaContact Client can establish a connection.

MediaContact Client:

MediaContact Server allows you to define generic '**connection profiles**' (RAS/VPN) that can then be associated with users, and if necessary, customized for each user. It is possible to specify the connection options (user can be asked to select identification type, password, dialing prefix).

A MediaContact Client can communicate with a MediaContact Server either remotely, or on the local network. This is helpful, for instance, when mobile users stop in at the head office.

MediaContact Server:

You can use MediaContact Server to manage several simultaneous connections called 'Lines'. Lines can be set as 'Incoming', 'Outgoing' or 'Bidirectional'.

When there are several communication servers, the connections are distributed equally over the different servers. If a server becomes unavailable, the connections are distributed over the available communication servers.



Depending on the characteristics of the underlying IP architecture, MediaContact Server and MediaContact Client can each **call and/or be called**.

In addition, over one 24-hour period it is possible to organize the number of lines and their type (incoming, outgoing, bidirectional) using **time slots**: these allow you to define line use, depending on the distribution and direction of flows during the day.

A communication server can manage from **1 to 256 lines**.

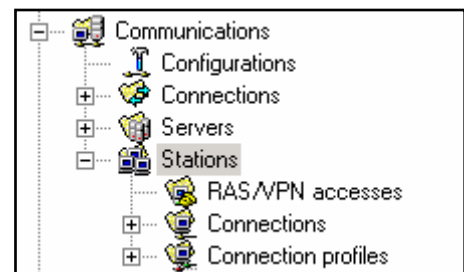
Depending on the connection **traffic**, required **performance**, and desired **availability**, one of the following is selected:

- A communication server hosted on the same computer as the scheduler
 - Several communication servers hosted on separate computers
 - The number and type of lines are the determining factor

MediaContact Server can manage a total of 1024 channels by distributing them over several communication servers; each communication server can manage up to 256 channels.

Definitions

You will need to define **when** a connection will be established between MediaContact Server and MediaContact Client. This is what the administrator specifies when defining '**Communications**' which is then associated with the processes.



'Definition' of a connection:

- **The call initiative** (MediaContact Client or Server). Specify if the communication can place calls or if it will use the connections established by the other communications having the same initiative.
- **Maximum communication time**, if it is reached and all data has not be transferred, the transfer will be resumed after the delay:
 - By checkpoint after the delay timeout
 - Before the new call if the communication is authorized to place calls
 - By the next communication having the same initiative
- If the communication can place calls:
 - Number of call **attempts** and delay between attempts
 - Delay before new call (if maximum communication time has been reached)
- **Validity**: month, day of the week, day of the month, three time slots in the day, counting / not counting bank holidays. A communication which cannot make calls can be valid or not with regards to the bandwidth of the communication in progress. This permits data fluctuations to be managed in relation to the network being used.
- **Distribution of calls** over a period of time: for communications initiated by MediaContact Client, enables the times of calls for each client to be distributed automatically and randomly over a specified period in order to avoid overloading the lines available on the communication server(s).

Differential synchronization

Objective: Optimize the volumes exchanged when using the data or software collection and distribution tasks, and also when **updating** large files remotely (Web sites, multimedia files, applications, etc.). Only the differences between source and target files are transferred.

**Table of measurements:**

<i>Example of file</i>	<i>File size</i>	<i>Transferred data</i>	<i>Gain</i>
Database	219 MB	3.6 MB	98 %
Executable	287 KB	160 KB	44 %
Word file	5.4 MB	1.3 MB	77 %

Online compression

Objective: Optimize volumes transferred when synchronizing and exchanging all data types. MediaContact uses built-in, high-performance online compression based on the LZW algorithm. Compression can be deactivated in the registry. Once activated, compression is used transparently during all exchanges; the administrator only needs to create the following tasks:

- Pre-processing compression task on the sending end
- Post-processing decompression task on the receiving end

Table of measurements

Measurements were taken for .exe files using an ISDN connection (64 kbit/sec).

<i>File size</i>	<i>Duration without compression</i>	<i>Duration with compression</i>	<i>Gain</i>
250 Kb	33 s	10 s	70 %
1 MB	134 s	37 s	72 %
10 MB	1,334 s	368 s	72 %

MediaContact's online compression rate is as efficient as that provided by the most popular compression software on the market (PKZip type).

Dynamic bandwidth management

Objective: Allow bandwidth used by MediaContact to be limited.

- On a terminal, to allow other connected applications to be used while MediaContact synchronizes data.
- On a server, to allow available bandwidth to be used by other connected applications.

Encryption/Authentication

Objective: Secure data fluctuations between the MediaContact Server and the terminals.

- TLS/SSL AES algorithm encryption with a 128-bit key
- TLS/SSL authentication RSA or DSA algorithm.



Automatic updating of terminal IP addresses

Objective: Detect terminal IP address changes (for example, on a GPRS network) and automatically update them on the server, in such a way that the server can initiate a connection with the terminals.

Remote wake up (Wake up on Call/SMS)

Objective: Enable the server to trigger an action on a remote terminal (reinitialization of the terminal, connection to the server, execution of a process) without needing to establish a connection between the server and the client.

Wake up on Call: the administrator defines an action associated with a telephone number to be executed on the client. To trigger this action, simply call the client from the GSM, PSTN or ISDN phone line whose number is associated with the action. The telephone number enables the terminal to know the action to execute. To execute several actions, there must be as many remote telephone numbers as actions to carry out.

Wake up on SMS (Windows Mobile only): the administrator defines an action associated with receiving an SMS to be executed on the terminal. To trigger this action, simply send an SMS to the terminal. The SMS message content enables the terminal to know the action to execute.

Example: if a terminal is stolen, an action can be triggered that deletes all data on the terminal.

Processes

By defining **processes** and their **tasks** the administrator defines and plans the different **jobs to perform** (What? When? Where? For whom? How?).

Once a process is activated, the MediaContact Server scheduler takes charge of it to:

- **Launch** it, when the launch conditions are met and execute its tasks.
- **Distribute** it, if necessary, to the MediaContact Clients where the MediaContact Client scheduler takes charge of it.
- **Accommodate** the data flows, if necessary, when the associated connections are valid.
- **Have** alarms and execution reports **sent** to the MediaContact Server.

A process is characterized by:

- **Launch location:** MediaContact Server or MediaContact Client
- **Population**
 - Optional for a server-only process
 - A set of listed, selected, retrieved and external populations (cf. Populations)
 - An option allows you to **import** entities (companies, users, groups) from directories external to MediaContact Server when process is launched
 - Enables (possibly in conjunction with MediaContact variables) a task to be customized for each user of the population:
 - A task to transfer a file from the server to the client
On a population of 500 users: 500 transfers of the same file are launched
 - An extraction task to extract data from an external database for each user and based on an alias
On a population of 500 users: 50 different files are generated (one per user)



- **Prerequisites**
 - Possibility of setting launch conditions for the process:
 - In relation to the execution result of another process and/or
 - Based on a condition: file, folder, disk, Windows events log
- **Schedule**
 - When: Thursday at 8.00 pm
 - What frequency: every Thursday
 - Option: except on or including bank holidays
 - Validity: except during the month of August
 - Authorized delay
- **Communications**
 - Optional for a server-only process
 - Choice of authorized connection(s) for steps requiring exchanges (cf. Communications: definitions)
- **Delayed station**
 - Enables you to set a schedule to execute steps when the execution of one or several steps must be delayed (after connection) on MediaContact Client.
- **Execution reports**
 - Do you need an execution report? What type? (systematically, periodically). (Cf. Execution reports)
- **Alarms**
 - **Tasks** included in the process and the logical sequence of these tasks.

Association of a process with one or more connections

If a process requires data exchange between the server and client you only need to associate one or more connections with it. The process will execute, then wait for validation of one of the associated connections to transport the flows between MediaContact Server and MediaContact Client.

This has several advantages:

- It accommodates the data flows associated with several processes in a single communication session.
- It modifies the communication settings (changes the time slots, for example) without interfering with the processes that are associated with them.

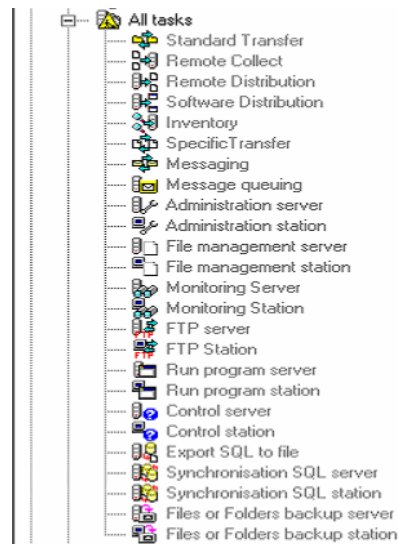
Process Import / Export

The definition of a process and the tasks included in it can be imported or exported via a file.



Tasks

Tasks specify the **what** and **how** of the processes. MediaContact Server offers several **task types**. Each task sets its own number of **steps**.



A step is the unit of execution, test and branching.

The administrator can describe the task **sequences** and sequence **conditions**. Each task includes a **test** step which, depending on the test result, indicates the operation to follow: continue, abandon the task, abandon the process.

The task type sets the execution locations of the steps. A task can be:

- **Server:** all its steps are executed on MediaContact Server.
- **Station:** all its steps are executed on MediaContact Client.
- **Mixed:** some steps run on MediaContact Server and others on MediaContact Client, with a connection at a given moment.

Certain tasks suggest a **backup step** (before and/or after connection, on MediaContact Server as well as on MediaContact Client).

In this way MediaContact allows jobs, which can be executed in whole or in part on the server and remote sites, to be defined for a given population.

Task types by execution location

Mixed

- Standard transfer
- Specific transfer
- Remote collection
- Remote distribution
- Software distribution
- MediaContact Synchronization
- MediaContact Client software update



Server

- Program execution:
 - Executable (exe, cmd, ...)
 - System command (dir, copy, ...)
 - SQL synchronization
 - Extraction of flat files from databases
 - Backup of files, folders, registries
- File, folder, disk test
- Preparation of flat files from external databases
- Execution of FTP commands
- Monitoring
- Management
- Backup of files, folders, registries
- Restoring
- File management
- Message queuing

Station

- Inventories
- Messaging agent exchanges (Lotus Notes / Microsoft Exchange)
- Program execution:
 - Executable (exe, cmd, ...)
 - System command (dir, copy, ...)
 - SQL synchronization
 - Extraction of flat files from databases
- File, folder, disk test
- Preparation of flat files from external databases
- Execution of FTP commands
- Monitoring
- Management
- Backup of files, folders
- Backup of registries*
- File management

*These tasks are not available on a Windows CE or Windows Mobile type client

Task types by features

Standard transfer:

Objective: Enable the transfer of files placed by external applications in folders predefined by MediaContact and specific to each user between MediaContact Client and MediaContact Server.

These predefined folders are:

- The MediaContact Server standard exchange departure folder (specific to each user)
- The MediaContact Client standard exchange arrival folder
- The MediaContact Client standard exchange departure folder
- The MediaContact Server standard exchange arrival folder (specific to each user)

The files are transferred from MediaContact Server to MediaContact Client, and vice versa, then deleted from the source. If a filename already exists in a standard arrival folder, the file



(<Prefix>.<Extension>) is renamed with a unique filename (<Prefix>YYYYMMDDmmss*mmm*.<Extension>).

This "mailbox" type feature allows the automation of file exchanges deposited or retrieved by applications external to MediaContact.

Specific transfer:

Objective: Enables detailed settings for file or folder transfers performed between MediaContact Server and MediaContact Client (and vice versa) to be specified. There are as many steps as files or groups of files to be transferred with a **test** that enables the transfer to be continued or stopped. The source and destination files and folders are explicitly named.

Functions:

- **Copy:**
 - Source options:
 - Transmission in increasing creation date order
 - **Delay** for file availability
 - Destination options if destination exists:
 - Generate unique name
 - Or overwrite, add, refuse
- **Move:** identical to copy but source is deleted
- **Rename**
- **Delete**
- **Synchronize:** the destination will contain the same files as the source; identical source and destination files are not transferred
 - 'Update synchronization' option: do not delete files from the destination that do not exist on the source.
 - 'Full synchronization' option: files present on the destination and absent on the source are deleted from the destination.

Remote collection:

Objective: Collect data from terminal applications equipped with MediaContact Client in order to import them into central processing.

Five steps:

- **Data extraction** on MediaContact Client: application or execution of a SQL export
- **Backup** of extracted data on MediaContact Client
- **Transfer of data** from MediaContact Client to MediaContact Server
- **Backup** of received data on MediaContact Server
- **Import of data** into central databases: application or execution of a SQL import

Remote distribution:

Objective: Distribute data from central databases in order to import them into the local databases of MediaContact Client applications.

Five steps:

- **Data extraction** from central databases on MediaContact Server: application or execution of a SQL export
- **Backup** of extracted data on MediaContact Server
- **Transfer of data** from MediaContact Server to MediaContact Client
- **Backup** of received data on MediaContact Client
- **Import of data** into local databases: application or execution of a SQL import



Software distribution:

Objective: Distribute and install software or updates from a MediaContact Server to a MediaContact Client.

Five steps:

- Disk space **test** on MediaContact Client
- **Synchronization** of data packages (with the option of automatically staggering synchronization over several communication sessions)
- **Backup** of current configuration before installation
- **Execution** of the package installation command
- Possible installation package **deletion**

The delayed station schedule enables you to program the installation date of the package on MediaContact Client (for example: the new version of the remote application must be operational for every MediaContact Client on 1st June and not before).

The “as” function lets you execute an installation or update with administrator rights during a user session.

SQL synchronization:

Objective: Update a database (server or station) by extracting information from another database or a data source accessible by ADO (ActiveX Data Object).

This update requires two steps:

- An SQL export to be imported which places the extracted commands and data into a temporary file
- An SQL import that applies the temporary file's commands and data to the target table.

SQL export to file:

Objectives: Extract data from a database, or from an ADO accessible data source, into a text file in order to supply an existing application.

The extracted file is a text file of the following format:

- Either CSV
- Or fixed-length

MediaContact Synchronization:

Objective: Update of MediaContact Client local database from new or modified directives entered by the administrator on MediaContact Server (communications, processes...). Have MediaContact Client logs and alarms sent to MediaContact Server.

Option: **Completely reinitialize** MediaContact Client's local database.

Program execution – server or station: or

Objectives: automatically launch the execution on MediaContact Server or MediaContact Client of: a(n):

- Executable (exe, cmd, ...)
- System command (dir, copy, ...)



Test - server or station: or

Objective: Test a condition on MediaContact Server or MediaContact Client:

- Disk space, folder, file, etc.
- File date or modification date
- File date or access date
- Existence or absence of file
- File contents
- A registry key
- Available physical or virtual memory
- Existence of a Windows process, the memory and CPU amount it uses
- Existence, status of a service
- Existence of a window
- Battery level (Windows Mobile / Pocket PC)

Execution of FTP commands:

Objective: Automate execution on MediaContact Server or on MediaContact Client:

- Connection to a FTP server
- Copying or moving files
- Deleting or renaming files

Inventories:

Objectives: Centralize on MediaContact Server the inventory of hardware and software available on the MediaContact Client:



- **Hardware and system inventory:**
 - List of MediaContact Client terminal basic components (hardware and devices)
 - Registry keys
- **Software inventory:**
 - List of MediaContact Client terminal software components
 - List of inventoried files with their properties (size, date, version)

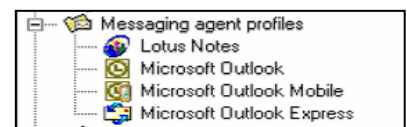
The inventories are made for the first time or updated by an **'Inventory' task** included in a process (when inventories are sent to MediaContact Server, only the differences between one inventory and another are sent).

Inventories can be viewed and **printed** via the administration console, for each individual user or globally. They can also be **exported** in XML or CSV format.

Lotus Notes / Microsoft Exchange messaging agents:

Objective:

Automate Lotus Notes and/or Microsoft Exchange and/or Outlook Express synchronization flows. Group the messaging flows and other data flows in the same connection.



Use MediaContact Server to define **messaging profiles** on a global level:

- Lotus Notes profile:
 - Settings to exchange mail
 - Settings for Notes document database replication
- Microsoft Outlook profile:



- Connection profile
- Synchronization of profile (folders to be synchronized).

- Microsoft Outlook Mobile profile:
 - Connection profile
 - Synchronization profile (mail, contacts, calendar, tasks)

- Microsoft Outlook Express profile:
 - Settings to exchange mails
 - Settings to import contacts from the directory
 -

It is therefore possible to associate a messaging profile with each user.

Declaring a 'Messaging' task in a process will cause messaging data that comply with the messaging profile associated with the user to be exchanged.

Monitoring

Objective: Remain informed of events observed on the terminal or server via triggered alarms. Monitoring can involve:

- Registry (keys or values)
- Disk usage
- Occurrence of events in the event log
- Existence of a window
- Available physical memory
- Available virtual memory
- Percentage of CPU amount used
- Existence of a Windows process
- Memory used by a Windows process
- Changed or absent IP address
- Activating/Deactivating a network interface
- File or folder creation/modification/deletion
- Starting/stopping a service
- check the battery's charge level (Pocket PC)
- Inserting the device into its base (Pocket PC)
- Wake up of the device (Pocket PC)
- Changing PC Cards (Pocket PC)
- Storage memory available (PocketPC)
- Program memory available (PocketPC)

Management

Objective:

Execute administration processing on the server or station.

Administration processing lets you:

- Restart the system
- Stop/start a service
- Stop a Windows process
- Close the interactive session
- Close a window
- Create / modify / delete a registry key
- Activate/deactivate control with a password (Pocket PC)
- Authorize/prohibit installation of .cab files (Pocket PC)
- Restrict user access to settings (Pocket PC)
- Create/delete a kiosk (Pocket PC)
- Block/unblock functions: ActiveSync, autorun, buttons, telephone (Pocket PC)



Backup

Objective: Execute a backup of files, folders or registries on the server or station. The storage location can be:

- On the station or the server (station backup)
- On the server (server backup)

Restoring

Objective: Execute a restore of station files or folders backed up on the server.

Message queuing

Objective: Have a Websphere MQ Series interface

MediaContact Server, as the IBM Websphere MQ bus message client, can exchange data with any application connected to this bus.

This task enables transforming a file received in a folder into a Websphere MQ Series message in real time. MediaContact can generate an acknowledgment of receipt as soon as the message is taken into account by the Websphere MQ series.

MediaContact thus enables, without any additional development, connecting a heterogeneous application to the IBM Websphere MQ bus.

File management

Objective: This task is used to perform operations on client or server files or folders:

- File Creation/Deletion
- Copying/moving/renaming file(s)
- Replacing a character string
- Operations on a section or parameters in an INI file (create, rename, delete)

Integration of Symantec pcAnywhere

From the MediaContact Server administration console, it is possible, after choosing a user, to launch a pcAnywhere master session and, at the end of the session, to enter a comment on the nature of the session.

The logs of each pcAnywhere master session are stored in the central database of MediaContact Server. Also, the logs of each pcAnywhere slave session executed on a MediaContact Client station are sent to MediaContact Server.

This makes it possible to view centrally, and for each user, the logs of pcAnywhere sessions initiated by MediaContact Server and those initiated elsewhere via the administration console.

Integration of VNC

From the MediaContact Server administration console, it is possible, after choosing a user, to launch a VNC master session and, at the end of the session, to enter a comment on the nature of the session.

The logs of each VNC master session are stored in the central database of MediaContact Server.



Integration of NetOp Remote Control

From the MediaContact Server administration console, it is possible, after choosing a user, to launch a NetOp Remote Control session and, at the end of the session, to enter a comment on the nature of the session.

The logs of each NetOp Remote Control guest session are stored in the central database of MediaContact Server. The logs for each session (NetOp Remote Control host or NetOp Mobile when the remote terminal is running on a Windows Mobile operating system) executed on a MediaContact Client station can be transmitted to the MediaContact Server.

MediaContact Variables

Objective: To enable the creation of filenames, expressions in SQL commands individual to each entity, in a population in a single operation. Example: extract from a database the history of commands specific to each user for the 'Sales force' population.

All fields in the users and companies tables are available as variables:

Variables:

- %COMPANY%: user's company identifier
- %ALIASCOMPANY=AliasCompany%: value of Company Alias
- %USER%: user identifier
- %ALIASUSER=AliasUser%: value of User Alias

Use MediaContact to create variables called aliases.

An alias is an external characteristic not defined by the MediaContact software. Two types of aliases are available:

- Server alias: the alias value is assigned on the server using the administration console or with a user import.
- Station alias: the alias value is assigned on each station from an external data source (file, registry, environment variable, etc.)

MediaContact Administration Consoles

Roles

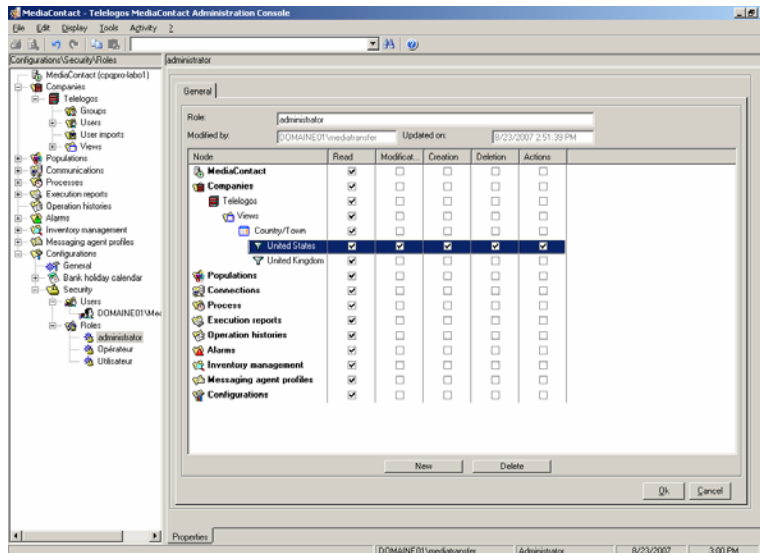
Administrators can access the consoles with an authentication that enables filtering access to information. An administrator or a help desk representative may manage one or several "entities". These entities can be configured with hierarchical levels (that may correspond to one or several companies, countries, etc.) and can therefore be adapted to any infrastructure.

If authentication is not activated, anyone can access the console as if they have "**Administrator**" rights.

Two types of consoles:

The "full-featured" console:

It requires the installation of a software module on the user's station. It enables access to all the product's functions and parameters.



Communication between any full-featured console and the MediaContact Server is in COM-DCOM (Component Object Model – Distributed COM: enables so called distributed developing applications on a LAN network) architecture.

User friendliness of the full-featured console

- **Tree structure** (tree structure on the left and list on the right) enables the view of different entities to be structured and lets the administrator go directly where she or he wants to go.
- Configurable **views** that enable displaying users by configurable groupings. Parameters target the properties of remote terminals (for example: creating a Country/Agency view). Views may include up to 10 hierarchical levels.
- Meaningful **icons**, some of their attributes vary according to the status of the underlying entities. For example: alarm to be acknowledged or acknowledged, active or inactive user, process suspended, activated or in progress).
- **Tabs** showing properties, attributes and context maintained when moving from one entity to another. This allows you to eliminate unnecessary clicks when viewing important collections.
- **Pop-up help** to get an immediate explanation of a particular point displayed on the screen.
- **Online help** for a more detailed explanation of MediaContact features.
- **Assistants** that help the administrator learn about features and put them into operation.
- **Pop-up menus**.

Reports

Reports are prepared in Crystal Report. You can view them on screen, print them or adapt the data before they are sent to individual recipients (attachments in HTML, CSV formats, etc.).



Administration and operational performance

Profiles (connection, messaging, report), **Communications** and **Populations** are just some of the **architecture's strong points** that allow you to modify associated occurrences at the same time and from one central point via the administration console.

Examples:

- Modification of a connection start time will be applied to all processes associated with the connection and therefore to all users listed in each process's population.
- Modification of a telephone number in a connection profile will be passed on to all associated users of this connection profile.

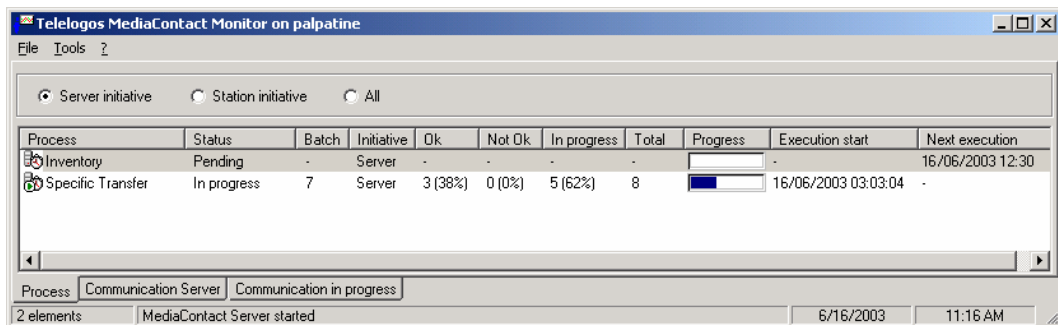
Management and monitoring of communication server activity: Display of communications in progress. Server stop and start command.

Zoom through histories, going from a general level to more detailed levels.

The console is executable from any Windows station on the network.

The "Activity monitor", accessible via the console, lets you:

- Display processes and communications
- Monitor processes and communications in real-time





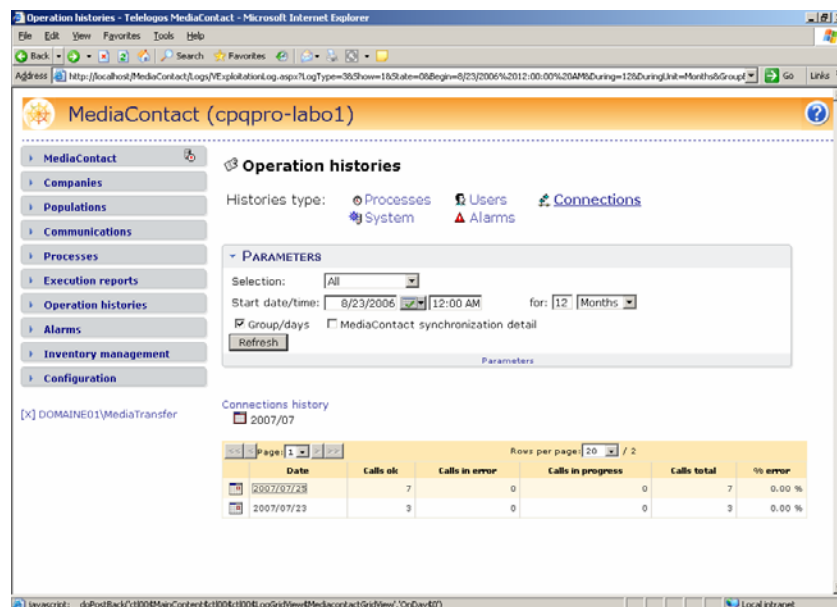
The WEB console

Using the Web console administrators and the help desk department can access the MediaContact Server from an Internet browser.

The Web console has the same tree structure as the full-featured console.

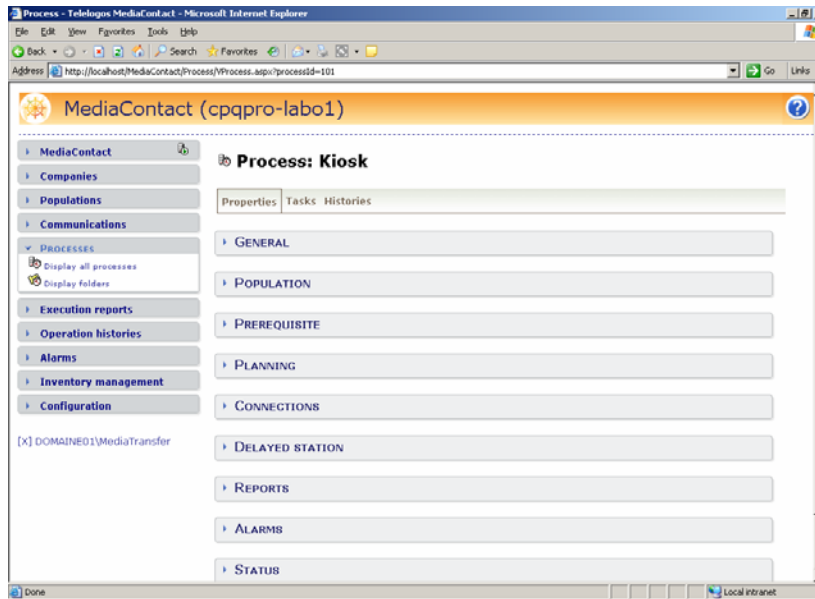


Using the Web console a help desk administrator can access users, populations, processes and histories.





It enables viewing the list of tasks in a process.



MediaContact Client GUI

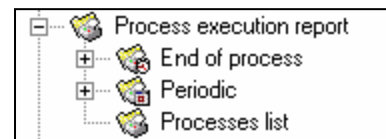
The MediaContact Client GUI (Graphical User Interface), with the same user-friendly administration console, allows the user to:

- **View processes**, communications and subscriptions specific to the user's station.
- **Monitor communications** in progress.
- Move from **remote** communication mode to **local network** communication mode.
- Force **manual connection** to MediaContact Server.

All or part of the GUI can be installed, or not installed, modified, used manually, or not, depending on the type of user: this can go from **completely automatic use** without GUI that is transparent for the user to **manual use with GUI** when making adjustments for example.

Execution reports

Objective: Easily define **generic execution reports**. Define report **triggering** if necessary. These generic reports are then selected when each process is defined.



Two types of reports:

- **Process executions**
- **Statistics (date/time)**

A **report** appears in the form of:

- Printed **report**
- and/or
- A **file** (formats such as HTML, CSV, database etc) which can be sent by **email** and/or placed in a **tree structure**.

For each status (OK, not OK, not executed), the **contents** of the report can be **detailed** (choice of 5 levels of detail) or only comprise **counters** (number of users having or not having executed a process, for example).



Alarms

Objective:

- Warn the **person** that the administrator has **designated**
- Using the **appropriate means** (alarm sent to the MediaContact Server administrator, alarm sent to the MediaContact Client user, e-mail or SNMP TRAP sent)
- Of a result defined for each user or for several users when execution of a process has ended
- Of a **monitoring** result or an **inventory** difference

The MediaContact **Server administration console** signals the alarms using icons to quickly understand what caused the alarm.

Logs and Statistics

MediaContact Client and Server **log all events**. The MediaContact Client logs are sent to the MediaContact Server. The length of time logs are kept can be modified. These logs allow you to view histories from the **most global level to the most detailed level**, on the company, user, process, task, or step level. Using these logs enables the production of **statistics** on volumes exchanged and on processing length, by hour/day/week/month/year and on every relevant level (Global, Company, User, Communication server).

Installation, Roll-out, Update

MediaContact Server installation

The installation program allows you to install or update the three components of MediaContact Server on the same computer (*standard* installation) or on several computers (*customized* installation).

- Server comprised of the *Process Scheduler* module (Windows NT service)
- Communication server(s) comprised of the *Communication Scheduler* module (COM object)
- Administration console

MediaContact Client installation and roll-out

Use a copy tool (CD-ROM copy, connection of the terminal to the local network, transfer of files) to ensure the presence of the MediaContact Client installation program on each terminal. The installation program for Windows clients automatically installs the access components to Microsoft data (MDAC).

The '**automatic**' mode simplifies the installation of MediaContact Client on each terminal. MediaContact has a function that generates a customizable installation package:

- Generation of a customizable self-extracting file
- Automatic installation of this file on the remote terminal using an FTP transfer
- Self-identification using a criterion for the remote terminal (IP, MAC, Login, IMEI, etc.)
- Ability to start programs before and after the installation of MediaContact Client

MediaContact update

MediaContact offers **integrated management and follow-up to update** MediaContact Client with new versions, regardless of the MediaContact Server module used.



Configuration management (*Provisioning*)

Administrators define the appropriate hardware and software configuration for groups of machines or users.

The parameters are verified in relation to centrally defined configurations and are reapplied if necessary.

Use MediaContact to manage network parameters, connection profiles, messaging parameters, WiFi profiles and all other parameters that can be provided.

APIs

APIs (Application Programming Interface), executable parameters, enable MediaContact to be integrated with external applications and:

- List, follow, launch processes 'at will'
- Launch/Stop MediaContact Client scheduler
- Launch on the client a connection to the server

Products Versions

The MediaContact Suite is offered in 4 product versions:

- MediaContact Management: administration and backup services
- MediaContact DataSync: synchronization service
- MediaContact BackUp: backup service
- MediaContact Enterprise: complete version including the 3 services

Users can migrate to the Enterprise version without reinstalling.

An EmailSync option is offered in addition to MediaContact Management.

Languages

MediaContact Suite is available in English and French.

Demo Versions

An evaluation version of MediaContact can be downloaded from our website: www.telelogos.com. The evaluation version is a full version that functions for 30 days after its installation. Our technical support department is available to guide you through the installation or parameter setting of the software. You can contact us at any time:

- By telephone: +33 (0)2 41 22 70 00
- By fax: +33 (0)2 41 22 70 22
- By Email: support@telelogos.com