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54. ACP: AASTRA COMMUNICATION PORTAL R1.2

54.1 Introduction

Communication inside companies is changing due to several factors:

- The recent transformation of enterprise communication tools (e-mail, GSM, Web…) has highlighted the need for new services based on enterprise telephony.
- High customer expectations on the advantages of converging communication tools, following the introduction of telephony over IP.
- Standardisation of information technologies and operating systems, particularly with users' Windows environments (network, desktop automation, Web, messaging…).
- Maturity of application server technologies that allow complex software applications to be centralised on the network and thus considerably simplify the issues of software deployment, maintenance, security, etc.
- Emergence of the "Web services" technology that can be used to integrate open applications more and more simply using standard tools.

All these new factors make it easy to meet customer's needs and expectations:

- An ever-growing will to facilitate employees' remote work
- Increasing user productivity by improving interface ergonomics through a uniform work environment, and also by limiting authentication requests
- Always with a view to reduce costs:
  - limiting deployment costs
  - a growing demand to reduce maintenance and operating costs by centralising and harmonising infrastructures, applications, etc.

To meet these demands, Aastra is proposing the Aastra Communication Portal (ACP) solution which:

- Is based on **open standards**, such as Web services, CSTA, SQL, so it can easily be integrated into companies' IT environments,
- Offers computer telephony **integration (CTI) services** and application's services to improve employee efficiency, through a homogeneous and ergonomic design,
- Is based on a **thin client** architecture (**web based)** so no installation is needed on users' PCs, then the solution is independent of the existing computer systems,
- Offers a **centralised and universal access** in order to improve efficiency andoffer services to the whole company; especially to the mobile staff and remote workers. These mobile users, who need to access their work's tools both inside and outside their office (at home, in a hotel, at a client's places), are an important target of the application portal.

- Based on an **ergonomic**, intuitive and **customisable** user's interface, in order to be easily adopted by employees.

ACP is a multi-service application platform designed to meet the needs of various user's profiles.

ACP offers the following services:

- ACP Contact Centre
- ACP IP Conference
- ACP Interactive Voice Response (IVR)
- ACP Web Attendant.

It also offers an access point to some applications such as:

- ACP Telephony Web Portal (TWP).

ACP is intended for large companies as well as for small and medium-sized businesses, thanks to a software division starting with 2 simultaneous connections.

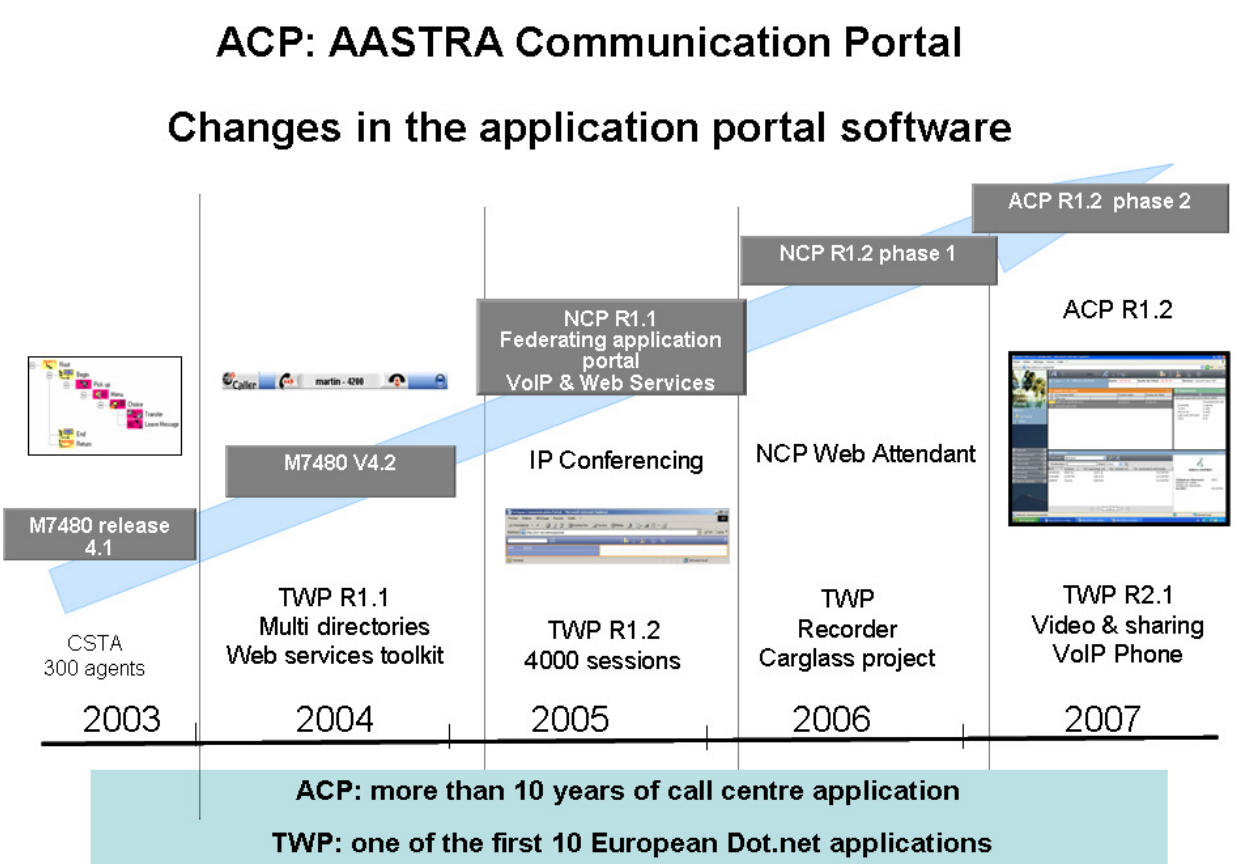
The IP Conference application is described in Chapter 55 of R5.1 Product Guide.

The Web Attendant application is described in Chapter 56 of R5.1 Product Guide.

The ACP Contact Centre application is described in Chapters 57, 58, 59, and 60 of R5.1 Product Guide.

The TWP application is described in Chapters 61 and 62 of R5.1 Product Guide.

54.2 New features associated with ACP R1.2



The main new features for each application in ACP release R1.2 are:

- ACP contact centre:
  - Directory access
  - Subscriber supervision/monitoring
  - Presence management: with Exchange
  - Multi-line agents
  - Detailed statistics export: replication of detailed statistics in an external database with a new table structure
  - Automatic agent disconnection after a too long “not ready” status
  - Multimedia evolution: Lotus Domino compatibility

- ACP Web Attendant:
  - Multi-line agents
  - Directory access
  - Subscriber supervision/monitoring
  - Presence Management: with Exchange
  - ACP Web attendant service: malicious calls, iPbx configuration

- ACP IP Conference:

– Directory access

Details of the new features in ACP release R1.2:

- Operator/attendant-oriented portal design: new design and shortcuts on keyboard
- Users can work with multi-line terminals. ACP makes a distinction between professional and private extensions. There are several ways to know whether or not an agent is available based on the status of each of his or her extensions.
- Web attendant agents have the possibility to determine whether or not an incoming call is a nuisance call. “Malicious” calls are thus listed out and can be handled differently if they happened a second time (for example by broadcasting a dissuasion message).
- ACP R1.2 also gives agents (on a call centre or as Web attendant) a unified access to multiple corporate directories (internal/external Aastra X series iPbx, MS Exchange, Lotus Notes, SQL, LDAP, ODBC, etc.). This access to directory is not only given to the agents displaying them the name of the caller before picking up the call, but is sent to application’s scripts in order to enhance call routing’s features.
- It is possible, through the directories’ access, to consult the Exchange calendar of company employees (subject to administrator rights).
- Compatibility with Lotus Domino/Notes for the management of incoming e-mails
- Common users can consult the directories via a thin application (the portal), to manage calls, send conference invitations and use correspondents' names in scripts and statistics.
- Supervision/Monitoring groups: it is possible to supervise (depending on rights), via the directories, any supervisable extension through configuration.
- Simple Routing Wizard improvements: an incoming call can be handled differently according to caller’s number. For instance, a call can be transferred to the best-qualified agent, and priority given to VIP callers, etc.).
- Detailed statistics can be exported with the “long-term” statistics table structure. Old statistics and the previous reporting tool have been removed from the product.
- Agents assigned to outgoing call services now have the possibility to set up outgoing professional calls at their own will.
- Following information can be displayed to the Web attendant portal:agent’s script and applications linked to the type of incoming call ; identity of the subscriber who made the call to be rerouted to the Web attendant.
- It is possible to disable automatic call on-hook when the ACP detects that the agent is no longer engaged in a call.

54.3 Advantages of the ACP solution

This portal offers a large number of services and advantages to our customers and integrators.

In fact, it enables service(s) users to authenticate themselves once using the Windows account.

It facilitates user mobility thanks to permanent web access to services.

Users have access to a user-friendly and customisable work environment.

It is highly flexible to use thanks to the introduction of a web environment.

Hardware investment is low compared to the resulting level of service, and installation costs are drastically reduced thanks to its entirely thin-client-based architecture, no deployment is required on user PCs.

It is a long-term and scalable solution; it allows you, for instance, to invest initially on a single service and then offer new services to users according to the company’s growth and changes in their activities. These upgrades are implemented simply by using software key codes, without additional hardware costs.

It is easy to use: no client deployment is necessary; deployment costs are reduced.

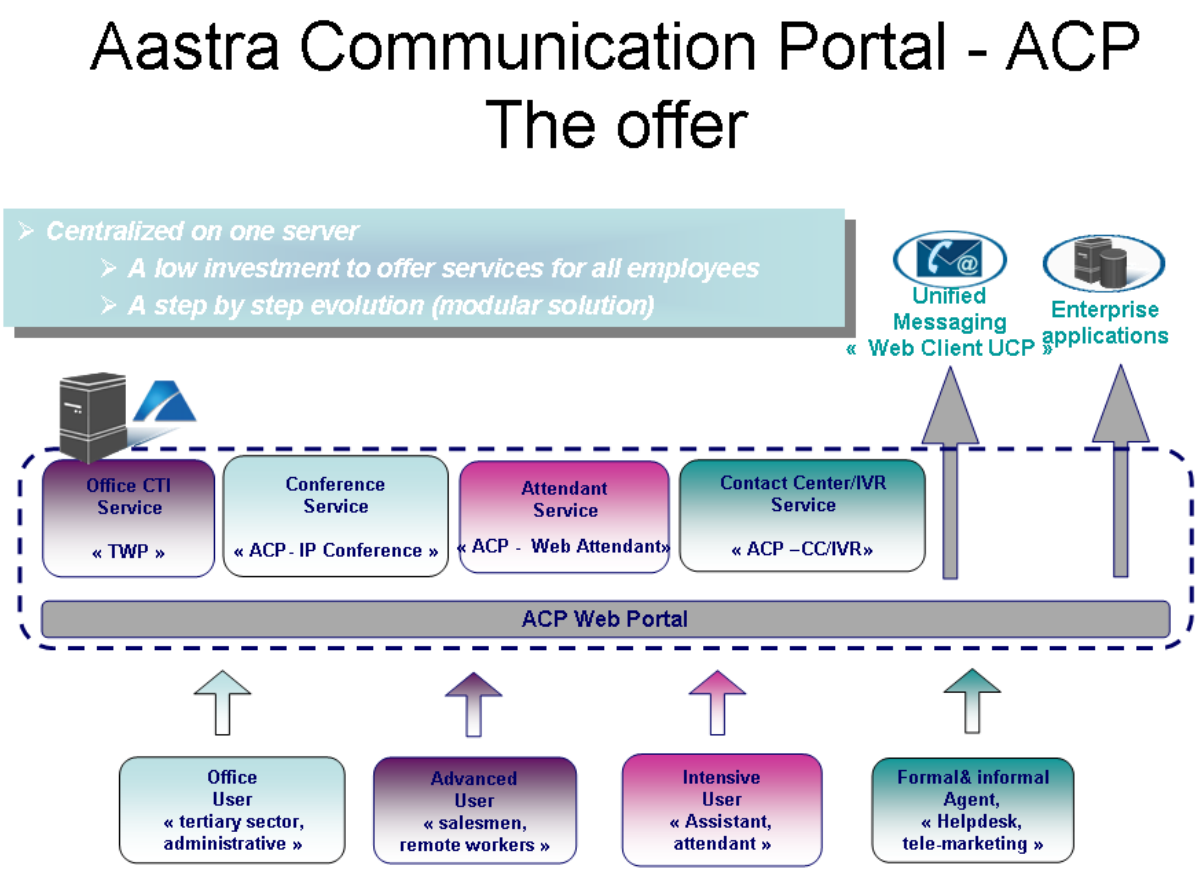
It will facilitate maintenance, which is centralised on a unique server.

This solution is reliable and independent of environment.

When connected in full IP mode with any NeXspan and Aastra iPbx, the solution is available at software-only price, or integrated into a server; in this case, it does not require any addition of Dialogic cards to have conference services and interactive voice response for an IP connection.

Compatible iPbx releases: as of Aastra R5.1, NeXspan R3.2 for ACP Contact Centre and IP IVR ACP and/or IP conference, otherwise R2.1 for ACP Contact Centre without IVR or with analogue IVR).

In conclusion, ACP offers a service that meets everybody's needs, when centralised on a server. See the figure below:



Through Internet Explorer's browser all users can access, ,to the ACP portal, this portal offers multiple services that meets everybody's needs.
For example:

- Office users can prepare and managed secured, multi-party telephone conferences thanks to ACP IP Conference,.
- Advanced and intensive users have a web-service-based CTI application that makes them more efficient, via the ACP TWP service.
  It corresponds to the TWP R2.1 offer, including the following modules: caller (multi-directory search engine, universal dialling via drag and drop, call logs), alerter (record's pop-up upon call arrival), phone (PC-based telephone driver) and OpenCall, the entry level solution used for dialling by clicking from any application.
- Users working as call centre agents, have an application designed for their contact centres activities, including a telephony panel that allows them to manage calls and change their activity status (ready, break, PCP, etc.). They also have a real-time activity supervision window (number of calls on hold, number of available agents, etc.), including visual alarms.

In addition to these communication services provided by Aastra, the web-service-standard-based portal is open and gives access from its web interface to some already-existing company-specific applications(via a URL address). Thanks to this feature, the UCP unified messaging system is available from the portal via the UC web client. Moreover, applications such as Outlook Web Access, the company's extranet or even a web-based business application are accessible via ACP (a more advanced integration requires a specific development).

All these services are available in the portal and are accessible according to the rights given to each user to better meet customer's needs.

In summary, web-based ACP is the basic portal for offering, in a centralised manner, to a wide public and anywhere, added-value application services available on demand in the company.

Therefore, it is the only reference point and is becoming the day-to-day working tool at the service of employee efficiency.

54.4 ACP user identification

54.4.1 Unique Login: Single sign-on

The user is authenticated when the portal is started based on his or her Windows domain account. There are three possibilities:

- If the user belongs to the same domain as the server, no additional authentication is required.
- If the user does not belong to the same domain as the server but there is an approval relation between the domains, no additional authentication is required.
- If the user does not belong to the same domain as the server and there is no approval relation between the domains, the browser opens a window for the user to authenticate himself in this domain.

So long as the browser is not closed, the user remains authenticated to the server. However, if the browser is restarted, a new authentication phase takes place.

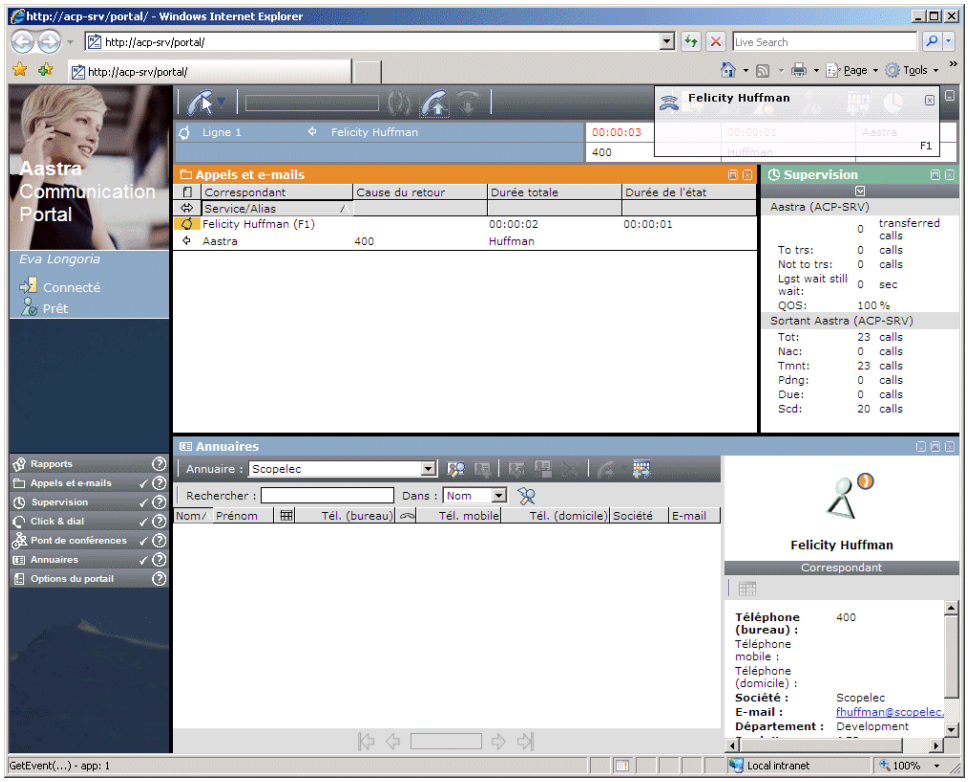
54.4.2 User-related information

During connection, the user name defined in ACP administration is displayed in the portal information area.

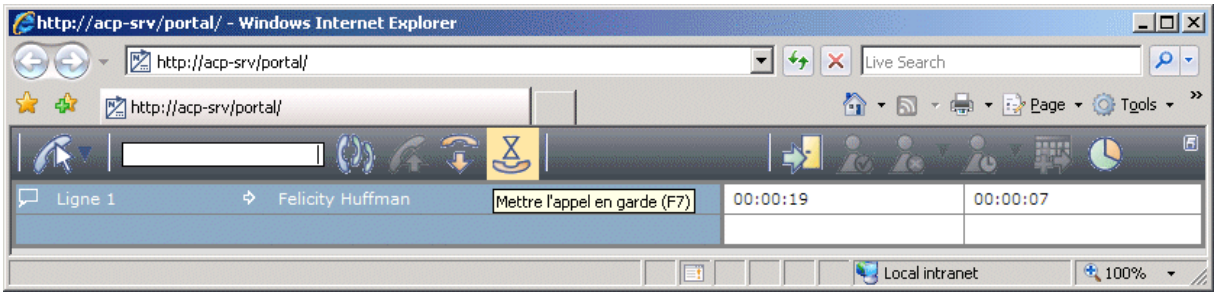
54.5 Main display modes

After start-up, the portal may be used in two main modes.

- In “normal” mode, the browser retains its normal size and displays a set of frames :



- In "minimised” mode, the size of the browser is reduced to display only one tools area.



At any time, the portal can be changed from "normal" mode to "minimised" mode and vice-versa, using the corresponding button located in the tools area.

54.6 Frames and applications

The portal allows users to access several services inside the same browser. These services are grouped in form of web applications, which are displayed in one of the portal frames.

54.6.1 Permanent frames

In "normal" mode, the portal has two permanent frames, containing respectively:

- a menu area (on the left) with all web applications' start buttons, and the information area
- A tools area (on top) with one or more tool bars and one voice call display area.

In "minimised" mode, the portal has only one frame containing the tools area.

54.6.2 Configurable frames

In normal mode, there are configurable frames (as opposed to the permanent frames that fill the major part of the portal. One to three configurable frames can be displayed in the portal at the same time. Each frame displays the main page of a web application started by the user.

Using the options page, the user displays the portal in one, two or three frames. Then, he can also specify whether certain web applications must be automatically launched when the portal is started, in the frame corresponding to the selected layout.

After the portal is started, a web application started manually by the user appears in the first configurable, empty frame. If no frame is empty, the application is positioned in the lower frame, which appears automatically if it was not yet visible.

The upper frames (one or two are visible, depending on the display chosen by the user) contain only one application at a time. Once started, an application located in any of the upper frames can be closed by the user: the corresponding frame then becomes available to receive another application.

The lower frame, on the other hand, can contain several web applications at the same time. Only one of these applications will be visible at a time, the others are masked. It is possible to switch between the applications located in the frame with the help of the buttons in the menu area. Moreover, the applications started in the lower frame can also be closed individually, using the corresponding button located in the application's title bar.

The size of the configurable frames can be modified by the user in two ways:

- By adjusting the frame separators: the frame separators can be moved with the mouse to modify their sizes.

- Using re-size buttons: each frame has one or more buttons used to maximise it, restore it (to its size before maximisation) or minimise it.

54.6.3 Applications available

Depending on his/her rights and/or assignment to a Contact Centre service, the user has a set of web applications:

- ACP Contact Centre calls and e-mails
- ACP Contact Centre supervision
- Click & dial
- IP conference bridge
- Directories
- ACP Contact Centre reports

These applications can be started with the buttons located in the menu area, and appear in one of the portal's configurable frames or in the tool bar for click & dial.

54.6.4 Language

The language in which all the portal and web application labels are displayed can be chosen by the user.

When the portal is started for the first time, the user's regional parameters are automatically detected and determine the initial language. If the language of the regional parameters is not available in the portal, the first available language is used.

Later, the language can be changed at any time from the options page.

The portal and web applications can be translated into other languages.

54.6.5 Appearance

The portal and the web applications it is hosting can be represented according to different appearances: colours, fonts and character sizes, positions, images, etc.

Using the options page, the user can select another appearance from the list of available appearances.

New appearances can be created.

54.6.6 Settings

The portal presents a configurable environment to the user through options:

- Language
- Appearance
- Layout
- Default application
- Telephone number.

These options are persistent, enabling the user to find his own environment again during the next session even if he is working on another computer, or after server restart.

54.6.7 Click & dial applications

This interface (which appears in the portal's tools area) gives the user access to the following functions:

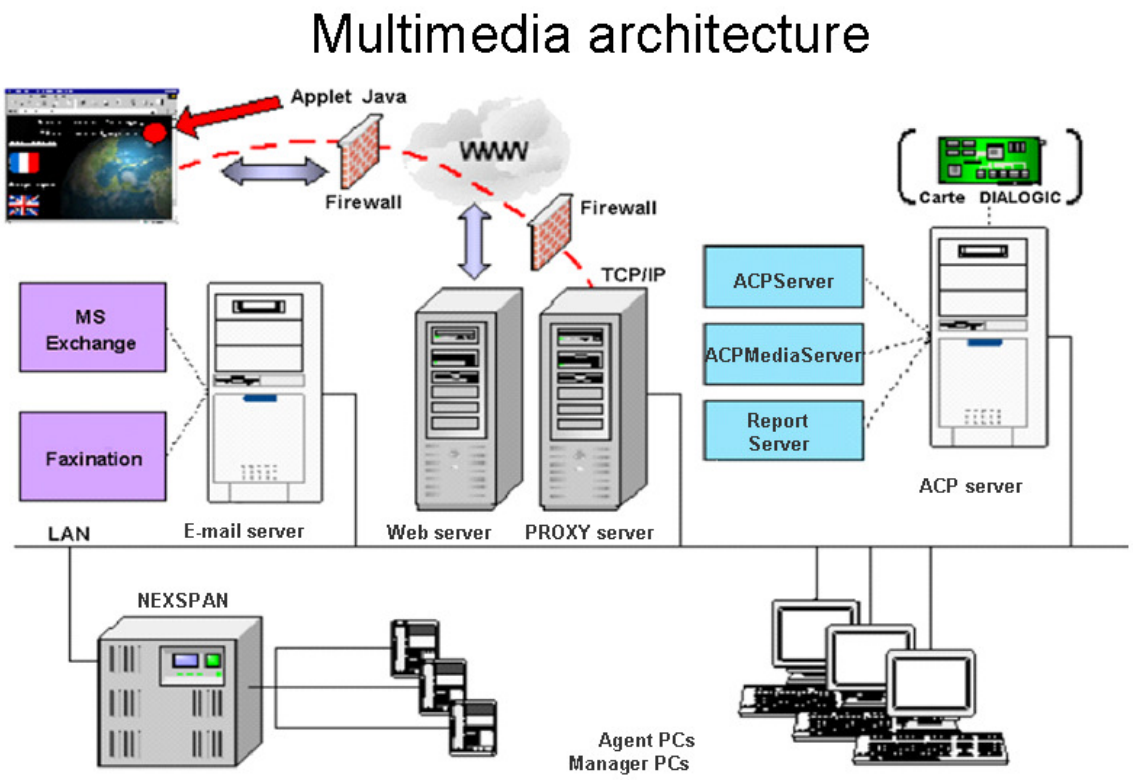
- Call's status
- Call control (possible actions linked to the available buttons)
- Call duration (displayed in red when the set is ringing and in black during conversation from the off-hooked set; the duration is displayed even when the call is put on hold)
- Call centre telephony functions:
  - Off-hook / on-hook
  - Call
  - Put on hold
  - Resume
  - Transfer
  - View / Consult
  - Alternate
- Agent tool bar:
  - Connection/disconnection
  - Ready / not ready
  - PCP
  - Statuses of the day
  - Recording
  - List of persons for transfer
  - Call destination.

54.7 Architecture – ACP R1.2 engineering

ACP is based on a multimedia architecture that integrates the simultaneous management of three media: voice, e-mail/fax, and web.

ACP is composed of hardware and software elements associated together according to the architecture described in the following map:

Note: in this architecture, the CSTA (Computed Supported Telecommunications Applications) protocol is used by the voice media.



The ACP solution is composed the following software servers:

- The main functions of the **ACP Server** (or main server) are ACP File Structure management and searching for the best agent to process a call. It is also the ACP server that monitors and controls telephone sets by communicating directly with the iPbx.
- The **ACP Media Server** manages the IVR resources and runs the server part of the media processing scripts.
- The **ACP Web Server** consists in the publication of Web Services and ACP portal by Microsoft Internet Information Services (IIS).
- The **ACP Report Server** is used to edit statistical reports, on demand or in programmed mode.

54.7.1 ACP – backup mode

A backup mode is always available in the iPbxiPbx, if ACP fails to process calls within a specified time. When such a problem occurs, the calls that ACP has started processing (by placing them on another queue / Call Pits to listen to an on-hold message) will be lost because ACP will no longer be able to divert them to agents.

On the other hand, as new calls comes in the answering service, they are not diverted, the reduced mode of the answering service will then be enabled and the calls will be routed by the iPbxiPbx hunt group to the agents which will be set to "hunt group" mode.

In this backup mode, the agents will no longer have access to their web client towards ACP, but they will keep on working by answering the calls presented to them with their telephone. Only one call per set will be presented (on the main line of each agent).

The mechanisms implemented in the ACP server in order to detect malfunctions are:

- Connection audit between the iPbx/ Call Server and the clients
- Audit on agent and communications (an audit starts if there is no change of status after 5 minutes)
- A synchronisation of the agents' status in the ACP server and switching system. The status of the main line depends on the status in ACP.
- Moreover, if an agent does not answer several consecutive calls, he or she is automatically logged out.

54.7.1.1 Lost ACP - iPbx connection

This event may occur if there is a major ACP server failure or if a network component between the iPbx and ACP fails (depending on the IP network availability).

When this connection is unavailable, all the calls not yet connected to an agent are lost. The calls in communication with an agent are maintained (including voice communication).

The following calls are not managed by the iPbx answering service in day mode but by the answering service in reduced mode (backup mode). The calls are, therefore, distributed to the users indicated in a group of terminals defined in the iPbx. Just like the agents were previously ready in ACP, they are also ready in the iPbx group (synchronisation between ACP and the iPbx). In this mode, only one call per agent can be presented.

The ACP detects that the connection is lost. However, it will try to re-open the session with the iPbx until it obtains this connection. At the same time, the ACP server considers all these agents as logged out.

If connection between the agents (CTI application) and ACP is also lost, the client detects this and alerts the agent. ACP also detects it. The agents must then log on again manually to ACP as soon as possible.

If, on the other hand, the connection between the attendant and ACP has remained operational, ACP indicates to the client that it has been logged out from the service because connection between the iPbx and ACP has been lost. Most of the functions will then not be accessible any longer. Nevertheless, the functions that do not need connection to the iPbx are available (such as multi-directory search)

When the ACP – iPbx connection is restored, ACP synchronises the statuses of all the agents by changing them to "out of the group" in the iPbx. The agents are informed about this action by the change in the status of a programmable key on their set. To be able to receive calls again, the attendant consoles must change their status to login (action on the PC or on the set).

54.7.1.2 Lost client –ACP connection

If the connection between ACP and the iPbx is working, but the connection between ACP and the clients is lost, all the agents are automatically disconnected (from the portal and logged out), and their status changed to "not in the group" in the iPbx. ACP stops routing calls to the agents temporarily.

When the agents are logged out, they must log on to the iPbx group via their terminal; this will automatically change their status in ACP and allow calls to be distributed again.

This loss of connection does not have any impact on IVR.

54.7.2 Server PC prerequisites

Hardware prerequisites

The PC(s) hosting some ACP server applications must be dedicated to the ACP applications and meet the following prerequisites:

- It/they must have one USB 1.1 or 2.0 port for a USB dongle.
- Using a Dialogic card requires a long Universal PCI slot per analogue card on each PC hosting a Media Server. Dialogic drivers are provided by Aastra with the analogue IVR module and must be installed on this platform. Note that **Dialogic card drivers (analogue connection) and the HMP software (IP connection) cannot be combined** on the same server.
- The use of remote maintenance requires a COM port if a modem is used. An access via internet service (such as Webex) is possible too.
- A DVD drive must be available (on at least one PC in the network).

Ethernet cards:

Configuration / ACP capacity	Number of 100Mb/s Ethernet accesses
Contact Centre or Web Attendant < 64 agents and 3600 calls / hour	1 Ethernet card
Configuration above 64 agents or 3600 calls/hour	2 Ethernet cards The second card on the PC hosting the ACP server is used to connect the ACP server and iPbx to a private network and thus guarantee that no broadcast is sent to the iPbx.
If IVR/IP resources and, thus, the HMP software are used	1 removable Ethernet card on each PC hosting the HMP software So as to link the HMP licences to the MAC address of this card. If one day a Server needs to be replaced, this will enable you to transfer the HMP licences to the new PC without having to purchase them, by transferring the removable Ethernet card to the new PC.

Software prerequisites

The PC(s) containing the solution's server applications (thus dedicated to the ACP Server, ACP Media Server, ACP Web Server and/or ACP Report Server) must respect the following software prerequisites:

- **Operating system**: **Windows 2000 Server, 2003 Server or XP Pro**, in French or American English only, latest Service Pack recommended by Microsoft.

  There are some restrictions on the use of these operating systems, based on the chosen ACP options. See ACP Ordering Guide for more information.
- **Access and Excel 2000, 2003, or XP**. Access is for managing statistical reports, while Excel is for exporting reports in XLS format. These two software applications are only used on the server on which the Report Server is installed. Their licence is not provided by Aastra.
- The **HMP** software is required on the server hosting the Media Server if IVR/IP or ACP IP Conference is used. It is provided by Aastra with the IVR module and must be installed on this platform. Note that Dialogic card drivers and the HMP software cannot be combined on the same server.
- The **Text-To-Speech** function requires IP resources: so it is not available with analogue IVR resources.
- Messaging server: **Exchange 5.5, 2000, 2003 or 2007, Lotus Domino version 6.5 and 7.0** for managing incoming e-mail services or outgoing e-mail transmission. If only outgoing e-mails are to be managed, any type of mail server may be used so long as ACP can connect to it through SMTP protocol. The mail server licence is never provided by Aastra.

54.7.3 Integrated ACP – Dell server pack

The ACP solution can be ordered as software only (type of solution = soft only in eQuation) or with a Dell server. If the server is ordered with the ACP solution (accompanied by a server and licence pack), the software and other ordered items can be installed in the factory if the corresponding service has also been ordered.

Remark: the price for this service is automatically indicated when the order is prepared with eQuation.

Some additional information is required to install the server in the factory.

For more information about this offer, see ACP Ordering Guide.

54.7.4 Client PC prerequisites

- Operating system: **Windows 2000 Pro, XP Pro** or **Vista Pro**, with the latest Service Pack recommended by Microsoft.
- **Microsoft Internet Explorer 6.0** and **7.0**, with the latest Service Pack recommended by Microsoft. It is necessary for the portal and printing operations.

Client PC prerequisites vary according to the necessary applications. *For more information about these configurations, see ACP Ordering Guide*.

54.8 iPbx compatibilities

The table below gives ACP R1.2 compatibilities with Aastra iPbxs:

	R2.1	R3.1	R3.2	R4.1	R4.2	R5.1
Aastra X Series						✓
Aastra 5000 Server						✓
NeXspan 500					✓	
NeXspan 50	✓		✓	✓	✓	
NeXspan C, S, L, D		✓	✓	✓	✓	
Aastra Communication Server	✓		✓	✓	✓	
M6540	✓		✓			
M6501	✓		✓			

Notes:

- If only one ACP server is connected to several iPbxs, the iPbxs must be part of the same multi-site configuration.
- The IVR module with IP resources and the ACP IP Conference are only available in iPbx R3.2 F2E and later.

If the agent conversation recording function is used, one NeXspan/Aastra conference circuit resource is consumed per recording. The type of iPbx will then determine the maximum simultaneous recording capacity:

	Number of iPbx conference circuit resources	Number of simultaneous agent conversation recordings
Aastra XS	4	4
Aastra XS export with DSP 5406	8	8
Aastra XL	8	8
Aastra XD	8	8
Aastra 5000 Server	0	0
NeXspan 50 AMI (R4.2)	6 per cluster	6 x number of clusters
NeXspan 50 AMJ (R4.2)	8 per cluster	8 x number of clusters
NeXspan 500 (R4.2)	8 per cluster	8 x number of clusters

See ACP Ordering Guide for a full list of iPbx prerequisites.

54.9 Capacity

ACP Server (common capacities)		
	Administrators	8 declared, 1 connected
	Users (agents)	600 declared, 300 simultaneous (1)
	Web attendant users	128 declared, 64 simultaneous (1)
ACP Contact Centre		
Per server		
	IVR and IP conference	64 simultaneous accesses
	Service managers (supervisors)	100 declared, 50 simultaneous
	Multimedia	300 in agent processing, 600 in total
Per ACP network		
	Servers	10
	Users	2000 (MOVACS), 3000 on 10 servers
ACP IP Conference		
	Participants	64 simultaneous (2x32, 4x16…)
ACP TWP		
	Users	4000 (up to 12000 for Open Call)

Note:

(1): maximum capacities, not cumulative.

Number of simultaneously active agents – number of attendant consoles

The ACP server can manage up to 64 attendant consoles connected simultaneously to the system for a maximum of 10,000 calls per hour processed by the server (this is the maximum number of calls managed by the system during load peak). This maximum number of calls also includes rejected calls. It is possible to declare up to 600 agents.

Number of supervisors

50 supervisors can be connected at the same time.

Aastra CSTA supervision:

A given directory number (agent, call pit, etc.) can only be supervised by a single internal CSTA server.

A CSTA server can supervise up to 255 directory numbers (agent line, call pit, etc.), depending on the iPbx:

Platform	Aastra XS Aastra XL Aastra XD	Aastra 5000 Server	NeXspan 50, NeXspan 500 R4.2
Number of CSTA servers per platform	8	8	8, on 8 different CCUs
Total number of directory supervisions per CSTA server	255	255	255
Total number of directory supervisions per platform	64	128	2040

Interactive voice server capacity

64 VoIP, see the description of ACP - Contact Centre for details of the functions of this interactive voice server.

The ACP-server and user-PC prerequisites for the agents and supervisors are the same as the ACP prerequisites for call centre agents.

ACP Web Attendant and ACP Contact Centre capacities

The table below shows the different Web Attendant and Contact Centre limitations:

		Capacity	**Comments**
Per network	Number of **servers**	**10**	**FOR AN AASTRA MULTI-SITE, A MAXIMUM OF EIGHT SERVERS CAN BE CONNECTED.**
	Number of **agents** connected simultaneously (multi-servers)	3000	Maximum number of users (including agents and **attendant consoles**)
	Number of web attendant consoles connected simultaneously (multi-servers)	640	
	Number of CSTA resources	2040	Per multi-site (8 links, 255 resources per link)
Per server	Number of **agents** defined	600	Including 300 simultaneous connections (agents and attendant consoles included) Note that an agent may generate more than one simultaneous connection (if he or she uses, for instance, the Web Services tool kit for record pop-up.
	Number of attendant consoles defined	128	Including 64 simultaneous connections
	Number of **extensions** per agent telephone or attendant console	6	Including both professional and personal extensions
	Number of administrators defined	8	Including only 1 connected simultaneously

		Capacity	Comments
	Number of service managers, team managers and team supervisors defined	100	Including 50 connected simultaneously
	Number of **filters**	100	
	Total number of **IVR** channels	64	
	Number of Media Servers	4	
	Number of Services	50	Including 25 in production, 16 versions per service.
	Number of **teams** defined	50	
	Number of **languages** defined	50	100 levels per language
	Number of **skills** defined	100	100 levels per skill
	Number of simultaneous **multimedia sessions**	300	And 300 on standby for processing or in automatic processing mode
	Consolidated statistics lifecycle	10 years	
	Number of VTI-XML links	1	
	Number of CSTA links	8	
	Total number of directory records	100.000	All directories and users
Number of sets supervised per CSTA link	Aastra X Series, Aastra 5000 Server, NeXspan 500	255	
Traffic	**Voice**: with IVR	7000 calls / h	
	Voice: with strapping	6000 calls / h	
	Voice: without IVR with virtual hunt groups for incoming call queues	10,000 calls / h	
	Voice: without IVR with multi-CCO sets for incoming call queues[1]	3000 calls / h	
Number of contact centre agents per site	NeXspan 500, release 4.2	64 per cluster	2,500 calls / h and per cluster
	Aastra XL	96	3,500 calls / h
	Aastra 5000 Server	48	2,500 calls / h
	Aastra XS	16	1,500 calls / h
Number of	Without IVR/IP	2000	Up till R3.2

[1] Multi-CCO sets are available as of R1.3 E1T but with a maximum traffic rate of 1500 calls/h. As of R2.1 traffic with multi-CCO sets reach a maximum of 3000 calls /h.

		Capacity	Comments
subscribers supervised (via the directory) depending on IVR/IP traffic		subscribers	
		4000 subscribers	As of R4.1
	IVR/IP traffic: 2,800 calls/hour	1200	Up till R3.2
		2400	As of R4.1
	IVR/IP traffic: 4200 calls/hour	800	Up till R3.2
		1600	As of R4.1
	IVR/IP traffic: 7000 calls/hour	0	

The bandwidth used by the web portal is, without portal startup and depending on the values fixed in ACP R1.2 Ordering Guide), 25 kbits/s per application connected without directory access (contact centre). This bandwidth is only applicable if at least 4 agents are sharing the same network link. With directory access (Web Attendant), the maximum bandwidth is 75Kbits/s.

The rate of broadcast has an immediate effect on the portal bandwidth. Generally, by duplicating the period between two broadcasts (here 10 seconds, then 20 secs), the average useful bandwidth in the classical running mode regime is divided by two (thus 12.5 kbits/s).

54.10 Ordering ACP R1.2

The server pack must be ordered for any new product purchased.

It contains:

- A DVD with the software
- A USB dongle
- The ACP R1.2 licence

It is necessary to add to this pack:

- The required agent licences, channels, HMP, TTS, CSTA;
  the CSTA licence is a PBX licence. It is included but may sometimes not be enough.
- **Analogue** (Dialogic) **cards**, or Ethernet boards if necessary.

For the server PC, Aastra proposes a range of **Dell servers** in its catalogue. *See ACP R1.2 Ordering Guide for PC prerequisites, and Server Ordering Guide for detailed server hardware characteristics.*

Factory integration is possible and available in the Aastra catalogue.

Licences:

The table below gives a summary of available licences / unlocked functions. For more details about the licences, see ACP R1.2 Ordering Guide.

		Licences													
		Logged agents	Incoming call agents	Outgoing call agents	Agent CTI	Multimedia agents	Routing script (*)	Directory access	IVR channels	Conference ACP	TTS ACP	Voice + G711 HMP	G723 G729 HMP	Conf HMP	TTS
Services	Contact Centre	X	O	O	O	O	R	O							
	Web Attendant	X	X			O	O	R							
	IVR						R		X		O	O	O		O
	Conference call						O			X	O	X	O	X	O

Caption:

X: licence required to unlock the function

R: recommended

O: optional.

(*): the total number of routing scripts required is equal to the maximum between the number of incoming call agents and the number of IVR channels.

GLOSSARY

ACD (Automatic Call Distribution)

It routes incoming and outgoing calls to the most appropriate available agent. It manages incoming and outgoing calls (either voice, mail calls).

ACP media server

Application managing the interactions between the system and callers, using IVR scripts on a telephone line. It answers, transfers a call and hangs up.

Agent

The agents of a Service are people who can answer calls for that Service. Agents must be chosen among the defined users.

API

An API or Application Programming Interface is the specific method prescribed by an operating system or a program with which a programmer writing an application can make requests to the operating system or to another application.

Call Back to attendant

Call back to attendant is a feature used to manage incoming calls arriving directly or indirectly on a terminal but which has not been picked up.

There are two types of call returning to attendant: answered call or unanswered call returns.

This feature is available only in a CSTA configuration without IVR.

Call pits

Extension defined in the iPbx and used by ACP to either receive incoming calls or play back voice messages to callers.

CSTA (Computed Supported Telecommunications Applications)

CSTA is an international standard, an ECMA standard, which defines an interface between telephony and computer systems. It defines the type of information (e.g. new call, on-hold call, end of call, etc.) the iPbx (telephony) must provide the ACP (computer system) according to changes in the status of a call. It also specifies which actions (call transfer, pick-up, etc.) can be taken by the iPbx at the request of ACP.

The native purpose of CSTA is to supervise objects – digital, IP terminals, and calls – voice calls, email sessions, chat, in a given computing environment

Department

A service defines a "category of calls", i.e. the way some calls are handled. A service type is either "Incoming" or "Outgoing".

DN (or DNR)

Directory Number: *Directory number.*

DNIS

Dialled Number Identification Service: service call number

Incoming service

This service is a Service in which all calls are coming in the contact centre, e.g. a technical hotline. Agents receive calls distributed by the application. When an incoming call is detected, the system can interact with the customer using Interactive Voice Response (IVR) features, and finally the call will be transferred to an available agent.

IVR (Interactive Voice Response)

Enables callers to access and retrieve information over the phone, without the intervention of a human operator. The caller uses a DTMF phone to enter information and a digitized synthetic voice to present the results.

Mailbox

The mailbox is the delivery location for all incoming mail messages sent to a designated owner. Information in a user's mailbox is stored in the private database located on an MS Exchange Server computer. A mailbox contains received messages, message attachments, folders, folder hierarchy, etc.

Manager

The managers of a service are the people who can manage the service, i.e. who may open and modify the content of the service with the Service Manager application.

Media

A media is a means of broadcasting, distributing, or transmitting signals carrying written, sound or visual messages. The media used are:

- Voice
- E-mail and fax
- Web.

ODBC (Open DataBase Connectivity)

A standard protocol allows applications to connect to different external database servers or files, without having to know the specifications of those systems.

Operating system compatibility

Contact Centre applications are compatible with Windows 2000 Server, 2003 Server or XP Pro, in French or American English only. Always install the latest Service Pack recommended by Microsoft: For Windows XP Pro in particular, you need at least Service Pack 2. For more details, see ACP R1.2 Ordering Guide.

Outgoing service

This service is a service in which all calls are going out of the contact centre, for example in "telemarketing". When an agent is idle, he or she can be selected by the system to handle an outgoing call.

Private extension

A private extension of a telephone is a supervised extension to which the ACP server will never route any incoming or outgoing calls. So, a private extension can only be used to place or receive private calls. It is declared in ACP in order to take account of the presence of a call on it and thus (not) distribute calls to professional extensions.

Professional extension

A professional extension of a telephone is an extension to which the ACP server can route incoming or outgoing calls. (It may also be used to place or receive private calls).

Reject 21

Reject21 is a feature that allows you to refuse incoming calls if necessary.

For example, the calls of a Service can be refused when the current load in incoming or other calls become too important or if the current day is a holiday. In this case, calls are rejected by the PBX itself, and should be managed on the front-end (i.e. by the PSTN as reject 21 is an element from ISDN frame).

This feature is available only in a CSTA configuration without IVR.

Skill

A Skill defines a competence that an agent may have. Skills are used to determine the agent to whom a call or an e-mail will be transferred. Skills allow more precise transfers than teams, since each agent can have an individual skill level.

Snapshot

File (extension .snp) containing a high fidelity copy of each page in a Microsoft Access or Excel report, and preserving the page layout in two dimensions, the graphic views and other objects included in the report.

Team

The agents of a Service can be grouped into Teams. Teams define groups of agents having common characteristics.

VTI/XML

A proprietary protocol used to off-hook/on-hook from the agent application.

Web Service

Web Services are services available from a web server to web users or other programs connected by the web. Web Services are becoming increasingly popular due to the use of XML (eXtensible Markup Language) as medium for standardisation of formats and data exchanges.