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## Voice Concentrators' Systems

In the **Call** and **Contact Center** word, it's usual to refer to the type-**ACD** technologies and terminologies as the identifier of an automatic system of calls distribution, to **IVR** as intelligent voice recognition and treatment systems, to **DIALERS** as automatic telephone dialing, but the name of **voice concentrators** is not often used as a possible technological and functional component of a **Call Center**.

The professionals of the voice treatment technological world may have come across the **voice concentrator** term, but maybe they have not considered the features and the functionality of these systems.

The **voice concentrators** are conversations' treatment systems that can concentrate several information sources at the same time and in a single control station called "console".



The **voice concentrators** provide a highly specialized voice technology for a market sector in which, generally, the importance of the results is focused towards the "business", and the "client" is not part of the direct parameters of the service. This describes the product as a system addressed to the **Call Centers** but without the Clients' suffix.

The **Voice Concentrators** offer an architecture with two great logistic and physical blocks:

- The first block is the Control System made up of one or several rack-type cabinets where all the similar elements of the installation are located and can be managed. The number of cabinets depends on the number of workstations, as well as on the various types of interconnection with the outside.
- The second block belongs to the workstations or "consoles" connected to the Control System through a "Structured Cabling" infrastructure. The

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workstations, or consoles, are equipped technologically in order to gather between one and thirty-two speech flow sources on a single listening device.

Though the objective is to have a single reception point, the current systems have been configured with two or several, so as to strengthen the security measures, as well as the configuration and the logic programming depending on the needs of the service. The reception elements go from small monaural or binaural receivers that allow working with the hands-free modality to the classical receivers whose dimensions and power are adapted to the needs.

Logically and due to the design, these systems are not aimed at being used during simultaneous conversations or dialogues, as they are listening posts with a discreet speech flow that can be selected over time.

Though every interconnection link is bidirectional (full-duplex), what allows the voice transmission in both directions, any time and under the control of the console operator.

It allows having dialogues not only from the sources of telephonic links, but they do also include facilities for radio links and, in some systems, video links.

Due to the specialization of the users of these systems, the typical installations of the Voice Concentrators support a high number of consoles among dozens of users, even hundreds of users, but not exceeding five hundred posts. This limitation is not technological but related to the market requirement.

## Which sector is this product addressed to?

The **Voice Concentrators** have been designed to meet the needs of the companies in which the business decisions depend on a variable market offer according to time. They are specific equipment for “**Trading Desks**”, “**Treasury and Stock Rooms**” and “**Security Centers**”. In general, the users of the **Voice Concentrators** are very specialized people and, therefore, with a low position rotation index.

The direct influence of these systems in the business results makes that the reliability, the security and the stability predominate in the design and the architecture of these systems. The required reliability for the service recommends that the systems be installed with every critical and redundant element of the **Control System**, in order to be able to keep the service active as much time as possible.

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Due to security reasons and due to the importance of the information processed, the Voice Concentrators systems are equipped with a continuous recording system so as to have them available for possible legal lawsuits.

Due to speed and reliability reasons too, these systems are usually equipped with interconnection links called head-tail or point-to-point, which provide a voice service without dialing in order to link with the appropriate interlocutor.



The **Control System** contains all the system's central management, among which we find:

- **Central Management and Control Unit** equipped with its own internal CPU, working under a non-proprietary operating system like Windows 2003 Server, and with standard databases (SQL Server, etc).
- Screen and keyboard for the management and control of the system.
- Interconnection interface of external links that support:
  - Analogical links.
  - Head-tail or point-to-point links.
  - Digital structured links, including interconnection protocols with exchange (QSIG, DPNSS, etc).
  - IP links.
- Interconnection interface of agents' consoles, which offer certain autonomy as they include a native Linux processor.
- Commutation matrix.
- Synchronism cards for a correct system timing.

The traditional place of an operator, called "console" is configured though:

- Agent or console instrument equipped with its own internal CPU with a code developed on Linux.

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- A screen for the dialogue and visualization of the system messages in the initialization and configuration tasks. Some systems are equipped with a touch screen that makes some of the interactive operations easier.
- Status lights that identify, though different colors, the possible states of a certain link.
- Programmable keys to carry out direct functions.
- Generally, two receivers to interact and assign to independent lines.
- A variable number of loudspeakers, each one being able to support some eight simultaneous conversations.

Among the functionalities, these systems offer, apart from the ones stated above, we could highlight:

- Definition of users' "groups" and "work groups" so as to make the management of the conferences easier.
- Support of Phonebooks customized by the user and with multiple pagination.
- Multiple and simultaneous call dialing regarding work groups.
- Multiple listening, being able to program and configure most of the combinations one can think about. The activation and deactivation programming of the various members of a gathering with a multiple listening can be configured at a user or users' group level.
- Conference with line, user's group or total with every member of the gathering.
- Support for every active line of the following telephone functionalities: **"Multi-conferencia", "Hold", "Wrap-up", "Cancel", "Mute", "Auto-Answer", "Multi-Dial"**
- Listening levels that can be programmed with the **"Highlight"** function regarding the link or group line.
- **"Broadcast"** messages for every user of the system.
- Support and integration with corporate PBXs.
- Support and integration with CTI technology, which the system includes.
- User interface to create diaries, to visualize historical records, etc., very similar to a current mobile phone.

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- The possibility to access the work center remotely, whether through a PC application or through a PDA or mobile phone, but without reducing the available functionalities.
- Integration with the third parties' systems through **CTI** and with client's business platforms (video reception at the console, integration of the contacts).

Finally, we should highlight the progressive incorporation of every technological advance available in the market and related to the telephone processes to the **Voice Concentrators**.

Nowadays, the IP era has reached the **Voice Concentrators'** word too, integrating its technology in its architecture and functionality, and facilitating the incorporation of remote workstations through the Internet, as well as the integration with every media using **IPTrunk** connections.

Another reality of the market is the incorporation of the functionalities these systems offer to the company's business applications through **CTI** technology and integration libraries within the development environments of the corporate software applications.