

## **THE ARCHITECTURE OF THE OPEN SERVER FOR INTERACTIVE INFORMATION AND SERVICE SYSTEMS**

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The architecture of the access server for interactive information and service system is considered. Property of a hierarchical openness of information and service systems is described.

The end users of computer information systems are often the general population. However, for a long time direct communication with computer information systems has been unavailable for the general population. Communication with these information systems was made through operators or agents. Users often did not like such communication through intermediaries because the information was filtered by the agents or operators such that the users were not aware of what might be altered or not communicated. Access to the information systems from personal computers through the Internet solved this problem, but only for a limited number of the general population. The problem of expanding the number of users having direct communication with service systems, is solved by realization of a voice interface component (access server).

As a rule development of voice interfaces, even based on new technologies, cannot be considered complete while the systems are not supplied with a user-friendly interface.

The principle of an access server consists of the following parts: first, the system should be accessible to users through different forms of communication including: clients of fix location telephones, clients of mobile telephones, people with computers connected to the Internet through various providers, and clients with IP phones. Secondly, the system should be open for interaction with different service applications.

Feature of the automated systems includes the following components:

- Accessibility for users to use various modes of communication;
- Accessibility at the level of the physical channel (Internet, an analog and digital telephone lines, VoIP and so on);
- An open platform for programming applications;
- The opportunity to access the system through speech recognition systems (engines) and text-to-speech systems of various developers;
- The availability of access to various databases.

Technical and functional features of access servers are considered. Some modular telecommunication platforms have resulted. These may be used in the design of access servers for interaction with other systems. At the same time such modules can be an effective tool for improving the handling of in-coming calls by combining functions of a productive secretary and a multipurpose access server. A server based on such platforms function 24 hours per day handling many users simultaneously while also accepting and sending faxes, sms and e-mails messages.

As an example the access server understanding Russian speech is described. Recognition of calls and communication control is carried out through the combining of an automated speech recognition system developed by the Nuance Company with application programs. The telephone part of the access server works on the basis of reliable Intel Dialogic hardware and Smartphone software. Routing of calls is carried out by multichannel telephone numbers. An access server can then handle the calls in various ways including giving direct call-in access to company employees: by name and surname, to departments by name, to information about services or products of the company, etc. The access server can communicate in different languages. Access to external databases is transferred through standard inter-computer communication protocols such as TCP/IP. Processing of sms, e-mails, and faxes is also possible with the same access server.