

CONCEPTION OF AN INTELLECTUAL ELECTORAL SYSTEM

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In Azerbaijan Republic during the elections mainly the following electoral systems are used. Voting, having three-staged hierarchy structure, the authority- Central Election Committee, which holds elections, is the upper level. The second level of Central Election Committee is District Election Committee (area election committee during presidential elections) and the last level is station election committee. The staged structural scheme of the voting was given below.

District election committees (area election committees) surround all the territory of the republic and each district election committee (area election committees) in its place forms low level election committee-station election committee. Voting and calculation of votes are realized in stations. As election station is not an independent election unit, candidates are nominated to election from districts. Elections can only be considered realized or non-realized from one-mandatory or unique multi-mandatory election district.

Election stations form district within area, and helps district committee for electors' voting and calculation of votes.

The area of system:

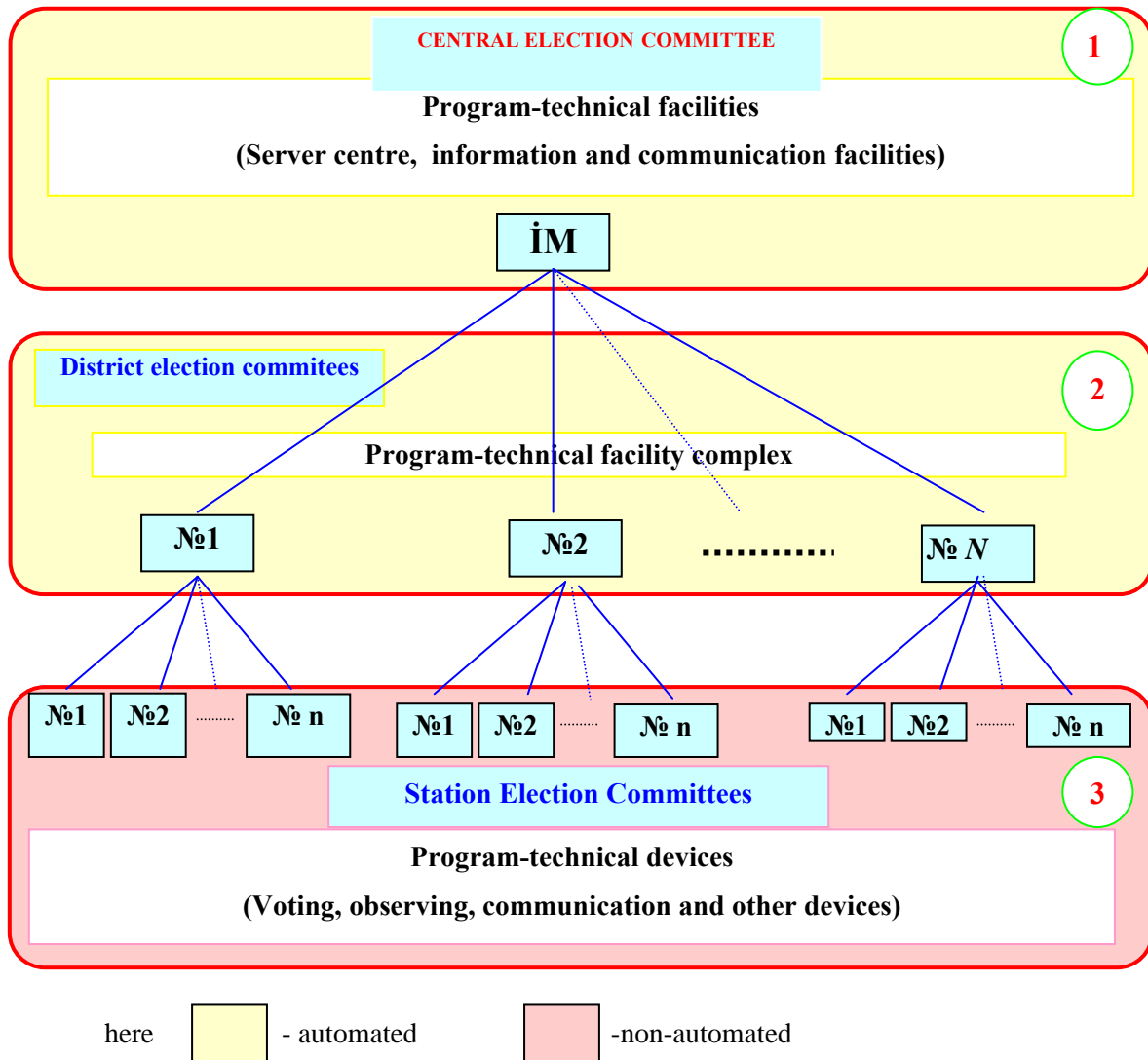
- "Elections" Data Systems Complex consists of two autonomous INTERNET and State Automated Data System (SADS) networks, which are isolated from each other for exchange of information. These closed networks are global networks and form unique Server Center;
- Database is placed on Server Center (SC), information is grouped by special filter program and definite part of it is placed on INTERNET server for informing people;
- District election committees (DEC) can take the necessary data on base of special "advantage" remote standard program module;
- "Electronic ballot-boxes" are proposed instead of voting-boxes. These boxes are prepared by special technologies. Identification cards of electors, coded special cards, numbered ballot-papers, identification devices, mobile phones, electronic signatures and so on are considered to be used.

The following functions are considered in the system structure:

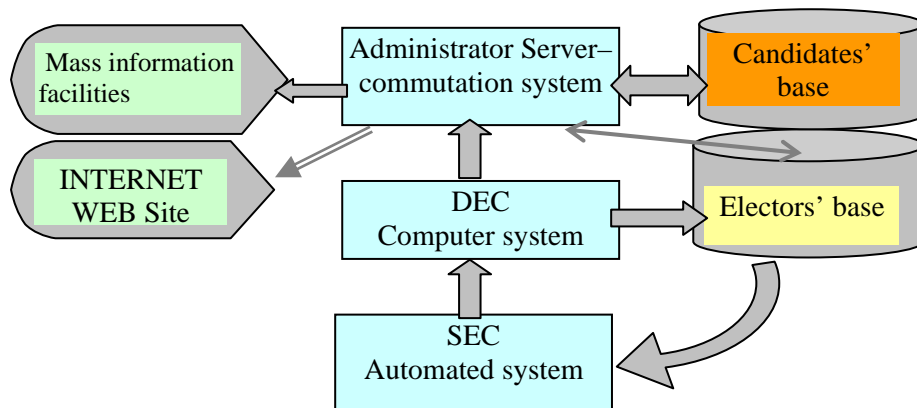
- To use separated channels between DES and CEC by modern communication channels in our republic;
- To use new data provider, which improves and renews "Electors' base";
- To form a unique Register of citizens and by connecting to this base to create a unique Electoral program for providing operative refreshing of database;
- To form special "identification" system (IS), which registers electors in election stations, and to provide the connection of it to general SADS;
- To apply progressive methods in voting process by entering identification cards to IS by mobile phone, electronic signature and so on.

Program-technical facilities complex of DEC and ESC:

The first variant – consists of Off-Line-Terminal, which works in off-line mode, and its structural content contains the last generation computer system, the part of applied software and local base of input data.



The proposed scheme of «Elections» computer system:



The second variant is On-Line-Terminal, which works on remote access regime, its structural content is simple and cheap, only standard software is placed in it. When connection with SKM is stopped, On-Line-Terminal works short-term off-line mode and has data sources.

The following devices are connected to Terminal:

- voting device;
- identification and registering device;
- visualization device.

Transmission of input data:

Transmission of input data is adapted to real possibilities and realized by the following communication facilities:

- **Phone communication:** the most profitable and used way for transmitting information by cable lines;
- **Mobile phone communication:** Transmitting the information by mobile phone and connecting to INTRANET is a reality of today. Mobile phones can be also used in areas, where ordinary phone lines are not available, but mobile communication is possible;
- **Radio communication:** it can be effectively used in connecting election stations to network, where phone lines and mobile communication are not available. By setting central antenna in districts it is possible to connect all stations to network, which is situated at 40 km radii;
- **Satellite communication:** this communication is possible for connection of all computers without any obstacles, but is very expensive method. Standard Satellite is a solution of a problem in the connection to data network by internet. In this case distance and geographical relief are not considered.

On elections day the formation of regional commutation centers (RCC), which have permanent connection with SKM, is supposed. RCC must be INTRANET-provider for transmitting election input data to network of the republic. The majority of SEC will receive access to SKM from RCC. Some of them may have direct connection with SKM. Connection of SEC terminals with RCC can be permanent or in definite periods.

Replacement of RCC is determined by state system of input data transmission.

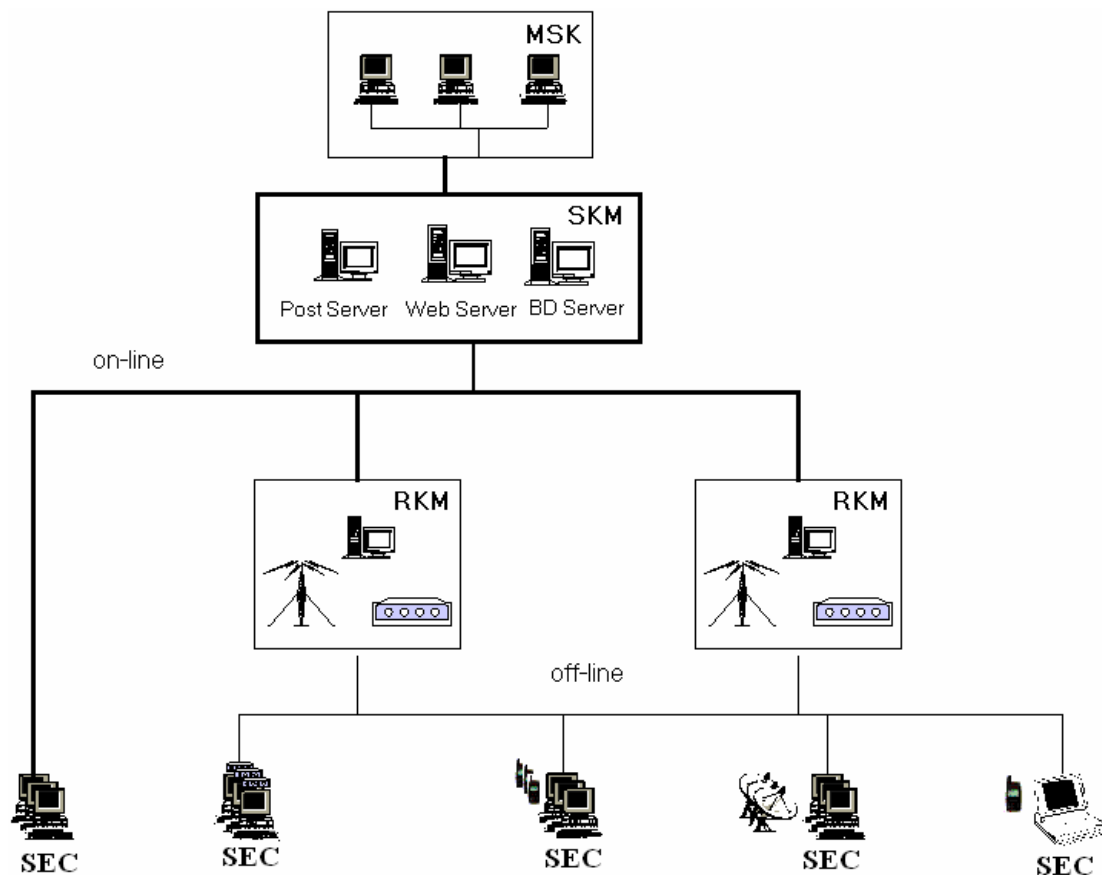
Advantages of centralization and use of data:

In Server-Commutation Centre the centralization and use of data have the following advantages:

- protection of data from loss and damage;
- protection of programs and input data at a necessary level;
- less need for skilled specialists;
- in software arbitrary changes-modified PT is immediately available for all users and there is no need for refreshing it;
- expenses for techniques and specialized staff are diminished
- obtaining, adaptation and exploitation expenses for software of complex are decreased.

In election committees:

- Technical requirements for terminals of system are diminished (Terminal only fulfills the interface of user, data reserving and using are carried out in servers of SKM);
- Unique standard interface requires minimum training of users; Web-interface is simple and easily available.
- Standard software (SS) enters to receiving group of computers and is highly reliable;
- it is improved and developed by firm-producer
- requires minimum "administrator" work.



Exploitation of technical facilities of election committees must be so simple, that short-term training in regional technical service centre can give enough knowledge to members of commission to fulfill necessary tasks.

During realization of conception the other problems must be stated. Realization of this project can be used for reforms in education and other spheres and in solutions of main programs of government. Realization of new variant of sufficiently intellectual, social-technical system "Elections" General Automated Computer System is a development in information technologies and is affair of State importance.