POSSIBILITIES AND TECHNICAL SOLUTIONS FOR THE USE OF INTELLIGENT NETWORKS IN RAILWAY TRANSPORT

Master's Degree: **A.A. Azimov**,
MTT-33 group,
Tashkent State Transport University
Supervisor: **S.S. Khalikov**,
Ph.D., Associate Professor
Tashkent State Transport University

Annotation:The article discusses the methods of converging the communication networks and technical means of the interactive service system in railway transport in one system, as well as the advantages and possibilities of self-service terminal technical means.

Keywords: Railway, transport, interactive, communication networks, technical means, system, service, opportunity.

Improving the various interactive service systems through the railway network, optimizing the technological processes of freight and passenger transportation and the development of technical solutions to ensure their safety through intelligent systems, reducing the time, technical means, overstaffing, energy saving, improving the quality of service, ensuring a high level of safety, preventing changes in the schedule, creating the ability to predict cargo and passenger capacity.

We will consider the network of self-service terminal operator for passenger transport services in railway transport and its equipment. Figure 1 shows a general block diagram of the use of interactive service devices and communication networks to users. Automatic workstations (AWS) have been set up to enter information on a regular basis and monitor their status. Interactive services for monitoring each operation and their status in the database, as well as information input / output server software provide integration with the main server (BO-NBAT) of the automated system for control and management of ticket operations [1].
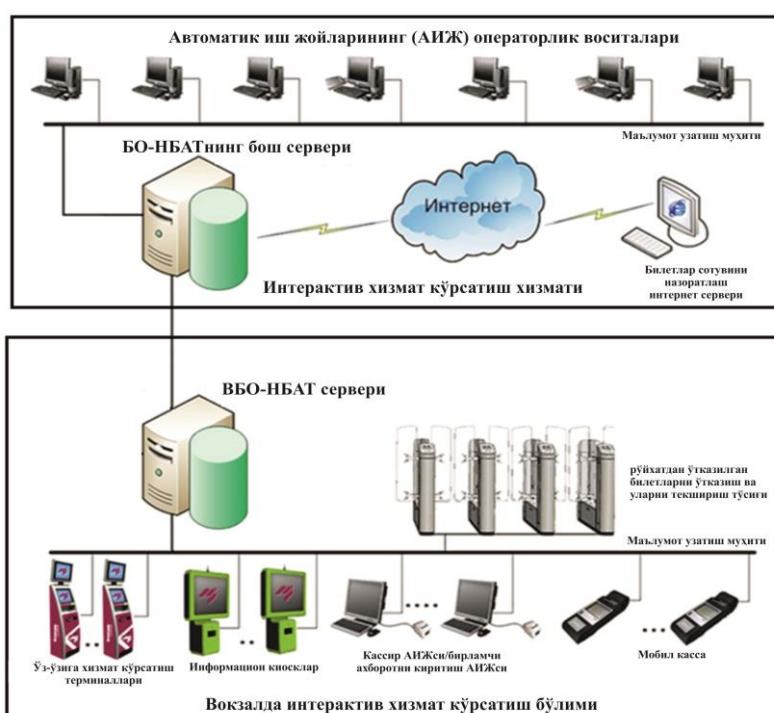

Figure 1. General block diagram of the use of interactive devices and communication networks for users

The BO-NBAT main server is connected to one of the automated ticketing control and management systems (VBO-NBAT) located at the station. Existing communication lines are used between the main and executive servers, such as fiber optic and radio relay communication lines. The VBO-NBAT server controls and manages the AIJ cashiers. Typically, AIJ cashiers serve autonomously without staff. In some cases, including troubleshooting, such as changing train schedules, system checks and queries from the main server, inputting information into terminals, etc., AIJ personal cashiers perform rapid information entry and server monitoring. Self-service terminals and information kiosks can be in one set. Self-service terminals perform payment transactions by users via a plastic card or on a cash basis. Processes user-selected service commands by accessing a terminal private block system or BO-ABNT server. The terminals are equipped with a standard operating system, which supports server interfaces in a single system.

Thus, the establishment of an interactive service network in railway transport can further improve the quality of service, regulate the purchase of tickets for passenger service and simultaneously control the sale of tickets in accordance with the train schedule [2, 3].

The above system does not control the subscribers to the train to ensure their safety. Therefore, in Figure 2, we introduce the system functions related to the scheme of practical application of the access control and management system. This system is manifested as an access control and management system (KNBT) when moving to a designated point. KNBT is a set of hardware and software that allows or restricts the movement of objects and their boundaries in the same mode in the movement of passengers. The work of the system is divided into two directions: control of the device blocking the specified crossing point, as well as identifying the user and entering them into the database. The great importance of this system is that it is designed for uninterrupted service and operation without human intervention.
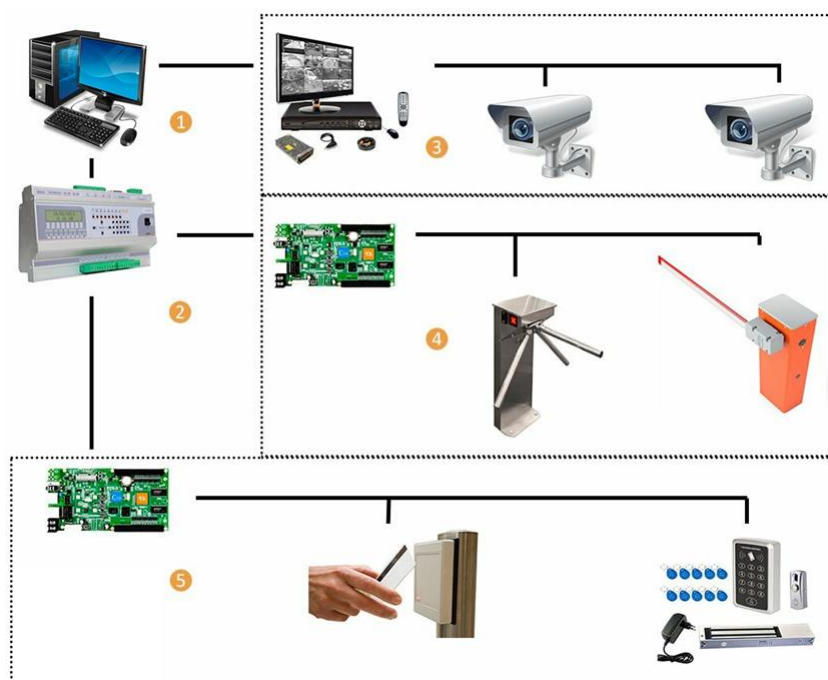

Figure 2. Scheme of practical application of access control and management system: 1 - central server; 2 - controller-router; 3 - video surveillance system; 4 - turnstile and barrier; 5 - Personal card decoder and automatic locks to allow access

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