Lecture-9. Unified transport network of state bodies

Purpose of the Lecture

The purpose of this lecture is to provide students with an understanding of the Unified Transport Network (UTN) of state bodies — its structure, purpose, components, and role in ensuring secure and efficient data exchange between government institutions. The lecture focuses on how the UTN supports e-government infrastructure, ensures confidentiality and reliability of information transmission, and integrates with national information and communication systems.

Learning Objectives
By the end of this lecture, students should be able to:
1. Define the concept and structure of the Unified Transport Network (UTN) of state bodies.
2. Explain the role of the UTN in supporting state information systems and e-government platforms.
3. Identify the key components and technologies used in the UTN.
4. Describe the organizational and technical requirements for maintaining UTN reliability and security.
5. Analyze the interaction between the UTN and other national information infrastructures.

The unified transport environment of state bodies (UTS GO) is a telecommunications network that is part of the information and communication infrastructure of "electronic government" and is designed to ensure the interaction of local (with the exception of local networks with access to the Internet), departmental and corporate telecommunications networks of state bodies, their subordinate organizations and local governments, as well as other subjects of informatization, determined by the authorized body, in compliance with the required level of information security.

The creation of the UTS GO is necessary to unify the requirements and rationalize the state's costs for the operation and provision of information security for state bodies and organizations.

State bodies, their subordinate organizations and local governments (akimats), as well as other subjects of informatization, determined by the authorized body, for the interaction of local (with the exception of local networks with access to the Internet), departmental and corporate networks are obliged to use exclusively UTS GO.

In order to ensure information security, the connection of local, departmental and corporate networks connected to a single transport environment of state bodies to public telecommunications networks and other telecommunications networks is carried out in accordance with uniform requirements in the field of ICT and information security.

Connection of local, departmental and corporate telecommunications networks of state bodies, local governments, state legal entities, subjects of the quasi-public sector, as well as owners or owners of KVOIKI to the Internet is carried out by telecom operators through a single Internet access gateway. Connecting and passing the traffic of telecom operators through a single Internet access gateway is carried out on a contractual basis.

Connection of local, departmental and corporate telecommunications networks of state bodies and local governments to the Internet is carried out in accordance with uniform requirements in the field of ICT and information security.

For operational purposes, special state and law enforcement agencies, the National Bank of the Republic of Kazakhstan may organize connections to the Internet without using a single Internet access gateway.

Electronic interaction of the state body's e-mail with external e-mail is carried out by redirecting electronic messages through a single "electronic government" e-mail gateway.

Control Questions
1. What is the purpose of the Unified Transport Network of state bodies?
2. Describe the main structural components of the UTN.
3. What are the primary functions and capabilities of the UTN?
4. Which state body is responsible for maintaining and managing the UTN?
5. What are the security objectives of the UTN?
6. Explain how the UTN supports e-government and interdepartmental data exchange.
7. What technical and organizational measures ensure the reliability of the UTN?
8. How are incidents and cyber threats handled in the UTN environment?
9. Describe examples of national UTN implementations.
10. What are the main directions for future development of the UTN?

Recommended Literature
1. Laudon, K. C., & Laudon, J. P. (2020). *Management Information Systems: Managing the Digital Firm*. 16th Edition. Pearson.
2. Stallings, W. (2021). *Network Security Essentials: Applications and Standards*. 7th Edition. Pearson.
3. Whitman, M. E., & Mattord, H. J. (2021). *Principles of Information Security*. 7th Edition. Cengage Learning.
4. Solms, R. von, & Niekerk, J. van. (2018). *Information Security Governance*. Springer.
5. Ministry of Digital Development (Kazakhstan). *Concept for the Development of the Unified Transport Environment of State Bodies*, latest version.
6. OECD (2021). *Digital Government Review: Cybersecurity and Infrastructure Protection*.