

## **INTERNET AND EXTRANET**

**Qurbonaliyev Sanjar<sup>1</sup>**

<sup>1</sup>Tashkent Hygrometeorological Technical school special science teacher, 45  
Str.Takhtapul, 100019 Tashkent, Uzbekistan

### **Abstract**

Internet and Extranet are the two very important elements of modern communication and sharing of information. The Internet is a universal network uniting millions of devices across the world whereas the Extranet is a limited expansion of the internal network of the organization which allows secure cooperation with external partners. This paper explains the design, usage, and uses of the two systems with a keen focus on their use in the global connectivity, business activities, and protection of information.

**Keywords:** Internet, Extranet, communication, network security, data sharing, information systems.

### **INTRODUCTION**

The Internet has changed the manner in which individuals and organizations interact, share information and get information. It is a huge system of interdependent computers which allows users to share resources all over the world. The Extranet, conversely, will expand the notion of private networking, i.e. controlled access to external users who are authorized, e.g. business partners or clients.

The Internet and the Extranet are essential to the current digital era and are essential to effective business communication, e-commerce, online collaboration, and data management. This paper gives a summary of their architecture, functionality and usage, their similarities and differences and the significance of their use in the modern information systems.

### **Discussion**

#### **The Internet**

The Internet is an international network of interconnected computer networks which employ standardized communication protocols, most commonly TCP/IP (Transmission Control Protocol/Internet Protocol) to connect the devices in the world. It allows access to enormous resources such as the World Wide Web, email, social media and online services.

#### **Key Components:**

- **Internet Service Providers (ISPs):** Organizations that offer Internet access to users.
- **Web Servers:** Systems that store and deliver web content to users upon request.
- **Routers and Gateways:** Devices that direct data packets between networks.
- **Domain Name System (DNS):** Translates domain names into IP addresses, simplifying navigation.

### **Functions of the Internet:**

- Global communication via email, chat, and video conferencing.
- Access to information through websites and databases.
- Online commerce, banking, and education.
- Cloud computing and data storage services.

### **The Extranet**

An Extranet is a closed network which applies Internet technology to safely provide a section of the information of the business to third parties like suppliers, customers or even partners. It takes an Intranet of an organization past its geographical limits, and it can facilitate teamwork without affecting the security of internal data.

### **Characteristics of an Extranet:**

- Restricted access controlled by authentication systems.
- Use of encryption and firewalls for data protection.
- Integration with company databases and web portals.
- Facilitates business-to-business (B2B) communication.

### **Applications of Extranet:**

- **Supply Chain Management:** Enables suppliers and distributors to access inventory and order data.
- **Customer Relationship Management (CRM):** Provides customers with support portals and order tracking.
- **Project Collaboration:** Allows multiple organizations to work together on shared projects in real time.

Differences between Internet and Extranet

<b>Feature</b>	<b>Internet</b>	<b>Extranet</b>
<b>Accessibility</b>	Open to all users globally	Restricted to authorized users
<b>Purpose</b>	Public communication and information sharing	Secure collaboration between organizations
<b>Security</b>	Lower (public access)	Higher (controlled access and encryption)

<b>Feature</b>	<b>Internet</b>	<b>Extranet</b>
<b>Ownership</b>	Publicly owned and managed	Privately owned and managed
<b>Example</b>	Websites, social media, online news	Supplier or customer portals, business networks

### **Advantages and Limitations**

#### **Advantages of the Internet:**

- Provides global connectivity.
- Facilitates information sharing and e-commerce.
- Supports education and research opportunities.

#### **Limitations of the Internet:**

- Vulnerable to security threats such as hacking and data breaches.
- May expose users to misinformation and cybercrime.

#### **Advantages of the Extranet:**

- Enhances secure collaboration with external partners.
- Reduces operational costs by automating data exchange.
- Improves efficiency in supply chain and project management.

#### **Limitations of the Extranet:**

- Requires significant investment in security infrastructure.
- Limited accessibility can reduce flexibility.
- Needs constant monitoring and maintenance.

### **Conclusion**

The Internet and Extranet are vital components of the digital era, each serving distinct but complementary purposes. The Internet connects people globally, facilitating communication and access to information, while the Extranet provides a secure environment for inter-organizational collaboration. Together, they support the seamless exchange of data across networks while maintaining the balance between openness and security. As technology advances, the integration of Internet and Extranet systems continues to shape the future of global communication and business operations.

### **References**

1. Tanenbaum, A. S., & Wetherall, D. J. (2011). *Computer Networks* (5th ed.). Pearson.
2. Forouzan, B. A. (2017). *Data Communications and Networking* (5th ed.). McGraw-Hill.

3. Kurose, J. F., & Ross, K. W. (2021). *Computer Networking: A Top-Down Approach* (8th ed.). Pearson.
4. Laudon, K. C., & Laudon, J. P. (2020). *Management Information Systems: Managing the Digital Firm* (17th ed.). Pearson.
5. Stallings, W. (2020). *Foundations of Modern Networking*. Addison-Wesley.