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ABOUT THE COMPONENTS OF THE INFORMATION TECHNOLOGY INFRASTRUCTURE

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Abstract
The article provides information about the components of the information technology infrastructure, and also describes the issues of their use in the sciences of this area.

Keywords: Information, technology, infrastructure, software, network, learning process.

AXBOROT TEXNOLOGIYALARI INFRATUZILMASINING TARKIBIY QISMLARI HAQIDA

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Annotatsiya
Maqolada axborot texnologiyalari infratuzilmasining tarkibiy qismlari haqida ma’lumotlar berilgan bo’lib, shu soha yuonalishidagi fanlarda foydalanish masalalari bayon qilingan.

Kalit so’zlar: axborot, texnologiya, infrastructura, dastur, tarmoq, oquv jarayoni.

Introduction

Information technology (IT) infrastructure is everything that an organization needs to create software, develop and deploy applications. It includes the hardware, network components, operating system, storage media and various applications that the organization uses to provide IT services and run internal software solutions.

The main complexity in managing IT infrastructure is the requirements for independent purchases and large initial investments. In addition, there are difficulties associated with maintaining and modernizing the IT infrastructure, which must be solved on their own.

The IT infrastructure of an organization is a set of all software, hardware, networks and connected services that make up the IT environment of an organization. Each component of the IT infrastructure provides various services and increases the overall efficiency of the

system. There is a wide range of components that make up the entire IT infrastructure system (Figure 1).

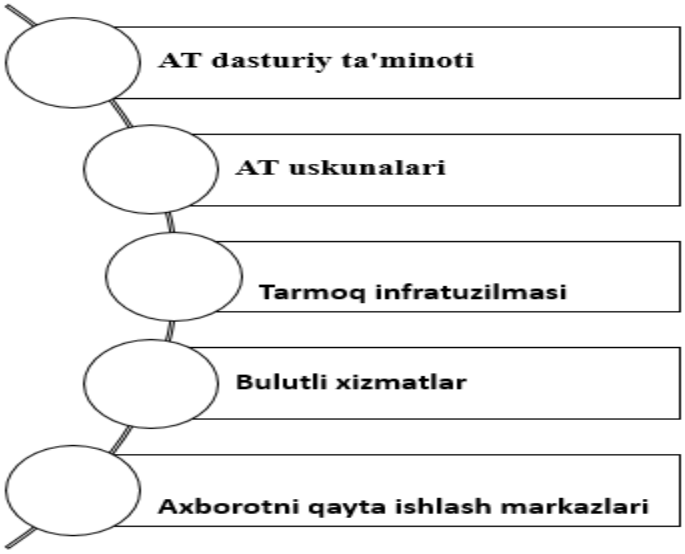

Figure 1. Components that make up an IT infrastructure system

As a result of the introduction of IT infrastructure into the enterprise, cloud computing technology is introduced, as a result of its adoption, third-party cloud providers will be able to fully meet most of the requirements of IT infrastructure. In this process, organizations will have the freedom to choose which infrastructure components to purchase and which to use as a service.

IT software

The IT infrastructure of software includes:

- Operating systems
- Cross-platform software
- Databases
- Application servers
- Customer relationship management (CRM)
- Enterprise resource planning software
- Content management systems
- Virtualization software

IT Equipment

IT equipment refers to all physical computers and devices used by an organization in its IT environment. Storage devices and servers that provide the enterprise with network resources are part of IT equipment. This category includes high-end devices such as computers, phones, and tablets.

Network Infrastructure

Network infrastructure allows organizations to connect to the Internet and communicate between different offices or data centers. You use network infrastructure to send and receive data across the Internet, local area networks (LANs), wide area networks (WANs), load balancers, and network protocols.

Cloud Services

Cloud services infrastructure refers to the platforms, software, and infrastructure that a third party provides to your organization. To eliminate the need for on-premises applications, you can use software as a service (SaaS) applications. Similarly, you can use the infrastructure as a service (IaaS) model to access your IT infrastructure from the cloud, outsourcing server needs.

What is outsourcing?

Accounting is an area where a number of confidential and very important corporate data are stored. Any ill-considered action, even small mistakes and omissions, can lead to an incompetent approach to work, inaccurate calculations, and even large fines. Therefore, accountants who are masters of their field are in high demand. It is they who calculate taxes payable to the budget. Large enterprises have the opportunity to hire accountants who meet the above requirements in their staff, who, in turn, demand high salaries. However, newly established, micro and small enterprises are not ready for such expenses. Many problems can arise due to the fact that hired accountants provide services without any documents, on the basis of a verbal agreement.

If an enterprise is engaged in several types of activity, hiring a separate qualified accountant for each activity, providing them with a monthly salary, workplace, software, etc., will entail significant costs.

Or, let's say, if a full-time accountant is leaving for some reason, who can be entrusted with accounting?

What can be the solution in such a complex situation?

The answer is simple - Outsourcing accounting.

The word "outsourcing" is borrowed from the English language and means using external sources on a contractual basis, that is, the services of companies providing outsourcing services. Outsourcing accounting is accounting carried out remotely by qualified specialists in the field. Outsourcing accounting, unlike hired accounting, involves long-term cooperation on a contractual basis, not partial or temporary transfer of accounting. Outsourcing accounting service providers are outsourcers. Currently, outsourcing services, and especially outsourcing accounting services, are widely used abroad rather than providing full-time employees. For example, in Belarus - 30%, in Europe - 86%, in the USA - 92%, and the highest figure is in Israel, where it is 96%.

Cloud storage is a service that allows you to place files on the servers of a service provider. You can upload photos, videos, music and other files to cloud storage to save space on your device's memory. In addition, you can back up or upload files that several users need to work on to the cloud.

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A data center is a room, and sometimes an entire building, where servers and network equipment are installed, which form the entire infrastructure to ensure uninterrupted and trouble-free operation.

To process and store information, companies use their own or rented data centers - data processing centers. The main task of such centers is to ensure uninterrupted connection of all personal computers and devices in the building to the network.

Data centers also include the following components:

- power subsystems;
- uninterruptible power supplies (UPS);
- backup generators;
- ventilation and cooling equipment;
- fire extinguishing systems;
- building security systems.

Security Infrastructure

In IT architecture, you can find IT security infrastructure everywhere. It serves to protect, encrypt and ensure the security of data. Authentication and authorization systems, detection and prevention systems, and encryption protocols fall into the category of infrastructure security.

What types of IT infrastructure are there?

Due to the development of the IT industry, there are various IT infrastructures that you can use and interact with.

Traditional Infrastructure

In traditional IT infrastructure, an organization owns the entire IT architecture that it uses. This means that it stores all the data on servers in its own facilities or in local data centers.

This method does not use the services or infrastructure of other companies. While traditional infrastructure offers some security advantages, it is expensive to install and requires significant maintenance and physical space.

Cloud infrastructure refers to the resources and systems that are obtained through cloud computing. Instead of purchasing and maintaining physical resources themselves, companies can rent computing resources.

Information infrastructure includes: information centers, subsystems, data and knowledge banks, communication systems, control centers, hardware and software, and technologies for collecting, storing, processing and transmitting information.

References

1. Gulbaev N.A., Amirova M.O‘. “Ta’lim jarayonida masofaviy ta’lim muammolari va yechimlari”. Kompyuter lingvistikasi: muammo va yechimlar (Kompyuternaya lingvistika: problemы i resheniya, Computational linguistics and solutions) mavzusidagi xalqaro an’anaviy onlayn ilmiy-amaliy konferensiya materiallari to‘plami. Toshkent, 16-may, 2022-y.

2. Gulbaev N.A., Xusanova N.A. “Ta’limda axborot texnologiyalari” fanida nazariy va amaliy bilimlar uyg’unligi ”. Mirovaya nauka. problemы i perspektivы razvitiya: Materialы V mejdunarodnoy nauchno-prakticheskoy konferensii (24-25 noyabrya 2022 g., Volgograd) Otv. red. Morozov S.A. – Izdatelstvo SPM «Akademiya prosveщeniya», Volgograd 2022. - 306 s.
3. Gulbaev N.A., Xalmetova M.X. “ Aqlli energetika tizimini boshqarishda modellashtirishning o‘rni (elektr tarmoqlari misolida)”. Monografiya. “Lesson Press” MChJ Nashriyoti. Toshkent 2022 y.