**Establishing Modern Master-level Studies in Information Systems   
561592-EPP-1-2015-1- FR-EPPKA2-CBHE-JP**

**ІT – infrastructure**

**Guidelines to perform laboratory works**

Laboratory work # 1

Topic: Analysis of the IT infrastructure of the company

**draft version**



Theoretical information

An IT infrastructure analysis should be based on a description of the enterprise architecture and a description of the main business processes. It should be shown how business processes are distributed across structural subdivisions and what IT infrastructure supports business processes of structural units and their interaction.

It is also worth noting how IT infrastructure is supported and provided.

IT Infrastructure Audit is a complex of measures for inventory, research and analysis of the components of the entire information system. An assessment of the infrastructure is in compliance with the requirements of the company, as well as the necessity and possibilities of modernization. The necessary part of the audit is checking the system for reliability and security (anti-virus protection, archiving, protection against unauthorized access). First of all, the audit is for companies who want to test how effective the existing IT infrastructure is. Find out how to make the most of your existing resources and get real recommendations for troubleshooting, as well as understand the need for upgrades.

Among other things, the audit of IT infrastructure is a necessary preliminary step for the conclusion of a service contract with a company that deals with IT outsourcing.

In the course of an audit, it is necessary to consider how processes are implemented in the company:

1. Management of problems and incidents. Incidents are any situations that require a reaction. These may be requests from users, crashes in the system. For the most successful implementation of this process, the task of which to identify and eliminate problems within the company, minimize the risk of their occurrence, a special service - Service Desk.

2. Configuration management. This process helps you get reliable and up-to-date information about IT infrastructure.

3. Manage changes

4. Manage releases. This is, in fact, the implementation of changes and control of the maintenance of IT infrastructure in their implementation.

5. Service level management. The task - to identify the optimal level of service, prevent the fall of the quality of services, eliminating poor quality services.

6. Financial management

7. Power management. The purpose of the process is to find the optimal capacity for the implementation of the main tasks.

8. Management of continuity. In the event of an emergency, the IT infrastructure should continue to work. Such situations include a fire, power outage, flood, etc.

9. Availability management. Accessibility directly affects the level of service.

**Task**

The object of analysis is enterprise, a company of choice students. It is advisable to choose one of the companies where at least one of the brigade members are working. In the absence of such a possibility, the enterprise identifies a teacher from the list of enterprises with which the practice agreements are concluded.

Carry out an audit of the company's IT infrastructure. Formulate positive and negative features of the IT infrastructure of the enterprise. Formulate tasks for improving the IT infrastructure of the enterprise.

Prepare report.

**Testing questions:**

* 1. Life Cycle of IT Infrastructure: Formation of Information Infrastructure.
  2. Life Cycle of IT Infrastructure: Organization of information storage.
  3. Data storage networks.
  4. Data storage systems with direct connection to the data transmission network.
  5. Reliability of data storage.
  6. Major server data centers platforms: IBM, Oracle, Dell, Fujitsu, HP.
  7. Computing infrastructure of the data center.
  8. Network Data Infrastructure.
  9. Engineering Infrastructure of the Data Center
  10. Composition and appointment of IP software.
  11. Data analysis software. Intellectualization of IP.
  12. Requirements for IC monitoring systems.
  13. Structure of management and monitoring of IC.
  14. Standards in the IT field. IS Audit and Assurance Standards.

**LIST OF RECOMMENDED LITERATURE**

1. Олейник А. И., Сизов А. В. (2012) ИТ-инфраструктура [Текст]: учеб.-метод. пособие / А. И. Олейник, А. В. Сизов; Нац .исслед. ун-т «Высшая школа экономики». — М.: Изд. дом Высшей школы экономики. — 134 с.
2. ITIL - IT Infrastructure Library - Available at <https://www.axelos.com/store>
3. Bernard S. A. (2005) Introduction to Enterprise Architecture; Publisher: authorHOUSE™
4. Alter S., "Work System Theory: Overview of Core Concepts, Extensions, and Challenges for the Future" (2013). Business Analytics and Information Systems. Paper 35.
5. Adner R., Kapoor, R. (2016). Right Tech, Wrong Time. Harvard business review, 94(11), 60-67.