Administração e Gestão de Infra-estruturas de IT
IT Infrastructure Management and Administration

Thematic Study (mini Project)

Prof. Rui Santos Cruz

rui.s.cruz@tecnico.ulisboa.pt

Project Scope

1. **Technologies/solutions/standards for the deployment of an IT infrastructure (choose a topic)**

    1. IT Service Management: ISO 38500, ISO 20000, ISO 27000, COBIT, ITIL;

    2. Continuity Management: High availability, Disaster Recovery and Prevention, Reliability, Risk assessment and management;

    3. Automation and Platform management: Continuous Integration, Delivery, De- ployment, and Operation, Configuration Management;

    4. Software Defined Infrastructure: Software Defined- Networking, Systems/ Servers, Storage, Data Center.

    5. Cloud Computing: Deployment and Service Models, Standards and Tools;

    6. Other topic proposed by the team/student (to be approved).

Project Scope

2. **Descriptions of the _key Tools_ you would prescribe for managing an IT Infrastructure**

   1. Application/Systems Automation, and Orchestration

   2. Configuration Management

   3. Monitoring and Performance Management

   4. Faults and Problems Handling

   5. Data Center Infrastructure Management

   6. Other: proposed by the team/student (to be approved)

Project Scope

3. **Demonstration of deployment of an IT Infrastructure**

    1. <u>Each team Proposes a scenario</u>, for example:

        1. A Retail Organisation with warehouses, offices, retail Stores (physical and online)

        2. A University with several campi spread in a Metropolitan area

        3. An Utility Organisation (Distribution of Electricity or Water, a Communications Services Provider)

    2. The demonstration must include a real deployment in a Cloud environment, including Applications, Services and Management, or equivalent (to be approved)

Project Scope

4. **Recommended Work Methodology**

   1. Select a **research on the topic** from **part 1** and propose a **scenario for the IT Infrastructure** of an organisation

   2. Make a research on the technologies, products and solutions related with the IT infrastructures (applicable in the context of the proposed scenario, i.e., geographically wide areas containing scattered zones with concentration of buildings, some of which longitudinally very long and with several security constrained zones).

   3. Draw diagrams of the IT infrastructure for the proposed scenario (you may use draw.io online tool for that purpose)

   4. Elaborate and describe your solution in a Report, including a high-level design of the network architecture (and the topologies) and of the technologies/solutions you would recommend.

   5. Create a demonstration of the solution. This demonstration will be necessary for the discussion.

   6. Prepare a Presentation (for no more than 30 minutes) of your research topic and the solution for the proposed scenario, that includes the real-life demonstration you have deployed.

Project Deliverables

5. **Producing and submitting your work**

   1. Use the LATEX template "IST-PROJECT-REPORT-ABSTRACT" (https://goo.gl/KmTMye) that is available at www.overleaf.com to write your Report.

   2. Your deliverables must be submitted in Fenix system. Check your student area and be attentive to an announcement on this subject.