

Network Services 1

School Year - 2019-2020





Licenciatura em Engenharia Informática
Ramo de Redes e Administração de Sistemas

Presentation

Teacher Contact

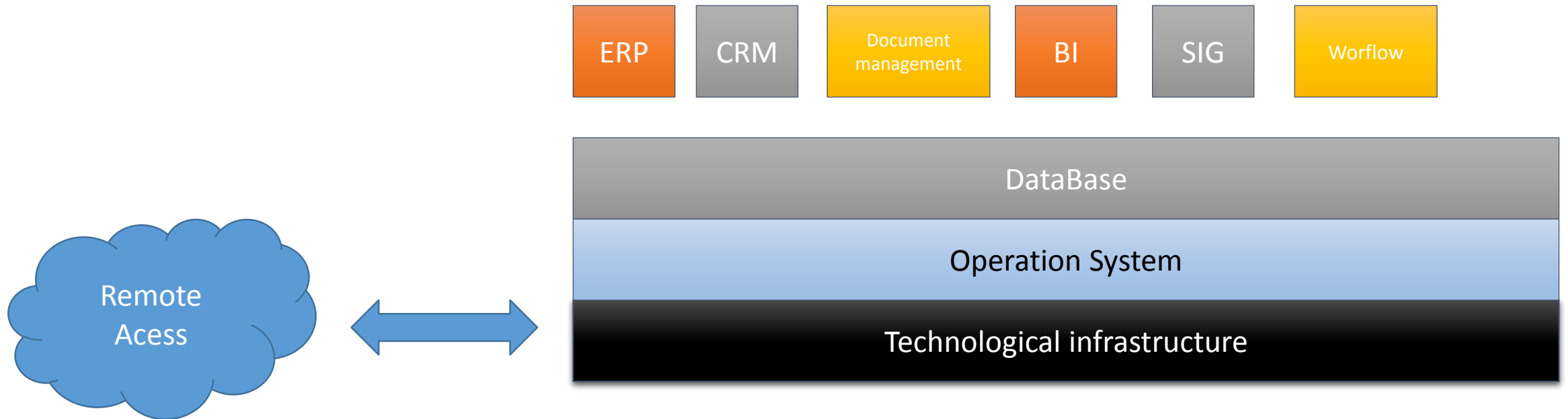
- Theoretical
 - Pedro Miguel Geirinhas (pedro.geirinhas@ccdrc.pt or pgeirinh@isec.pt)
- Practices
 - Pedro Miguel Geirinhas (pedro.geirinhas@ccdrc.pt or pgeirinh@isec.pt)
- And still...



Scope

- Modern organizations face new challenges imposed by globalization and digitalization (industry 4.0 and society 5.0), the new form of access to information and new forms of organizational management and human resources.
- The technological infrastructure has to respond to this new way of acting creating the conditions for:
 - making networks simple to use;
 - ensure that the network is reliable, and has the services and bandwidth appropriate to the needs;
 - ensure access to the internet / intranet for all employees;
 - develop remote access mechanisms that are both secure but that promote virtualization and relocation.

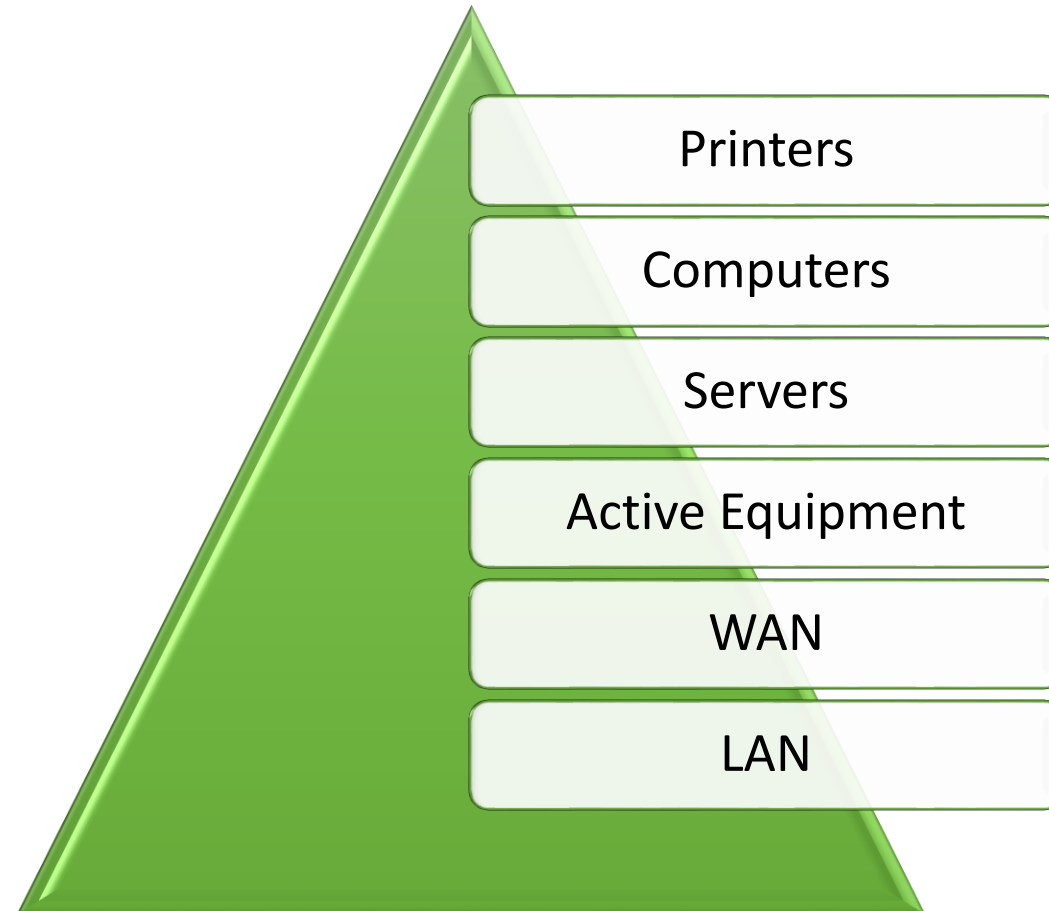
Technological infrastructure



Technological infrastructure

- **Technology infrastructure** means the computer and communications equipment used to support the computer applications used by an organization.
- The technical requirements of this infrastructure depend on the type of information system that the organization intends to develop in function of its strategic objectives, business processes, size and functional structure.

Technological infrastructure



Objectives

- It is intended that students acquire skills in planning, configuration and maintenance of support communication services:
 - IP addressing;
 - addressing services (DHCP, NAT);
 - name resolution services (DNS);
 - remote access services (VPN);
 - other services related to network infrastructure (NTP, proxy)

Theory Class Program

- Dynamic addressing (DHCP).
- Address translation (NAT).
- Name Resolution (DNS).
- Remote Access (VPNs).
- Proxy Services.
- Clock synchronization services (NTP).
- Application of concepts in the configuration of an enterprise network.



Theoretical Scheduling

2º Semestre

Início das aulas	17/02/2020
Fim das aulas	12/06/2020
Época de exames – normal	15/06/2020 a 01/07/2020
Época de exames – recurso	02/07/2020 a 17/07/2020
Férias da Páscoa	06/04/2020 a 13/04/2020
Semana académica	08/05/2020 a 15/05/2020
Data limite para afixação e passagem dos termos das classificações do 2º semestre	

Topic	Nº of classes (Module of 2 hours)
Presentation	1
DHCP	2
NAT	2
DNS	2
Setting Up a Business Network - Part I	2
NTP	1
Proxy	1
VPN	1
Setting Up a Business Network - Part II	2
Reviews and conclusions	1

Evaluation

- **Theoretical assessment (11 points of 20)**
- Written exam **WITHOUT CONSULTATION**.
- The evaluation of the practical component will be in the three exams that was obtained in the continuous evaluation reason why the exams will be corrected to 11 values.
- **Practical evaluation (9 points of 20)**
- Three **individual** mini tests at the end of each topic and to be done in practical classes (3 values each). These tests will cover the following topics:
 - Test 1 (3 values) - IP addressing, DHCP and NAT - **March 30 or 31.**
 - Test 2 (3 values) - DNS – **May 4 or 5**
 - Test 3 (3 values) - NTP, remote access and PROXY – **June 8 or 9**
- **There are no minima evaluation in any of the components.**



Bibliography

- **Cisco**
 - Conteúdos CISCO “CCNA Exploration 4.0 – Accessing the WAN”
 - Disponível na plataforma de e-Learning
- **Windows**
 - ANTÓNIO ROSA, “WINDOWS SERVER 2012”, FCA
 - WILLIAM R. STANEK, “MICROSOFT WINDOWS SERVER 2012 INSIDE OUT”, REDMOND, WA : MICROSOFT PRESS, COP. 2013#, ISBN 978-0-7356-6631-3
 - AIDAN FINN...[ET AL.], “WINDOWS SERVER 2012 : HYPER-V INSTALLATION AND CONFIGURATION GUIDE”, INDIANAPOLIS, INDIANA : SYBEX, COP. 2013,ISBN 978-1-118-48649-8
 - Windows 2012 Documentation
 - Windows server 2012 : Hyper-V installation and configuration guide
- **Linux**
 - JORGE GRANJAL, “GESTÃO DE SISTEMAS E REDES EM LINUX”, FCA COTA: 1A-6-201
- **The slides are an auxiliary of the teacher to present the contents and should not be used as an exclusive element of study.**