

**Day 2**

**IT Network Systems Administration – Trade 39**

**WSC 2011 London**

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# 1 EXAM

## 1.1 CONTENTS

This Test Project proposal consists of the following document/file:

1. WSC2011\_TP39\_M2.docx

## 1.2 INTRODUCTION

The competition has a fixed start and finish time. You must decide how to best divide your time.

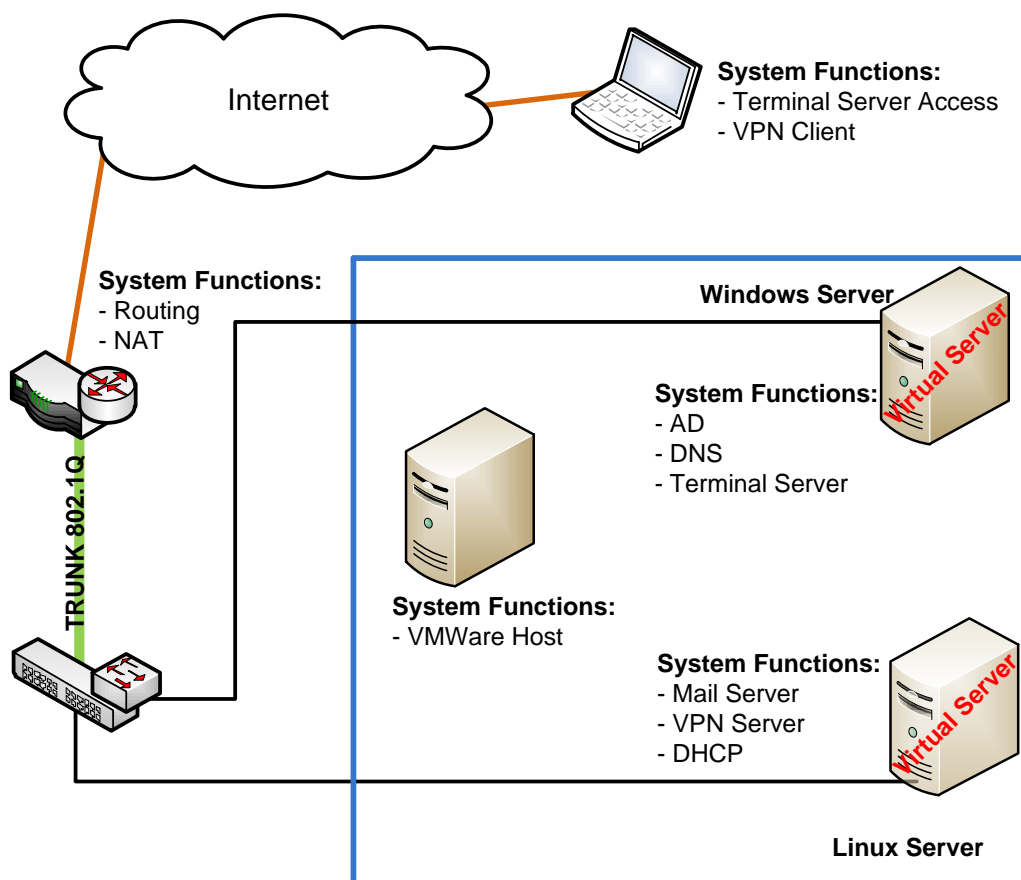
## 1.3 DESCRIPTION OF PROJECT AND TASKS

You work as an IT system integrator for SMBs. The hosting company “hostserv” want to provide several hosted services to their customers. Your job is to setup the infrastructure for “hostserv” you have already get a list with the major tasks.

“hostserv” has two hosting offers. First they offer E-Mail hosting for their customers. As second service they give the customers the possibility to move their workers on the terminal server and use it as remote workstation.

You’ll find additional information as attachment.

## 1.4 QUICK SPECIFICATIONS



## 1.5 PART 1

### Working Tasks Windows Virtual Server

Note: Please use the default configuration if you are not given the details.

- Please configure the server with the settings specified in the appendix
- Install the services
  - Configure Active Directory
    - Enable Roaming Profile and store the user profiles at \\hostsrv1\profiles\username
    - Create for every user (not administrator account!) a home folder stored at \\hostsrv1\homes\username and ensure that that is mapped to Z: at each logon automatically
      - limit the storage space to every home folder to 15MB
      - prevent any .cmd or .bat files to be stored on the home folder
      - redirect the “Favorites” and the “My Documents” folder to the users home folder
    - Create Active Directory Users
      - Create an OU that is named user
      - You will find a file called *USERS.csv* with names, roles and units of all workers in your memory stick; use this file as a basis for automating the creation of all user accounts. Be aware that all information, located in the Excel file, regarding any user must be present on accounts created.
    - Create departments share folders on \\hostsrv1\workers and \\hostsrv1\managers and map the respective folder to Y: at logon depending on the security group (Workers; Managers) the user is in. Users should not be allowed to access other department share. (Info? Look at the provided Excel-sheet!)
  - DNS
    - Create a reverse zone for the inside IP range
    - Also create a zone called “host.com”
    - Register the E-Mail server in the zone “host.com”
    - create an A record with rdp.host.com for windows hosts
    - Make sure that DNS requests to zone host.com from internet are answered with host public IPs and those from inside network with inside IPs.  
**If you have problems with this configuration, we are doing functionality check on this, so you can find your own way to solve this!**
  - Install Terminal services
    - Configure terminal server Access via Port 3389 and over the web (use https)
    - Make sure that only users from terminal users group can use the terminal server
    - Install Remote Desktop Gateway for access from the internet, use self-signed certificates
    - The RD Gateway should be accessible by rdp.host.com from inside and outside
  - Install Adobe Reader from the provided USB-memory on the Terminal server

- Create Remote-Apps for Adobe Reader

### Working tasks Linux Virtual Server

- Set up the server with the operating system (Debian 6). Ensure that all components are correctly installed
  - use the following partitions layout:
    - / 8GB
    - /var 5GB
    - swap 2GB
    - Setup RAID 5 over 3 disks with 5GB each. Mount the volume at /home
    - In VMware, use bridged networking, custom, map to vmnet1 (top NIC on host)
- Install the services
  - Postfix
    - Create mailboxes for all users listed in the file users.csv
    - Ensure that users have access to the mail server via: web access, POP3, IMAP and SMTP
      - Web access should be available under <http://mail.host.com/webmail>
    - All users must authenticate against the domain controller if they want to use one of the services listed above.
    - Mails should be stored in the home partition
  - DHCP Server
    - Range: 172.16.1.130 – 172.16.1.254
    - Gateway: 172.16.1.129
    - DNS: 172.16.1.2
  - VPN
    - install and configure OpenVPN
    - create the user vpnuser01 with password “London2011+” for the VPN connection
    - VPN Clients should be able to access all resources on the internal network.

## 1.6 PART 2

### Working Tasks Network

Note: Please use the default configuration if you are not given the details.

- Connect the LAN cables and configure IP addresses based on the appendix network diagram
- Hostsw1 configuration
  - Use port 1 for connection to the router
  - Use port 2 for Linux server
  - Use port 3 for Windows server
  - Use port 4 for VLAN “client”
  - Use port 5 for VLAN “services”
  - Join switch management into VLAN “services”
- Configure trunks on router(inside), switch1
- Router configuration:
  - Use Fa0/0 for internet and Fa0/1 for inside networks
  - Enable DHCP relay for VLAN “client”
  - Enable DHCP server on Fa0/0
    - Range: 143.25.1.100-143.25.1.254
    - Apply appropriate DHCP Scope options
  - NAT/PAT
    - Configure PAT for internal hosts
    - Configure static NAT for outside connections:
      - Static NAT to hostsrv1 from ip-address 143.25.1.2
      - Static NAT to hostsrv2 from ip-address 143.25.1.34
  - ACL
    - Restrict access to Linux Server from outside only to the services: MAIL (POP, SMTP) HTTP and VPN
    - Restrict access to Windows Server from outside on to the services: HTTPS, RDP and DNS
    - Deny all other traffic from outside to all inside networks

## 1.7 PART 3

### Working Tasks Notebook

Note: Use the default configuration if you are not given the details.

- Configure the Notebook with the settings specified in the appendix
- Connect the notebook to the internet
- Configure it as an OpenVPN client
  - create a link for the connection on the ALLUSERS Desktop
- Join the notebook to the domain
- Logon as a random "TerminalUser"
  - a startup-icon for the remote apps should be on every TerminalUsers Desktop
- Configure Outlook for send and receive E-mails with Mailuser01 and Mailuser02

## 2 APPENDIX

### 2.1 Specifications

#### 2.1.1 WINDOWS SERVER SPECIFICATIONS

Computer name:	hostsrv1
DNS domain:	int.host.com
User name:	administrator
Administrator password:	London2011+
IP address:	172.16.1.2
Domain NetBIOS Name:	HOST
Active directory recovery Password:	London2011\$
Virtual network card bridged to:	On-board NIC

#### 2.1.2 DOMAIN GROUPLIST

Groupname:
TerminalUsers
MailUsers
Workers
Managers

#### 2.1.3 LINUX SERVER SPECIFICATIONS

Computer name:	hostsrv2
Root password:	London2011+
Default User name:	competitor
Root password:	London2011+
Domain name:	host.com
IP address:	172.16.1.34
Virtual network card bridged to:	Top NIC

#### 2.1.4 NETWORK SPECIFICATIONS

VLAN win (ID: 10)	172.16.1.0/27
VLAN linux (ID: 20)	172.16.1.32/27
VLAN services (ID: 30)	172.16.1.64/26
VLAN client (ID: 100)	172.16.1.128/25
Internet	143.25.1.0/24
Enable password cisco devices	London

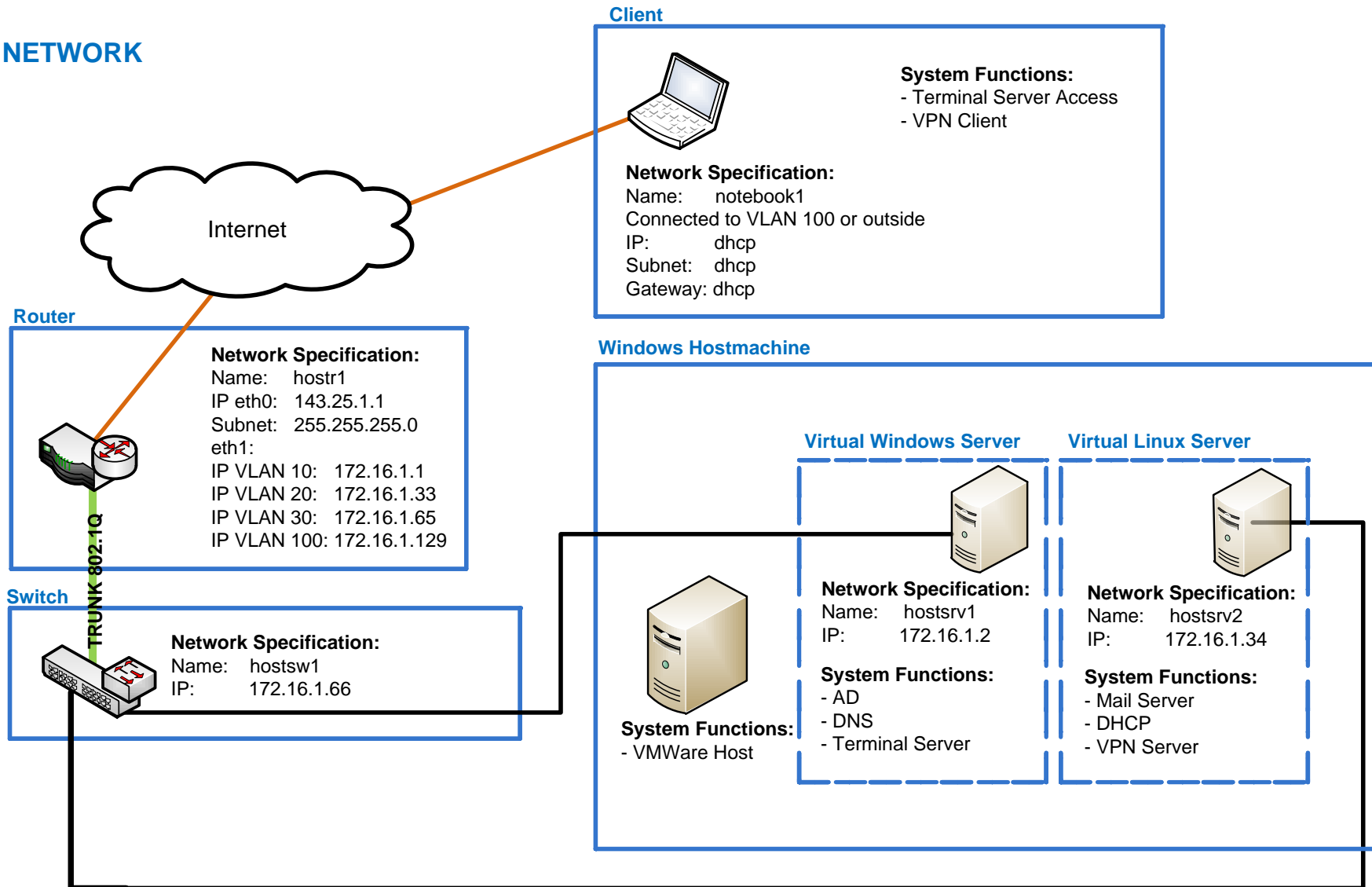
#### 2.1.5 NOTEBOOK SPECIFICATIONS

Organization:	hostserv
Computer name:	notebook01
Domain:	int.host.com
User name:	notebook
Password:	London2011+
IP address	dhcp



## 2.1.6 NETWORK DIAGRAM

### NETWORK



## 3 INSTRUCTIONS

### 3.1 INSTRUCTIONS TO THE COMPETITOR

- Do not bring any materials with you to the competition.
- Mobile phones are not to be used.
- Do not disclose any competition material / information to any person during each day's competition.
- Read the whole competition script prior to you starting work.
- Be aware different tasks attract a percentage of the overall mark. Plan your time carefully.

**Don't forget to save your settings!**

**All equipment will be restarted before marking.**

### 3.2 EQUIPMENT, MACHINERY, INSTALLATIONS AND MATERIALS REQUIRED

Host machine:

- PC - High Powered Desktop, 3 Nics, 500G HD, 8 G RAM, Quad core
- OS (Windows 7 ) preinstalled
- VMware Workstation preinstalled

Notebook:

- Notebook Acer Travelmate 5760, 250G HD, 4 G RAM
- OS (Windows 7 ) preinstalled
- Microsoft Outlook
- OpenVPN Client

Network:

- 1x Cisco Switch
- 1x Cisco Router

Additional software on D-Drive:

- Operating System (Windows 7)
- Operating System (Server 2008 R2)
- Operating System (Debian 6) (DVD's)
- IP Communicator
- Office 2010 Suite
- Network Monitor
- Wireshark
- Packet Tracer
- Putty
- WinSCP