



Network Operating Systems and Services (NOSS)

(ACCA5023_LON)

Worksheet 1

BUILDING A VIRTUAL LAN USING TYPE 2 HYPERVISOR MANAGEMENT SOFTWARE

Objectives

- In this part of the assessment, you are tasked with first creating a Virtual network with client-server networking.
- You will use a Type 2 Hypervisor program called “Oracle VirtualBox” to create 3 Virtual Machines (VMs); 2 of these VMs will comprise 1 x Server Operating System (Windows Server 2019) and the other 2, 2x client Operating system (Windows 10)
- Once all operating systems are installed; the network configurations should enable the hosts to be connected with the server onto that Local Area Networks.
- Following the network design/build, you are required to test connectivity and demonstrate successful ‘pings’.
- Finally you are required, using the Schools accepted referencing system, to complete the Observational Tasks at the end of the worksheet.

NB: YOU ARE REQUIRED TO SCREEN CAPTURE THE COMPLETION OF THESE TASKS IN EVERY WORKSHEET AS YOUR EVIDENCE OF UNDERTAKING THE TASKS REQUIRED. PRACTICE USING THE SNIPPET TOOL AND THEN CAPTURE EVIDENCE AND BUILD YOUR WORKSHEETS USING A WORD PROCESSING PACKAGE SUCH AS MICROSOFT WORD. YOU SHOULD READ EVERY ELEMENT IN THE WORKSHEETS ‘VERY CAREFULLY’ AS THERE ARE PRE-REQUISITE SNIPPETS OF INFORMATION YOU WILL NEED TO UNDERSTAND, BEFORE UNDERTAKING EACH TASK. YOU SHOULD PROVIDE SUITABLE NARRATIVE ALONGSIDE THE SCREEN CAPTURES TO IMPROVE THE QUALITY OF YOUR PRACTICAL TASKS.

Task 1: VM creation and Operating System installations.

In order to begin building this design, first install Virtual Box; obtain the most recent x64 (64-bit) version for Windows Hosts, from here:.

<https://www.virtualbox.org/wiki/Downloads>

Installing VirtualBox, comprises clicking Next to most settings and accepting the creation of a virtual adapter on your host OS (this is done as part of the install).

Once VirtualBox has installed, you will need to create 4 Virtual Machines (VM).

This completes the creation of the Server 1 VM, repeat this process to create the VMs for Server 2 and Client 1 and 2. To create the 2 client machines, the process is near identical, only that Windows 10 (64 bit) will be the OS selected and the hard drive size could be made smaller (e.g. 20GB) so as to save physical hard drive space. When the 3 VMs are created, the Operating systems must be installed (Windows Server 2019 for server 1 and Windows 10 for the Client 1 and 2.

Task 2: Virtual Network Configurations

In this task you need to configure network adaptor settings, IP configuration and to ping server from the client 1 and client 2.

Observational Tasks

NB: You should use a proper referencing style here when submitting your answers.

3 Describe the main differences between Type 1 and Type 2 Hypervisors. Identify benefits and drawbacks of both and provide some example Vendors.

4) Cloud computing has revolutionized the way that enterprise networks are hosted.

Describe the use of cloud computing including its benefits and drawbacks and identify example vendors within the industry.

5) Give an in-detail description about the different terminologies and its purposes

(like (not limited to) Ping, Server Management, Firewall etc) you came across during the Task 1 and Task 2. Compare your list of terminologies in the aspect of their operations/functionality with other Network Operating Systems