Southern Cross University

School of Business and Tourism

Unit	Computer Networks
Unit code	CSC81001
Assignment 2	Network Management and Design
Mode	Individual assignment
Due Date	23 Sep 2019 12:00 AM
Learning Outcomes	LO3, LO4, LO5
Graduate Attributes	GA1, GA4
Weight	25% of overall unit assessment
Suggestion	This assignment is developmental and cumulative. You are strongly advised to start doing this assignment from Week-7 in your study. Leaving your starting date to the week before the due date is a very poor strategy for success in the unit. Follow the provided marking guidelines to help you successfully direct your efforts.

Task Description

Task 1: Protocol comparison (5%)

In this task, you compare and contrast RIP and OSPF in the following points:

- Routing approach
- Protocol structure
- Performance
- Advantages and disadvantages
- Application

The word count is limit between 500 - 1000 words. All reference sources should be listed using IEEE referencing format. Direct copy and paste will graded zero (0).

Task 2: Network architecture analysis and redesign (15%)

In this task you will analyse the architecture of the DigiTour.com network given in Fig.2.1 and write an analysis (500-100 words) about the potential problems of the given network. Based on your analysis, redesign the network so that it can overcome the identified issues. You also need to redesign the IP addressing plan for the network to match with new network architecture. Currently, the network uses **10.10.0.0/16 IP** address range. The number of PCs in each network is given as follow:

- Building A: 10 PCs,
- Building B: 20 PCs,
- Building C: 50 PCs and

- Building D: 20 PCs

The corporate network spreads over 4 building and IP network. The number of PCs

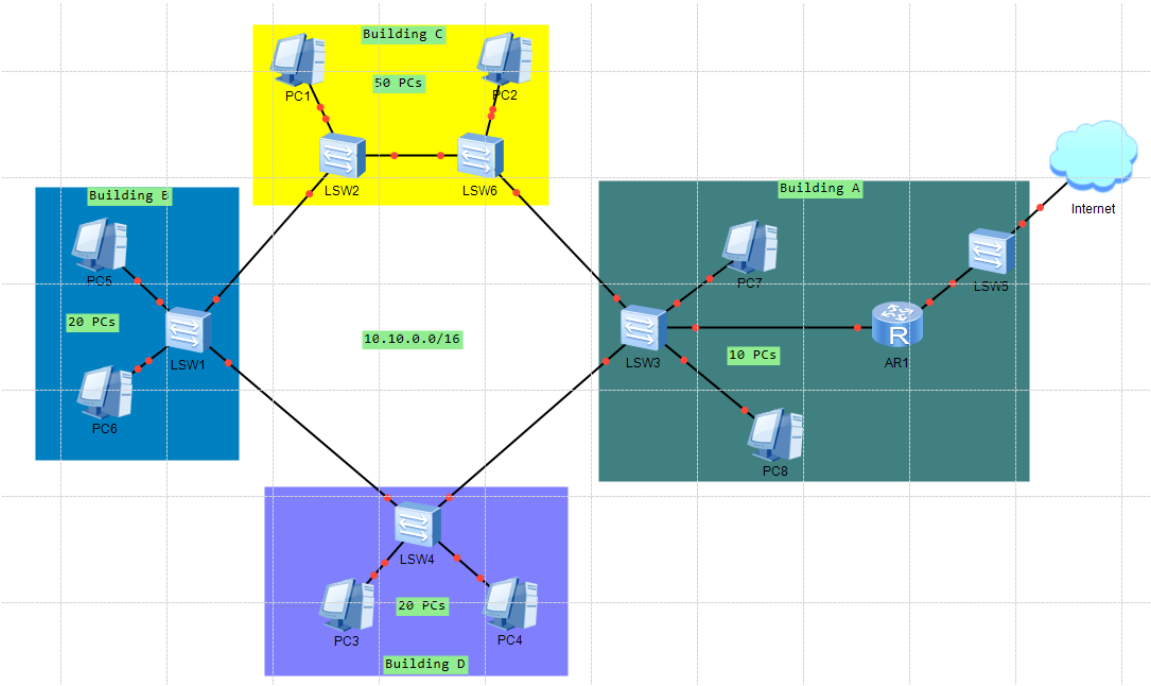

Fig 2.1 – The DigiTour.com Network.

Task 3: Network simulation (5%)

In this task you will simulate the network you have redesigned in eNSP and demonstrate the working simulation to your tutor in the Week-12 workshop.

Marking Guide

Task 1: Protocol comparison (5%)

- Each dot point is worth 1 mark. Answers which are incomplete receive 0.5 mark.
- Penalty:
  - No reference: half of the achieved mark
  - Copy and paste: zero mark

Task 2: Network architecture analysis and redesign (15 %)

- Correctly analyse and identify the potential issues of the given network due to the current architecture: 5 marks.
- Correctly redesign the network and document the solution: 5 marks
- Correctly redesign the IP address plan and document the solution: 5 marks
- Penalty:

- Copy and paste: zero mark
- Incomplete but correct answer: partial mark is awarded based on the level of completeness

Task 3: Network simulation (5%)

- A working simulation: 5% - i.e. all devices are configured and the network is fully functioning. Partial mark is awarded based on the level of completeness of the simulation but not over 2.5%.
- Penalty:
  - Copy and paste: zero mark

Total mark

- The total mark will be graded based on SCU grade policy (HD, D, C, P and F).

Submission Format

You are required to submit the assignment document in the PDF format. The file will be named using the following convention:

filename = **FirstInitialYourLastName-CSC81001-A1.pdf**
(i.e. VBui-CSC81001-A1.pdf)

Original work

It is a University requirement that a student's work complies with the Academic Policy, Chapter 4.20 on Student Academic Integrity. It is a student's responsibility to be familiar with the Policy.

Failure to comply with the Policy can have **severe consequences** in the form of University sanctions. For information on this Policy please refer to Chapter 4.20 on Student Academic Integrity at the following website:

http://www.scu.edu.au/governance/academicboard/policy/

As part of a University initiative to support the development of academic integrity, assessments may be checked for plagiarism, including through an electronic system, either internally or by a plagiarism checking service, and be held for future checking and matching purposes.

Retain duplicate copy

Before submitting the assignment, you are advised to retain electronic copies of original work. In the event of any uncertainty regarding the submission of assessment items, you may be requested to reproduce a final copy.

School Extension Policy

In general, I will **NOT** give extension unless where there are exceptional circumstances. Students wanting an extension must make a request at least 24 hours before the assessment item is due and the request must be received in writing by the unit assessor or designated academic. Extensions within 24 hours of submission or following the submission deadline will not be granted (unless supported by a doctor's certificate or where there are exceptional circumstances – this will be at unit assessor's discretion and will be considered on a case by case basis). Extensions will be for a maximum of 48 hours (longer extensions supported by a doctor's certificate or alike to be considered on a case by case basis).

A penalty of 5% of the total available grade will accrue for each 24-hour period that an assessment item is submitted late. Therefore, an assessment item worth 20 marks will have 1 marks deducted for every 24-hour period and at the end of 20 days will receive 0 marks.

Students who fail to submit following the guidelines in this Unit Information Guide will be deemed to have not submitted the assessment item and the above penalty will be applied until the specified submission guidelines are followed.

Marks and Feedback

All assessment materials submitted during the semester will normally be marked and returned within two weeks of the required date of submission (provided that the assessment materials have been submitted by the due date).

Marks will be made available to each student via the MySCU Grade book.