

FIT9137 Assignment 2 - Presentation

Submission Guidelines

The Assessment – Assignment – Presentation is worth 25% of the Unit Marks.

Deadline: Week-8 - 28th April Friday - 11:55pm (Melbourne time)

- **Submission format:**

- The 25% of the unit marks are allocated for final recorded **video** presentation and your **presentation slides** uploaded in Moodle and due in Week 8 (deadline). The uploaded file must be a clear student video recording of the presentation. The file can be any video format that can be opened on a standard computer without specialized software (such as mp4). The length of the recording should be a maximum of **fifteen minutes** only. A pdf or ppt version of your presentation slides should also be submitted to Moodle. You will be marked based on both your presentation and slides (including the recorded pages and your Appendix).
- The marks breakdown for the Assignment-2 will be 30% for video Presentation and 70% for the content on the network design concept in the presentation slides.
- *When you submit the assignment in Moodle, please make sure the submission is not left in the draft mode. Before the expiry of the deadline make sure, the submission is made final. If the submission is left in draft mode, it will be deemed as NOT submitted.*
- *Important Submission check for every student: It is the students' responsibility to check if their submitted work is markable by our teaching team. It is recommended that every student immediately download their own submitted work (e.g., recorded video/PDF/imm file, etc) and check if the submission would be downloadable/readable/markable by a tutor. If the teaching team member is unable to mark your submission, you may end up losing up to 50% or 50% or more of your marks.*

Penalties:

- Late submissions will result in a 10% deduction of the total marks per calendar day (up to one week). For example, if you get 80/100 marks originally and submit 2 days late, then you would get a 20-mark deduction (10 marks per day) and your final marks would be 60/100.
- Submissions more than 7 calendar days after the due date will receive a mark of zero (0) and no assessment feedback will be provided.
- If the video recording exceeds the 15-min limit, a penalty will apply as follows. For each extra 1-60 seconds, 10 marks will be deducted, e.g., for videos of 15.01-16:00 minutes long, 10 marks will be deducted, etc.
- Speeding up the video recording (e.g., using software) is NOT allowed and such submissions will receive a ZERO mark.

Assignment release policy:

- The unit policy is to release the assignment for the student to work for two working semester weeks on the assessment. Hence two complete weeks will be provided for students to work on the Assignment-2.

Learning Outcomes covered:

- Analyze and formulate the functions and architectures of (wireless) local area networks, building backbone networks and the Internet.
- Examine networks using the underlying fundamental theories, models and protocols for data transmission.

Late submissions:

- By submitting a special consideration form. Special considerations are managed centrally and by the CE (Amin Sakzad). The teaching team cannot directly decide if you can/cannot have a late submission. Your request should be submitted directly to:
<https://www.monash.edu/exams/changes/special-consideration>
- Without an approved special consideration request, you lose **10% of total marks per day** that you submit late. Submissions more than 5 days late will **not** be accepted.

Plagiarism: This is an individual assignment. Group work is not allowed. It is an academic requirement that your submitted work be original. Zero marks will be given for the whole submission if there is any evidence of copying, collaboration, pasting from websites, contract cheating, or copying from textbooks. When you are asked to use Internet resources to answer a question, this does not mean copying and pasting text from websites. Write answers in your own words such that your understanding of the answer is evident.

Marks: This assignment is worth 25% of your unit marks.

Feedback: Your Tutor will provide you with marks and feedback. If you cannot explain your work or what you write in your presentation slides, you may get low marks.

Presentation: The presentation should look professional, which means you need to pay attention to spelling, punctuation, grammar, and visualization. It is important that your presentation has a clear structure. Prepare presentation slides of at least 10 *pages/slides long and a maximum of 15 pages/slides and if your submission is beyond 15 pages/slides will be ignored. The presentation contains little text/sentences/words with a minimum font size of 12pt or more. Includes tables, figures, pictures, graphical designs etc. The page/slide limit doesn't include title page, references, and Appendix. Any page/slide beyond the page/slide limit will not be marked. [Use FIT standard presentation format](#).

Note: *page/slide = You can call it either Page or Slide

Note: You can find great tips on how to prepare a presentation on Monash's web pages. Here are some links to get started:

Language and Learning and Online website:

- <https://www.monash.edu/rlo> and
- <https://www.monash.edu/rlo/assignment-samples/engineering/oral-presentation>.

- ***Software tools for drawing sitemaps***, any drawing tool should work, for example LucidChart, or even presentation tools such as PowerPoint, Keynote or Google Slides. Scans of hand-drawn maps are acceptable if they are neat and easily readable.
- In order to record yourself for the voice-over presentation, we recommend you use Zoom. Monash University – Zoom (<https://monash.zoom.us>). However, you are free to use any other software as far as the final files submitted to Moodle are watchable by our teaching team.

Reporting: An Enterprise Network Design Report

A Request For Proposal (RFP) to Design Wired LANs, Wireless LANs and support Backbone Network

1. Assignment Description

Objective

A public transport company requires its office buildings to be connected over a wired LAN and Wireless LAN (WLAN). You have been asked to respond to the following excerpt from their RFP (Request For Proposals) in the newspaper.

Scope of The Work

At present, the total number of office employees in Melbourne are 240. Each office worker is provided with an office space or cubicle with a multimedia desktop PC having a wired network connection. Owing to a business acquisition, the number of employees at Melbourne is expected to increase substantially. The size of the Melbourne office, both Wired and Wireless LAN will increase (from current 240 employees) to 480 employees; after **two** new 2-storey buildings called **East side building & West side building** (located across the road) have been acquired to accommodate the additional office space needed to provide *equitable* seating arrangements for the increased number of employees in the new buildings (see Figure 1).

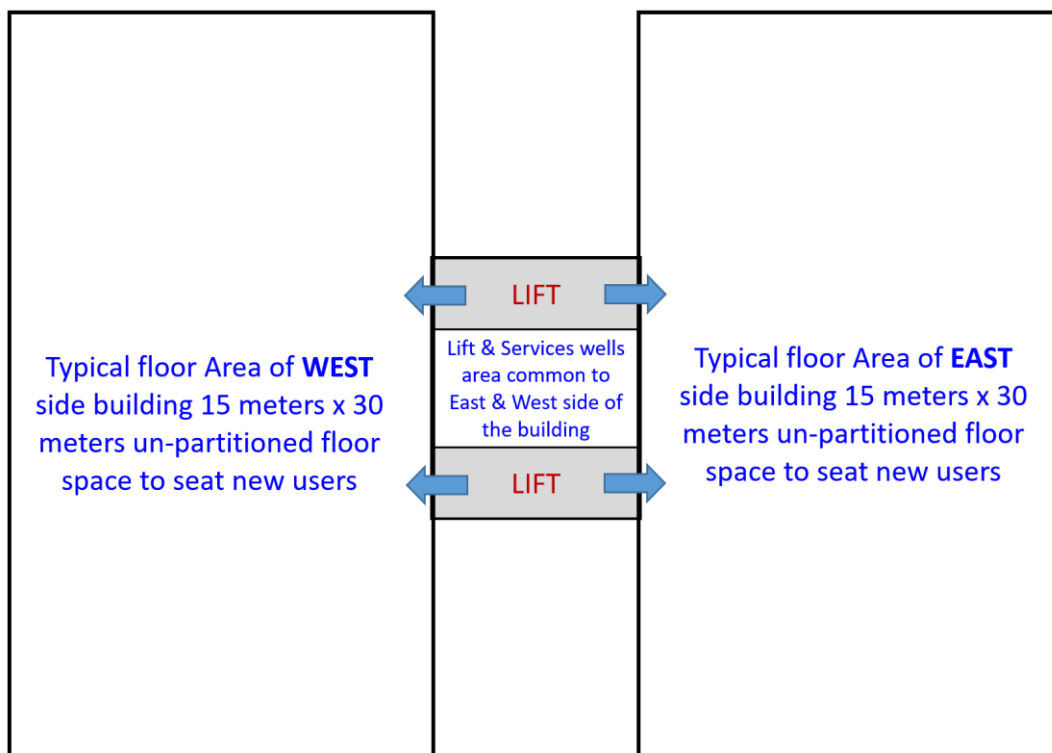


Figure 1: A Typical floor plan for structured cabling for LAN and WLAN

The new buildings require structured network wiring for network connections, where each floor has a wiring closet with necessary structured cabling. Each wiring closet requires four fiber optic cables running to a dedicated server room in the basement. The new buildings also need a backbone network to be connected to the existing Main office network (across the road).

It is envisaged that the new buildings in Melbourne office would support, both, **wired** and **wireless** networked office environment where each of the staff PC and their personal laptops would be equipped with office desktop high resolution video conferencing software (VoIP), along with the usual business applications such as web, email, and regular office productivity packages. It is anticipated that the average network traffic generated by each active wired network user is estimated to be around 25-30 Mbps, while the WLAN traffic generated for each floor would be 30% of the wired traffic.

The expected anticipated user activity pattern for the new buildings may be seen in Figure 2, where the new buildings will accommodate the new staff members equally distributed to each floor of the new buildings. The Wired LAN infrastructure needs to be designed to support the anticipated peak time data traffic, and in addition, support the Wireless LAN. The design should show the WLAN Access Points (AP) connectivity to the wired infrastructure. At the existing main office network (across the backbone network), a capacity increase will be required for key devices and their support infrastructure (e.g., Servers, Routers and/or switches) to accommodate the increased traffic volume from the new buildings. Employees are expected to access the main office network and its resources frequently. So, from the business perspective, it is important that the backbone network connectivity is maintained all the time. Loss of productivity is not an option from the network connectivity point of view. Figure 2 shows the expected active number of users for the new buildings during the business hours.

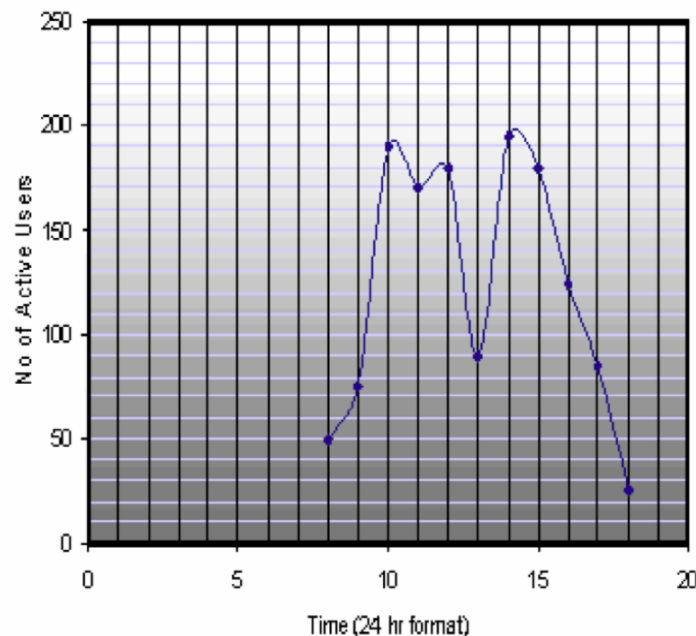


Figure 2: The number of expected users active during the business hours

2. Assignment Requirements

Submissions for this assignment should be in the form of presentation slides (PDF/PPT) and voice-over video presentation and its complete set of slides with explanatory figures and other requirements for a professional presentation. The assignment specifications are in the form of a request for proposal (RFP) to potential suppliers. An RFP is a solicitation often made through a bidding process by any company interested in the design and procurement of installation contract services. This assignment provides an opportunity for you to work individually and apply Data Communications and Computer Networking concepts to a practical network design. You are required to design the network, make networking recommendations based on the RFP requirements and present your solutions in a formal presentation.

2.1 The video presentation should contain the following important diagrams to support your proposal:

- (a) A conceptual high-level diagram showing a typical floor plan, backbone network (connecting the floors) and a backbone network to connect to the main office.
- (b) A typical floor plan (only one floor of both the East & West building would be sufficient).
- (c) Servers, Routers, Switches and Access Point (AP) locations.
- (d) Traffic throughput calculations for each floor, each building and backbone network.
- (e) Backbone connection diagrams (using schematic diagrams of cross-section of a building showing switches, routers etc.).
- (f) Backbone network connectivity for the new buildings connecting with the head office building.

2.2 Students may include some details of the following information in response to the request for Proposal (RFP) in the Appendix. We ask you to submit your final presentation slides along with your appendix.

- (a) Project Requirements: Project requirements can be derived from the Objectives and Scope of Work section of the RFP. A requirement brief is usually an itemized list of the client's requirements derived from the RFP.
- (b) Wired, Wireless LAN and backbone network Design: Wired, Wireless LAN design (for a typical floor) and backbone network design, must include the following information:
 - (i) Computer desktop layout plan with network topology for a typical floor level.
 - (ii) Switch and Wireless Access Point locations on a typical floor, vertical cable paths and lengths between the floors. Switch and Access Point functional specifications. Assume the floor to ceiling height as 3 meters approximately including the false ceiling.
 - (iii) Router (and/or Switches) locations (both the existing and the new ones) and their interconnections providing backbone network connectivity.
- (c) Design Rules (or Assumptions): You need to outline design rules for LANs, WLANs, and

Backbone Network. Your description should include:

- (i) Detailed steps required in the network design process,
 - (ii) methods used to form estimates of network performance for each type of devices,
 - (iii) An example of a basic sample design showing proposed floor plan, assumptions, justifications, and calculations.
 - (iv) Assumptions of backbone connectivity using wired/wireless media needs to be reported.
- (d) Recommendations and Justification: A summary of your recommendations with a statement of justification.

Remark for backbone connectivity building to building: Backbone network, please refer to [Assignment-2-Support](#) Doc slides 22-25 link and [video \(minutes 50-56\) with link](#)

Proposed structure of presentation slides:

- Title page
- A Brief Summary of Problem Definition
- Important Information and Diagram listed in 2.1.
- Conclusions and Recommendations
- References (You would usually stop here in your recorded video)
- Appendix (This may contain additional information listed in 2.2)

Sources and referencing

Any claims or recommendations that you make should be substantiated with supporting references. That means that you cannot just claim that A is better than B, you have to argue why that is the case and point to external sources that can serve as evidence. You can use the unit's recommended textbooks and other standard literature as sources, but you will also need to use additional documentation to find all the technical information and commercial details for this report. Whenever you use material from an external source, make sure that you reference that source. You also need to assess the quality and reliability of any source. An independent expert review of different technologies is much more trustworthy. References should be listed correctly (see conference papers or journal for the reference). You may lose marks for poor referencing. You should use the APA referencing style, which is explained in detail here:

[<https://monash.hosted.exlibrisgroup.com/permalink/f/31uhmh/catau51219026380001751>].

ChatGPT referencing:

Generative AI tools are not restricted for this assessment task, ChatGPT use and referencing:

In this assessment, you can use generative artificial intelligence (AI) to assist you in any way. Acknowledging the use of generative artificial intelligence, If you use ChatGPT, then you need to

acknowledge the use of ChatGPT (<https://chat.openai.com/>) to generate materials that may have been used in some form or the other and included within this assessment in a modified form (see [Learn HQ](#))

Example Acknowledgement would be: “I acknowledge the use of ChatGPT (<https://chat.openai.com/>) to refine the academic language and accuracy of my own work. On x April 2023 I submitted my Assignment-2 (link to google document here) with the instruction to “Improve the academic tone and accuracy of network design, technical details etc.. language, including grammatical structures, punctuation, and vocabulary”. The output (here) was then modified further to better represent my own tone and style of writing. “

For further instructions on ChatGPT uses please refer to the following Monash link:
<https://www.monash.edu/learning-teaching/teachhq/Teaching-practices/artificial-intelligence/policy-and-practice-guidance-around-acceptable-and-responsible-use-of-ai-technologies>