

Communication and Security Protocols

5CM512



Assessment Brief for **Assignment 2**
“Report on understanding security protocols
for a company network”

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5CM512 – Communication and Security Protocols

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Module Leader in Derby

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Key dates and details

Assessment Type:	Individual Report
Assessment weighting:	50%
Assessment Title	Report on understanding security protocols for a company network
Word count:	2000 words (including referencing and other pages)
Learning Outcomes:	2,3
Submission Method:	Turnitin
Submission Deadline:	TBD
Provisional Feedback Release Date:	TBD

Description of the assessment

In this assignment, you are considered as a technical security officer in a company. The IT department provided you with an overall network configuration of the company (Figure 1). Your line manager



asked you to identify and explain all necessary security protocols and devices (devices mean not only physical devices but also software packages in this context) to be used in this configuration.

The company has a headquarter and a branch. Their IT facilities are connected using the Internet. The customers of the company (clients) are also connected to the permitted applications using an authentication server. You are asked.

1. to identify all security protocols and devices used in this configuration.
2. To explain each one of them with benefits and limitations, based on your choice.
3. To provide your comments on what is/are missing in this in terms of security.

This assignment is based on 2nd and 3rd Learning outcomes. You will analyse the given configuration and gain advanced knowledge on one of the security protocols or devices used in this scenario. You will evaluate the configuration and make suggestions to improve it in terms of security concerns.

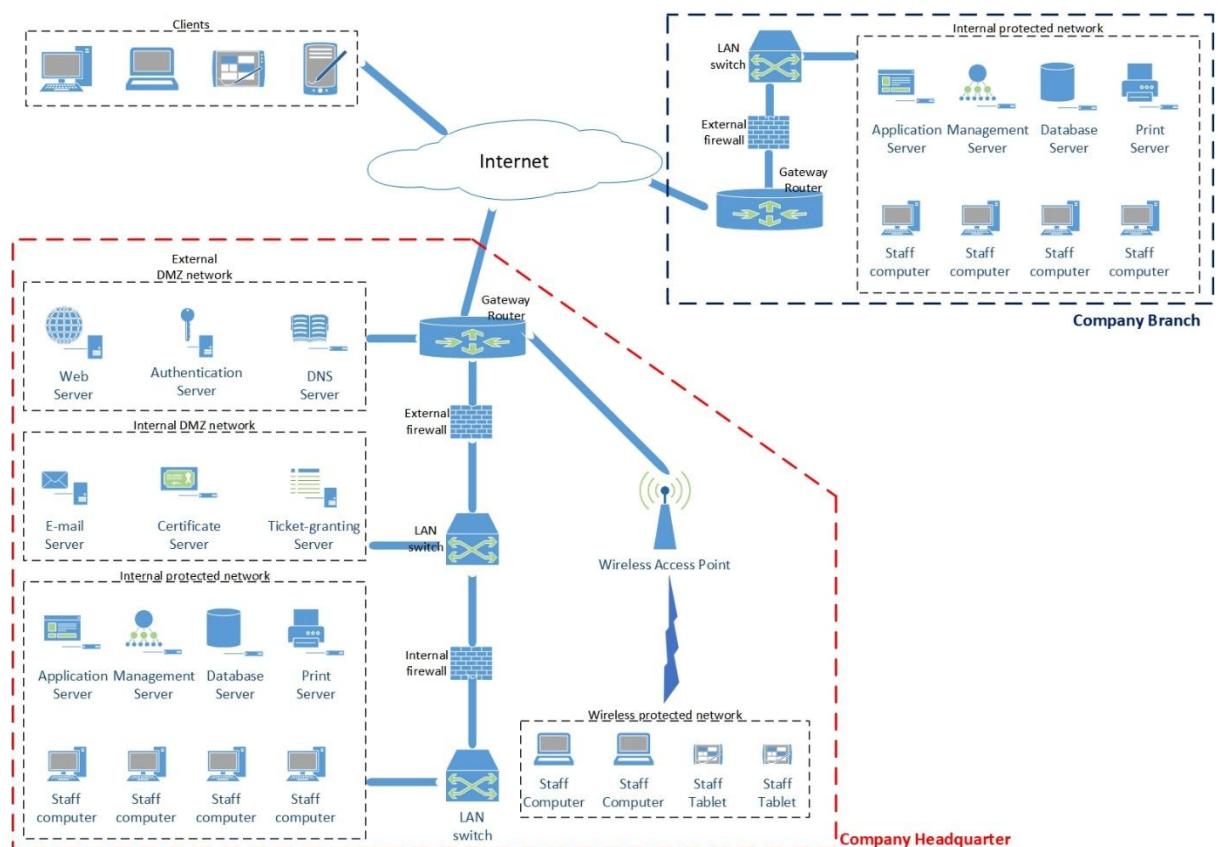


Figure 1. The network configuration of the company



Assessment Content

The assignment consists of three parts:

1) Security Protocols to be used in this configuration:

You carefully analyse the configuration given in Figure 1 and identify the security protocols and devices needed in this configuration. You need to clearly indicate which section of the configuration needs to use these protocols or devices. If there is more than one protocol or device for one section all of them should be named. You need to investigate the literature to find out different related security communication protocols or devices which were not covered in the classes. **DO NOT** provide any details of the protocols or devices, just name them, and explain in which sections they will be used.

2) Explaining one protocol or device:

You need to explain one of the protocols or devices. You need to explain how the protocol/device works, how they mitigated security attacks, what potential vulnerabilities are and what resources they need.

3) Improvements:

You need to analyse the configuration and identify any missing servers or devices in terms of security concerns. You need to identify it/them and explain how the security is increased if it/they is/are included in the configuration. You must justify your suggestions.

First, you need to consult your lecture notes and the textbook as well as conduct a search on security protocols and devices to find relevant research papers, white papers, book chapters. Then, you need to report your findings concisely.

The suggested report structure is as follows:

I. Introduction

Consider you are a security officer and introduce the report to your line manager.

II. Security Protocols and devices

Present your findings explained in the first part of the assignment very briefly. **DO NOT** explain the protocols, just name them, and indicate where they will be used.

III. <Selected Security Protocol/Devices>

Select a protocol or device and present your suggestions along with benefits/limitations explained in the 2nd part of this assignment.

IV. Improvements

Identify the missing servers/devices and present your suggestions explained in the 3rd part of this assignment.

V. Conclusion

Summarize the report to the line manager.

VI. References

Use Harvard referencing system (<https://www.scribbr.co.uk/referencing/harvard-style/>).



You need to be concise to report your findings as the word limit for this assignment is a maximum of 2000 words including the references, cover page and other pages.

You can refer to the library skill guides web page to sharpen your research, writing and referencing skills: <https://libguides.derby.ac.uk/skillsguides>

Plagiarism Notice: You should consult the resources provided but ensure that the wording is your own as all assignments will need to be submitted to Turnitin.

Assessment AI-assistance

In this assessment AI-assistance is permitted in the following ways:

- **You MAY use generative AI tools to help develop ideas and/or create a structure for inclusion in your written assessment.**
- **You MAY use AI tools to help identify appropriate academic sources to use within your written assessment.**
- **You MAY use AI tools to fix spelling, grammar and syntax issues in a presentation draft that you have written.**
- **You MAY use AI tools to receive feedback on your work so that you can enhance and improve your written assessment.**
- **You MAY NOT include invented references, such as those created by generative AI tools.**
- **You MAY NOT use AI Tools to produce the final version of your work or make inferences in your work.**
- **You MAY NOT use AI Tools to generate visualisations of your data (e.g., graphs).**

It is YOUR RESPONSIBILITY to check ALL information generated by generative AI tools. Any misuse of generative AI tools could be considered ethical academic misconduct (as per Academic Regulations, Academic Misconduct, Section J2). If in doubt, please consult your module leader.



Assessment Rubric

Criteria	< 40	40-49	50-59	60-69	70 - 79	80 - 100
Introduction 5%	Introduction is not provided, or it is not relevant.	Introduction is provided but does not cover the essence of the report.	Introduction is provided but with weak links to the content of the report.	Introduction has some links to the content but fails to explain why it was prepared.	Introduction explains the content of the report well.	Introduction explains the content of the report well as well as define the problem covered in the assignment.
Security protocols and devices 20%	Superficial. No or a few protocols were identified. Failed to link them to the sections	Some protocols are identified. Some correct links to the sections but some incorrect.	The majority of the protocols are identified but the links to the sections are incomplete. Some misunderstandings	All protocols are identified but the links to the sections are incomplete. Some misunderstandings.	All protocols are identified and the links to the sections are complete. Few misunderstandings	All protocols are identified. All available protocols for the sections are provided. The links to the sections are clearly and completely indicated
<Selected Security Protocols/Device>35%	Superficial. No or little understanding of protocol/device. Failed to grips with the subject.	An adequate understanding of protocol/device. Some grips with the subject. No message dialogues are provided.	An appropriate understanding of protocol/device. Some grips with the subject. Message dialogues were provided but no explanation.	A clear understanding of protocol/device with some missing points. Some grips with the subject. Message dialogues are explained with some errors.	A very clear understanding of protocol/device with some missing points. Good grip with the subject. Message dialogues are explained with few errors.	A complete understanding of protocol/device with few missing points. Good grip with the subject. Message dialogues are explained without errors.
Improvements 20%	No or very superficial improvements are suggested	Some improvement are suggested but not relevant. Some missing perspectives and errors.	Some relevant improvements are suggested but not justified. Few missing perspectives. Some errors.	Totally relevant improvements are identified but not justified thoroughly. Few missing perspectives. Some errors.	Totally relevant improvements are identified but not justified thoroughly. Few missing perspectives. No errors.	Complete and excellent improvement with all perspectives. No missing perspectives. No errors.



Conclusion 5%	No or very superficial conclusion.	Not a firm conclusion on the best method. No justification for the decision. Not a complete summary.	A firm conclusion on the best method but it is erroneous. No justification for the decision. Not a complete summary of the report.	A firm and correct conclusion on the best method. Some justifications for the decision, but not complete. Not a complete summary of the report.	A firm and correct conclusion on the best method. Good, valid and complete justifications for the decision. Good and complete summary of the report.	A complete evaluation with all perspectives. No errors. Correct, firm and logical conclusion with complete justifications. Excellent summary of the report.
References 5%	No references were provided.	Some of the provided references were used. No appropriate citation in the text.	Only provided references were used. No appropriate citation in the text.	Only provided references were used. Appropriate citation in the text.	Evidence of reading relevant web based references. No appropriate citation in the text.	Evidence of reading relevant web based, journal and book references. Appropriate citation in the text.
Structure and Style 10%	Unclear structure to report. Many spelling mistakes in each paragraph. Writing style unclear.	Some structure to report. The most text has a clear message. Numerous spelling mistakes. Basic sentence construction rules followed. Some text may be verbose.	Clear structure to report. Few spellings mistakes. Sentences of appropriate length and punctuation are used correctly.	Good report structure with some minor issues. Very few spelling mistakes and grammatical errors. Few mistakes in punctuation.	Well-written report, showing good skills in creativity and good design. Sentences of appropriate length. Brief but informative writing style.	Well-formulated structure to report. No spelling mistakes. Very clear sentences that make good use of punctuation. Writing style clear and informative without being verbose.



Anonymous Marking

Include the appropriate statement from this list (delete all others and the title).

Submissions in Turnitin and Blackboard

You must submit your work using your **student number** to identify yourself, not your name. You must not use your name in the text of the work at any point. When you submit your work in Turnitin you must submit your student number within the assignment document and in the *Submission title* field in Turnitin. A video showing how to do this can be found here ([link](#))

Assessment Regulations

The [University's regulations, policies and procedures](#) for students define the framework within which teaching, and assessment are conducted. Please make sure you are familiar with these regulations, policies, and procedures.

Plagiarism

"A student is liable to be found guilty of plagiarism if any work presented for individual assessment is found to contain the unacknowledged work of some other person or persons. If this involves deliberate misrepresentation of material as the student's own in an attempt to deceive the examiners, then the offence is very grave indeed.

All sources should be cited and all quotations from the works of other authors clearly identified as such. If a student's work is found to contain verbatim (or near verbatim) quotations from the work of other authors (including other students past or present) without clear acknowledgement, then plagiarism has been committed whether or not the student intended to deceive the examiners".