

Task 8 Student Task Sheet: High Value Domestic Network Design Project

Assessment Details

Item	Details
Course	Year 12 Computer Science General
Unit	Unit 4
Assessment type	Project
Weighting	10%
Raw mark total	40 marks
Timing	Term 3 Week 10
Assessment window	Monday 21 September to Friday 25 September 2026

Scenario

A client has purchased or is considering a high value domestic property. They want a premium home network that is reliable, secure and professionally planned before installation.

You will choose a real house listing from realestate.com.au that includes a usable floorplan. You will use the floorplan to design a high value domestic network in UniFi Design Center.

Your design should support the kinds of uses expected in a modern premium home, such as:

- whole-home Wi-Fi coverage
- remote work and video conferencing
- streaming and gaming
- smart TVs, smart speakers and other Internet of Things devices
- security cameras or doorbell devices where suitable
- outdoor entertaining areas where relevant
- guest internet access
- secure management of personal, home office and smart home data

Your Task

Create a network design package for your selected house.

Your package must include:

1. property and floorplan source record
2. requirements analysis based on the selected house
3. UniFi Design Center floorplan evidence
4. network device placement and coverage evidence
5. logical topology explanation using appropriate network diagram conventions
6. hardware and transmission-media recommendations
7. explanation of network type, topology and client-server or peer-to-peer decisions
8. email protocol explanation
9. security and malware response
10. final justification

Selecting Your House

Choose a property that:

- is listed on realestate.com.au
- has a clear floorplan image
- has enough spaces to make the network design meaningful
- is not your own home or a classmate's home
- can be used respectfully for classroom assessment evidence

Record the listing title, suburb, listing URL and date accessed. Do not publish the floorplan or address outside the assessment submission.

Required Evidence And Mark Allocation

The project is marked out of **40 marks**.

Criterion 1: Property Selection And Requirements Analysis

Description	Marks
Selects a suitable realestate.com.au house listing with a usable floorplan and records the source.	1
Identifies property features or zones that affect the network design, such as study, bedrooms, living areas, garage, theatre, outdoor area or multiple storeys.	1
Identifies likely users and device categories for a high value domestic network.	1
Identifies high value network requirements such as coverage, performance, reliability, home office use, smart home use or guest access.	1
Identifies constraints or risks such as floorplan scale, wall materials, dead zones, cost, security or privacy.	1
States assumptions or limitations used when interpreting the floorplan.	1
Subtotal	**6**

Criterion 2: UniFi Floorplan Design And Logical Topology

Description	Marks
Imports or recreates the selected floorplan in UniFi Design Center and shows the property layout clearly.	1
Shows the internet/WAN entry point, modem/ONT, gateway/router and firewall function.	1
Includes a switch or PoE switch as the central wired LAN point for the star topology.	1
Places wireless access points in suitable locations and explains coverage reasons.	2
Labels wired ethernet, PoE/backbone links and wireless coverage/media where relevant.	1
Includes fixed high-demand or shared devices such as desktop, TV/media, NAS, printer, cameras, console or home office dock where suitable.	1
Shows or explains guest, IoT, home office, family or security camera network separation where suitable.	1
Provides UniFi Design Center evidence such as coverage screenshots, device placement screenshots or device list/export.	2
Provides a readable logical topology using appropriate network diagram labels and conventions.	1
Keeps the final diagram/evidence readable, organised and suitable for client communication.	1
Subtotal	**12**

Criterion 3: Hardware, Network Type And Transmission-Media Decisions

Description	Marks
Explains the function of major hardware used, including gateway/router, switch, firewall, modem/ONT, wireless access point and NIC; bridge or mesh is explained if used.	2
Recommends suitable high value domestic hardware and justifies the choices for the selected property.	2
Identifies and explains relevant network types, including LAN and WAN; PAN is identified only where it genuinely applies.	1
Explains why a star topology suits the domestic LAN design.	1
Recommends suitable transmission media such as twisted pair ethernet, fibre/ISP connection, wireless, cellular backup or satellite where justified.	1
Explains client-server or peer-to-peer technologies in relation to cloud services, NAS/media sharing, smart home control or home office use.	1
Subtotal	**8**

Criterion 4: Protocols, Security And Malware Response

Description	Marks
Explains SMTP, IMAP and POP3 in relation to home office or cloud email use.	2
Recommends authentication controls for Wi-Fi, admin access, family users, guests or home office accounts.	1
Recommends encryption controls such as WPA2/WPA3, HTTPS, VPN or encrypted cloud services.	1
Recommends firewall, guest isolation, IoT isolation or VLAN/network separation controls.	2
Identifies malware risks such as viruses, worms, trojans or spyware and gives relevant protection or response measures.	1
Links security decisions to personal privacy, home office data, cameras, smart home devices or household information.	1
Subtotal	**8**

Criterion 5: Justification, Communication And Submission Quality

Description	Marks
Justifies major design decisions using evidence from the selected floorplan and client requirements.	2
Uses accurate Computer Science terminology.	1
Organises evidence clearly so the source, UniFi design, topology and written justification align.	1
Submits the required files using the correct LMS process and file names.	1
Identifies limitations, testing evidence or future improvements such as heatmap uncertainty, extra cabling or coverage checks.	1
Subtotal	**6**
Total	**40**

What To Submit

Submit:

11. your completed justification/evidence document
12. UniFi Design Center screenshots or export evidence
13. your logical topology diagram or topology section
14. your source record for the selected realestate.com.au listing

Use this file naming pattern:

CSCGT_Task8_2026_Surname_FirstName

Add a clear ending for each file:

- _Evidence
- _UniFi
- _Topology
- _Justification

Conditions

- Work must be your own.
- You may use class notes and teacher-provided templates.
- You may use realestate.com.au to select the property and UniFi Design Center to produce the design.
- You must cite the property listing and any other external sources used.
- You must be able to explain your design decisions.
- Do not publish the listing floorplan or address outside the assessment submission.