



Australian Government

Assessment Requirements for ICTNWK517 Determine best-fit topology for a wide area network

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- consider budget constraints and business needs
- identify the configuration for connecting a local area network (LAN), wireless local area network (WLAN) or virtual private network (VPN) into a wide area network (WAN)
- document the configuration.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- summarise the typical network topologies for the following networks:
 - large and small LANs
 - WANs
 - VPNs
 - virtual local area networks (VLANs)
 - WLANs
- identify and describe the typical components and technologies required for a WAN, including:
 - concepts and types of modems
 - internet protocol (IP) addressing
 - packet switching
 - routed or routable protocols, including IP, IPX and AppleTalk
 - router operations, including double data rate (DDR)
 - routing protocols, including routing information protocol (RIP), enhanced interior gateway routing protocol (EIGRP) and open shortest path first (OSPF)

- transmission control protocols or internet protocols (TCPs/IPs)
- relationship of asynchronous and synchronous communication
- use of microwave and satellite communication in networking
- describe the business consideration for establishing a WAN, including:
 - constraints and costs
 - features of telecommunications infrastructure, including the difference between digital and analogue networks
 - growth projections and capacity planning
 - high or low speed links
 - protocols
 - redundancy paths
 - response time and reliability requirements
 - scope of operation
 - security
 - traffic flow patterns
 - traffic load
 - users and the applications expected.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the network industry, and include access to:

- design documents relating to LANs to be incorporated into the WAN
- equipment specifications
- vendor product catalogues and costs.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>