



Australian Government

Assessment Requirements for ICTNPL406 Evaluate core network architectures

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 2.0.

Performance Evidence

Evidence of ability to:

- determine first three layers of the open system interconnect (OSI) model
- determine the role of switches and routers in the core network and different types of routing protocols
- evaluate synchronous digital hierarchy (SDH) switching and transmission and its ability to create resiliency in the network through various redundant configurations
- evaluate benefits, purpose and structure of ADSL networks and other broadband products
- determine and compare data networks with specific reference to internet protocol (IP) and multiprotocol label switching (MPLS)
- evaluate the most important routing protocols of internal and external MPLS and the resilience built into them
- evaluate limitations of an ethernet network and how VLAN can be incorporated in them
- compare various voice protocols
- determine the purpose of various hosting in data centres and media and distribution platforms.

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:

- outline the following features of core network architectures:
 - client business domain, business function and organisation
 - networking technologies
 - theoretical concepts of three or more current industry network development and design methodologies

- transmission technologies and protocols
- outline MPLS and IP architectures across a core network environment
- outline current industry-accepted hardware and software products
- identify and describe relevant protocols, such as routing information protocol (RIP), enhanced interior gateway routing protocol (EIGRP), open shortest path first (OSPF), and border gateway protocol (BGP) operations
- identify VLANs and VPN tunnels and describe how they may be implemented in an ethernet/MPLS environment.

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 Telecommunications – Network Planning field of work and include access to:

- network design documentation
- site-related documentation
- equipment specifications
- live network or training facilities
- organisational guidelines
- networked computers
- networked telecommunications components.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -

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