



Australian Government

ICTNPL501 Develop planning strategies for core network design

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.

Application

This unit describes the skills and knowledge required to develop specifications for core networks to be used by network designers.

It applies to technical officers or engineers from private and public organisations working in a network planning team, who combine technical skills with broader organisational skills to plan the various core network technologies.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Telecommunications – Network Planning

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Evaluate core network requirements and infrastructure capability	1.1 Estimate likely growth in core network use by analysing forecasting market intelligence data on customer demand 1.2 Analyse current traffic and growth trends in edge and backbone networks to forecast traffic growth and capacity demand for the core network 1.3 Compare available capacity, capability and parameters of current core infrastructure deployment against researched demand data to identify infrastructure shortfalls 1.4 Quantify network requirements for any upgrades or network

	augmentation 1.5 Determine relevant standards and regulatory requirements to be considered in core network planning 1.6 Formulate justification to proceed by analysing business requirements and benefits to the business
2. Prepare strategic plan and scoping document	2.1 Determine appropriate technologies and network elements for core network deployment, including new or alternative solutions to meet business requirements 2.2 Select commercially viable technology compatible with the existing network to deploy with existing and future network 2.3 Prepare a planning document, and supporting documentation with recommendations, that complies with deployment standards and regulatory requirements 2.4 Provide estimated costs and schedule for a planning solution
3. Produce project brief	3.1 Evaluate and summarise project scope into required briefing format with supporting documentation, that complies with core network deployment rules 3.2 Plan project delivery to suit business requirements and practical limitations 3.3 Produce core networks specifications with approvals and present to the design section to produce detailed design specifications

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1-1.3, 1.5, 1.6, 2.1-2.3	- Analyses and evaluates complex written and visual text in specialised workplace documentation to determine key information and specific requirements - Evaluates complex text to determine legislative, regulatory and project requirements
Writing	1.1-1.3, 1.6, 2.3, 2.4, 3.1-3.3	- Develops complex material for a specific audience using clear and detailed language and visuals while employing expected forms and conventions - Prepares reports which incorporate

		evaluation of information and specialised and cohesive language
Oral Communication	1.5, 2.3	Clearly articulates requirements using language appropriate to audience and environment and participates in a verbal exchange of ideas and solutions
Numeracy	1.1-1.4, 1.6, 2.1, 2.2, 2.4	- Interprets numerical information and applies mathematical calculations relating to time durations and budgetary information - Analyses numerical information to measure usage and calculates metric measurements, quantities/ratios and financial data using appropriate tools
Navigate the world of work	1.5, 2.3	- Ensures knowledge of legislative requirements and products is kept up-to-date to provide accurate information - Takes full responsibility for following policies, procedures and legislative requirements, and identifies organisational implications of new legislation or regulations
Interact with others	3.3	Implements strategies for a diverse range of colleagues and clients to build rapport and foster strong relationships
Get the work done	1.1, 1.2, 1.5, 1.6, 2.1, 2.2, 2.4, 3.2	- Accepts responsibility for planning and sequencing complex tasks and workload, negotiating key aspects with others, taking into account capabilities, efficiencies and effectiveness - Monitors progress of plans and schedules and reviews and changes them to meet new demands and priorities - Makes critical decisions quickly and intuitively in complex situations, taking into consideration a range of variables, including outcomes of previous decisions - Applies systematic and analytical decision-making processes for complex and non-routine situations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTNPL501 Develop planning strategies for core network design	ICTNPL5071A Develop planning strategies for core network design	Updated to meet standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for ICTNPL501 Develop planning strategies for core network design

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Performance Evidence

Evidence of ability to:

- use data to accurately interpret growth patterns and develop options for core network designs which satisfy customer and enterprise financial goals
- develop a network plan which is current with emerging technologies
- produce specifications and costing
- document a project brief with accompanying project implementation documentation.

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:

- explain the capability and limitations of the various core network technologies for present and future needs
- outline the following specific features of core network design:
 - elements and architecture of core networks
 - limits of a core network
 - typical core network technologies
- identify and describe elements and architectures of the various core technologies
- explain key technologies that make up the core network
- outline the following general features of core network design:
 - distribution structure of networks including backbone, core and edge
 - levels of reliability performance standards applicable to specific equipment deployment needs
 - network design including routing and redundancy
 - standards and regulations.

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:

- computer aided design (CAD)
- computer networks
- data for network planning
- network equipment deployment plans
- planning models
- relevant standards and regulations.

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

Links

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