



Australian Government

ICTTEN615 Manage network traffic

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 7.0.

Application

This unit describes the skills and knowledge required to monitor, analyse and improve network performance for the purpose of effectively managing traffic flow in networks.

It applies to individuals working as field officers, technicians or technical supervisors for carriers, contractors or other service providers, who manage network traffic and make recommendations for capacity planning switching and transmission networks.

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

Unit Sector

Telecommunications Networks Engineering

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 network capacity and traffic congestion	1.1 Obtain work details, planned network strategy and scope from relevant personnel and arrange for site access in compliance with required security arrangements, legislation, codes, regulations and standards 1.2 Interrogate system monitoring alerts and alarms and identify areas of route and circuit unavailability 1.3 Assess planned and unplanned outages to determine network unavailability and verify restoration times 1.4 Obtain and interrogate network management system and identify traffic status 1.5 Analyse system alert and identify real and potential traffic problems

ELEMENT	PERFORMANCE CRITERIA
	1.6 Analyse customer complaints and traffic measurement data to identify network problems 1.7 Activate and deactivate semi-permanent controls active in the network on a regular basis to simulate irregular traffic
2. Develop traffic control strategies	2.1 Conduct traffic measurements across all required routes 2.2 Analyse results, historical data and traffic volume requirements 2.3 Determine specific thresholds, loading and grading levels to alter traffic flows 2.4 Obtain funding parameters and budgeted levels, and determine plan amendments 2.5 Confirm that traffic control strategies to prevent traffic problems 2.6 Develop strategies for recovery where traffic congestion occurs 2.7 Develop contingency plans to allow for problems during network changes
3. Apply short and long-term traffic solutions	3.1 Implement software changes according to planned network strategy 3.2 Develop short-term ad hoc solutions where only a temporary solution is required 3.3 Confirm that reversal action can be initiated in cases of temporary solutions 3.4 Implement contingency plan where required according to organisational requirements 3.5 Conduct monitoring of changes and take measurements to assess outcomes of variations 3.6 Analyse measurements and provide a report to relevant personnel with recommendations for further changes 3.7 Review and monitor strategies and initiate corrective action where required
4. Detect and take action on traffic congestion	4.1 Measure and analyse traffic loads to assess congestion problems and determine possible impact 4.2 Control traffic flow and prevent processor overloads 4.3 Evaluate potential traffic increases for impact on the network and develop contingencies to control traffic flow if required
5. Provide traffic indicators for capacity planning	5.1 Predict future potential traffic trends and requirements using data on current and historical traffic patterns 5.2 Identify potential network traffic problems and make recommendations to network planners 5.3 Complete reports with recommendations and forward to relevant personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Numeracy	• Uses mathematical formulas to interpret data and make projections about traffic flow • Uses mathematical formulae to estimate and plan project costs within business budgets
Oral communication	• Participates in verbal exchanges using specific and relevant language suitable to audience • Employs listening and questioning techniques to confirm understanding
Reading	• Organises, evaluates and interprets technical specifications and required documentation from a range of complex texts
Writing	• Prepares workplace documentation, including reports and recommendations incorporating technical language, to communicate complex information clearly and effectively
Teamwork	• Collaborates with others to achieve joint outcomes • Selects and uses required conventions and protocols when communicating with relevant personnel in a range of work contexts
Planning and organising	• Uses a combination of formal, logical planning processes and an understanding of context for complex, high-impact activities with strategic implications
Problem solving	• Approaches problem-solving in diverse ways, recognising that there is no single formula that applies in all situations • Uses formal processes to monitor implementation of solutions and reflect on outcomes
Technology	• Uses digital systems and tools to enter, store and analyse data

Unit Mapping Information

Supersedes and is equivalent to ICTTEN603 Undertake network traffic management.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for ICTTEN615 Manage network traffic

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- conduct the management of network traffic on at least two network systems.

In the course of the above, the candidate must:

- conduct traffic measurements
- develop and implement contingencies to control traffic flow
- identify potential network traffic problems and make recommendations
- provide information for capacity planning.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- required legislation, planned network strategies, customer policies, service level agreements, codes, company work practices, regulations and standards, workplace health and safety (WHS) requirements for scoped work
- functions and features of:
 - system monitoring alerts and alarms
 - route and circuit availabilities
 - system outages
 - network management systems
 - traffic patterns
 - semi-permanent controls
 - traffic engineering
 - workplace documentation related to network traffic
- network management planning principles

- traffic blocking, congestion and dimensioning principles
- transmission type and signals that may be encountered
- network topologies, switching, routing and transmission techniques
- network traffic contingency plans
- various network management systems suitable for conducting traffic evaluations.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- a network and equipment for traffic monitoring and management
- equipment and systems manuals, specifications and enterprise policy.

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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