



Australian Government

ICTTEN612 Design and manage internet protocol TV in a service provider network

Release: 1

ICTTEN612 Design and manage internet protocol TV in a service provider network

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 design a multiprotocol label switching (MPLS) network for internet protocol TV (IPTV) and manage delivery of IPTV services. This includes core and access networks for the service provider.

It applies to individuals with outstanding technical skills, including designers and installers of Next Generation Networks (NGN), IP networks providing fast internet, voice over internet protocol (VoIP), IPTV and internet TV services.

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

Unit Sector

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. Produce and evaluate design requirements for an IPTV network	1.1 Analyse major video models and the impact video challenges have on design of an IPTV network 1.2 Evaluate IPTV against other competing TV broadcast technologies to determine optimum design approach 1.3 Produce the topology of an IPTV network, showing network architecture from IPTV standards' bodies and determine design requirements 1.4 Plan dimensioning of network parameters for multicast and unicast video delivery over broadband in a service provider network

ELEMENT	PERFORMANCE CRITERIA
2. Design an IPTV network for video on demand (VoD) delivery	2.1 Design the content delivery system (CDS) to cache IPTV content in each major metropolitan area for broadcast or streaming VoD models to eliminate performance variability introduced by internet transport or core peering relationships 2.2 Design a video network to provide VoD loads with network solutions using VoD design requirements 2.3 Design a VoD application to meet bandwidth requirements and quality of service (QoS) requirements for commercial viability of IPTV network
3. Design and configure an MPLS IPTV network to meet business requirements	3.1 Determine IP-MPLS network design requirements 3.2 Investigate factors that affect design considerations and ways they can be minimised 3.3 Produce the design topology of a MPLS network to provide secure methods of transporting IP packets using layer 2 protocols 3.4 Design a MPLS layer over the IP networking structure, to combine efficiency of multicast protocols with traffic engineering (TE) facilities to enable fast packet forwarding for real time video streaming applications
4. Manage delivery of IPTV services	4.1 Determine operational processes required to support IPTV by operators 4.2 Produce a plan of the management and customer support model, including strategies dealing with delivery of VoD issues 4.3 Produce a plan of a video network using video delivery strategies to deliver optimum average revenue per user (ARPU) to serve the demographic of an area and the nature of an operator's business 4.4 Manage and monitor video across the network using a management tool

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
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Reading	1.3	Organises, evaluates and interprets standards documentation to properly evaluate design requirements
Writing	1.3, 3.3, 4.2, 4.3	Prepares clear and concise workplace documentation, including diagrammatic material, incorporating technical language to communicate complex information clearly and effectively
Numeracy	4.3	Undertakes a cost-benefit analysis of services based on the nature of the operator's business and the demographic area served
Get the work done	1.1-1.4, 2.1-2.3, 3.1,-3.4, 4.1-4.4	- Uses a mix of intuitive and formal processes to identify key information and issues, evaluate alternative strategies, anticipate consequences and consider implementation issues and contingencies - Experiments with possibilities of new systems, devices and applications before conducting a more sophisticated analysis of benefits and costs - Uses digital tools to access and organise complex data and analyse multiple sources of information for strategic purposes - Uses formal, analytical and lateral thinking techniques for identifying issues, generating and evaluating possible solutions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTEN612 Design and manage internet protocol TV in a service provider network	ICTTEN6216A Design and manage internet protocol TV in a service provider network	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 ICTTEN612 Design and manage internet protocol TV in a service provider network

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Performance Evidence

Evidence of ability to:

- produce and evaluate design requirements for an internet protocol TV (IPTV) network
- design IPTV network for voice on demand (VoD) delivery
- design and configure a multiprotocol label switching (MPLS) IPTV network to meet business requirements
- manage delivery of IPTV services.

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:

- evaluate competing video delivery over broadband networks
- explore current industry-accepted IPTV hardware and software products
- summarise networking technologies including:
 - network operating systems
 - internet protocol (IP) networks
 - MPLS networks
- explain IPTV transmission technologies and protocols.

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 should be typical of those experienced in the telecommunications networks engineering field of work and include access to:

- protocols, configuration documents, management tools and standards

- network and demographic trends, and customer demand data.

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>