Title	Demonstrate knowledge of the principles of computer networks		
Level	3	Credits	4

Purpose	People credited with this unit standard are able to demonstrate knowledge of: data communications; the features of LANs; and the features of WANs.

Classification	Computing > Generic Computing

Available grade	Achieved

Guidance Information

1   Definitions
     A *LAN* (local area network) refers to a network of computers and associated devices within a small geographical area (such as an office or building).
     A *WAN* (wide area network) is a geographically dispersed telecommunications network and the term distinguishes a broader telecommunication structure from a LAN.
     LANs and *WANs* can be wireless-based, wired, optical or a combination.

2   Legislation relevant to this unit standard includes but is not limited to the:
     Copyright Act 1994;
     Copyright (New Technologies) Amendment Act 2008;
     Harmful Digital Communications Act 2015;
     Health and Safety at Work Act 2015;
     Privacy Act 1993;
     Unsolicited Electronic Messages Act 2007;
     and any subsequent amendments.
     Current legislation and regulations can be accessed at http://legislation.govt.nz.

3   An assessment resource to support computing unit standards (levels 1 to 4) can be found on the NZQA website at www.nzqa.govt.nz/asm.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of data communications.

Performance criteria

1.1 The major elements in data communications are identified and described in terms of their role.

Range computer, sender, receiver, transmission media, telecommunications provider.

1.2 The differences between WANs and LANs are identified and described in terms of their features.

Range four differences.

1.3 The uses of LANs and WANs are described in terms of communications, sharing of data, programs, and peripherals.

Outcome 2

Demonstrate knowledge of the features of LANs.

Performance criteria

2.1 Three main types of LAN media are identified and described in terms of their common uses.

2.2 The LANs topologies of ring, star, bus and hybrid are identified in terms of their connection, data flow, advantages and disadvantages.

2.3 A range of LAN protocols are compared in terms their media access and transmission methods.

Range a minimum of three protocols are compared.

Outcome 3

Demonstrate knowledge of the features of WANs.

Performance criteria

3.1 The hardware and protocols of WANs are identified and described in terms of their common uses.

Range evidence of two hardware and two protocols.

3.2 The principles of WANs are identified and described in terms of data compression and encryption.

Replacement information	This unit standard was replaced by unit standard 32941.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	30 September 1994	31 December 2013
Review	2	24 September 1997	31 December 2013
Revision	3	28 July 1998	31 December 2013
Review	4	30 July 2002	31 December 2013
Revision	5	16 July 2004	31 December 2013
Review	6	22 May 2009	31 December 2015
Rollover and Revision	7	19 September 2013	31 December 2019
Review	8	19 January 2017	31 December 2024
Review	9	28 April 2022	31 December 2024

Consent and Moderation Requirements (CMR) reference	0226

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.