Unit 504 Install and configure software Level 3 (Optional)

Rationale
This unit will enable the candidate to install, configure and upgrade operating systems, networked operating systems and/or applications software.

There are 4 outcomes to this unit. The candidate will be able to:
1. prepare for the installation of software
2. install and configure a range of system and application software
3. check the system operates as planned during and after installation of system and application software
4. resolve unwanted changes to the system caused by installation and configuration of system and application software.

Guided learning hours
The guided learning hours for this unit are 30.

Connections with other awards
NVQ links

Outcome	This award contributes to the knowledge and understanding of the following elements of NVQ(s)
	C&G 4300 Installing and Supporting IT Systems Level 3
1	315.1 Prepare for the installation of software
2	315.2 Load and configure software
3, 4, 5	315.3 Complete the installation of software
3	316 1 Plan for system testing
3	316.2 Carry out system testing
4, 5	316.3 Examine and respond to the results of system tests
3	328.1 Plan for software testing
3	328.2 Carry out software testing
4	328.3 Analyse and respond to results of software testing
	C&G 4348 IT Services (Customer Systems Support) Level 3
1	31.1 Survey the customer environment for the installation of software systems
2	31.2 Install software systems
3, 4	31.3 Commission software systems for operation

Key Skills links

Communication	C 2.2, C 2.3
Application of number	
IT	IT 2
Working with others	
Improving own learning	LP 2
Problem solving	PS 2

Assessment
Assessment will be by means of a **set assignment** covering both practical activities and underpinning knowledge.

Outcome 1: Prepare for the installation of software

	Candidate's signature	Date
Practical activities **The candidate will be able to:** 1. prepare plans for software installation, e.g. • current operating system version (updates and configurations • hardware requirements • compatibility issues • current software • correct installation method (e.g. clean, install, uninstall old version first) • required configuration of new software • test regime for new installation 2. determine the specification of the different systems using different methods, e.g. • start up screens • system properties • third-party utilities • existing records 3. check that resources required for installation are present, e.g. installation media, floppy disks, utility disks, blank disks, back-up systems, CD-ROM, DVD, manufacturers' documentation, registration details, systems, storage devices, network or internet resources 4. confirm system meets software requirements 5. perform back up and virus checking 6. record the specification of the existing system, e.g. • exact version and release number of the existing operating system including known service packs, updates and patches installed • exact hardware details, performance and configuration • complete list of all installed and/or enabled software applications including version and release numbers, known service packs, updates and patches installed • known fault history.		

Underpinning knowledge
The candidate will be able to:

1. describe the type of action which should be included in a software installation plan, e.g.
   - agree details with customer/user
   - verify licensing details
   - confirm compatibility with existing system
   - confirm configuration requirements with customer/user
   - arrange access/down time as necessary
   - carry out back up as necessary
   - install software
   - record details: version number, license number, install date, configuration settings, etc.
   - test software to ensure correct function
   - demonstrate software and train users as required

2. describe sources of installation media or files, e.g.
   - network software pool
   - FTP (File Transfer Protocol) site
   - ICT Services department supervisor
   - supplier/manufacturer (CDROM or FTP site)

3. explain the importance of protecting existing software and data

4. outline regulations relating to software licensing and installation, e.g.
   - Copyright Designs and Patents Act 1988 (as amended)
   - The Berne Convention
   - The Universal Copyright Convention

5. describe the items commonly found in a manufacturer's minimum system requirement, e.g.
   - operating system
   - processor
   - RAM size
   - free hard disk space
   - monitor (e.g. SVGA 800 x 600, 16 bit colour)
   - mouse type
   - drives (CDROM, 3.5 inch floppy)
   - other requirements (sound card, modem, etc.)

6. describe the items which need to be backed-up prior to software installation, e.g.
   - registry
   - previous version of software (if available)
   - data associated with existing software version
   - mission-critical data
   - other software that may be affected

7. describe incompatibilities that can exist between software and systems (hardware and operating system) e.g.
   - processor type
   - pre-installed software
   - version incompatibilities
   - file associations.

Outcome 2: Install and configure a range of system and application software

	Candidate's signature	**Date**
Practical activities **The candidate will be able to:** 1. install system and application software from: • removable storage media, e.g. disk, CD-ROM, DVD • fixed storage media, e.g. installation files downloaded to hard disk from a network server, either LAN or WAN, e.g. Internet • a network server, e.g. install over a network 2. install different types of system and application software • system software, e.g. operating system/network operating system or components • applications software, e.g. integrated suites, individual application, word processors, spreadsheets, e-mail, browsers • utility software, e.g. virus-checkers, system tools, system monitors, disk-checkers 3. upgrade existing system and application software 4. install system and application software to specified destinations and using different installation options • default • custom 5. configure installed system and application software to user requirements, e.g. creation of personal profiles • user accounts • settings • shared folders/access • user/group rights/permissions • passwords 6. maintain registration documentation and/or installation records 7. perform an automated deployment of a software application.		

Underpinning knowledge
The candidate will be able to:

1. identify data required to comply with system and application software regulations, e.g. company details, licence numbers, product identification codes, name of person to hold registration

2. identify different types of installation media, e.g.
   - disk (CD/DVD, floppy)
   - FTP site
   - network software pool

3. describe how types of installation media affect installation process, e.g. download times, effects on network users

4. identify the correct order for loading different types of system and application software, e.g.
   - CD-ROM device driver
   - operating/network operating system
   - operating/network operating system upgrades/patches
   - application software
   - application software upgrades/patches

5. describe sources of manufacturers' information specific to installation, e.g. guides, manuals, documentation, read me files, online sources, web sites, customer help lines and helpdesks, telephone support

6. explain why custom locations may be required, e.g.
   - disk partitions
   - non-typical storage locations
   - organisational requirements
   - user accounts
   - shared folders/access
   - user/group rights/permissions
   - passwords

7. explain why different installation options may be required, e.g. full, limited, custom

8. describe the procedures for registering different types of system and application software, e.g. freeware, shareware, proprietary

9. explain the difference(s) between an upgrade and a full installation

10. describe the process of automatically deploying a software application to multiple clients across a network.

Outcome 3: Check the system operates as planned during and after installation of system and application software

	Candidate's signature	**Date**
Practical activities **The candidate will be able to** 1. monitor the installation of software identifying any problems and errors and taking action to resolve them 2. check that installed system and application software operates as expected upon completion of installation 3. check the entire system operates as expected after system and application software installation 4. record problems/errors encountered and actions taken.		

Underpinning knowledge
The candidate will be able to:

1. describe the types of problems and errors, and their effects, which can arise during the installation of software, e.g.
   - insufficient memory
   - can't find (a) file(s)
   - file(s) already exist
   - older version of application already installed
   - corrupted application file(s)
   - operating system (version) will not support application
   - application conflicts with another application/function
   - application will not install

2. describe the types of actions which may be required to resolve problems and errors, e.g. restart processes or systems, replace defective media, respond to alert and dialogue boxes

3. identify checks which can be performed to confirm successful installation of system and application software, e.g.
   - self test facility
   - run software, testing functions with standard data to confirm accuracy
   - test using diagnostic and performance monitoring software
   - stress/soak test for an extended period

4. describe the types of changes to the system which may occur as a result of system and application software installation e.g. changes to start-up sequence, menus, desktop, display, error messages

5. identify possible changes to system performance after installation, e.g.
   - system speed
   - system boot time
   - system stability
   - memory usage
   - system security

6. explain the importance of maintaining accurate records of installation.

Outcome 4: Resolve unwanted changes to the system caused by installation and configuration of system and application software

	Candidate's signature	**Date**
Practical activities **The candidate will be able to:** 1. identify actions to correct unwanted changes to system operation, e.g. • change default settings • alter user profiles • re-configure other, associated software 2. identify actions to correct unwanted changes to system performance, e.g. • alter file management • adjust memory allocation • increase memory • adjust data compression 3. make changes, as identified, to the software installation and configuration 4. check that changes have improved system operation and performance 5. record any unwanted changes, recommendations and actions taken and results.		
Underpinning knowledge **The candidate will be able to:** 1. describe types of unwanted changes that may occur to system operation and performance as a result of system and application software installation, e.g. • system slows down • system less stable (more crashes) • more system errors • less memory available • data corruption • system more difficult to manage and control • reduction in system security 2. describe practical methods to correct unwanted effects on a system caused by software installation, e.g. • reconfiguration • reinstallation • uninstallation • restoring default settings from backups or hardware changes.		