

Standard L3: Information Communication Technician (continued)

UOS reference number

ST0973

Trailblazer reference number

TB0547

Title of occupation

Information Communication Technician

Trailblazer name

Information Communication Technician

Core and options

Yes

Resubmission

No

Level of occupation

Level 3

Route

Digital

Typical duration of apprenticeship

18 months

Target date for approval

No target date

Occupational profile Summary

This occupation is found in organisations, large and small, in all sectors, and within public, private and voluntary organisations. For example, retail, finance, the armed forces and multi-national telecoms providers.

Organisations increasingly rely on computer and communications systems in all areas of their operations and decision-making processes. It is therefore crucial to ensure the optimal performance and maintenance of systems. An Information Communication Technician (ICT) is critical to achieving this.

The ICT occupation delivers efficient operation and control of the IT and/or Telecommunications infrastructure (comprising physical or virtual hardware, software, network services and data storage) either on-premises or to end-users provisioned as cloud services. The big picture is to help deliver and support the information systems needs of an organisation.

The ICT helps organisations to prepare for new or changed services. They can operate throughout the change process helping with the maintenance of regulatory, legal, and professional standards in the delivery of systems. They are involved in building and managing systems and components in virtualised and cloud computing environments. A key part of their role is monitoring the performance of systems and services in relation to their contribution to business performance, system security and sustainability.

The ICT makes their contribution through applying infrastructure management tools to automate the provisioning, testing, deployment and monitoring of infrastructure components.

An ICT provides support to internal and/or external customers, by using tools or systems to problem solve and trouble-shoot routine and non-routine problems. This occupation also supports

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clients/customers to run their systems efficiently. They achieve this through monitoring and maintaining systems and/or platforms to maximise productivity and provide a positive user experience.

An ICT could be installing and configuring computer systems, diagnosing hardware and/or software faults, solving technical and applications problems, either remotely or in person. Some examples of these issues are slow performance, connection problems, and an inability to access data.

The work of an ICT can involve a vast array of specialist roles supporting business critical requirements and focus on customer solutions. Networking, Server, IT Essentials, Secure Communications, programming, and databases are just an example of typical tasks and projects undertaken within the likely areas of employment.

In their daily work, an employee in this occupation interacts with a wide variety of internal or external users of digital systems, through digital channels, remotely and/or face to face.

An employee in this occupation will be responsible for prioritising systems support tasks as they arise and for monitoring and maintaining system performance. They may work alone or as part of a team but will escalate problems in line with their organisation's policies and Service Level Agreements. For example, if the task may not be completed on premise, it may have to be referred to an external specialist.

The Information Communication Technician standard has three distinct options. At the end of the apprenticeship you will be competent in either:

1) Support Technician

The Support Technician role is desk based resolving system user queries and resolving faults in a helpdesk environment. For example, a Support Technician in a Travel Agent business would help to ensure the operation of the customer bookings system. When the system fails the business would contact a Support Technician to report the problem and either get it fixed or escalated to an engineer. The Support Technician would be expected to rectify or escalate faults rapidly in order to reduce the financial impact and damage to the business's customer reputation.

2) Network Technician

A Network Technician role is usually desk based but may involve visits to client's premises to resolve issues. For example, a Network Technician working in a university or a college they may be installing a computer lab as a training suite including cabling and hardware requirements. They may be required to install cloud services to support a business expansion and provide better network services.

In a contact centre environment, they may use network management tools to collect and report on network load and performance statistics to improve commercial outcomes.

In a retail bank they may contribute to the implementation of maintenance and installation work using standard procedures and tools to carry out defined system backups, restoring data

3) Digital Communications Technician

A Digital Communications Technician may be desk or field-based resolving faults and issues with communications systems. For example, working in a defence organisation operates as an Online Network Technician they would be at the heart of every mission solving complex issues, enabling the secure exchange of mission critical and often Top-Secret information. It would be their responsibility to administer and provide specialist communications and IT equipment including classified information and cryptographic material to guarantee Operational Capability is delivered to the Command.

A Digital Communications Technician working for a large telecom's organisation could be involved in the build, test and integration of end-to-end customer solutions to support customer order delivery. Not to mention the build, test and maintenance of core and mobile radio access networks, working with both internal and external customers.

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Typical job titles

Typical job titles include

Support Technician - Help Desk support. First-Line support. Office IT Technician. IT Support Analyst. IT Support Officer. Maintenance Support Technician. Data Centre Support Technician. Cyber/Security support.

Network Technician - Network Support. IT Field Technician. Cloud Technician Digital Communications Technician, Network Field Operative.

Digital Communications Technician - Telecommunications Technician, Communications Technician, 1st & 2nd line support Telecoms Technician.

Duty	Knowledge	Skills	Behaviours
D1: Provide technical support to customers both internal and external through a range of communication channels	K2, K7, K8, K13	S1, S3, S7, S8, S10, S11, S12	B1, B2, B4
D2: Establish and diagnose ICT problems/faults using the required troubleshooting methodology and tools	K2, K3, K11,	S2, S6, S10, S11, S12	B1, B3
D3: Interpret technical specifications relevant to the ICT task	K2, K4, K8	S1, S4, S5, S8	B1
D4: Apply the appropriate security policies to ICT tasks in line with organisational requirements	K2, K10	S1, S4, S6	B1, B3
D5: Undertake the relevant processes with the relevant tools and technologies to resolve ICT technical issues	K1, K2, K3, K4, K5, K6, K9, K10, K11	S2, S4, S6, S8, S12	B1, B3
D6: Communicate with all levels of stakeholders, talking them through steps to take to resolve issues or set up systems, keeping them informed of progress and managing escalation and expectations	K2, K7, K8	S1, S3, S4, S5, S7, S8	B1, B4
D7: Apply appropriate testing methodologies to hardware or software or cabling assets	K2, K3, K4, K5, K6, K9, K10, K11	S2, S4, S6, S8	B1
D8: Practice guided continuous self-learning to keep up to date with technological developments to enhance relevant skills and take responsibility for own professional development	—	S3	B1
D9: Document or escalate ICT tasks as appropriate to ensure a clear audit trail and progression of issues	K1, K2, K3, K9, K10, K11, K12, K13	S1, S2, S4, S8	B1, B3

Option 1: Support Technician

Duty

D10: Install and configure relevant software and hardware as appropriate for example: mobile apps, printers, projectors, scanners and cameras.

D11: Address IT issues by prioritising in response to customer service level agreements

D12: Administer security access requirements and permissions for stakeholders escalating as necessary for example password resets

D13: Support the roll out of upgrades or new systems or applications

Knowledge

K14, K15, K16, K21, K23

K22

K14, K15, K17, K18, K19, K20, K21, K22

K14, K15, K16, K17, K19,
K20, K21

Skills

S9, S14, S15

S9, S13, S15

S15, S16, S17, S18

S10, S13, S14, S15, S17, S18

Behaviours

Option 2: Network Technician

Duty	Knowledge	Skills	Behaviours
D14: Complete cabling tasks for example coaxial, copper, fibre or remotely.	K37, K39, K40	S19	
D15: Administer mobile devices on a network	K25, K29, K31, K35	S26, S28, S31	
D16: Deliver network tasks prioritising security with a view to mitigating and defending against security risks.	K24, K25, K27, K28, K33, K35	S20, S21, S23, S24, S25, S27	
D17: Install and configure relevant software and physical or virtual hardware as appropriate for example: network devices, switches and routers	K25, K26, K32, K34, K35, K36	S20, S21, S22, S23, S24, S25, S26, S27	

Option 3: Digital Communications Technician

Duty	Knowledge	Skills	Behaviours
D14: Complete cabling tasks for example coaxial, copper or fibre.	K37, K39, K40	S12, S19, S28, S29	
D18: Install and commission computer or telecoms hardware.	K37, K38, K41	S19, S28, S30	
D19: Maintain computer systems or telecommunication networks	K24, K38, K41, K42, K43, K44	S29, S30, S31	
D20: Research solutions to maintain network communication architectures	K37, K40, K41	S17, S30	
D21: Monitor and report telecommunications or communications systems performance to enable service delivery.	K40, K41, K42	S24, S31	

Knowledge

K1: Approaches to back up and storage solutions

K2: Basic elements of technical documentation and its interpretation

K3: Principles of root cause problem solving using fault diagnostics for troubleshooting

K4: Principles of basic network addressing for example binary

K5: basic awareness of the principles of cloud and cloud-based services

K6: fundamental principles of virtual networks and components

K7: Principles of cultural awareness and how diversity impacts on delivery of support tasks

K8: Methods of communication including level of technical terminology to use to technical and non-technical stakeholders

K9: Different types of maintenance and preventative measures to reduce the incidence of faults

K10: key principles of Security including the role of People, Product and Process in secure systems for example access and encryption requirements

K11: fundamentals of physical networks and components

K12: approaches to documenting tasks, findings, actions taken and outcome for example, use of task tracking and ticketing systems

K13: basic awareness of legislation in relation to disposal of waste materials for example Waste Electronic and Electrical regulations (WEEE)

Support Technician

K14: fundamental principles of operating systems, hardware system architectures and devices

K15: principles of remote operation of devices including how to deploy and securely integrate mobile devices into a network

K16: fundamental principles of peripherals for example: printers and scanners

K17: principles of virtualisation of servers, applications and networks

K18: principles of disaster recovery, how a disaster recovery plan works and their role within it

K19: principles of Test Plans, their role and significance

K20: fundamentals of purpose, creation and maintenance of asset registers

K21: approaches to system upgrades and updates and their significance

K22: approaches to interpretation of log files, event viewer and system tools

K23: basic elements of network infrastructure architectures including Wi-Fi and wired networks

Network Technician

K24: Principles of OSI layers

K25: Principles of cloud and network architecture (including Wi-Fi)

K26: Principles of DNS / DHCP

K27: Awareness of Cloud platforms, such as AWS, Azure, or GCP

K28: Principles of LANs and WANs

K29: Approaches to virtualisation of servers, applications, and networks

K30: Principles of network protocols

K31: Principles of API's and Web Services

K32: The different types of cloud storage

K33: Back up procedures and their importance

K34: Principles of databases and migration

K35: Key principles of Cloud Security and firewalls

K36: Awareness of DevOps methodology and tools, such as Puppet, Chef, Git, Docker

Digital Communications Technician

K37: Basic elements of network communication architectures for example, hardware, software, protocols and connection mediums.

K38: awareness of the purpose of firewalls

K39: different types of connectivity and cabling for example physical and remote

K40: awareness of network protocols

K41: The purpose of digital communications technologies for example, hardware, virtual and cellular technologies

K42: Main factors affecting network performance including faults and error control

K43: Principles of digital test and diagnostic equipment usage

K44: Basic principles of VPN and Remote Access Security for example transmission technologies

Skills

S1: Interpret and prioritise internal or external customer's requirements in line with organisation's policy

S2: Apply the appropriate tools and techniques to undertake fault finding and rectification

S3: Apply Continuous Professional Development to support necessary business output and technical developments

S4: Operate safely and securely across platforms and responsibilities maintaining the security of personal data of internal and external stakeholders

S5: Communicate with all levels of stakeholders, keeping them informed of progress and managing escalation where appropriate

S6: Develop and maintain effective working relationships with colleagues, customers, and other relevant stakeholders

S7: Manage and prioritise the allocated workload effectively making best use of time and resources

S8: Complete documentation relevant to the task and escalate where appropriate

S9: Install or undertake basic software upgrades, either physically or remotely

S10: Establish and diagnose the extent of the IT support task, in line with the organisation's policies and SLA's

S11: Provide remote/F2F support to resolve customer requirements

S12: Maintain a safe working environment for own personal safety and others in line with Health & Safety appropriate to the task

Support Technician

S13: Identify and scope the best solution informed by the system data associated with the task

S14: Test and evaluate the system's performance and compliance with customer requirements.

S15: Escalate non routine problems in line with procedures

S16: Use basic scripting to execute the relevant tasks for example PowerShell, Linux

S17: Carry out routine maintenance across systems, (such as IT, Communications), ensuring organisational compliance at all times

S18: Apply the necessary security, in line with access and/or encryption requirements

Network Technician

S19: Use a range of Cabling or Connectors equipment in line with technical requirements for example physically or remotely

S20: Test and evaluate network environments

S21: Monitor performance and usage of a network

S22: Deploy applications on a network

S23: Set up storage and data access for staff

S24: Apply necessary security measures, in line with access requirements to a network

Knowledge, skills and behaviours

S25: Carry out routine maintenance across network systems, ensuring organisational compliance

S26: Monitor network-related workloads including DNS and firewalls

S27: Install or undertake basic upgrades, either physically or remotely

Digital Communications Technician

S19: Use a range of Cabling or Connectors equipment in line with technical requirements

S28: Establish digital communication or telecommunications systems through, for example cabling and connecting equipment.

S29: Identify a range of tools and or diagnostic equipment, for example, Hardware or Software components, to resolve Communications or Telecommunications requirements.

S30: Undertake basic telecommunications activities, in response to an allocated task, designated responsibilities, instructions or customer's requirements.

S31: Use information necessary to identify operational issues and rectify or escalate accordingly in line with policy

Behaviours

B1: Works professionally, taking initiative as appropriate and acting with an ethical approach.

B2: Communicates technical and non-technical information in a variety of situations to support effective working with internal or external stakeholders

B3: Demonstrates a productive and organised approach to their work

B4: Self-motivated, for example takes responsibility to complete the job.



Example training specification

Duty	Training requirement	Method of delivery	Provider type	OTJ days
D1: Provide technical support to customers both internal and external through a range of communication channels				5
D2: Establish and diagnose ICT problems/faults using the required troubleshooting methodology and tools				6
D3: Interpret technical specifications relevant to the ICT task				8
D4: Apply the appropriate security policies to ICT tasks in line with organisational requirements				14
D5: Undertake the relevant processes with the relevant tools and technologies to resolve ICT technical issues				10
D6: Communicate with all levels of stakeholders, talking them through steps to take to resolve issues or set up systems, keeping them informed of progress and managing escalation and expectations				3
D7: Apply appropriate testing methodologies to hardware or software or cabling assets				8
D8: Practice guided continuous self-learning to keep up to date with technological developments to enhance relevant skills and take responsibility for own professional development				1
D9: Document or escalate ICT tasks as appropriate to ensure a clear audit trail and progression of issues				5
D10: Support Technician - Install and configure and hardware as appropriate for example: mobile apps, printers, projectors, scanners and cameras.				20
D11: Support Technician - Address IT issues by response to customer service level agreements				5
D12: Support Technician - Administer security and permissions for stakeholders escalating as necessary for example password resets				10

Example training specification (continued)

Duty	Training requirement	Method of delivery	Provider type	OTJ days
D13: Support Technician - Support the roll out of upgrades or new systems or				5
D14: Network Technician and Digital Communications Technician - Complete cabling tasks for example coaxial, copper or fibre				10
D15: Network Technician - Administer mobile devices on a network				10
D16: Network Technician - Deliver network tasks prioritising security with a view to mitigating and defending against security risks.				15
D17: Network Technician - Install and configure relevant software and physical or virtual hardware as appropriate for example: network devices, switches and routers				5
D18: Digital Communications Technician - Install and commission computer or telecoms hardware.				10
D19: Digital Communications Technician - Maintain computer systems or telecommunication networks				10
D20: Digital Communications Technician - Research solutions to maintain network communication architectures				5
D21: Monitor and report telecommunications or communications systems performance to enable service delivery.				5

Additional information

Entry requirements

No entry requirements specified

Professional recognition

Professional body	Level
RITTECH - pending confirmation	3

Trailblazer membership details

Chairs

Rebecca Plant (Microsoft) Simon Keyland (RAF)

Facilitator

No facilitator

Employer members

Name	Employer
Catherine Hawkett	Virgin Media
Jason Wagstaffe	Vodafone
Jonathan Goodall	Risual
Mark Thomas	Royal Navy
Penny Wilsher	First Response Finance
Sarah Hallworth	Lloyds Banking Group
Wayne Vickery	BT

Other members

Name	Employer
Chiraag Swaly	QA
Crissi Williams	Institute for Telecoms Professionals
John Pritchard	Accelerate People
Paul Hand	People Plus
Ray Snowden	GK Apprenticeships