

# End-point assessment plan for Information Communication Technician apprenticeship standard

Apprenticeship standard reference number	Apprenticeship standard level	Integrated end-point assessment
ST0973	3	No

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## Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the Information Communication Technician apprenticeship standard. It explains how EPA for this apprenticeship must operate. It provides the EPA design requirements for end-point assessment organisations (EPAOs). It will also be useful for apprentices undertaking this apprenticeship, their employers and training providers.

The Occupational Standard includes 3 options:

1. Support Technician
2. Network Technician
3. Digital Communications Technician

EPA must be conducted by an EPAO approved to deliver EPA for this apprenticeship standard. Each employer should select an approved EPAO from the Education & Skills Funding Agency's Register of end-point assessment organisations (RoEPAO).

Full-time apprentices will typically spend 18 months on-programme (before the gateway) working towards this occupational standard. All apprentices must spend a minimum of 12 months on-programme. All apprentices must spend a minimum of 20% of on-programme time undertaking off-the-job training.

Before starting EPA, an apprentice must meet the gateway requirements. For this apprenticeship they are:

- the employer must be content that the apprentice is working at or above the occupational standard
- apprentices must have compiled and submitted a portfolio of evidence to underpin the professional discussion
- for level 3 apprenticeships and above apprentices without English and mathematics at level 2 must achieve level 2 prior to taking their EPA.<sup>1</sup>

The EPAO must confirm that all required gateway evidence has been provided and accepted as meeting the gateway requirements. The EPAO is responsible for confirming gateway eligibility. Once this has been confirmed, the EPA period starts.

This EPA should then be completed within an EPA period typically lasting four months.

This EPA consists of two discrete assessment methods.

It will be possible to achieve the following grades in each assessment method:

Assessment method 1: **Professional discussion underpinned by portfolio**

- Fail
- Pass
- Distinction

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<sup>1</sup> For those with an education, health and care plan or a legacy statement, the apprenticeship's English and Mathematics minimum requirement is Entry Level 3. British Sign Language (BSL) qualifications are an alternative to English qualifications for those who have BSL as their primary language.

## Assessment method 2: **Project report with questioning**

- Fail
- Pass
- Distinction

Performance in the EPA will determine the overall apprenticeship standard grade of:

- Fail
- Pass
- Merit
- Distinction

## Assessment arrangements when national security is a factor

The Institute for Apprenticeships and Technical Education (IfATE) may approve a variation to EPA delivery where it confirms, having considered adequate evidence, it is satisfied that:

- all options supporting a fully independent model have been exhausted and
- national security issues prevent remote end-point assessment and
- the fair assessment of occupational competence can only be achieved in the apprentice's operating environment.

It is expected this approach to delivery is only applicable to the Royal Navy because of their unique operating environment combined with their role in connection with national security.

IfATE must be satisfied that every possible way of having a fully independent EPA has been considered and that the unique circumstances of the employer prevents any arrangements for a fully independent model being made.

IfATE must also be satisfied that the EPA meets all of its other requirements, including the delivery of valid and accurate judgements of occupational competence, such that all apprentices who complete the EPA will be judged competent in the occupation regardless of who their employer is.

Bespoke EPA arrangements for this apprenticeship have been approved by IfATE for the Royal Navy to use. For further details please contact IfATE directly through the general enquiries inbox ([enquiries.ifa@education.gov.uk](mailto:enquiries.ifa@education.gov.uk)).

## EPA summary table

<b>On-programme</b> (typically, 18 months)	<p>Training to develop the occupations standard's knowledge, skills and behaviours (KSBs).</p> <p>working towards English and mathematics Level 2, if required.</p> <p>Compiling a portfolio of evidence.</p>
<b>End-point assessment gateway</b>	<p>The employer must be content that the apprentice is working at, or above, the occupational standard.</p> <p>Apprentices must have achieved English and mathematics Level 2.</p> <p>Apprentices must submit a portfolio of evidence to underpin the Professional Discussion</p>
<b>End-point assessment</b> (which will typically take four months)	<p>Assessment method 1: <b>Professional discussion underpinned by portfolio</b></p> <ul style="list-style-type: none"> <li>• Fail</li> <li>• Pass</li> <li>• Distinction</li> </ul> <p>Assessment method 2: <b>Project report with questioning</b></p> <ul style="list-style-type: none"> <li>• Fail</li> <li>• Pass</li> <li>• Distinction</li> </ul> <p>Performance in the EPA will determine the overall apprenticeship standard grade of:</p> <ul style="list-style-type: none"> <li>• Fail</li> <li>• Pass</li> <li>• Merit</li> <li>• Distinction</li> </ul>

## Length of end-point assessment period

The EPA will be completed within an EPA period lasting typically four months, after the EPA gateway. Any supporting material which underpins an EPA assessment method should be submitted at the gateway.

## Order of assessment methods

The assessment methods can be delivered in any order. The result of one assessment method does not need to be known before starting the next.

## EPA Gateway

The EPA period should only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the occupational standard, that is to say they are deemed to have achieved occupational competence. In making this decision, the employer may take advice from the apprentice's training provider(s), but the decision must ultimately be made solely by the employer.

The EPAO determines when all other gateway requirements have been met, and the EPA period will only commence once the EPAO has confirmed this.

In addition to the employer's confirmation that the apprentice is working at or above the level in the occupational standard, the apprentice must have completed the following gateway requirements prior to beginning EPA:

- Achieved English and mathematics at Level 2.  
For those with an education, health and care plan or a legacy statement, the apprenticeship's English and Mathematics minimum requirement is Entry Level 3. British Sign Language (BSL) qualifications are an alternative to English qualifications for those who have BSL as their primary language.

For the project report with questioning there are no specific requirements.

For the professional discussion underpinned by portfolio the apprentice will be required to submit a portfolio of evidence.

### **Portfolio of evidence requirements:**

- apprentices must compile a portfolio of evidence during the on-programme period of the apprenticeship
- it must contain evidence related to the KSBs that will be assessed by the Professional discussion
- the portfolio of evidence will typically contain five discrete pieces of evidence
- evidence should be mapped by the apprentice against the KSBs assessed by the professional discussion (see mapping of KSBs)
- evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is suggested

- evidence sources may include:
  - workplace documentation, for example workplace policies/procedures, records
  - witness statements
  - annotated photographs
  - video clips (maximum total duration 10 minutes); the apprentice must be in view and identifiable at all times.
  - This is not a definitive list; other evidence sources are possible.
- it should not include any methods of self-assessment
- any employer contributions should focus on direct observation of performance (for example witness statements) rather than opinions
- the evidence provided must be valid and attributable to the apprentice; the portfolio of evidence must contain a statement from the employer and apprentice confirming this
- the portfolio of evidence must be submitted to the EPAO at the gateway

The portfolio is not directly assessed. It underpins the professional discussion and therefore should not be marked by the EPAO. EPAO's should review the portfolio in preparation for the professional discussion but are not required to provide feedback after this review of the portfolio.

## End-point Assessment methods

### Assessment method 1: Professional discussion underpinned by portfolio

#### Assessment method 1 component 1: Professional discussion underpinned by portfolio

##### Overview

This assessment will take the form of a professional discussion which must be appropriately structured to draw out the best of the apprentice's competence and cover the KSBs assigned to this assessment method. A professional discussion is a two-way discussion which involves both the independent assessor and the apprentice actively listening and participating in a formal conversation. It gives the apprentice the opportunity to make detailed and proactive contributions to confirm their competency across the KSB's mapped to this method.

The rationale for this assessment method is:

- it allows for assessment of KSBs that do not occur on a predictable or regular basis to be assessed consistently
- it allows for testing of responses where there are a range of potential answers to demonstrate competence
- it is cost effective, as it can be conducted remotely to reduce travelling time

##### Delivery

The independent assessor will conduct and assess the professional discussion.

The professional discussion must last for 60 minutes. The independent assessor has the discretion to increase the time of the professional discussion by up to 10%.

The independent assessor will ask a minimum number of 10 open questions. During this method, the independent assessor must combine questions from the EPAO's question bank and those generated by themselves.

The independent assessor must have a minimum of one week to review the portfolio ahead of the professional discussion. The portfolio must be available to the apprentice during the professional discussion.

The apprentice must be given at least a week's notice of the date and time of the professional discussion.

Video conferencing or online streaming can be used to conduct the professional discussion but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided in some way.

The independent assessor must use the assessment tools and procedures that are set by the EPAO to record the outcome professional discussion. KSBs met and answers to questions, must be recorded by the independent assessor.

The independent assessor will make all grading decisions.

## Venue

The professional discussion should take place in a quiet room, free from distractions and influence.

The professional discussion can take place in any of the following:

- employer's premises
- a suitable venue selected by the EPAO, for example a training provider's premises
- online streaming

## Question and resource development

Independent assessors are responsible for generating suitable questions in line with the EPAO's training and standardisation process.

EPAOs will produce the following material to support this assessment method:

- outline of the assessment method's requirements
- marking materials
- question bank
- guidance document for employers and apprentices on the process/timescales for the professional discussion underpinned by a portfolio of evidence as well as a description of the purpose
- guidance document for independent assessors on how to carry out the assessment
- identification verification document
- marking materials including a template to record the apprentice's responses to questions
- grade recommendation document

- assessor guidance on questions they generate themselves
- confidentiality document

## Assessment method 2: Project report with questioning

(This assessment method has 2 components.)

### Assessment method 2 component 1: Project Report

#### Overview

The project is compiled after the apprentice has gone through the gateway.

The work-based project should be designed to ensure that the apprentice's work meets the needs of the business, is relevant to their role and allows the relevant KSBs to be demonstrated for the EPA.

Given the large number of projects that will be completed per year, EPAOs will not be expected to sign-off each project title before the project commences. However, the EPAO should instead provide detailed specifications and suggested examples of project titles to enable the employer to select a project that will meet the requirements of the EPA.

The rationale for this assessment method is:

Information and Communication Technicians deliver their occupational skills and knowledge in response to unpredictable events within the digital sector. The wide-ranging nature of these events that generate their work tasks means that observation is not suitable and online testing would require too broad a range of scenarios to make testing applicable to all potential users of the standard. A project enables the employer and EPAO to generate a meaningful work-based project to test competence in a viable way.

#### Delivery

Apprentices will conduct a project and deliver the outcome in the form of an electronic based report.

The project is compiled after the apprentice has gone through the gateway process. The apprentice will conduct their project and submit a report to the EPAO after a maximum of 4 weeks of the EPA start date.

The employer will ensure the apprentice has sufficient time and the necessary resources, within this period, to plan and undertake the project and write the report.

Whilst completing the project, the apprentice should be subject to normal workplace supervision.

The project may be based on any of the following:

- a specific problem
- a recurring issue
- an idea/opportunity
- providing a service

As a minimum all project reports must include:

- an introduction
- the scope of the project (including key performance indicators)
- how the outcomes were achieved
- research and findings
- project outcomes



- conclusions and potential areas for improvement

The project report has a maximum word limit of 1,500. A tolerance of plus or minus 10% is allowed.

Appendices, references, diagrams and/or video clips of up to 10 minutes in length etc will not be included in this total.

The project must map, in an appendix, how it evidences the relevant KSBs for this assessment method.

Suitable projects may be along the following lines (this list is for guidance and not exhaustive) Project Ideas:

### **Support Technician**

- Maintenance or repair of systems faults. This can either include the rectification of a fault which was causing full or partial loss of service to a customer or carry out either routine or proactive maintenance on a system to increase its capability or reliability. For either of these you should include an overview of the information you gathered to confirm performance of the solution. Your approach to the task including logical approach, confirmation of the solution performance after including the capture of information to support this.
- Support for the roll-out of installation and commission of new systems or upgrades. This can either be new equipment as part of the expansion of a system, or an upgrade which will add additional capability or functionality to a system. The project may include any of the pre-installation activity as well as the installation process and the post installation commission tasks (e.g. configuration, testing, handover, updating records etc).

### **Network Technician**

- Installation and commission of networks. This can either be new equipment as part of the expansion of a network, or an upgrade which will add additional capability or functionality to a network. The project must include any of the pre-installation activity (e.g. Network Designs, Engineering instructions, Pre-Installation checks, Baselines, rollback plans) as well as the installation process and the post installation commission tasks (e.g. Configuration, testing, handover, updating records etc.)
- Maintenance or repair of network equipment. This can either include the rectification of a fault which was causing full or partial Loss of service to a customer or Carry out either Routine or proactive maintenance on a network to increase its capability or reliability. For either of these you should include; An overview of performance of the network before, the information you gathered to confirm the performance of the network before, Your approach to the task including logical approach, Confirmation of the network performance after including the capture of information to support this.
- Installation, configuration or maintenance task on either ICT related hardware or software, that provides a service or aids in restoration of services, either at a customer premises or within a fixed network.

### **Digital Communications Technician**

- Installation and commission of telecoms networks. This can either be new equipment as part of the expansion of a telecoms network, or an upgrade which will add additional capability or functionality to a network. The project must include any of the pre-installation activity (E.g.

Network Designs, Engineering instructions, Pre-Installation checks, Baselines, rollback plans) as well as the installation process and the post installation commission tasks (E.g. Configuration, testing, handover, updating records etc.)

- Maintenance or repair of telecoms network equipment. This can either include the rectification of a fault which was causing full or partial Loss of service to a customer or Carry out either Routine or proactive maintenance on a telecoms network in order to increase its capability or reliability. For either of these you should include; An overview of performance of the network before, the information you gathered to confirm the performance of the network before, Your approach to the task including logical approach, Confirmation of the network performance after including the capture of information to support this.
- Installation, configuration or maintenance task on either ICT related hardware or software, that provides a service or aids in restoration of services, either at a customer premises, within a fixed network or telecoms site or at a mobile cell site

When the project is submitted, the employer and the apprentice should verify the submitted work is that of the apprentice.

### Marking

The independent assessor will review and mark the project in a timely manner, as determined by the EPAO, and without extending the EPA unnecessarily. Similarly, all quality control processes will also be conducted in a timely manner, as determined by the EPAO.

### Supporting material

EPAOs will produce the following material to support this assessment method:

- outline of the assessment method's requirements
- marking materials
- Example project titles
- guidance document for employers and apprentices on the process/timescales for the assessment method as well as a description of the purpose
- guidance document for independent assessors on how to carry out the assessment
- identification verification document
- grade recommendation document

## Assessment method 2 component 2: questioning

### Overview

This assessment will take the form of questioning which must be appropriately structured to draw out the best of the apprentice's competence and excellence and cover the KSBs assigned to this assessment method. It will involve the questions that will focus on coverage of the project report and activities.

The rationale for this assessment method is:

Questioning allows a deeper exploration of occupational competence and permits the apprentice further opportunity to draw out key aspects of their work within the project activity.

### Delivery

The independent assessors will conduct and assess the questioning.

The questioning must last for 30 minutes. The independent assessor has the discretion to increase the time of the questioning by up to 10% to allow the apprentice to complete their last answer.

During this method, the independent assessor must devise a minimum of 5 questions generated by themselves from their review of the project evidence.

The independent assessor must have a minimum of one week to review the project report ahead of the questioning. The project report must be available to the apprentice during the questioning.

The apprentice must be given at least a week's notice of the date and time of the questioning element of this assessment method.

KSBs met and answers to questions, must be recorded by the independent assessor.

The independent assessor must use the assessment tools and procedures that are set by the EPAO to record the outcomes from the questioning.

The independent assessor will make all grading decisions. The project report and answers to questions will be assessed holistically.

## Venue

The questioning should take place in a quiet room, free from distractions and influence.

Video conferencing and online streaming can also be used to conduct the questioning but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

The questioning can take place in any of the following:

- employer's premises
- a suitable venue selected by the EPAO, for example a training provider's premises
- online via video conference or live streaming

## Supporting material

EPAOs will produce the following material to support this assessment method:

- outline of the assessment method's requirements
- marking materials
- question bank
- guidance document for employers and apprentices on the process/timescales for the assessment method as well as a description of the purpose
- guidance document for independent assessors on how to carry out the assessment
- identification verification document
- marking materials including a template to record the apprentice's responses to questions
- grade recommendation document

## Reasonable adjustments

The EPAO must have in place clear and fair arrangements for making reasonable adjustments for this apprenticeship standard. This should include how an apprentice qualifies for reasonable adjustment and what reasonable adjustments will be made. The adjustments must maintain the validity, reliability and integrity of the assessment methods outlined in this assessment plan.

# Grading

## Assessment method 1: Professional discussion underpinned by portfolio

Fail - Does not meet the pass criteria

KSBs	Pass	Distinction
<p><b>Knowledge</b> K1, K2, K3, K4, K5, K6, K7, K8, K9, K10 K11, K13</p> <p><b>Skills</b> S1, S2, S3, S4, S5, S6, S7, S8,</p> <p><b>Behaviours</b> B1, B2, B3, B4</p>	<p>Explains the principles of system backup/storage. (K1)</p> <p>Describes basic elements of technical documentation, its interpretation, completion and importance in escalation as appropriate. (K2 S8)</p> <p>Identifies and applies the principles of root cause problem solving using fault diagnostic tools and techniques for troubleshooting and rectification'. (K3, S2)</p> <p>Outlines the principles of basic network addressing for example: binary. (K4)</p> <p>Describes the key principles of cloud and cloud-based services. (K5)</p> <p>Analyses the fundamentals and principles of networks and components. (K6, K11)</p> <p>Explains how they interpret and prioritise internal or external customer's requirements in line with organisation's policy. (S1)</p> <p>Outlines the principles of cultural awareness and describes how diversity impacts on delivery of support tasks. (K7)</p> <p>Describes how they apply principles of Continuous Professional Development to support their contribution to delivery of necessary business output and technical developments. (S3)</p>	<p>Reviews the success of root cause problem solving where they have applied fault diagnostics for troubleshooting'. (K3)</p> <p>Evaluates the impact of People, Product and Process on secure systems within their 'organisation'. (K10)</p> <p>Critically analyses their use of tools and techniques to undertake tasks such as installation, maintenance or fault rectification. (S2)</p>

	<p>Identifies and applies methods of communication with stakeholders, selecting technical and/or non-technical language in reflection of the audience to inform progress and escalation and develop and maintain effective working relationships with them'. (K8, S5 S6 B2)</p> <p>Describes different types of maintenance and preventative measures to reduce the incidence of faults. (K9)</p> <p>Explains how they ensure that they operate safely and securely across platforms and responsibilities applying the key principles of security including the role of People, Product and Process in secure systems. (K10, S4)</p> <p>Outlines how they have a basic awareness of legislation in relation to disposal of waste materials for example Waste Electronic and Electrical regulations. (K13)</p> <p>Explains how they manage and prioritise the allocated workload effectively making best use of time and resources. (S7)</p> <p>Explains their approach to work tasks which reflects their own professionalism and use of independent initiative. (B1)</p> <p>Explains how they take a productive and organised approach to their work. (B3)</p> <p>Discusses how they take a self-motivated approach to their work, for example how they manage their own time effectively and take responsibility to complete the job. (B4)</p>	
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<b>Option 1</b> <b>Support Technician</b>		
<b>Knowledge</b> K14 K15 K16, K17, K18, K19 K20, K23, <b>Skills</b> S15 S16	<p>Defines the principles of operating systems and describes the architecture of hardware systems and devices. (K14)</p> <p>Describes the principles of remote operation of devices including how to deploy and securely integrate mobile devices into a network. (K15)</p> <p>Outlines the principles of peripherals for example printers and scanners. (K16)</p> <p>Explains the principles of virtualisation of servers, applications, and networks. (K17)</p> <p>Explains disaster recovery, and outlines how disaster recovery plans work with reference to a role they have played within one'. (K18)</p> <p>Explains the principles of Test Plans by reference to their role and significance. (K19)</p> <p>Outlines purpose, creation, and maintenance of asset registers. (K20)</p> <p>Outlines the basic elements of infrastructure architectures including Wi-Fi and wired networks. (K23)</p> <p>Explains how they escalate non routine problems in line with procedures. (S15)</p> <p>Explains the use of basic scripting to execute relevant tasks. (S16)</p>	<p>Evaluate and assess the organisations Asset Register and their role in updating it. (K20)</p>
<b>Option 2</b> <b>Network Technician</b>		
<b>Knowledge</b> K24, K26, K27 K28 K29 K30,	<p>Explains the significance of OSI layers. (K24)</p>	<p>Reviews their approach to testing and, evaluation of network environments'. (S20)</p>

<p>K31, K32, K34, K35, K39, K36,</p> <p><b>Skills</b></p> <p>S19, S20, S21,</p>	<p>Defines the principles of systems and networks including protocols. (K26, K28, K30)</p> <p>Sets out the approaches to virtualisation of cloud environments, servers, applications and network architectures. (K27, K29)</p> <p>Explains the principles of API's and Web Services. (K31)</p> <p>Explains the principles of databases and migration. (K34)</p> <p>Describes the principles and types of Cloud Storage, Cloud Security and Cloud firewalls. (K32, K35)</p> <p>Identifies the elements of DevOps methodology and tools, such as Puppet, Chef, Git and Docker. (K36)</p> <p>Describes the principles of testing and evaluating network environments. (S20)</p> <p>Explains how they monitor performance and usage of a network. (S21)</p> <p>Explains how they use Cabling or Connectors equipment in line with technical requirements. (K39 S19)</p>	
<p><b>Option 3</b></p> <p><b>Digital Communications Technician</b></p>		
<p><b>Knowledge</b></p> <p>K24, K38, K39, K40,</p> <p>K44</p> <p><b>Skills</b></p> <p>S19, S28, S31</p>	<p>Explains the significance of OSI layers. (K24)</p> <p>Outlines the purpose of firewalls. (K38)</p> <p>Explains their awareness of network protocols. (K40)</p> <p>Explains the basic principles of VPN and Remote Access Security for</p>	<p>Evaluates how they establish digital communication or telecommunications system or networks for example through cabling and connecting equipment. (S28)</p>



	<p>example transmission technologies. (K44)</p> <p>Explains how they use Cabling or Connectors equipment in line with technical requirements. (K39, S19)</p> <p>Explains how they establish digital communication or telecommunications systems or networks for example through cabling and connecting equipment. (S28)</p> <p>Describes how they use information necessary to identify operational issues and rectify or escalate accordingly in line with policy. (S31)</p>	
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## Assessment method 2: Project report with questioning

Fail - Does not meet the pass criteria

KSBs	Pass	Distinction
<b>CORE</b>		
K12 S10 S11 S12	<p>Identifies and applies valid approaches to documenting tasks, findings, actions and outcomes. (K12)</p> <p>Demonstrates how they establish and diagnose the extent of the IT support task, in line with the organisation's policies and SLA's. (S10)</p> <p>Evidence how they provide remote/face-to-face support to resolve customer requirements. (S11)</p> <p>Demonstrates an approach to their own work and that of co-workers which reflects the HSE policies of the industry and organisation. (S12)</p>	
<b>Option 1: Support Technician</b>		

<p>Knowledge K21, K22</p> <p>Skills S9, S13, S14, S17, S18</p>	<p>Demonstrates how they install or undertake basic upgrades, either physically or remotely and apply approaches to system updates, recognising their significance. (K21 S9)</p> <p>Evaluates the interpretation of log files, event viewer and system tools. (K22)</p> <p>Illustrates how they identify and scope the best solution informed by the system data associated with the task. (S13)</p> <p>Demonstrates how they test and, evaluate the system's performance and compliance with customer requirements. (S14)</p> <p>Demonstrate how they carry out routine maintenance across systems, (such as IT, Communications), ensuring organisational compliance at all times. (S17)</p> <p>Explain how they apply the necessary security, in line with access and/or encryption requirements. (S18)</p>	<p>Critically analyses their optimisation of system performance to validate compliance with customer requirements. (S14)</p>
<p><b>Option 2:</b> <b>Network Technician</b></p>		
<p>K25, K33 S22, S23, S24, S25, S26, S27</p>	<p>Describes the principles of cloud and network architecture (including Wi-Fi). (K25)</p> <p>Explains the fundamental principles of back up including when and why to use system backup within technical network tasks. (K33)</p> <p>Demonstrates how they deploy applications on a network. (S22)</p> <p>Reviews the validity of their actions in setting up storage and data access for staff. (S23)</p> <p>Demonstrates the application of security measures and justifies</p>	<p>Evaluates the effectiveness of routine maintenance across network systems, ensuring organisational compliance always. (S25)</p>

	<p>them against network access requirements'. (S24)</p> <p>Demonstrates how they carry out routine maintenance across network systems, ensuring organisational compliance. (S25)</p> <p>Describes how they monitor network-related workloads including DNS and firewalls. (S26)</p> <p>Demonstrates how they install or undertake basic upgrades, either physically or remotely. (S27)</p>	
<b>Option 3: Digital Communications Technician</b>		
K37, K41, K42, K43, S29, S30	<p>Explains the basic elements of network communication architectures. (K37)</p> <p>Outlines the purpose of digital communications technologies in general and within the project. (K41)</p> <p>Describes the factors affecting network performance within the project. (K42)</p> <p>Defines the principles of digital test and diagnostic equipment applying selected tools and equipment to resolve communications and/or telecommunications issues. (K43, S29)</p> <p>Demonstrates basic telecommunications activities, in response to an allocated task, designated responsibilities, instructions or a customer's requirements. (S30)</p>	<p>Evaluates and applies a range of tools and or diagnostic equipment, for example, Hardware or Software components, to resolve Communications or Telecommunications requirements. (K43 S29,)</p>

## Overall EPA grading

All assessment methods are weighted equally in their contribution to the overall EPA grade.

Grades from individual assessment methods should be combined in the following way to determine the grade of the EPA as a whole:

Assessment method 1 – professional discussion underpinned by portfolio	Assessment method 2 – project report with questioning	Overall grading
Fail	Any grade	Fail
Any grade	Fail	Fail
Pass	Pass	Pass
Distinction	Pass	Merit
Pass	Distinction	Merit
Distinction	Distinction	Distinction

## Re-sits and re-takes

Apprentices who fail one or more assessment method will be offered the opportunity to take a re-sit or a re-take at the employer's discretion. The apprentice's employer will need to agree that either a re-sit or re-take is an appropriate course of action.

A re-sit does not require further learning, whereas a re-take does. Apprentices should have a supportive action plan to prepare for a re-sit or a re-take.

An apprentice who fails one or more assessment methods, and therefore the EPA in the first instance, will be required to re-sit or re-take the failed assessment method(s) only.

The timescales for a re-sit/re-take is agreed between the employer and EPAO. A re-sit is typically taken within two months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within four months of the EPA outcome notification.

All assessment methods must be taken within a six-month period, otherwise the entire EPA will need to be re-sat/re-taken.

Re-sits and re-takes are not offered to apprentices wishing to move from pass to a higher grade.

Where any assessment method must be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of merit, unless the EPAO determines there are exceptional circumstances requiring a re-sit or re-take.

The re-take and re-sit assessment method only is capped not the overall EPA grade.

## Roles and responsibilities

Role	Responsibility
Apprentice	<p>As a minimum, apprentices should:</p> <ul style="list-style-type: none"> <li>• participate in and complete on-programme training to meet the KSBs as outlined in the occupational standard for a minimum of 12 months</li> <li>• undertake 20% off-the-job training as arranged by the employer and training provider</li> <li>• understand the purpose and importance of EPA</li> <li>• undertake the EPA including meeting all gateway requirements</li> </ul>
Employer	<p>As a minimum, employers should:</p> <ul style="list-style-type: none"> <li>• work with the training provider (where applicable) to support the apprentice in the workplace to provide the opportunities for the apprentice to develop the KSBs</li> <li>• arrange and support a minimum of 20% off-the-job training to be undertaken by the apprentice</li> <li>• decide when the apprentice is working at or above the occupational standard and so is ready for EPA</li> <li>• select the EPAO</li> <li>• ensure that all supporting evidence required at the gateway is submitted in accordance with this EPA plan</li> <li>• remain independent from the delivery of the EPA</li> <li>• confirm arrangements with the EPAO for the EPA (who, when, where) in a timely manner (including providing access to any employer specific documentations as required, for example company policies)</li> <li>• ensure that the EPA is scheduled with the EPAO for a date and time which allow appropriate opportunity for the KSBs to be met</li> <li>• ensure the apprentice is well prepared for the EPA</li> <li>• ensure the apprentice is given sufficient time away from regular duties to prepare for and complete all post-gateway elements of the EPA, and that any required supervision during this time (as stated within this EPA plan) is in place</li> <li>• where the apprentice is assessed in the workplace, ensure that the apprentice has access to the resources used on a daily basis</li> </ul>
EPAO	<p>As a minimum, EPAOs should:</p> <ul style="list-style-type: none"> <li>• agree the EPA price</li> <li>• understand the occupational standard</li> <li>• appoint administrators (and invigilators where required) to administer the EPA as appropriate</li> </ul>

	<ul style="list-style-type: none"> <li>• provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading</li> <li>• provide adequate information, advice and guidance documentation to enable apprentices, employers and training providers to prepare for the EPA</li> <li>• arrange for the EPA to take place, in consultation with the employer</li> <li>• deliver the EPA as outlined in this EPA plan in a timely manner</li> <li>• where the apprentice is not assessed in the workplace, ensure that the apprentice has access to required resources and liaise with the employer to agree this if necessary</li> <li>• use appropriate assessment recording documentation to ensure a clear and auditable process is in place for providing feedback to all relevant stakeholders</li> <li>• have no direct connection with the apprentice, their employer or training provider. In all instances including when the EPAO is the training provider (i.e. HEI) there must be procedures in place to mitigate any conflicts of interest which will be monitored by EQA activity</li> <li>• have policies and procedures for internal quality assurance (IQA), and maintain records of regular and robust IQA activity and moderation for external quality assurance (EQA) purposes</li> <li>• conform to the requirements of the nominated external quality assurance provider (EQAP)</li> <li>• conform to the requirements of the Register of End-Point Assessment Organisations (RoEPAO)</li> <li>• deliver induction training for independent assessors, and for invigilators and markers where used</li> <li>• undertake standardisation activity on this apprenticeship standard for all independent assessors before they conduct an EPA for the first time, if the EPA is updated and periodically as appropriate (a minimum of annually)</li> <li>• manage invigilation of apprentices to maintain security of the assessment in line with their malpractice policy</li> <li>• verify the identity of the apprentice being assessed</li> <li>• use language in the development and delivery of the EPA that is appropriate to the level of the occupational standard</li> <li>• request certification via the Apprenticeship Service upon successful achievement of the EPA</li> <li>• develop and produce assessment materials including specifications and marking materials (for example mark schemes, practice materials, training material)</li> <li>• appoint suitably qualified and competent independent assessors</li> <li>• provide details of the independent assessor's name and contact details to the employer</li> </ul>
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	<ul style="list-style-type: none"> <li>• have and apply appropriately an EPA appeals process</li> </ul>
Independent assessor	<p>As a minimum, an independent assessor should:</p> <ul style="list-style-type: none"> <li>• have the competence to assess the apprentice at this level and hold any required qualifications and experience in line with the requirements of the independent assessor as detailed in the IQA section of this EPA plan</li> <li>• understand the occupational standard and the requirements of this EPA</li> <li>• have, maintain and be able to evidence up to date knowledge and expertise of the subject matter</li> <li>• deliver the end-point assessment in-line with the EPA plan</li> <li>• comply with the IQA requirements of the EPAO</li> <li>• have no direct connection or conflict of interest with the apprentice, their employer or training provider; in all instances including when the EPAO is the training provider (i.e. HEI)</li> <li>• attend induction training</li> <li>• attend standardisation events when they begin working for the EPAO, before they conduct an EPA for the first time and a minimum of annually on this apprenticeship standard</li> <li>• assess each assessment method, as determined by the EPA plan, and without extending the EPA unnecessarily</li> <li>• assess against the KSBs assigned to each assessment method, as shown in the mapping of assessment methods and as determined by the EPAO, and without extending the EPA unnecessarily</li> <li>• make all grading decisions</li> <li>• record and report all assessment outcome decisions, for each apprentice, following instructions and using assessment recording documentation provided by the EPAO, in a timely manner</li> <li>• use language in the development and delivery of the EPA that is appropriate to the level of the occupational standard</li> </ul>
Training provider	<p>As a minimum, the training provider should:</p> <ul style="list-style-type: none"> <li>• work with the employer and support the apprentice during the off-the-job training to provide the opportunities to develop the knowledge, skills and behaviours as listed in the occupational standard</li> <li>• conduct training covering any knowledge, skill or behaviour requirement agreed as part of the Commitment Statement (often known as the Individual Learning Plan).</li> <li>• monitor the apprentice's progress during any training provider led on-programme learning</li> <li>• advise the employer, upon request, on the apprentice's readiness for EPA</li> </ul>

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|  | <ul style="list-style-type: none"> <li>• remain independent from delivery of the EPA. Where the training provider is the EPA (i.e. a HEI) there must be procedures in place to mitigate against any conflict of interest</li> </ul> |
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## Internal Quality Assurance (IQA)

Internal quality assurance refers to the strategies, policies and procedures that EPA organisations must have in place to ensure valid, consistent and reliable end-point assessment decisions. EPAOs for this EPA must adhere to all requirements within the Roles and Responsibilities section and:

- have effective and rigorous quality assurance systems and procedures that ensure fair, reliable and consistent assessment across employers, places, times and independent assessors
- appoint independent assessors who have recent relevant experience of the occupation/sector gained in the last three years or significant experience of the occupation/sector and evidence of continued professional development
- they should A1/V1 or TAQA as a minimum.
- the assessor should have a background qualification to support they are occupationally competent
- appoint independent assessors who are competent to deliver the end-point assessment
- operate induction training for independent assessors, markers and invigilators
- provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
- undertake standardisation activity on this apprenticeship standard for all independent assessors:
  - before they conduct an EPA for the first time
  - if the EPA is updated
  - periodically as appropriate (a minimum of annually)
- conduct effective moderation of assessment decisions and grades
- conduct appeals where required, according to the EPAO's appeals procedure, reviewing and making final decisions on assessment decisions and grades

## Affordability

Affordability of the EPA will be aided by using at least some of the following practices:

- using an employer's venue for the professional discussion underpinned by a portfolio of evidence
- using video conferencing or online streaming for the professional discussion underpinned by a portfolio of evidence
- the possibility of scheduling more than one assessment method on the same day

## Professional body recognition

n/a for this occupation



# Mapping of knowledge, skills and behaviours (KSBs)

## Assessment method 1: Professional discussion underpinned by portfolio

<b>Core Knowledge</b>
<b>K1:</b> Approaches to back up and storage solutions
<b>K2:</b> basic elements of technical documentation and its interpretation
<b>K3:</b> Principles of root cause problem solving using fault diagnostics for troubleshooting
<b>K4:</b> Principles of basic network addressing for example binary
<b>K5:</b> basic awareness of the principles of cloud and cloud-based services
<b>K6:</b> fundamental principles of virtual networks and components
<b>K7:</b> principles of cultural awareness and how diversity impacts on delivery of support tasks.
<b>K8:</b> methods of communication including level of technical terminology to use to technical and non-technical stakeholders
<b>K9:</b> different types of maintenance and preventative measures to reduce the incidence of faults
<b>K10:</b> key principles of Security including the role of People, Product and Process in secure systems for example access and encryption requirements
<b>K11:</b> fundamentals of physical networks and components
<b>K13:</b> a basic awareness of legislation in relation to disposal of waste materials for example Waste Electronic and Electrical regulations
<b>Core Skills</b>
<b>S1</b> Interpret and prioritise internal or external customer's requirements in line with organisation's policy
<b>S2</b> Apply the appropriate tools and techniques to undertake fault finding and rectification
<b>S3</b> Apply Continuous Professional Development to support necessary business output and technical developments
<b>S4</b> Operate safely and securely across platforms and responsibilities.
<b>S5</b> Communicate with all levels of stakeholders, keeping them informed of progress and managing escalation
<b>S6</b> Develop and maintain effective working relationships with colleagues, customers and other relevant stakeholders
<b>S7</b> Manage and prioritise the allocated workload effectively making best use of time and resources
<b>S8</b> complete documentation relevant to the task and escalate where appropriate
<b>Core Behaviours</b>
<b>B1:</b> Works professionally, taking initiative as appropriate
<b>B2:</b> Communicates technical and non-technical information in a variety of situations to support effective working with internal or external stakeholders

<b>B3:</b> Demonstrates a productive and organised approach to their work
<b>B4:</b> Self-motivated, for example takes responsibility to complete the job.
<b>Option 1 Support Technician</b>
<b>Knowledge</b>
<b>K14:</b> fundamental principles of operating systems, hardware system architectures and devices
<b>K15:</b> principles of remote operation of devices including how to deploy and securely integrate mobile devices into a network
<b>K16:</b> fundamental principles of peripherals for example: printers and scanners
<b>K17:</b> principles of virtualisation of servers, applications, and networks
<b>K18:</b> principles of disaster recovery, how a disaster recovery plan works and their role within it
<b>K19:</b> principles of Test Plans, their role and significance
<b>K20:</b> fundamentals of purpose, creation, and maintenance of asset registers
<b>K23:</b> Basic elements of infrastructure architectures including Wi-Fi and wired networks
<b>Skills</b>
<b>S15</b> Escalate non routine problems in line with procedures
<b>S16</b> Use basic scripting to execute the relevant tasks
<b>Option 2: Network Technician</b>
<b>Knowledge</b>
<b>K39:</b> different types of connectivity and cabling
<b>K24:</b> Principles of OSI layers
<b>K26:</b> Principles of DNS / DHCP
<b>K27:</b> Awareness of Cloud platforms, such as AWS, Azure, or GCP
<b>K28:</b> Principles of LANs and WANs
<b>K29:</b> Approaches to virtualisation of cloud environments, servers, applications and networks
<b>K30:</b> Principles of network protocols
<b>K31:</b> Principles of API's and Web Services
<b>K32:</b> The different types of cloud storage
<b>K34:</b> Principles of databases and migration
<b>K35:</b> Key principles of Cloud Security and firewalls
<b>K36:</b> DevOps methodology and tools, such as Puppet, Chef, Git, Docker.
<b>Skills</b>
<b>S19</b> Use a range of Cabling or Connectors equipment in line with technical requirements
<b>S20</b> Test and evaluate network environments
<b>S21</b> Monitor performance and usage of a network

<b>Option 3: Digital Communications Technician</b>
<b>Knowledge</b>
<b>K38:</b> Awareness of the purpose of firewalls
<b>K39:</b> different types of connectivity and cabling
<b>K40:</b> Awareness of network protocols
<b>K44:</b> Basic principles of VPN and Remote Access Security for example transmission technologies
<b>K24:</b> Principles of OSI layers
<b>Skills</b>
<b>S28</b> Establish digital communication or telecommunications systems or networks for example through cabling and connecting equipment
<b>S31</b> Use information necessary to identify operational issues and rectify or escalate accordingly in line with policy
<b>S19</b> Use a range of Cabling or Connectors equipment in line with technical requirements

## Assessment method 2: Project report with questioning

<b>Core</b>
<b>K12:</b> approaches to documenting tasks, findings, actions taken and outcome for example, use of task tracking and ticketing systems
<b>S11</b> Provide remote/face-to-face support to resolve customer requirements
<b>S10</b> Establish and diagnose the extent of the IT support task, in line with the organisation's policies and SLA's
<b>S12</b> Maintain a safe working environment for own personal safety and others in line with Health & Safety appropriate to the task
<b>Option 1 Support Technician</b>
<b>Knowledge</b>
<b>K21:</b> approaches to system upgrades and updates and their significance
<b>K22:</b> approaches to interpretation of log files, event viewer and system tools
<b>Skills</b>
<b>S9</b> Install or undertake basic software and or hardware upgrades, either physically or remotely
<b>S13</b> Identify and scope the best solution informed by the system data associated with the task
<b>S14</b> Test and evaluate the system's performance and compliance with customer requirements.
<b>S17</b> Carry out routine maintenance across systems, (such as IT, Communications), ensuring organisational compliance at all times
<b>S18</b> Apply the necessary security, in line with access and/or encryption requirements
<b>Option 2: Network Technician</b>

<b>Knowledge</b>
<b>K25:</b> Principles of cloud and network architecture (including Wi-Fi)
<b>K33:</b> Back up procedures and their importance
<b>Skills</b>
<b>S22</b> Deploy applications on a network
<b>S23</b> Set up storage and data access for staff
<b>S24</b> Apply necessary security measures, in line with access requirements to a network
<b>S25</b> Carry out routine maintenance across network systems, ensuring organisational compliance
<b>S26</b> Monitor network-related workloads including DNS and firewalls
<b>S27</b> Install or undertake basic upgrades, either physically or remotely
<b>Option 3: Digital Communications Technician</b>
<b>Knowledge</b>
<b>K37:</b> Basic elements of network communication architectures
<b>K41:</b> The purpose of digital communications technologies
<b>K42:</b> Main factors affecting network performance including faults and error control
<b>K43:</b> Principles of digital test and diagnostic equipment usage
<b>Skills</b>
<b>S29</b> Identify a range of tools and or diagnostic equipment, for example, Hardware or Software components, to resolve Communications or Telecommunications requirements.
<b>S30</b> Undertake basic telecommunications activities, in response to an allocated task, designated responsibilities, instructions or customer requirement