



Digital Industries Apprenticeship: Occupational Brief

Unified Communications Trouble Shooter

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Level 4 Unified Communications Trouble Shooter Apprenticeship

Minimum Standards and Grading Criteria

This paper defines the minimum requirements for the knowledge, skills and behaviours defined in the standard, which are required for a pass. It also defines the criteria to be used for awarding the grade for merit or distinction. This paper should be read in conjunction with the Standard and Assessment Plan for the Level 4 Software Developer Apprenticeship

Overview of Grading

There are three sets of criteria on which the assessment and grading is made. The three criteria are The

What: what the apprentice has shown they can do,

The How: the way in which the work has been done

The With Whom: The personal and interpersonal qualities the apprentice has brought to all their work relationships

Each of these three criteria has minimum (expected) requirements, which must be satisfied for a pass.

Each of these criteria has a number of dimensions which should be considered to determine if the apprentice is significantly above the minimum (expected) level of quality

The purpose of grading is to differentiate between those apprentices whose work is at the expected level of quality against the totality of the skills, knowledge and behaviours specified in the standard and those whose work is significantly above this expected level

For a pass, each of the three sets of criteria must demonstrate at least the expected (minimum requirement) level of quality

For a merit, the What has to be significantly above the level of quality and one of either the How or the With Whom has to be significantly above the level of quality expected

For a distinction, each of the three sets of criteria must be significantly above the expected level of quality

The assessor takes a holistic judgement of whether or not their assessments demonstrate that the apprentice is “significantly above the expected level of quality” in each of these three areas and can then determine which grade should be awarded

The what – what the apprentice has shown they can do

Minimum Requirements

The following table shows what the minimum, expected requirements are for a pass on this criteria

Competency Standard	Minimum, expected, requirements for a pass
Can configure and troubleshoot voice solutions including hardware and software failures	<p>The apprentice must be able to select and use three appropriate tools for testing, troubleshooting and analysing voice related failures for hardware and software</p> <p>The apprentice must be able to demonstrate compliance with organisational guidance</p>
Can install, configure and troubleshoot Data solutions including switches and access points	<p>The apprentice must know the difference between switches, routers, modems and where to effectively install firewalls and all associated security processes</p> <p>The apprentice must be able to select and use three appropriate tools for testing, troubleshooting and analysing data related failures for hardware and software including switches</p> <p>The apprentice must be able to configure two types of network systems and services on different access points</p>
Can install, configure and troubleshoot Network Services solutions including line faults and internet speed problems	<p>The apprentice can install and configure the elements required to implement a secure network, including Media, Hardware devices and Software</p> <p>The apprentice can apply three diagnostic tools and techniques to identify the causes of network performance issues</p>
Configures and maintains a domain service including assigning services, deploying software and applying updates	<p>The apprentice must know and implement the correct maintenance and routine procedures for their organisation</p> <p>The apprentice should demonstrate that they follow best practises when deploying software, applying upgrades and servicing</p>
Configures and maintains a network including selecting appropriate network components and applying networking fundamentals	<p>The apprentice can show a solid understanding of network components and demonstrate the use of associated tools, documentation and devices when designing, maintaining and updating secure networks in line with the organisational processes</p>
Configures and maintains security principles covering software, access, encryption and auditing	<p>The apprentice must demonstrate how they comply with encryption, auditing and cryptography</p> <p>The apprentice must demonstrate how the comply with the organisations security policies</p> <p>The apprentice must demonstrate how they maintain security of access and software</p>
Configures and maintains servers including storage, print services, group policy and updates	<p>The apprentice can use a minimum of three techniques to upgrade, apply and test servers configurations ensuring that all the organisations requirements are met</p> <p>The apprentice is able to administer a wide range of Domain Services including group policy and print services</p>
Configures and maintains client software, including managing user profiles and troubleshooting user issues	

The What – what the apprentice has shown they can do Criteria

for a Merit or Distinction

The following table shows what the apprentices would need to demonstrate to be assessed as significantly above the expected level for what they have done

Dimensions	Description of what significantly above the expected level of quality looks like
Breadth – the range of tools and methods understand and applied	Understands and applies a wide range of tools and methods Accurately and appropriately applies and effectively implements the right tools and methods in a variety of different situations
Depth – the level to which these tools and methods are understood and applied	A sophisticated user - fully exploits the functionality/capability of the tools and methods Extensive and deep understanding of different tools and methods and how and why they can be applied in different contexts
Complexity – the extent and prevalence of inter-related and inter-dependant factors in the work and how well the apprentice has dealt with these	Deals confidently and capably with a high level of interrelated and interdependent factors in their work

The how: the way in which the work has been done

The following table shows what the minimum, expected requirements are for a pass on this criteria

Competency Standard	Minimum expected requirements for a pass
<p>Apprentices can demonstrate the full range of skills, knowledge and behaviours required to fulfil their job role</p>	<p>Knows what skills, knowledge and behaviours are needed to do the job well Are aware of their own strengths in the job role, and any areas for improvement Appreciate who else is important, for them to do their job and fulfil the role effectively (e.g. colleagues, managers, other stakeholders) Are aware of potential risks in the job role (e.g. security, privacy, regulatory) Use personal attributes effectively in the role, e.g. entrepreneurship Understand how the job fits into the organisation as a whole</p>
<p>Apprentices can demonstrate how they contribute to the wider business objectives and show an understanding of the wider business environments</p>	<p>Understands the goals, vision and values of the organisation Aware of the commercial objectives of the tasks/ projects they are working on Understands the importance of meeting or exceeding customers' requirements and expectations Is in tune with the organisation's culture Aware of the position and contribution of the organisation in the economy Understands the key external factors that shape the way the organisation function, e.g. regulation Knows how the organisation can gain advantage in the industry, e.g. through innovation, technology, customer service etc.</p>
<p>Apprentices can demonstrate the ability to use both logical and creative thinking skills when undertaking work tasks, recognising and applying techniques from both.</p>	<p>Logical thinking:</p> <ul style="list-style-type: none"> • Understands initial premise(s) and preconditions • Recognises the conclusion to be reached • Proceeds by rational steps • Evaluates information, judging its relevance and value • Supports conclusions, using reasoned arguments and evidence <p>Creative thinking:</p> <ul style="list-style-type: none"> • Explores ideas and possibilities • Makes connections between different aspects • Adapts ideas and approaches as conditions or circumstances change
<p>Apprentices can show that they recognise problems inherent in, or emerging during, work tasks, and can tackle them effectively</p>	<p>Problem-solving:</p> <ul style="list-style-type: none"> • Analyses situations • Defines goals • Develops solutions • Prioritises actions • Deals with unexpected occurrences

The How: the way in which the work has been done

Criteria for a Merit or Distinction

The following table shows what the apprentices would need to demonstrate to be assessed as significantly above the expected level for the way in which the work has been done

Dimensions	Description of what significantly above the expected level of quality looks like
Responsibility – the scope of responsibility and level of accountability demonstrated in the apprentices work	Undertakes work that is more complex, more critical or more difficult
	Works independently and takes high level of responsibility
Initiative	Independently demonstrates an ability to extend or enhance their approach to work and the quality of outcomes
	Doesn't just solve the problem but explores creative or innovative options to do it better, more efficiently, more elegantly or to better meet customer needs
Delivery focus – the extent to which the apprentice has shown they can grasp the problems, identify solutions and make them happen to meet client needs	Shows strong project management skills, in defining problem, identifying solutions and making them happen
	Demonstrates a disciplined approach to execution, harnessing resources effectively
	Drives solutions – with a strong goal focused and appropriate level of urgency

The with whom: the personal and interpersonal qualities the apprentice has brought to internal and external relationships

Minimum Requirements

The following table shows what the minimum, expected requirements are for a pass on this criteria

	Minimum expected requirements for a pass
<p>Apprentices can manage relationships with work colleagues, including those in more senior roles, customers/clients and other stakeholders, internal or external and as appropriate to their roles, so as to gain their confidence, keep them involved and maintain their support for the task/project in hand</p> <p>Apprentices can establish and maintain productive working relationships, and can use a range of different techniques for doing so.</p>	<p>Managing relationships:</p> <ul style="list-style-type: none"> • Understands the value and importance of good relationships • Influences others by listening to and incorporating their ideas and views • Acknowledges other people's accomplishments and strengths • Manages conflict constructively • Promotes teamwork by encouraging others to participate <p>Customer/client relationships:</p> <ul style="list-style-type: none"> • Understands their requirements, including constraints and limiting factors • Sets reasonable expectations • Involves them in decisions and actions • Interacts positively with them • Provides a complete answer in response to queries ('transparency', 'full disclosure') <p>Stakeholders:</p> <ul style="list-style-type: none"> • Understands who they are and what their 'stake' is • Prioritises stakeholders in terms of their importance, power to affect the task and interest in it • Uses stakeholders' views to shape projects early on • Gains support from stakeholders, e.g. to win resources • Agrees objectives
<p>Apprentices can communicate effectively with a range of people at work, one-to-one and in groups, in different situations and using a variety of methods.</p>	<p>Intention/purpose:</p> <ul style="list-style-type: none"> • Understands the purpose of communicating in a particular situation or circumstance (e.g. inform, instruct, suggest, discuss, negotiate etc.) • Checks that the person/people with whom one is communicating also understand the purpose

<p>Apprentices can demonstrate various methods of communication, with an understanding of the strengths, weaknesses and limitations of these, the factors that may disrupt it, and the importance of checking other people's understanding.</p>	<ul style="list-style-type: none"> • Is sensitive to the dynamics of the situation • Is aware of anything that might disrupt the effectiveness of the communication (e.g. status, past history) <p>a. Method:</p> <ul style="list-style-type: none"> • Chooses a good, appropriate method for the situation • Aware of the limitations of the chosen method, and the possible risks of miscommunication (e.g. ambiguity) • Takes account of the affective dimensions of the method (e.g. body language, tone of voice, eye contact, facial expression etc.) <p>b. Execution:</p> <ul style="list-style-type: none"> • Expresses self clearly and succinctly, but not over-simplifying • Checks that the other person/people understand what is being expressed • Takes account of the potential barriers to understanding (e.g. filtering, selective perception, information overload) • Modifies the purpose and methods of communication during a situation in response to cues from the other person/people
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The With Whom: the personal and interpersonal qualities the apprentice has brought to internal and external relationships Criteria

for Merit or Distinction

The following table shows what the apprentices would need to demonstrate to be assessed as significantly above the expected level for the personal and interpersonal qualities the apprentice has brought to internal and external relationships

Dimensions	Description of what significantly above the expected level of quality looks like
<p>Scope and appropriateness – the range of internal and external people and situations that the apprentice has engaged appropriately and effectively with</p>	<p>Internally – works alone, 1:1, in a team and across the company with colleagues at all levels</p> <p>Externally – works with customers, suppliers and partners in a variety of situations</p> <p>Reads situations, adapts behaviours, and communicates appropriately for the situation and the audience</p>

Reliability – the extent to which they perform and behave professionally	Can be trusted to deliver, perform and behave professionally, manages and delivers against expectations, proactively updates colleagues and behaves in line with the highest values and business ethics
A role model and exemplar to others	Actively inspires and leads others, takes others with them, leads by example

Annex: Unified Communications Trouble Shooter: Knowledge and Understanding

Knowledge and Understanding is assessed on programme through Knowledge Modules and Vendor or Professional Qualifications

Knowledge Module 1: Server (for Level 4 Unified Communications Trouble Shooter)

The Knowledge Standards	Definition of the Minimum Requirements
Understands server administration principles including storage, print services, group policy, availability, load balancing, failover clustering, back-up and disaster recovery	Understands how to administer and manage a server Understands domain services Understands Internet protocols e.g. V4/V6 Understands and has a working knowledge of host configuration, data storage and load balancing Understands types of systems failures and their consequences
Understands the server and client architecture, features, deployment process and troubleshooting tools for client software and applications	Understands and can select the most appropriate troubleshooting tool for their scenarios Understands server and client requirements within the architecture of a network Understands the architecture required to implement IT systems to meet a business needs

The following Vendor or Professional Certifications exempt apprentices from this knowledge module

MCP Server 2012

Install and configure Windows Server

Configure advanced Windows Server 2012 services

Server Virtualization -Windows Server Hyper V

Knowledge Module 2: Security Principles (for Level 4 Unified Communications Trouble Shooter)

The Knowledge Standards	Definition of the Minimum Requirements
Understands security principles including software, access such as VPN, encryption and auditing	Understanding of different platforms and operating systems Understands Secure Communications Interfaces including VPN Understands encryption and auditing principles including cryptography Understands known security threats, how to rectify using the appropriate tools and how to prevent further threats

The following Vendor or Professional certifications exempt apprentices from this knowledge module

- Security+
- MTA Mobility and Devices Fundamentals
- JNCIS-SEC
- CCNA Security

Knowledge Module 3: Network Services (for Level 4 Unified Communications Trouble Shooter)

The Knowledge Standards	Definition of the Minimum Requirements
Understands network fundamentals including network components and internet protocols	Understand network protocols and how they are used to implement data communications. Understand numbering systems to enable them to calculate and convert values, including algorithms, data, binary, probability and statistics
Understands network services solutions including cloud services, SIP (Session Initiation Protocol), internet connectivity, mobility, fixed lines and hosted solutions	Understands SIP and SIP logs Understand cloud services Understand data and hosted services
Understands domain services including administration, user and service accounts and group policy	Understands a wide range of Domain Services to administer a network including group policy

The following Vendor or Professional Certifications exempt apprentices from this knowledge module

CCNA 1+2

MTA Network fundamentals

Network+

Knowledge Module 4: Voice and Data Solutions (for Level 4 Unified Communications Trouble Shooter)

The Knowledge Standards	Definition of the Minimum Requirements
Understands voice solutions and can identify the components of such a solution, the features, the deployment process and troubleshooting tools and techniques	Understands Voice routes and PSTN uses Understands emergency routes Understand the importance of QoS and how to review QoS reports Understands client behaviour for different outage scenarios Understands how to configure Domain Name Server (DNS)
Understands data solutions (LAN/WAN/WLAN), the differences between the different technologies and how the components form part of a solution	Understands server and client architecture Understands how to set up, configure and manage devices Understands site topologies Understands and can represent the ability to define and implement reliable routes Understands conferencing capabilities

The following Vendor or Professional Certifications exempt apprentices from this knowledge module

Enterprise Voice and Online services Lync Server 2013

Core Solutions of Lync Server 2013