Cisco | Networking Academy
Mind Wide Open™

Assessment Authoring - Table of Specification (TOS)

The Table of Specification (TOS) is a high-level design template for a given assessment. It identifies the claims, components skills, targeted number tasks needed, and the knowledge or skill level desired for each task. Scoping information is also provided, in most cases, and indicates the environment, features and details associated with the specified claims.

Assessment design specifications in the TOS allow us to make inferences about what the students can actually do. Because some outcomes are more important than others in making those judgments, each claim is weighted based on course content, required job skills and certification coverage. Using the TOS helps to ensure that assessed tasks are relevant to the environment in which the student will work.

In the example below, 25% of the Network Fundamentals Final exam should cover skills from claim 0.1.0. For a 50 question exam, approximately 13 tasks should cover skills that support claim 0.1.0. Distribution of tasks amongst the component skills is determined during the design phase. Tasks for each claim or component skill can be either declarative, simple procedural or complex procedural depending on the purpose of exam and the type of claim.

Claim
desired outcome

Component S ill
supporting skill

Desired Claim Coverage

CCNA Exploration Network Fundamentals Assessment Claims rev 1				
Final Exam				
Claim#	**Claim/Component skill**	**Scope**	**% Coverage on Exam forms**	**Targeted # of tasks on exam form**
0.1.0	**Use the OSI and TCP/IP models and their associated protocols and applications to explain how data flows in a network.**	process of encapsulation, source and destination address identification	**25%**	**13**
0.1.1	Explain how data is delivered in common applications such as email, web browsers, FTP software and Telnet.	Telnet, browser apps, email,		
0.1.2	Describe the encapsualtion/decapsulation processes			
0.1.3	Describe the purpose and basic operation of the Application Layer services and protocols.	telnet, DNS, HTTP, SMTP, POP, DHCP, HTML		
0.1.4	Determine the source and destination address and other important fields of a protocol data unit as it is processed in a network.			
0.1.5	Explain the operation and benefits of Transport Layer services and protocols.	TCP and UDP		

CCNA Exploration
LAN Switching and Wireless Claims rev 1

Final Exam

Claim	Claim Component s ill	Scope	Targeted Coverage on am forms	Targeted of tas s on e am form
	Describe the ierarchical et or odel			
0.1.1	Describe the characteristics and benefits of the ierarchical Network odel			
0.1.2	Identify the specifications used to select a switch for a hierarchical network			
	plain the operation of Cisco s itches and basic s itching concepts			
0.2.1	Explain basic switching concepts and the operation of Cisco switches.	process by which switches learn addresses, frame-filtering process, how a switch processes data in a converged network		
0.2.2	Describe the thernet concepts and techniques used by AN switches.	duplex, speed, S A D, unicast, broadcast, multicast,microsegmentation, latency, transmission time,broadcast storms		
0.2.3	Describe the operation of the hardware and software components of the switch.	flash, nvram, ram, interfaces, running-config, startup-config, vlan.dat, modes (user, privileged etc)		
	erform save verif and troubleshoot an initial configuration on a s itch			
0.3.1	Perform and save a basic configuration on a switch	Access I, use help features, command history, id command modes, configure l onnectivity, Duplex and Speed, console access, virtual terminal access, mode passwords, service password encryption, banners, boot parameters		
0.3.2	Select the appropriate media, cables, ports, and connectors to connect switches to other network devices and hosts.			

Claim	Claim Component s ill	Scope	Targeted Coverage on am forms	Targeted of tas s on e am form
0.3.3	Verify network status and switch operation using basic utilities, SHOW & DEBUG commands.	ping, traceroute,telnet,SS ,arp, ipconfig		
0.3.	Troubleshoot common switched network media issues, configuration issues, autonegotiation, and switch hardware failures			
0.3.5	Manage IOS and configuration files.	save, edit, upgrade, restore		
0.3.	Implement basic switch security	Describe security threats, general methods to mitigate threats and configure port security		
	Describe, configure, verify and troubleshoot STP.			
0. .1	Describe the role of and issues associated with redundant paths in switched networks.			
0. .2	Describe the operation of the spanning tree algorithm and describe the methods by which it is implemented and used in a switched network	identify the different ST port states that a switch port transistions through during the convergence process, xplain the spanning-tree election process.		
0. .3	onfigure ST ST .			
0. .	erify and troubleshoot ST ST in a redundantly switched network using basic utilities, S O D BU commands.			
	mplement A s			
0.5.1	Describe how VLANs create logically separate networks and the need for routing between them.	Describe and compare the concepts, advantages and disadvantages of virtual ANs, explain how ANs are used to create broadcast domains, ist the common AN types		
0.5.2	Configure VLANs.	Adds, moves changes		
0.5.3	erify and troubleshoot ANS using basic utilities, S O D BU commands.			
	mplement inter- A routing on Cisco S itches			
0. .1	Describe the need for and operation of trunking.			
0. .2	Describe the need for and operation of inter- AN routing.			
0. .3	Configure trunking.			
0. .	Configure interVLAN routing.			
0. .5	Verify and troubleshoot trunking using basic utilities, SHOW & DEBUG commands.			

Claim	Claim Component s ill	Scope	Targeted Coverage on am forms	Targeted of tas s on e am form
0. .	Verify and Troubleshoot interVLAN routing using basic utilities, SHOW & DEBUG commands.			
	Describe configure and administer T on Cisco s itches			
0. .1	Describe T operation	Describe the contents of T messages, the three T modes, pruning		
0. .2	Configure VTP.			
0. .3	Verify and troubleshoot VTP using basic utilities, SHOW & DEBUG commands.			
	nstall a small ireless net or			
0. .1	Describe the components in a small wireless network.			
0. .2	Compare and contrast the components in a small wireless network.			
0. .3	Describe wireless operation.			
0. .	Describe wireless security features and capabilities.			
0. .5	Compare and contrast security features and capabilities.			
0. .	Implement a small wireless network			
0. .	Verify wireless network operation and identify common issues with implementing wireless networks.			