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## Enterprise Networks Core and WAN exam (500-452)

**Exam Description:** The Enterprise Networks Core and WAN exam (500-452) is a 60-minute, 30–40 question assessment that is associated with the Cisco Enterprise Networks Specialization program. This exam tests a candidate's knowledge of the IWAN solution, including identifying the components and features that comprise it, the benefits of each, and how to implement each part successfully as an end-to-end network solution. The Cisco IWAN solution is highly-valued by our customers who seek to improve their network routing services while also improving their bottom line through application visibility, control and optimization, and traffic offload to the Internet, among other IWAN options. Candidates can prepare for this exam by taking the Enterprise Networks Core and WAN Essentials (ENCWE) course.

The following topics are general guidelines for the content likely to be included on the exam. However, other related topics may also appear on any specific delivery of the exam. In order to better reflect the contents of the exam and for clarity purposes, the guidelines below may change at any time without notice.

<b>13%</b>	<b>1.0</b>	<b>Enterprise IP WAN Technologies Network</b>
	1.1	Enterprise WAN architecture
	1.2	WAN transport models
	1.3	IPsec VPN
	1.4	WAN routing topologies
	1.5	WAN QoS
	1.6	Services
	1.7	Self- and SP-managed WANs
<b>18%</b>	<b>2.0</b>	<b>Intelligent WAN Overview</b>
	2.1	Cisco Intelligent WAN architecture
	2.2	Transport independent
	2.3	Intelligent path control
	2.4	Application performance
	2.5	Secure connectivity
	2.6	Managing the IWAN
<b>25%</b>	<b>3.0</b>	<b>IWAN Deployment</b>
	3.1	Cisco Prime Infrastructure
	3.2	Transport-independent design
	3.3	AVC for application visibility
	3.4	Guest portal
	3.5	Hierarchical quality of service
	3.6	IPv6
	3.7	Cisco Prime Infrastructure plug-and-play

<b>14%</b>	<b>4.0</b>	<b>Cisco WAN Optimization Solution</b>
	4.1	Positioning and value proposition
	4.2	Solution and platform offerings
	4.3	Technology, deployment, and sizing
	4.4	IWAN Solution
<b>19%</b>	<b>5.0</b>	<b>Intelligent WAN Secure Connectivity</b>
	5.1	IWAN security threats
	5.2	Securing the connectivity
	5.3	Securing direct Internet access
	5.4	Full services direct Internet access
	5.5	Direct Internet access use cases
	5.6	Cisco TrustSec in the branch
	5.7	NetFlow security application
	5.8	IOS hardening
<b>11%</b>	<b>6.0</b>	<b>Cisco UCS-E, Cloud Connectors, and Cisco UBE</b>
	6.1	Cisco UCS-E Series
	6.2	Cisco Cloud Connectors
	6.3	Cisco Unified Border Element Enterprise