(d-5298) CCIE Service Provider Written Exam Topics v3.0 (back up)

CCIE Service Provider Written Exam Topics v3.0

The comprehensive Service Provider written exam (350-029) has 100 multiple-choice questions and is two hours in duration.

The topic areas listed are general guidelines for the type of content that is likely to appear on the exam. Please note, however, that other relevant or related topic areas may also appear.

Written and Lab Exam Updates v3.0

Candidates who have exams scheduled **April 18, 2011 or later** should prepare using the Written Exam v3.0 Topics (blueprint) and Lab Exam Topics v3.0.

Candidates **who have written or lab exams scheduled prior to April 18, 2011** should continue using the existing **Written Exam v2.0 Topics** and **Lab Exam Topics v2.0**.

Please view the **Written Exam Study/Learn tab** for more information on how to study and prepare for the Written Exam and review the **Lab Exam Study/Learn** tab for more information on how to study and prepare for the Lab Exam.

Learn More

Exam Preparation Checklists

To assist candidates preparing for CCIE certification, Cisco has posted new expanded checklists, providing additional detail on the knowledge and skills expected of networking experts.

CCIE Service Provider Written Exam v3.0 Checklist

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CCIE Service Provider Lab Exam v3.0 Checklist

Exam Sections and Sub-task Objectives

	CCIE SP Written Exam Topics v3.0	√
1.0	**Describe, Implement, Optimize and Troubleshoot Core IP Technologies**	
1.01	Describe, Implement, Optimize and Troubleshoot Packet over SONET	
1.02	Describe, Implement, Optimize and Troubleshoot IP over DWDM	
1.03	Describe, Implement, Optimize and Troubleshoot GE/10GE in the core	
1.04	Describe, Implement, Optimize and Troubleshoot SP High end Product	
1.05	Describe, Implement, Optimize and Troubleshoot IGP routing	
1.06	Describe, Implement, Optimize and Troubleshoot MPLS and LDP	
1.07	Describe, Implement, Optimize and Troubleshoot MPLS Traffic Engineering	
1.08	Describe, Implement, Optimize and Troubleshoot BGP	

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1.09	Describe, Implement, Optimize and Troubleshoot Muliticast	
1.10	Describe, Implement, Optimize and Troubleshoot High availability	
1.11	Describe, Implement, Optimize and Troubleshoot Convergence	
1.12	Describe, Implement, Optimize and Troubleshoot SP QoS	
1.13	Describe, Implement, Optimize and Troubleshoot Security in the core	
2.0	**Describe, Implement, Optimize and Troubleshoot Access/Edge Connection Technologies**	
2.1	Describe, Implement, Optimize and Troubleshoot FE/GE and Ethernet Trunk connections	
2.2	Describe, Implement, Optimize and Troubleshoot PPP connections	
2.3	Describe, Implement, Optimize and Troubleshoot SONET/SDH connections	
2.4	Describe, Implement, Optimize and Troubleshoot Frame-relay connections	
2.5	Describe, Implement, Optimize and Troubleshoot ATM connections	

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2.6	Describe, Implement, Optimize and Troubleshoot T1/T3 and E1/E3 services.	
3.0	**Describe, Implement, Optimize and Troubleshoot Remote Access Technologies**	
3.1	Describe, Implement, Optimize and Troubleshoot IP over DSL to the customer	
3.2	Describe, Implement, Optimize and Troubleshoot IP over wire line to the customer	
3.3	Describe, Implement, Optimize and Troubleshoot IP over Cable to the customer	
4.0	**Describe, Implement, Optimize and Troubleshoot L3VPN Technologies**	
4.1	Describe, Implement, Optimize and Troubleshoot Intra-AS L3VPN	
4.2	Describe, Implement, Optimize and Troubleshoot Inter-AS L3VPN	
4.3	Describe, Implement, Optimize and Troubleshoot Carrier Supporting Carrier (CSC)	
4.4	Describe, Implement, Optimize and Troubleshoot L2TP for L3VPN	
4.5	Describe, Implement, Optimize and Troubleshoot VPN extranet , Internet access	

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4.6	Describe, Implement, Optimize and Troubleshoot VRF Service	
4.7	Describe, Implement, Optimize and Troubleshoot Multicast VPN	
4.8	Describe, Implement, Optimize and Troubleshoot GRE L3VPN	
5.0	**Describe, Implement, Optimize and Troubleshoot L2VPN Technologies**	
5.1	Describe, Implement, Optimize and Troubleshoot AToM	
5.2	Describe, Implement, Optimize and Troubleshoot VPLS and Carrier Ethernet	
5.3	Describe, Implement, Optimize and Troubleshoot L2TPv3 for L2 VPN	
5.4	Describe, Implement, Optimize and Troubleshoot GRE L2VPN	
6.0	**Describe, Implement, Optimize and Troubleshoot Managed Services Traversing the Core**	
6.1	Describe, Implement, Optimize and Troubleshoot Managed Voice/Video services traversing the core	
6.2	Describe, Implement, Optimize and Troubleshoot Managed Security services traversing the core	

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6.3	Describe, Implement, Optimize and Troubleshoot Service Level Agreements for managed services traversing the core	
7.0	**Describe Service Provider Network implementing principle**	
7.1	Given a Service Provider network design change or new service, identify the success criteria	
7.2	Given a Service Provider network design change or new service, identify appropriate routing protocol	
7.3	Given a Service Provider network design change or new service, identify appropriate tunneling protocol	
7.4	Given a Service Provider network design change or new service, identify improving convergence method	
7.5	Given a Service Provider network design change or new service, identify improving scability method	
7.6	Given a Service Provider network design change or new service, identify improving reliability method	
7.7	Given a Service Provider network design change or new service, identify improving management method	

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7.8	Given a Service Provider network design change or new service, identify improving QOS method	
7.9	Given a Service Provider network design change or new service, identify improving security method	

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