## Implementing Cisco Network Programmability (600-504)

**Exam Description:** The Implementing Cisco Network Programmability (600-504) (NPENG) exam is a 90-minute (1.5 hour) exam with 55–65 questions. This exam tests the ability of network engineers to deploy network applications into the programmable environment and ensure that they work successfully. The exam also tests the ability to implement an open network infrastructure designed by the network designers and architects. Successful candidates will demonstrate that they can deploy, install, and troubleshoot network infrastructures and applications. Candidates can prepare for this exam by taking the Implementing Cisco Network Programmability 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.

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<tr>
<th>%</th>
<th>Topic</th>
<th>Subtopics</th>
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| 16% | **1.0 Requirements Collection and Analysis** | 1.1 Understand the architecture of the application being deployed  
1.2 Understand the external interfaces for the application (N&S bound API, GUI interface, CLI)  
1.3 Understand relevant standards bodies for network programmability  
1.4 Understands open source concepts and engagement models  
1.5 Understand the environment in which the application is being deployed |
| 19% | **2.0 Deployment Design Development** | 2.1 Understand the pros and cons of different deployment models and configurations  
2.2 Document in detail how the application is deployed and configured  
2.3 Understand the best practices to deploy the end product  
2.4 Understand the lab validation and testing |
| 29% | **3.0 Configuration and Implementation** | 3.1 Fluent in the installation and configuration of the application being deployed  
3.2 Fluent in the configuration of the network and other dependent services the application is using  
3.3 Understanding the base lining process  
3.4 Staging and verification |
| 20% | **4.0 Troubleshooting** | 4.1 Troubleshoot the functionality and performance of the application  
4.2 Interface with developers on improving application serviceability and quality  
4.3 Network troubleshooting  
4.4 Network virtualization  
4.5 Automation/orchestration |
4.6 Application and operating system
4.7 Storage
4.8 Be able to determine the real-time impact of the deployed application on the IT infrastructure

16% 5.0 Operation and Optimization
5.1 Tuning
5.2 Ability to optimize and tune the application specific to the environment
5.3 Monitoring and instrumentation
5.4 Change management