



EXAM BLUEPRINT

301A — BIG-IP LTM Specialist: Architect, Setup and Deploy

ABOUT THE 301A – BIG-IP LTM SPECIALIST: ARCHITECT, SETUP AND DEPLOY EXAM

This is the first of two exams in the F5 Certified Technology Specialist, BIG-IP LTM certification, and serves as a prerequisite to the *301B – BIG-IP LTM Specialist: Maintain and Troubleshoot* exam. Individuals who pass this exam possess an understanding of underlying principles—from SSL-based VPN implementation to symmetric and asymmetric acceleration—and can draw on that insight to integrate BIG-IP LTM into existing networks as well as new implementations.

Receiving the F5-CTS, BIG-IP LTM certification is a prerequisite for both the Cloud and Security Solutions Expert certification tracks.

WHAT IS THE 301A – BIG-IP LTM SPECIALIST: ARCHITECT, SETUP AND DEPLOY EXAM BLUEPRINT?

F5 Certified exam blueprints list all the objectives an exam has to measure, much like a syllabus for the exam itself. Blueprints provide a detailed breakdown of the skills and knowledge a candidate should have to pass the exam. They contain section levels, objectives and examples, and can be used to identify areas for additional study. The examples are illustrative, not exhaustive.

F5 Certification exams are designed to test the knowledge, skills, and abilities of the candidate. These exams are not designed to test version-specific TMOS features, but rather assess knowledge and understanding of F5 technology solutions for which the exam is developed. Refer to individual exam blueprints for exam publication date.

PREREQUISITE:

F5 Certified BIG-IP Administrator (F5-CA)

CREDENTIAL AWARDED:

None. (Prerequisite to *301B – BIG-IP LTM Specialist: Maintain and Troubleshoot* exam)



Section 1 : ARCHITECT AND DEPLOY APPLICATIONS		
Objectives and Examples		CC*
1.01	<p>Determine which configuration objects are necessary to optimally deploy an application</p> <ul style="list-style-type: none"> • Determine least amount of configuration objects needed to deploy application • Understand dependencies of configuration objects • Understand needed LTM profiles to deploy an application • Identify unnecessary configurations objects • Understand the differences between virtual servers and virtual addresses 	U/A
1.02	<p>Determine whether or not an application can be deployed with only the LTM module provisioned</p> <ul style="list-style-type: none"> • Identify the functionality of LTM configuration objects • Identify LTM profile settings to deploy an application • Determine capabilities of LTM configuration objects 	U/A
1.03	<p>Identify the difference between deployments (e.g., one arm, two arm, npath, Direct Server Return/DSR)</p> <ul style="list-style-type: none"> • Identify configuration objects needed for L2/L3 npath routing • Determine how the IP address changes when using DSR • Determine how IP addresses change when using a full proxy deployment • Plan the network considerations for one arm and two arm deployments • Understand the importance of auto last-hop 	U/A
1.04	<p>Choose correct profiles and settings to fit application requirements</p> <ul style="list-style-type: none"> • Identify LTM profile settings to deploy OneConnect • Determine which profiles are needed to deploy an application • Compare and contrast different communication protocols (TCP, UDP, FastL4) • Compare performance impact of LTM profile settings 	U/A
1.05	<p>Choose virtual server type and load balancing type to fit application requirements</p> <ul style="list-style-type: none"> • Determine the difference between L2-L3 virtual servers • Compare and contrast standard and fastL4 virtual server types • Compare and contrast different load balancing methods • Identify different load balancing method use cases 	U/A
1.06	<p>Determine how to architect and deploy multi-tier applications using LTM</p> <ul style="list-style-type: none"> • Understand connection based architecture and when/how to apply • SNAT/persistence/SSL settings in a multi-tiered environment • Identify which device handles specific configuration objects in a multi-tiered deployment 	U/A
1.07	<p>Distinguish between packet based versus connection based load balancing</p> <ul style="list-style-type: none"> • Demonstrate when to use packet based load balancing • Demonstrate when to use connection based load balancing 	U/A

* Cognitive Complexity Key: **R** = Remember, **A/E** = Analyze/Evaluate, **U/A** = Understand/Apply



1.08	Determine which configuration objects are necessary for applications that need the original client IP address <ul style="list-style-type: none"> • Determine when SNAT is required • Determine the required SNAT type • Identify functions of X-forwarded-for • Outline the steps needed to return the traffic to LTM without SNAT 	U/A
1.09	Identify the matching order of multiple virtual servers <ul style="list-style-type: none"> • Identify which virtual server would process particular traffic • Identify why the virtual server fails to receive traffic 	R
1.10	Given a basic iRule's functionality, determine the profiles and configuration options necessary to implement the iRule <ul style="list-style-type: none"> • Determine what virtual server profile is necessary • Determine when persistence profile is necessary 	U/A
1.11	Describe how to deploy applications using iApp templates <ul style="list-style-type: none"> • Recognize how to modify an application deployed with an iApp • Identify objects created by an iApp 	R

Section 2 : SET UP, ADMINISTER, AND SECURE LTM DEVICES

Objectives and Examples		CC*
2.01	Determine how to secure Self IPs <ul style="list-style-type: none"> • Identify which administrative services need to be accessible • Identify which configurations objects are allowing accessibility • Identify which services must be enabled for HA availability between devices 	U/A
2.02	Determine how to secure virtual servers <ul style="list-style-type: none"> • Determine how to limit access to virtual servers • Compare and contrast different virtual server types • Identify LTM profiles setting to limit access to virtual server resources 	U/A
2.03	Determine how to perform basic device configuration <ul style="list-style-type: none"> • Identify how to synch time/date amongst LTM devices • Determine how to limit administrative access to LTM device (GUI/CLI) • Identify how to restrict access to administrative partitions 	U/A
2.04	Determine how to perform a software upgrade while maintaining application availability <ul style="list-style-type: none"> • Identify proper steps to avoid downtime while upgrading LTM software • Determine necessary steps for migrating LTM configuration to new hardware • Understand implications of stopping BIG-IP services 	U/A

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<p>2.05</p>	<p>Determine how to configure a high availability group of LTM devices to fit the requirements</p> <ul style="list-style-type: none"> • Compare and contrast traffic groups vs HA groups • Determine what prevented an expected failover • Describe the differences between network failover and hardware failover 	<p>U/A</p>
<p>2.06</p>	<p>Apply concepts required to use BIG-IP functionality to fulfill security requirements</p> <ul style="list-style-type: none"> • Make use of port lockdown • Demonstrate how to restrict access to management interface • Demonstrate how to restrict access to virtual servers 	<p>U/A</p>
<p>2.07</p>	<p>Determine how configuration changes affect existing and new connections</p> <ul style="list-style-type: none"> • Predict persistence for existing connections • Calculate when changes will affect the connections • Predict load balancing and persistence for new connections • Determine the impact of virtual server configuration change on traffic 	<p>U/A</p>
<p>2.08</p>	<p>Explain the uses of user roles, administrative partitions, and route domains</p> <ul style="list-style-type: none"> • Explain how to restrict access to LTM using user roles • Discuss the benefits of administrative partitions • Apply user roles to administrative partitions • Explain the functionality of route domains • Summarize how the 3 technologies can be used together 	<p>U/A</p>
<p>2.09</p>	<p>Determine how to deploy or upgrade vCMP guests and how the resources are distributed</p> <ul style="list-style-type: none"> • Explain the different vCMP guest deployment states • Discuss the relationship between CPU and memory on vCMP • Select which versions can run on a guest given host version • Understand the relationship of network configuration objects between vCMP hosts and vCMP guests 	<p>U/A</p>

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Exam Details

HOW MUCH DO F5 EXAMS COST?

All F5 exams are currently priced at US\$180 (not including local taxes and fees) per exam, per attempt.

HOW LONG ARE F5 EXAMS?

This exam is 90 minutes long (not including any non-native English or other accommodations).

WHAT IS THE PASSING SCORE FOR F5 EXAMS?

F5 Exams require a passing score of 245 out of a range between 100 and 350.

SCALED SCORING

Scaled scores ensure that the reported scores across exam forms and versions have the same meaning regardless of difficulty. Fair and consistent decisions can then be made about exam results regardless of the exam form or version. [More information >](#)

HOW MANY QUESTIONS ARE THERE?

This exam has 80 questions (70 items that are scored, 10 pilot/beta items).

WHAT FORMAT ARE F5 EXAMS?

F5 exams are all computer-based, multiple-choice-response exams. Some questions contain exhibits or scenarios that you will need to view in order to answer the question.

WHAT IS THE F5 RETAKE POLICY?

1st failure: Exam hold for 15 days (You cannot take the exam again for 15 days.)

2nd failure: Exam hold for 30 days

3rd failure: Exam hold for 45 days

4th failure: Exam hold for 365 days

5th and subsequent failed attempts: 90 days



Cognitive Complexity Descriptions

Lower Order Thinking Skills



Higher Order Thinking Skills

Remember	Understand/Apply	Analyze/Evaluate	Create
Information retrieval Rote memorization	Knowledge transfer Comprehension or ability to apply knowledge to a standard process	Critical thinking and reasoning Determine how parts relate to whole or knowledge integration and application to new situations	Innovation or creative thinking Forming an original work product
Retrieve relevant knowledge from long-term memory	Construct meaning from information	Make judgments based on criteria	Combine or reorganize parts to form a new pattern or structure
E.g., recall, retrieve, recognize	E.g., interpret, classify, compare, explain, implement	E.g., troubleshoot, attribute, diagnose, critique	E.g., generate, plan, produce

Alpine Testing Solutions’ suggested cognitive complexity levels and associated verb references consider multiple approaches to defining cognitive processing (e.g., Anderson et al., Webb, Bloom, Frisbie). Above material created with assistance from Alpine and distributed with Alpine’s permission as an attachment to certification test



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