



# Master Cloud Builder Specialization Customer Scenario and Demonstration Guidelines

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## Introduction

Partner candidates have an opportunity to demonstrate their expertise and knowledge of Cisco's Data Center Architecture during the demonstration portion of the Master Cloud Builder (MCB) on site audit. The intention of the demonstration is to ensure the partner has the skills to engage the customer in a strategic discussion to determine how Cisco solutions can solve their business problems. It is not intended to be a product demonstration; although knowledge of the products and technologies are essential to engage the customer effectively.

NOTE: Some technologies are difficult to physically demonstrate for various reasons. In these cases, it is acceptable to allow the partner to describe the features and functions as an equivalent. The appropriate action is listed in the "Partner Action" column of each section.

## Demonstration Format

There are two sections in this document to help guide Cisco Master Cloud Builder candidates in creating their demonstration:

1. The Customer Scenario
2. The Demonstration Checklist

Cisco Master Cloud Builder candidates reference either (1) the provided customer scenario or (2) one of their own customer experiences to develop a demonstration that incorporates the criteria defined in the Cisco Master Cloud Builder Demonstration Checklist. Should the partner candidate use their own sales scenario(s), it should encompass a broad enough spectrum of the Data Center/Cloud portfolio to meet the audit requirements. Partner candidates may use more than one sales scenario to comprise the complete set of technical audit requirements, i.e. one sale may have utilized 80% of the technologies required, and another might complete the audit checklist.

The partner will align the demonstration presentation to both the requirements (as described in either the Cisco-provided or own customer scenario) and the demonstration checklist. Partners must present the demonstration in the context of a business case that meets their customers' corporate objectives and covers strategic rationale, available alternatives, and financial justification.

The Cisco® Cloud Builder Demonstration Checklist consists of five sections:

1. Business Goals
2. Integrated Infrastructure (Vblock, FlexPod, etc.)
3. Data Center Security & Policy Management
4. Virtualization
5. Unified Management

The demo checklist is to be used as a guide and begins with a high-level discussion of business goals and the Cloud Infrastructure solutions. With the goals and solutions discussed in Section 1 as a basis, use the remaining sections for detailed explanations and demonstrations of solutions you are recommending.

### Scoring Rules and Criteria

All five sections must be covered during the Master Cloud Builder demonstration.

All demonstration items will be scored using the following criteria, with each item graded from 0 to 3:

- 0 = Requirements not met (none of the conditions in the specification are met)
- 1 = Requirements partially satisfied (some, but not all, conditions in the specification are met)
- 2 = Requirements satisfied (all conditions in the specification are met)
- 3 = Requirements exceeded (all conditions in the specification are met, and some or all are exceeded)

The partner must pass each section by meeting the minimum score of each section to pass the Demonstration phase of the audit. Each section must have a minimum of 80% of the items rated 1 or above to pass. For example, Section 1: Business Goals has six total items for scoring; a minimum of five items must have a rating of 1 or above.

### Success Criteria

The intent of the demonstration is to ensure that the partner has a repeatable customer demonstration process and capacity that is available and scalable to meet customer needs. As a preface to the provided customer scenario or the partner's own customer experience(s), the partner should explain how this demonstration will be executed and how it was prepared (production or lab environment). The partner should also explain whether this demonstration is part of an on-going demonstration methodology.

- The demonstration can be any combination of production environment and lab environment located in any partner office or hosted such that it is available for use in customer demonstrations on an ongoing basis. Partners may use multiple lab environments if necessary to demonstrate all the technologies required in this document.
- The demonstration should be presented in the context of a business discussion with a customer.
- The partner should focus 80 percent of the demonstration on articulating the business rationale and 20 percent on physical demonstration.
- The partner should be prepared to articulate and answer questions on the Data Center/Cloud Infrastructure solution portfolio. However, during the audit, only a small subset of this portfolio will be examined in detail, mostly as it relates to the customer solution being proposed.
- As a guide, the partner should spend about two to three minutes, but no more than five minutes, on any one solution item.
- The total demonstration section of the onsite audit may not exceed 6 hours or penalties will be incurred for scoring.

In a situation in which a product or portfolio is not available to sell in the partner's theater, the partner can describe the solution instead of demonstrating it.

Partners will be measured on their ability to:



- Describe the major components of Cisco Cloud Infrastructure solutions and clearly articulate their importance for customers
- Identify the issues on the CFO's and CEO's agendas (business issues, financial issues, long-term goals, etc.) in the current climate and the implications for investment and funding decisions
- Map the customer requirements to the Cisco Cloud Infrastructure solutions and position the business and technical benefits
- Explain how Cisco's solution is superior to others'

Section	Minimum Score Required
1. Business Goals	11
2. Integrated Infrastructure (including FlexPod & Vblock)	19 or 11*
3. Data Center Security & Policy Management	11**
4. Virtualization	30
5. Unified Management	38

\* For section 2, the partner will have the option to choose one integrated architecture solution to present and demonstrate expertise. Each solution has a minimum target score. Please see the specific section being presented for details of each.

\*\* Section 3 may be waived for partners currently approved for the Master Security Specialization.

Detailed requirements for the demonstrations are on the following pages.

## Customer Scenario

*Note:* Cisco Master Cloud Builder candidates may use this customer scenario (or their own customer experiences) to develop a demonstration that incorporates the criteria defined in the Cisco Master Cloud Builder Demonstration Checklist. The premise of this scenario is you are working with a client that is interested in investigating how a Cisco Cloud Infrastructure solution could be implemented to support the needs of the company.

Currently, ABC Corporation has four locations in the United States and two international locations, with one in Germany and one in Malaysia. The headquarters is in Chicago, with regional offices in Atlanta, New York, and San Francisco. Each regional office supports up to ten district offices. The U.S. portion of the network is a traditional MPLS network based on a mesh architecture. The international locations link into the Chicago headquarters. ABC Corporation has 3 data centers (one in Chicago, one in Atlanta, and one in Malaysia).

They would like to consolidate the US data centers into a single location (the Malaysia data center will be a backup/DR data center only). Also, they are expanding their virtualization practice to incorporate at least 80% of their servers into a fully virtualized data center infrastructure. The CEO is curious about a Cloud based solution/architecture to help their business long term. ABC Corporation is looking to adopt a hybrid cloud in phases if the solution meets their criteria. The CIO has concerns about use of a public cloud offer at this time because of security with their intellectual property.

The customer's overall goal is to lower overall cost of ownership. The company has concerns on how their IT resources (applications, hardware, etc.) are being utilized. They would like to better leverage IT assets for market changes and transitions, and to improve employee access to services with better tracking mechanisms.

Your recommendation and design should have a phased approach. The first phase would be a private/on-premise Infrastructure as a Service (IaaS) deployment targeted at their development and test organization. They anticipate the rollout to support 250 VMs, growing to at least 2000 VMs by the end of the first year. They will move other applications and organizations to a cloud delivery model once the IaaS deployment model is proven.

The hybrid cloud will securely separate business entities while sharing common resources. Like most enterprises, ABC Corporation is comprised of various organizations which will be serviced by the hybrid cloud. These organizations are Dev/Test, Finance, Human Resources, and Marketing. The hybrid cloud must comply with ABC Corporation's security policies regarding required separation of these organizations across the compute, storage, and networking environments.

ABC Corporation is looking to establish a self-service IT model as the means to deliver IT services to its employees. In an effort to speed the delivery of IT services to the business, ABC Corporation needs to automate the steps necessary to deliver the requested IT services. They would like their employees to order IT services via a web based portal and delivered within a matter of minutes; thus, necessitating the need for automation and orchestration. The employees should be able to leverage the self-service/catalog model to request VMs to be provisioned in small, medium, and large offerings. With the ordering/requesting of the IT services, ABC Corporation needs to be able to

track/measure in order to chargeback costs to the individual organizations. Plus, ABC Corporation needs to have a reclamation process of unused VMs to reduce sprawl.

#### **Auditor Notes**

Founded in late 1999, ABC Corporation is the industry-leading provider of marketing and business planning software. ABC products employ expert systems and artificial intelligence technology to create a knowledge base of business experts. The software products based on this knowledge base provide evaluation of business conditions and advise users about situations in their specific businesses. ABC also provides consulting services to help companies take their business to the next level.

Last year's earnings were \$350 million (U.S. currency), with year-to-year growth at 25 percent.

- Headquarters: 900 users; growth plans for next 3 years is 20 percent per year
- Regional offices: 200 users, International sites: 100 users, District offices: 30 users
- Data Centers: Chicago and Atlanta are the primary centers that are being consolidated, with Malaysia solely a BC/DR (Business Continuity/Disaster Recovery) site

#### **Customer Needs**

- The customer is consolidating the two US Data Centers into one.
- The customer's IT support cost is currently too high
- The customer would like expand its virtualization strategy to include a minimum of 80% of their servers
- The customer would like to improve employee access to IT services by offering a self-service model
- The customer needs to track and measure IT service requests in order to perform chargeback
- The customer needs a process to reclaim unused IT resources efficiently
- The customer is looking to expand into a SaaS model and would like the option to scale into a public cloud environment if needed.



**Demonstration Checklist:**

**Section 1: Business Goals**

Overview: The partner will demonstrate the value proposition of a Cisco Cloud Infrastructure solution to the customer. The partner needs to prove to the customer that a Cisco Cloud Infrastructure solution enables Cloud Applications/Services by uniquely combining the Cisco Unified Data Center and Cloud Intelligent Network.

This section focuses on sales and business capabilities that are needed for customer engagements. *The partner may leverage the included case scenario or a real customer highlighted from a customer reference.*

1.0 Business Goals – Customer Engagement, & Sales Demonstration		
	Partner Action	Score
1.1 For the chosen scenario, describe the specific customer requirements, business issues, financial issues, and long-term goals.	Explain/present	
1.2 Explain how Cisco's Cloud Solutions (including Cisco Enterprise Cloud Suite, Cisco OpenStack Private Cloud, and/or Cisco UCS Integrated Infrastructure for OpenStack) will transform the customer's business, calling out at least 5 benefits over their existing environment.	Explain/present	
1.3 Explain why the Cisco Intercloud strategy will transform the customer's business, calling out at least 3 benefits over their existing environment or existing options.	Explain/present	
1.4 Explain why the Cisco Cloud Solutions (including the specific third party ecosystem solutions you are proposing) is unique. Also, describe the benefits of the Cisco solution compared to competitive solutions.	Explain/present	
1.5 Explain your unique value proposition over YOUR competitors, making sure to describe any Professional Service offerings you have and your experience in this space.	Explain/present	
1.6 Present your solution that addresses the customer's specific needs.	Explain/present	
1.7 Define partner value of the Cisco Cloud Solutions. Include the following characteristics: Financial Value for Cisco Cloud Architecture in general terms - Provide as an example a "Price and Cost" model that is used to validate the Cisco Cloud Solution - Leverage existing ROI tools in order to document cost savings and benefits of the Cisco Cloud Solution Describe the Metrics used to prove the financial model of the solution Assessment Methodology for customer environment and validation for the Cisco Cloud Solution	Explain/present	
<b>SECTION 1 TOTAL SCORE</b> (minimum number of items to be scored 1 or above = 5; minimum score needed = 11)		

Notes:



**Section 2: Integrated Infrastructure**

Overview: The partner must review the integrated infrastructure components (Vblock, FlexPod, FlexPod Express , HDS VIA, VSPEX, VersaStack, or OpenStack) and detail the options selected for the specific customer solution.

For Integrated Infrastructure, partner relationships will determine which of the integrated stacks the partner will offer as foundation for Cloud infrastructure. Partners can decide which of the integrated solutions they choose from the following options: Vblock, FlexPod, FlexPod Express , HDS VIA, VSPEX, VersaStack, or OpenStack. These solutions must contain Cisco Data Center infrastructure such as UCS, Nexus, and Cisco-partnered hypervisor and storage.

When completed, enter the score for the chosen Integrated Infrastructure in the scoring section at the end of the entire section 2.

2.0 Integrated Infrastructures		
	Partner Action	Score
<b>2.1.0 Vblock™</b> <i>VCE Vblock™ Infrastructure Platforms are designed for a wide range of virtualized solution deployments. Vblock platforms integrate best of breed technology from industry leaders Cisco, EMC, and VMware, backed by VCE's seamless world class support. Each Vblock product is pre-built and ready for deployment. The modular design is highly scalable to meet growth needs, provide investment protection, and lower total cost of ownership.</i>		
<b>Vblock Infrastructure Platforms Models and Characteristics</b>		
<b>2.1.1 Vblock Business Value</b> Explain in detail the benefits provided by the VCE Vblock architecture as outlined below: Lower risk, due to prepackaged, physically and logically built systems for fast deployment Streamlined deployments for ongoing operations and enabling maximum flexibility for future enhancements and scale How Vblock reduces total cost of ownership with better efficiencies Benefits of dedicated support for entire Vblock stack	Explain/Present	
<b>2.1.2 Vblock Infrastructure Platforms Models and Characteristics</b> Explain at a high level the current platforms available for Vblock. Include what the various elements are that comprise a Vblock Define the sizing guidelines and recommendations per VCE best practices Explain and present partner recommendations for Vblock. Include the following: Partner differentiated value for delivering Vblock Partner capabilities for assessments Partner deployment scenarios and criteria for success	Explain/Present/Show Documentation	
<b>2.1.3 Vblock System 300 Series</b> Define the elements that comprise the Vblock 340 platform as well as its expected performance. Explain usage examples and deployment scenarios that the partner has executed on and include the following: Engagement strategy Demo or POC strategy Planning, Sizing and Implementation Deployment and Delivery	Explain/Present	



2.0 Integrated Infrastructures		
	Partner Action	Score
<p><b>2.1.4 Vblock System 700 Series</b>            Define the elements that comprise the Vblock 740 platform as well as its expected performance.</p> <p>Explain usage examples and deployment scenarios that the partner has executed on and include the following:</p> <ul style="list-style-type: none"> <li>Engagement strategy</li> <li>Demo or POC strategy</li> <li>Planning, Sizing and Implementation</li> <li>Deployment and Delivery</li> </ul>	Explain/Present	
<b>Vblock Management</b>		
<p><b>2.1.5 VCE Vision Software</b>            Explain the benefits of each of the following Vision Software features:            Discovery, Identification, Health monitoring, Security, Logging and event messaging, Validation, Open API, Native integration with VMware products, Toolkit for third-party developers</p>	Explain/Present	
<p><b>2.1.6 VMware vSphere</b>            Explain the benefits of VMware virtualization to the Vblock infrastructure, including the following:            Ease of Deployment, leveraging proven technologies integrated into the solutions stack and executing on advanced functions such as Multi-tenancy, Failover and High Availability Business Continuity and Disaster Recovery, How Vblock platforms leverage VMware features such as virtual server replication, VMware High Availability (HA) and VMware® Site Recovery Manager™ to address business-critical applications requirements and protect data in the event of hardware or datacenter failure.</p>	Explain/Present	
<b>Vblock Seamless Support</b>		
<p><b>2.1.7</b> One of the clear differentiators for the Vblock solutions is the integrated support model that includes all aspects of software and hardware. In this section, please describe this support offering. Included, but not limited to, the following:            Describe the VCE support model            Define the 3 levels of VCE support Outline            4 key benefits of VCE support Describe the process to order VCE support</p>	Explain/Present	
<b>Vblock Program</b>		
<p><b>2.1.8</b> VCE requires certification and qualified personnel in order to ensure successful sales and delivery of the Vblock solution. In this section, please describe the certification requirements. Include the following and show documentation for each:            Describe and present the current Vblock Certification requirements            Provide validation of Vblock Certified Personnel            Present a sample BOM for the focused scenario</p>	Show Documentation	
<b>Demonstrate VCE Vblock Proficiency</b>		
<p><b>2.1.9 VCE Vision Software</b></p> <p>Demonstrate the following tasks with VCE Vision            Integration with VMware vCenter on the vSphere Web Client application displaying the name of a Vblock System, overall system health, description, prior state, serial number, location , and Release Certification Matrix Content Pre-positioning</p>	Demo	



2.0 Integrated Infrastructures		
	Partner Action	Score
<p>2.1.10 Perform Deployment of the VMware vCenter Server. Ensure to demonstrate the following:</p> <ul style="list-style-type: none"> <li>On a working instance of vCenter, provision a virtual machine to meet scenario requirements</li> <li>On working instance of vCenter, configure virtual network and storage elements to meet scenario requirements</li> <li>Demonstrate VMware DRS and HA functionality is enabled Call out VMware and MSFT as two options</li> </ul>	Demo	

2.2.0 FlexPod Solution		
<p><i>FlexPod and FlexPod Express (for the purposes of this document will both be identified as "FlexPod" except where explicitly defined) are pre-designed and pre-validated base data center configurations built on Cisco UCS, Cisco Nexus data center switches, NetApp FAS storage components, and a range of software infrastructure partners. It's flexible, shared infrastructure can scale easily; can be optimized for a variety of mixed application workloads; and configured for virtual desktop or server infrastructure, secure multi-tenancy, or cloud environments.</i></p>		
FlexPod Infrastructure Design Elements and Characteristics		
<p>2.2.1 FlexPod Business Benefits</p> <p>Explain in detail the benefits provided by a FlexPod architecture as outlined below:</p> <ul style="list-style-type: none"> <li>Lower risk, due to a simplified, pre-validated, and shared architecture</li> <li>Flexible IT, scalable for today's needs and ready for future growth</li> <li>Reduced total cost of ownership with better efficiencies</li> <li>Authorized data center partners and cooperative support</li> </ul>	Explain/present	
<p>2.2.2 FlexPod Architectural Requirements</p> <p>Describe the FlexPod Architecture and requirements needed in order to validate a solution as a FlexPod. Include the following:</p> <ul style="list-style-type: none"> <li>Cisco UCS and Nexus Infrastructure</li> <li>Cisco UCS Management</li> <li>NetApp Storage technologies</li> <li>NetApp Storage Management</li> </ul>	Explain/present	
<p>2.2.3 Define/Assess FlexPod Infrastructure</p> <p>Demonstrate the ability to assess and define existing legacy infrastructure and provide examples of the results of these assessments and, if possible, integration design documentation for validation of FlexPod architecture</p>	Show Documentation	
<p>2.2.4 Define/Document FlexPod Configuration</p> <p>Provide documentation validating FlexPod implementation that is provided as a matter of course for the customer based on design including requirements met and configuration details such as addressing information, SAN configuration and VMware and application deployment details</p>	Show Documentation	
Demonstrate FlexPod Proficiency		

2.0 Integrated Infrastructures		
	Partner Action	Score
2.2.5 Perform Deployment of the Cisco UCS. Ensure to demonstrate the following: Create the logical building blocks for UCS management model including MAC, WWN, UUID and server pools, vNIC and vHBA templates, VLANs via UCSM Define policies enforcing inventory discovery, network control and server boot rules via UCSM Creates Service Profile templates Instantiate Service Profiles by associating templates to physical blades	Demo	
2.2.6 Perform Deployment of the NetApp Operations Manager for FlexPod or OnCommand System Manager for FlexPod Express. Ensure to demonstrate the following: For FlexPod, on a working instance of NetApp DataFabric Manager Suite, configure NetApp Operations Manager policies to monitor FlexPod for VMware storage controllers For FlexPod Express, on a working instance of OnCommand System Manager, configure NetApp storage for presentation to VMware storage controllers	Demo	
2.3.0 Hitachi Data Solutions Virtual Infrastructure Architecture		
<i>The Storage Reference Architecture from Cisco, Hitachi, and VMware is a tested, flexible, cost-effective framework for creating cloud network-ready, virtualized infrastructure solutions. It is built on storage from Hitachi, computing and networking components from Cisco, and virtualization from VMware. As industry leaders in storage, server, network, and virtualization infrastructure software solutions, Hitachi, Cisco, and VMware have the expertise to create a comprehensive virtualization solution that can be deployed quickly and safely.</i>		
Hitachi Virtual Infrastructure Design Elements and Characteristics		
2.3.1 Hitachi Virtual Infrastructure Architecture Business Benefits  Explain in detail the benefits provided by a Hitachi Virtual Infrastructure Architecture as outlined below: Lower risk, due to a simplified, pre-validated, and shared architecture Efficient Utilization, leveraging Fabric Resilience and Convergence to improve application availability and less cabling Increased Flexibility, providing agility to match workloads and adjust dynamic business requirements	Explain/present	
2.3.2 Architectural Requirements  Define the required infrastructure elements needed in a Hitachi Virtual Infrastructure Architecture Design. Include the relevant components from Cisco, Hitachi and VMware, such as: Cisco UCS and Nexus Hitachi Virtual Storage Platform VMware vSphere  Describe the necessary Management platforms including: Cisco UCS Manager and Data Center Network Manager VMware vCenter Hitachi Command Suite v7.3 Hitachi Storage Navigator (VSP)	Explain/present	
2.3.3 Define/Document Hitachi Virtual Infrastructure Architecture Configuration  Provide documentation validating Hitachi Virtual Infrastructure Architecture implementation that is provided as a matter of course for the customer based on design including requirements met and configuration details such as addressing information, SAN configuration and VMware and application deployment details	Show Documentation	



2.0 Integrated Infrastructures		
	Partner Action	Score
<b>Demonstrate Hitachi Virtual Infrastructure Architecture Proficiency</b>		
<p>2.3.4 Perform Deployment of the Cisco UCS. Ensure to demonstrate the following:</p> <ul style="list-style-type: none"> <li>Create a functional Cisco UCS fabric cluster</li> <li>Create the logical building blocks for UCS management model including MAC, WWNN, WWPN, UUID and server pools, vNIC and vHBA templates, VLANs and VSANs via UCSM</li> <li>Define policies enforcing inventory discovery, network control and server boot rules via UCSM</li> <li>Creates Service Profile templates</li> <li>Instantiate Service Profiles by associating templates to physical blades</li> </ul>	Demo	
<p>2.3.5 Perform Deployment of the VMware vCenter Server. Ensure to demonstrate the following:</p> <ul style="list-style-type: none"> <li>On a working instance of vCenter, provision a virtual machine to meet scenario requirements</li> <li>On working instance of vCenter, configure virtual network and storage elements to meet scenario requirements</li> <li>Demonstrate VMware DRS and HA functionality is enabled</li> </ul>	Demo	
<p>2.3.6 Perform Deployment of the Hitachi Storage Navigator. Ensure to demonstrate the following:</p> <ul style="list-style-type: none"> <li>On a working instance of Hitachi Storage Navigator, create Hitachi Storage Navigator policies to monitor the Hitachi Virtual Storage Platform storage controller</li> </ul>	Demo	
<h3>2.4.0 VersaStack for Data Center</h3> <p>The VersaStack solution combines the innovation of Cisco UCS Integrated Infrastructure with the efficiency of the IBM Storwize storage system. The Cisco UCS Integrated Infrastructure includes the <a href="#">Cisco Unified Computing System (Cisco UCS)</a>, <a href="#">Cisco Nexus</a> and <a href="#">Cisco MDS switches</a>, and <a href="#">Cisco UCS Director</a>. The IBM Storwize V7000 enhances virtual environments with its Data Virtualization, Real-time Compression and Easy Tier features.</p>		
<b>VersaStack Design Elements and Characteristics</b>		
<p>2.4.1 VersaStack Architecture Business Benefits</p> <p>Explain in detail the benefits provided by a VersaStack Architecture as outlined below:</p> <ul style="list-style-type: none"> <li>Lower risk, due to a simplified, pre-validated, and shared architecture</li> <li>Efficient Utilization, leveraging Fabric Resilience and Convergence to improve application availability and less cabling</li> <li>Increased Flexibility, providing agility to match workloads and adjust dynamic business requirements</li> </ul>	Explain/present	
<p>2.4.2 Architectural Requirements</p> <p>Define the required infrastructure elements needed in a VersaStack Design. Include the relevant components from Cisco, IBM and VMware, such as:</p> <ul style="list-style-type: none"> <li>Cisco UCS and Nexus</li> <li>IBM Storwize V7000 or other Storwize family storage</li> <li>VMware vSphere</li> </ul> <p>Describe the necessary Management platforms including:</p> <ul style="list-style-type: none"> <li>Cisco UCS Manager and Data Center Network Manager</li> <li>VMware vCenter</li> <li>Cisco UCS Director</li> <li>IBM Spectrum Virtualize Management Software (V7000 Management GUI)</li> </ul>	Explain/present	
<p>2.4.3 Define/Document VersaStack Architecture Configuration</p> <p>Provide documentation validating VersaStack Architecture implementation that is provided as a matter of course for the customer based on design including requirements met and configuration details such as addressing information, SAN configuration and VMware and application deployment details</p>	Show Documentation	



2.0 Integrated Infrastructures		
	Partner Action	Score
<b>Demonstrate VersaStack Architecture Proficiency</b>		
<p>2.4.4 Perform Deployment of the Cisco UCS. Ensure to demonstrate the following:</p> <ul style="list-style-type: none"> <li>Create a functional Cisco UCS fabric cluster</li> <li>Create the logical building blocks for UCS management model including MAC, WWNN, WWPN, UUID and server pools, vNIC and vHBA templates, VLANs and VSANs via UCSM</li> <li>Define policies enforcing inventory discovery, network control and server boot rules via UCSM</li> <li>Creates Service Profile templates</li> <li>Instantiate Service Profiles by associating templates to physical blades</li> </ul>	Demo	
<p>2.4.5 Perform Deployment of the VMware vCenter Server. Ensure to demonstrate the following:</p> <ul style="list-style-type: none"> <li>On a working instance of vCenter, provision a virtual machine to meet scenario requirements</li> <li>On working instance of vCenter, configure virtual network and storage elements to meet scenario requirements</li> <li>Demonstrate VMware DRS and HA functionality is enabled</li> </ul>	Demo	
<p>2.4.6 Perform Overview of IBM Storwize Management GUI. Demonstrate the following:</p> <ul style="list-style-type: none"> <li>How to create new volumes and the advantages of using Storwize features such as compression, thin-provisioning, and built in features such as Easy Tier.</li> </ul>	Demo	
<b>2.5.0 RedHat Openstack</b>		
<p>As market leaders across open technologies, networking, and cloud infrastructure, Red Hat and Cisco offer end-to-end OpenStack solutions that provide on-demand business agility and accelerated application delivery. By combining open innovation, enterprise-grade stability, reliability, and security, and customer-focused design, these integrated solutions allow customers to dramatically simplify application deployment, streamline cloud operations, and modernize DevOps and other business processes, without the risks involved in building a cloud from scratch in-house</p>		
<b>RedHat Openstack on Cisco UCS Design Elements and Characteristics</b>		
<p>2.5.1 Architecture Business Benefits</p> <p>Explain in detail the benefits provided by a RedHat OpenStack on UCS Architecture as outlined below:</p> <ul style="list-style-type: none"> <li>Lower risk, due to a simplified, pre-validated, and shared architecture</li> <li>Efficient Utilization, leveraging Fabric Resilience and Convergence to improve application availability and less cabling</li> <li>Increased Flexibility, providing agility to match workloads and adjust dynamic business requirements</li> </ul>	Explain/present	
<p>2.5.2 Architectural Requirements</p> <p>Define the required infrastructure elements needed in a RedHat Openstack on Cisco UCS Design. Include the relevant components from Cisco and RedHat, such as:</p> <ul style="list-style-type: none"> <li>Cisco UCS Fabric Interconnects</li> <li>Cisco C-Series Unified Computing System servers for storage and/or compute</li> <li>Cisco B-Series UCS Servers for compute</li> <li>Cisco UCS VIC adapters</li> <li>RedHat OpenStack Platform</li> <li>Cisco Nexus Driver for OpenStack Neturon</li> </ul> <p>Describe the necessary Management platforms including:</p> <ul style="list-style-type: none"> <li>Cisco UCS Manager</li> <li>OpenStack "Horizon" Dashboard</li> </ul>	Explain/present	



<p>2.5.3 Define/Document RedHat OpenStack with UCS Architecture Configuration</p> <p>Provide documentation validating RedHat OpenStack with UCS Architecture implementation that is provided as a matter of course for the customer based on design including requirements met and configuration details such as addressing information, OpenStack Configuration, and application/virtual machine deployment details</p>	<p>Show Documentation</p>	
<p><b>Demonstrate RedHat OpenStack with UCS Architecture Proficiency</b></p>		
<p>2.5.4 Perform Deployment of the Cisco UCS. Ensure to demonstrate the following:</p> <ul style="list-style-type: none"> <li>Demonstrate a functional Cisco UCS fabric cluster</li> <li>Create the logical building blocks for UCS management model including MAC, WWNN, WWPN, UUID and server pools, vNIC and vHBA templates, VLANs and VSANs via UCSM</li> <li>Define policies enforcing inventory discovery, network control and server boot rules via UCSM</li> <li>Create Service Profile templates</li> <li>Instantiate Service Profiles by associating templates to physical blades</li> </ul>	<p>Demo</p>	
<p>2.5.5. Demonstrate components of a functioning RedHat OpenStack with UCS Environment. Ensure to demonstrate the following:</p> <ul style="list-style-type: none"> <li>Use Horizon Dashboard to create test Tenant, user, virtual machine image, network, subnet and volumes. Create virtual machine instances for the Tenant project using one of the preconfigured flavors and bootstrap the instances.</li> </ul> <p>Create a router to connect all the virtual machines in different subnets and for external network connectivity.</p>	<p>Demo</p>	
<p>2.5.6. Demonstrate utilization of Cisco UCS C-Series servers for RedHat Software Defined Storage</p>	<p>Demo</p>	

<p><b>2.6.0 VSPEX Solution</b></p> <p><i>VSPEX are pre-designed and pre-validated base data center configurations built on Cisco UCS, Cisco Nexus data center switches, EMC storage components, and a range of software infrastructure partners. Its flexible, shared infrastructure can scale easily; can be optimized for a variety of mixed application workloads; and configured for virtual desktop or server infrastructure, secure multi-tenancy, or cloud environments.</i></p>		
<p><b>VSPEX Infrastructure Design Elements and Characteristics</b></p>		
<p>2.6.1 VSPEX Business Benefits</p> <p>Explain in detail the benefits provided by a VSPEX architecture as outlined below:</p> <ul style="list-style-type: none"> <li>Lower risk, due to a simplified, pre-validated, and shared architecture</li> <li>Flexible IT, scalable for today's needs and ready for future growth</li> <li>Reduced total cost of ownership with better efficiencies</li> <li>Authorized data center partners and cooperative support</li> </ul>	<p>Explain/present</p>	
<p>2.6.2 VSPEX Architectural Requirements</p> <p>Describe the VSPEX Architecture and requirements needed in order validate a solution as a VSPEX. Include the following:</p> <ul style="list-style-type: none"> <li>Cisco UCS and Nexus Infrastructure</li> <li>Cisco UCS Management</li> <li>EMC Storage technologies</li> <li>EMC Storage Management</li> </ul>	<p>Explain/present</p>	
<p>2.6.3 Define/Assess VSPEX Infrastructure</p> <p>Demonstrate the ability to assess and define existing legacy infrastructure and provide examples of the results of these assessments and, if possible, integration design documentation for validation of VSPEX architecture</p>	<p>Show Documentation</p>	
<p>2.6.4 Define/Document VSPEX Configuration</p> <p>Provide documentation validating VSPEX implementation that is provided as a matter of course for the customer based on design including requirements met and configuration details such as addressing information, SAN configuration and VMware and application deployment details</p>	<p>Show Documentation</p>	
<p><b>Demonstrate VSPEX Proficiency</b></p>		



<p>2.6.5 Perform Deployment of the Cisco UCS. Ensure to demonstrate the following:          Create the logical building blocks for UCS management model including MAC, WWN, UUID and server pools, vNIC and vHBA templates, VLANs via UCSM          Define policies enforcing inventory discovery, network control and server boot rules via UCSM          Creates Service Profile templates          Instantiate Service Profiles by associating templates to physical blades</p>	<p>Demo</p>	
<p>2.6.6 Perform Deployment of the EMC Unisphere for VSPEX. Ensure to demonstrate the following:          For VSPEX, on a working instance of EMC Unisphere, configure policies to monitor VSPEX for VMware storage controllers</p>	<p>Demo</p>	

SECTION 2 TOTAL SCORE WILL BE BASED ON INTEGRATED INFRASTRUCTURE CHOSEN BY PARTNER PRIOR TO AUDIT SCHEDULING. EACH SELECTION WILL BE SCORED INDEPENDENTLY, NOT AS A CUMMULATIVE TOTAL.

VBLOCK SECTION TOTAL SCORE  
 (minimum number of items to be scored 1 or above = 8; minimum score needed =19 )

ALL OTHER SECTIONS (FLEXPOD, HITACHI, VERSASTACK, OPENSTACK, or VSPEX) TOTAL SCORE  
 (minimum number of items to be scored 1 or above = 5; minimum score needed = 11)

<p>Notes:</p>



**Section 3: Data Center Security & Policy Management**

Overview: Cisco Data Center Security solutions enable you to create a trusted data center infrastructure based on a systems approach and using industry-leading security solutions. These solutions enable you to rapidly deploy data center technologies without compromising on the ability to identify and respond to evolving threats, protect critical assets, and enforce business policies. One of these solutions is the Cisco ASA 5500. This high-performance security platform is designed to protect multimedia, highly transactional, and latency-sensitive applications at the enterprise data center and Internet edge.

**Note:** Section 3 may be waived if the partner is currently approved for the Cisco Master Security Specialization.

The partner must describe the significance of Data Center Security for Cloud and explain Cisco solutions.

3. Data Center Security & Policy Management		
	Partner Action	Score
<b>Network Security</b> <i>High-performance, scalable firewall and intrusion prevention services with intelligence</i>		
<b>3.1 ASA 5585-X with firewall with FirePOWER Services</b> Explain the benefits of the ASA firewall and FirePOWER services. Include features such as: Protection against tens of thousands of known attacks and day-zero threats High performance: Delivers accelerated protection with up to 650 Mbps firewall throughput  Explain the value of a threat-focused next-generation firewall that delivers integrated threat defense across the entire attack continuum. Illustrate the value of combining proven firewall and intrusion prevention capabilities with advanced malware protection in a single device. Show how this protects against advanced threats while reducing complexity and cost.  Explain how Cisco NGIPS simplifies security administration with automated network discovery and signature tuning. Describe the value of open source application detection and control that allows users to create, share, and implement custom application detections.	Explain/present	
<b>3.2 TrustSec:</b> Describe how TrustSec provides: Granular access control in the secure data center. Whiteboard a policy that provides granular access of resources for varying user levels. Illustrate TrustSec operations including assignment of tags, exchange of information, and policy enforcement.	Explain/present	
<b>3.3 Cisco Security Manager</b> Explain the benefits of the Cisco Security Manager. Include the following: Define how Cisco Security Manager (CSM) enables consistent policy enforcement and rapid troubleshooting of security events Identify how CSM offers summarized reports across the security deployment with a centralized interface for improved visibility Define how the CSM manages a wide range of Cisco security devices for improved control across the data center visibility	Explain/present	



<p>3.4 ASAv Describe how the Cisco ASAv Firewall provides the following: Discuss the classic data center security challenges and how ACI addresses them. Explain how ACI supports north-south and east-west firewalling today. Suggest a secure data center design with the ASAv using ACI policy-based service insertion.</p>	<p>Explain/present</p>	
<p><b>Secure Access</b> <i>Secure and trusted access to data center resources</i></p>		
<p>3.5 Cisco AnyConnect Describe how Cisco AnyConnect Secure Mobility solution provides the following: Context-aware, comprehensive, and preemptive security policy enforcement Intelligent, seamless, and always-on connectivity experience Secure mobility across today's proliferating managed and unmanaged mobile devices</p>	<p>Explain/present</p>	
<p>3.6 Identity Services Engine Describe how the Cisco Identity Services Engine provides the following: Consistent enforcement of context-based policies across wired and wireless networks System-wide visibility showing you who and what is on the network - wired, wireless, or VPN Integrated AAA, profiling, posture, and guest services to simplify deployments and cut costs Describe how posture assessment and remediation can increase endpoint compliance and security. Explain multiple methods to identify corporate devices. Simplified BYOD onboarding through self-service registration</p>	<p>Explain/present</p>	
<p><b>SECTION 3 TOTAL SCORE</b> (minimum number of items to be scored 1 or above =5; minimum score allowed = 11)</p>		

Notes:

**Section 4: Virtualization**

Overview: Virtualization is not just a concept in the server realm; there are opportunities to perform virtualization at all levels of the Data Center. Cisco solutions leverage these concepts of virtualization in order to maximize efficiency in the data center at all levels, including network, storage, server and infrastructure devices as well. The partner must be prepared to discuss and demonstrate the value and techniques to manage a virtualized environment.

Virtualization		
	Partner Action	Score
<b>Network Virtualization</b>		

<p>4.1 This requires segmenting a common network into separate virtual networks and involves logical separation of data-plane (and some control-plane) functionality. Explain the benefits of network virtualization in the data center and how this contributes to overall data center performance and design.</p>	<p>Explain/present</p>	
<p>4.2 Explain the concept of Virtual LANs (VLANs) and how they separate L2 LAN broadcast domains.</p>	<p>Explain/present</p>	
<p>4.3 Explain the concept of Virtual Routing Forwarding (VRFs) and the benefits of separate L3 routing domains.</p>	<p>Explain/present</p>	
<p>4.4 Explain Virtual Private Networks (VPNs) - Creating virtual circuits in a shared network. Explain some of the benefits of commonly deployed VPN technologies, for example MPLS-VPN, IPsec-VPN, etc. Cisco Site to Site VPN. Explain the benefits of the Cisco Site-to-site VPN solutions. Include the following: How site-to-site VPN enables organizations to use a powerful combination of seamless controlled access Define how firewall, intrusion prevention inspection and web threat prevention that enables mobile workers to be productive while protecting corporate interests Describe the benefits of inclusive support for unrestricted full-network access, and how the platform provides the flexibility required by any VPN deployment</p>	<p>Explain/present</p>	
<p>4.5 Cisco Nexus® 1000V switch: a distributed virtual switch Explain the benefits of the Cisco Nexus® 1000V. Include the following: Define how Cisco Nexus® 1000V benefits and streamlines deployments of network elements in a virtualized environment Describe the architecture of the Nexus 1000v in a virtualized environment. Choose one specific hypervisor in order to frame the discussion Describe the components (such as Virtual Ethernet Module and Virtual Supervisor Module)</p>	<p>Explain/present</p>	
<p>4.6 Explain how network virtualization is used in their service design to isolate the user traffic within individual network domains.</p>	<p>Explain/present</p>	
<p><b>Storage Virtualization</b></p>		
<p>4.7 Explain the role of NPV and NPIV in the server/storage environment. Describe how it would be implemented. Describe the operational effects of implementing this technology.</p>	<p>Explain/present</p>	
<p>4.8 Compare and contrast Fibre Channel SAN and IP based NAS technologies. Explain distance limitations, cabling and management methods for each.</p>	<p>Explain/present</p>	
<p>4.9 Explain the role and benefits of VSAN technology. Give examples of how it would be configured. Describe inter-VSAN routing and why it would be used.</p>	<p>Explain/present</p>	
<p>4.10 Describe the benefits, limitations, use case and how to configure storage using the following storage transport mechanisms: Fibre Channel, CIFS, NFS, iSCSI, FCoE, FCiP, FICON.</p>	<p>Explain/present</p>	
<p><b>Device Virtualization</b></p>		
<p>4.11 Explain how device virtualization allows for segmentation of a device or appliance into separate logical entities, independent of each other. Explain the benefits of this method of virtualization including:  Space and power savings in the data center and the importance of each in data center design.  Provisioning benefits that simplify time to deployment and utilization concepts such as wire-once and division of resources.  How device virtualization differs from Role Based Access Control (RBAC) and segments service environments from one another.</p>	<p>Explain/present</p>	
<p><b>Server Virtualization</b></p>		



<p>4.12 Hardware assisted virtualization is used to simulate a complete hardware environment, or Virtual Machine (VM), in which an unmodified "guest" operating system executes in complete isolation.</p>	<p>Explain/present</p>	
<p><b>Demonstrate Virtualization Capabilities</b>  <i>Demonstrate an Application Solution that incorporates the requirements of virtualization, including the following elements:</i>  <i>*These demonstrations can be included as part of the Section 2 in this document</i></p>		
<p>4.13 <b>Network Virtualization</b> - Demonstrate the following elements:  Present a configured L2 virtualization (VLAN) environment  Present a configured High Availability Fabric (FabricPath with Nexus 5000 and/or Nexus 7000 or using Nexus 9000/VXLAN or ACI)  Present a configured L3 virtualization (VRF) environment  Present a configured VPN connected environment  Present a configured Data Center Interconnect technology on the Nexus 7000 or Nexus 9000.. Choose one of the following for Nexus 7000: Multi Protocol Label Switching (MPLS), Ethernet over MPLS (EoMPLS), Overlay Transport Virtualization (OTV) or Location/Identity Separation Protocol (LISP). Choose the following for the Nexus 9000: ACI Stretch Fabric. Configured VXLAN – Present / Explain</p>	<p>Demo*</p>	
<p>4.14 <b>Storage Virtualization</b> - Demonstrate the following:  Demonstrate a working installation of a graphical element storage manager attached to existing storage  Deployment of storage to meet scenario requirements</p>	<p>Demo*</p>	
<p>4.15 <b>Server Virtualization</b> - Demonstrate the following:  Demonstrate a working installation of a hypervisor environment including element manager Provision resources in order to deploy server virtual machines, including network, compute and storage resources  Demonstrate high availability and load sharing elements as appropriate</p>	<p>Demo*</p>	
<p><b>SECTION 4 TOTAL SCORE</b>  (minimum number of items to be scored 1 or above = 13; minimum score allowed = 30)</p>		

<p>Notes:</p>

**Section 5: Unified Management**

Overview: The partner must discuss the significance of Unified Management and Cloud Automation and Orchestration. Unified Management solutions provide a variety of services that will need to be presented or discussed in this section. A few are listed here as guides:

- Process automation for network, compute, storage, applications, and other IT services;
- Web-based self-service portal and service catalog for on-demand provisioning
- Lifecycle management and pay-per-use tracking to support cloud computing
- Flexible, policy-based approach for governance and control

Cisco UCS Management manages all hardware and software infrastructure components and configurations through an extensible, unified architecture that is policy-driven.

For Cloud Management, be prepared to discuss all four main topics/areas seen in the industry; Automation/Orchestration, Resource management, Service portal, and Metering/Billing.

Section 5. Unified Management		
	Partner Action	Score
<p><b>Demonstrate UCS Manager</b>  <i>Ensure that the demo explains the value of the UCS Manager interface to the business goals of the customer. *These demonstrations can be included as part of the Section 2 in this document</i></p>		
<p>5.1 Demonstrate the following:            Create necessary pools in order to create service policies, including:            Server Pools            Boot Policy            MAC Pools            VLANS            WWN Pools            UUID Pools            Adapter Policy</p>	Demo*	
<p>5.2 Create and deploy service policy to UCS blade(s)</p>	Demo*	
<p>5.3 Edit and redeploy service policy from one blade to another</p>	Demo*	
<p><b>Data Center Network Management</b>  <i>Cisco Data Center Network Manager (DCNM) optimizes the overall uptime and reliability of your data center infrastructure and helps improve business continuity</i>            Cisco UCS Director is a unified infrastructure management solution that provides a single pane of management for compute, network, storage, and virtualization layers.</p>		
<p>5.4 Explain how these advanced management products:             Automate provisioning of data center LAN and SAN elements            Proactively monitors the SAN and LAN, and detects performance degradation            Helps secure the data center network            Eases diagnosis and troubleshooting of data center outages            Simplifies operational management of virtualized data centers</p>	Explain/present	



<p>5.5 Explain the primary benefits of Cisco DCNM or UCS D. Define how either can improve:</p> <ul style="list-style-type: none"><li>Faster problem resolution</li><li>Intuitive domain views that provide a contextual dashboard of host, switch, and storage infrastructures</li><li>Real-time and historical performance and capacity management for SANs and LANs</li><li>Virtual-machine-aware path analytics and performance monitoring</li><li>Easy-to-use provisioning of Cisco NX-OS features with preconfigured, customized templates</li></ul> <p>Customized reports which can be scheduled at certain intervals</p>	<p>Explain/present</p>	
<p><b>Demonstrate Network Management using Data Center Network Manager or UCS Director</b> <i>Demonstrate how DCNM or UCS-D integrates and deploys each of the following elements.</i> <b>*These demonstrations can be included as part of the Section 2 in this document</b></p>		



Section 5. Unified Management		
	Partner Action	Score
<p>5.6 Cisco Virtual Port Channel (VPC)            Define elements within DCNM or UCS-D that will be configured with VPC            Configure VPC policy and deploy            Verify and remove VPC from Nexus elements</p>	Demo*	
<p>5.7 Virtual Device Context            Define elements within DCNM or UCS D that will be configured with multiple Device Contexts            Configure Device Contexts on Nexus elements            Verify and remove Device Context from Nexus elements</p>	Demo*	
<p>5.8 Cisco FabricPath            Define elements within DCNM or elements within a custom workflow task using UCS Director that will be used to configure FabricPath            Configure and deploy FabricPath on Nexus elements            Verify FabricPath performance by eliminating links in FabricPath domain            Remove Nexus elements from FabricPath domain</p>	Demo*	
<p>5.9 Fibre Channel over Ethernet (FCoE)            Define elements within DCNM or UCS D that will be configured with FCoE            Configure and deploy FCoE on Nexus/MDS elements            Verify FCoE performance by presenting LUNs from array to target hosts</p>	Demo*	
<p>5.10 Fabric Zoning            Define elements within DCNM or UCS D that will be configured with Fabric Zones            Configure and deploy Fabric Zones on Nexus/MDS elements            Verify Zoning performance by presenting identified storage elements within specific zones            Edit and change zoning on Nexus/MDS elements and validate access</p>	Demo*	
<p>5.11 Virtual SANs (VSAN)            Define elements within DCNM or UCS D that will be configured with specific VSANs            Configure and deploy VSAN configuration on Nexus/MDS elements            Verify VSAN performance by presenting identified storage elements within specific VSANs            Edit and change VSANs on Nexus/MDS elements and validate access</p>	Demo*	
<p><b>Network Services Management</b>  <i>Use a policy-based solution for organizing, provisioning, and deploying network services and resources into a flexible cloud computing infrastructure</i></p>		
<p>5.12 Cisco Network Services Manager</p> <p>The Network Services Manager network abstraction layer helps you provision and deploy numerous individual network components as sophisticated network "containers."            Explain how to leverage Network Services Manager in order to create these containers:</p> <p>Across single and multi-pod cloud computing deployments            Much more easily and quickly than with template- and script-based systems</p> <p>Explain the benefits of Cisco Network Services Manager that includes the following:</p> <p>Dramatically reduce network operational costs and potential misconfiguration            Optimize capacity use and accelerates service delivery</p>	Explain/present	
<p><b>Converged Infrastructure, Workload and Hybrid Cloud Management</b>  <i>Use a policy-based solution to provision, manage, track and de-provision private cloud infrastructure platforms (virtualization, compute, network and storage) as well as private and public cloud application workloads.</i></p>		



<p>5.13 Describe the following aspects of Cisco UCS Director:</p> <ul style="list-style-type: none"> <li>• Converged infrastructure automation and management</li> <li>• UCS Director Virtual Data Center (VDC)</li> <li>• UCS Director user/group privilege model</li> <li>• Out-of-the-box task library</li> <li>• Model-based orchestration</li> <li>• Integration with UCS Director APIs</li> </ul>	<p>Explain/present</p>	
<p>5.14 Compare the following aspects of Cisco UCS Director against one or more competitive products:</p> <ul style="list-style-type: none"> <li>• Virtual vs. physical infrastructure automation and management</li> <li>• Model-based orchestration vs. script-based orchestration</li> <li>• Single-pane-of-glass converged infrastructure management</li> </ul>	<p>Explain/present</p>	
<p>5.15 Demonstrate the following features of Cisco UCS Director:</p> <ul style="list-style-type: none"> <li>• Converged infrastructure stack view</li> <li>• Provisioning a virtual machine using a service request</li> <li>• Virtual machine lifecycle management</li> <li>• De-provisioning a virtual machine (and associated network &amp; storage resources)</li> <li>• Launching a CloudSense report to address VM sprawl</li> <li>• Modify an orchestration flow</li> <li>• Create a self-service portal catalog item to provision a VM</li> <li>• Display the documentation for the out-of-the-box task library</li> </ul>	<p>Demonstrate</p>	
<p>5.16 Describe the following aspects of Cisco Virtual Application Container Services (VACS):</p> <ul style="list-style-type: none"> <li>• What types of problems does VACS address</li> <li>• Relationship between VACS and UCS Director</li> <li>• Services provided by CSR 1000V in a VACS environment</li> <li>• Services provided by VSG in a VACS environment</li> </ul>	<p>Explain/present</p>	
<p>5.17 Describe the following aspects of Cisco Intercloud Fabric for Business (ICFB):</p> <ul style="list-style-type: none"> <li>• ICFB vs. Intercloud Fabric Provider Platform</li> <li>• Value of ICFB vs. direct provisioning to the public cloud</li> <li>• Secure network extension to the public cloud</li> <li>• ICF Firewall services</li> <li>• ICF Routing services</li> <li>• ICFB shell</li> <li>• How ICFB can optimize network traffic by avoiding “hairpin” traffic flows</li> </ul>	<p>Explain/present</p>	
<p><b>Self-Service Automation and Orchestration</b>  <i>Automate and orchestrate processes across your applications, network, compute, storage, and other data center infrastructure to improve efficiency, reduce costs, and shift resources from operations to innovation.</i></p> <p><i>Partners may choose from the following: <b>Prime Service Catalog, UCS Director, Microsoft Systems Center 2012, VMware vCloud Director, BMC CLM or CA AutoSuite for Cloud, or some combination thereof.</b></i></p>		



Section 5. Unified Management		
	Partner Action	Score
<i>With your Orchestration and Automation strategy, define how the management software addresses these key concerns</i>		
<p>5.18 Explain how, with a web-based self-service interface, users view service catalog options based on their roles, organization, and other access controls. Explain how users order services, provide configuration information through dynamic forms, and track and manage their services and usage on an ongoing basis.</p> <p>Explain how the service catalog also helps IT to associate costs with various services, which can be integrated with billing and financial services for chargeback. Explain the benefits of an order process that can also manage policies such as the lease period, so that services that are no longer needed can expire and the associated resources reclaimed for other uses.</p>	Explain/present	
<p>5.19 Explain how orders that have been placed and approved go through service delivery automation, which orchestrates the provisioning and configuration steps across all the elements.</p> <p>Define how Enterprise Cloud Suite (UCS Director) or Prime Service Catalog identifies these resources to be provisioned: compute, virtualization, network, and storage, configuration updates to be made, software to be provisioned, and supporting services to be set up (firewalls, load balancing, and disaster recovery).</p> <p>Define how service information updates flow back to the web-based portal, as well as to system management tools such as ticketing systems and configuration management databases (CMDBs) that need to be updated.</p>	Explain/present	
<p>5.20 Explain how operational process automation assists and coordinates the ongoing operational and support tasks for cloud management, including user management, performance management, alerting, service-level management, capacity planning, maintenance checks and procedures, and audit and compliance reporting.</p>	Explain/present	
<p>5.21 Define how resource management uses the resource pools to provision, manage, de-provision, and configure individual resources to complete resource-level operations.</p> <p>Explain how, through this approach, Prime Service Catalog or Enterprise Cloud Suite orchestrates resource-level operations across compute resources such as Cisco UCS or other hardware; hypervisors such as VMware, Xen, or Hyper-V; storage resources such as EMC and NetApp; and network resources such as the Cisco Nexus family.</p>	Explain/present	
SECTION 5 TOTAL SCORE (minimum number of items to be scored 1 or above = 18; minimum score allowed = 38)		

