EXAM BLUEPRINT GUIDE

Nutanix Certified Services - Core (NCS-Core) 6.8 Exam

Table of Contents

Author

Jeff Hall, Manager, Technical Certification Development

Contributors

Akwasi Adjei, Services Consultant

Vlad Glemb, Staff Consulting Architect

Ross Hunt, Staff Resident Architect

Frank Mazzotti, Sr. Converged Infrastructure Engineer

YC Miu, Technical Consultant

Farhan Parkar, Solution Architect

Geoff Pattishall, Chief System Engineer

Jordan Petersen, Services Consultant

Louis-Xavier Piqueret, Services Consultant

Brett Ruth, Staff Resident Architect

Ganang Saputro, Services Consultant

Vivek Sarmalkar, Services Consultant

Tyler Schoening, Staff Consultant

Rob Schricker, Staff Consultant

Brian Smith, Services Consultant

Daniel Sullivan, Services Consultant

Luis Valdes, Resident Consultant

Daniel Vasquez, Staff Consultant

Edgar Ventura, Resident Consultant

Akmal Waheed, Services Consultant

Justin Wolff, Sr. Staff Consulting Architect

Jeff Yaptengco, Services Enablement Program Manager

1. The Exam

1.1 Purpose of Exam

The Nutanix Certified Services - Core (NCS-Core) 6.8 exam will measure a candidate's ability to successfully conduct customer-facing engagements for the purposes of gathering requirements, deploying and configuring Nutanix clusters and additional portfolio products, performing basic troubleshooting, utilizing Nutanix support resources, and engaging in customer-focused knowledge transfer. Successful candidates demonstrate mastery of these skills and abilities.

1.2 Number of Questions

The NCS-Core 6.8 exam consists of 75 multiple-choice and multiple-response questions.

1.3 Pricing

The cost for the NCS-Core 6.8 exam is $199 USD.

1.4 Passing Score

The passing score for this exam is 3000, using a scaled scoring method. The scale is from 1000-6000. Scaled scores are calculated using a mathematical formula that considers a variety of factors, including the number and type of exam questions included in a specific version of the exam.

Because this combination may vary in different versions of the same examination, scaled scores provide a fair score for everyone based on the version of the exam taken.

1.5 How Objectives Relate to Questions on the Exam

Objectives summarize what the test is designed to measure. Objectives are developed by Exam Developers and Subject Matter Experts based on identified tasks that relate to the job of deploying and administering a multicloud environment utilizing Nutanix products and technologies.

Once the initial development process is complete, these objectives are verified using an external group of individuals in the actual job role. Finally, a number of questions is determined for each objective, which relates directly to the criticality of the task in the job role.

1.6 Languages

The exam is available in English.

1.7 Time Limit

The time limit for the exam is 120 minutes.

1.8 Scheduling and Taking the Exam

This exam is delivered via remote proctoring or in-person at select test centers.

If you select remote proctoring, after registering for the exam and providing valid identification, you will receive information on how to take the exam from your location using a web browser. Because the exam is remote proctored, you will be provided with a locked down, monitored, secure exam experience.

If you select in-person testing, you will be able to select a test center near you. On the day of the exam, you will need to arrive at the test center 15 minutes prior to the exam start time with a valid government-issued ID.

1.9 Certification Tracks

The NCP-US 6.10 exam is a core component of the Nutanix Certified Services - Core track. Passing this exam results in achieving the NCS-Core 6 certification.

The certification requires a passing score on the exam. While it is not required that you attend a course, Nutanix provides training that covers the objectives on the exam. Details on the recommended training course are provided in Section 4.

1.10 Retake Policy

If a candidate fails an exam on the first attempt, he or she is allowed two additional attempts. There is a seven-day waiting period between attempts. Like the first attempt, these are paid for individually and Nutanix recommends that you allow sufficient time between attempts to be properly prepared and to maximize your chances for success.

Please note: After three attempts, you will be unable to take the exam for 60 days, after which you can email university.nutanix.com and request that your attempts are reset. Nutanix recommends you utilize the time to thoroughly review this guide and the related references and/or take the recommended training for this exam.

1.11 Exam Security

Nutanix reserves the right to refuse certifying a candidate who violates exam security policies. This includes copying and redistribution of exam material, using any type of study material during the exam itself, attempting to photograph exam items and taking an exam using a false identity. Your identity is captured as part of the exam registration process and must be validated before you will be allowed to take the exam.

1.12 Recertification

Once you have passed the NCS-Core 6.8 exam and achieved the NCS-Core 6 certification, it will remain valid for two years.

To maintain your certification status, you must renew your existing certification within three years of passing the certification exam.

1.13 Benefits of Certification

- Digital badge from Credly that you can share on social media
- Opportunity to participate as a SME to develop future exams
- Discount on attending Nutanix .NEXT

2. Intended Audience

A candidate for the NCS-Core 6.8 exam and NCS-Core 6 certification is capable of successfully independently executing a Service Delivery Kit by facilitating a kickoff call, deploying Nutanix clusters using Foundation, and providing customer deliverables and knowledge transfer. Candidates should also be able to troubleshoot basic connectivity issues, locate and interpret log files, and leave the Nutanix environment in a production-ready state.

Candidates are typically Cloud and Virtualization professionals with about 1-3 years of consulting experience or applicable training.

3. Objectives Covered in the NCS-Core 6.8 Exam

3.1 Introduction

It is recommended that candidates are capable of successfully independently executing a Service Delivery Kit by facilitating a kickoff call, deploying Nutanix clusters using Foundation, and providing customer deliverables and knowledge transfer before attempting the Nutanix Certified Services – Core 6.8 exam. It is also recommended that the candidate complete the training course described in Section 4 prior to taking the exam.

3.2 Objectives

Prior to taking this exam, candidates should understand each of the following objectives. Each objective is listed below; along with related tools the candidate should have experience with, and related documentation that contains information relevant to the objective. Please note that some documentation requires access via the Support Portal. Information on creating an account for use with the Support Portal can be found here.

Additionally, some objectives within this exam require access to and knowledge of the Nutanix Service Delivery Kits (SDK), which are available here.

All objectives may also be referenced in other product documentation not specifically highlighted below. The candidate should be familiar with all relevant product documentation or have the equivalent skills.

Section 1 – Conduct Pre-Delivery Activities

Objective 1.1: Review, analyze, and execute delivery workflow

Knowledge

- Review, consume, and interpret the service delivery kits (SDK)
- Determine stakeholders from which to gather key information
- Review, consume, and interpret a common service description
- Review, consume, and interpret the scope of work
- Review, consume, and interpret bill of materials

References

- Increasing the Cluster Fault Tolerance Level
- SDK - NCI Cluster Deployment or Expansion
- Host Connections
- SDK – HCI Cluster Deployment - Predelivery Questionnaire

- SDK – NCI Cluster Deployment or Expansion - Predelivery Questionnaire
- SDK – HCI Cluster Deployment - Simplified Deployment Questionnaire

Objective 1.2: Conduct a discovery session

Knowledge

- Gather key customer requirements provided within the cluster questionnaire
- Given a customer use case, explain pre-requisites for a successful project delivery
- Given a completed cluster questionnaire, identify additional work required to build out the cluster
- Present information to the customer to confirm understanding of key technical specifications, constraints, etc.
- Provide and discuss best practices based on customer environment

References

- AHV Networking Best Practices
- Data-at-Rest Encryption
- Considerations for Bare-Metal Imaging
- Node Configuration and Foundation Launch
- Foundation Considerations
- Global Storage Guidelines for Heterogeneous Clusters
- Configuring Foundation VM by Using Foundation GUI
- Cisco Nexus Recommended Practices for a Nutanix Environment

Objective 1.3: Ensure site readiness for cluster deployment

Knowledge

- Confirm:
    - Rack space/Power/Cooling are available
    - Network configuration is completed
    - Network cabling provided
    - Customer infrastructure is available

References

- Recommendations for Time Synchronization
- Cluster Time Synchronization

- Configuring Foundation VM by Using the Foundation GUI
- VLANs
- Installation and Troubleshooting of portable Foundation (Foundation App)
- Setting Up the Network
- Nutanix Node, Switch, and SFP Module Compatibility Guidance

Objective 1.4: Prepare installation environment

Knowledge

- Download required installation binaries
- Complete Foundation Configuration
- Prepare hardware required for installation
- Configure environment for remote deployment, as applicable

References

- Changing the IPMI Password
- Hypervisor ISO Images
- Configuring the Foundation GUI Automatically
- NX Series Hardware Administration Guide
- Prism Central Configuration Maximums

Section 2 – Conduct the Cluster Deployment

Objective 2.1: Perform hardware installation according to the field installation guide

Knowledge

- Complete rack and stack
- Complete network and power cabling based on best practice guidelines
- Identify missing, correct components

References

- Hardware Replacement Documentation
- Nutanix Rack Mounting Guide
- Open vSwitch - Layer 2 Network Management

- Prepare Bare-Metal Nodes for Imaging
- Reconfiguring IPMI using ipmitool
- Setting IPMI Static IP Address
- Nvidia GPU Hardware Troubleshooting within a Nutanix Environment

Objective 2.2: Conduct a Foundation and create/build the cluster

Knowledge

- Complete out-of-band/remote-hand configuration, if required
- Start Foundation, confirm service availability
- Complete cluster configuration information
- Resolve any issues preventing Foundation from completing successfully
- Build cluster and confirm Prism accessibility

References

- Field Installation Overview
- Using Nutanix Network Crashcart Script to Configure AHV Networking
- Prepare Factory-Imaged Nodes for Imaging
- Prepare Bare-Metal Nodes for Imaging
- Troubleshooting Foundation Failures
- Troubleshooting Issues During a Foundation Installation
- Fixing IPMI Configuration Issues
- Setting Up the Network
- Considerations for Bare-Metal Imaging
- Resolving Cluster Creation Failure or Node Addition Failures to an Existing Cluster
- Resolving Foundation Failures to Validate the IPMI Network
- Discovering Nodes in a VLAN-Segmented Network
- Foundation Use Case Matrix

Objective 2.3: Configure advanced settings within the cluster

Knowledge

- Provide configuration according to Cluster Deployment Checklist/Questionnaire
- Complete Prism Element configuration as per the Cluster Deployment Checklist/Questionnaire
- Complete hypervisor configuration, as applicable
- Deploy and configure management plane

References

- SDK – NCI Cluster Deployment Checklist
- Network Visualization
- Resolving Issues with Joining a Cluster to Prism Central
- Configuring HTTP Proxy
- Troubleshooting LCM Inventory/Update Failures When DNS Servers Are Not Reachable
- Rebuild Capacity Reservation
- View Physical NIC Status from the CVM
- Controlling Cluster Access
- Nutanix Ports and Protocols
- VMHA Recommendations
- Data Locality
- Upgrade Process - What Happens During an Upgrade
- Cluster Services that Support Traffic Isolation
- Alert - Inconsistent Virtual Switch State Detected
- Hyper-V Installation Requirements
- Hyper-V Hypervisor Upgrade Recommendations, Requirements, and Limitations

Objective 2.4: Configure basic products/features within the scope of a cluster deployment

Knowledge

- Complete Prism Central installation and configuration
- Complete Nutanix Volumes installation, as applicable

- Complete Nutanix Files installation, as applicable
- Complete Protection Domain configuration, as applicable

References

- Downloading Prism Central VM Installation Files (Manual Method)
- Registering or Unregistering a Cluster with Prism Central
- Verifying the Cluster Health
- Data Efficiency
- Fault Tolerance: FT1 vs FT2
- Introduction to Nutanix Files
- Installing Files
- Nutanix Files Configuration Maximums
- Remote Site Configuration
- Which Alerts Automatically Generate a Support Case with Nutanix Support

Section 3 – Conduct Validation Activities

Objective 3.1: Utilize File Analytics for data security

Knowledge

- Conduct tests for:
    - Manageability
    - Availability
    - Networking
    - Operational
- Document results
    - Capture screenshots as supporting evidence, as applicable
- Discuss and finalize success criteria for test plan

References

- X-Ray Overview
- Controlling Cluster Access
- Failover Operation Types

- Configuring a Filesystem Whitelist
- Test Scenarios
- X-Ray Zero-Configuration Networking
- How to Enable, Disable, and Verify LACP on AHV Hosts
- LACP and Link Aggregation
- SDK – NCI Cluster Deployment or Expansion - Test Plan.docx

Objective 3.2: Troubleshoot and fix issues that arise during testing

Knowledge

- Perform a root cause analysis and address common issues that arise
- Take appropriate post-troubleshooting actions, such as:
    - Determine when and how to escalate
    - Re-execute tests
    - Add exceptions as applicable

References

- Installing a Custom Certificate as “Trusted” on the CVM
- Configuring an SMTP Server
- Troubleshooting vMotion network failures
- Shutting Down a Node in a Multi-Node Cluster
- Troubleshooting ADValidationCheck Alerts
- Resolving Shares Not Accessible in Nutanix Files Environment
- Troubleshooting within a Nutanix Files Environment
- NCC Health Check: PC and VM Resource Resizing Checks
- NCC Health Check: Default Password Checks
- Nutanix AHV Networking Best Practices

Section 4 – Complete and Handover Project Deliverables

Objective 4.1: Create and/or modify deliverables

Knowledge

- Run as-built documentation tools
- Recognize as-built documentation components required based on a project and update, as required
- Update custom images based on environment, as required
- Update diagram based on a specific configuration, as applicable

References

- SDK – As-Built Tools
- SDK – Consultant Guide
- SDK – As-Built Guide

Objective 4.2: Conduct knowledge transfer sessions

Knowledge

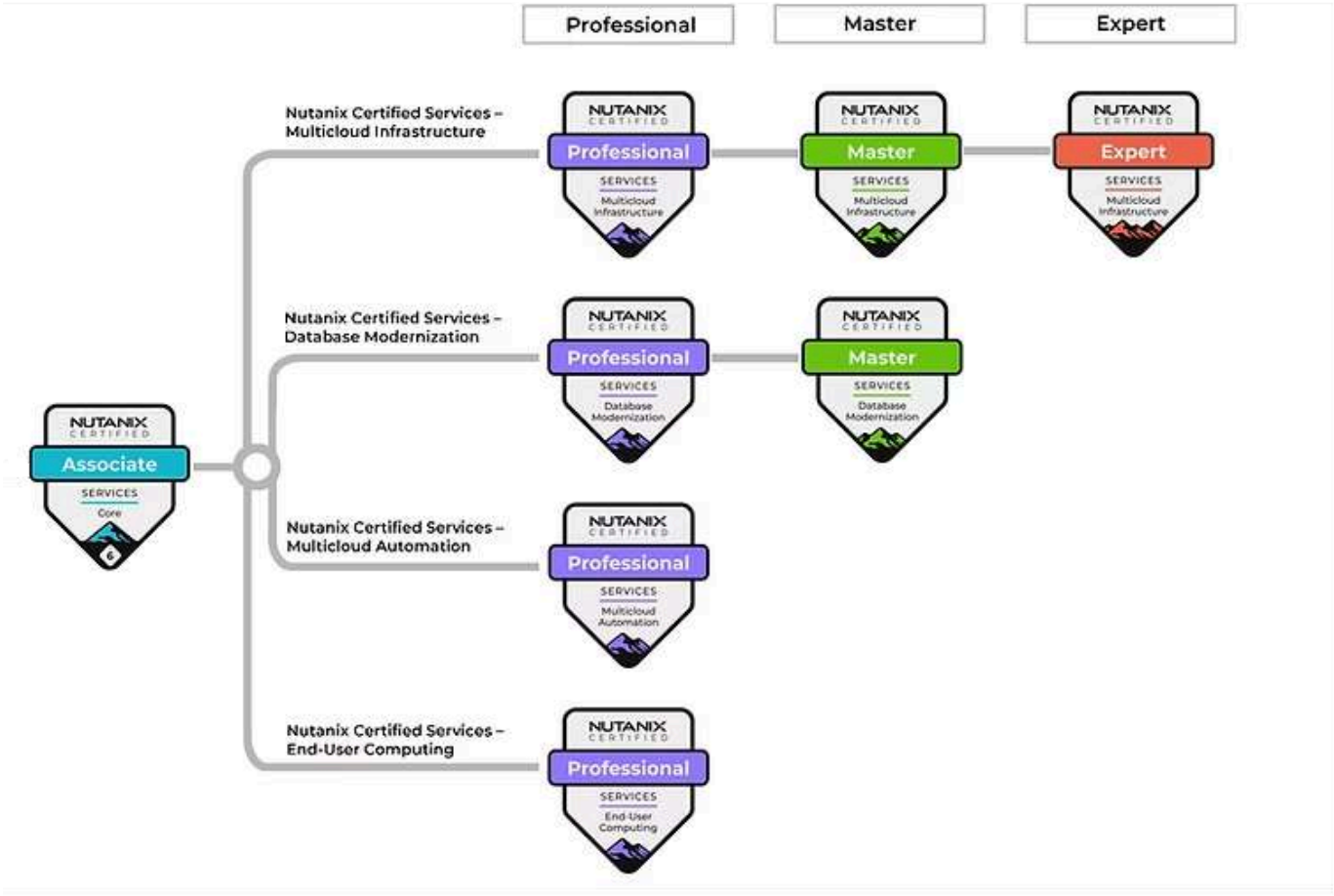
- Demonstrate cluster operations pertaining to the customer environment (e.g., dashboard, LCM, VM CRUD, storage management, CVM)
- Demonstrate support portal
- Demonstrate support case handling
- Educate the customer on general best practices

References

- AHV Best Practices
- Interpreting Advertised Capacity Configuration and Logical Usages of Storage Containers
- Creating a Storage Container
- Capacity Reservation Best Practices
- SDK – NCI Cluster Deployment or Expansion - Predelivery Questionnaire.xlsx

4. NCS-Core 6.8 Tracks and Training Recommendations

4.1 Nutanix Certified Services Tracks



4.2 Course Recommendation

Nutanix offers a course that provides training on the objectives tested for in the exam. More information on this course, including delivery methods and pricing, can be found at nutanix.com/training.

The course details are as follows

The Nutanix® Certified Services (NCS) Core Learning Plan enables you to deliver a wide range of

services including cluster deployment, data protection, migration, and fitcheck services. It trains you how to deliver professional services engagements based on the Nutanix Consulting Services delivery methodology.

This course is available online or instructor-led. More information including schedules and how to register can be found at www.nutanix.com/university.

5. Resources

5.1 Nutanix Community Edition

The Nutanix Community Edition is a free product that allows you to deploy a Nutanix Cloud Platform. To download the software and build your own environment for exam preparation, click here.

5.2 Test Drive

You can also take a 2-hour Hyperconverged Test Drive, which utilizes the Nutanix Community Edition, by clicking here.

5.3 The Nutanix Community

Connect with cloud builders from around the world, learn from IT Pros in your industry and share experiences on the Nutanix Community. The community maintains an area focused on Nutanix certifications, which is located here.

5.4 Additional Nutanix Services Training Resources

Find a wealth of additional Unified Storage resources here.