Exam Blueprint Guide

Nutanix Certified Professional - Cloud Integration - Azure (NCP-CI-Azure) 6.7 Exam

Authors:
Jeff Hall – Manager, Technical Certification Development
Jon C. Hall – Director, Technical Certifications

Contributors:
Alex Alvord, Advisory Portfolio Architect - NC2
Andres Rey Macias, Advisory Solutions Architect
Aritro Basu, Sr. Staff Consulting Architect
Colin Covello, Sr. Associate Portfolio Systems Engineer
Darren McDonagh, Principle Solutions Architect
Dwayne Lessner, Principle Technical Marketing Engineer
Eric Pearce, IT Architect
Jai Prakash, Systems Reliability Engineer II
Joseph Blake, Staff Resident Architect
Mangesh Lod, Technical Writer 4
Maroane Boutayeb, Team Lead-Nutanix, OVHCloud
Matt Pusey, Staff Resident Consultant
Matthew Gauch, Sr. Staff Escalation Engineer
Michael Heistruevers, Sr. Systems Engineer
Nitesh Singh, Systems Reliability Engineer II
Tod Holsenbeck, Sr. Staff Enterprise Architect and Practice Lead

Disclaimer:
The Nutanix Certified Professional - Cloud Integration - Azure (NCP-CI-Azure) 6.7 Exam Blueprint Guide provides an overview of the objectives that must be mastered to achieve the NCP-CI 6 certification credential. Nutanix does not offer any guarantees that this guide will ensure a candidate's success in achieving the NCP-CI 6 certification. All information in this guide is subject to change at any time at the sole discretion of Nutanix.

Table of Contents

1.The Exam

1.1 Purpose of Exam

The Nutanix Certified Professional - Cloud Integration - Azure (NCP-CI-Azure) 6.7 exam will measure a candidate's ability to successfully plan, deploy, configure, and manage Nutanix Cloud Clusters within an Azure public cloud environment. Successful candidates demonstrate mastery of these skills and abilities.

1.2 Number of Questions

The NCP-CI-Azure 6.7 exam consists of 75 multiple-choice and multiple-response questions.

1.3 Pricing

The cost for the NCP-CI-Azure 6.7 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-CI-Azure 6.7 exam is a core component of the Nutanix Cloud Integration track. Passing this exam results in achieving the NCP-CI 6 certification.

The Nutanix Cloud Integration track includes two certification exams that both lead to the same NCP-CI 6 certification. You will only need to choose the exam related to the AWS or Azure public cloud environment you are interested in and then take that single, relevant exam. You do not need to take both exams and it is not recommended, since the content of both exams will be very similar with AWS or Azure cloud-specific differences.

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 NCP-CI-Azure 6.7 exam and achieved the NCP-CI 6 certification, it will remain valid for two years.

To maintain your certification status, you must either renew your existing certification, pass an equivalent NCP-level exam within another certification track, or pass the NCM-MCI exam.

1.13 Benefits of Certification

· Digital badge from Credly that you can share on social media

· Points on Nutanix Connection that you can redeem for prizes
  (only available for Nutanix customers)

· Access to the Certification store at http://store.nutanix.com for shirts, mugs, and more

· Opportunity to participate as a SME to develop future exams

· Discount on attending Nutanix .NEXT

2. Intended Audience

A candidate for the NCP-CI-Azure 6.7 exam and NCP-CI 6 certification can plan, deploy, configure, and manage Nutanix Cloud Clusters within an Azure public cloud environment. The successful candidate has approximately 2 years of general IT experience, 12 months of experience using Nutanix technologies, and 6 months of experience using the Azure public cloud provider.

Successful candidates are IT Administrators, Cloud Operators, DevOps/SysOps/NetOps Administrators, Cloud/Solution Architects, and Network Administrators/Engineers who need to manage, or are interested in becoming certified in, Nutanix Cloud Clusters environments using the Azure public cloud platform. Additionally, the successful exam candidate will most likely have taken training courses, such as the Nutanix Cloud Clusters on Azure Administration course.

3. Objectives Covered in the NCP-CI-Azure 6.7 Exam

3.1 Introduction

It is recommended that candidates have the knowledge and skills necessary to plan, deploy, configure, and manage Nutanix Cloud Clusters within an Azure public cloud environment before attempting the NCP-CI-Azure 6.7 exam. It is also recommended that the candidate complete the training described in Section 4 prior to taking the exam.

For the NCP-CI-Azure 6.7 exam, candidates will be tested on the NC2 software versions concurrent with these Nutanix core platform versions:
· AOS: version 6.7
· Prism Central: pc2023.4

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. 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: Planning an NC2 on Azure Deployment

Objective 1.1 – Prepare the Azure cloud environment

Knowledge:
· Determine the Cloud provider to use
· Determine cloud region(s) to be used from the selected cloud provider
· Determine the appropriate Azure account/subscription
· Determine the node type to use

References
- Azure Services Resource Providers
- Registering the Azure Resource Providers
- Supported Regions and Bare-Metal Instances
- NC2 on Azure Deployment Workflow
- Allowlisting an Azure Subscription
- API Key Management for NC2

Objective 1.2 – Subscribe to the NC2 service

Knowledge:
- Determine my.nutanix.com authentication methods, types, and organizations based on requirements
- Determine NC2 organization naming convention and the associated cloud accounts
- Apply applicable RBAC roles
- Compare subscription plan options

References
- Creating a My Nutanix Account
- Starting a Free Trial for NC2
- NC2 Console Workflow
- User Roles
- Creating an Azure Custom Role
- NC2 on Azure Payment Methods
- Subscription Plans for NC2 on Azure
- Microsoft Azure VPN Gateway Pricing

Objective 1.3 – Determine implementation requirements

Knowledge:
- Outline redundancy/resiliency requirements
- Evaluate deployment use cases
- Compare Nutanix compatibility matrix to requirements
- Implement NC2 integrations with provider services
- Determine allowed client access methods

References
- Requirements for NC2 on Azure
- NC2 Deployment Prerequisites
- NC2 on Azure Outbound Communication
- NC2 Planning Guidance
- NC2 on Azure Encryption
- NC2 Cloud Clusters Portal

Objective 1.4 – Identify networking requirements

Knowledge:
- Determine on-prem connectivity to NC2 cluster hosted in the cloud provider, such as VPN, ExpressRoute, SDWAN, and Megaport
- Determine appropriate CIDR ranges needed for VNets, delegated subnet, and Flow User VM Networks, such as NAT, noNAT and L2 stretch

References
- Networking Requirements for NC2 on Azure
- NC2 on Azure Limitations
- Networking Infrastructure in Azure
- Microsoft Azure ExpressRoute
- Setting up VPN or ExpressRoute
- Configuring VNets, Subnets, and NAT Gateway
- Network Connectivity for User VMs

Section 2: Deploying an NC2 on Azure Environment

Objective 2.1 – Deploy the cloud cluster

Knowledge:
- Identify number of clusters, nodes in each cluster, and node types needed
- Define deployment types
- Identify Prism Central supported topologies
- Describe Flow Gateway configuration
- Identify management networking type

References
- Nutanix Cloud Clusters Overview
- NC2 on Azure Deployment Requirements
- Cluster Deployment Limitations
- Nutanix Cloud Pricing Models
- Creating an Organization

Objective 2.2 – Configure cloud provider networking

Knowledge:
- Configure VNet resources (e.g., manual, automated)
- Configure outbound public internet connectivity
- Configure connectivity between environments, such as VPN, ExpressRoute, and network peering

References
- Configuring VNets, Subnets, and NAT Gateway
- Provider Networking Limitations
- Bare Metal Infrastructure Networking Constraints
- Network Connectivity for User VMs
- User VM Network Management and Security
- Setting up VPN or ExpressRoute
- NC2 on Azure Deployment Workflow

Objective 2.3 – Troubleshoot cluster deployment issues

Knowledge:
- Verify cloud account quota, permission, and policies, such as Allowlisting, secret expiration, and IAM
- Verify NC2 portal permissions and configurations

References
- Troubleshooting failed NC2 Clusters
- Support Log Bundle Collection
- NC2 on Azure Limitations
- Allowlisting an Azure Subscription
- Adding an Azure Cloud Account to NC2
- Validating the Allowlisting
- Creating an App Registration

Section 3: Configuring an NC2 on Azure Environment

Objective 3.1 – Modify cloud networking security

Knowledge
- Determine access to the Cluster Management
- Modify access to workloads running on the NC2 cluster

References
- User VM Network Management and Security
- Network Connectivity for User VMs
- Nutanix Flow Virtual Networking
- Creating a User VPC
- Configuring ERP in a User VPC

Objective 3.2 – Configure Nutanix networking

Knowledge
· Configure Nutanix Flow networking:
  · Flow gateway scalability
  · UDR in both Azure, Flow, and applicable subnets
  · NAT/no NAT
  · L2 stretch
  · Floating IPs
  · Security Groups

References
· Networking Infrastructure in Azure
· Network and Security Entities
· Flow Virtual Networking Gateway
· Flow Virtual Networking Gateway High Availability
· VPC Management
· Configuring ERP in Transit VPC
· Controlling North-South Traffic
· Setting up VPN or ExpressRoute
· User VM Network Management and Security
· Layer 2 Subnet Extension

Objective 3.3 – Troubleshoot connectivity issues

Knowledge
· Verify initial cluster connectivity
· Verify User VM connectivity, for example, access to corporate locations and internet resources via network ports, security groups, ACLs, and routing

References
· Configuring Connectivity for User VMs with NAT
· Creating a Cluster
· Configuring ERP in User VPC
· Troubleshooting CloudAPIEndpointUnreachable Errors
· Request Floating IPs for NAT Subnets

Section 4: Managing an NC2 on Azure Environment

Objective 4.1 – Identify management tasks for nodes and clusters

Knowledge
- Identify cluster capacity and node types
- Identify node scale-out/scale-up triggers
- Describe the node management process
- Define the environment upgrade process

References
- NC2 Cluster Management
- Updating the Cluster Capacity
- Migrating to Scaled-Out Flow Gateway Deployment
- Scaling Up or Down Flow Gateway VMs
- Azure Events in NC2
- Terminating a Cluster
- Prepare to Upgrade a Cluster

Objective 4.2 – Monitor cluster and cloud resource health

Knowledge
- Identify alerting options
- Describe alert email configuration options
- Identify syslog monitoring options, such as modules, severity levels, Azure Monitor, and Data Dog
- Describe the cluster support process

References
- Configuring Alert Emails in Prism Central
- Configuring an SMTP Server for Prism Central
- Configuring Health Checks
- Syslog Modules
- Configuring Remote Syslog Server Settings
- VPC Flow Logs
- Azure Monitor
- Datadog for Azure
- Support

4. NCP-CI-Azure 6.7 Training Recommendations

4.1 Suggested Prerequisite Study

The NCP-CI-Azure 6.7 exam assumes prior knowledge of both the Nutanix stack and Microsoft Azure. As a result, setting up and configuring Azure resources is beyond the scope of this exam.

In particular, it is recommended that you be familiar with:
· How to create Azure resources, including app registrations, resource groups, VNets, NAT Gateways, VPN Gateways, etc.
· Azure networking
· The Introduction to Azure Network Foundation Services training
· The Implement Hybrid Network Infrastructure training

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:

Nutanix Cloud Clusters on Azure Administration (NC2A-Azure)

The Nutanix Cloud Clusters on Azure Administration course teaches the skills needed to plan, deploy, configure, and manage Nutanix Cloud Clusters within a Microsoft Azure public cloud environment.

This course will explore a number of subjects, including:
· Getting started with Nutanix Cloud Clusters
· Deploying and Configuring NC2 on Azure
· Managing NC2 Clusters
· Monitoring, Maintaining, and Troubleshooting NC2 Clusters

The material provided in the course covers a majority of the objectives (approximately 80%) that appear on the NCP-CI-Azure 6.7 exam and is recommended for individuals who want to gain a good understanding of these objectives. Please note that additional exposure to a Nutanix environment is highly recommended.

5. Resources

5.1 Nutanix Community Edition

The Nutanix Community Edition is a free product that allows you to deploy a Nutanix Enterprise Cloud. 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 Next Community

The Nutanix Next Community is a social interaction site where professionals can connect with cloud builders from around the world, learn from IT Pros in the industry and share experiences. The community maintains an area focused on the NCP certification, which is located here.
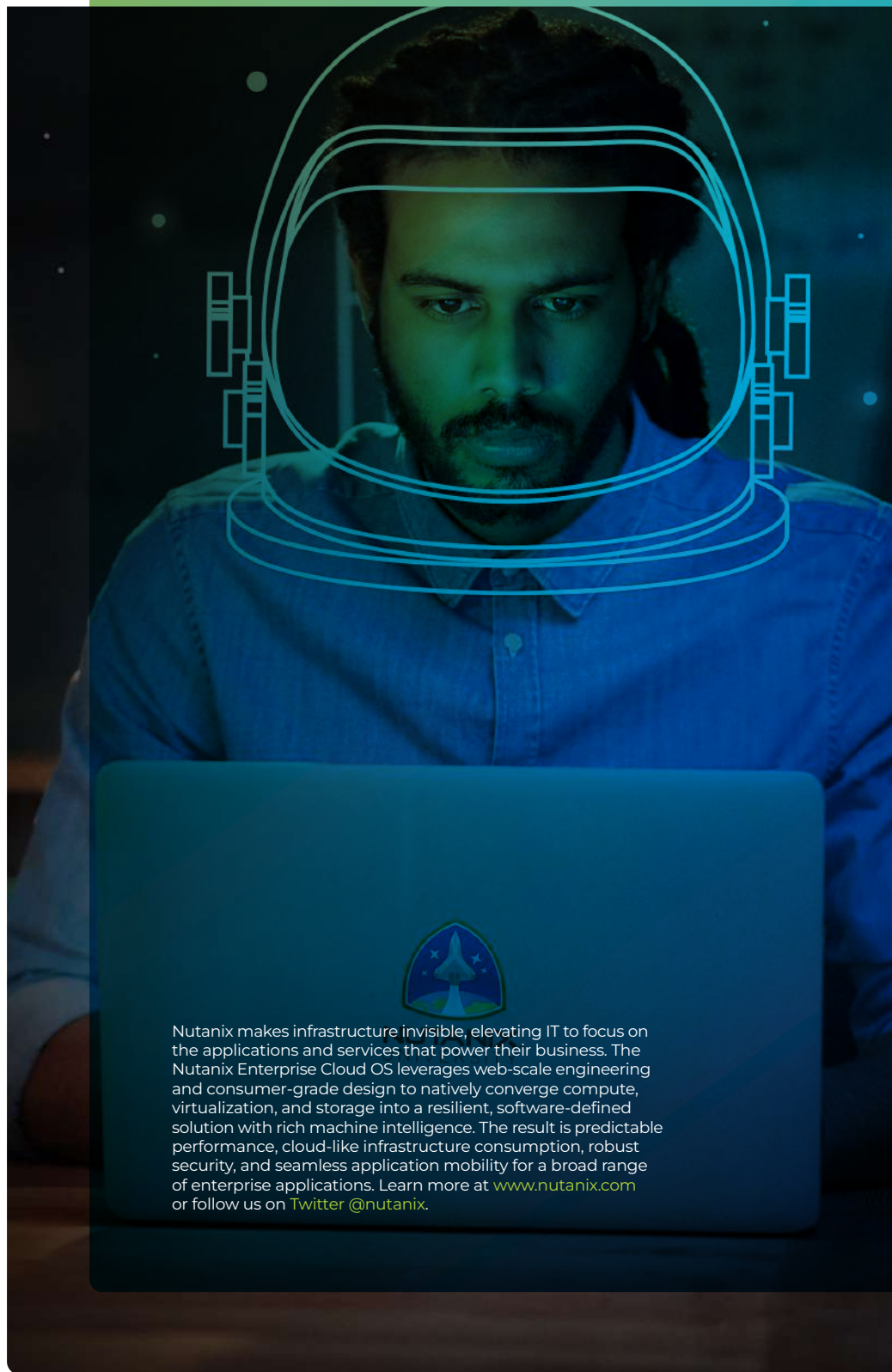
5.4 Additional Nutanix Cloud Clusters Resources

Find a wealth of additional NC2 on Azure resources here.

Nutanix makes infrastructure invisible, elevating IT to focus on the applications and services that power their business. The Nutanix Enterprise Cloud OS leverages web-scale engineering and consumer-grade design to natively converge compute, virtualization, and storage into a resilient, software-defined solution with rich machine intelligence. The result is predictable performance, cloud-like infrastructure consumption, robust security, and seamless application mobility for a broad range of enterprise applications. Learn more at www.nutanix.com or follow us on Twitter @nutanix.

NUTANIX

certification@nutanix.com
www.nutanix.com/university
@nutanixedu