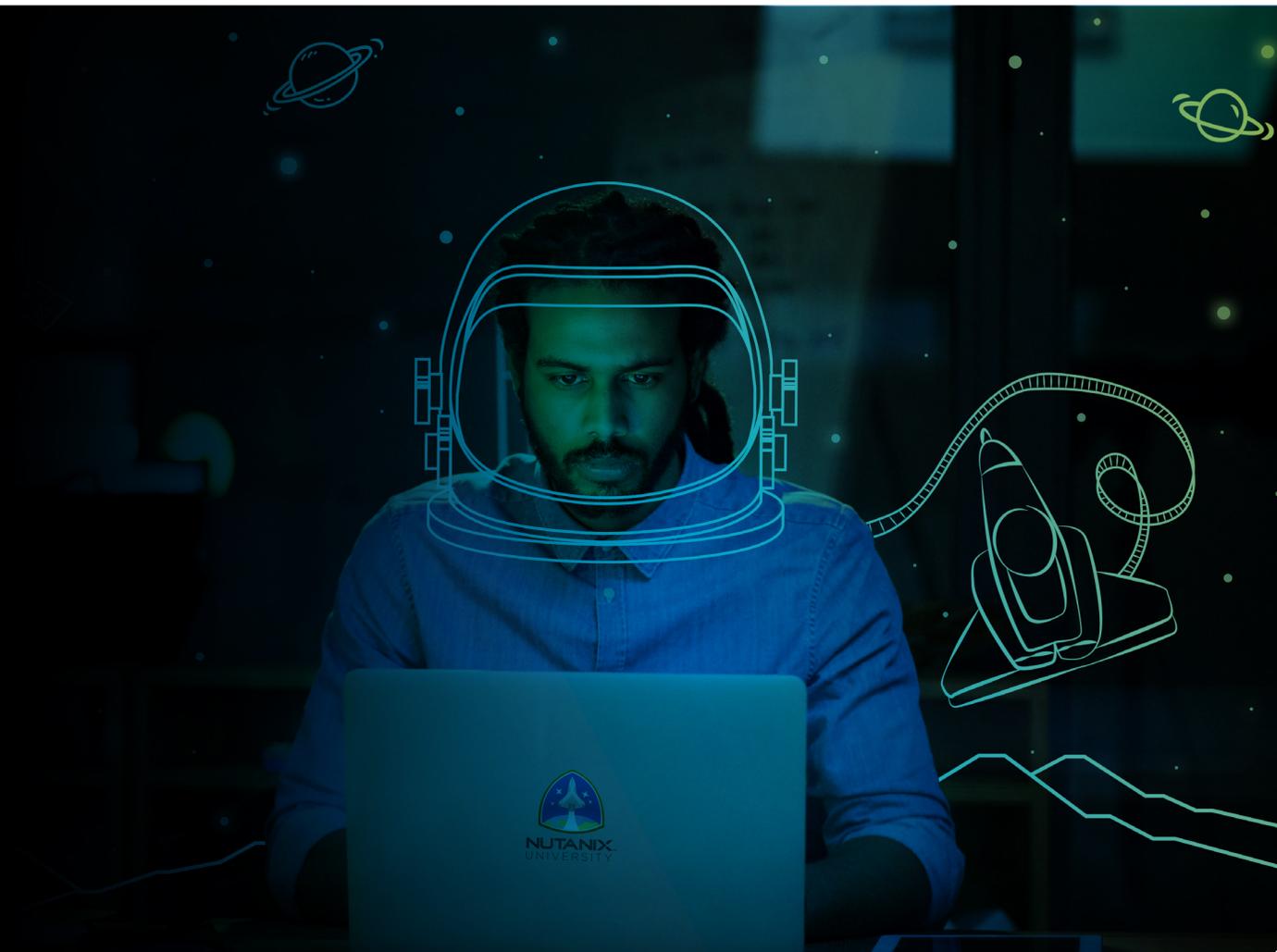


**Exam Blueprint Guide**

# Nutanix Certified Associate (NCA) 6.5 Exam



**Author:**

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

**Contributors:**

Maroane Boutayeb, System Engineer  
Todd Burris, Systems Engineer  
John Burton, Sr. Staff System Reliability Engineer  
Cliff Butler, Lab Manager  
Samuele Cerutti - Sr. Partner & OEM Systems Engineer Nutanix Italia  
Oscar Chacon, Engineering Sales Specialist  
Jim Corder, Instructor/Consultant  
Kenneth Fingerlos, Director, Global Practices - Services  
Matthew Gauch, Sr. Staff System Reliability Engineer  
Lev Goronshtein, Systems Architect  
Brad Gough, Systems Architect  
Ross Hunt - Lead Infrastructure Development Engineer  
Ed Keiper, Cloud Architect  
Manish Kumar, IT Manager  
Stephen Linker, Systems Administrator  
Christian Marrero, Inside Systems Engineer, Portfolio Specialist  
Paul Monroe, Sr. System Reliability Engineer  
Keith Olsen – Systems Architect  
Farhan Parkar - Platform Solution Specialist  
Andrei Patergin, CTO  
Drew Plaster, Sr. Network Systems Administrator  
Gary Schwankl, IT Administrator  
Rickard Wendel, Sr. Systems Engineer



**Disclaimer:**

The Nutanix Certified Associate (NCA) 6.5 Exam Blueprint Guide provides an overview of the objectives that must be mastered to achieve the NCA credential. Nutanix does not offer any guarantees that this guide will ensure a candidate's success in achieving the NCA Certification. All information in this guide is subject to change at any time at the sole discretion of Nutanix.

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# 1.The Exam

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## 1.1 Purpose of Exam

The Nutanix Certified Associate (NCA) 6.5 exam tests candidates on their skills and abilities to navigate the Prism UI, extrapolate information from the UI, and know how to use the UI for basic operational tasks. Successful candidates demonstrate mastery of these skills and abilities.

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## 1.2 Number of Questions

The NCA 6.5 exam consists of 50 multiple choice and multiple response questions.

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## 1.3 Pricing

The cost for the NCA 6.5 exam is \$99 USD.

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## 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.

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## 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 navigating the Prism UI, extrapolating information from the UI, and knowing how to use the UI for basic operational tasks.

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.

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## 1.6 Languages

The exam is available in English and Japanese.

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## 1.7 Time Limit

The time limit for the exam is 90 minutes.

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## 1.8 Scheduling and Taking the Exam

This exam is delivered via remote proctoring in your home or office, or at a designated testing center. Occasionally, testing at Nutanix events may also be offered. At the start of the registration process, you will be asked to choose remote or in person testing. After registering for the exam, you will receive further information specific to the testing method you chose. Regardless of whether you test remotely or in person, you must provide valid identification and will be provided with a monitored and secure exam experience.

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## 1.9 Certification Tracks

The NCA 6.5 exam is a core component of the Nutanix Associate track.

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 course and track are provided in section 4.

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## 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 e-mail [university@nutanix.com](mailto: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.

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## 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.

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## 1.12 Recertification

Once you have passed the NCA 6.5 exam and achieved the NCA 6 certification, it will remain valid until Nutanix releases the next version of the certification. At that time, you have one year to upgrade your certification to the new release before it expires. Nutanix provides a delta training covering features that are part of the AOS release that coincides with the new version of the certification.

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## 1.13 Benefits of Certification

- Digital badge from Credly that you can share on social media
- Points on Nutanix Xtribe that you can redeem for prizes (not available for Nutanix employees)
- 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

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## 2. Intended Audience

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A candidate for the NCA 6.5 certification has approximately 6- 12 months of holistic IT infrastructure experience as well as 3-6 months of experience of Nutanix virtualization experience. They are typically a systems administrator, junior engineer or IT operator and should be able to navigate and identify components within the Prism UI; perform life cycle management tasks of VMs and clusters; and monitor and report on performance, events, and alerts. The successful candidate will most likely have taken training courses such as the Nutanix Hybrid Cloud Fundamentals course.

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# 3. Objectives covered in the NCA 6.5 Exam

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## 3.1 Introduction

It is recommended that candidates have the knowledge and skills necessary to navigate and identify components within the Prism UI; perform life cycle management tasks of VMs and clusters; and monitor and report on performance, events, and alerts before attempting the NCA 6.5 exam.

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## 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 – Describe Lifecycle Management

#### Objective 1.1 – Describe Life Cycle Management (LCM)

Knowledge:

- Describe how to verify if alerts are present
- Identify which updates are available
- Identify differences in using LCM in Prism Central and Prism Element
- Describe the LCM Inventory process

References

- [Life Cycle Manager](#)
- [Updating the LCM Framework Using a Web Server](#)
- [Direct Upload](#)

## Objective 1.2 – Identify and monitor LCM software and firmware

### Knowledge:

- Describe how to ensure nodes are not in maintenance mode
- Identify which tasks are running
- Describe the LCM workflow

### References

- [Prepare to Upgrade Your Cluster](#)
- [Recommended Upgrade Order](#)
- [Performing Updates with the Life Cycle Manager](#)
- [The Redfish Protocol and LCM](#)

## Section 2 – Describe Nutanix Fundamental Concepts

### Objective 2.1 – Describe how to access Prism Central and Prism Element

#### Knowledge:

- Recall proper access URL format
- Recall proper login format
- Identify which access ports are used

#### References

- [Logging Into the Web Console](#)
- [Prism Central Overview](#)
- [Configuring Authentication in Prism Element](#)
- [Configuring Authentication in Prism Central](#)
- [Port Reference – AHV](#)
- [Port Reference – AOS](#)
- [Port Reference – Prism Central](#)
- [Prism Central Main Menu](#)
- [Prism Central Main Dashboard Display](#)

### Objective 2.2 – Identify differences between Prism Central and Prism Element

#### Knowledge:

- Identify capabilities and information types of each User Interface (UI)
- Describe administrative task differences between Prism Central and Prism Element

## References

- [Controlling User Access \(RBAC\)](#)
- [Prism Central Services Enablement](#)
- [Prism Web Console Overview](#)
- [Prism Central Installing or Upgrading](#)
- [Identifying inefficient VMs in Prism Central](#)

Objective 2.3 – Describe components of a Nutanix cluster

## Knowledge:

- Identify components and configuration elements, such as:
  - Node
  - Block
  - Cluster
  - Hypervisor
  - Controller VM (CVM)
  - Storage tier
  - Storage pool
  - Container
  - vDisk
  - Virtual IP (VIP)
  - Data Services IP (DSIP)
  - IPMI
- Identify Nutanix cluster concepts, such as:
  - Single node vs dual node
  - ROBO basics
  - Compute node vs Storage-only node

## References

- [Introduction to AOS](#)
- [Acropolis Key Components](#)
- [Adding an iSCSI Data Services IP Address \(Cluster Details\)](#)
- [Remote Console IP Address Configuration](#)
- [Nutanix AOS Architecture](#)
- [Data Resiliency Levels for Rack Fault Tolerance](#)
- [Single-Node Clusters](#)
- [Two-Node Clusters](#)
- [Purpose of the Controller VM](#)

## Objective 2.4 – Define Hyperconverged Infrastructure (HCI)

### Knowledge

- Identify differences between Nutanix HCI and legacy three-tier architecture
- Describe AOS purpose and functionality

### References

- [What is Hyperconverged Infrastructure?](#)
- [Nutanix Bible – 3-Tier versus HCI](#)
- [Introduction to AOS](#)
- [Distributed Storage Fabric](#)
- [Cluster Expansion Prerequisites and Requirements](#)
- [Nutanix Cluster Product Mixing Restrictions](#)

## Section 3 – Explain Cluster Alerts and Monitoring Administration

### Objective 3.1 – Interpret alerts and events

#### Knowledge

- Describe failure behavior of nodes, CVMs, and disk drives
- Recognize Acropolis responses to failure
- Identify failures in Prism Central and Prism Element
- Recall how a Nutanix cluster responds to scenarios, such as:
  - Node failure
  - Network failure between nodes
  - Disk failure
- Distinguish alert severity
- Utilize chart information to interpret and export information
- View alerts and events

#### References

- [Node Failures](#)
- [Host Failures](#)
- [Drive Failures](#)
- [Network Link Failures](#)
- [Prism Central Alert and Event Monitoring](#)
- [Cluster Alert/Health Check messages](#)
- [Guest VM Data Management](#)
- [Expanding a Cluster](#)
- [Metadata Drive Failure](#)
- [Prism Central Audits Summary View](#)
- [Prism Element Alerts Summary View](#)
- [Prism Central Analysis Dashboard](#)
- [VM High Availability](#)

### Objective 3.2 – Interpret cluster health

#### Knowledge

- Interpret cluster status
- Interpret elements of the Health Dashboard
- Run health checks with the Prism Web Console
- Perform log collection
- Review data resiliency status

#### References

- [Health Dashboard](#)
- [Health Monitoring](#)
- [Configuring Health Checks](#)
- [Running NCC Checks by Using Web Console](#)
- [Collecting Logs by Using Web Console](#)
- [Configuring NCC Frequency](#)
- [Controller VM Failure](#)
- [Collecting NCC Output from a Nutanix Cluster](#)

### Objective 3.3 – Describe the benefits of Pulse

#### Knowledge

- Verify the Pulse status
- Recognize when to disable Pulse
- Describe the Pulse Connection Status when Pulse is disabled
- Describe how to collect logs with Prism Central and Prism Element when Pulse is disabled

#### References

- [Configuring Pulse](#)
- [Pulse Health Monitoring](#)
- [Pulse Access Requirements](#)
- [Data Obfuscation](#)
- [Log Collection](#)

### Objective 3.4 – Describe interaction with the Support Portal

#### Knowledge

- Describe how to create a support case
- Identify documentation types

#### References

- [Support Portal Insight Discovery Overview and Troubleshooting](#)
- [Compatibility and Interoperability Matrix](#)
- [Customer Support Services](#)
- [Register for my.nutanix.com and Support Portal Access](#)
- [Accessing the Nutanix Support Portal in Prism Central](#)
- [Support Portal Field Advisories Page](#)
- [Support Portal Discoveries Menu](#)

Objective 3.5 – Differentiate between VM, node, and cluster performance metrics

#### Knowledge

- Describe how to navigate the Analysis Dashboard
- Determine differences between metric and entity charts

#### References

- [Behavioral Learning Tools](#)
- [Prism Web Console VM Table View](#)
- [Prism Central Analysis Dashboard](#)
- [Prism Web Console Analysis Dashboard](#)
- [Prism Central Reports Management](#)
- [Prism Central VM Details View](#)
- [Searching for Information in Prism Central](#)
- [Creating a Metric Chart](#)
- [Creating an Entity Chart](#)
- [Chart Metrics](#)

### Section 4 – Describe Storage Concepts

Objective 4.1 – Describe Nutanix storage architecture and features

#### Knowledge

- Identify storage components, such as Storage Tiers, Containers, Volume Groups, and vDisks
- Identify storage optimization features, such as compression types, deduplication, and inline vs post process erasure coding
- Describe snapshots

## References

- [Nutanix Cluster Components](#)
- [Curator Service](#)
- [Compression](#)
- [Deduplication](#)
- [Erasure Coding](#)
- [Nutanix Bible - Files](#)
- [Nutanix Bible - Volumes](#)
- [Nutanix Bible – Objects](#)
- [Single vDisk Sharding](#)
- [Virtual Machine Snapshots](#)

## Objective 4.2 – Explain replication factors

### Knowledge

- Identify number of data copies
- Describe replication factors
- Identify number of simultaneous failures supported

### References

- [Replication Factor 1](#)
- [Resilient Capacity](#)
- [Increasing the Cluster Fault Tolerance Level](#)

## Objective 4.3 – Describe differences between redundancy factor and replication factor

### Knowledge

- Identify requirements to enable different replication and redundancy factors
- Differentiate replication and redundancy factors
- Describe how redundancy factor relates to the fault tolerance level
- Describe differences between metadata copies and data copies
- Identify number of simultaneous failures supported
- Recognize how redundancy is related to node count in a cluster

### References

- [Replication Factor 1](#)
- [Redundancy Factor 3](#)
- [Resilient Capacity](#)
- [Tech TopX Video: Redundancy Factor vs. Replication Factor](#)
- [Increasing the Cluster Fault Tolerance Level](#)

## Section 5 – Explain Virtual Infrastructure Administration

### Objective 5.1 – Identify VM, network, and node configuration

#### Knowledge

- Identify VM configuration details
- Identify network types, such as the difference between managed and unmanaged networks
- Interpret network visualization details
- Identify disk drives and disk drive details, such as capacity, storage tier, physical vs logical characteristics, and mode
- Identify node details
- Describe VM placement policies, such as affinity vs anti-affinity rules, storage performance, and compute utilization

#### References

- [Flash Mode for Virtual Machines, Disks, and Volume Groups](#)
- [IP Address Management](#)
- [AHV Networking Recommendations](#)
- [Network Visualization](#)
- [Network Configuration for VM Interfaces](#)
- [Nutanix Bible – Node Architecture](#)
- [Compute-Only Node Configuration \(AHV Only\)](#)
- [Storage-Only Node Configuration](#)
- [Acropolis Dynamic Scheduling in AHV](#)
- [Enabling LAG and LACP on the ToR Switch \(AHV Only\)](#)
- [Recycle Bin](#)
- [Securing Traffic Through Network Segmentation](#)
- [Affinity Policies for AHV](#)
- [Affinity Policies Defined in Prism Element](#)

### Objective 5.2 – Describe the image service

#### Knowledge

- Describe how to import images into Prism Central and Prism Element
- Identify requirements and limitations of the image service
- Describe placement policies when using the image service

#### References

- [Importing Images to Prism Central](#)
- [Image Service Requirements](#)
- [Image Service Limitations](#)
- [Image Configuration Workflow](#)
- [Configuring Images](#)
- [Configuring an Image Placement Policy](#)
- [Updating an Image Placement Policy](#)
- [How Prism Central Handles Conflicting Image Placement Policies](#)
- [Sample Image Placement Scenarios and Configurations](#)

#### Objective 5.3 – Explain VM operations

##### Knowledge

- Describe how to create, modify, and delete VMs, including how to deploy VMs from a template
- Differentiate different VM power states
- Explain how to assign categories to VMs
- Summarize VM details, such as the number of cores, memory, storage containers, host placement, and I/O metrics

#### References

- [Create a VM \(AHV\)](#)
- [Managing a VM \(AHV\)](#)
- [Performing Power Operations on VMs](#)
- [Nutanix Guest Tools Requirements and Limitations](#)
- [Managing NGT Applications](#)
- [Manual Recovery of Guest VMs](#)
- [Creating a Category](#)
- [Assigning a Category](#)

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# 4. The Nutanix Administration Track and Course Recommendations

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## 4.1 Nutanix Administration Track

It is recommended that candidates have the knowledge and skills necessary to operate and manage Nutanix environment.

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## 4.2 Course Recommendations

Nutanix offers a course that provides training on the objectives tested in the exam. More information on this course, including delivery methods and pricing, can be found at [nutanix.com/training](https://nutanix.com/training). The details are as follows:

**NUTANIX**<sup>™</sup>  
UNIVERSITY

★★★  
**EXPERT**

★★★  
**MASTER**

★★★  
**PROFESSIONAL**

★★★  
**ASSOCIATE**

### Nutanix Hybrid Cloud Fundamentals Training Course

This course will introduce you to the products, capabilities, and technologies that form the foundation of Nutanix's Hybrid Cloud solution. You will begin by exploring the concept of Hyperconverged Infrastructure (HCI), briefly discuss Nutanix cloud solution packages, and introduce Prism Central and Prism Element.

Then, you will delve deeper into essential Nutanix hardware and software components, various types of clusters, AOS Distributed Storage, and various storage optimization techniques that are available for use. Next, you will explore Nutanix networking concepts and learn about network types and how to monitor networks using Prism Central and Prism Element.

You will next be introduced to the Image Service, which is available in both Prism Central and Prism Element. In this section, you will learn what an image is, what the image service is, and how to upload and manage image files. You will also learn about VM management, including how to create and manage VMs using VM dashboards; VM-specific metrics; and alerts and event messages.

In addition to monitoring VMs, you will also learn how to properly monitor the health and performance of Nutanix clusters. You will accomplish this by completing various tasks, such as describing and creating custom charts and reports; navigating and using the Health dashboard to view and run health checks, using the Alerts and Events dashboards, describing different documentation types, creating support cases, and using the Nutanix Insights capability.

Finally, you will learn about the Nutanix Life Cycle Manager (LCM), which is available in both Prism Central and Prism Element. In this module, you learn what LCM is, be able to explain the LCM workflow, navigate and use the LCM dashboard, describe the upgrade prerequisites, and perform an LCM Inventory.

The material provided in the course covers a majority of the objectives that appear on the NCA 6.5 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.

This course will be available online or instructor-led (in-person or virtual) before the live exam is launched. More information including schedules and how to register can be found at [www.nutanix.com/university](http://www.nutanix.com/university).

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# 5. Resources

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## 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](#).

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## 5.2 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 NCA certification, which is located [here](#).

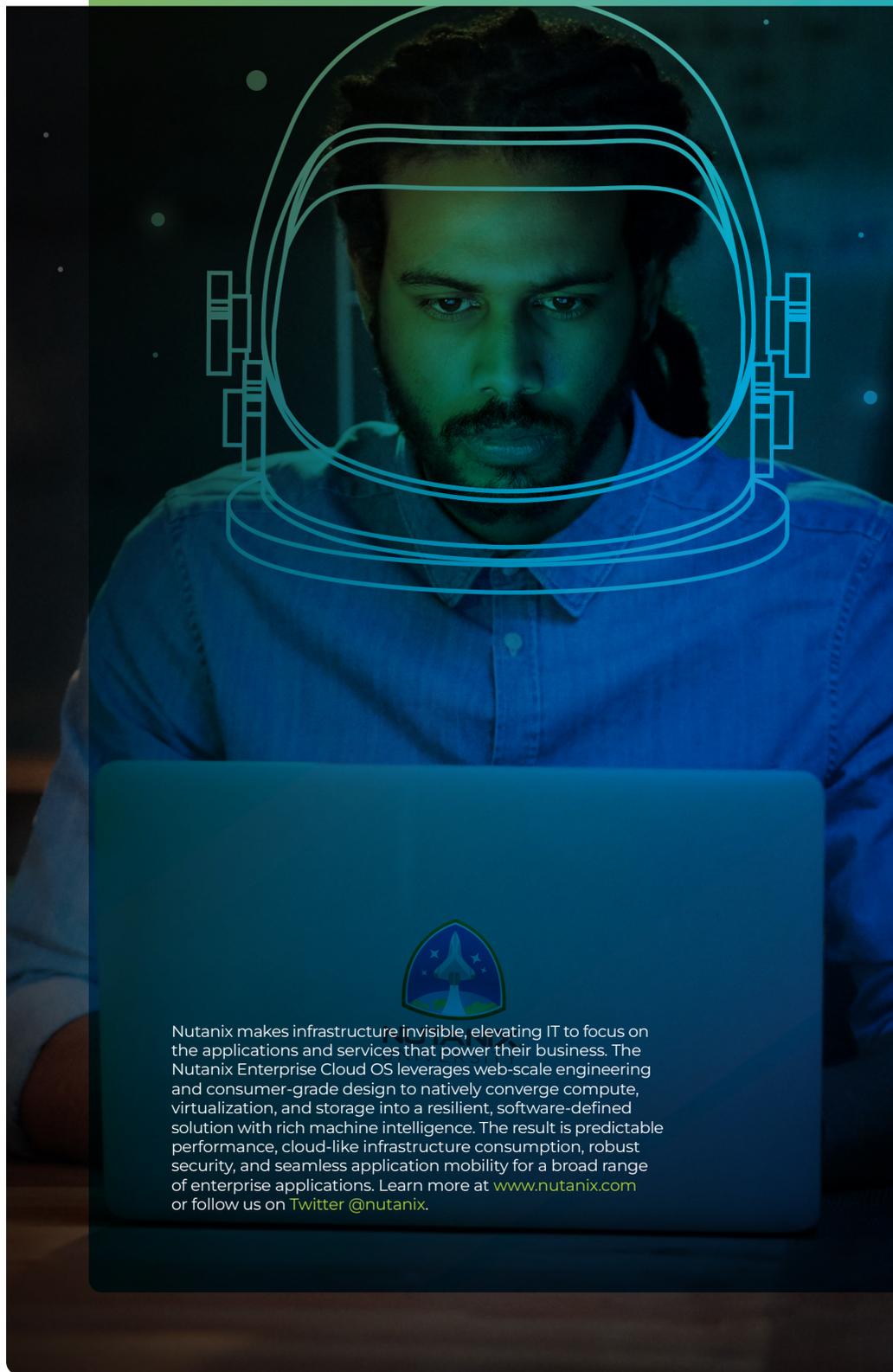
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## 5.3 Test Drive

Build your clouds your way in a few clicks and instantly complete all your IT tasks on a unified cloud platform with Test Drive. [Click here](#) to take a Test Drive today.

# NUTANIX

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



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](http://www.nutanix.com) or follow us on [Twitter @nutanix](https://twitter.com/nutanix).