Solutions

Pocket

Book

NUTANIX
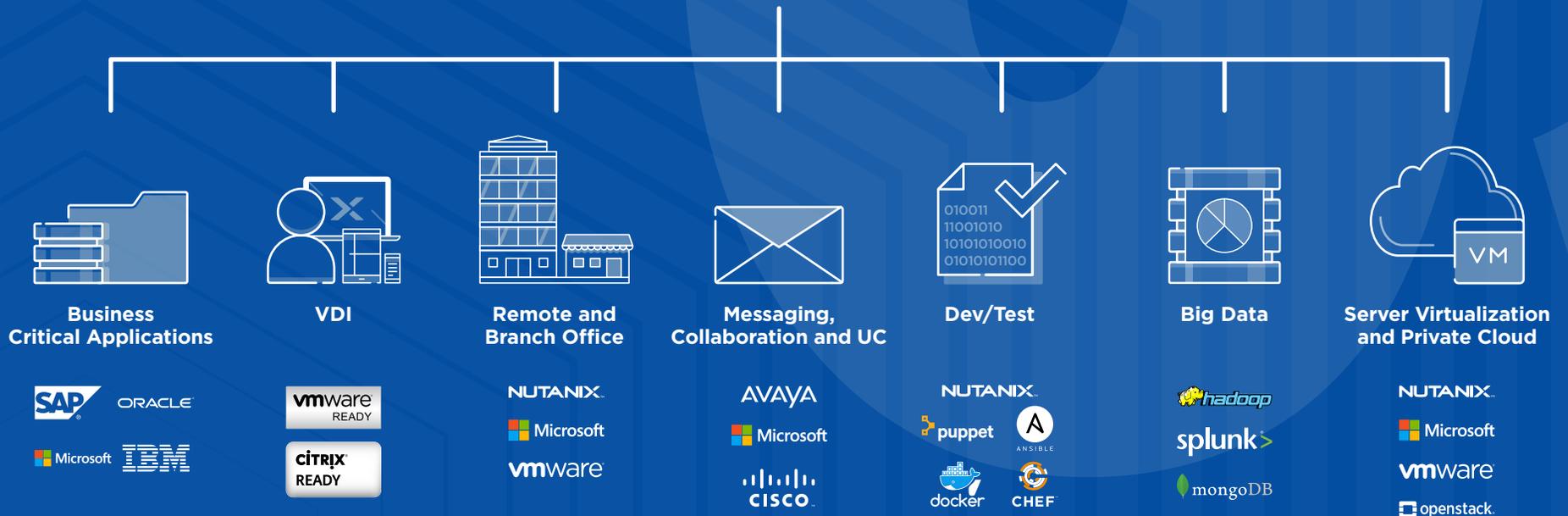
Enterprise
Cloud
Solutions

Many traditional infrastructure vendors would have you believe that hyperconverged infrastructure is only for VDI and tier 2 virtualized applications. But not all hyperconverged architectures are the same. For the web-scale Nutanix Enterprise Cloud Platform, nothing is further from the truth. Businesses the world over run business-critical applications and production workloads on Nutanix. They rely on Nutanix solutions to run critical databases such as SQL Server, Oracle, and SAP alongside other important applications and services. Many Nutanix customers come to us to solve a particular challenge and then expand into other applications over time as they see exactly what the Nutanix Enterprise Cloud Platform is capable of.

This guide explains the idea of enterprise cloud, details many of the capabilities of Nutanix Enterprise Cloud, and explains the advantages that Nutanix delivers for solution areas including business-critical applications, messaging and collaboration, server virtualization and private cloud, Big data and cloud-native apps, and virtual desktop infrastructure.

NUTANIX™
Your Enterprise Cloud Platform

Business Critical Applications	VDI	Remote and Branch Office	Messaging, Collaboration and UC	Dev/Test	Big Data	Server Virtualization and Private Cloud
SAP® ORACLE Microsoft IBM	vmware READY CITRIX READY	NUTANIX. Microsoft vmware	AVAYA Microsoft CISCO	NUTANIX. puppet ANSIBLE docker CHEF	hadoop splunk> mongoDB	NUTANIX. Microsoft vmware openstack

What is An Enterprise Cloud?

An Enterprise Cloud is IT infrastructure designed to meet your company's IT needs for both traditional enterprise applications and next-generation cloud applications. It combines the agility and simplicity of public cloud with the predictable costs and control of on-premises infrastructure.
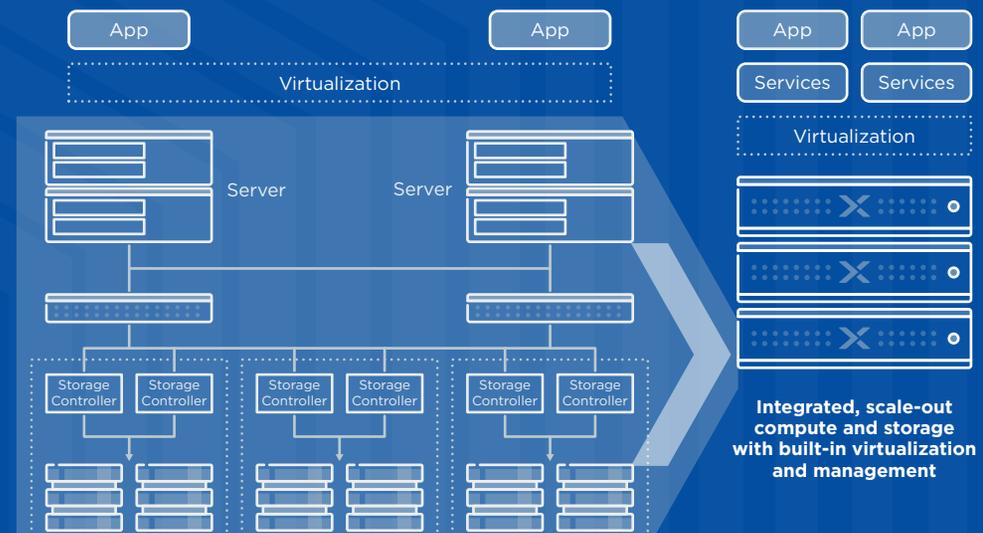
ENTERPRISE CLOUD ORIGINS

Enterprise cloud is the outgrowth of several forces:

- Web-scale technologies and hyperconverged infrastructure (HCI) are replacing traditional IT infrastructure

- Developers, line-of-business managers and other users are demanding ease of use and self-service similar to public cloud

- IT teams want to support next-generation cloud native applications and existing enterprise apps on equal footing

Today's multicore processors, mainstream adoption of virtualization, and high-performance flash storage eliminate the need for separate servers, storage systems, and storage networks. HCI, when based on a well-designed architecture, replaces the complexity of conventional infrastructure with simple building blocks that scale out to add capacity and performance.

Nutanix Enterprise Cloud Platform

App

App

App   App

Virtualization

Services   Services

Virtualization

Server   Server

Storage Controller   Storage Controller   Storage Controller   Storage Controller   Storage Controller   Storage Controller

Integrated, scale-out compute and storage with built-in virtualization and management

THE ENTERPRISE CLOUD LEADER

Not all HCI architectures are the same. As an HCI pioneer with roots in large-scale system design, Nutanix created an architecture based on web-scale principles. The Nutanix Enterprise Cloud Platform is designed for scale with consumer-grade management, advanced machine intelligence, self-healing, and much more, providing an easier journey from virtualization to cloud deployment.
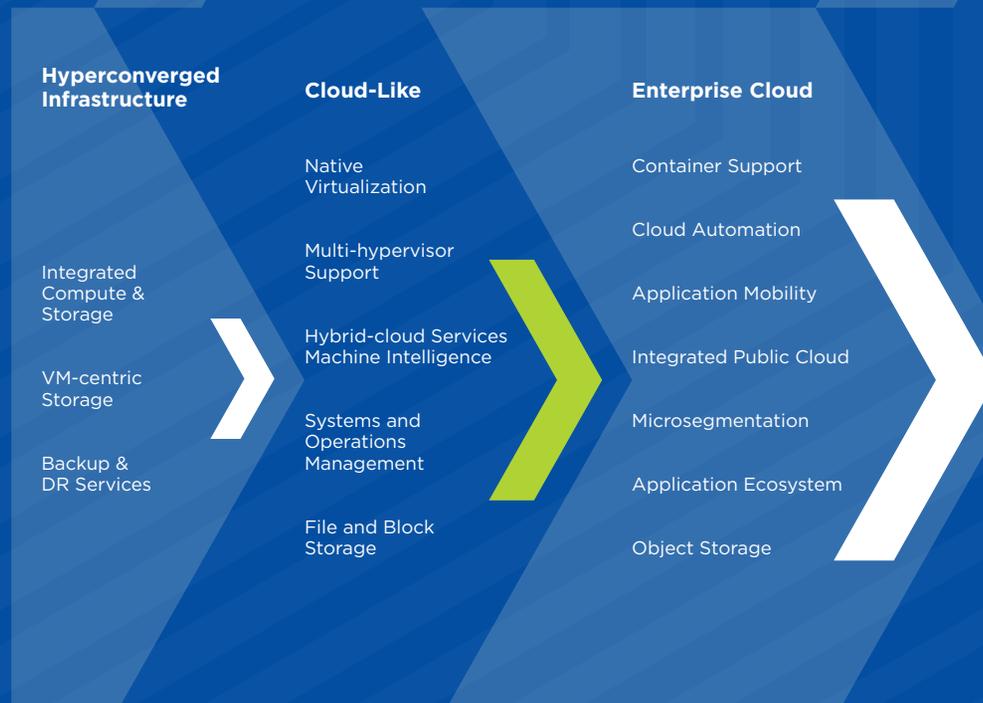
The Nutanix Enterprise Cloud Platform delivers the advantages of public cloud—without compromising the value and control of enterprise datacenters through a combination of:

- Full-stack infrastructure and platform services that deliver turnkey hybrid infrastructure for any app at any scale, anywhere

- One-click operations for cloud-like operational simplicity

- Pay-as-you-grow economics that allow you to buy and use just the IT resources you need, as you need them

- Integrated security and control that simplifies security validation

- Application mobility that eliminates infrastructure lock-in

ENTERPRISE CLOUD SOLUTION SUPPORT

Nutanix Enterprise Cloud Platform supports all your application solutions, not just general-purpose virtualization but also business critical workloads, communication and collaboration, big data, virtual desktops, and others— all from a single flexible platform,

ENTERPRISE CLOUD EVOLUTION

Hyperconverged Infrastructure

Integrated Compute & Storage

VM-centric Storage

Backup & DR Services

Cloud-Like

Native Virtualization

Multi-hypervisor Support

Hybrid-cloud Services Machine Intelligence

Systems and Operations Management

File and Block Storage

Enterprise Cloud

Container Support

Cloud Automation

Application Mobility

Integrated Public Cloud

Microsegmentation

Application Ecosystem

Object Storage

In an enterprise cloud, multiple workloads share the same infrastructure without friction. Nutanix Enterprise Cloud Platform eliminates the pain points of legacy IT operations using a fully distributed, software-defined infrastructure model to address the needs of all workloads:

- **Superior performance**. Applications may be compute-heavy, I/O heavy, or both. Nutanix Enterprise Cloud Platform adaptsto the performance needs and I/O profile of every workload.

- **Maximum availability**. Self-healing infrastructure combined with nondisruptive expansion and upgrade capabilities eliminate sources of both planned and unplanned downtime. Less effort is required from IT staff and applications stay online.

- **Scalability**. Some applications scale up resources (CPU, capacity) while others scale out, adding additional VMs. Nutanix Enterprise Cloud Platform addresses diverse scaling needs; all resources can be scaled without downtime.

- **Manageability.** Nutanix Enterprise Cloud Platform simplifies infrastructure manage-ment for all types of applications, eliminating the need for continual performance tuning, simplifying data protection, and facilitating planning with predictive analytics.

At the heart of the Nutanix Enterprise Cloud are two key components:

Nutanix Acropolis provides a distributed data plane with enterprise storage and virtualization services, and the ability for applications to move seamlessly across hypervisors and cloud services.

Nutanix Prism provides a distributed management plane that uses advanced data analytics and heuristics to simplify and streamline common workflows, eliminating the need for separate management solutions for servers, storage networks, storage and virtualization.

Prism	Acropolis
Infrastructure Management	App Mobility Fabric
Operational Insight	AHV
Planning	Distributed Storage Fabric

From Legacy Infrastructure to CI Enterprise Cloud

Nutanix Enterprise Cloud Platform is deployed as a cluster of servers or nodes. Each node has CPU, memory, and storage (all-flash or hybrid flash/HDD), and comes pre-installed with Nutanix software and a hypervisor of your choice such as Nutanix AHV, VMware vSphere, or Microsoft Hyper-V. Controller VMs (CVMs) on each node create a single storage pool using a distributed storage fabric (DSF) spanning all storage in a cluster. DSF provides enterprise storage services for applications, eliminating the need for separate storage solutions from vendors such as NetApp, Dell/EMC and HP. DSF includes comprehensive performance acceleration, data reduction, data protection, and much more:

- **Data protection**. Snapshots, async and sync replication, erasure coding.

- **Data reduction**. Compression, deduplication, thin provisioning.

- **Data management**. Cloning, automatic storage tiering, locality.

- **Advanced storage services:** file services, block storage for physical infrastructure, container services.

Using data locality, all I/O requests are handled preferentially by the local CVM. If a VM moves to a different node, over time the data migrates to the new node to restore locality. Data locality and auto-tiering deliver good performance for various application types without manual tuning or constant load balancing. all system tasks are distributed among the nodes in a cluster. Big data techniques are used to distribute tasks, eliminating bottlenecks and single points of failure. This makes the Nutanix platform scalable and self-healing.
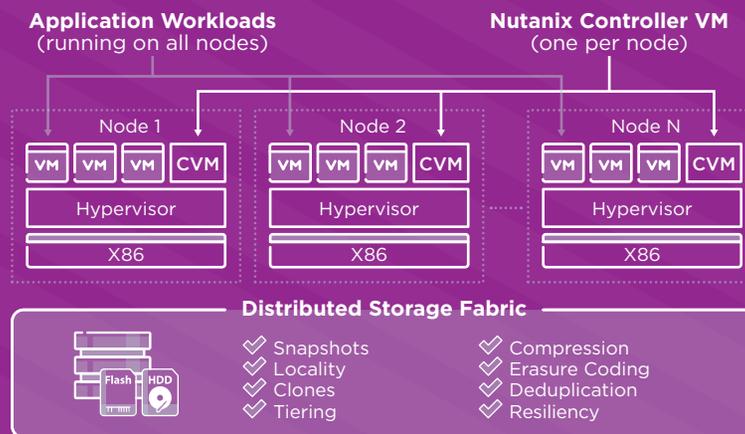
SELF-HEALING INFRASTRUCTURE

The Nutanix platform is fault resistant, with no single points of failure and no bottlenecks. It is built to detect, isolate, and recover from failures; survive system hardware, software, and hypervisor issues; and maintain 100% data availability. When a disk or node fails, full data redundancy is quickly and automatically restored with no admin intervention. In the case of host failure, VMs are restarted on other nodes. A larger Nutanix cluster can withstand the failure of an entire four-node enclosure (referred to as a block); the platform becomes more resilient as it grows.

INTEGRATED MANAGEMENT ACROSS THE ENTIRE STACK

Nutanix pioneered a new approach to datacenter infrastructure and operations management based on a deep understanding of the challenges facing enterprise IT. Nutanix Prism provides a single management plane spanning the entire infrastructure stack, and all your locations from datacenters to remote offices. With Nutanix Prism your IT team can:

- Simplify or eliminate routine tasks and reduce the dependence and burden on hard-to-find IT specialists

- Get deeper insights into operations to streamline planning without a steep learning curve

- Reduce TCO and get CapEx and OpEx under control

You become more proactive and less reactive, so you work smarter and dedicate time to the value-added projects that move your business forward.

Application Workloads
(running on all nodes)

Nutanix Controller VM
(one per node)

Node 1 — VM VM VM CVM — Hypervisor — X86
Node 2 — VM VM VM CVM — Hypervisor — X86
Node N — VM VM VM CVM — Hypervisor — X86

Distributed Storage Fabric
Flash HDD

- Snapshots
- Locality
- Clones
- Tiering
- Compression
- Erasure Coding
- Deduplication
- Resiliency

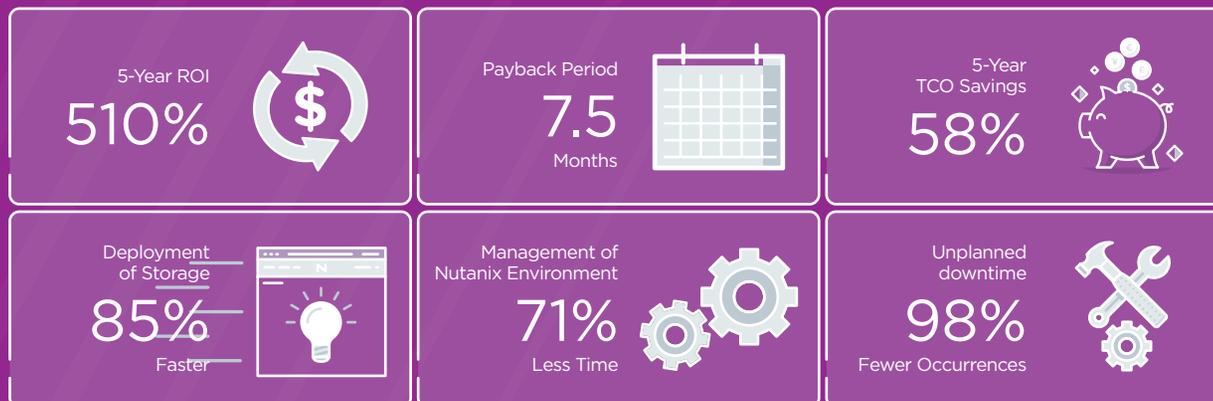## MULTI-HYPERVISOR SUPPORT AND APPLICATION MOBILITY

Nutanix Enterprise Cloud Platform provides broad hypervisor support including VMware vSphere, Microsoft Hyper-V, Citrix XenServer, and Nutanix's native AHV virtualization. Nutanix AHV is:

- Natively integrated and included with your purchase

- Built on proven open-source technology, hardened for the enterprise

- Leaner than alternatives, without unnecessary bloat or shelfware

- Lowers virtualization costs up to 80%

The Acropolis App Mobility Fabric (AMF) delivers advanced capabilities including intelligent VM placement, VM migration to balance load across a cluster, and integrated disaster recovery for all services. This provides a unique level of flexibility, eliminating vendor lock-in and giving you more options now and in the future. The Acropolis architecture supports all VM-based applications, while providing a seamless path to container-based technologies.

AMF makes it easy to move applications and data between different hypervisors and public cloud services:

- The Nutanix **Foundation** tool makes it simple to install the hypervisor you want and change the hypervisor in a matter of minutes

- **One-click hypervisor conversion** allows you to change the hypervisor from ESXi to AHV with a single click with VMs running. The system takes care of converting VM formats, installing drivers, registering VMs, converting hosts and so on behind the scenes

- **Cross-hypervisor backup and DR** lets you protect data between clusters running different hypervisors

- **Cloud Connect** enables you to backup data Amazon AWS or Microsoft Azur) without third-party tools or external management
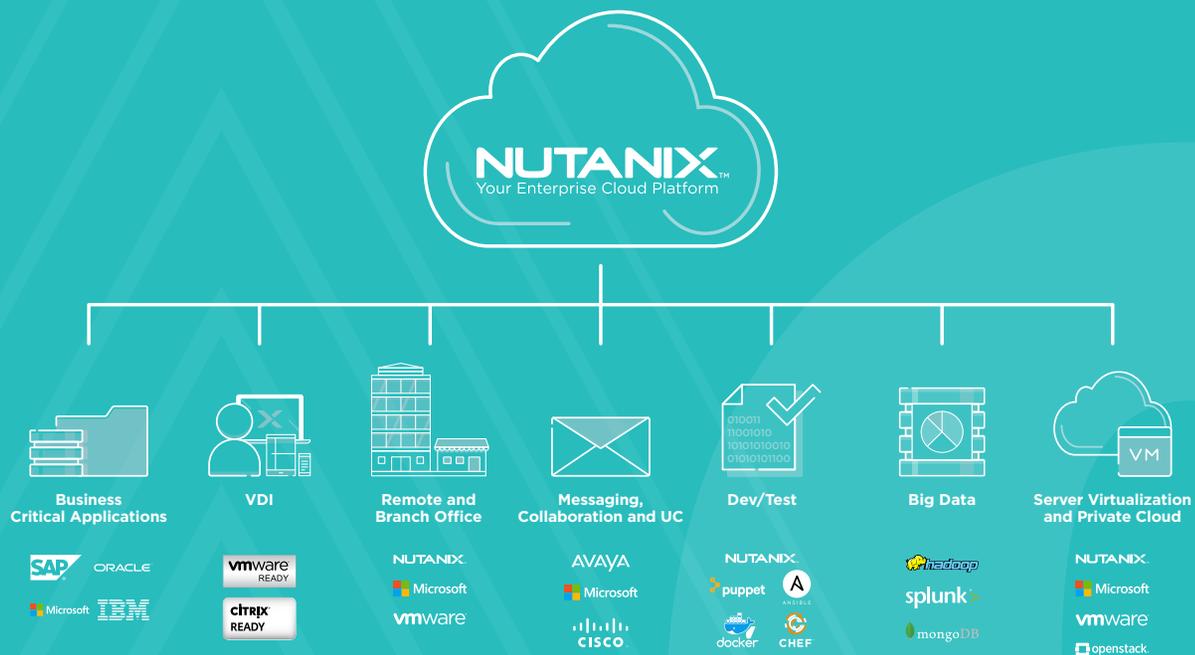
SUPERIOR TCO

Nutanix Enterprise Cloud Platform is an extremely cost-effective option for your datacenter. An IDC study[1] looked at Nutanix customers who either migrated workloads from conventional infrastructure or deployed new workloads on Nutanix Enterprise Cloud. IDC measured a 5-year ROI of 510%, TCO savings of 58%, and payback in just 7.5 months. The average reduction in time spent managing a Nutanix environment was 71.4%. This is the result of decreases in deployment time, total management time, and application-related productivity gains.

5-Year ROI	Payback Period	5-Year TCO Savings
510%	7.5 Months	58%

Deployment of Storage	Management of Nutanix Environment	Unplanned downtime
85% Faster	71% Less Time	98% Fewer Occurrences

[1] Quantifying the Business Value of Nutanix Solutions, IDC, August 2015.

Enterprise Cloud Solutions

Nutanix Enterprise Cloud Solutions
This section provides more details on specific Nutanix solutions. For each solution, it defines the solution and describes requirements, explains Nutanix' unique value, and offers some questions your team should ask itself when considering whether it's time to upgrade. Customer examples are provided to help illustrate what is possible.

NUTANIX™
Your Enterprise Cloud Platform

Business Critical Applications	VDI	Remote and Branch Office	Messaging, Collaboration and UC	Dev/Test	Big Data	Server Virtualization and Private Cloud
SAP, ORACLE, Microsoft, IBM	vmware READY, CITRIX READY	NUTANIX Microsoft, vmware	AVAYA Microsoft, CISCO	NUTANIX puppet, ANSIBLE, docker, CHEF	hadoop, splunk>, mongoDB	NUTANIX Microsoft, vmware, openstack

Business-Critical Applications

Definition and Requirements

Business-critical applications include popular enterprise databases and applications including Oracle databases and E-Business Suite, SAP Business Suite and ASE database, Microsoft SQL Server, Microsoft Dynamics, IBM DB2, and many others.

Value of Nutanix Enterprise Cloud

The top Nutanix benefits for business-critical apps include:
- Increase performance up to 2x
- Lower TCO by 60% and delivers rapid payback
- Reduce planned and unplanned downtime by 98%
- Enable virtualization of applications that formerly ran on bare metal
- Provide deeper insight including trending, real-time analysis, proactive monitoring, root cause analysis, and alerting
- Integrated options for data protection and DR reduce costs and/or offer greater protection
- Simplify management of critical apps and infrastructure

Questions to Get You Started
- How many business-critical apps are you running on dedicated infrastructure?
- Would virtualizing business-critical apps simplify your IT environment and improve overall manageability?
- Are you providing adequate data protection for critical apps? At what cost?
- How much time are you spending managing infrastructure for critical applications?

Brand Leader Chooses Nutanix for Critical Apps

WD-40 is one of the most recognizable brands in the world. As part of its digital transformation, WD-40 needed to upgrade existing infrastructure, virtualize business-critical apps, and improve performance—despite a lack of available rack space.

The Nutanix Enterprise Cloud Platform met WD-40's requirements, now hosting 52 virtual workloads including Exchange, SharePoint and SQL Server databases plus file and print sharing and development.

Key Results
- Power and cooling reduced up to 41%
- Reduced footprint
- Time to re-image desktops down from 3 hours to less than 1 hour
- Migration completed in 2 days

Future Plans
- Re-think backup and DR including Nutanix Metro high availability for synchronous replication
- ERP hosted on physical infrastructure considered for Nutanix migration

BUSINESS CRITICAL APPLICATIONS REQUIREMENTS	
Performance	High transactional and analytical performance
Availability	High level of data protection and DR. Possibly including synchronous replication for 0 RPO
Scaling	Workloads can grow rapidly in terms of total data, size of active data set, and compute needed
Manageability	Installation, deployment, and ongoing management result in headaches

> " One of the key benefits from my point of view is a much greater insight into what's going on inside the box. Not that I need to check on it that often – it just works."
>
> – JEFF LONGLEY, SYSTEMS ADMINISTRATOR, WD-40

Messaging, Collaboration and Unified Communication

Definition and Requirements

Messaging and collaboration apps include Microsoft Exchange and SharePoint, and many others. Email and collaboration applications are critical to staff productivity, increasingly complemented by unified communication solutions such as Cisco UC, Avaya Aura, and Microsoft Skype for Business.

Value of Nutanix Enterprise Cloud

The top benefits of Nutanix Enterprise Cloud Platform for messaging, collaboration and unified communication include:
- Eliminate separate infrastructure silos for each app
- Support tens of thousands on a single cluster in just a quarter of a rack
- Enable 8x faster deployment
- Provide deeper insight including trending, proactive monitoring, root cause analysis, and alerting
- Eliminate sources of disruption and planned and unplanned downtime

Questions to Get You Started

- Are any of your messaging and collaboration apps currently running on dedicated infrastructure? Are you using direct-attached storage?
- Would virtualizing these applications simplify your IT environment and improve overall manageability?
- Are you providing adequate data protection? At what cost?
- How much time are you spending managing infrastructure for messaging and collaboration?
- How effective is your unified communication team in delivering new functionality?

MESSAGING AND COLLABORATION REQUIREMENTS

Performance	Balanced compute and storage performance; Exchange write latency consistently below set threshold. Ability to consolidate multiple workloads
Availability	Ability to recover individual mailboxes and deliver continuous access. Apps may have built-in availability
Scaling	Density and capacity important for large numbers of mailboxes and content repositories
Manageability	Eliminate need to optimize and rebalance storage and mailboxes on an ongoing basis

Financial Services Firm Virtualizes Exchange

Richter, one of the top-ten independent accounting and business advisory firms in Canada, was facing scaling and performance problems with its traditional IT infrastructure and hesitant to virtualize applications such as Microsoft Exchange.

After a proof of concept, Richter was sold on the Nutanix approach and migrated to Nutanix—including virtualizing Exchange and SQL Server—with plans for ERP.

Key Results
- 70% of existing servers retired
- Rackspace reduced by 45%
- Power consumption reduced by 33%
- IT admin time reduced 50+%

" We wanted to reduce our data center costs, virtualize all of our critical servers, and hopefully see some significant performance gains. We have achieved all of our goals – and much more – by moving to Nutanix. "

– GREG EAMER, DIRECTOR OF INFORMATION TECHNOLOGY, RICHTER

Virtualization and Private Cloud

Definition and Requirements
Most enterprise IT teams manage data centers that are largely virtualized. IT teams must support a large number of virtualized applications and services in the most cost effective manner. Enterprises are also deploying private cloud solutions to automate datacenter infrastructure and provide self-service for end users such as developers and line-of-business managers.

Value of Nutanix Enterprise Cloud
Nutanix Enterprise Cloud Platform is the ideal platform to support your general virtualization and private cloud needs:
• Validated solutions can be deployed 8x faster
• Reduce management by 71% versus traditional infrastructure
• Broadest multi-hypervisor support including VMware ESXi, Microsoft Hyper-V, and Nutanix AHV virtualization
• Superior density and capacity; start small and scale out
• Self-service is integrated with Nutanix Prism
• Flexible data protection options to support the backup and DR needs of diverse applications.

Questions to Get You Started
• How are you managing capital and operating costs for your virtual environment? Do you need to lower virtualization costs?
• Are you providing adequate data protection for applications and VMs? At what cost?
• Are you able to deliver cloud services to run alongside your virtual machines?
• Could your business benefit from a self-service portal to allow users to provision and manage their own VMs as needed?

VIRTUALIZATION AND PRIVATE CLOUD REQUIREMENTS

Performance	Applications in this category have a wide range of performance and capacity needs, and may have transactional or sequential I/O requirements
Availability	Because of the range of applications, availability and data protection needs may vary widely
Scaling	The goal is often to support the greatest number of apps in the least space, making density and capacity a key factor
Manageability	Ease of virtualization management and broad support for self-service are essential

Hallmark Migrates Datacenter to Nutanix
Hallmark Business Connections is the business-to-business arm of the of Hallmark Cards Group. After initial success with an analytics application, this team saw the opportunity to completely replace its multi-tier datacenter infrastructure. Now in the second year of a three-year roadmap, Hallmark is on track to complete its next-generation datacenter.

Key Results
• 72% reduction in software build time
• 55% reduction in costs to operate the infrastructure
• Storage management workload reduced from 20 hours to just 2 hours per week
• Multi-hypervisor environment with lower costs
• Private cloud platform for future scale

Fitness First Deploys Nutanix Cloud
Nutanix helped equip Fitness First, one of the largest fitness brands in the world, with the latest enterprise cloud infrastructure with features such as self-service provisioning of VMs. Integration with the Azure public cloud supports backup/recovery, provides burst space to cope with fluctuations in demand and disaster recovery with full failover and failback capabilities.

" I don't want to buy hardware from one company, software from another, storage from another. I want it just to work. "
– JON FORSTER, CONSULTANT GLOBAL PROGRAMME MANAGER

Big Data and Cloud-Native Apps

Definition and Requirements

Big Data and cloud-native applications share many of the same characteristics. Infrastructure should let you start small for proofs of concept and testing different scenarios, be flexible so you can make changes, and scale with the growth of your datasets and applications.

Value of Nutanix Enterprise Cloud

Nutanix Enterprise Cloud platform is ideal for cloud applications of all types. Because the Nutanix distributed architecture incorporates web-scale design principles, including scale-out and data locality, it flexibly scales and adapts as your needs grow and evolve.

- Start small with a turnkey solution and linearly scale without re-architecting, lowering risk
- Get as much as 3x the performance versus traditional storage and compute in 80% less space
- Enable 8x faster deployment
- Get deeper insight including trending, real-time analysis, proactive monitoring, root cause analysis, and alerting
- Simplify infrastructure upgrades: nondisruptive software and firmware updates
- Persistent storage support for containers

Questions to Get You Started

- Are you struggling to deploy and manage cloud-native applications on conventional infrastructure?
- Are you currently deploying big data applications on bare metal?
- Are you responsible for identifying and managing compatible firmware levels across many, many devices?
- Are your big data applications too sensitive to hardware failures?
- Are you adopting DevOps practices to deliver application features more quickly?

Online Retailer Accelerates Customer-Facing Apps

A top 50 Internet Retailer needed new infrastructure to support manage an inventory with hundreds of thousands of items. Velocity and density were the most important criteria in the Nutanix decision. Automation, visibility, and ease of management were also important.

Key Results

- Near real-time inventory updates for 1.6 million different products
- Query performance 2 orders of magnitude faster
- More click-throughs and increased sales conversion
- Ability to quickly scale up or down
- Highly intuitive Nutanix Prism interface simplifies management

BIG DATA AND CLOUD-NATIVE APPS REQUIREMENTS	
Performance	Scale out. Balanced compute and storage performance; both transactional and sequential I/O may be needed
Availability	These applications are generally written to expect less from underlying infrastructure in terms of data protection
Scaling	Density and capacity important for large data sets. Elasticity important to support changes in demand.
Manageability	Traditional IT infrastructure poorly suited to these apps and hard to manage. Self-service and data management are important to support developers

Virtual Desktop Infrastructure and Application Virtualization

Definition and Requirements

Virtual desktop infrastructure (VDI) and application virtualization are increasingly re-placing traditional desktops and laptops in a variety of organizations. These technologies allow management of user desktops to be centralized, reducing overhead, eliminating risk, and supporting use of employee-owned devices without giving up control.

Application and desktop virtualization is far more challenging than server virtualization. Virtual desktops generate write-heavy workloads with random storage I/O. This makes maintaining consistent performance difficult: demands can swing wildly depending upon usage patterns, the time of day, and the applications being used. Boot storms, anti-virus scans, and patch updates all put sudden loads on the infrastructure and slow down performance for end-users.

Value of Nutanix Enterprise Cloud

Nutanix Enterprise Cloud is the ideal platform to support your VDI needs:
• Delivers a great experience for all user types
• Start small and scale to 10,000's of users without re-architecting
• Validated end-to-end solutions can be deployed 8x faster
• Slash TCO by as much as 60% and pay as you grow on the world's most deployed hyperconverged solution
• Reduces both planned and unplanned downtime.

Questions to Get You Started

• What can't you accomplish with your current virtual desktop infrastructure solution? Are you dedicating infrastructure specifically for power users?
• When you add users are you worried about user experience, capacity and overall performance?
• How satisfied are you with the density (users/rack unit) that you are getting from your current infrastructure?
• Are you providing right level of availability for desktops and virtualized apps? At what cost?
• How much time are you spending managing VDI infrastructure?

VDI REQUIREMENTS

Performance	I/O performance is key for the best user experience. Ability to accommodate high write activity and sudden spikes in demand.
Availability	If VDI is down, your desktops are down. Data Protection and DR are more important than for dispersed desktops.
Scaling	Environment should scale easily as users increase. Traditional infra-structure experiences unpredictable bottlenecks as users are added.
Manageability	Installation, deployment, and ongoing management result in headaches

Nutanix Fixes VDI Woes for Busy Healthcare Provider

With boot times averaging six to seven minutes, St. Luke's Health System needed a more agile approach to desktops to accommodate healthcare workers as they move from room to room. The solution was Citrix XenDesktop and XenApp combined with Nutanix enterprise cloud.

Key Results

• Windows 7 environment accommodating 14,000 desktops and over 2,000 application packages was built out in two weeks.
• Easy and cost-effective scaling as users are added.
• Thin clients and virtual desktops simplified security and reduced risk of data cached on end-point devices.
• Streamlines M&A by making it easier to absorb new users and apps.

" Nutanix has been a big win for us in terms of IT agility – both in the ability to deploy quickly and move applications, and dealing with the unknowns of scaling. In all measures, Nutanix has been an excellent choice for our organization"

– BRETT TAYLOR, DIRECTOR OF IT, ST. LUKE'S HEALTH SYSTEM

Remote Office and Branch Office

Definition and Requirements

While maintaining many remote office and branch office (ROBO) locations may be the right choice for your business, it creates significant IT challenges. ROBO IT needs can vary widely and can include any or all of the solutions covered in the earlier pages of this guide.

The Nutanix ROBO solution is designed to address ROBO IT challenges, providing a full-stack infrastructure solution that can be easily deployed at any ROBO location, and with options suitable for every requirement. Nutanix provides a cloud-like environment with much less infrastructure complexity, centralized infrastructure and operations management, and flexible data protection options, making it ideal for ROBO needs.

Value of Nutanix Enterprise Cloud

Nutanix benefits for ROBO locations include:
- Simple, out-of-the-box deployment. Deploy all remote virtual applications and desktops in just an hour.
- Optimal performance for critical apps. No complex configuration or tuning.
- Integrated workflows for VM-centric backups and failover between branch offices and central datacenters.
- Multiple ROBO locations can be monitored and managed from a single, centralized management interface.
- Reduce space and power requirements by up to 80% utilizing standard branch office power and networking infrastructure.

Questions to Get You Started
- Are you supporting ROBOs with traditional IT infrastructure?
- Does your current infrastructure:
    - Take up too much space, power, cooling?
    - Satisfy application performance needs?
    - Provide local and remote backup options?
    - Make remote management too complex?
- Do you need a cost-effective infrastructure solution with the flexibility to deploy at diverse ROBO locations?

ROBO REQUIREMENTS

Performance	Delivering good performance for applications deployed in ROBOs is a challenge with traditional infrastructure, especially when deployed at small scale.
Availability	Many ROBOs are unable to rely on corporate datacenters accessed via WAN. They need local infrastructure that offers high availability and easy-to-use data protection. Cloud backup is an important consideration.
Scaling	ROBO environments often have little physical space. Infrastructure must scale with minimal footprint and in increments that keep costs down.
Manageability	Because ROBOs typically have no onsite IT staff, it must be possible to configure, monitor, and manage all infrastructure remotely.

Financial Services Company Goes All In on Nutanix

A highly distributed financial services firm has more than 6,000 employees in 1,800 branch offices and nine regional offices. The firm turned to Nutanix to meet its ROBO infrastructure needs.

In most locations there are no IT admins on site, so everything is managed remotely using Nutanix Prism. Given its ROBO success, the firm is making a strategic decision to no longer buy traditional storage and servers for any of its IT needs.

Key Results
- New infrastructure immediately improved performance.
- Among the reasons Nutanix was chosen were ease of upgrade and multi-hypervisor support.
- The IT team has more time to spend on business needs.

> " In this one site, we went from multiple physical servers with EMC SAN storage infrastructure to a 6 host Nutanix cluster. We literally took a whole room of equipment and put it into 6 rack units of Nutanix."
>
> – ASSOCIATE DIRECTOR OF OPEN SYSTEMS INFRASTRUCTURE

Development and Testing

BETTER INFRASTRUCTURE TO SUPPORT DEVELOPMENT AND TEST AND DEVOPS

Most enterprises already have active development and test environments and many are moving down the path to adopt a DevOps model for software. Digital transformation, the emerging Internet of Things (IoT), and proliferation of mobile-first apps have triggered a major rethink in the way software is built, deployed and scaled. These forces are creating unprecedented business changes that are putting pressure on enterprise IT and development teams to deliver new applications and services more quickly.

The Nutanix Enterprise Cloud Platform streamlines your current development and test efforts and simplifies your DevOps journey, ensuring your infrastructure has the required agility and flexibility at all layers. Nutanix Enterprise Cloud gives your on-premises infra-structure the agility of the public cloud while helping your team reduce costs and maintain control of important processes and data. Nutanix can help you drive developer productivity, improve time to market, and gain an immediate return on investment. WIth Nutanix, you can create efficient, high performance development and test environments with private copies of production data. This is accomplished via:

- **VM-centric tools**. Clones and snapshots facilitate all tasks requiring data copies, reducing cost and decreasing time to market. Your development environment can run using an exact copy of production data—on a different hypervisor if desired to optimize costs.

- **Copy efficient**. Nutanix can help you minimize the number of full data copies needed. This saves on space and cost, providing complete data protection while allowing you to quickly provision clones for dev/test, analytics, and other functions.

- **Easy automation**. Comprehensive REST APIs and VM-centric operations make it simple for your team to automate processes for development, test, QA, and deployment.

- **Greater insight**. Nutanix Prism provides in-depth analytics that simplify day-to-day operations.

GETTING STARTED WITH NUTANIX SOLUTIONS

The Nutanix Enterprise Cloud Platform can eliminate your infrastructure bottlenecks across all workloads and use cases. The following table shows some of the common triggers for the solutions discussed in this guide. If you're facing one of these events, it may be time to upgrade to Nutanix Enterprise Cloud Platform. The table also suggests next steps for each solution.

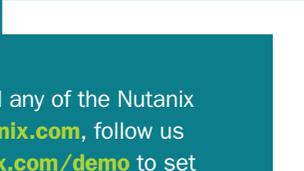| SOLUTION	IT IS TIME TO TAKE ACTION WHEN:
Business-critical apps	• Existing infrastructure is out of warranty/infrastructure refresh • Database upgrade is needed: SQL Server 2016 or Oracle 12c • You must improve availability and data protection • You need to simplify infrastructure to meet goals
Messaging and collaboration	• Existing infrastructure out of warranty/infrastructure refresh • Exchange upgrade is needed (Exchange 2016) • Deploying new app for collaboration • You must address new compliance requirements
Virtualization and private cloud	• You need cloud management/self-service portal • Existing infrastructure out of warranty /infrastructure refresh • You are adopting a DevOps model • You need self-service for end-users
Big Data and cloud-native apps	• Existing infrastructure out of warranty /infrastructure refresh • Deploying new NoSQL applications • Adopting DevOps for continuous development
VDI and application virtualization	• Existing infrastructure out of warranty /infrastructure refresh • There's a new initiative like VDI for engineering • Merger requires adding many new seats

NOTES

To learn more about Nutanix Enterprise Cloud Platform and any of the Nutanix Solutions discussed in this guide, contact us at **info@nutanix.com**, follow us on **Twitter @nutanix**, or send us a request at **www.nutanix.com/demo** to set up your own customized briefing and demonstration to see how validated and certified solutions from Nutanix can help your organization.

- To learn more about a particular solution go to **www.nutanix.com/solutions**
- To begin sizing Nutanix systems for your solutions needs, start with the Nutanix sizer (**http://go.nutanix.com/size-your-data-center.html**)

NUTANIX™
Your Enterprise Cloud Platform

Nutanix makes infrastructure invisible, elevating IT to focus on the applications and services that power their business. The Nutanix enterprise cloud platform 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.