

Datacenter Scenario-Based Testing for the Enterprise Cloud

Hyperconverged and cloud infrastructures which require testing to be multi-tenant and infrastructure contention-aware.

Nutanix X-Ray

INFRASTRUCTURE TESTING FOR HYPERCONVERGED PLATFORMS

Since the introduction of server virtualization, testing IT platforms has become an increasingly more complex aspect of the infrastructure life-cycle. Hyperconverged infrastructures (HCI) and enterprise cloud technologies go beyond traditional virtualization by mixing compute and storage resources which are then shared by multiple application workloads.

Infrastructures are typically tested with an emphasis on raw performance metrics, showing maximum throughputs, or lowest latency figures in controlled, and unrealistic settings with no sense of how the application is affected over time.

CONSISTENT PERFORMANCE & FAILURE SCENARIO TESTING

The typical approach to infrastructure testing must change to accurately reflect modern business requirements, enabling organizations to accurately assess their applications' consistent performance, while under a barrage of common data-center scenarios.

X-Ray's objective is to provide a flexible, vendor-neutral hyperconverged infrastructure testing product that organizations can use to comprehensively assess their data-center infrastructures.

TEST SCENARIOS

X-Ray's tests reflect the type of real-world scenarios that hyperconverged infrastructures experience throughout their life-cycles. Examples include understanding the impact to applications in noisy neighbor scenarios, or the impact to applications during a rolling infrastructure upgrade process, or when many snapshots are being taken.

X-Ray's suite of fully customizable tests offers the most complete solution for testing any hyperconverged infrastructure, and enables organizations to evaluate all key areas of the infrastructure life-cycle when placed under real-world stress and failure scenarios:

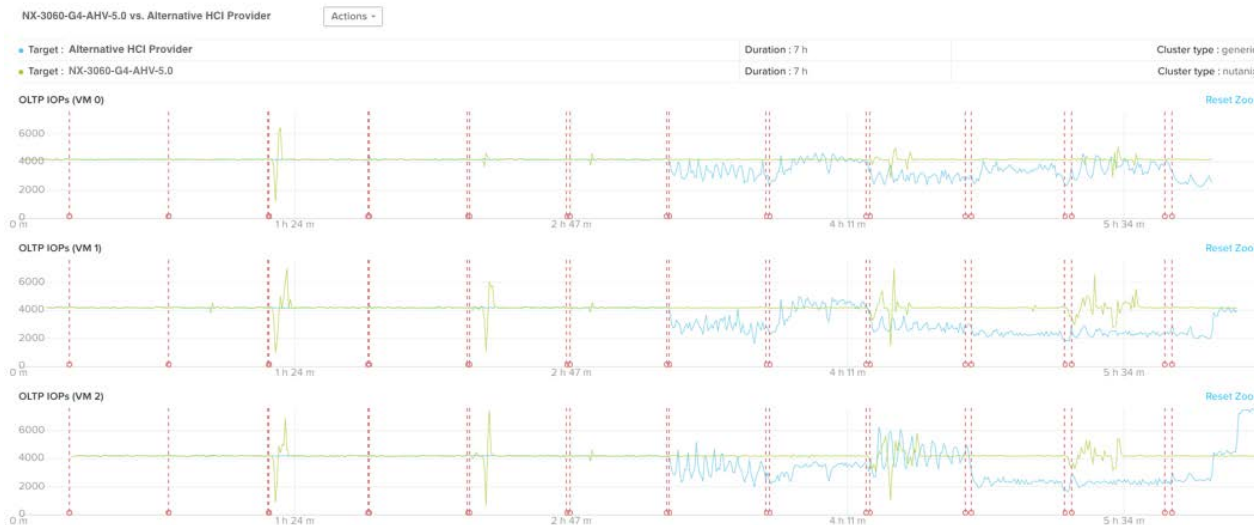
Infrastructure Life Cycle Phase	Related Tests
DAY 0 Infrastructure Performance Shows the raw infrastructure performance.	Four Corner Microbenchmark Throughput Scalability
DAY 1 Application Performance Captures and analyzes workload profiles to understand application specific performance.	VDI Simulator OLTP Simulator
DAY 2 Data Protection Examines the impact data protection activities on production applications.	Snapshot Impact VM Clone Impact
DAY 30 Infrastructure Resiliency Examines the impact of failure events on the running applications.	Sequential Node Failure Rolling Upgrade Extended Node Failure
DAY N Infrastructure Scalability Examines the impact of introducing new application workloads onto the same infrastructure.	Database Colocation HCI Workflow

X-RAY REPORTING

Following the testing phase completion, all test logs and a summary report are made available to view and download. Analyzing the test results can provide crucial decision-making information such as highlighting the difference between hyperconverged platforms or product versions of the same platform, and ultimately enables organizations to make fully informed infrastructure life-cycle decisions.

The completed reports show results for all tests run, including the following details:

- Executive Summary detailing high-level overview of results
- Details on each test run, including the steps that have been carried out
- In-depth results for each of the tests that were run
- Graphical results for each test run (i.e. OLTP graphical test results below)



SYSTEM REQUIREMENTS

- Minimum of one (non-production) cluster used for testing, with at least one datastore
- Network access to management UI (Prism or vCenter) and user VMs
- IP addresses for the nodes (for test targets)
- User name, password, and IP address for each IPMI
- The system where X-Ray is deployed cannot be used as an X-Ray test target for failure testing
- X-Ray VM with 4x vCPUs and 4GB RAM

HYPERCONVERGED PLATFORM SUPPORT

- Nutanix Enterprise Cloud (Nutanix NX, Cisco® UCS, Dell EMC™ XC, Fujitsu™ XF, HPE™ ProLiant, IBM® CS, KLAS Telecom, Lenovo™ HX/SXN)
- VMware vSAN®
- Cisco® HyperFlex
- HPE™ Simplivity
- IBM® Hyperconverged Systems
- Microsoft® Storage Spaces Direct

HYPERSVISOR SUPPORT

- Nutanix AHV
- VMware vSphere® ESXi
- Microsoft® Hyper-V

ADDITIONAL RESOURCES

- X-Ray product page: <https://www.nutanix.com/xray>
- X-Ray community: <https://next.nutanix.com/nutanix-x-ray-18>
- Questions? Email: xray@nutanix.com



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

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