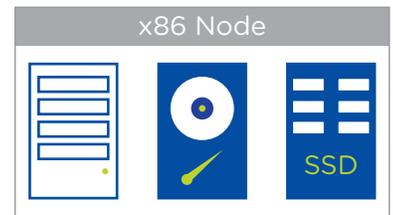# What is Web-Scale Infrastructure?

A better approach to designing, building and managing datacenter infrastructure pioneered by web companies and cloud providers such as Google, Amazon, and Facebook. Web-Scale infrastructure started out as an innovative do-it-yourself alternative to handle scale and agility needs for which traditional IT was a poor fit.

Key Characteristics

1. Hyper-Convergence on x86 Servers

Integrated compute and storage combined with data locality implemented in software eliminates the complexity of storage networks and performance-degrading bottlenecks. Infrastructure can be scaled out at the granularity of a single x86 server, enabling fractional consumption and incremental growth.
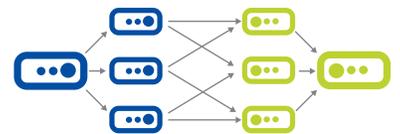

2. Intelligence in Software

Web-Scale infrastructure is 100% software-defined with no reliance on special-purpose hardware for ensuring resilience, high availability or performance. New capabilities can be quickly introduced into the environment without requiring a hardware upgrade or replacement.
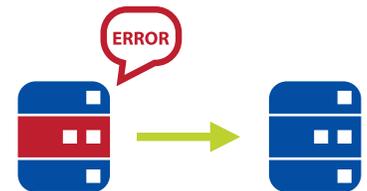

3. Distributed Everything

All data, metadata and operations are distributed across the entire cluster. This ensures that all available resources are put to use to deliver data and services with the highest performance and availability. By eliminating resource contention (e.g., name nodes, metadata servers, locks), web-scale systems enable efficient scale without limits.
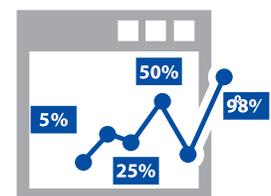

4. Self-Healing System

Web-Scale infrastructure assumes that individual components in the cluster will fail at some point, but that these failures should never jeopardize the health of the overall system. Software enables fault isolation to eliminate single points of failure, and automatically restore redundancy using the entire cluster so that applications and data are always available.

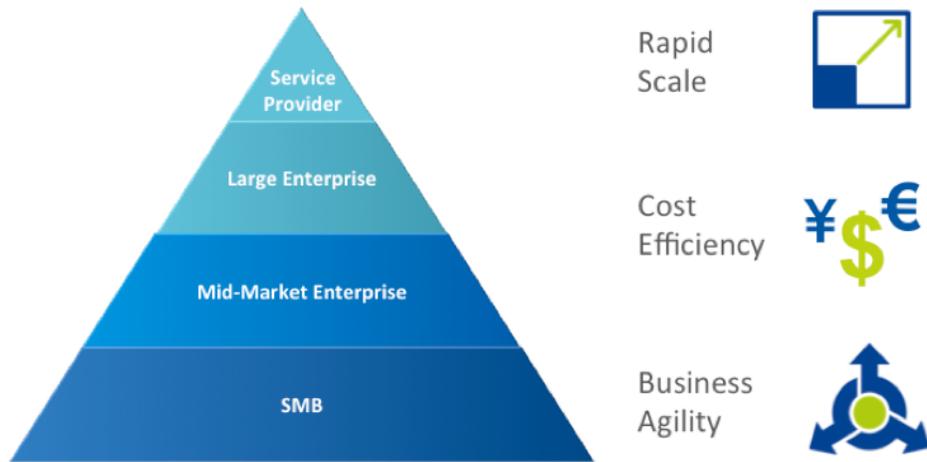### 5. API-based Automation and Rich Analytics

Web-Scale systems use extensive automation and rich system-wide monitoring and analytics to achieve unparalleled leverage and data-driven efficiency. REST-based programmatic interfaces enable integrated management of the datacenter.

Web-Scale Is For Everyone

Web-Scale infrastructure brings simplicity back to the datacenter. Every aspect of the IT infrastructure lifecycle, from purchase and deployment to management and scale, is made simpler. Web-Scale infrastructure solutions offer several key advantages relative to traditional IT solutions:

- **Rapid scale:** Grow and shrink infrastructure footprint incrementally to meet demand

- **Business Agility:** Respond to business IT needs quickly via a software-driven solution

- **Lower TCO:** Do more with less; lower capital and operating expenses with scale-out architecture and automation

The benefits of web-scale are real at any scale. Web-Scale infrastructure is suitable for a wide range of use cases – VDI, enterprise applications, big data, etc. You do not need to be a Google or a Facebook to adopt and gain from web-scale infrastructure. Companies no longer need to overhaul their datacenters or build infrastructure from scratch.

Nutanix web-scale converged Infrastructure delivers the power of web-scale IT as a turnkey solution for the enterprise data center, for any application, at any scale.

About Nutanix

Nutanix delivers web-scale infrastructure to medium and large enterprises with its software-driven Virtual Computing Platform, natively converging compute and storage into a single solution to drive unprecedented simplicity in the datacenter. Customers can start with a few servers and scale to thousands, with predictable performance and economics. With a patented elastic data fabric and consumer-grade management, Nutanix is the blueprint for application-optimized and policy-driven infrastructure. Learn more at www.nutanix.com or follow up on Twitter @nutanix.