

Relax with Hyperflex

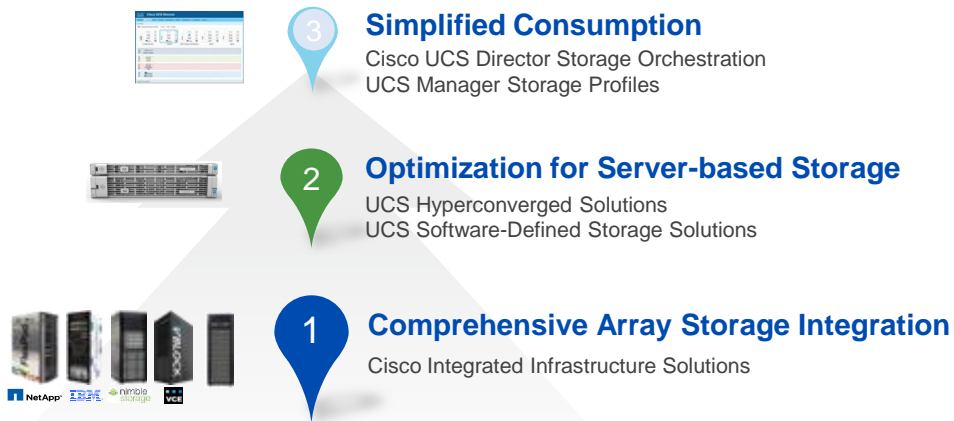
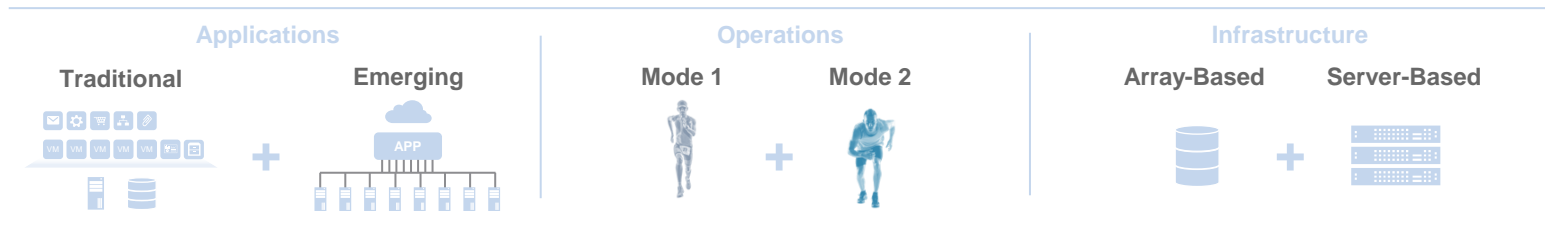
- Alexander Weinbacher
Hyperconvergence Sales Central Europe
- 31.3.2016

The Market



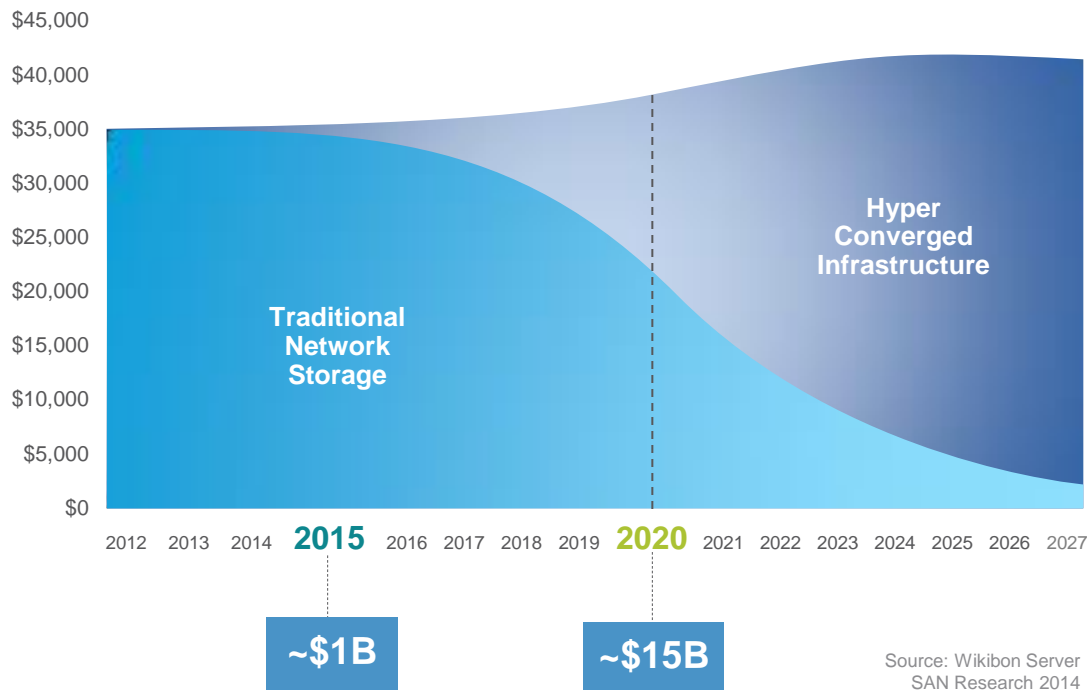
Cisco's Storage Strategy

Operational Simplicity



Market Shifting Towards Server-Based Ecosystem

Surf the new wave together!!!



Source: Wikibon Server
SAN Research 2014

Big trends always start small

- LINUX



- Server Virtualisation



- Unified Storage – Netapp



- Hyperconvergence



Applications Drive Architecture Diversity

FREESTANDING INFRASTRUCTURE



APPS

Mainstream Business Applications
Database, Collaboration

INTEGRATED INFRASTRUCTURE

Virtualized Applications
Desktop Virtualization
Production Cloud

HYPERCONVERGED

Virtual Only HyperFlex
Branch/Remote

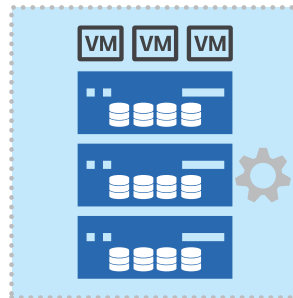
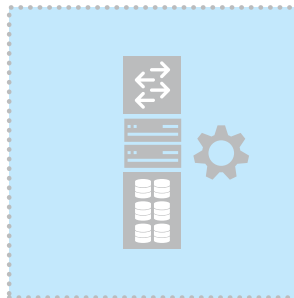
SCALE OUT

Big Data
Industrial
Grid/ceph
Test/Dev

DevOps Cloud
SAP
Hadoop
HANA



Infrastructure



A La Carte Design
Servers, Networking, SAN

Pre-Engineered with App Sizing
Platform Level Automation
Flexible Resource Ratios

Appliance Model
Fixed Resource ratios
Storage Virtualization

Bare Metal
Disk-optimized Rack Mount Servers

What is Hyperconvergence?

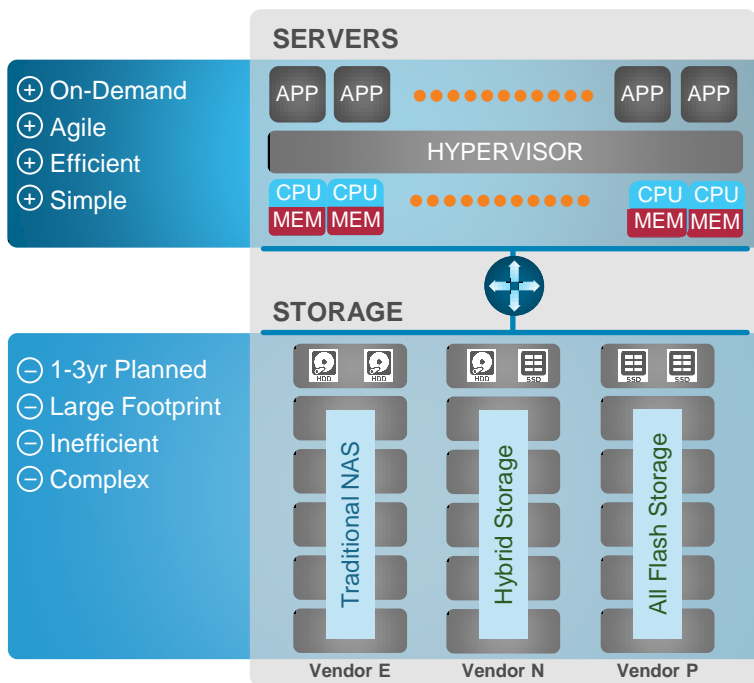


To create an iphone-like experience for Datacenters

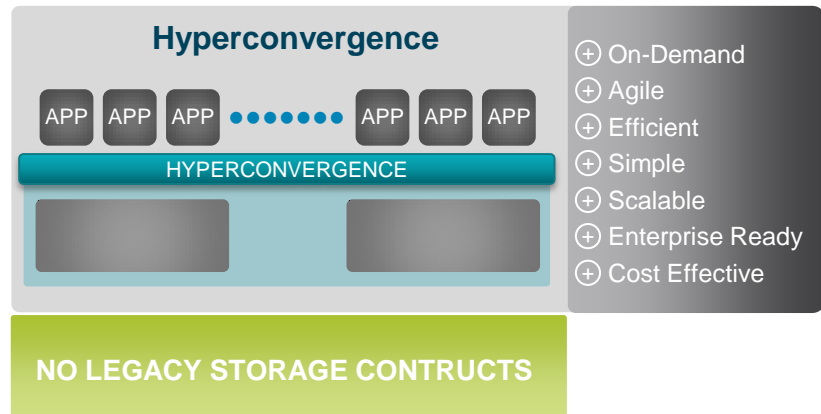


What is Hyperconvergence ?

Traditional Approach



Cisco HyperFlex includes all networking components!



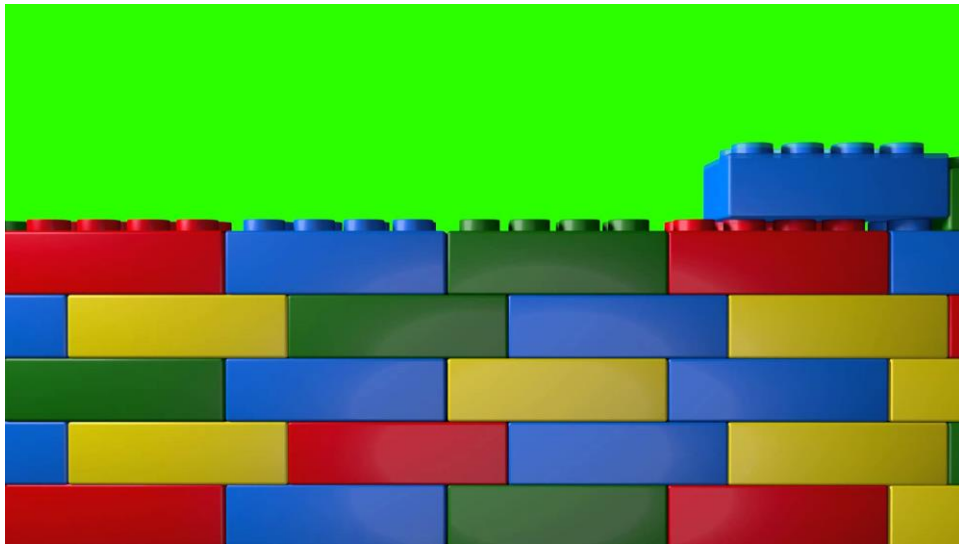
Build your Datacenter in a predictable way!

Fixed modules

- + At fixed cost
- + You know the performance
- + You know the storage space
- + You know the bandwidth

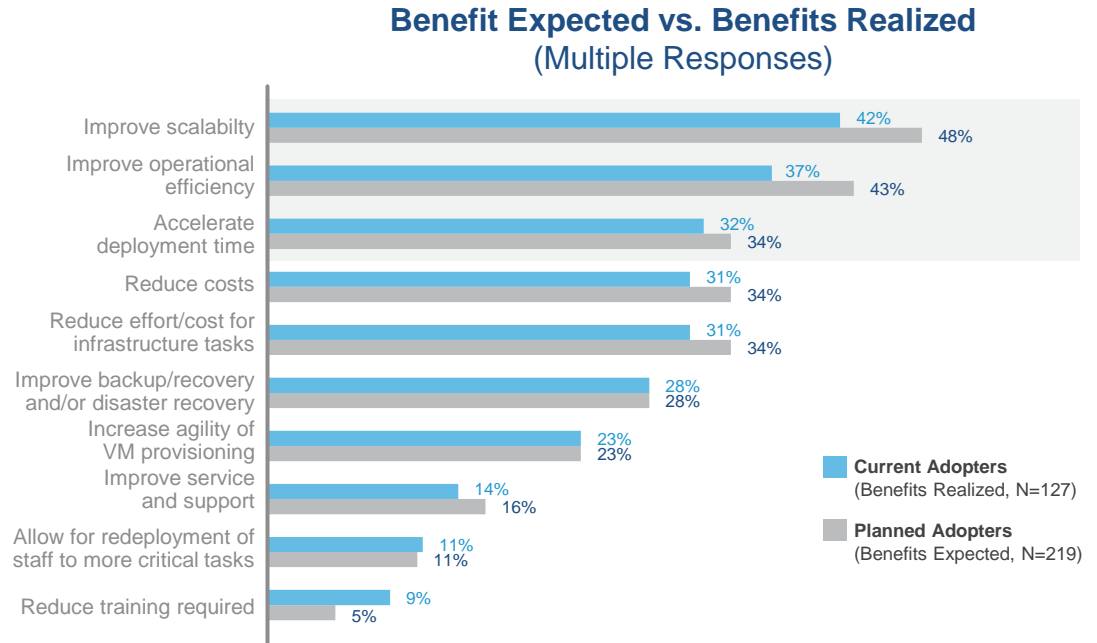
= Easy to plan

= Easy cost control



Primary Customers Benefits for Hyperconvergence

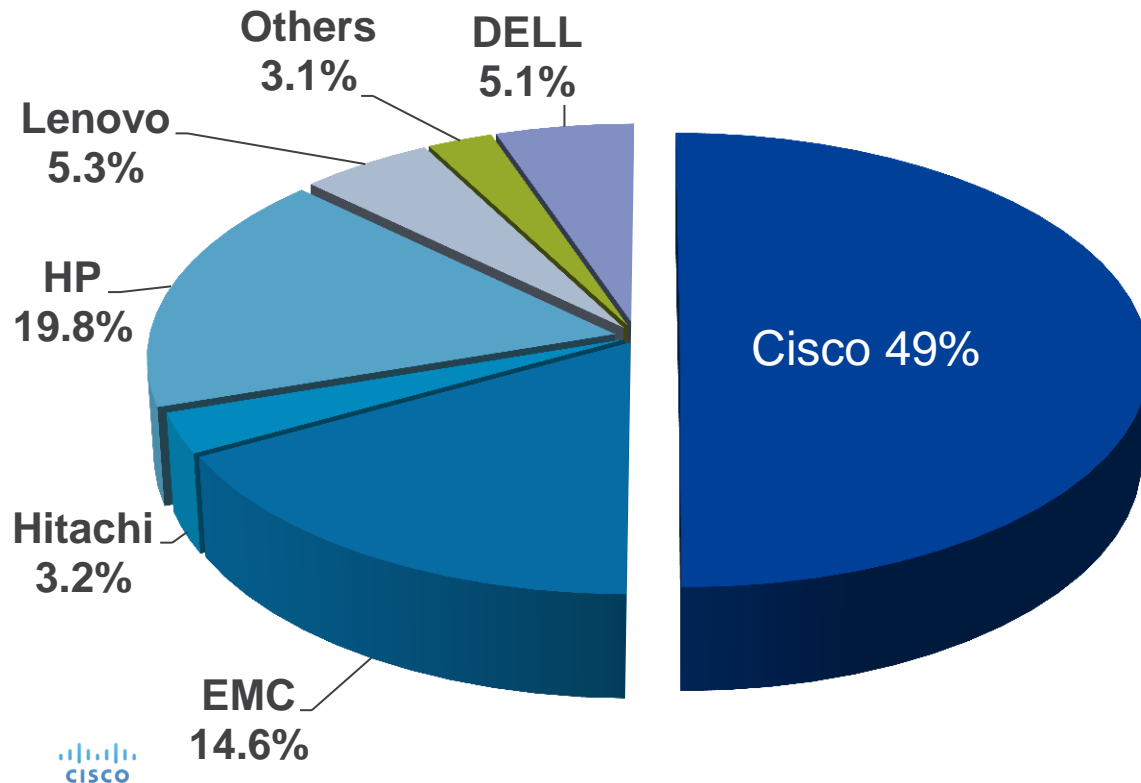
- Expected and realized benefits span across the infrastructure lifecycle:
 - Deployment
 - Operations
 - Scalability



Source: ActualTech Media's 2015 State of Hyperconverged Infrastructure Market Survey

Why go with Cisco?

Q3 2015 IDC Converged Systems Tracker



**~\$1.5B business for
Cisco today**

- FlexPod & VCE combined account for 49% of revenue market share - UCS
- Rolling 4 qtr revenue for market is \$6.3B
- NetApp, VCE and HP only vendors experiencing YoY growth

IDC, Q32015 Converged Systems Tracker

Relax with
Hyperflex



Cisco Management is Common Denominator and Key Differentiator

Simple, Centralized
Management with **UCS**
Manager and UCS Central

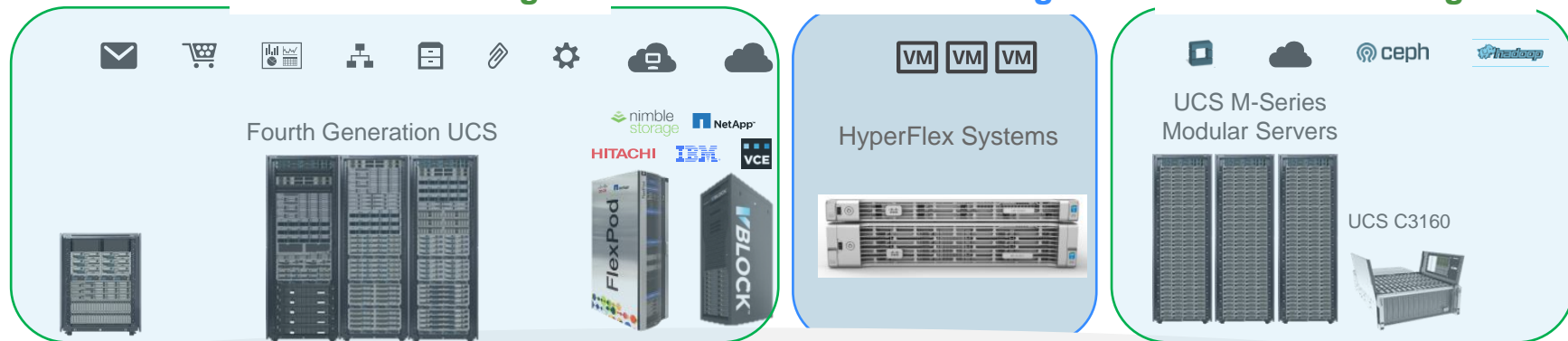
Automation with **UCS**
Director

Telemetry with **UCS**
Performance Manager

Current offerings

New Offering

Current offerings



UCS MINI

UCS B-SERIES

INTEGRATED
INFRASTRUCTURE

HYPERCONVERGED

SCALE OUT

One System, One Management Model

Edge

Core Data Center

Cloud

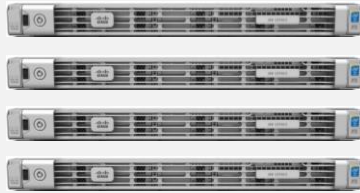
Cisco Hyperflex

- Cisco appliance: HW, SW, support from Cisco
- Scale Storage and Computing independently
- Network Integration UCS-M!
- Full ACI integration soon
- Simple flat licensing
- VMware vsphere preinstalled



Cisco HyperFlex Configurations

HX220c Nodes



HyperFlex
Smallest footprint

HX240c Nodes



HyperFlex
Capacity-heavy

HX240c + B200 for HF
Hybrid Nodes



HyperFlex
Scale Compute
independently

Variety of Common Use Cases



VIRTUAL DESKTOP INFRASTRUCTURE

- Low upfront costs
- Consistent performance
- Predictable scaling



SERVER VIRTUALIZATION

- Reduce operational complexity
- Adaptive Scaling
- Always-on resiliency



TEST & DEVELOPMENT

- Agile provisioning
- Frequent iterations
- Instant cloning and snapshots



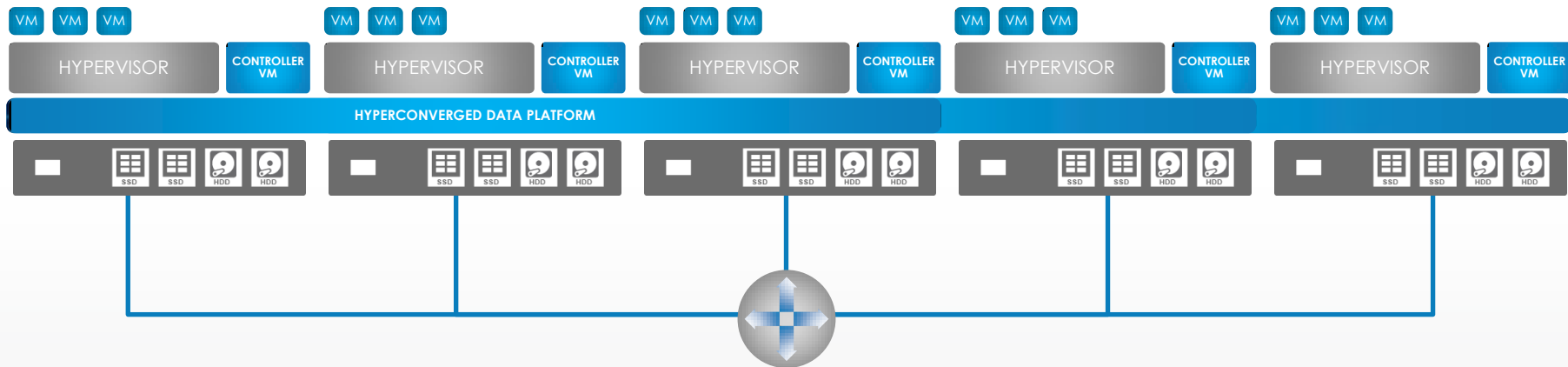
LARGE REMOTE /BRANCH OFFICE

- Simple deployment
- Centralized management
- No “fly-and-fix” missions

Solution Details



Scale Out and Distributed File System



Start with as few
as three nodes

Hyperconverged
Data Platform
installs in minutes

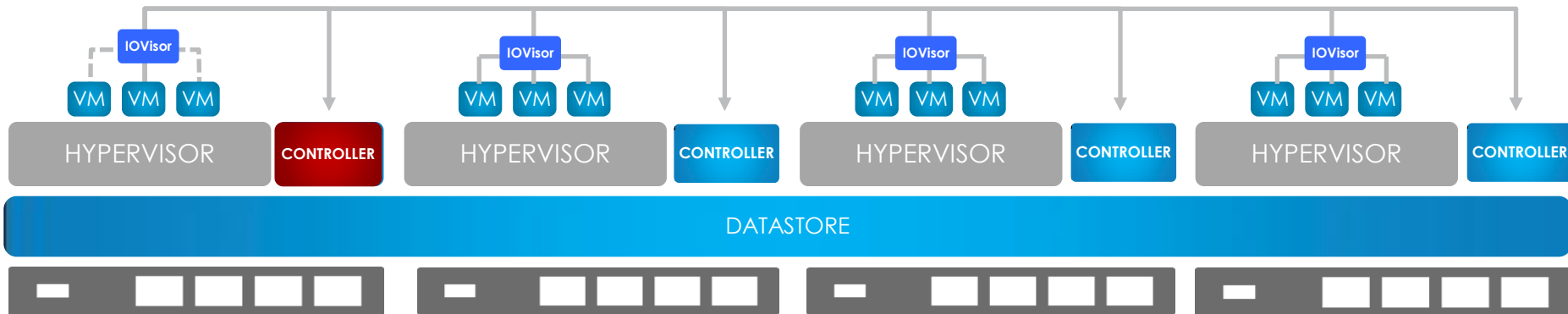
Add Servers, One
or More at a Time

Linearly Scale
Compute, Storage
Performance and
Capacity

Distribute and
rebalance data
across servers
automatically

Retire older
servers

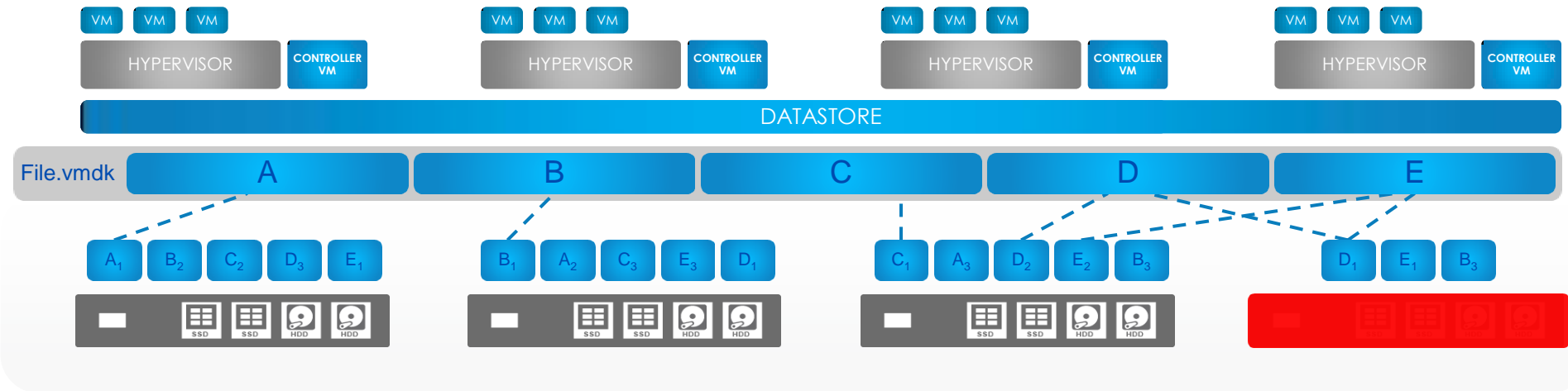
IOVisor Enables Uniform IO Distribution



Avoid controller hot spots

Leverage cache across all SSDs in the cluster

Non-disruptive Operations



Stripeblocks of a file across servers

Replicate one or two additional copies to other servers

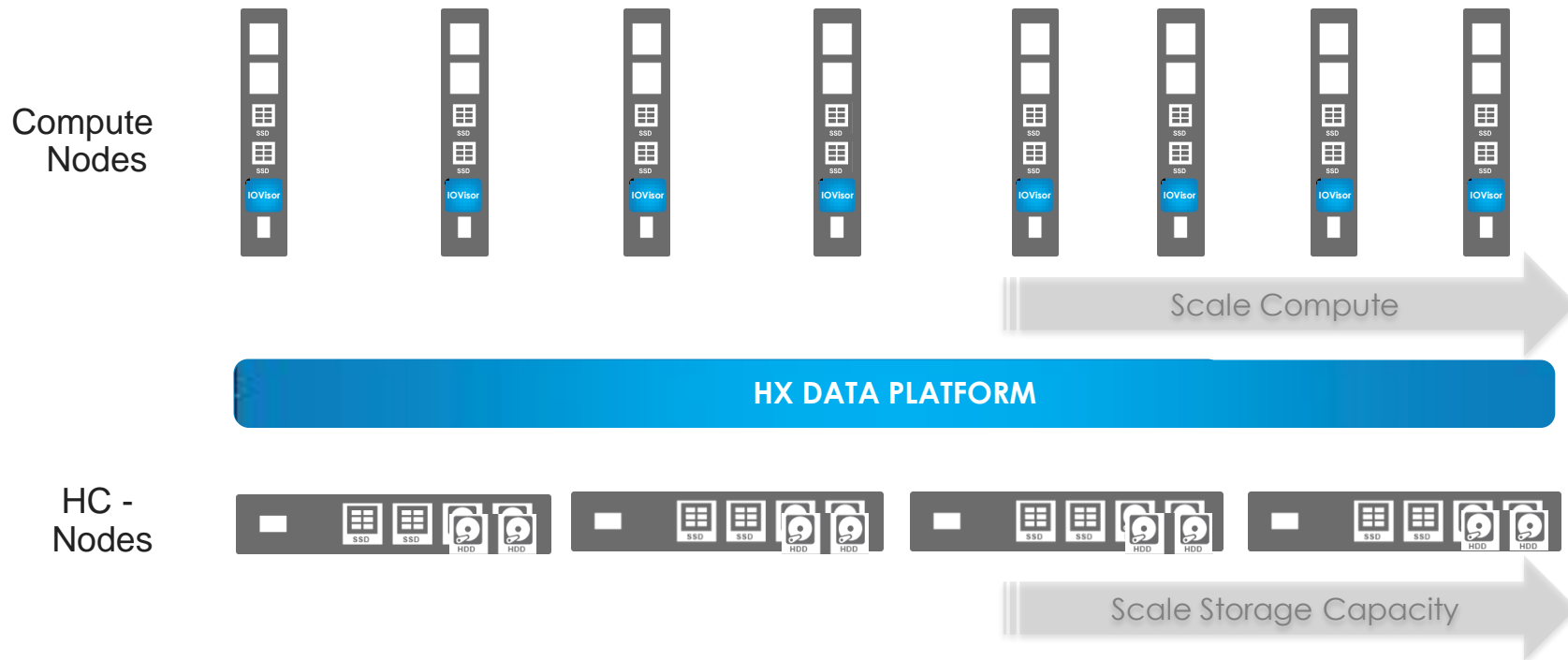
Handle entire server or disk failures

Restore back to original number of copies

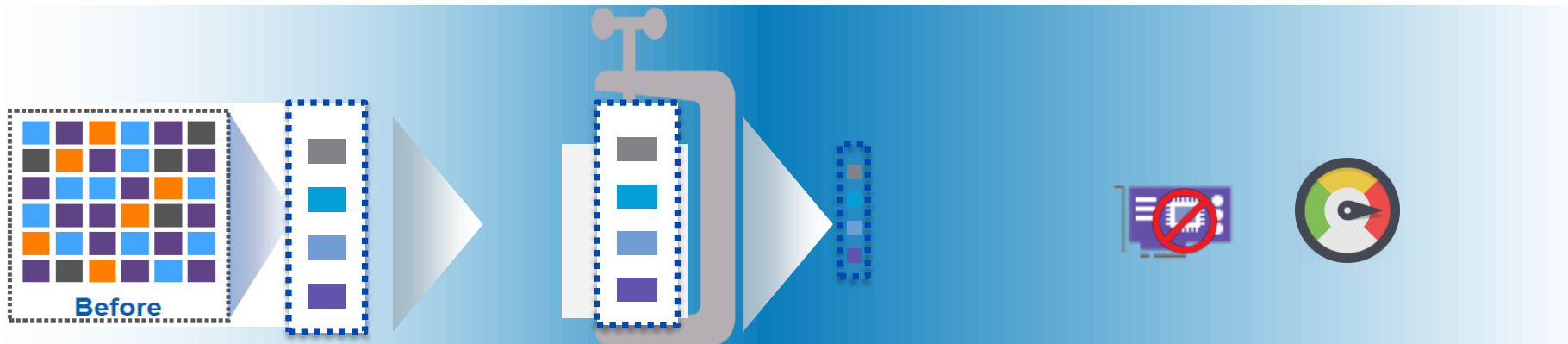
Rebalance VM's and data post replacement

Rolling software upgrades

Independent Scaling of Compute and Capacity



Data Reduction without impacting performance



Inline Deduplication

20-30% space savings

Inline Compression

30–50% Space Savings

No Special Hardware

No Performance Impact

Redirect-on-Write Snapshots for backups

- Pointer-Based Snapshots
 - Space Efficient
 - Fast creations and deletions
- Fine-grained or coarse grained
 - VM-Level or VM Folder Level
- VAAI integrated
 - **Quiesced** and Crash-consistent
- Use vCenter Snapshot Manager
- Policy based
 - Schedules, Retention period



Schedule Snapshot for workload_vm_a1

▼ Hourly Snapshot ☒ Enable Hourly Snapshot

Schedule

Start At: 10:00 AM

Until: 05:00 PM

On: ☐ Sunday ☒ Monday ☒ Tuesday ☒ Wednesday ☒ Thursday ☒ Friday ☐ Saturday

Retention

☒ A maximum of 10 snapshot per VM

☐ Never Expires

▼ Daily Snapshot ☒ Enable Daily Snapshot

Schedule

Start At: 09:00 PM

On: ☐ Sunday ☒ Monday ☒ Tuesday ☒ Wednesday ☒ Thursday ☒ Friday ☐ Saturday

Retention

☒ A maximum of 7 snapshot per VM

☐ Never Expires

▼ Weekly Snapshot ☒ Enable Weekly Snapshot

Schedule

Start At: 05:00 AM

On: ☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☒ Saturday

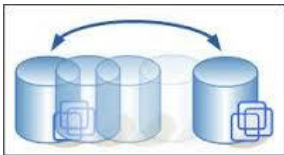
Retention

☒ A maximum of 4 snapshot per VM

☐ Never Expires

OK Cancel

Native VM Clones for Rapid Provisioning



- Pointer-Based Writeable Clones
- VM-level granularity
- VAAI integrated
- Batch creation GUI
 - Apply unique names
 - Use customization spec to apply IP

ReadyClones - ubuntu001

Number of clones

Customization Specification

Clone Names

VM Name Prefix Starting clone number

☒ Use same name for 'Guest Name' Increment clone number by

Preview

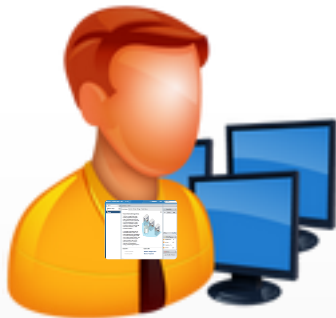
VM Name	Guest Name
1	1
2	2
3	3
4	4
5	5

☐ Power on VMs after cloning

OK Cancel

Fully integrated in VMware

- 100% vCenter Based Management
 - Extends virtualization management seamlessly
 - No switching between management consoles
 - View storage alerts/alarms alongside with ESX alerts/alarms
 - Command line interface for automation



Fast and Easy Installation

STEP 0

VMware and HX Data
Performance Software
Installed on Servers at
Factory/Reseller Before
Shipping to Customer

STEP 1

Rack Up Servers, Power
on, and Add to vCenter

Drag and Drop
Configuration (JSON) File

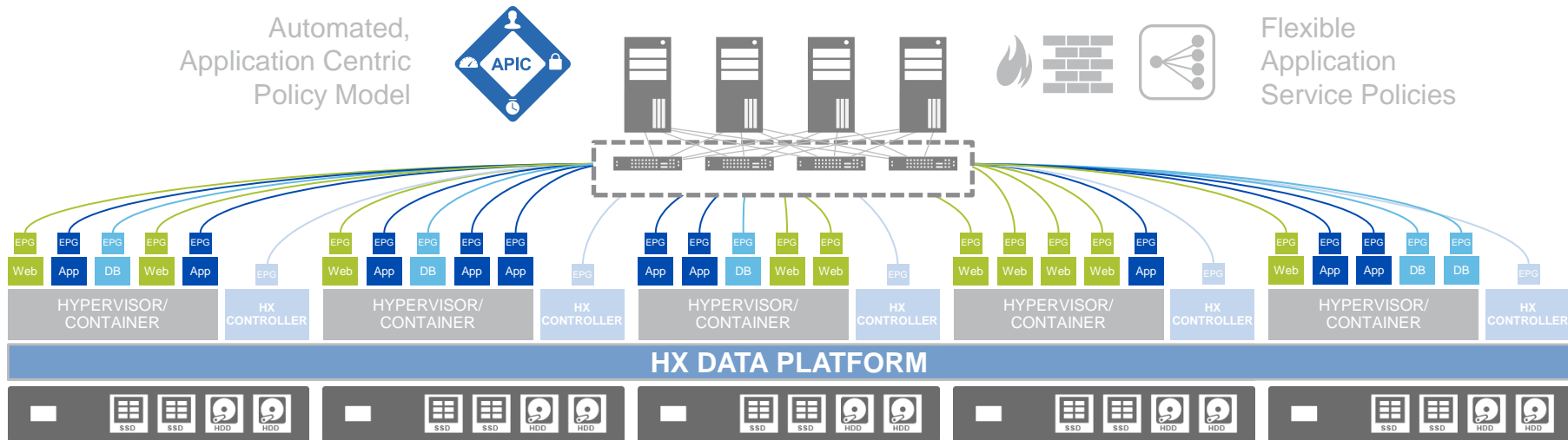
Create, Cluster,
and Datastore

**60 MINUTES
OR LESS**

Start Provisioning VMs

Cisco HyperFlex with Cisco ACI

Diverse Workload Deployments at Enterprise Scale



Simplified Capacity Expansion

Cisco Hyperflex USP

- Scale Storage and Computing independently
- Network Automation (it is a UCS!)
- Fixed cost for known space/performance
- Simple, flat licensing
- Datacenter-in-a-box - 1 hour setup time!



