Vendor Landscape: Server Virtualization

Server virtualization continues to drive value in infrastructure consolidation and management while laying the foundation of private and public computing.

INFO~TECH
research group

Introduction

VMware continues to dominate the server virtualization landscape, but challengers like Microsoft, Citrix, and Red Hat provide competitive features for consolidation and virtual infrastructure management.

This Research Is Designed For:

✓ Enterprises seeking to select a solution for server virtualization.

✓ Server virtualization use cases that may include:

- Organizations looking to garner capital cost savings through consolidation of more server workloads on less server hardware.

- Organizations that are more than 50% virtualized and moving production servers into the virtual environment.

- Organizations considering moving to internal Cloud for increased automation and orchestration of the virtual and physical infrastructure.

This Research Will Help You:

✓ Understand what's new in the server virtualization market.

✓ Evaluate server virtualization vendors and products for your organization's needs.

✓ Determine which products are most appropriate for particular use cases and scenarios.

Executive Summary

Info-Tech evaluated five competitors in the server virtualization market, including the following notable performers:

Champions:

- **Citrix** provides a comprehensive server virtualization solution that is scalable with a good consolidation ratio. It has developed a strong solution with a focus on cloud infrastructure.

- **VMware** holds the largest market share and provides the most fully developed solution for server virtualization. It is a leader in this space in terms of innovation and ability to execute.

Value Award:

- **Citrix** is also the value award winner. In addition to providing a robust solution, it comes in at a much lower cost than many of its competitors.

Trend Setter Award:

- **VMware** has led the way in terms of feature adoption. Software defined architecture, virtual volumes, and distributed storage are all examples of VMware's innovation.

Info-Tech Insight

1. **Cloud is not for everybody:** Cloud computing is *hot* and a clear focus of most vendors in this space. But the high level orchestration, elasticity, self-service, and metering of a Cloud only benefits big-infrastructure enterprises and service providers.

2. **Focus on management features:** As the majority of server workloads are virtualized, the key benefits beyond consolidation are in a more resilient and agile infrastructure. In vendor evaluation, focus on enabling management features – from live migration to storage management integration.

3. **VDI is driving adoption of hybrid environments:** VMware remains the dominant go-to solution for production servers; however, Hyper-V and XenServer are finding a role as a cost saver for those moving to Virtual Desktop Infrastructure.

Market Overview

How it got here

- **Better availability, management.** Vendors, led by VMware, were quick to promote benefits beyond consolidation ratios. *Virtual infrastructure* powers a more agile and resilient management environment, leveraging features such as live migration of virtual machines and clustering of virtualized servers on shared storage for high availability/serviceability.

- **Virtualization goes mainstream.** Advances in server capacity (memory capacity, multi-core processing) *and* virtualization software mean the majority of servers can be virtualized. In 2012 more than half of server workloads (58%) are virtualized.

- **To the Cloud!** Server virtualization is a foundation for automated, metered, self-service Infrastructure-as-a-Service (IaaS) cloud computing. Vendors have been focusing efforts on management features for private and public cloud services. Target customers are large enterprises and service providers with big, dynamically changing server infrastructures.

Where it's going

- **Challengers will close the features gap.** In server virtualization, VMware has historically been first with trailing competitors. VMware continues to lead, but competitors like Citrix and Microsoft are much closer to feature parity with VMware at lower cost. Further, Microsoft has seen improved functionality and is rapidly winning converts with recent upgrades to Hyper-V and System Center.

- **Virtualized networking capabilities** will become prominent features to evaluate in upcoming releases of server virtualization solutions. Already, Cisco, Citrix, VMware, and Red Hat have worked to create a new standard in virtualized networks, VXLAN.

Info-Tech Insight

As the market evolves, capabilities that were once cutting edge become default and new functionality becomes differentiating. Template Libraries have become a Table Stakes capability and should no longer be used to differentiate solutions. Instead, focus on Network Optimization and Shared Nothing Migration to get the best fit for your requirements.

Server Virtualization Vendor selection / knock-out criteria: market share, mind share, and platform coverage

- As organizations increase the number of virtual machines (VMs) they run per host and move virtualization into production workloads, greater management capabilities are required. Vendors included in this Vendor Landscape all provide solutions to ease management and have moved their development focus into utility infrastructure.

- For this Vendor Landscape, Info-Tech focused on those vendors that offer broad capabilities across multiple platforms and that have a strong market presence and/or reputational presence among mid and large-sized enterprises.

Included in this Vendor Landscape:

- **Citrix.** With a comprehensive solution for server virtualization, Citrix is among the top three vendors in this space. Its focus on cloud infrastructure and desktop virtualization is also seen as a plus for potential clients.

- **Microsoft.** Late to virtualization, but now poised to be the first real threat to VMware, Microsoft's 2012 release of Hyper-V and System Center, including Virtual Machine Manager, has narrowed the features gap further than ever before.

- **Oracle.** One of the largest technology companies in the world, entering the virtualization space in 2007. Although its solution has improved scalability, it still lags behind competitors in terms of advanced features.

- **Red Hat.** An open source vendor, Red Hat's anticipated release of Red Hat Enterprise Virtualization 3.1 has continued to excel in consolidation and virtual management capabilities.

- **VMware.** VMware has the most mature product of the group. Its feature-rich offering dominates the server virtualization market and continues to lead in internal cloud innovation.

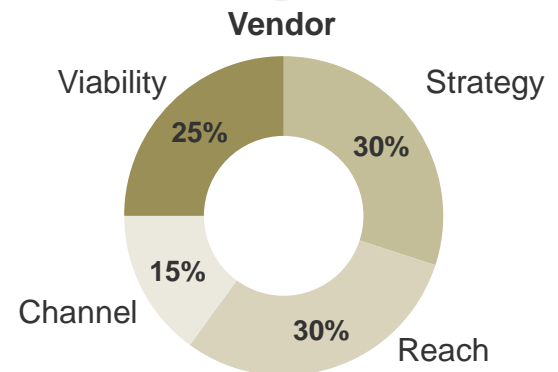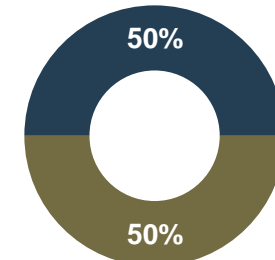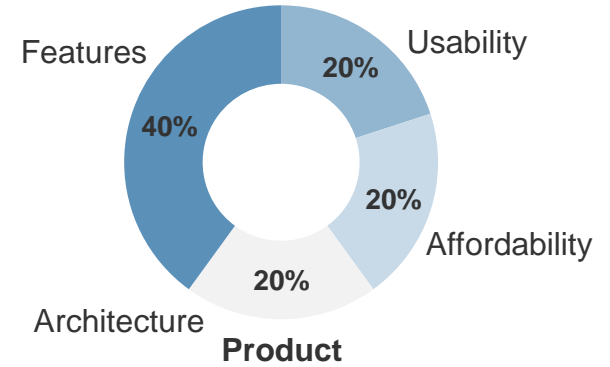# Server Virtualization criteria & weighting factors

Product Evaluation Criteria

Features	The solution provides basic and advanced feature/functionality.
Usability	The solution's dashboard and reporting tools are intuitive and easy to use.
Affordability	The three-year TCO of the solution is economical.
Architecture	The delivery method of the solution aligns with what is expected within the space.

Vendor Evaluation Criteria

Viability	Vendor is profitable, knowledgeable, and will be around for the long-term.
Strategy	Vendor is committed to the space and has a future product and portfolio roadmap.
Reach	Vendor offers global coverage and is able to sell and provide post-sales support.
Channel	Vendor channel strategy is appropriate and the channels themselves are strong.

Criteria Weighting:

Features 40%
Usability 20%
Affordability 20%
Architecture 20%

Product

50%
50%

Vendor

Viability 25%
Strategy 30%
Reach 30%
Channel 15%

# The Info-Tech Server Virtualization Vendor Landscape

The Zones of the Landscape

Champions receive high scores for most evaluation criteria and offer excellent value. They have a strong market presence and are usually the trend setters for the industry.

Market Pillars are established players with very strong vendor credentials, but with more average product scores.

Innovators have demonstrated innovative product strengths that act as their competitive advantage in appealing to niche segments of the market.

Emerging Players are newer vendors who are starting to gain a foothold in the marketplace. They balance product and vendor attributes, though score lower relative to market Champions.

The Info-Tech Vendor Landscape:
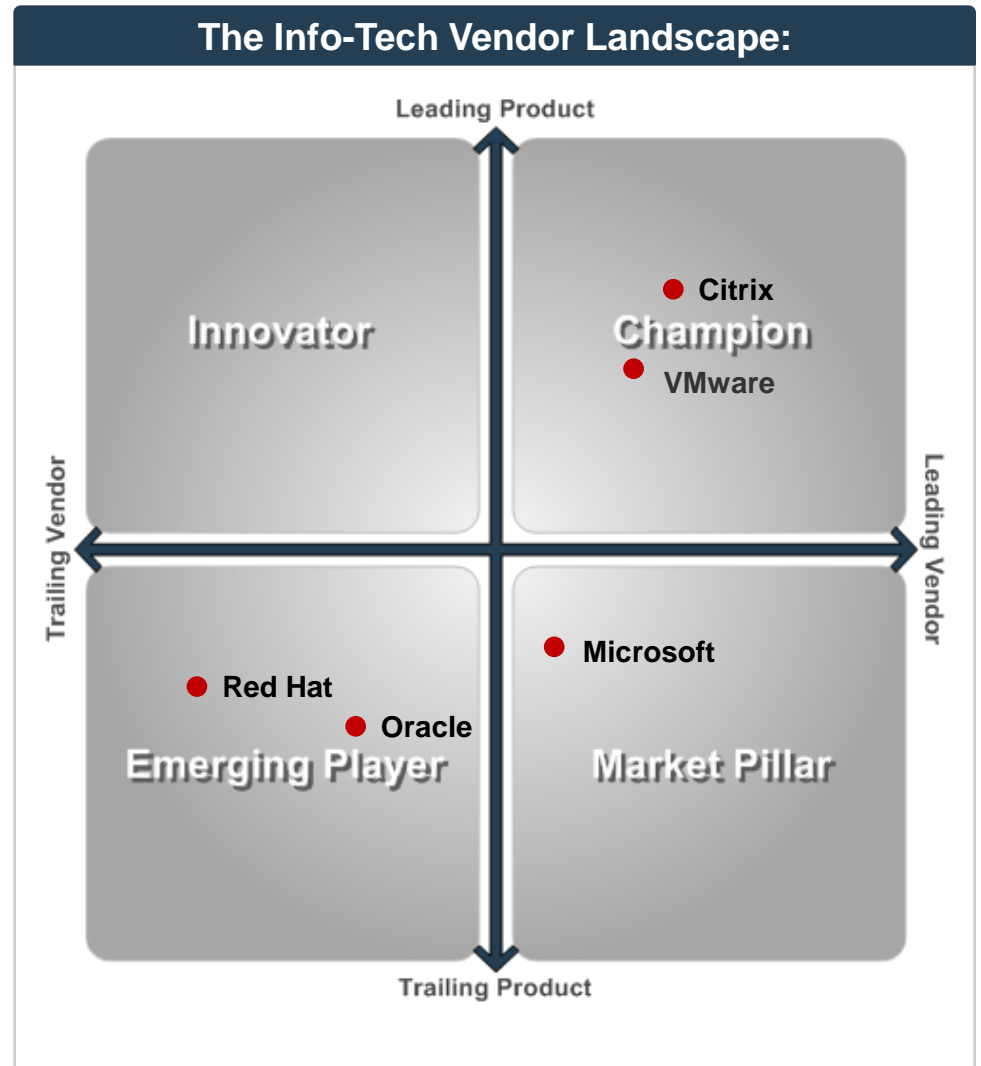
For an explanation of how the Info-Tech Vendor Landscape is created, see Information Presentation – Vendor Landscape in the Appendix.

Balance individual strengths to find the best fit for your enterprise

	Product					Vendor				
	Overall	Features	Usability	Afford.	Arch.	Overall	Viability	Strategy	Reach	Channel
Citrix	Exemplary	Adequate	Adequate	Adequate	Adequate	Exemplary	Adequate	Adequate	Adequate	Inadequate
Microsoft	Adequate	Inadequate	Adequate	Poor	Adequate	Good	Adequate	Adequate	Good	Adequate
Oracle	Adequate	Inadequate	Adequate	Adequate	Inadequate	Good	Adequate	Poor	Good	Adequate
Red Hat	Adequate	Adequate	Good	Adequate	Inadequate	Adequate	Adequate	Good	Adequate	Good
VMware	Exemplary	Adequate	Adequate	Adequate	Adequate	Exemplary	Adequate	Adequate	Adequate	Inadequate

Legend: ⬤ =Exemplary ◕ =Good ◑ =Adequate ◔ =Inadequate ○ =Poor

For an explanation of how the Info-Tech Harvey Balls are calculated, see Information Presentation – Criteria Scores (Harvey Balls) in the Appendix.

# The Info-Tech Server Virtualization Value Index

What is a Value Score?

The Value Score indexes each vendor's product offering and business strength **relative to its price point**. It **does not** indicate vendor ranking.

Vendors that score high offer more **bang-for-the-buck** (e.g. features, usability, stability, etc.) than the average vendor, while the inverse is true for those that score lower.

Price-conscious enterprises may wish to give the Value Score more consideration than those who are more focused on specific vendor/product attributes.

■ Champion
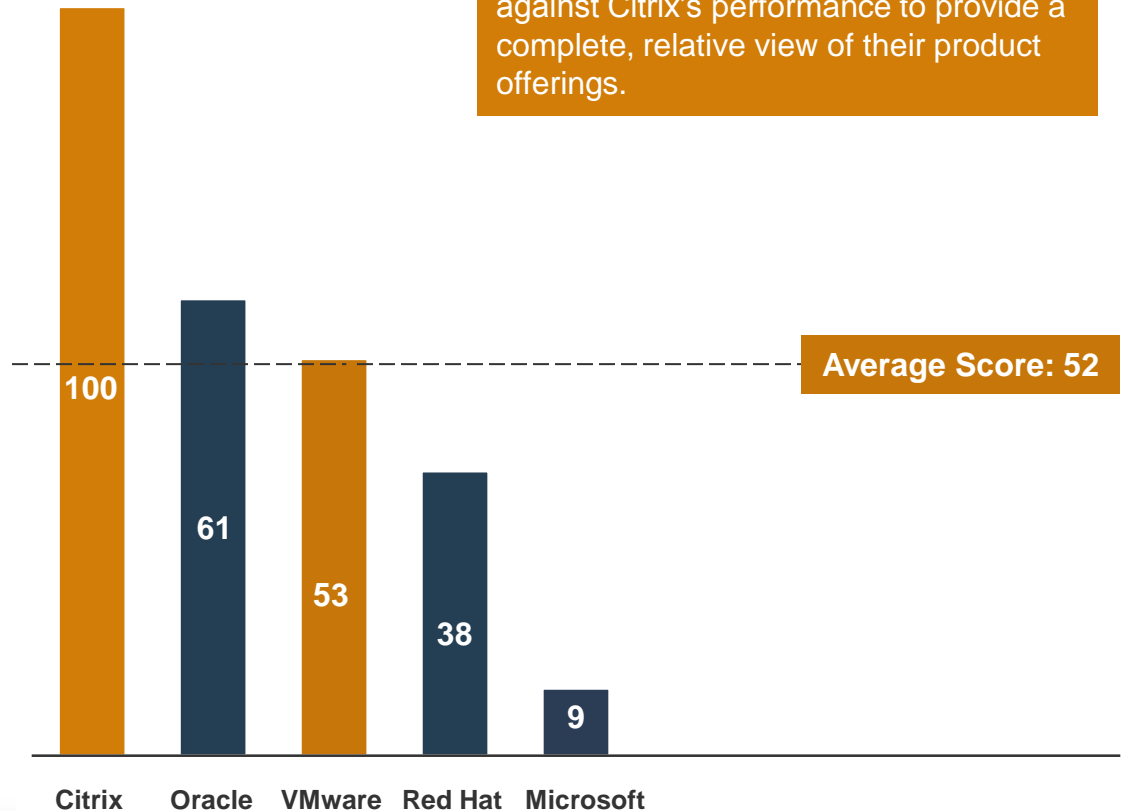
On a relative basis, Citrix maintained the highest Info-Tech **Value Score**™ of the vendor group. Vendors were indexed against Citrix's performance to provide a complete, relative view of their product offerings.

Average Score: 52

Citrix	Oracle	VMware	Red Hat	Microsoft
100	61	53	38	9

For an explanation of how Price is determined, see Information Presentation – Price Evaluation in the Appendix.

For an explanation of how the Info-Tech Value Index is calculated, see Information Presentation – Value Index in the Appendix.

Table Stakes represent the minimum standard; without these, a product doesn't even get reviewed

The Table Stakes

Feature	What it is:
Virtual Machine Creation	Partitioning of a physical server into multiple VMs.
P2V Migration	Conversion of physical servers to virtual servers.
High Availability	Ability to restart VMs on another host in case of hardware failure for minimum downtime.
Live Migration	Movement of running VMs from one physical host to another, without downtime.
Template/Image Library	Availability of a template or image library for the rapid provisioning of new VMs.

What Does This Mean?

The products assessed in this Vendor Landscape™ meet, at the very least, the requirements outlined as Table Stakes.

Many of the vendors go above and beyond the outlined Table Stakes, some even do so in multiple categories. This section aims to highlight the products' capabilities **in excess** of the criteria listed here.

Info-Tech Insight

If Table Stakes are all you need from your server virtualization solution, the only true differentiator for the organization is price. Otherwise, dig deeper to find the best price to value for your needs.

Advanced Features are the capabilities that allow for granular market differentiation

Scoring Methodology

Info-Tech scored each vendor's features offering as a summation of its individual scores across the listed advanced features. Vendors were given one point for each feature the product inherently provided. Some categories were scored on a more granular scale with vendors receiving half points.

Advanced Features

Feature	What we looked for:
Storage Live Migration	Moving VMs between storage arrays, without downtime.
Storage Array Integration	Offloading storage tasks from host servers to the storage array (e.g. boot VM from SAN).
Advanced Memory Mgmt	Memory management using memory ballooning technology and transparent page sharing.
HA & Fault Tolerance	Continuous availability of VMs during hardware failures.
Chargeback	Accurate measurement of resource usage by department or business unit.
Storage DRA	Automated monitoring and load balancing of storage to avoid storage resource bottlenecks.
Shared Nothing Migration	The ability to move a powered up VM between hosts without the need for shared storage.
Heterogeneous Hypervisor Mgmt	Management of hypervisors from other vendors.
Automated Site Recovery	Leverages SAN-based replication to keep VM files and configuration data at backup location.
Network Services	Solutions are capable of network optimization techniques to reduce network congestion.

For an explanation of how Advanced Features are determined, see Information Presentation – Feature Ranks (Stop Lights) in the Appendix.

Each vendor offers a different feature set; concentrate on what your organization needs

	Evaluated Features									
	Storage Live Migration	Storage Array Int.	Adv. Mem. Mgmt	HA & Fault Tolerance	Charge-back	Storage DRA	S.N.M	Hetero. HV Mgmt.	Auto Site Recovery	Network Services
Citrix	🟢	🟢	🟢	🟢	🟢	🟡	🟢	🟡	🟢	🟢
Microsoft	🟢	🟢	🟡	🟢	🟢	🔴	🟢	🟢	🟢	🔴
Oracle	🔴	🔴	🟡	🟢	🟢	🔴	🔴	🔴	🔴	🔴
Red Hat	🟢	🔴	🟢	🟢	🟢	🔴	🔴	🔴	🟡	🟢
VMware	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢

Legend 🟢 =Feature fully present   🟡 =Feature partially present/pending   🔴 =Feature Absent

For an explanation of how Advanced Features are determined, see Information Presentation – Feature Ranks (Stop Lights) in the Appendix.

Look to vendors that enable strong capabilities for consolidating servers & managing a virtual environment

Live migration, dynamic resourcing, storage integration, and site recovery automation are key components for strong virtual infrastructure management.

1 Consolidation / Management

2

3

Why Scenarios?

In reviewing the products included in each Vendor Landscape™, certain use cases come to the forefront. Whether those use cases are defined by applicability in certain locations, relevance for certain industries, or as strengths in delivering a specific capability, Info-Tech recognizes those use cases as Scenarios, and calls attention to them where they exist.

Exemplary Performers

CITRIX®

Citrix has proven itself to be a highly competent solution for consolidation and management by offering each of the features listed above.

vmware®

VMware offers each of the features listed above, and is the only vendor evaluated that offers native storage dynamic resource allocation.

Microsoft

Microsoft has delivered a strong solution that more than meets the needs of any business looking for server consolidation and virtual environment manageability.

For an explanation of how Scenarios are determined, see Information Presentation – Scenarios in the Appendix.

Consider vendors with internal Cloud capabilities if your organization is moving to an *IaaS* model

Self-service provisioning, template libraries, charge-backs, and role-based access are important features for internal cloud enabled by these vendors.

1

2 **Internal Cloud**

3

Why Scenarios?

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Exemplary Performers

CITRIX

Citrix's focus on Cloud is unparalleled by other vendors. As a result, Citrix has become the go-to vendor when looking at cloud-ready solutions.

vmware

VMware's broad feature set allows it to cover a large range of business needs. Internal Cloud is only one of many use cases in which VMware excels.

For an explanation of how Scenarios are determined, see Information Presentation – Scenarios in the Appendix.

Consider desktop virtualization plans as part of your server virtualization vendor selection process

Not all solutions play well with others. Organizations planning to virtualize desktops should consider which virtual desktop vendors are compatible.

3 **Desktop Virtualization**

Why Scenarios?

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Citrix XenDesktop

CITRIX   vmware®

VMware View

vmware®

Quest vWorkspace

vmware®   ▌▌ Microsoft

Microsoft Desktop Optimization Package

▌▌ Microsoft

RHEV for Desktops

redhat.

Oracle VDI

ORACLE®

For an explanation of how Scenarios are determined, see Information Presentation – Scenarios in the Appendix.

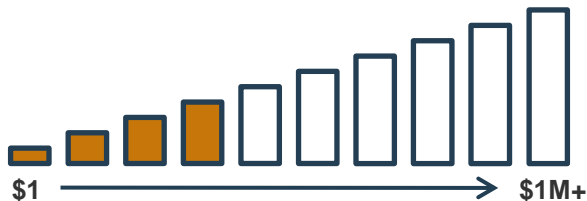# Citrix offers a comprehensive solution for server virtualization at a low cost

Champion

Product: XenServer
Employees: ~8,000
Headquarters: Santa Clara, CA
Website: citrix.com
Founded: 1989
Presence: NASDAQ: CTXS

3 year TCO for this solution falls into pricing tier 4, between $10,000 and $25,000

$1 ————————→ $1M+

Pricing provided by vendor

Overview

- Following its purchase of XenSource in 2007, Citrix developed a comprehensive product line from server to desktop virtualization. Its acquisition of cloud.com marks a shift in focus to cloud management and makes it an ideal solution for service providers.
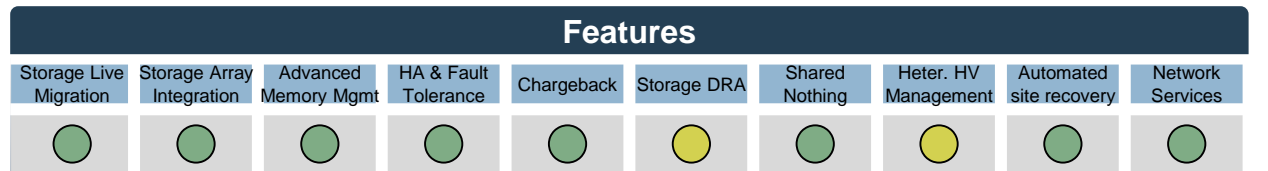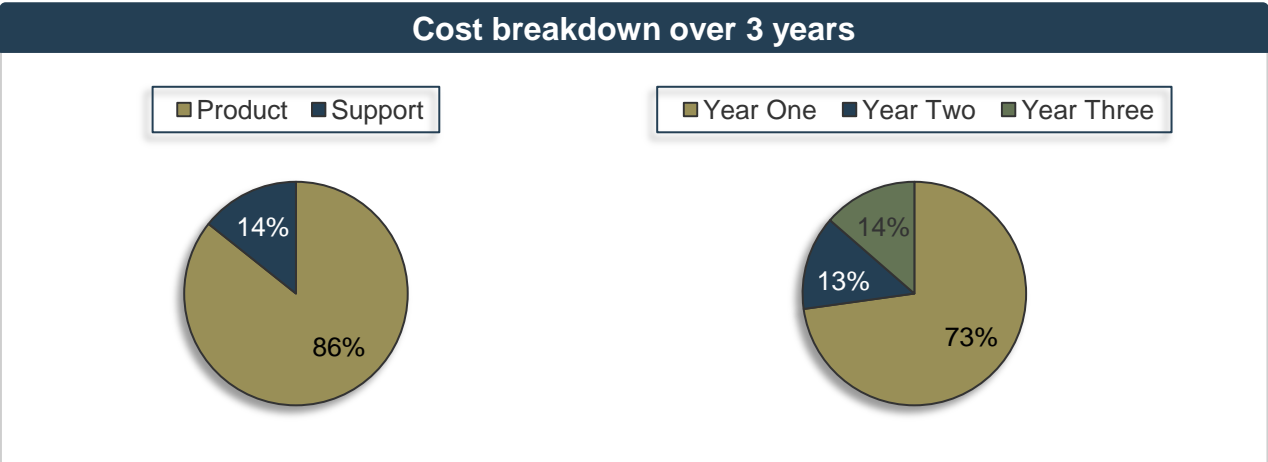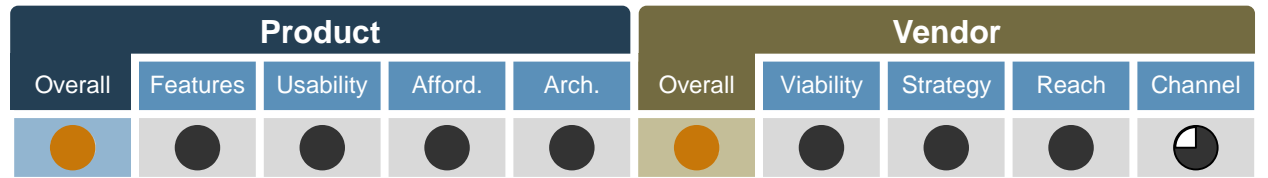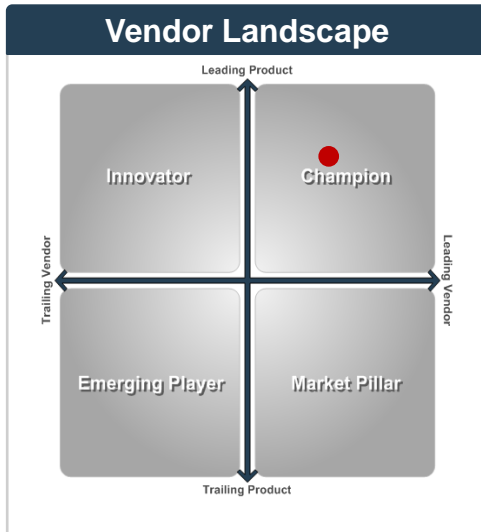
Strengths

- Citrix's interface has simplified VM placement and migration by allowing users to drag and drop VMs. Further, XenServer now includes storage migration for additional ease of use.
- The release of XenServer 6.1 assists organizations in becoming cloud ready through enhancements to security and isolation.
- XenServer offers automated batch conversion of VMware virtual machines into Citrix virtual machines.
- Citrix has been a strong contender for features, keeping up with leading solutions in implementing features such as shared nothing migration.
- For organizations looking to cut costs, Citrix offers XenServer Conversion Manager for batch conversion from vSphere.

Challenges

- XenServer requires the use of third parties for heterogeneous hypervisor management. Plug-ins currently exist to manage vSphere, Hyper-V, and KVM from XenCenter.
- Citrix's focus on Cloud is causing it to lose mind share from other businesses despite meeting the needs of most.

Citrix provides a robust product with a large list of supported guest operating systems

Vendor Landscape

- Innovator
- Champion
- Emerging Player
- Market Pillar

Axes: Leading Product / Trailing Product (vertical), Trailing Vendor / Leading Vendor (horizontal)

Value Index

100

1st out of 5

Product

Overall	Features	Usability	Afford.	Arch.
● (orange)	●	●	●	●

Vendor

Overall	Viability	Strategy	Reach	Channel
● (orange)	●	●	●	◐

Cost breakdown over 3 years

■ Product ■ Support

14%
86%

■ Year One ■ Year Two ■ Year Three

14%
13%
73%

Features

Storage Live Migration	Storage Array Integration	Advanced Memory Mgmt	HA & Fault Tolerance	Chargeback	Storage DRA	Shared Nothing	Heter. HV Management	Automated site recovery	Network Services
🟢	🟢	🟢	🟢	🟢	🟡	🟢	🟡	🟢	🟢

Info-Tech Recommends:

Look closely at Citrix as an alternative to VMware. It offers many of the same features as VMware, but at a lower price point.
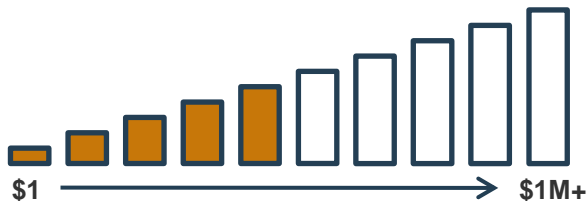
VMware's comprehensive feature set and continued innovation and acquisitions make it a clear leader

Champion

Product:	vSphere and vCenter
Employees:	8,200+
Headquarters:	Palo Alto, CA
Website:	vmware.com
Founded:	1988
Presence:	NYSE: VMW

vmware®

3 year TCO for this solution falls into pricing tier 5, between $25,000 and $50,000

$1 ———————————→ $1M+

Pricing provided by vendor

Overview

- Founded in 1998, and acquired by EMC in 2004, VMware holds dominant mind and market share in the space. It was an early entrant into private cloud enablement and continues to show commitment to the space while trickling features to vSphere.
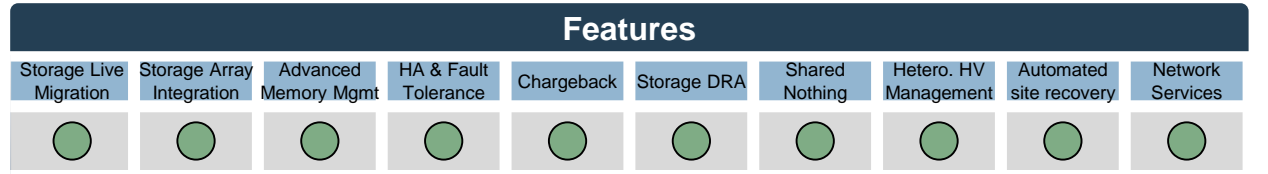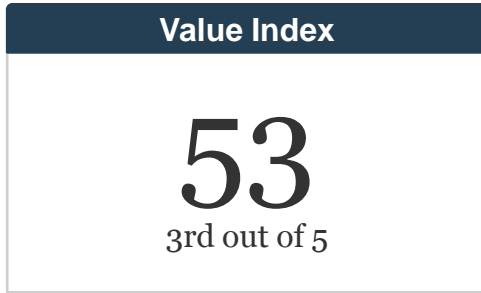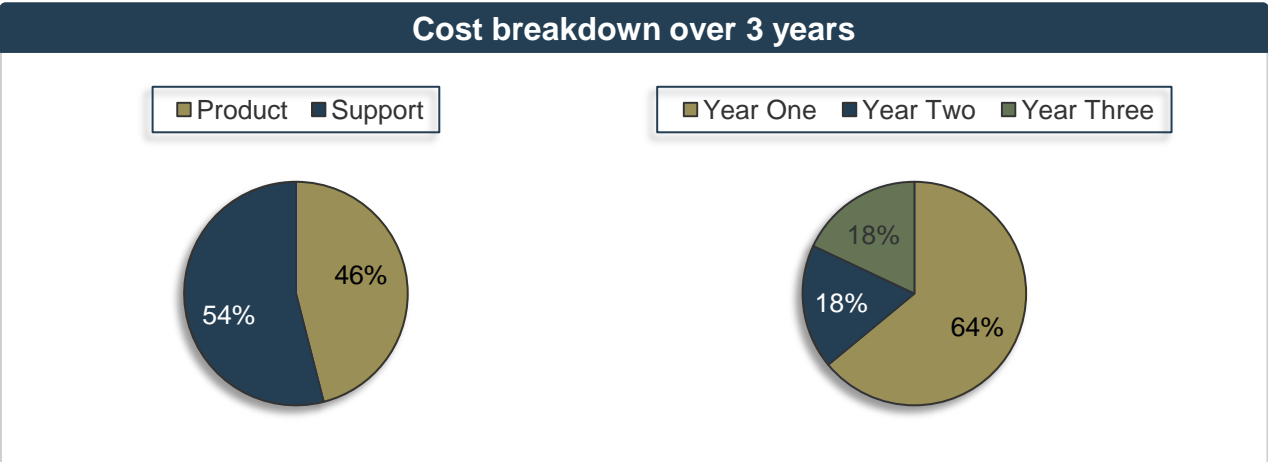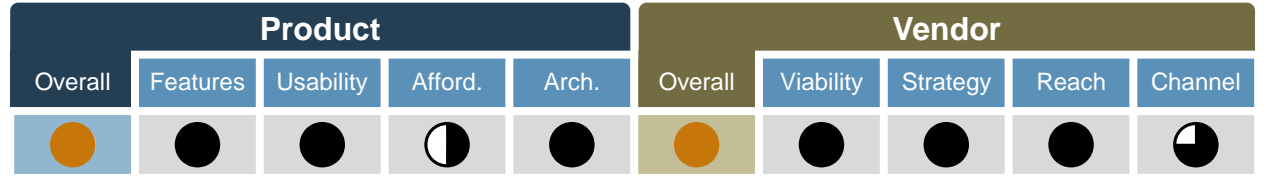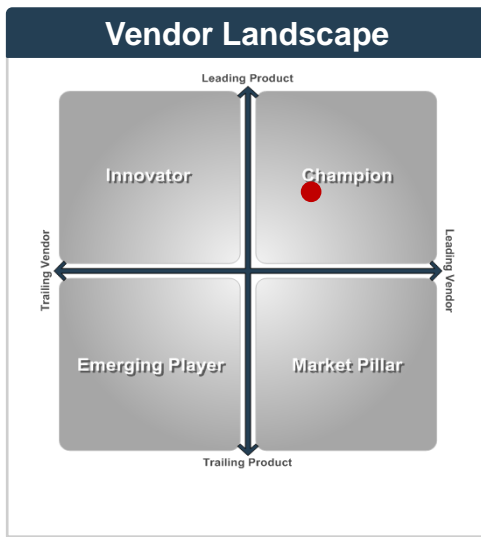
Strengths

- VMware has a strong reputation for providing a leading edge server virtualization solution.
- VMware's 5.1 release of vSphere no longer contains the vRAM memory cap that debuted in vSphere 5.0. Instead, licensing is based on a per-socket basis.
- VMware Ready Data Protection Program allows for deep integration from partners offering backup solutions for virtualization. Some partners include Symantec, EMC Avamar, and HP Data Protector.
- vSphere 5.1 includes vSphere Data Protection, a backup and recovery solution powered by EMC Avamar.

Challenges

- Though VMware offers the most features of all solutions evaluated, it also comes at the highest price.

VMware is a strong solution, but comes at a high price

Vendor Landscape

Leading Product

Innovator | Champion

Trailing Vendor ← → Leading Vendor

Emerging Player | Market Pillar

Trailing Product

Value Index

53
3rd out of 5

Product					Vendor				
Overall	Features	Usability	Afford.	Arch.	Overall	Viability	Strategy	Reach	Channel
◐	●	●	◐	●	◐	●	●	●	◕

Cost breakdown over 3 years

■ Product ■ Support

46%
54%

■ Year One ■ Year Two ■ Year Three

18%
18%
64%

Features

Storage Live Migration	Storage Array Integration	Advanced Memory Mgmt	HA & Fault Tolerance	Chargeback	Storage DRA	Shared Nothing	Hetero. HV Management	Automated site recovery	Network Services
🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢

Info-Tech Recommends:

If your virtualization roadmap dictates requirements for advanced storage management capabilities, VMware is the best bet hands down. VMware holds dominant market share and continues to develop advanced capabilities; however, its licensing model makes it an expensive solution. When selecting a vendor, consider looking at less costly competitors that are catching up to VMware's feature set.
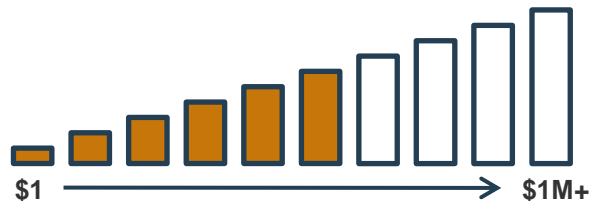
Microsoft has been playing catch up with VMware in past releases, but 2012 marks Microsoft's closest solution yet

Market Pillar

Product: Hyper-V Server
Employees: 89,000
Headquarters: Redmond, WA
Website: microsoft.com
Founded: 1975
Presence: NASDAQ: MSFT

3 year TCO for this solution falls into pricing tier 6, between $50,000 and $100,000

$1 $1M+

Pricing solicited from public sources

Overview

- Microsoft entered the virtualization game with its purchase of Virtual PC from Connectix in 2003. The recent release of Hyper-V Server 2012 has helped Microsoft close the gap on VMware and Citrix for consolidation and virtual management.
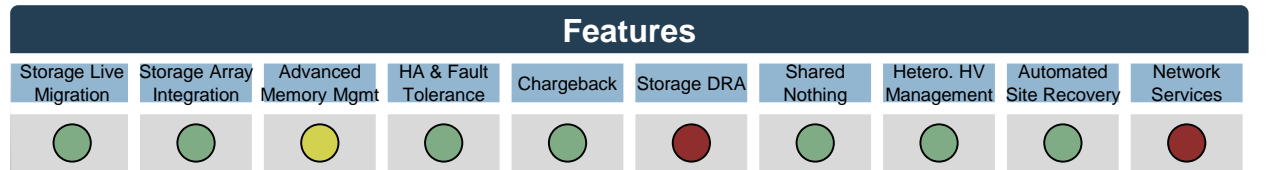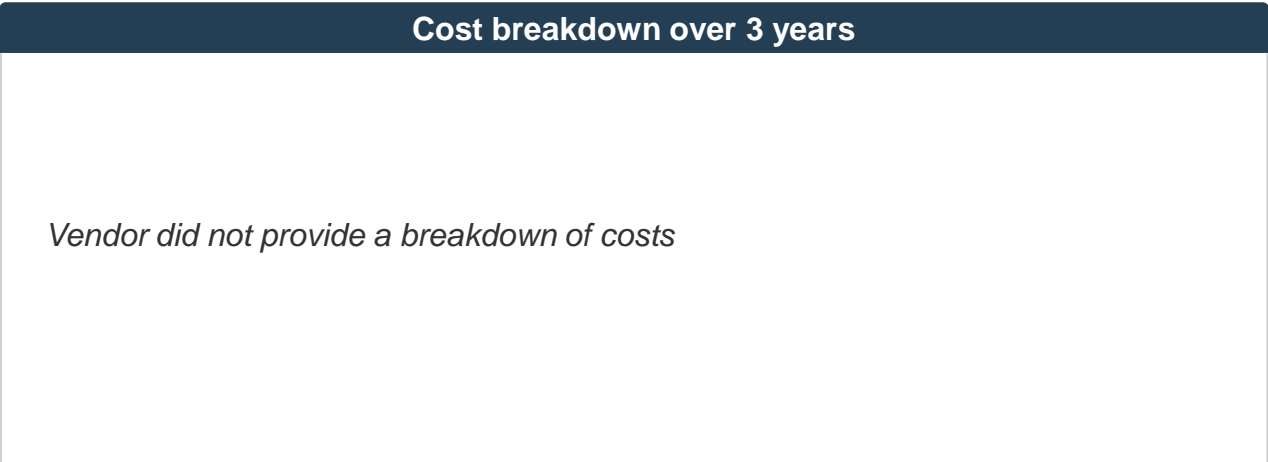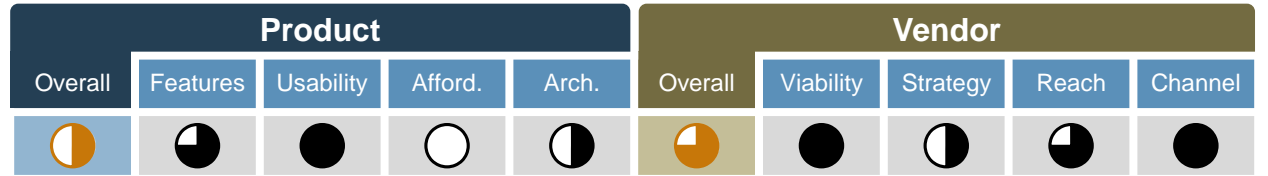
Strengths

- Hyper-V is a beneficial solution for Windows shops as it is built into Windows Server 2012 and the management tools will already be familiar to those who have managed Windows systems. Additionally, because Hyper-V is built into Windows Server, virtualization comes at no extra cost after licensing the server product.
- Microsoft offers end-to-end V2V migration from VMware to Microsoft using the Virtual Machine Migration Toolkit.
- Hyper-V 2012 contains many of the capabilities (Shared Nothing Migration, 1024 active virtual machines per host, No restrictions on storage migrations) found in the most recent releases of VMware and Citrix.

Challenges

- Microsoft currently lacks in mind share, but the release of Windows Server 2012 and Hyper-V 2012 is quickly building hype about Microsoft's ability to deliver a strong virtual server solution.
- Microsoft lacks transparent page sharing.

Microsoft is a lower cost solution that approaches the capabilities of VMware, with a simple, familiar interface

Vendor Landscape

Value Index

9

5th out of 5

Product					Vendor				
Overall	Features	Usability	Afford.	Arch.	Overall	Viability	Strategy	Reach	Channel
◐	◕	●	○	◐	◔	●	◑	◕	●

Cost breakdown over 3 years

Vendor did not provide a breakdown of costs

Features

Storage Live Migration	Storage Array Integration	Advanced Memory Mgmt	HA & Fault Tolerance	Chargeback	Storage DRA	Shared Nothing	Hetero. HV Management	Automated Site Recovery	Network Services
🟢	🟢	🟡	🟢	🟢	🔴	🟢	🟢	🟢	🔴

Info-Tech Recommends:

It has taken years for Microsoft to catch up to industry leader VMware. Info-Tech believes Microsoft has finally succeeded in building a comprehensive server virtualization and private cloud management solution that is good enough at lower cost – a cost effective though not superior alternative to VMware.
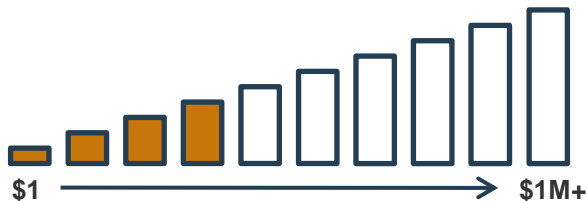
Oracle's open source solution is ideal for companies looking for server virtualization on a budget

Emerging Player

Product:	Oracle VM
Employees:	108,428
Headquarters:	Redwood Shores, CA
Website:	oracle.com
Founded:	1977
Presence:	NASDAQ/NYSE: ORCL

ORACLE®

3 year TCO for this solution falls into pricing tier 4, between $10,000 and $25,000

$1 ———————————→ $1M+

Pricing solicited from public sources

Overview

- Oracle introduced its Xen-based virtualization solution, OVM, in 2007. Oracle's solution will likely include network virtualization in the future, once the acquisition of Xsigo Systems has been finalized.
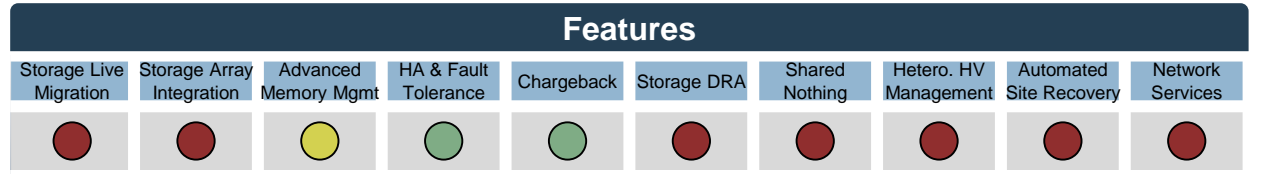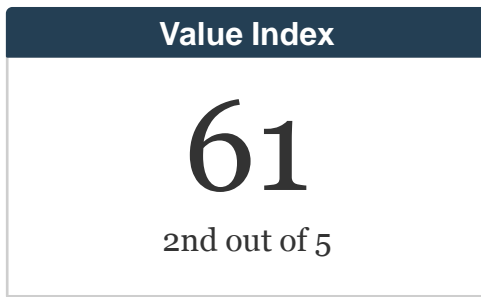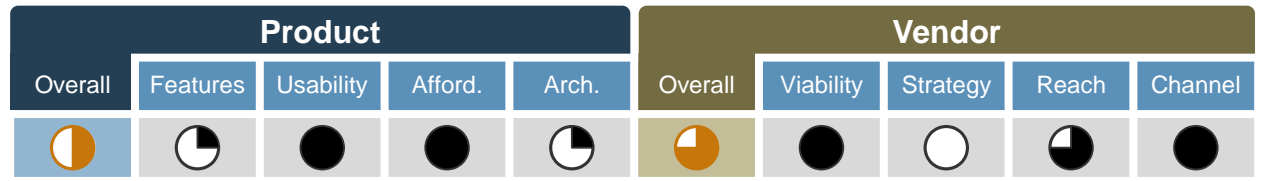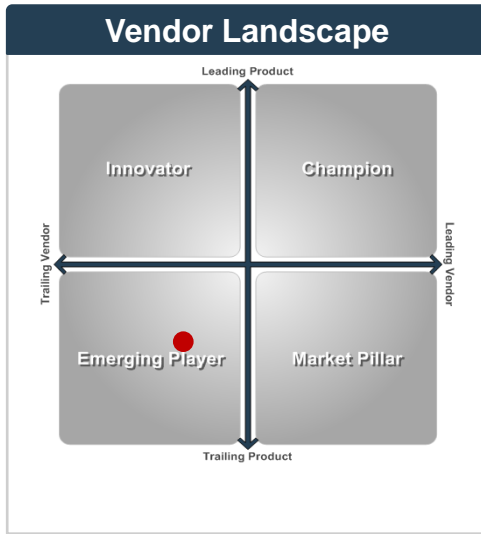
Strengths

- Oracle is one of the largest technology companies in the world and has the strength of its broad range of hardware and software offerings behind it.
- Oracle VM 3.1 brings upgrades to the administration user interface that simplifies ease of use. Additionally, wizards have been added to the interface to assist in simplification of deployments.
- Support of open virtualization format (OVF) enables the use of Oracle VM to run other vendors' virtual machines.

Challenges

- Oracle VM is not as feature-rich as its competitors and struggles to gain traction and significant share of the server virtualization market.

Oracle VM supports full functionality with all Oracle applications, but lacks the feature set found in other solutions

Vendor Landscape

Leading Product

Innovator	Champion
Emerging Player	Market Pillar

Trailing Vendor — Leading Vendor

Trailing Product

Value Index

61

2nd out of 5

Product

Overall	Features	Usability	Afford.	Arch.
◐	◔	●	●	◔

Vendor

Overall	Viability	Strategy	Reach	Channel
◕	●	○	◕	●

Cost breakdown over 3 years

■ Product ■ Support

0%

100%

■ Year One ■ Year Two ■ Year Three

33.3% 33.3% 33.3%

Features

Storage Live Migration	Storage Array Integration	Advanced Memory Mgmt	HA & Fault Tolerance	Chargeback	Storage DRA	Shared Nothing	Hetero. HV Management	Automated Site Recovery	Network Services
🔴	🔴	🟡	🟢	🟢	🔴	🔴	🔴	🔴	🔴

Info-Tech Recommends:

Businesses looking for simple virtualization at low cost will find Oracle an ideal solution. Organizations looking for a higher end product will need to look to other solutions, however.
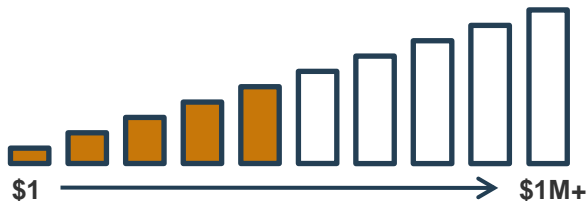
Red Hat's 3.1 release continues to show a considerable increase in capability

Emerging Player

Product: Red Hat Enterprise Virtualization
Employees: 4,760+
Headquarters: Raleigh, NC
Website: redhat.com
Founded: 1993
Presence: NYSE: RHT

3 year TCO for this solution falls into pricing tier 5, between $25,000 and $50,000

$1 ——————————→ $1M+

Pricing provided by vendor

Overview

- Red Hat acquired the KVM hypervisor with its acquisition of Qumranet in 2008 and began virtualization support with Red Hat Enterprise Linux 5.4. Red Hat has been gaining momentum and continues to do so with the release of RHEV 3.1.
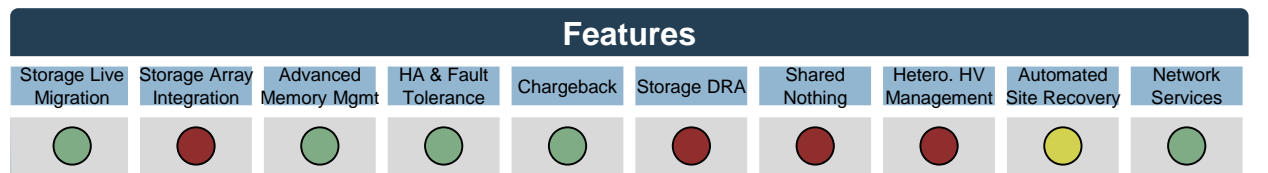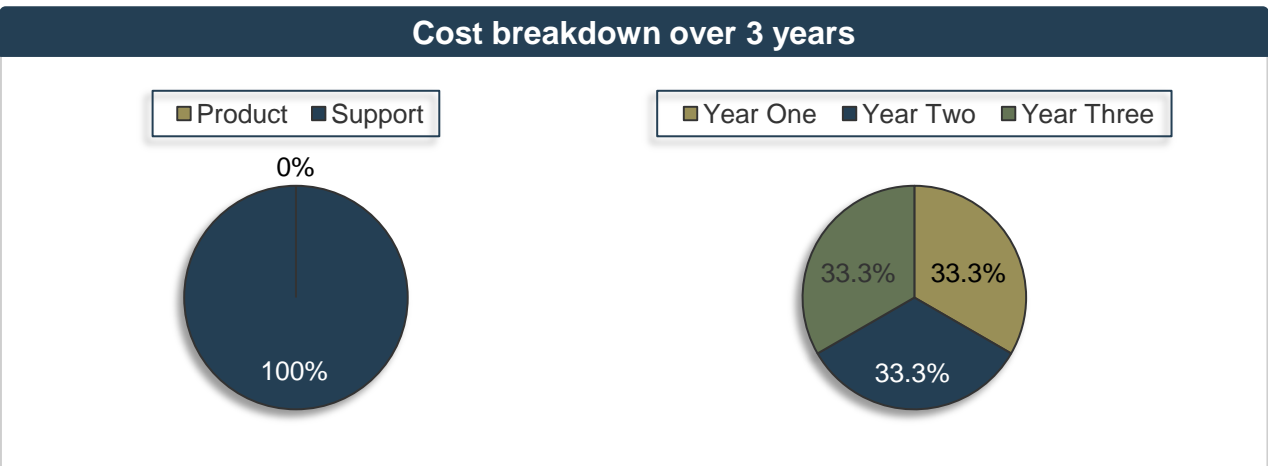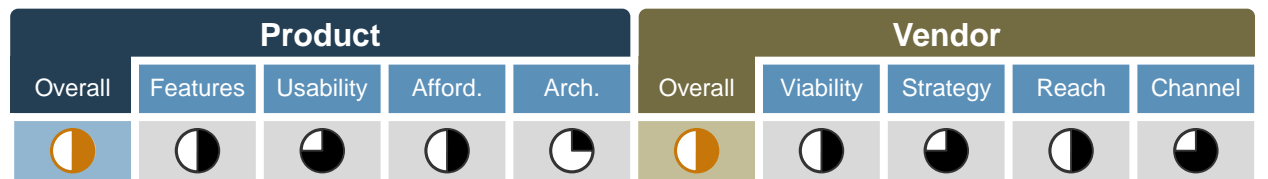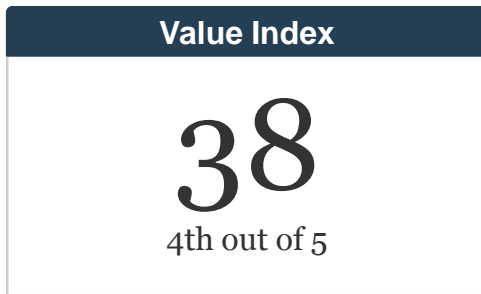
Strengths

- Being an open source solution, the RHEV subscription-based pricing model is a significant benefit.
- RHEV's Linux-only architecture is, and has been, instrumental for enterprises implementing virtualization in existing Linux environments.
- Red Hat has kept itself relevant by adding the features customers want. Features such as live migration and storage live migration are present, while the less used features are left out.

Challenges

- RHEV does not currently support Storage Array Integration, though implementation of this feature is on the roadmap for future versions of RHEV.
- RHEV relies on third parties for automated site recovery.

RHEV, built on KVM architecture, has improved performance and scalability

Vendor Landscape

Value Index

38

4th out of 5

Product

Overall	Features	Usability	Afford.	Arch.
◐	◐	◑	◐	◔

Vendor

Overall	Viability	Strategy	Reach	Channel
◐	◐	◑	◐	◑

Cost breakdown over 3 years

■ Product ■ Support

0%

100%

■ Year One ■ Year Two ■ Year Three

33.3% 33.3% 33.3%

Features

Storage Live Migration	Storage Array Integration	Advanced Memory Mgmt	HA & Fault Tolerance	Chargeback	Storage DRA	Shared Nothing	Hetero. HV Management	Automated Site Recovery	Network Services
🟢	🔴	🟢	🟢	🟢	🔴	🔴	🔴	🟡	🟢

Info-Tech Recommends:

Red Hat offers a cost-effective alternative. Although its value index indicates that it's a more expensive solution; unlike competitors, the price won't increase as you make use of advanced features. Large enterprises with considerable VMware deployment may look at RHEV as a way to avoid vendor lock-in and decrease their server virtualization expense.

Identify leading candidates with the *Server Virtualization Vendor Shortlist Tool*

The Info-Tech *Server Virtualization Vendor Shortlist Tool* is designed to generate a customized shortlist of vendors based on *your* key priorities.

This tool offers the ability to modify:

- Overall Vendor vs. Product Weightings

- Individual product criteria weightings:
  - ✓ Features
  - ✓ Usability
  - ✓ Affordability
  - ✓ Architecture

- Individual vendor criteria weightings:
  - ✓ Viability
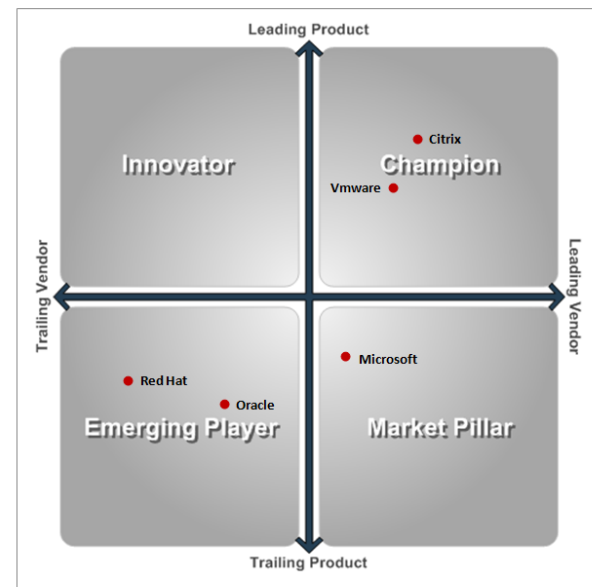 - ✓ Strategy
  - ✓ Reach
  - ✓ Channel

INFO~TECH research group
PRACTICAL IT RESEARCH THAT DRIVES MEASURABLE RESULTS

Custom Vendor Landscape™ and Vendor Shortlist

Your customized Vendor Shortlist is sorted based on the priorities identified on the Data Entry tab. Scores are calculated using the Client Weightings and the assigned Info-Tech Vendor Landscape scores. Vendors are ranked based on the computed Average Score. The Average Score is the average of the weighted average Vendor Score and the weighted average Product Score. A custom Vendor Landscape™ has been generated as well, plotting the weighted average Vendor Score against the weighted average Product Score.

Custom Vendor Landscape™ for [Enterprise Name Here]

Leading Product / Trailing Product / Trailing Vendor / Leading Vendor

- Innovator
- Champion — Citrix, Vmware
- Emerging Player — Red Hat, Oracle
- Market Pillar — Microsoft

Appendix

1. Vendor Landscape Methodology: Overview

2. Vendor Landscape Methodology: Product Selection & Information Gathering

3. Vendor Landscape Methodology: Scoring

4. Vendor Landscape Methodology: Information Presentation

5. Vendor Landscape Methodology: Fact Check & Publication

6. Product Pricing Scenario

Vendor Landscape Methodology: Overview

Info-Tech's Vendor Landscapes are research materials that review a particular IT market space, evaluating the strengths and abilities of both the products available in that space, as well as the vendors of those products. These materials are created by a team of dedicated analysts operating under the direction of a senior subject matter expert over a period of six weeks.

Evaluations weigh selected vendors and their products (collectively "solutions") on the following eight criteria to determine overall standing:
- Features: The presence of advanced and market-differentiating capabilities.
- Usability: The intuitiveness, power, and integrated nature of administrative consoles and client software components.
- Affordability: The three-year total cost of ownership of the solution.
- Architecture: The degree of integration with the vendor's other tools, flexibility of deployment, and breadth of platform applicability.
- Viability: The stability of the company as measured by its history in the market, the size of its client base, and its financial performance.
- Strategy: The commitment to both the market-space, as well as to the various sized clients (small, mid-sized, and enterprise clients).
- Reach: The ability of the vendor to support its products on a global scale.
- Channel: The measure of the size of the vendor's channel partner program, as well as any channel strengthening strategies.

Evaluated solutions are plotted on a standard two by two matrix:
- Champions: Both the product and the vendor receive scores that are above the average score for the evaluated group.
- Innovators: The product receives a score that is above the average score for the evaluated group, but the vendor receives a score that is below the average score for the evaluated group.
- Market Pillars: The product receives a score that is below the average score for the evaluated group, but the vendor receives a score that is above the average score for the evaluated group.
- Emerging Players: Both the product and the vendor receive scores that are below the average score for the evaluated group.

Info-Tech's Vendor Landscapes are researched and produced according to a strictly adhered to process that includes the following steps:
- Vendor/product selection
- Information gathering
- Vendor/product scoring
- Information presentation
- Fact checking
- Publication

This document outlines how each of these steps is conducted.

Vendor Landscape Methodology: Vendor/Product Selection & Information Gathering

Info-Tech works closely with its client base to solicit guidance in terms of understanding the vendors with whom clients wish to work and the products that they wish evaluated; this demand pool forms the basis of the vendor selection process for Vendor Landscapes. Balancing this demand, Info-Tech also relies upon the deep subject matter expertise and market awareness of its Senior and Lead Research Analysts to ensure that appropriate solutions are included in the evaluation. As an aspect of that expertise and awareness, Info-Tech's analysts may, at their discretion, determine the specific capabilities that are required of the products under evaluation, and include in the Vendor Landscape only those solutions that meet all specified requirements.

Information on vendors and products is gathered in a number of ways via a number of channels.

Initially, a request package is submitted to vendors to solicit information on a broad range of topics. The request package includes:
- A detailed survey.
- A pricing scenario (see Vendor Landscape Methodology: Price Evaluation and Pricing Scenario, below).
- A request for reference clients.
- A request for a briefing and, where applicable, guided product demonstration.

These request packages are distributed approximately twelve weeks prior to the initiation of the actual research project to allow vendors ample time to consolidate the required information and schedule appropriate resources.

During the course of the research project, briefings and demonstrations are scheduled (generally for one hour each session, though more time is scheduled as required) to allow the analyst team to discuss the information provided in the survey, validate vendor claims, and gain direct exposure to the evaluated products. Additionally, an end-user survey is circulated to Info-Tech's client base and vendor-supplied reference accounts are interviewed to solicit their feedback on their experiences with the evaluated solutions and with the vendors of those solutions.

These materials are supplemented by a thorough review of all product briefs, technical manuals, and publicly available marketing materials about the product, as well as about the vendor itself.

Refusal by a vendor to supply completed surveys or submit to participation in briefings and demonstrations does not eliminate a vendor from inclusion in the evaluation. Where analyst and client input has determined that a vendor belongs in a particular evaluation, it will be evaluated as best as possible based on publicly available materials only. As these materials are not as comprehensive as a survey, briefing, and demonstration, the possibility exists that the evaluation may not be as thorough or accurate. Since Info-Tech includes vendors regardless of vendor participation, it is always in the vendor's best interest to participate fully.

All information is recorded and catalogued, as required, to facilitate scoring and for future reference.

Vendor Landscape Methodology: Scoring

Once all information has been gathered and evaluated for all vendors and products, the analyst team moves to scoring. All scoring is performed at the same time so as to ensure as much consistency as possible. Each criterion is scored on a ten point scale, though the manner of scoring for criteria differs slightly:
- Features is scored via **Cumulative Scoring**
- Affordability is scored via **Scalar Scoring**
- All other criteria are scored via **Base5 Scoring**

In Cumulative Scoring, a single point is assigned to each evaluated feature that is regarded as being fully present, a half point to each feature that is partially present or pending in an upcoming release, and zero points to features that are deemed to be absent. The assigned points are summed and normalized to a value out of ten. For example, if a particular Vendor Landscape evaluates eight specific features in the Feature Criteria, the summed score out of eight for each evaluated product would be multiplied by 1.25 to yield a value out of ten.

In Scalar Scoring, a score of ten is assigned to the lowest cost solution, and a score of one is assigned to the highest cost solution. All other solutions are assigned a mathematically determined score based on their proximity to / distance from these two endpoints. For example, in an evaluation of three solutions, where the middle cost solution is closer to the low end of the pricing scale it will receive a higher score, and where it is closer to the high end of the pricing scale it will receive a lower score; depending on proximity to the high or low price it is entirely possible that it could receive either ten points (if it is very close to the lowest price) or one point (if it is very close to the highest price). Where pricing cannot be determined (vendor does not supply price and public sources do not exist), a score of 0 is automatically assigned.

In Base5 scoring a number of sub-criteria are specified for each criterion (for example, Longevity, Market Presence, and Financials are sub-criteria of the Viability criterion), and each one is scored on the following scale:

5 - The product/vendor is exemplary in this area (nothing could be done to improve the status).
4 - The product/vendor is good in this area (small changes could be made that would move things to the next level).
3 - The product/vendor is adequate in this area (small changes would make it good, more significant changes required to be exemplary).
2 - The product/vendor is poor in this area (this is a notable weakness and significant work is required).
1 - The product/vendor is terrible/fails in this area (this is a glaring oversight and a serious impediment to adoption).

The assigned points are summed and normalized to a value out of ten as explained in Cumulative Scoring above.

Scores out of ten, known as Raw scores, are transposed as-is into Info-Tech's Vendor Landscape Shortlist Tool, which automatically determines Vendor Landscape positioning (see Vendor Landscape Methodology: Information Presentation - Vendor Landscape, below), Criteria Score (see Vendor Landscape Methodology: Information Presentation - Criteria Score, below), and Value Index (see Vendor Landscape Methodology: Information Presentation - Value Index, below).

Vendor Landscape Methodology:
Information Presentation – Vendor Landscape

Info-Tech's Vendor Landscape is a two-by-two matrix that plots solutions based on the combination of Product score and Vendor score. Placement is not determined by absolute score, but instead by relative score. Relative scores are used to ensure a consistent view of information and to minimize dispersion in nascent markets, while enhancing dispersion in commodity markets to allow for quick visual analysis by clients.

Relative scores are calculated as follows:

1. Raw scores are transposed into the Info-Tech Vendor Landscape Shortlist Tool (for information on how Raw scores are determined, see Vendor Landscape Methodology: Scoring, above).

2. Each individual criterion Raw score is multiplied by the pre-assigned weighting factor for the Vendor Landscape in question. Weighting factors are determined prior to the evaluation process to eliminate any possibility of bias. Weighting factors are expressed as a percentage such that the sum of the weighting factors for the Vendor criteria (Viability, Strategy, Reach, Channel) is 100% and the sum of the Product criteria (Features, Usability, Affordability, Architecture) is 100%.

3. A sum-product of the weighted Vendor criteria scores and of the weighted Product criteria scores is calculated to yield an overall Vendor score and an overall Product score.

4. Overall Vendor scores are then normalized to a 20 point scale by calculating the arithmetic mean and standard deviation of the pool of Vendor scores. Vendors for whom their overall Vendor score is higher than the arithmetic mean will receive a normalized Vendor score of 11-20 (exact value determined by how much higher than the arithmetic mean their overall Vendor score is), while vendors for whom their overall Vendor score is lower than the arithmetic mean will receive a normalized Vendor score of between one and ten (exact value determined by how much lower than the arithmetic mean their overall Vendor score is).

5. Overall Product score is normalized to a 20 point scale according to the same process.

6. Normalized scores are plotted on the matrix, with Vendor score being used as the x-axis, and Product score being used as the y-axis.
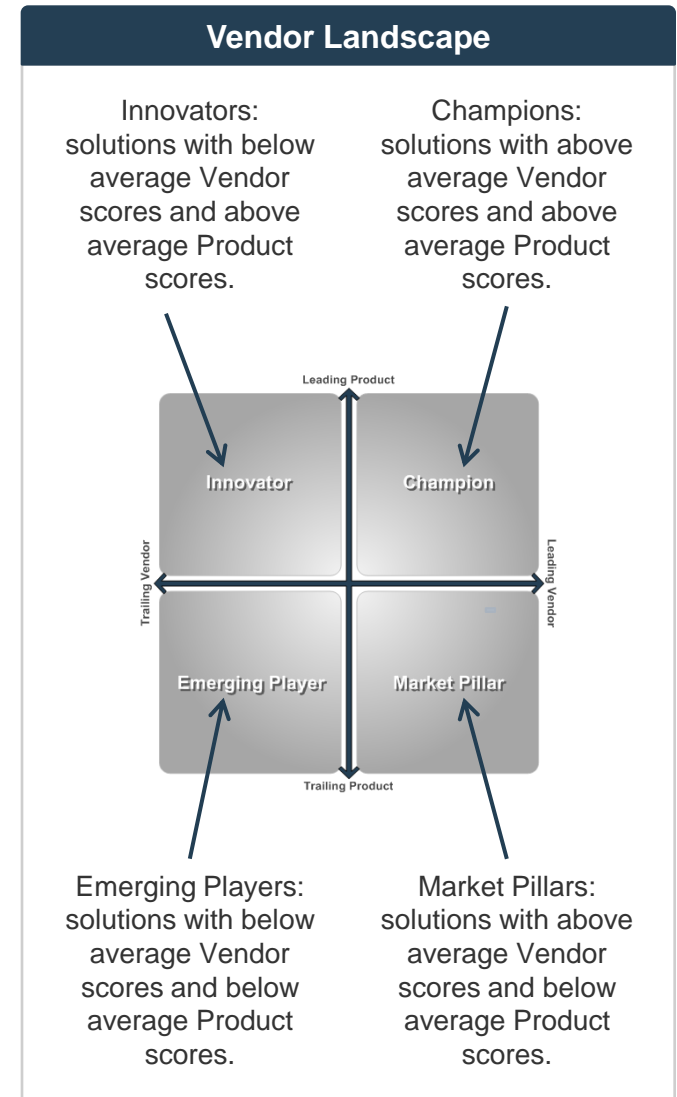
Vendor Landscape

Innovators: solutions with below average Vendor scores and above average Product scores.

Champions: solutions with above average Vendor scores and above average Product scores.

Emerging Players: solutions with below average Vendor scores and below average Product scores.

Market Pillars: solutions with above average Vendor scores and below average Product scores.
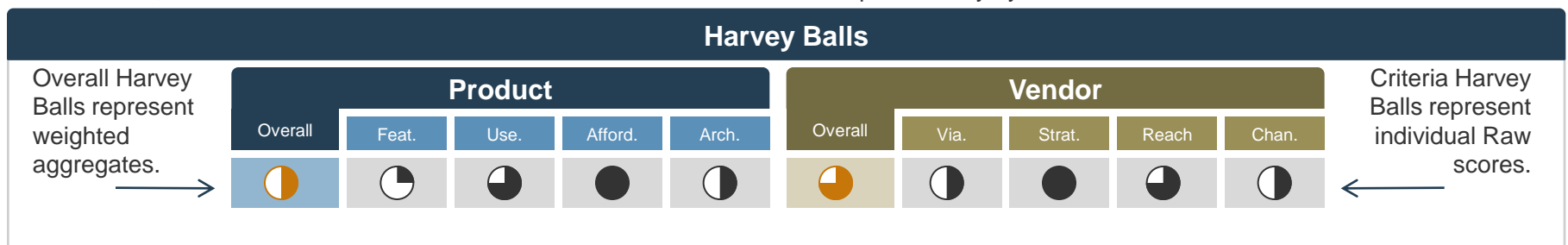
Vendor Landscape Methodology:
Information Presentation – Criteria Scores (Harvey Balls)

Info-Tech's Criteria Scores are visual representations of the absolute score assigned to each individual criterion, as well as of the calculated overall Vendor and Product scores. The visual representation used is Harvey Balls.

Harvey Balls are calculated as follows:

1. Raw scores are transposed into the Info-Tech Vendor Landscape Shortlist Tool (for information on how Raw scores are determined, see Vendor Landscape Methodology: Scoring, above).

2. Each individual criterion Raw score is multiplied by a pre-assigned weighting factor for the Vendor Landscape in question. Weighting factors are determined prior to the evaluation process, based on the expertise of the Senior or Lead Research Analyst, to eliminate any possibility of bias. Weighting factors are expressed as a percentage, such that the sum of the weighting factors for the Vendor criteria (Viability, Strategy, Reach, Channel) is 100%, and the sum of the Product criteria (Features, Usability, Affordability, Architecture) is 100%.

3. A sum-product of the weighted Vendor criteria scores and of the weighted Product criteria scores is calculated to yield an overall Vendor score and an overall Product score.

4. Both overall Vendor score / overall Product score, as well as individual criterion Raw scores are converted from a scale of one to ten to Harvey Ball scores on a scale of zero to four, where exceptional performance results in a score of four and poor performance results in a score of zero.

5. Harvey Ball scores are converted to Harvey Balls as follows:
   - A score of four becomes a full Harvey Ball.
   - A score of three becomes a three-quarter full Harvey Ball.
   - A score of two becomes a half full Harvey Ball.
   - A score of one becomes a one-quarter full Harvey Ball.
   - A score of zero (zero) becomes an empty Harvey Ball.

6. Harvey Balls are plotted by solution in a chart where rows represent individual solutions and columns represent overall Vendor / overall Product, as well as individual criteria. Solutions are ordered in the chart alphabetically by vendor name.

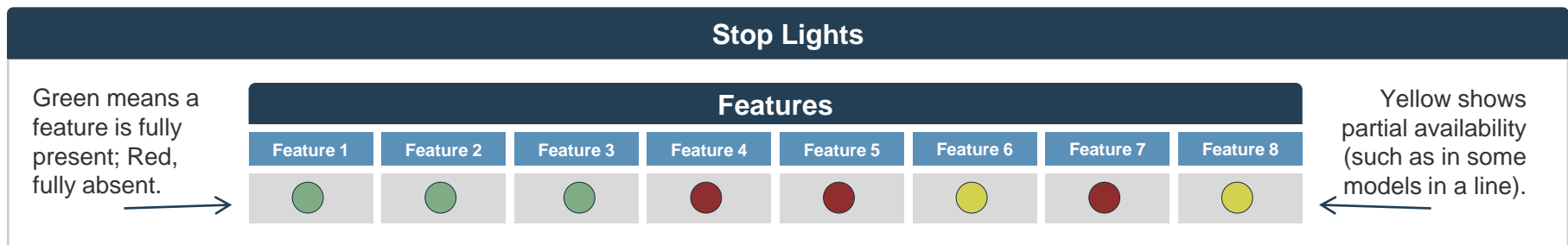| Harvey Balls										
Overall Harvey Balls represent weighted aggregates. →	Product					Vendor					Criteria Harvey Balls represent individual Raw scores. ←
	Overall	Feat.	Use.	Afford.	Arch.	Overall	Via.	Strat.	Reach	Chan.	
	◑	◔	◐	●	◐	◔	◐	●	◕	◐	

Vendor Landscape Methodology:
Information Presentation – Feature Ranks (Stop Lights)

Info-Tech's Feature Ranks are visual representations of the presence/availability of individual features that collectively comprise the Features' criterion. The visual representation used is Stop Lights.

Stop Lights are determined as follows:

1. A single point is assigned to each evaluated feature that is regarded as being fully present, a half point to each feature that is partially present or pending in an upcoming release, and zero points to features that are deemed to be fully absent.
   - Fully present means all aspects and capabilities of the feature as described are in evidence.
   - Fully absent means all aspects and capabilities of the feature as described are in evidence.
   - Partially present means some, but not all, aspects and capabilities of the feature as described are in evidence, **OR** all aspects and capabilities of the feature as described are in evidence, but only for some models in a line.
   - Pending means all aspects and capabilities of the feature, as described, are anticipated to be in evidence in a future revision of the product and that revision is to be released within the next 12 months.

2. Feature scores are converted to Stop Lights as follows:
   - Full points become a Green light.
   - Half points become a Yellow light.
   - Zero points become a Red light.

3. Stop Lights are plotted by solution in a chart where rows represent individual solutions and columns represent individual features. Solutions are ordered in the chart alphabetically by vendor name.

For example, a set of applications is being reviewed and a feature of "*Integration with Mobile Devices*" that is defined as "*availability of dedicated mobile device applications for iOS, Android, and BlackBerry devices*" is specified. Solution A provides such apps for all listed platforms and scores "Green", solution B provides apps for iOS and Android only and scores "Yellow", while solution C provides mobile device functionality through browser extensions, has no dedicated apps, and so scores "Red".

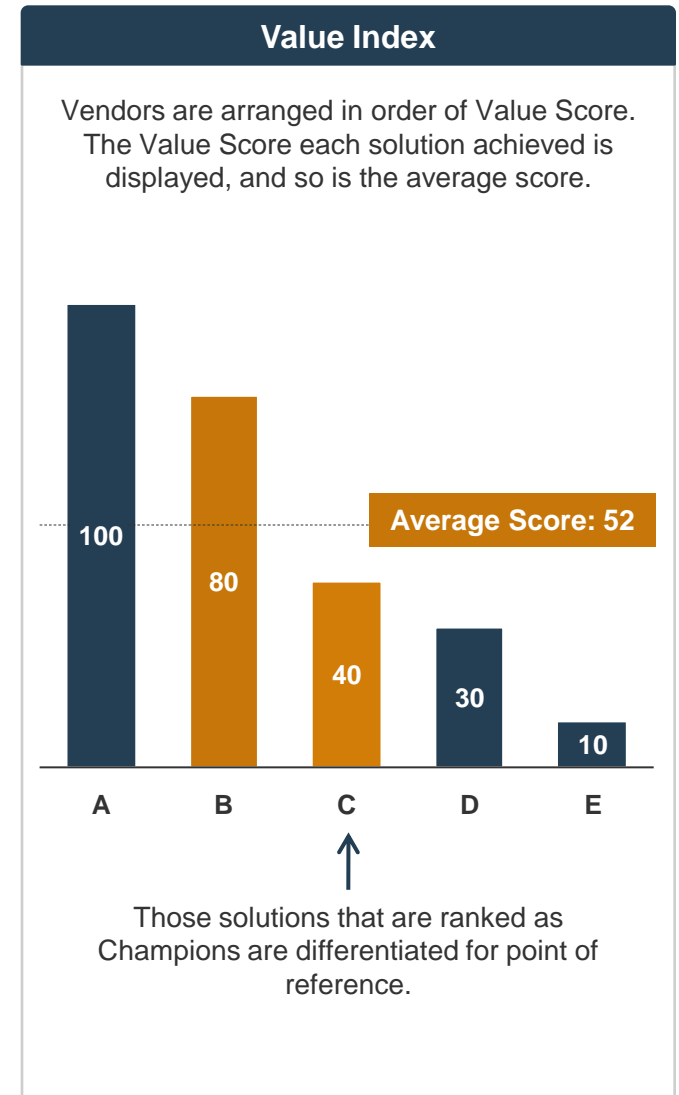| Stop Lights									
Green means a feature is fully present; Red, fully absent.	**Features**								Yellow shows partial availability (such as in some models in a line).
	Feature 1	Feature 2	Feature 3	Feature 4	Feature 5	Feature 6	Feature 7	Feature 8	
→	🟢	🟢	🟢	🔴	🔴	🟡	🔴	🟡	←

Vendor Landscape Methodology: Information Presentation – Value Index

Info-Tech's Value Index is an indexed ranking of solution value per dollar as determined by the Raw scores assigned to each criteria (for information on how Raw scores are determined, see Vendor Landscape Methodology: Scoring, above).

Value scores are calculated as follows:

1. The Affordability criterion is removed from the overall Product score and the remaining Product score criteria (Features, Usability, Architecture) are reweighted so as to retain the same weightings relative to one another, while still summing to 100%. For example, if all four Product criteria were assigned base weightings of 25%, for the determination of the Value score, Features, Usability, and Architecture would be reweighted to 33.3% each to retain the same relative weightings while still summing to 100%.

2. A sum-product of the weighted Vendor criteria scores and of the reweighted Product criteria scores is calculated to yield an overall Vendor score and a reweighted overall Product score.

3. The overall Vendor score and the reweighted overall Product score are then summed, and this sum is multiplied by the Affordability Raw score to yield an interim Value score for each solution.

4. All interim Value scores are then indexed to the highest performing solution by dividing each interim Value score by the highest interim Value score. This results in a Value score of 100 for the top solution and an indexed Value score relative to the 100 for each alternate solution.

5. Solutions are plotted according to Value score, with the highest score plotted first, and all remaining scores plotted in descending numerical order.

Where pricing is not provided by the vendor and public sources of information cannot be found, an Affordability Raw score of zero is assigned. Since multiplication by zero results in a product of zero, those solutions for which pricing cannot be determined receive a Value score of zero. Since Info-Tech assigns a score of zero where pricing is not available, it is always in the vendor's best interest to provide accurate and up to date pricing.

Value Index

Vendors are arranged in order of Value Score. The Value Score each solution achieved is displayed, and so is the average score.

Those solutions that are ranked as Champions are differentiated for point of reference.

Vendor Landscape Methodology:
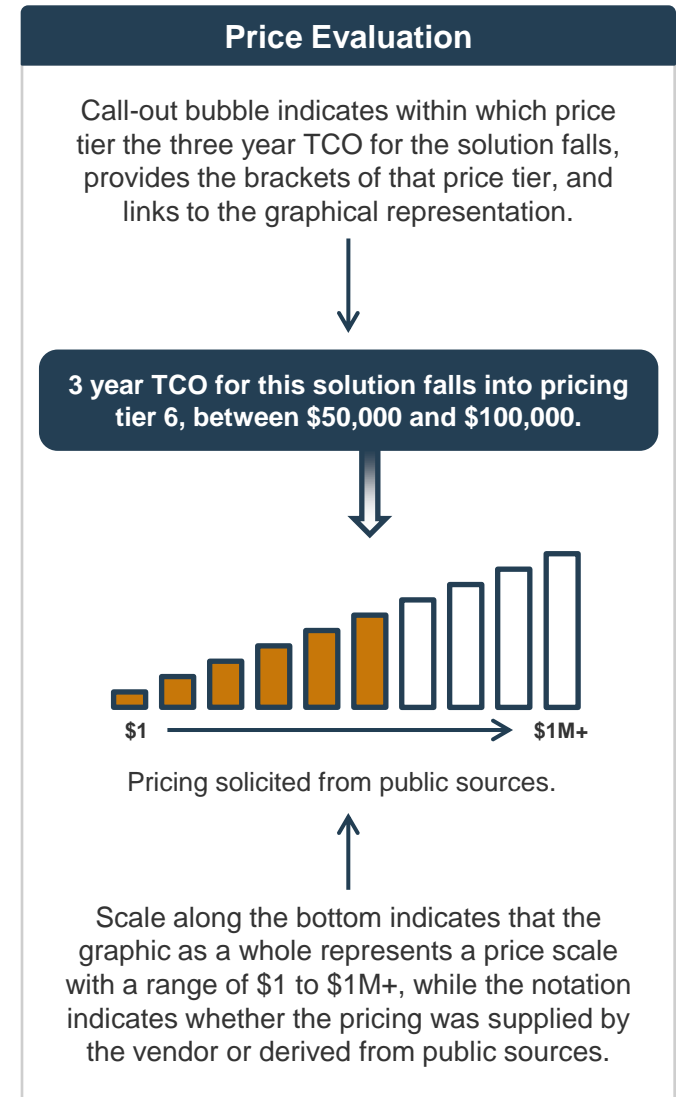# Information Presentation – Price Evaluation

Info-Tech's Price Evaluation is a tiered representation of the three year Total Cost of Ownership (TCO) of a proposed solution. Info-Tech uses this method of communicating pricing information to provide high-level budgetary guidance to its end-user clients while respecting the privacy of the vendors with whom it works. The solution TCO is calculated and then represented as belonging to one of ten pricing tiers.

Pricing tiers are as follows:

1. Between $1 and $2,500
2. Between $2,500 and $5,000
3. Between $5,000 and $10,000
4. Between $10,000 and $25,000
5. Between $25,000 and $50,000
6. Between $50,000 and $100,000
7. Between $100,000 and $250,000
8. Between $250,000 and $500,000
9. Between $500,000 and $1,000,000
10. Greater than $1,000,000

Where pricing is not provided, Info-Tech makes use of publicly available sources of information to determine a price. As these sources are not official price lists, the possibility exists that they may be inaccurate or outdated, and so the source of the pricing information is provided. Since Info-Tech publishes pricing information regardless of vendor participation, it is always in the vendor's best interest to supply accurate and up to date information.

Info-Tech's Price Evaluations are based on pre-defined pricing scenarios (see Product Pricing Scenario, below) to ensure a comparison that is as close as possible between evaluated solutions. Pricing scenarios describe a sample business and solicit guidance as to the appropriate product/service mix required to deliver the specified functionality, the list price for those tools/services, as well as three full years of maintenance and support.

Price Evaluation

Call-out bubble indicates within which price tier the three year TCO for the solution falls, provides the brackets of that price tier, and links to the graphical representation.

3 year TCO for this solution falls into pricing tier 6, between $50,000 and $100,000.

Pricing solicited from public sources.

Scale along the bottom indicates that the graphic as a whole represents a price scale with a range of $1 to $1M+, while the notation indicates whether the pricing was supplied by the vendor or derived from public sources.

Vendor Landscape Methodology: Information Presentation – Scenarios

Info-Tech's Scenarios highlight specific use cases for the evaluated solution to provide as complete (when taken in conjunction with the individual written review, Vendor Landscape, Criteria Scores, Feature Ranks, and Value Index) a basis for comparison by end-user clients as possible.

Scenarios are designed to reflect tiered capability in a particular set of circumstances. Determination of the Scenarios in question is at the discretion of the analyst team assigned to the research project. Where possible, Scenarios are designed to be mutually exclusive and collectively exhaustive, or at the very least, hierarchical such that the tiers within the Scenario represent a progressively greater or broader capability.

Scenario ranking is determined as follows:

1. The analyst team determines an appropriate use case.
   For example:

   • Clients that have multinational presence and require vendors to provide four hour onsite support.

2. The analyst team establishes the various tiers of capability.
   For example:
   • Presence in Americas
   • Presence in EMEA
   • Presence in APAC

3. The analyst team reviews all evaluated solutions and determines which ones meet which tiers of capability.
   For example:
   • Presence in Americas   – Vendor A, Vendor C, Vendor E
   • Presence in EMEA   – Vendor A, Vendor B, Vendor C
   • Presence in APAC   – Vendor B, Vendor D, Vendor E

4. Solutions are plotted on a grid alphabetically by vendor by tier. Where one vendor is deemed to be stronger in a tier than other vendors in the same tier, they may be plotted non-alphabetically.
   For example:
   • Vendor C is able to provide four hour onsite support to 12 countries in EMEA while Vendors A and B are only able to provide four hour onsite support to eight countries in EMEA; Vendor C would be plotted first, followed by Vendor A, then Vendor B.

Vendor Landscape Methodology: Information Presentation – Vendor Awards

At the conclusion of all analyses, Info-Tech presents awards to exceptional solutions in three distinct categories. Award presentation is discretionary; not all awards are extended subsequent to each Vendor landscape and it is entirely possible, though unlikely, that no awards may be presented.

Awards categories are as follows:

- **Champion Awards** are presented to those solutions, and only those solutions, that land in the Champion zone of the Info-Tech Vendor Landscape (see Vendor Landscape Methodology: Information Presentation - Vendor Landscape, above). If no solutions land in the Champion zone, no Champion Awards are presented. Similarly, if multiple solutions land in the Champion zone, multiple Champion Awards are presented.

- **Trend Setter Awards** are presented to those solutions, and only those solutions, that are deemed to include the most original/inventive product/service, or the most original/inventive feature/capability of a product/service. If no solution is deemed to be markedly or sufficiently original/inventive, either as a product/service on the whole or by feature/capability specifically, no Trend Setter Award is presented. Only one Trend Setter Award is available for each Vendor Landscape.

- **Best Overall Value Awards** are presented to those solutions, and only those solutions, that are ranked highest on the Info-Tech Value Index (see Vendor Landscape Methodology: Information Presentation – Value Index, above). If insufficient pricing information is made available for the evaluated solutions, such that a Value Index cannot be calculated, no Best Overall Value Award will be presented. Only one Best Overall Value Award is available for each Vendor Landscape.

Vendor Awards

Info-Tech's **Champion Award** is presented to solutions in the Champion zone of the Vendor Landscape.

Info-Tech's **Trend Setter Award** is presented to the most original/inventive solution evaluated.

Info-Tech's **Best Overall Value Award** is presented to the solution with the highest Value Index score.

Vendor Landscape Methodology: Fact Check & Publication

Info-Tech takes the factual accuracy of its Vendor Landscapes, and indeed of all of its published content, very seriously. To ensure the utmost accuracy in its Vendor Landscapes, we invite all vendors of evaluated solutions (whether the vendor elected to provide a survey and/or participate in a briefing or not) to participate in a process of Fact Check.

Once the research project is complete and the materials are deemed to be in a publication ready state, excerpts of the material specific to each vendor's solution are provided to the vendor. Info-Tech only provides material specific to the individual vendor's solution for review encompassing the following:
* All written review materials of the vendor and the vendor's product that comprise the evaluated solution.
* Info-Tech's Criteria Scores / Harvey Balls detailing the individual and overall Vendor / Product scores assigned.
* Info-Tech's Feature Rank / Stop Lights detailing the individual feature scores of the evaluated product.
* Info-Tech's Value Index ranking for the evaluated solution.
* Info-Tech's Scenario ranking for all considered scenarios for the evaluated solution.

Info-Tech does not provide the following:
* Info-Tech's Vendor Landscape placement of the evaluated solution.
* Info-Tech's Value Score for the evaluated solution.
* End-user feedback gathered during the research project.
* Info-Tech's overall recommendation in regard to the evaluated solution.

Info-Tech provides a one-week window for each vendor to provide written feedback. Feedback must be corroborated (be provided with supporting evidence), and where it does, feedback that addresses factual errors or omissions is adopted fully, while feedback that addresses opinions is taken under consideration. The assigned analyst team makes all appropriate edits and supplies an edited copy of the materials to the vendor within one week for final review.

Should a vendor still have concerns or objections at that time, they are invited to a conversation, initially via email, but as required and deemed appropriate by Info-Tech, subsequently via telephone, to ensure common understanding of the concerns. Where concerns relate to ongoing factual errors or omissions they are corrected under the supervision of Info-Tech's Vendor Relations personnel. Where concerns relate to ongoing differences of opinion they are again taken under consideration with neither explicit not implicit indication of adoption.

Publication of materials is scheduled to occur within the six weeks immediately following the completion of the research project, but does not occur until the Fact Check process has come to conclusion, and under no circumstances are "pre-publication" copies of any materials made available to any client.

Product Pricing Scenario

An organization is looking to implement server virtualization. It has 7 host servers (20 VMs per host) connected to a shared SAN that it wants to add hypervisors to with a three-year licensing agreement. Its host servers are 2 socket servers with Xeon 5600 processors and 256 GB of RAM. The organization also requires a robust management suite (vCenter, XenCenter, Systems Center Virtual Machine Manager) and gold level support services to be included in its purchase.

The expected solution capabilities are as follows:

The solution must be able to partition the physical server into virtual machines (VMs)

- Robust management software for managing VMs on 7 physical hosts

- The management system should enable and ease the task of VM management by including the following features:

  ○ Live migration

  ○ High availability

- Gold level support services should include the following:

  ○ Implementation support

  ○ Technical documentation and guides

  ○ 24/7 Technical support by phone or online

  ○ Do not include licensing cost for Microsoft host server operating systems

  ○ If the management suite requires the purchase of an addition host server, do not include the cost of the server