Vendor Landscape: Virtual Backup Software

Evaluate virtual backup software to end the arguing between virtual and backup admins.

INFO~TECH
research group

Introduction

Server virtualization is now being used for production workloads and traditional backup vendors are adding features to support this. On the other hand, solutions designed specifically for VM backup offer some key advantages over this approach. But, add image-based backup solutions to the mix, that do a bit of both, and things get very complicated.

This Research Is Designed For:

✓ Enterprises seeking to select a solution to backup their virtual infrastructure.

✓ Their virtual backup use case may include:

• Those with traditional backup solutions look at what a virtual only solution might offer.

• Those with virtual only solutions looking to understand the advantages of a traditional approach.

• Organizations wanting a general survey of capabilities of new and traditional backup vendors in virtual backup.

This Research Will Help You:

✓ Understand what's new in the virtual backup market.

✓ Evaluate virtual backup vendors and products for your enterprise needs.

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

Executive Summary

Info-Tech evaluated 14 competitors in the Virtual Machine Backup market, including the following notable performers:

Champions

- **Symantec's** strong developer base and broad global channel and support ecosystem help it quickly deliver on features and respond to customer feedback.

- **CommVault's** forward-looking hardware integration and OEM strategy, and ability to deliver on must-have virtual backup features make it a great solution for virtual backup.

Value Award

- **Symantec Backup Exec V-Ray edition** is a cost effective solution considering the capabilities, commitment, and support framework that Symantec provides.

Trend Setter Award

- **Veeam** was named a Trend Setter for doing things in backup not possible with traditional solutions, such as running deduped and compressed VMs from backups, and for its comprehensive techniques for efficient network utilization.

Info-Tech Insight

1. **How virtualized are you?**
   Organizations are getting more invested in virtualization. This makes it important to select a solution that best meets recovery needs for VMs. As organizations provision more and more VMs, it only gets more challenging to effectively backup everything.

2. **Consider the cost/complexity trade-off**
   Point solutions for VM backup are inexpensive relative to traditional solutions that handle physical *and* virtual backup and are easier to use. However, most organizations are not 100% virtualized meaning that companies often manage two solutions: one for virtual, one for physical.

3. **Don't forget about tape**
   Many more recent additions to the backup market do not provide the capability to backup to tape for longer term retention. If you currently use tape, or plan to, this should be a consideration.

Market Overview

How it got here

- **Virtualization is production ready.** With advances in server capacity (memory, multi-core processing), and increases in vCPU, RAM, and IOPS capacity limitations, the majority of servers can now be virtualized. In 2012, more than half of server workloads (58%) are virtualized.
- **Legacy agent-based backup approaches are no longer good enough.** With server virtualization, the density of workloads on servers has increased, and installing agents on multiple guest operating systems supported by a host server is not tenable.
- **Enter virtualization-focused backup solutions.** Point solutions designed for virtual backup introduced agentless backups that reduced impact of backup and recovery on production workloads. Designed for virtual backup, they are easier to use and more cost effective.
- **Backup and virtual admins started butting heads.** As more production apps get virtualized, virtual admins that had purchased point solutions and backup admins using traditional backup products are overlapping in responsibility.

Where it's going

- **Organizations want one solution not two.** Currently more than 35% of organizations manage two or more backup solutions. However, most organizations are not 100% virtualized and more than half (52%) are still using tape (source: Info-Tech Research Group).
- **Traditional and virtual backup solution distinctions are blurring.** Traditional backup solutions have found ways to conduct agentless backups, with VMware largely through exposure of APIs, and virtual backup solutions have begun to add support for physical servers and app awareness for app consistent backups. Pushing buyers to focus on specific requirements, in terms of backup media support (e.g. tape), and characteristics that ease implementation and management of virtual infrastructure.
- **Cloud will be the next differentiator.** As backup solutions mature, and standards become more open, capabilities to integrate with public or private cloud will enable more flexibility in archiving *and* disaster recovery of their virtual infrastructure.

Info-Tech Insight

As the market evolves, capabilities that were once cutting edge become default and new functionality becomes differentiating. Support for VMware APIs for Data Protection has become a Table Stakes capability and should no longer be used to differentiate solutions. Instead, focus on ease-of-use and how the solution fits with your current backup architecture to get the best fit for your requirements.

Virtual Backup Software Vendor selection / knock-out criteria: market share, mind share, and platform coverage

- Organizations are using either traditional backup, image-based backup, or virtual backup targeted solutions to backup their virtual infrastructure. For this Vendor Landscape, Info-Tech focused on those vendors that offer virtual backup for any of VMware ESX/ESXi, Microsoft Hyper-V, Citrix Xen Server, or other hypervisors.

- Solutions that have a strong market presence and/or reputational presence among large to mid-sized enterprises were included.

Included in this Vendor Landscape:

- **CA Technologies.** With roots in systems management, CA ARCserve offers ease-of-use and standout reporting.

- **CommVault.** A strong backup solution offering physical and virtual backup with great hardware integration capabilities.

- **Dell AppAssure.** A recent Dell acquisition, AppAssure is easy to use and has seen steady recent growth and popularity.

- **Dell Quest vRanger.** A virtual backup pioneer, vRanger is known for ease-of-use and performance in virtual backup.

- **EMC.** Market share leader in storage and disk backup, EMC's Avamar offers standout deduplication capabilities.

- **FalconStor.** With roots in OEM of VTLs, FalconStor has recently shifted to the buy side with Continuous Data Protector.

- **HP.** Traditionally known for cost effectiveness with Data Protector, HP offers strong integration with HP hardware.

- **IBM.** Second in market share, Tivoli Storage Manager is highly scalable and fast following in VM backup features.

- **Microsoft.** With the recent release of System Center 2012, Data Protection Manager has become much more scalable.

- **NetApp Syncsort.** A great all-in-one hardware and software implementation that leverages NetApp hardware.

- **PHD Virtual.** A standout virtual backup solution that makes data recovery fast, flexible, and cost effective.

- **Symantec.** Market share leader, Symantec's Backup Exec and NetBackup have strong developer support behind them, which has enabled it to respond quickly to demands of virtual backup.

- **Unitrends.** An image-based backup solution, it offers flexible backup approaches and near continuous data protection.

- **Veeam.** Offers easy to use virtual backup, with unique backup verification, and recovery direct from backups.

Virtual machine backup criteria & weighting factors

Product Evaluation Criteria

Features	The solution provides basic and advanced feature/functionality.
Usability	The solution's dashboard and management tools are intuitive and easy to use.
Affordability	The three year TCO of the solution is economical.
Architecture	The solution has flexible deployment options and supports multiple hypervisors.

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 30%
Usability 30%
Architecture 20%
Affordability 20%

Product

50%
50%

Vendor

Viability 25%
Strategy 30%
Channel 15%
Reach 30%
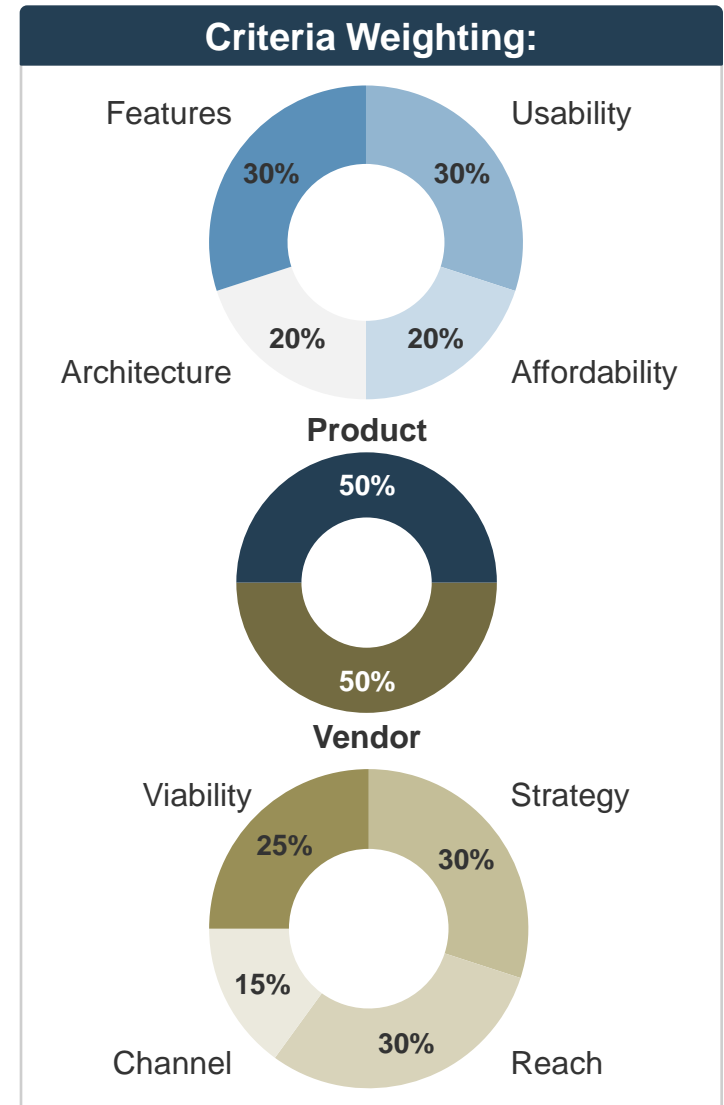
The Info-Tech virtual machine backup vendor landscape

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 that 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
CA Technologies	◑	◑	◕	○[1]	◔	◔	●	◕	●	●
CommVault	◕	●	◕	◑	◕	●	◕	●	●	◕
Dell AppAssure	◕	◑	◕	●	◕	◔	◕	◑	●	●
Dell Quest vRanger	◕	◑	●	●	◕	◔	◕	◕	◕	◕
EMC	◑	◑	◕	○[1]	◕	●	●	◕	●	●
FalconStor	◔	◑	◑	○	◔	◑	◕	◑	●	◕
HP	◑	◕	◕	○[1]	◔	◔	●	◕	●	●

Legend	● = Exemplary	◕ = Good	◑ = Adequate	◔ = Inadequate	○ = Poor

[1] The vendor declined to provide pricing, and publicly available pricing could not be found.

For an explanation of how the Info-Tech Harvey Balls are calculated, see Information Presentation – Criteria Scores (Harvey Balls) 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
IBM	◔	◑	◑	○[1]	◕	●	●	◕	●	●
Microsoft	◑	◕	◑	●	◕	◔	●	◑	●	●
NetApp Syncsort	◑	◑	◕	○	◕	◔	◕	◕	◕	◕
PHD Virtual	◔	◕	●	●	◕	◔	◑	●	◑	◑
Symantec	◔	◕	◕	●	◕	●	●	●	●	●
Unitrends	◔	◕	◕	●	◕	◑	◕	◕	◑	◑
Veeam	◔	◑	◕	●	◕	◔	◕	◕	◕	◑

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

[1] The vendor declined to provide pricing, and publicly available pricing could not be found.

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The Info-Tech virtual machine backup 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.

*The vendor declined to provide pricing, and publicly available pricing could not be found

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

Average Score: 72

■ Champion

Vendor	Score
Symantec	100
PHD Virtual	96
Dell AppAssure	93
Veeam	90
Dell Quest vRanger	86
Microsoft	83
Unitrends	83
CommVault	71
FalconStor	9
NetApp Syncsort	8
CA* Technologies	0
EMC*	0
HP*	0
IBM*	0
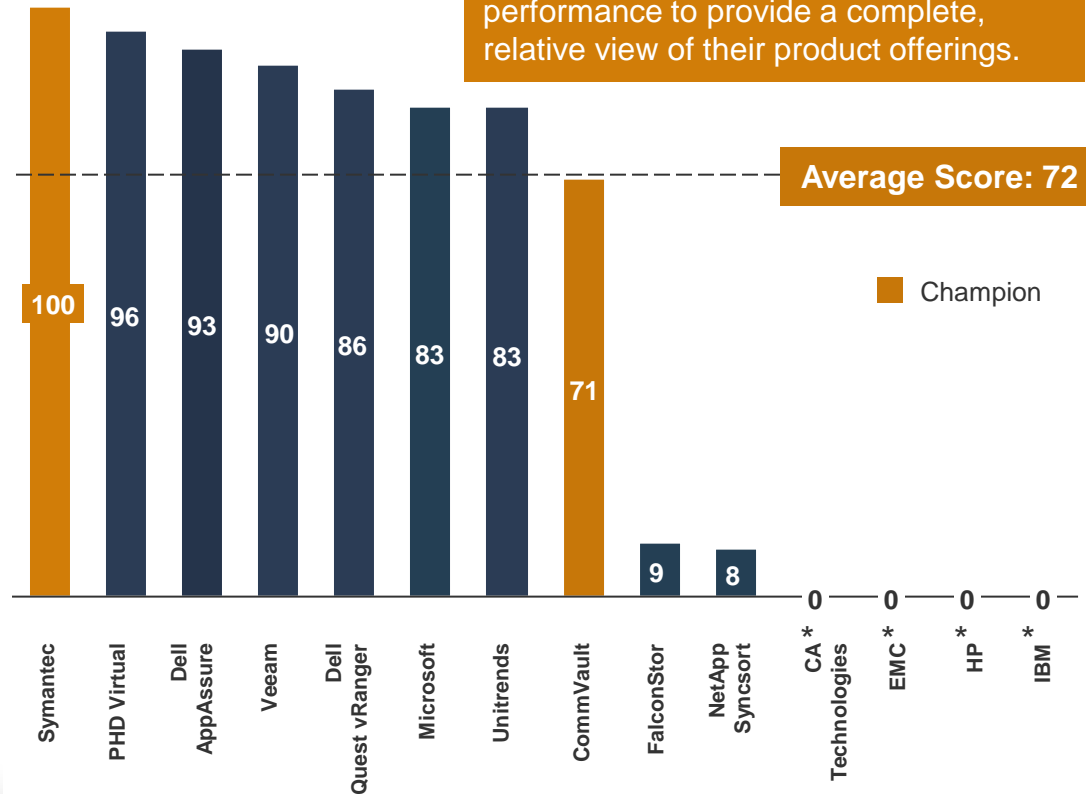
For an explanation of how Price is determined, see Information Presentation – Price Evaluation in the Appendix.

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:
Deduplication	Duplicate blocks of data are eliminated locally before being sent across the network
"Sandbox" Restore Testing	Create a sometimes temporary, dedicated data store and network for testing data recoverability
Monitoring and Reporting	Ability to monitor active processes and status of virtual machines with default and custom reports
Script Automation	Support for command line utilities for custom scripting to automate complex activities
Microsoft SQL and Exchange	Application awareness for application consistent backups, including log truncation

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 virtual backup 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 their individual scores across the listed advanced features. Vendors were given 1 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:
Agentless Backups	Conduct backups without requirement of agent on guest machine operating systems
Run VMs from Backups	Run VMs from backup copies, whether synthetic or otherwise on backup media
VM replication	Replicate production VMs to a secondary data store
Backup Replication	Replicate backup copies of VMs for disaster recovery
Direct Backup to Tape	Ability to send backup copies to tape without intervention from a third-party solution
Bandwidth Throttling	Controlling download and upload speeds to manage bandwidth usage
Hypervisor Client Integration	Integration with hypervisor client such that backups and policies can be partially managed
Self-Service/ RBAC	Role-based Access Control to allow helpdesk admins or users conduct recoveries on their own
Auto-Restore Testing	Automatically verify recoverability of VMs that have been backed up
Data Encryption	Capability of the solution to encrypt data before sending across the WAN

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									
	Agentless Backups	Run from Backup	VM Replication	Backup Replication	Backup to Tape	Bandwidth Throttling	Client Integration	Self-service/ RBAC	Auto-restore Testing	Data Encryption
CA Technologies	🟢	🟡	🟡	🟢	🟢	🟡	🔴	🔴	🟡	🟢
CommVault	🟢	🔴	🟢	🟢	🟢	🟢	🟢	🟢	🟡	🟢
Dell AppAssure	🔴	🟡	🟢	🟢	🔴	🔴	🔴	🟡	🟢	🟢
Dell Quest vRanger	🟢	🟡	🟢	🟢	🔴	🔴	🔴	🔴	🔴	🟢
EMC	🔴	🔴	🟢	🟢	🟡	🔴	🟢	🔴	🔴	🟢
FalconStor	🔴	🟡	🔴	🟢	🟡	🟢	🔴	🟢	🟢	🟢
HP	🟢	🔴	🟢	🟢	🟢	🟡	🟢	🟡	🔴	🟢

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.

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

Evaluated Features

	Agentless Backups	Run from Backup	VM Replication	Backup Replication	Backup to Tape	Bandwidth Throttling	Client Integration	Self-service/ RBAC	Auto-restore Testing	Data Encryption
IBM	🟢	🔴	🟢	🟢	🟢	🔴	🟢	🔴	🔴	🟢
Microsoft	🟢	🔴	🟢	🟢	🟢	🟡	🟢	🟢	🔴	🟡
NetApp Syncsort	🟢	🟡	🔴	🟢	🟢	🔴	🔴	🟢	🔴	🔴
PHD Virtual	🟢	🟢	🟢	🟡	🔴	🔴	🟢	🟢	🟢	🟢
Symantec	🟢	🔴	🟢	🟢	🟢	🔴	🟢	🟢	🟢	🟢
Unitrends	🟢	🟡	🔴	🟢	🟢	🟢	🔴	🟢	🔴	🟢
Veeam	🟢	🟢	🟢	🔴	🔴	🟢	🔴	🟢	🟢	🔴

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.

Select the solution that supports the hypervisors that you need it to; many products let you manage more than one

Over 50% of organizations are managing more than one hypervisor* in their virtual environment, making it critical to understand what vendors support.

1 **Hypervisor Support**

2

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.

VMware ESX/ESXi

All solutions support VMware.

Microsoft Hyper-V

- ca technologies
- commvault *solving forward*
- DELL AppAssure
- EMC² where information lives®
- FalconStor Software
- hp
- IBM®
- Microsoft®
- syncsort
- Symantec +KVM
- UNITRENDS Unified Data Protection, Without Limits
- veeam

XenServer

- ca technologies
- commvault *solving forward*
- DELL AppAssure
- IBM® +KVM
- PHD Virtual™
- UNITRENDS Unified Data Protection, Without Limits +KVM

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

Select the solution that matches your situation; some products are designed specifically for virtual backup

Twenty three percent of organizations use separate products for virtual and physical backup, while 60% use one to do both.*

1

2 **Physical Backup**

Virtual Backup Only

PHD Virtual™

VEEam

Why Scenarios?

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Virtual and Physical Backup
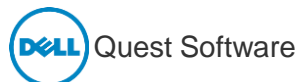
ca technologies

commvault *solving forward*

DELL AppAssure

DELL Quest Software

EMC² where information lives®

FalconStor Software

hp

IBM®

Microsoft®

syncsort

Symantec™

UNITRENDS Unified Data Protection, Without Limits

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

Market share leader, Symantec has great vCenter integration with many deployment options

Champion

Products: Backup Exec 2012
NetBackup 7.5
Employees: 17,000
Headquarters: Mountain View, CA
Website: symantec.com
Founded: 1982
Presence: NASDAQ: SYMC
FY12 Revenue: $6.73B

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

$1 ———————————→ $1M+
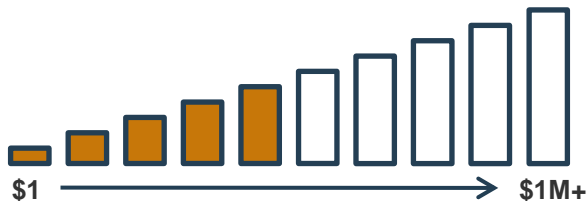
Pricing provided by vendor.

Overview

- Symantec is the largest provider of security software worldwide and market share leader in the backup software market. It offers Backup Exec for Windows-centric SMBs and NetBackup for large companies supporting many OSs.

Strengths

- Backup Exec *and* NetBackup are available as stand alone software for physical or virtual machines, or as a pre-integrated appliance, simplifying implementation.
- Backup Exec V-Ray edition for highly virtualized environments can be installed on a physical or virtual server, and includes dedupe, backup to disk and tape, as well as granular file, data and folder recovery, and the ability to back itself up.
- Symantec revamped its Backup Exec user interface in March 2012 to simplify management.
- Backup Exec and NetBackup integrate with vCenter, enabling backup monitoring and drill-down capabilities for VM admins.
- Widely supported storage integration with OpenStorage APIs.

Challenges

- Some Backup Exec customers were challenged by transition from a job-focused backup structure (in 2010) to a server-focused structure (in 2012). While this continues to be addressed, many of the requested changes were implemented in Symantec's updated Backup Exec 2012 R2 interface.

Symantec has been quick to add key virtual backup features to make data protection of VMs faster and easier to manage

Vendor Landscape

Leading Product / Trailing Product / Trailing Vendor / Leading Vendor

- Innovator
- Champion
- Emerging Player
- Market Pillar

Value Index

100

1st out of 14

Product

Overall	Features	Usability	Afford.	Arch.

Vendor

Overall	Viability	Strategy	Reach	Channel

Deployment Options

Backup Exec
Windows Server

Backup Exec 3600
Storage Appliance

NetBackup
Virtualized Windows Server

NetBackup 5220
Storage Appliance

Features

Agentless Backups	Run from Backup	VM Replication	Backup Replication	Backup to Tape	Bandwidth Throttling	Client Integration	Self-service/ RBAC	Auto-restore Testing	Data Encryption

Info-Tech Recommends:

For the most part, Symantec should be a consideration for most, as it tends to lead or quickly follow in key features and functionality with is large developer base.

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.

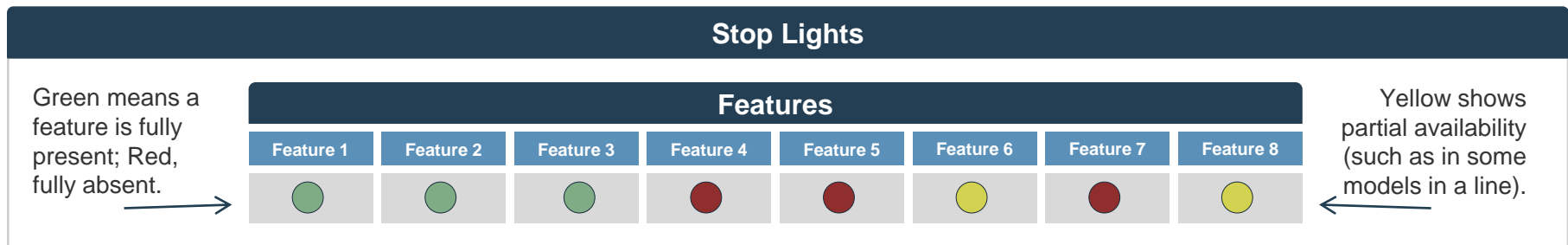3. Stop Lights are plotted by solution in a chart where rows represent individual solutions and columns represent individual features. Solutions are ordered in the chart alphabetically by vendor name.

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.