

Vendor Landscape: WAN Optimization

Innovation and specialization drive differentiation.

Introduction

Wide Area Network (WAN) optimization has hit the mainstream. Many vendors have mobile clients, virtual appliances, and are building for cloud-enabled environments.

This Research Is Designed For:

- ✓ Enterprises seeking to select a solution for WAN Optimization.
- ✓ Their WAN Optimization use case may include:
 - Business continuity and disaster recovery
 - Data center consolidation
 - Branch office acceleration
 - Mobile user acceleration

This Research Will Help You:

- ✓ Understand what's new in the WAN Optimization market.
- ✓ Evaluate WAN Optimization vendors and products for your enterprise needs.
- ✓ Determine which products are most appropriate for particular use cases and scenarios.

Executive Summary

Info-Tech evaluated eight competitors in the WAN Optimization market, including the following notable performers:

Champions:

- **Riverbed**, the market leader offers a complete product line and almost always shows up on short-lists.
- **Silver Peak**, may be seen as the under-dog, but excels in data-center-to-data-center optimization, and offers compelling branch office solutions.
- **Cisco**, retaining its Champion status from the last release of this report, offers a variety of form factors for virtually any deployment scenario.
- **Blue Coat**, has stabilized as a vendor and is innovating on product, offering a complete feature set and interesting differentiating features like asymmetric optimization.

Value Award:

- **Circadence**, offers an outstanding solution for enterprises seeking compression, TCP optimization, and unequalled mobile optimization, all at an almost alarmingly reasonable price.

Trend Setter Award:

- **Blue Coat**, is now optimizing traffic asymmetrically, which can significantly reduce bandwidth and improve performance for content downloaded from the public Internet.

Info-Tech Insight



1. WAN Visibility:

Vendors have begun adding more visibility tools into WAN optimization solutions, giving you more granular insight into what protocols, applications, and users are causing congestion and need to be controlled.

2. Virtual Appliances:

Using virtual appliances to support WAN optimization within a virtual infrastructure eliminates the challenge of managing physical machines within host sites.

3. Cloud Computing:

Within cloud computing environments, deploying WAN optimization provides rapid access to applications and data. Making use of WAN optimization with cloud storage facilitates the backup and archival of enterprise data into the cloud by reducing data transfer times.

Market Overview

How it got here

The objective of optimization within a WAN is to increase the speed of access to critical information and applications. Utilizing WAN optimization technologies can significantly enhance enterprise network performance, reducing latency, relieving congestion, reducing bandwidth utilization and costs, and speeding up bandwidth-greedy applications.

The most commonly used techniques for WAN optimization include:

- Caching
- Compression
- Quality of Service (QoS) tagging
- Forward Error Correction (FEC)
- Data deduplication

Where it's going

- The growth of teleworking, mobile devices, and virtualization are driving WAN optimization implementation, and the solutions have been diversified to accommodate these trends.
- Virtualization and consolidation require an efficient and accessible WAN. With more remote workers in branch offices using centralized applications, WAN optimization has become essential.
- WAN optimization solutions are also being deployed alongside cloud storage services, making more efficient use of cloud storage for disaster recovery and business continuity.
- WAN optimization solutions are more flexible and efficient than ever before. They can be used in almost any scenario where reliable data transfer is vital, or in situations where bandwidth is a scarce resource.

WAN Optimization Vendor selection / knock-out criteria: market share, mind share, and platform coverage

- Once seen as a niche market, WAN optimization has turned into a must-have technology for almost any multi-site organization, or those with multiple remote workers. The landscape is moving towards an application delivery network (ADN) approach, with WAN optimization controllers being just one component of the ADN.
- 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 mid-large sized enterprises.

Included in this Vendor Landscape:

- **Blue Coat.** A leading WAN optimization solution with unique asymmetrical optimization from a stabilized vendor.
- **Cisco.** The networking behemoth has chosen to compete in this market, and it offers a solid solution.
- **Circadence.** Differentiating through specialization, Circadence provides a very unique solution targeted at mobile.
- **Citrix.** Citrix's Repeater and Branch Repeater lineup offer solutions targeted at desktop and application virtualization.
- **Ipanema.** Offers a self-learning WAN Optimization solution through an Autonomic Networking System.
- **Riverbed.** The market leader has not relented, offering best-of-breed WAN Optimization solutions.
- **Silver Peak.** The data-center-to-data-center leader has introduced very compelling virtual appliances for branches too.

WAN Optimization criteria & weighting factors

The Table Stakes

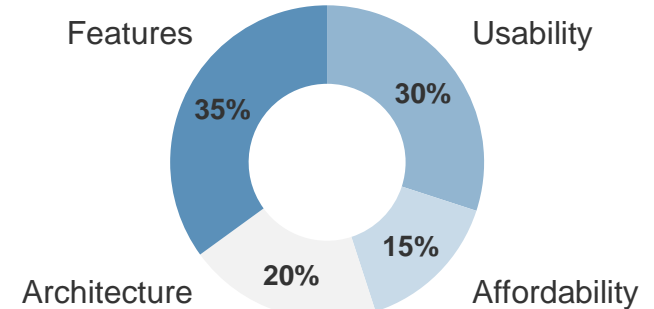
Product Evaluation Criteria

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.

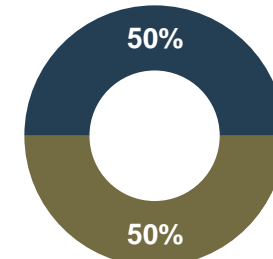
Vendor Evaluation Criteria

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.

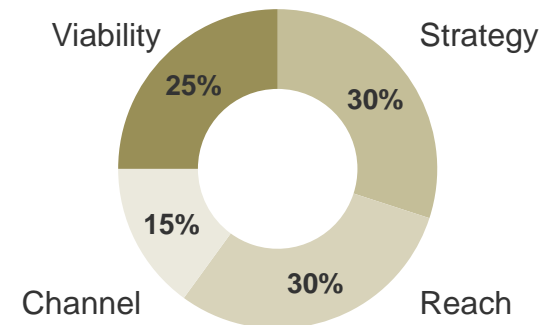
Criteria Weighting:



Product



Vendor



The Info-Tech WAN Optimization Vendor Landscape

Zones of the Landscape

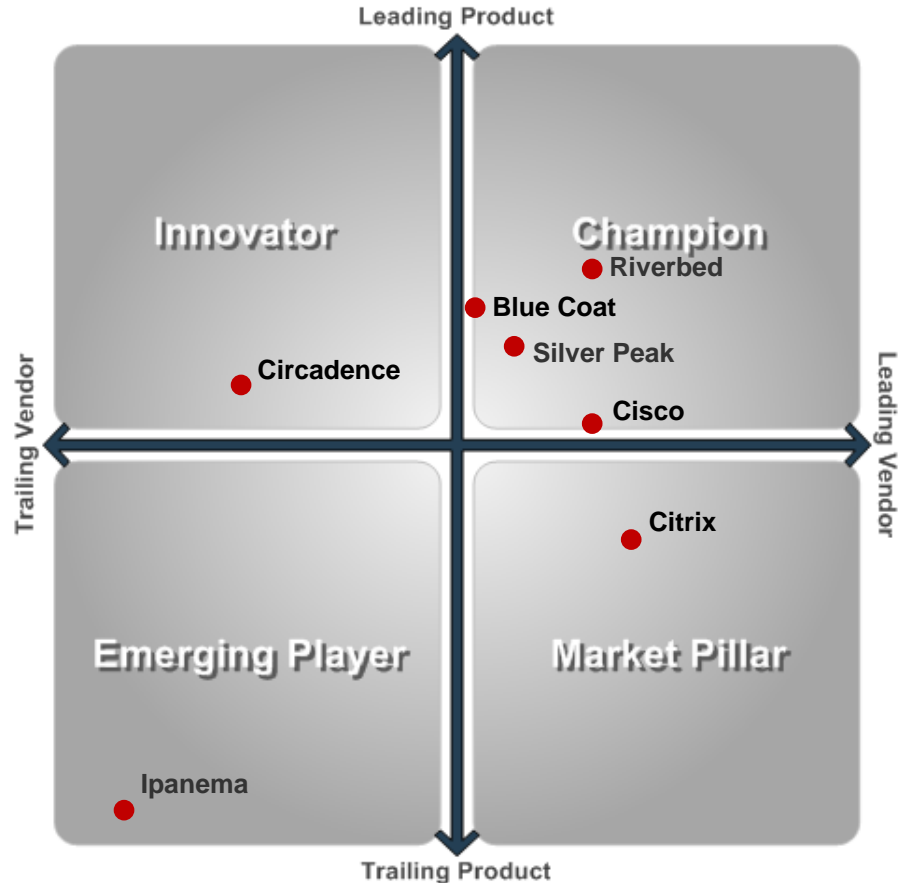
Champions receive high scores for most evaluation criteria and offer excellent value. They have a strong market presence and are usually the trend setters for the industry.

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 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
Blue Coat										
Circadence										
Cisco										
Citrix										
Ipanema										
Riverbed										
Silver Peak										
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 WAN Optimization Value Index

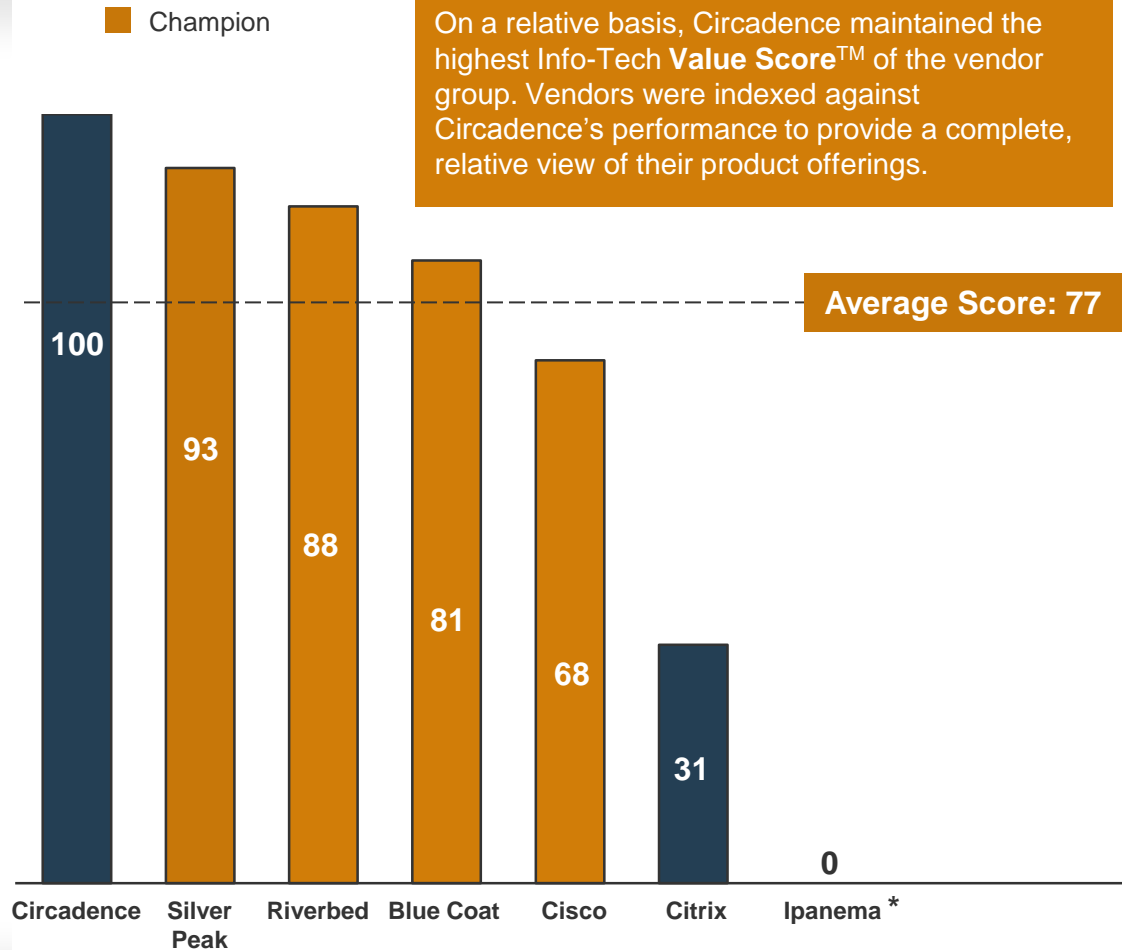
What is a Value Score?

The Value Score indexes each vendor's product offering and business strength **relative to their 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 publically available pricing could not be found



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:
Compression	Can apply compression techniques on-the-fly to data passing through the appliance.
QoS/QoE Enforcement	Ability to detect and maintain QoS tagging as data passes through.
Basic Reporting and Logging	Reporting to show acceleration of protocols, amount of traffic, compression rates, and filter by date/time.
Deduplication	Identifies redundant data and removes from transfer over WAN.
TCP Optimization	Optimize TCP by adjusting window size, intelligently handling ACKs, reducing chatter.
Caching	Ability to store files and data in a local cache to reduce bandwidth demand.

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 WAN Optimization 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:
Video Optimization	Can optimize streaming video (i.e. caching and stream splitting).
IPv6 Optimization	Optimization of IPv6 connections is available.
Mobile Optimization	Has the ability to optimize mobile computers running Windows and OS X (mobile OS bonus).
Advanced Reporting	Ability to produce traffic and bandwidth savings reports based on application, user & department, and real-time traffic and optimization views.
Encryption Acceleration	Can accelerate eAPI and SSL encrypted traffic.
ICA Optimization	Ability to automatically turn off Citrix XenDesktop's native encryption, and apply additional optimization to ICA traffic..
Layer 7 Optimization	Has the ability to optimize at the application layer.

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						
	Video Optimization	IPv6 Optimization	Mobile Optimization	Advanced Reporting	Encryption Acceleration	ICA Acceleration	Layer 7 Optimization
Blue Coat							
Circadence							
Cisco							
Citrix							
Ipanema							
Riverbed							
Silver Peak							
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.

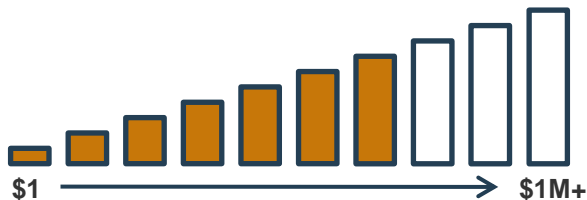
Riverbed's champion status comes from a strong, feature-filled offering from a leading vendor



Champion

Product: Steelhead
Employees: 1200
Headquarters: San Francisco, CA
Website: riverbed.com
Founded: 2002
Presence: NASDAQ: RVBD

3 year TCO for this solution falls into pricing tier 7, between \$100,000 and \$250,000



Pricing provided by vendor

Overview

- Riverbed's focus is on optimizing and accelerating WAN traffic. They are the market leader, with a product strategy focused squarely on WAN Optimization, with more recent additions of application delivery and cloud storage solutions.

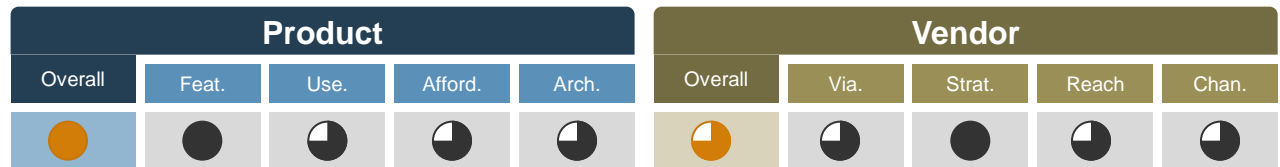
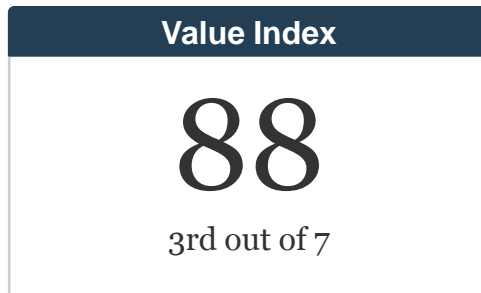
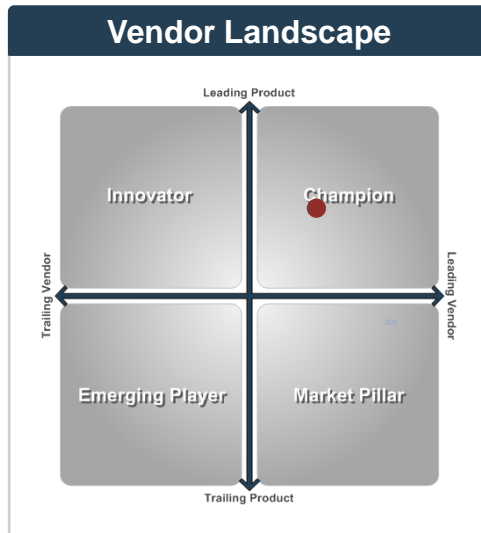
Strengths

- Riverbed is one of two vendors that scored full points on all features that were evaluated.
- New cost-effective physical and virtual appliances provide a viable WAN Optimization solution for SMEs and smaller branches facing budget constraints.
- Riverbed dominates in WAN Optimization mindshare – it shows up on virtually every shortlist.

Challenges

- Riverbed has market-leading support, but it comes at a price.
- In order to maintain its market-leading position, Riverbed must continue to innovate in the WAN Optimization space, which is challenging in a market where core features are becoming increasingly commoditized.

Riverbed offers a market-leading solution at a competitive price, with a wide array of options for enterprises of all sizes



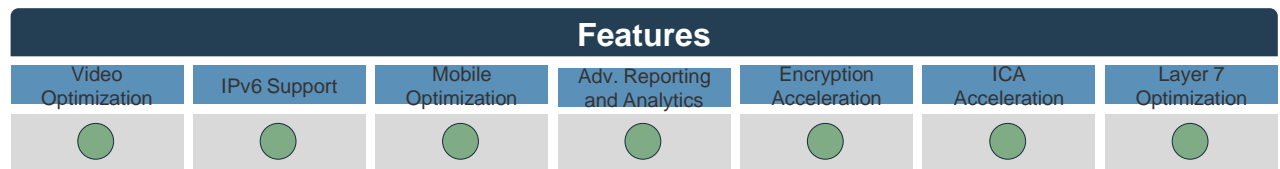
What we're hearing

"It works! We have been able to move servers and storage out of small offices - up to 85 employees."

Sandy Schmit, Woodward Inc.

"Costs are high. Have had some issues with hardware product in certain regions."

John Damm, Eagle Ottawa LLC



Info-Tech Recommends:

Riverbed should be on every WAN Optimization shortlist. Steelhead offers ample variety of appliances, virtual appliances, and cloud options to accommodate enterprises of all sizes.

Silver Peak is focused on WAN Optimization, offers a cost-effective solution, and is refreshingly transparent



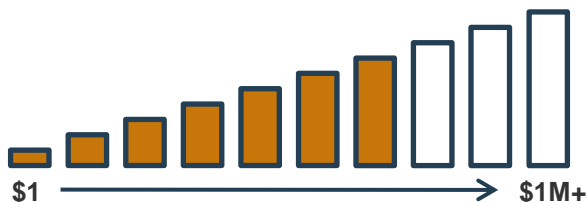
Champion

Product: VXOA, NX, VX/VRX
Employees: 150
Headquarters: Santa Clara, CA
Website: silver-peak.com
Founded: 2004
Presence: Private



Silver Peak

3 year TCO for this solution falls into pricing tier 7, between \$100,000 and \$250,000



Pricing provided by vendor

Overview

- Silver Peak is a dedicated WAN Optimization vendor with a variety of physical and virtual appliances for most scenarios, emphasizing flexible deployment options.

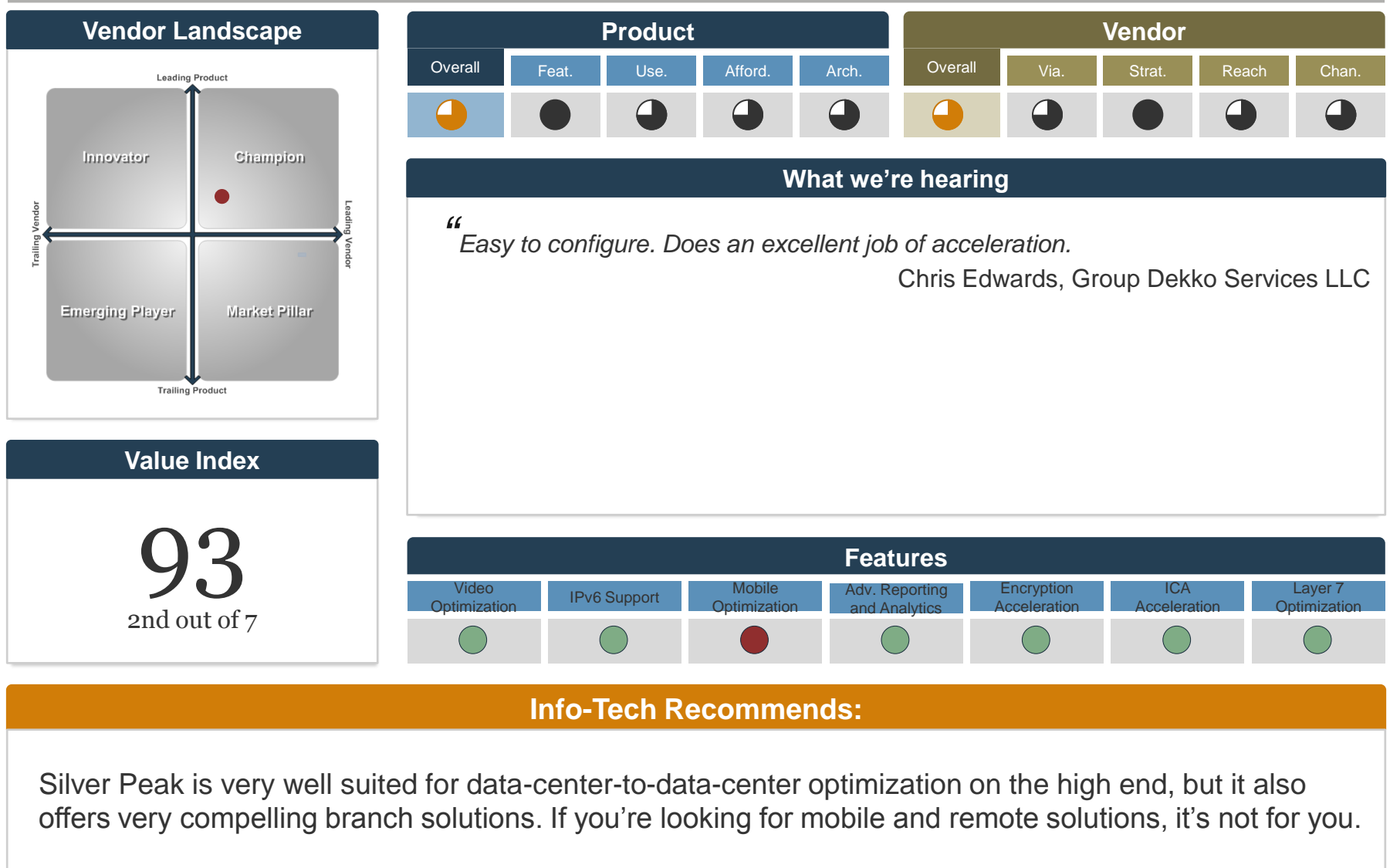
Strengths

- Silver Peak is fully focused on WAN Optimization. It does not have competing products to distract its focus.
- Info-Tech loves the company's transparency. Not only does it offer free VX-X virtual appliances for up to 4 Mbps between two sites, all virtual appliances are available for a free 30 day trial.
- Silver Peak's online marketplace provides transparent pricing for its entire product line.
- Network Memory is an innovative approach to WAN Optimization that is unique and differentiates the product.

Challenges

- Although the feature is currently in development, Silver Peak does not at this time offer full, native IPv6 optimization. Support for IPv6 tunneling is currently supported, however.
- If mobile optimization is an important selection criteria, Silver Peak has chosen not to focus on that technology.

Silver Peak has everything except mobile optimization at a very attractive price



Cisco is a dominant networking vendor with a varied product line



Champion

Product: Wide Area Application Services

Employees: 65,223

Headquarters: San Jose, CA

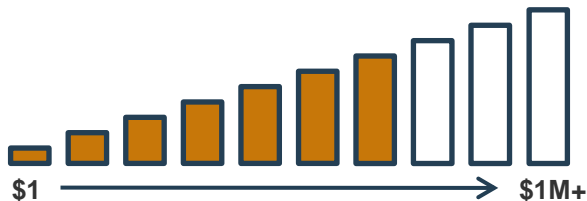
Website: cisco.com

Founded: 1984

Presence: NASDAQ: CSCO



3 year TCO for this solution falls into pricing tier 7, between \$100,000 and \$250,000



Pricing provided by vendor

Overview

- Cisco is a dominant player in the networking space, but has been floundering of late in adjunct product offerings. While WAN Optimization is a product line, it is not the company's focus.

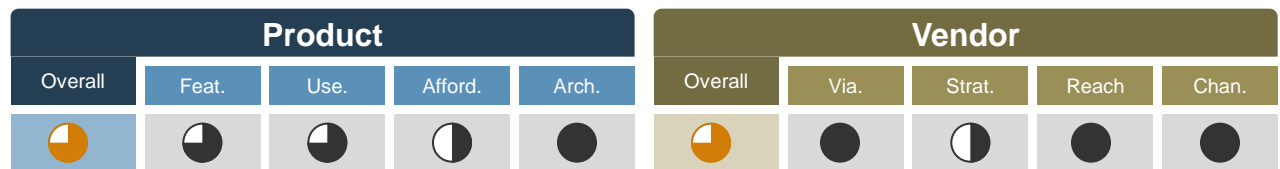
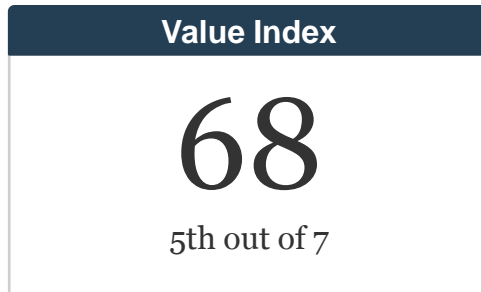
Strengths

- An enormous client base and worldwide presence ensure that Cisco will be around and viable for a long time to come.
- Cisco has a vast technical support base that a smaller vendor would be hard pressed to compete with.

Challenges

- Because of the large breadth of available products, Cisco's focus is not directed solely on their WAAS product line, possibly resulting in less development in this area.
- Cisco tends to be a follower in terms of adding features and capabilities.
- Integrating the products and services of one large vendor can lead to vendor lock-in, which can limit future options.

Being an established vendor in the networking arena is Cisco's greatest strength



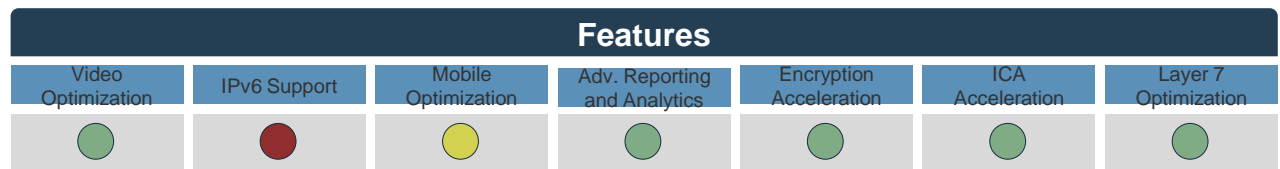
What we're hearing

“Cisco has a very large Technical Support base from which we can draw assistance on any matter that arises.”

David Eckermann, Anglicare SA Inc.

“Features are out of date, may just be our implementation.”

Steven Zolman, NET Inc.



Info-Tech Recommends:

Cisco is a giant in any space it is evaluated in. If needs include a vendor that has a strong financial base and proven longevity, Cisco will be shortlisted.

Blue Coat's asymmetrical and video optimization strategy help make MACH5 a leading solution

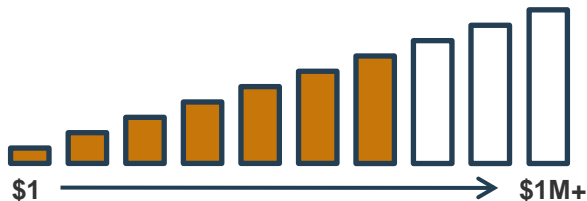


Champion

Product: MACH5
Employees: 1,050
Headquarters: Sunnyvale, CA
Website: bluecoat.com
Founded: 1996
Presence: Private



3 year TCO for this solution falls into pricing tier 7, between \$100,000 and \$250,000



Pricing provided by vendor

Overview

- Blue Coat offers WAN Optimization as one of three core product categories. The WAN Optimization offering is one of a trifecta of solutions, which also includes Web Security and Cloud Services.

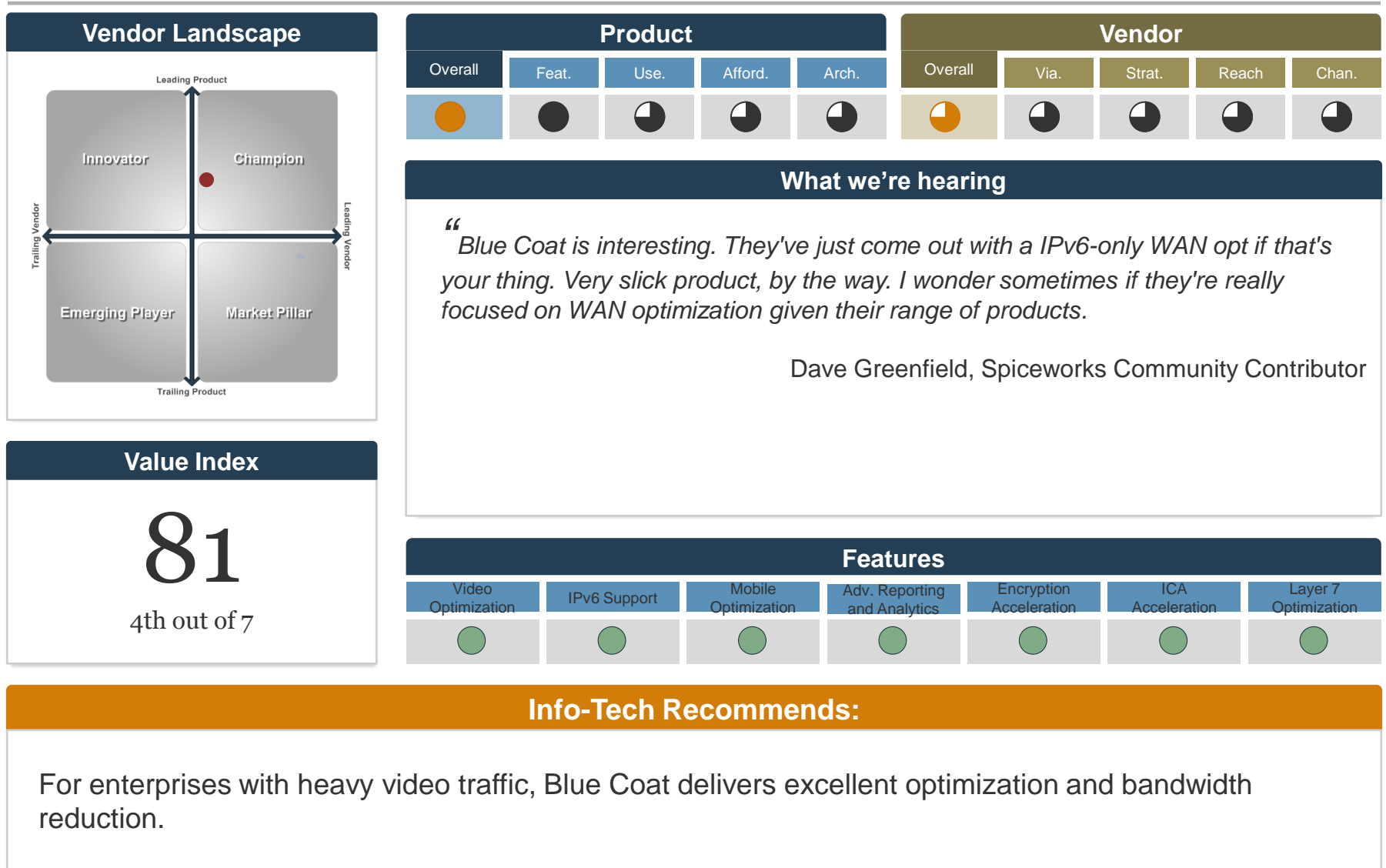
Strengths

- MACH5 can optimize all popular video formats through the use of object level cache and multicasting. Once the video has been downloaded, it is cached locally negating the need to re-download for subsequent viewing.
- Can improve security by directing connections through Blue Coat's Web Secure Cloud Service.
- The only vendor to offer asymmetrical optimization for content downloaded from the public Internet using object caching on local/branch controllers.

Challenges

- Blue Coat was recently acquired by private equity firm Thoma Bravo, reverting from public to private ownership. While early indications point to vendor stabilization as a result of this acquisition, only time will tell if the company can recover from previous missteps.

If video optimization is a requirement, Blue Coat delivers



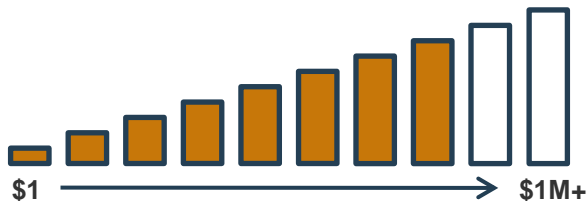
Citrix's NetScaler product line covers a wide range of networking needs – WAN Optimization is among them

Market Pillar

Product: NetScaler Branch Repeater
Employees: ~8000
Headquarters: Santa Clara, CA
Website: citrix.com
Founded: 1989
Presence: NASDAQ: CTXS



3 year TCO for this solution falls into pricing tier 8, between \$250,000 and \$500,000



Pricing provided by vendor

Overview

- Citrix is known primarily for server and desktop virtualization solutions, but is also a leading vendor in networking, SaaS, and cloud computing products.

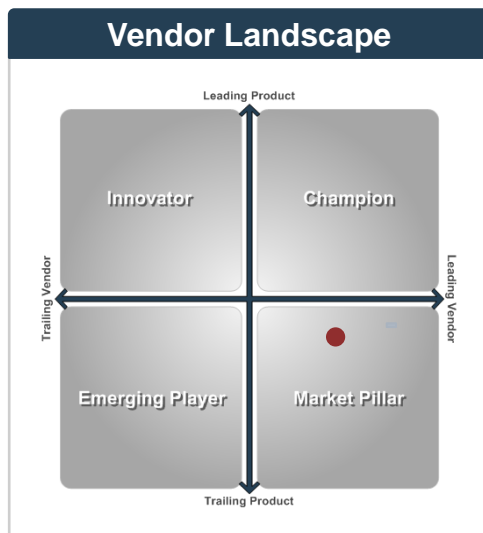
Strengths

- Citrix has a strong client and support base, as well as strong sales channels. Solution availability is quite high as a result.
- Citrix's high end appliances support up to 5000 simultaneous users.

Challenges

- NetScaler (Repeater and Branch Repeater) is the highest priced WAN Optimization solution evaluated in this report.
- Citrix's missing support for IPv6 optimization makes it difficult for companies to migrate away from IPv4.

Citrix has a solid offering for high end needs, but the performance is reflected by the high price point



Product					Vendor				
Overall	Feat.	Use.	Afford.	Arch.	Overall	Via.	Strat.	Reach	Chan.

What we're hearing

Info-Tech was unable to solicit client or third-party feedback on the Citrix NetScaler Repeater/Branch Repeater product line.



Features

Video Optimization	IPv6 Support	Mobile Optimization	Adv. Reporting and Analytics	Encryption Acceleration	ICA Acceleration	Layer 7 Optimization

Info-Tech Recommends:

Enterprises looking for high capacity WAN Optimization will want to shortlist Citrix, but be aware of the steep cost for each appliance.

Circadence has a solid offering with a focus on mobile support

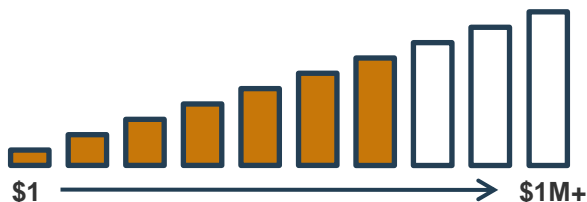


Innovator

Product: MVO 1200 WAN Optimization Suite
Employees: ~50
Headquarters: Boulder, CO
Website: circadence.com
Founded: 1995
Presence: Private



3 year TCO for this solution falls into pricing tier 7, between \$100,000 and \$250,000



Pricing provided by vendor

Overview

- Circadence got its start in game development before moving on to the WAN optimization market with the realization that the same technology being built into the games could be used to improve network connectivity in enterprise networks.

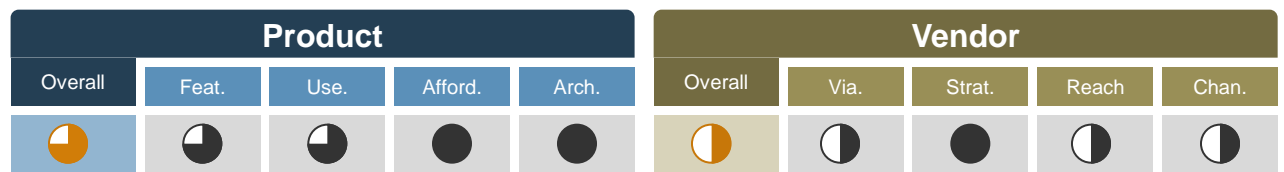
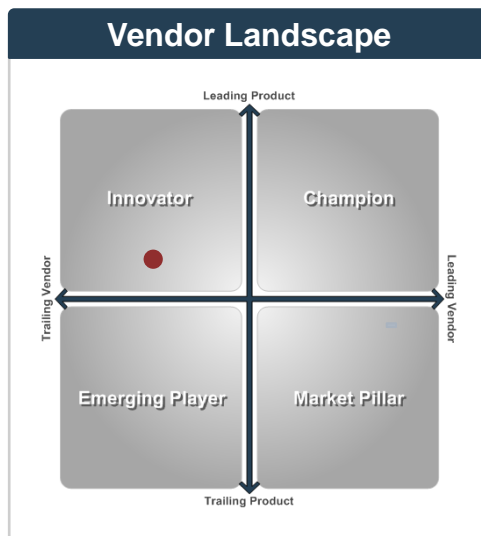
Strengths

- The only vendor to offer mobile apps and APIs. There is an Android app and an iOS SDK to wrap WAN Optimization around enterprise-built iOS apps.
- Link Resilience™ helps to prevent application sessions from terminating during temporary drops in connectivity.
- The only vendor to focus squarely on ease of deployment and mobile optimization.

Challenges

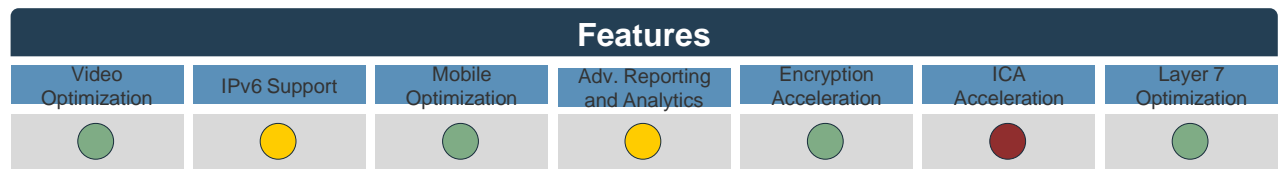
- While Circadence has experienced growth almost since inception, it still lacks mindshare in the WAN Optimization market.
- While caching appliances are available, it is not the company's focus, making it less compelling for large data-center-to-data-center deployments.

Circadence focuses on remote and mobile – it does well at a very compelling price



What we're hearing

“Goes beyond any solution when you don't own the comms lines, and the people at this company are the intelligent, solution providers who work with you as a partner to optimize for your needs vs. just an off-the-shelf commodity vendor.”
Karen Diener, VP Business Development, Defense and Intelligence, Digital Globe



Info-Tech Recommends:

Circadence has put a great deal of focus on creating a highly competitive mobile offering. Enterprises with a large mobile workforce should have Circadence on their short list.

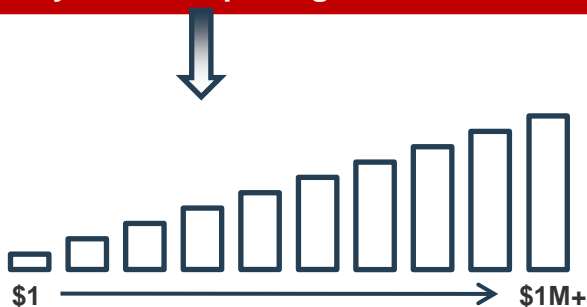
Ipanema's subscription-based pricing may be compelling for organizations seeking to avoid or reduce capital costs.

Emerging Player

Product: Autonomic Networking System
Employees: 200
Headquarters: Paris, France
Website: ipanematech.com
Founded: 1999
Presence: Private

ipanema
Technologies

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



Overview

- Ipanema is a France-based vendor focused solely on the WAN Optimization space. They have implemented a number of technologies into their product to remain competitive.

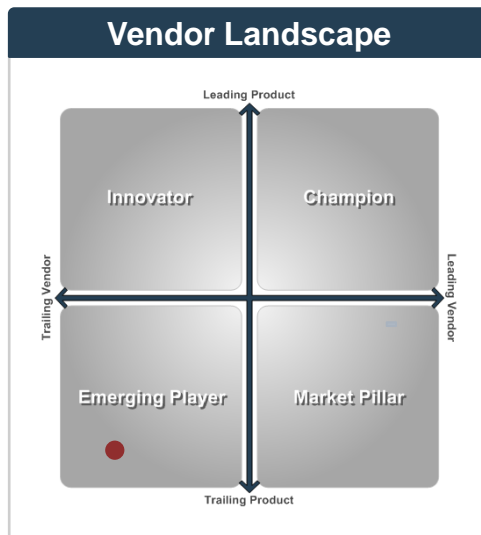
Strengths

- Very clean and easy to navigate administrative interface
- Installs transparently into the network to avoid changes in configuration.
- Ipanema's new subscription-based service is targeting SMBs looking to adopt WAN Optimization, but that can't afford up front capital costs for appliances.

Challenges

- Ipanema's lack of IPv6 optimization eliminates it as an option for organizations moving to IPv6.
- Ipanema has yet to establish itself in the North American market, doing the majority of its business in Europe. It will be challenging for the company to establish mindshare as it pushes into new markets.

Ipanema's presence has been mostly limited to Europe, but the vendor is trying to make inroads in other regions



Product					Vendor				
Overall	Feat.	Use.	Afford.	Arch.	Overall	Via.	Strat.	Reach	Chan.

What we're hearing

We were unable to solicit client or third-party feedback on Ipanema's WAN Optimization product line.

Value Index

N/A

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

Features						
Video Optimization	IPv6 Support	Mobile Optimization	Adv. Reporting and Analytics	Encryption Acceleration	ICA Acceleration	Layer 7 Optimization

Info-Tech Recommends:

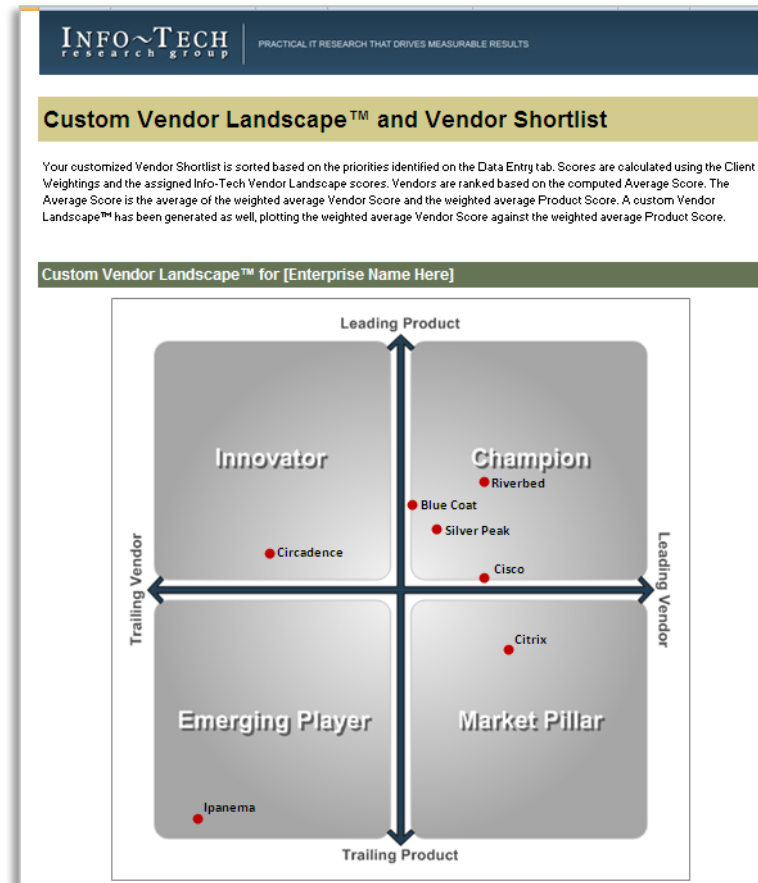
Ipanema lacks many features found in competing solutions, but for enterprises looking for basic functionality with subscription pricing, Ipanema is a viable option.

Identify leading candidates with the *WAN Optimization Vendor Shortlist Tool*

The Info-Tech [WAN Optimization 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



Large, distributed enterprises with consolidated environments require a high throughput appliance at the data center

Look for high capacity appliances that can aggregate traffic being transmitted to/from branch offices.

1

**Large enterprise,
consolidated
infrastructure**

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

BlueCoat

riverbed



Silver Peak

ipanema
Technologies

Viable Performers



Adequate Performers

CIRCADENCE
TECHNOLOGY POWERED BY TOMORROW™

CITRIX

For an explanation of how Scenarios are determined, see [Information Presentation – Scenarios](#) in the Appendix.

Businesses with “bring your own computer” programs, or lots of mobile workers, need support from the vendor

Find the best mix of mobile client support and WAN optimization controller performance to provide users with a high quality experience.

1
2 Bring your own computer,
highly mobile workforce

Exemplary Performers

CIRCADENCE[®]
TECHNOLOGY POWERED BY TOMORROW™

BlueCoat[®]

riverbed[™]

Viable Performers


CISCO[™]

CITRIX[™]

Adequate Performers


Silver Peak

ipanema
Technologies

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.

For an explanation of how Scenarios are determined, see [Information Presentation – Scenarios](#) in the Appendix.

Companies heading down the desktop virtualization road need as much traffic optimization as they can get

Some WAN optimization solutions will automatically apply additional acceleration, others make you take the manual route.

1 2 3 Desktop Virtualization

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Exemplary Performers



Viable Performers



Adequate Performers



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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).

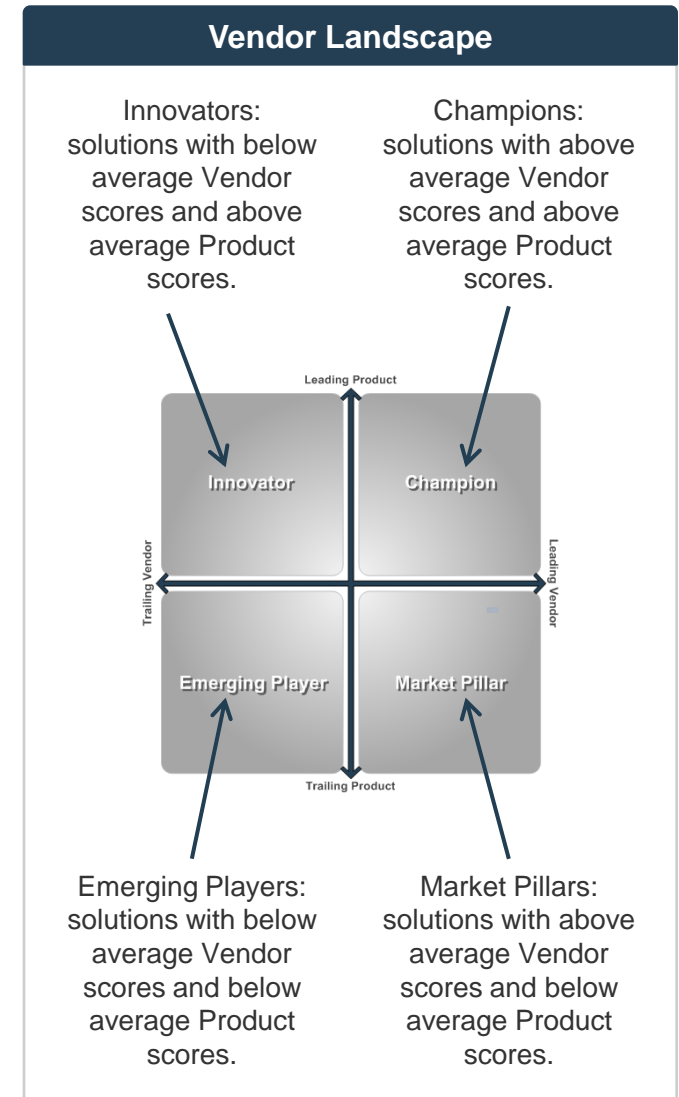
Vendor Landscape Methodology:

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.



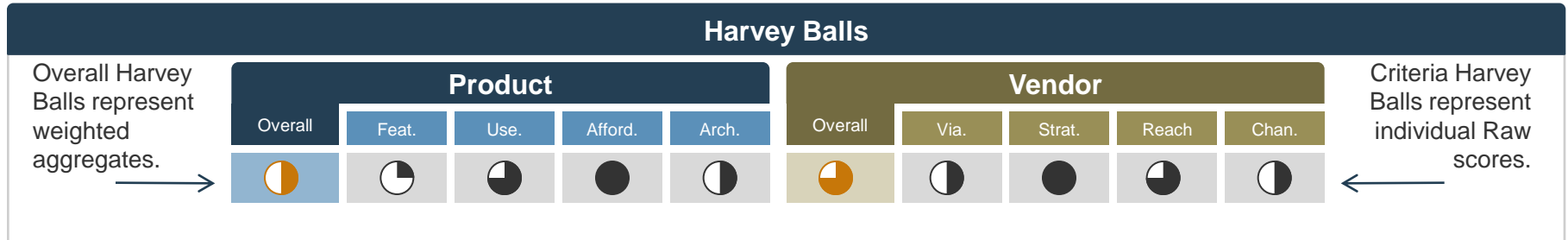
Vendor Landscape Methodology:

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.



Vendor Landscape Methodology:

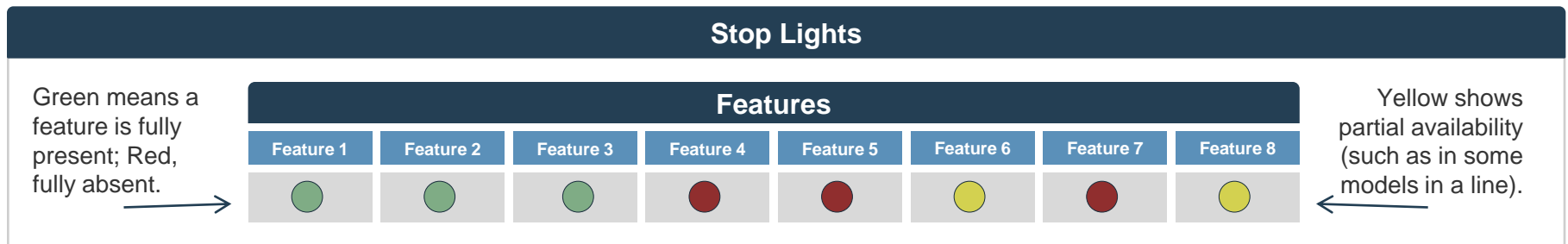
Information Presentation – Feature Ranks (Stop Lights)

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”.



Vendor Landscape Methodology:

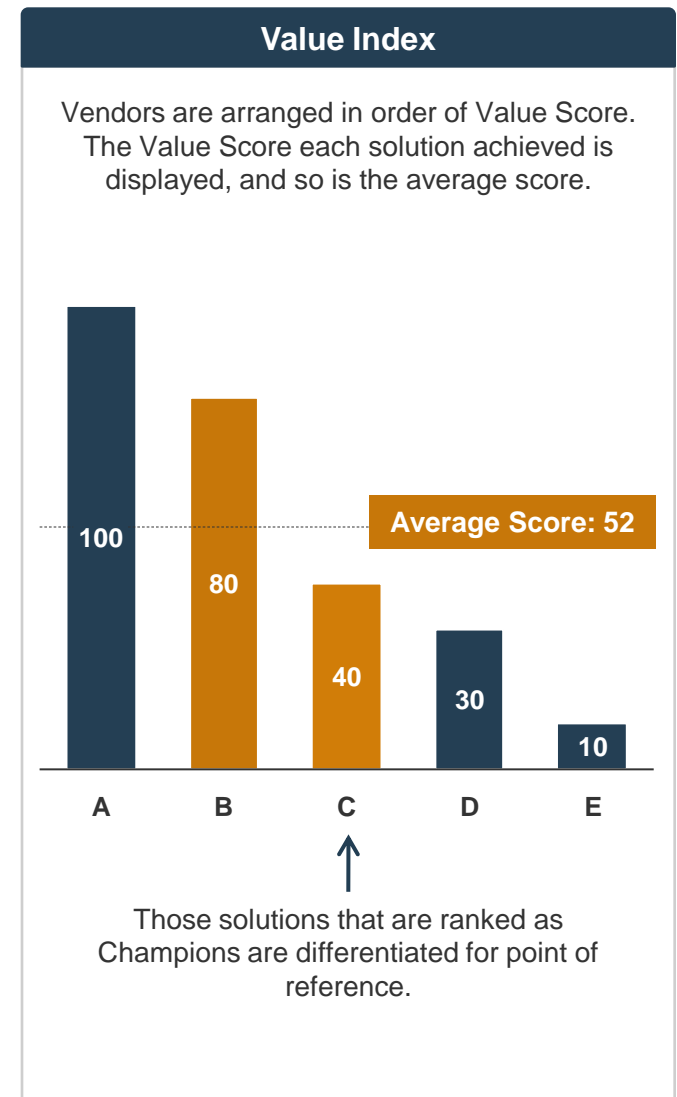
Information Presentation – Value Index

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



Vendor Landscape Methodology:

Information Presentation – Price Evaluation

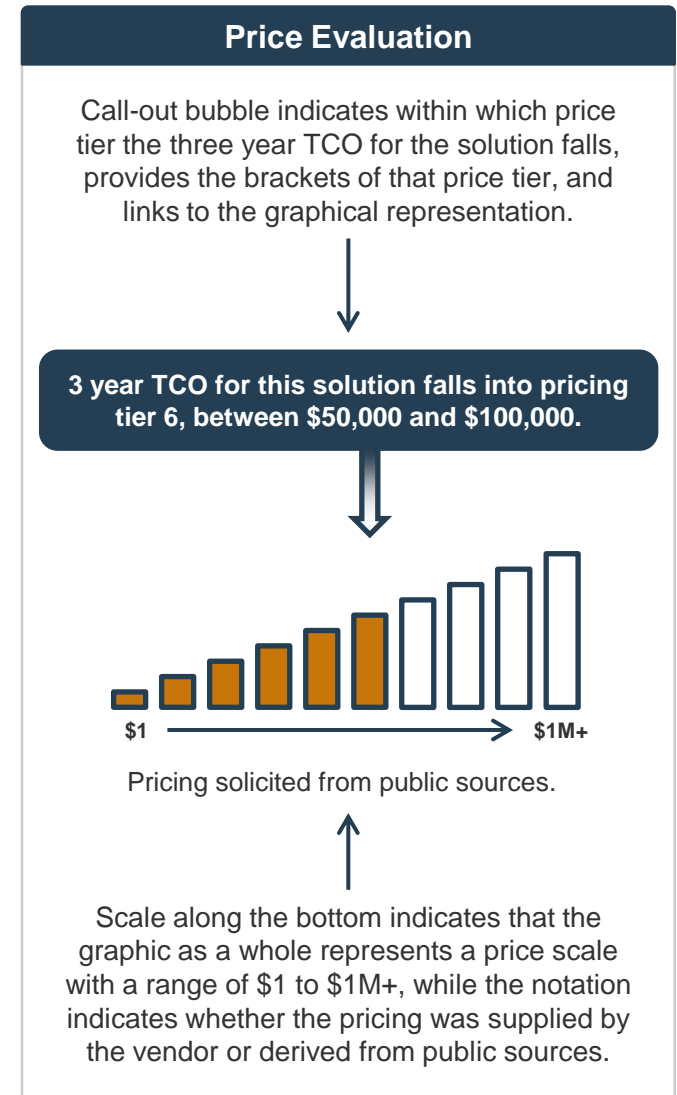
Info-Tech's Price Evaluation is a tiered representation of the three year Total Cost of Ownership (TCO) of a proposed solution. Info-Tech uses this method of communicating pricing information to provide high-level budgetary guidance to its end-user clients while respecting the privacy of the vendors 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.



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 nor 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

A mid-sized chemical organization with a corporate head office located in Hamburg, Germany, with 5 regional offices located in Canada, the USA, Italy, Malaysia, and Brazil. There are also 14 branch offices spread across six continents. The company employs 3,000 fulltime employees. It is looking at completing a WAN optimization restructure.

The head office maintains a **50Mbps** symmetrical Internet connection, and each regional office maintains a **10Mbps** symmetrical Internet connection. Each branch office has a **full T1/E1** connection. There are WAN optimization devices at each regional office, but not at the branch offices. Each office is part of an MPLS VPN.

There is a 50Mbps MPLS VPN at Hamburg HQ, 10Mbps MPLS VPN at regional offices, and T1/E1 MPLS VPN connections at remaining branch offices.

The corporate office breakdown is as follows:

Hamburg, Germany HQ

Employing 1,500 people, the Hamburg office holds the core data center for the organization, and the majority of the IT staff. The IT department consists of 75 FTE.

North Bay, ON, Canada Regional Office

Employing 250 people, including 5 FT dedicated IT staff. This location also contains the DR facility.

Lansing, MI USA Regional Office

Employing 200 people, including 5 FT dedicated IT staff. This location also contains the backup/disaster recovery facility.

Torino, Italy Regional Office

Employing 250 people including 5 FT dedicated IT staff.

Kuala Lumpur, Malaysia Regional Office

Employing 100 people, including 2 FT dedicated IT staff.

Brasilia, Brazil Regional Office

Employing 100 people, including 2 FT dedicated IT staff.

Product Pricing Scenario, continued

14 branch offices employing an additional 600 people (30-50 each site) in:

- Abilene, TX
- Brisbane, Australia
- Budapest, Hungary
- Cincinnati, OH
- Doha, Qatar
- Kiev, Ukraine
- Manila, Philippines
- Montevideo, Uruguay
- Port Elizabeth, South Africa
- Reynosa, Mexico
- Setubal, Portugal
- Surrey, BC, Canada
- St. Cloud, MN
- Twin Falls, ID

General Network Overview

Internal core network is currently 10Gbps and 1Gbps for some servers and at the edge.

- The head office maintains a 50Mbps symmetrical Internet connection, and each regional office maintains a 10Mbps symmetrical Internet connection. Each branch office has a full T1/E1 connection. There are WAN optimization devices at each regional office, but not at the branch offices. Each office is part of an MPLS VPN.
- 50Mbps MPLS VPN at Hamburg HQ, 10Mbps MPLS VPN at regional offices, T1/E1 MPLS VPN connections at remaining branch offices.