

Vendor Landscape: Application Integration Middleware

Find the tastiest meat for your application sandwich.

Introduction

In today's IT environment, organizations often have numerous applications communicating with each other chaotically. Middleware streamlines that communication process, providing maximum integration benefits.

This Research Is Designed For:

- ✓ Enterprises struggling with interoperability between applications.
- ✓ Application integration professionals that need to:
 - Share data and business processes internally and externally.
 - Connect legacy systems to cutting edge, new technology developments.
 - Identify a comprehensive unified suite that incorporates an easy-to-use development tool, ensures scalability, and improves business processes.

This Research Will Help You:

- ✓ Understand what's new in the application integration middleware market.
- ✓ Evaluate middleware 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 application integration middleware market, including the following notable performers:

Champions:

- **IBM WebSphere Message Broker** has evolved and matured into a comprehensive middleware portfolio with a strong product focus. Backed by IBM, a leader in innovation, WebSphere Message Broker has a solid sales and support network.

Value Award:

- **Kapow** is an inexpensive option for application integration that is suitable for businesses of all sizes.

Trend Setter Award:

- **Kapow** has a unique approach to application integration through a browser that optimizes communication between applications using structured and unstructured data.

Info-Tech Insight



1. Connecting legacy to the latest:

Middleware has become a critical tool for IT departments that are dealing with growth in the number of applications, allowing companies to benefit from legacy systems.

2. Bundling for simplicity:

Vendors have begun to bundle their product offerings into a single platform that often doesn't require users to write a single line of code. Companies can still mix-and-match, but the trend is moving towards platforms that provide all the services required and enable scalability for future growth.

3. Integration as a service:

The cloud has allowed integration platforms to be hosted offsite, to connect applications as needed instead of requiring an up-front investment in on-premise servers and connections.

Market Overview

How it got here

- With the explosion in new transactional, communication, social networking, and distributed systems, companies began to face challenges in how to connect these new applications to older, legacy systems. The 1980s IT solution was to design your own software to bridge the gaps.
- The shortcomings of this solution were quickly recognized as organizations attempted to share system services internally and with other organizations. The task of translating and maintaining internal and external messages and protocols became unmanageable. With the ongoing integration of new systems, the challenge of how to share information increased. In 1992, IBM introduced its game-changing MQ Series.
- Enter Enterprise Application Integration (EAI) software, a.k.a middleware. With the rapid maturity of solutions from IBM, Oracle, and TIBCO, these products provided the ability to create interoperability between applications.

Where it's going

- Open source integration solutions are becoming more prevalent and popular with consumers. They are heavy in support of standards and have large communities of users and large bodies of support knowledge, with official vendor support offered through subscriptions.
- With applications moving to the cloud, application integration moves along with it. Vendors are developing optimal pricing models for their integration Platform-as-a Service (iPaaS) offerings.
- Integration service providers are also showing up in the cloud. They provide end-to-end integration solutions so that their customers don't need to worry about the technology, the transformations, or the operations.
- Self-service integration between popular social media and cloud services are showing up in the personal cloud. Services such as If This Then That (IFTTT) are looking to move their solution into the enterprise space.

Info-Tech Insight

As the market evolves, capabilities that were once cutting edge become default and new functionality becomes differentiating. HTML5 compatibility has become a Table Stakes capability and should no longer be used to differentiate solutions. Instead, focus on pattern recognition and cloud iPaaS to get the best fit for your requirements.

Application Integration Middleware Vendor selection / knock-out criteria: market share, mind share, and platform coverage

- Vendors included in this report provide a comprehensive, innovative, and functional solution for integrating applications and automating their messaging.
- 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.

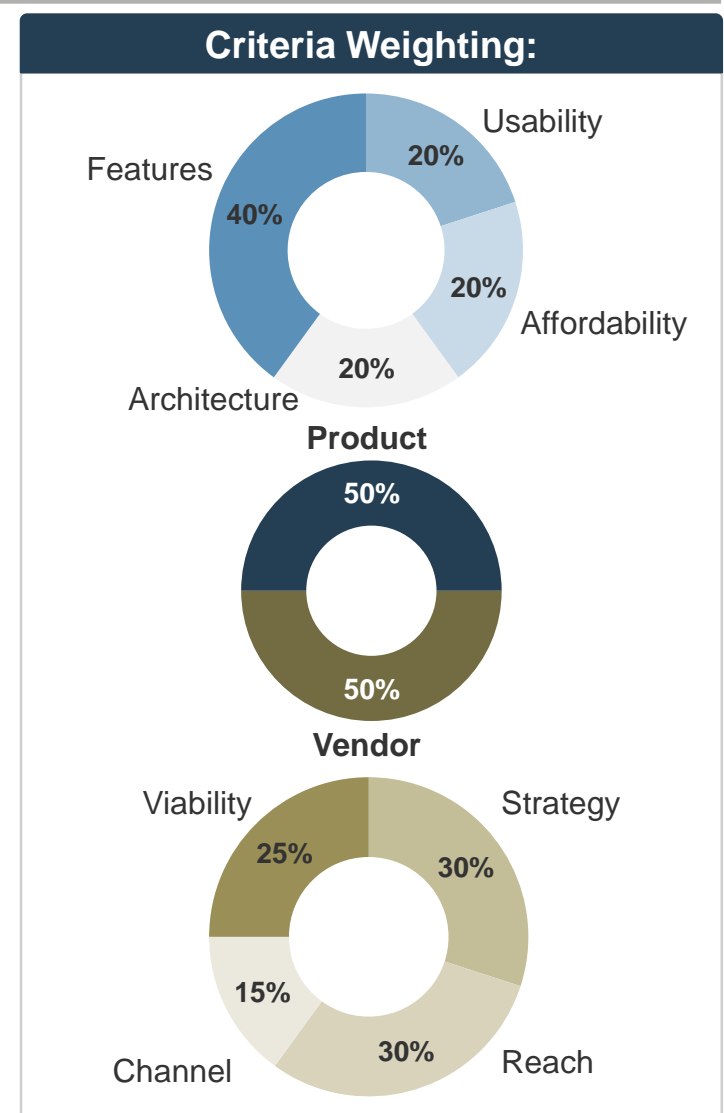
Included in this Vendor Landscape:

- **IBM.** A pioneer in the application integration space that has remained a major player in the market with its WebSphere Message Broker.
- **Jitterbit.** A “no coding” integration platform for SaaS, on-premise, and cloud solutions.
- **Kapow.** A browser-based integration platform that focuses on wielding unstructured data.
- **Microsoft.** BizTalk Server is a long-standing integration solution that integrates internal and external core systems.
- **Oracle.** Fusion Middleware has been a staple in this space with its extensive application portfolio.
- **Red Hat.** JBoss Enterprise Middleware is an open source solution that runs on Java-based OS.
- **Software AG.** webMethods Integration Server is a scalable, standards-based platform that combines a messaging bus with an extensive library of adapters to seamlessly integrate business applications.
- **TIBCO.** A middleware solution with a broad library of pre-built adapters and established history in the field.

Application Integration Middleware 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.



The Info-Tech Application Integration Middleware Vendor Landscape

The Zones of the Landscape

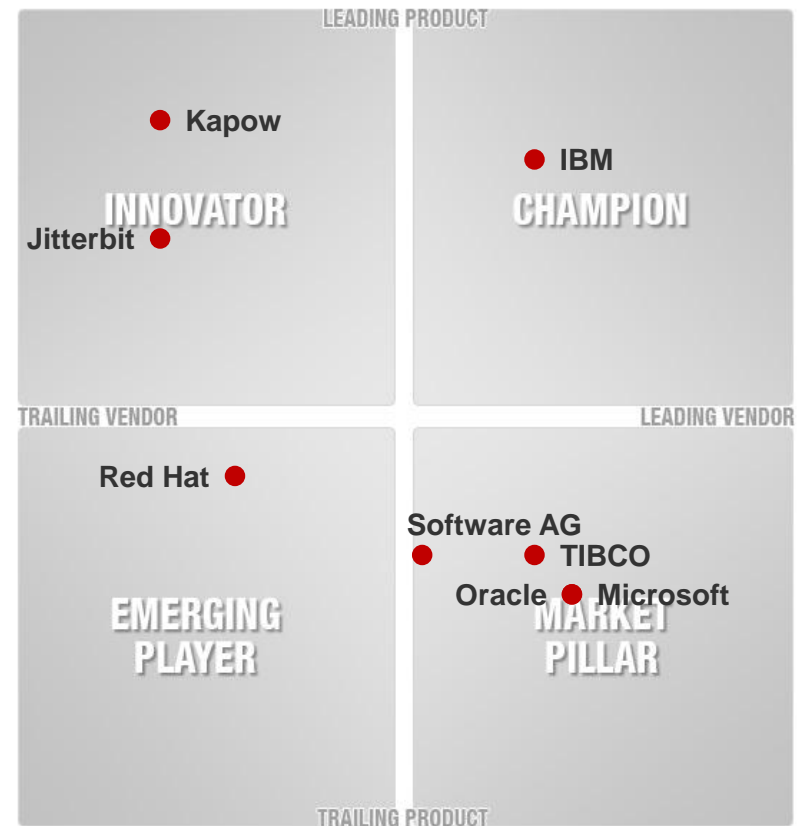
Champions receive high scores for most evaluation criteria and offer excellent value. They have a strong market presence and are usually the trend setters for the industry.

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 Application Integration Middleware 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
IBM										
Jitterbit										
Kapow										
Microsoft										
Oracle										
Red Hat										
Software AG*										
TIBCO*										
Legend	=Exemplary =Good =Adequate =Inadequate =Poor									

*The vendor declined to provide pricing and publically 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.

The Info-Tech Application Integration Middleware Value Index

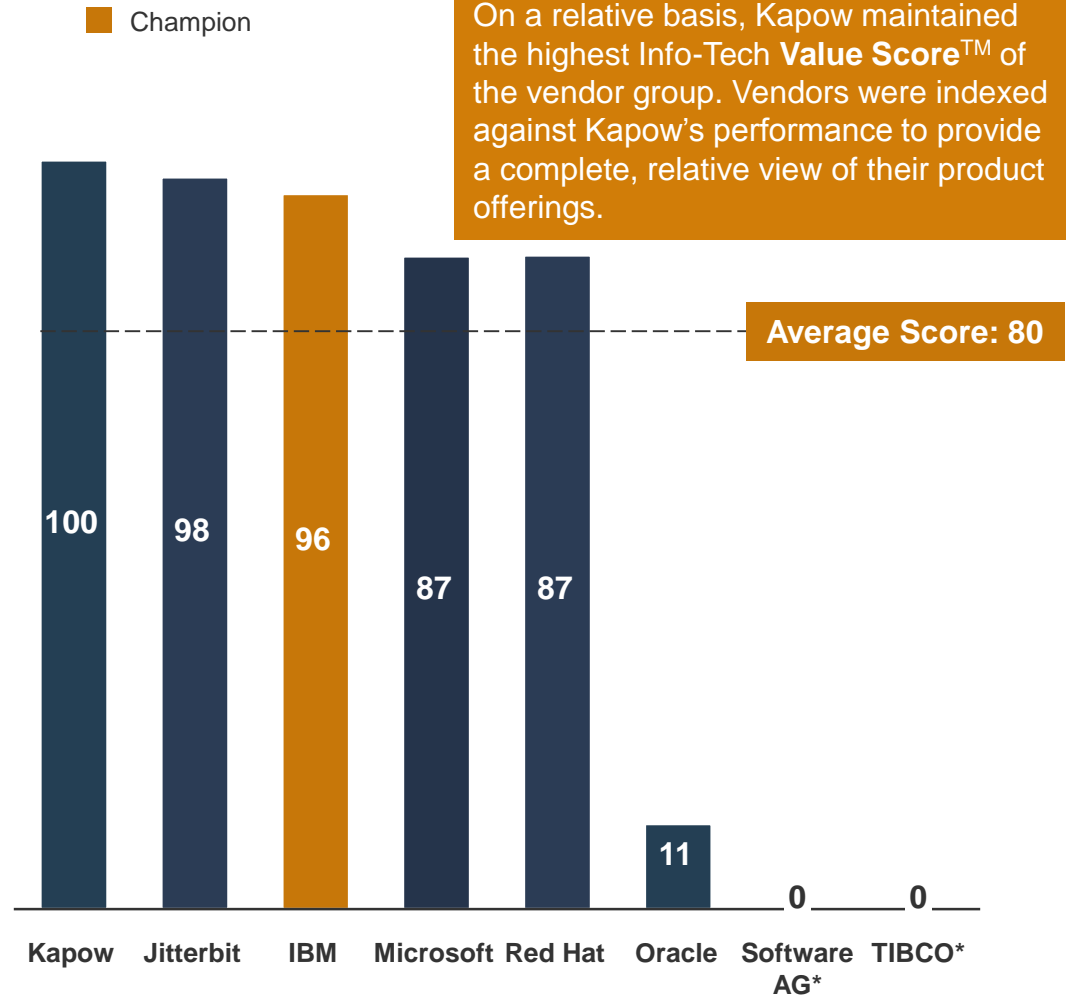
What is a Value Score?

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 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:
Transformation and formatting	The ability to convert information between an application's format and the middleware's format and to perform semantic transformation.
Routing	Middleware employs multiple message-routing techniques (e.g. store and forward, Pub/Sub.)
Secure communication protocols	Communication and authentication protocols provide identity verification and secure data.
Platform-independent protocols	Standard protocols like SOAP, REST, XML are used to facilitate communication between multiple platforms.
Complex event processing	The logical flow of messages between systems is determined by events from users or other technologies.

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 application integration middleware 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 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:
Pattern recognition	The ability to model and implement integration flows in terms of patterns, and to mine data for new patterns.
Mobility	Allows for connectivity and communication between the middleware and mobile apps.
Adapter range	Breadth of adapters, scalability, and compatibility with platforms, including cloud.
Cloud/iPaaS	Middleware has the option to be deployed as an integration platform as a service.
Horizontal scalability	Ability to handle message sequencing in a multi-threaded environment.
STATEful process execution	Integration processes can be created from historical data.
Lightweight messaging	Simple, lightweight send/receive (MQTT or equivalent) is used to transfer messages efficiently.

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							
	Patterns	Mobility	Adapter Range	Cloud/iPaaS	Horiz. Scalability	STATEful	Lightweight Msg.
IBM							
Jitterbit							
Kapow							
Microsoft							
Oracle							
Red Hat							
Software AG							
TIBCO							
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.

Enabling unstructured data integration with applications

Kapow Katalyst can use data from all over the Web to improve your integration environment.

1 Use of unstructured data

Exemplary Performers

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.



Kapow Software wins the Innovator award because of its ability to parse unstructured data and integrate at the user interface level of web applications. As two applications interact with each other through the Kapow Katalyst platform, Katalyst will scrape data from the applications and other external sources (such as social media) to integrate them and create a real-time bi-directional connection. This allows a simpler integration, without the use of APIs or adapters.

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

Integrate your applications from anywhere

Integration solutions are offering more and more mobility options as the solutions become more cloud-focused.

2 Mobility options

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



Kapow's web-based solution allows it to be accessed from any device or browser, thus providing freedom to perform your integrations as you see fit.



Jitterbit offers full mobile monitoring and deployment to integrate applications easily on-the-go.



With the addition of IBM Worklight, you can create, deploy, and monitor a mobile application for any platform with minimal programming.

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

Use the cloud to improve your integration environment

Cloud and iPaaS make a quick-deploy solution when application integration needs to happen now.

1
2
3 Cloud/iPaaS

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



Being a web-based solution, Kapow Katalyst can be deployed on-premise, in the cloud, or as a service. This gives enterprises the flexibility of running integration environments as they need them without having to purchase a large solution with an extensive number of expensive adapters.



With the addition of IBM SmartCloud, all of WebSphere Message Broker's integration capabilities can be deployed and hosted in the cloud, and cloud apps can be developed and monitored.

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

IBM continues its reign as the most established vendor in the integration space

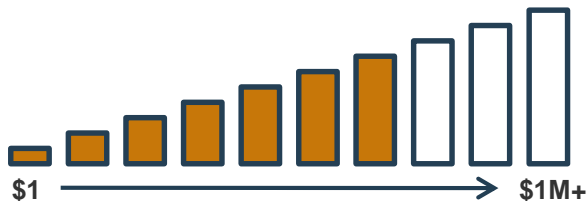


Champion

Product: WebSphere Message Broker
Employees: 433,362
Headquarters: Armonk, NY
Website: ibm.com
Founded: June 16, 1911
Presence: NYSE: IBM



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



Pricing provided by vendor

Overview

- WebSphere Message Broker is a platform-independent Enterprise Service Bus that allows universal connectivity and flow of business information across multiple hardware and software platforms.

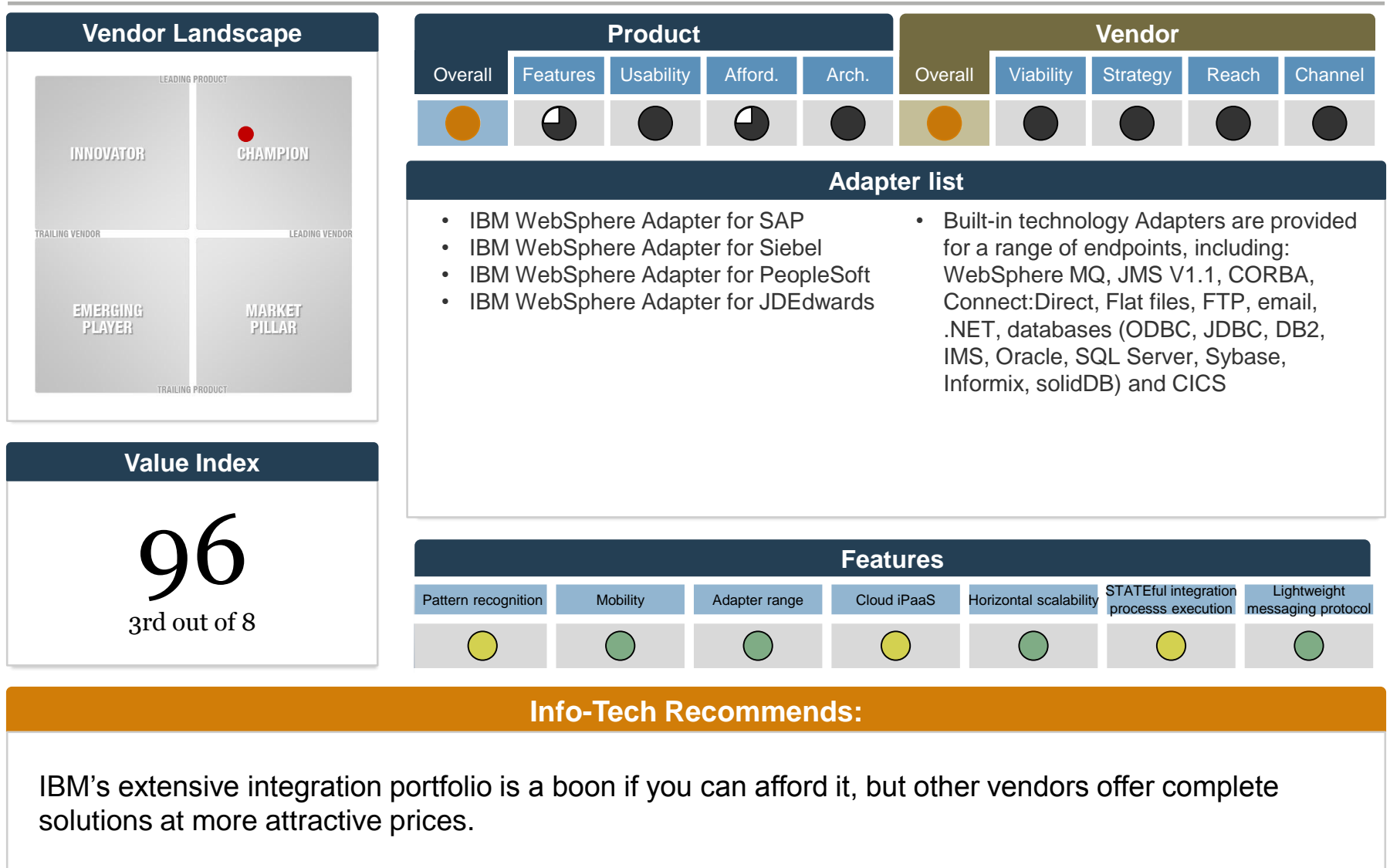
Strengths

- Highly customizable, capable of integrating with data on over 80 platforms through its wide range of connectivity and underlying messaging capability, which makes integration intuitive.
- IBM's longevity in the space combined with its overall reach and market strategy make it the most well-vetted integration solution vendor in the space today.
- The scalability and performance of WebSphere Message Broker make it well suited for handling high message volumes in complex IT environments.

Challenges

- The solution's cost can vary greatly based on your organization's size, and IBM continues to separate its features into distinct, tier-priced offerings and separate applications, requiring more investment to expand integration capabilities.
- WebSphere Message Broker, with its feature set and price point, tends to skew towards large enterprise, although entry-level pricing may make it enticing for smaller companies.

IBM maintains great vendor scores but slips in the features



TIBCO ActiveMatrix BusinessWorks is a well-funded solution with significant market presence

Market Pillar

Product: ActiveMatrix BusinessWorks
Employees: 2,500
Headquarters: Palo Alto, CA
Website: tibco.com
Founded: 1997
Presence: NASDAQ: TIBX



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



Overview

- ActiveMatrix BusinessWorks software is an event-driven middleware solution based on a distributed architecture. It boasts a unified model-driven design environment, and highly scalable messaging coupled with a wide array of adapters.

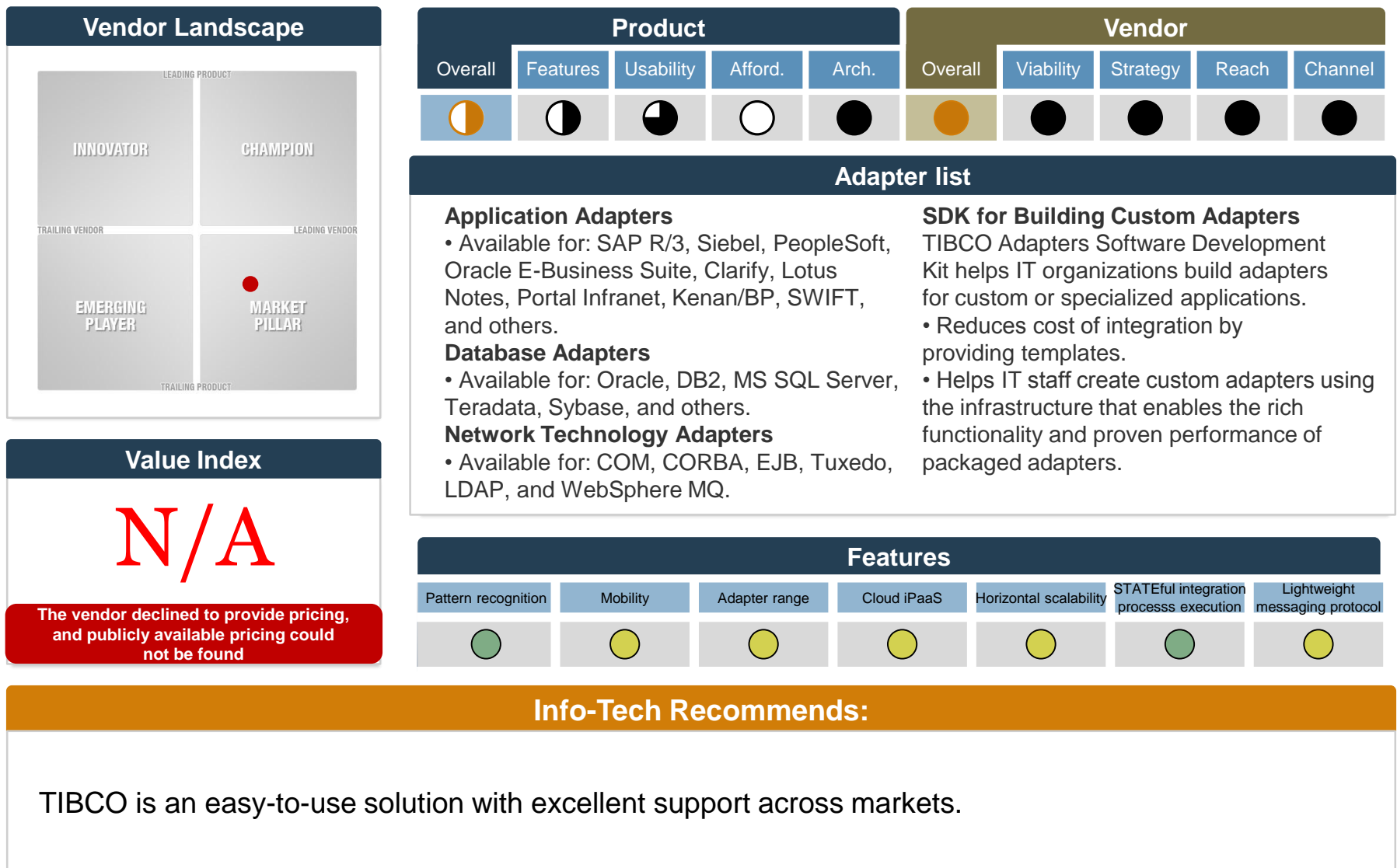
Strengths

- Uses a distributed architecture which helps to avoid bottlenecks and single points of failure.
- Messages can be sent based on request/reply or multi cast publish/subscribe models, which enables network scalability.
- Connecting applications can choose to encrypt messages sent locally or via a WAN or the Internet.
- The self-describing messages can be utilized across multiple platforms and are supported with a user-extensible type system.

Challenges

- TIBCO has some of the same faults as other large middleware vendors: its product portfolio is large and complex, making it difficult to understand.
- Large complex, modular middleware may allow organizations to start small and grow, but the costs will mount as more components are added.
- Compatibility issues may arise in non-TIBCO environments.

TIBCO is a focused integration vendor that provides a strong messaging foundation for business applications



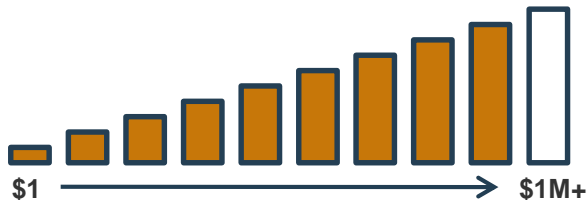
Oracle provides its arsenal of integration applications, but at a price

Market Pillar

Product: Fusion Middleware
Employees: 115,166
Headquarters: Redwood City, CA
Website: oracle.com
Founded: June 16, 1977
Presence: NASDAQ: ORCL

ORACLE®

3 year TCO for this solution falls into pricing tier 9, between \$500,000 and \$1,000,000



Pricing solicited from public sources

Overview

- Oracle Fusion Middleware is a standards-based unified portfolio of products that is easily integrated with existing third-party applications and systems.

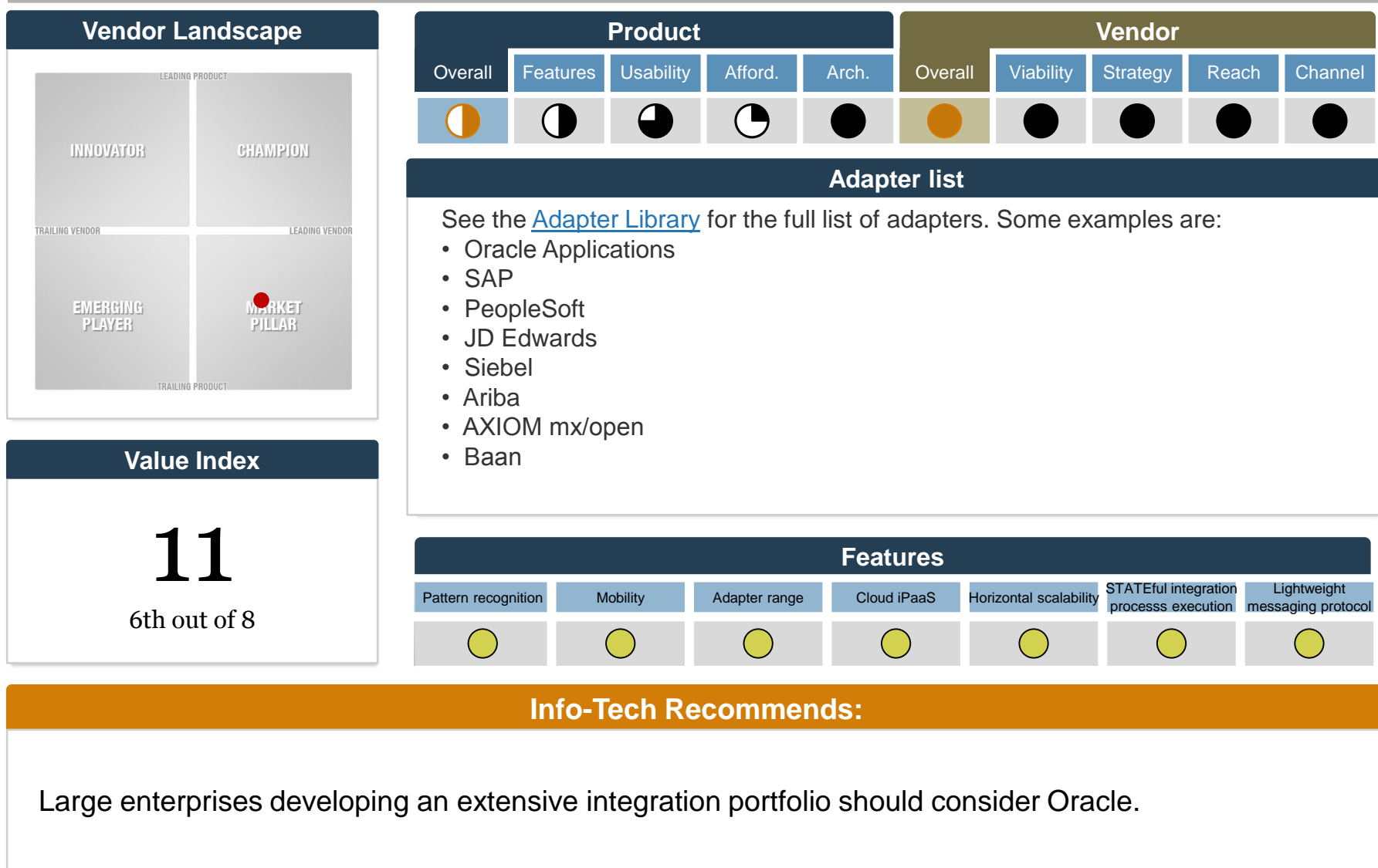
Strengths

- Although the system provides the value of a deeply integrated suite, each product can be deployed standalone – flexibility allows the various components to be utilized as modular or interoperable elements.
- The Identity Management component provides administration for identity and access management, enabling a more secure and reliable SOA environment.

Challenges

- Oracle's history of acquiring outside technology and integrating it with its own can lead to inconsistencies within the product line.
- Full benefits of the solution are only realized when Oracle-supplied components are used. The process can break down if non-Oracle products enter the mix.

Oracle provides significant functionality, but leans heavily on dividing its apps



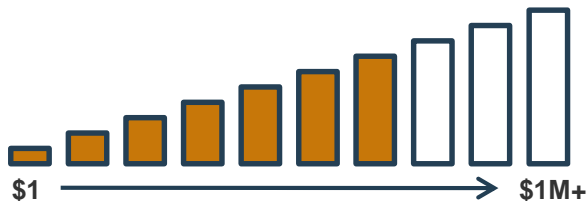
Microsoft creates a solution that plays much better within Microsoft environments

Market Pillar

Product: BizTalk Server
Employees: 94,000
Headquarters: Redmond WA
Website: microsoft.com
Founded: April 4, 1975
Presence: NASDAQ: MSFT



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



Pricing solicited from public sources

Overview

- BizTalk Server is a scalable, strategic tool that provides a solution for integrating business systems and connecting existing core applications with relatively little custom code authoring, regardless of the platform.

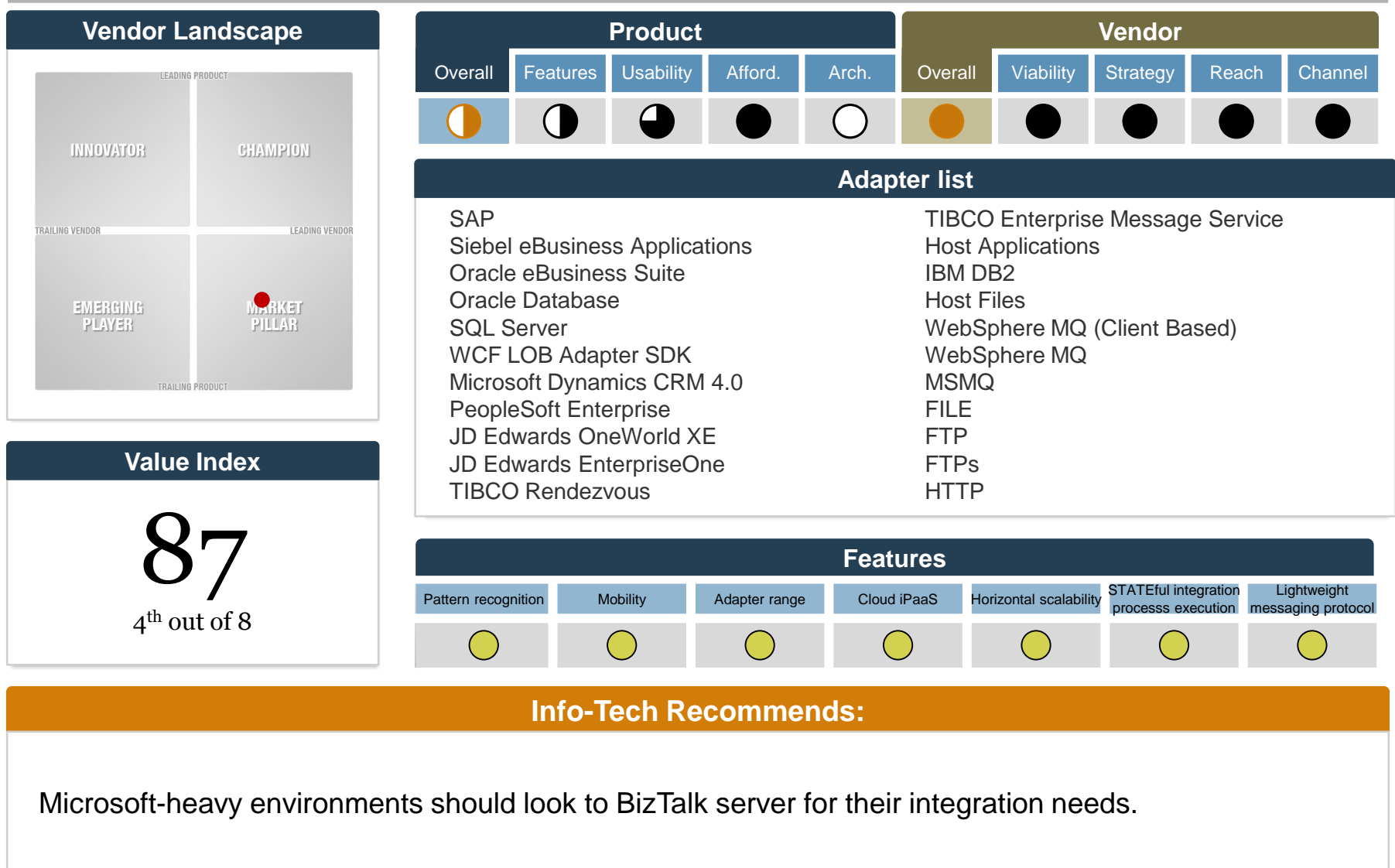
Strengths

- System connects to proprietary and standards-based systems, integrates seamlessly with the .NET framework, and is easily customizable using .NET technologies.
- Ships with adapters compatible with most major platforms; adapters can be customized to interact with internal proprietary systems.

Challenges

- Least programming-compatible of all the rated solutions, as it supports Visual Studio and the .NET 4 framework exclusively, with no options for additional programming support.
- Requires extensive amounts of adapters for features such as lightweight messaging at an additional cost while other solutions have them built in.

BizTalk Server shows an average feature list across the board, but for a decent price



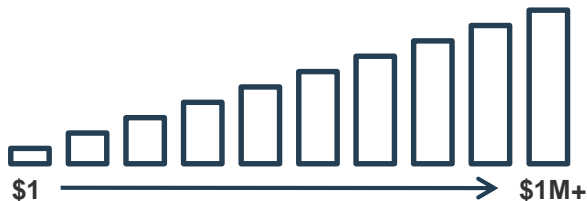
Software AG has a well-supported solution that lacks in features unless paired with other products

Market Pillar

Product: webMethods Integration Server
Employees: 5,640
Headquarters: Darmstadt, Germany
Website: softwareag.com
Founded: 1969
Presence: Frankfurt TecDAX: SOW



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



Overview

- webMethods Integration Server is a standards-based Enterprise Service Bus that supports integration with web services, packaged applications, legacy applications, and more.

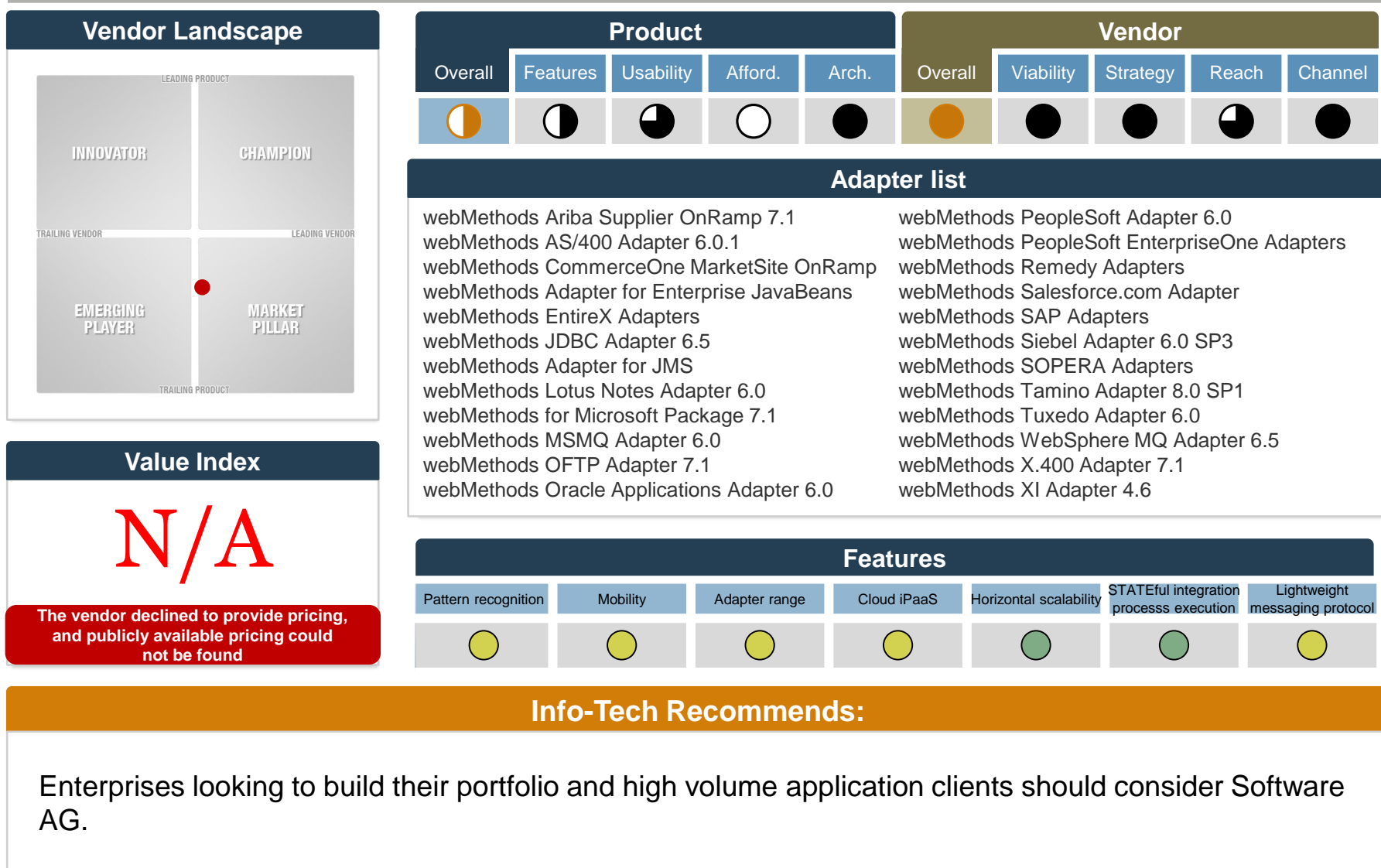
Strengths

- The platform consists of a number of independent products that are tightly integrated. Each component can work standalone, or interconnect with other components within the integrated suite. This enables the platform to grow with the company.
- Software AG has significant global market reach, thus allowing it to be supported globally for sales and support.

Challenges

- Flow, the webMethods proprietary development language, can make development easier. However, there are some predictable limitations: advanced developers who prefer a text editor will find it click-heavy, complex code can be difficult to understand and refactor, platform migration will require redevelopment.
- Proprietary programming languages make it difficult to find skilled resources, and retain resources that want to have marketable skills.

Software AG is a solid vendor providing a good AI Middleware solution



Kapow Software provides a unique, data-driven application integration solution

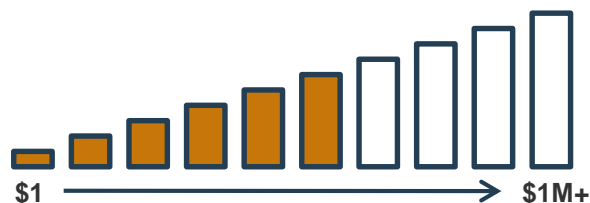


Innovator

Product: Katalyst
Employees: 75
Headquarters: Palo Alto, CA
Website: kapowsoftware.com
Founded: 1998
Presence: Privately held



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



Pricing provided by vendor

Overview

- Kapow is a privately held firm with a focus on innovating the integration space through the use of unstructured data and being completely adapter- and API-free.

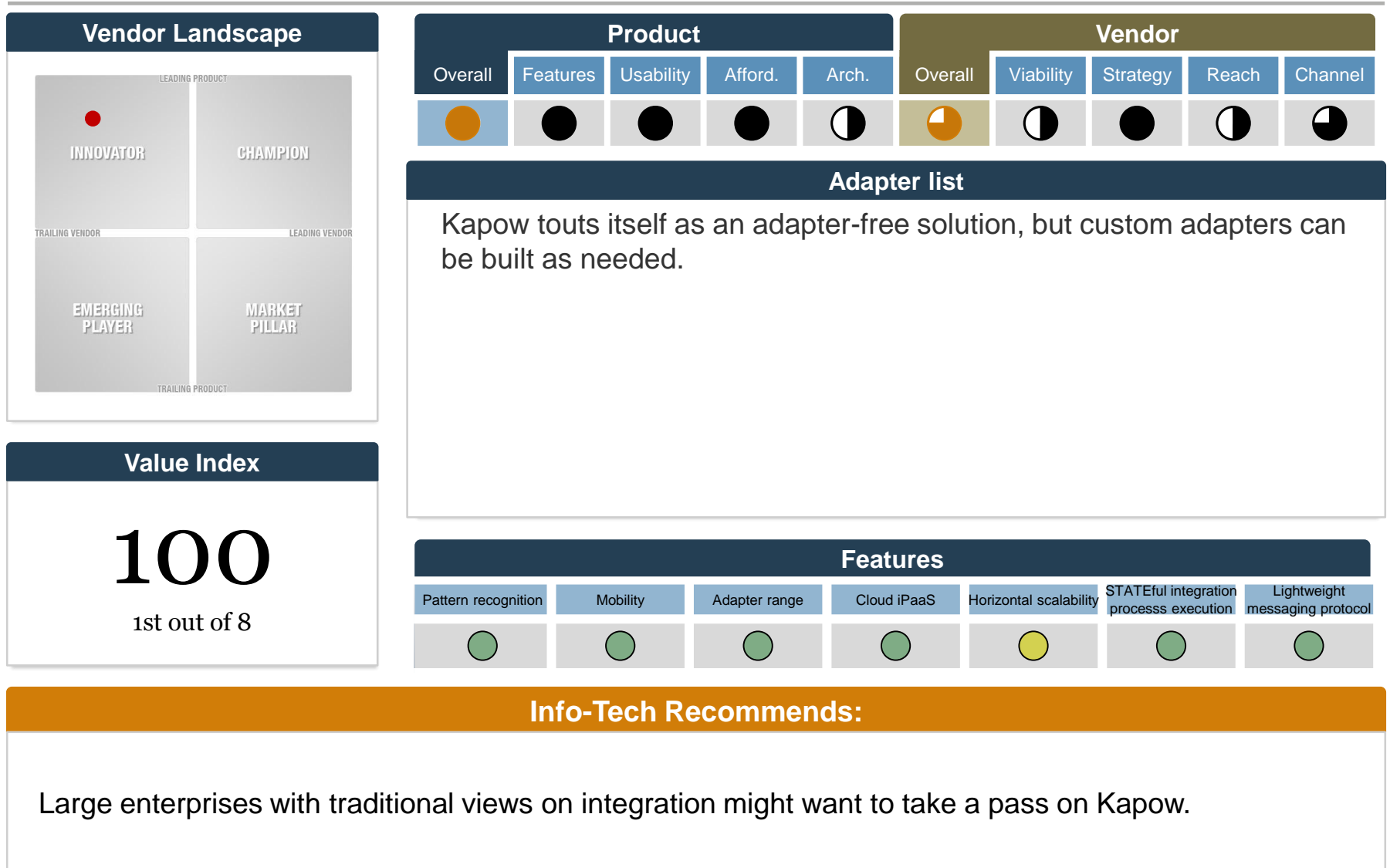
Strengths

- Katalyst is designed to be an API-free environment that is built to create integrations quickly, which can be easier for users new to application integration.
- Kapow's web-based, adapter-less solution is fully compatible with all platforms, including mobile platforms, and is capable of recognizing patterns within all types of application data.

Challenges

- This newer form of application integration that is adapter-free may be a steep learning curve for integration specialists who are used to API and adapter-based integrations in more traditional middleware.
- Kapow's market reach is still rather limited compared to the larger solution providers in this space.

Kapow offers a best-in-value innovative solution



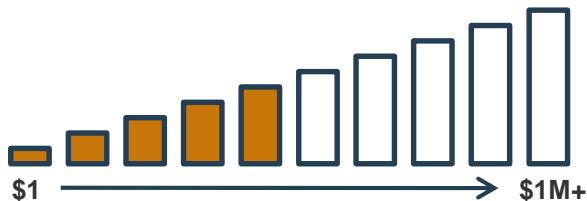
Jitterbit's market strategy and price make it an attractive integration option

Innovator

Product: Jitterbit
Employees: 11-50 (per LinkedIn)
Headquarters: Oakland, CA
Website: jitterbit.com
Founded: December 2003
Presence: Privately held



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



Pricing solicited from public sources

Overview

- Jitterbit is a privately held company that focuses on a quick, simple, and cost-effective solution for integration, touting out-of-the-box connectivity.

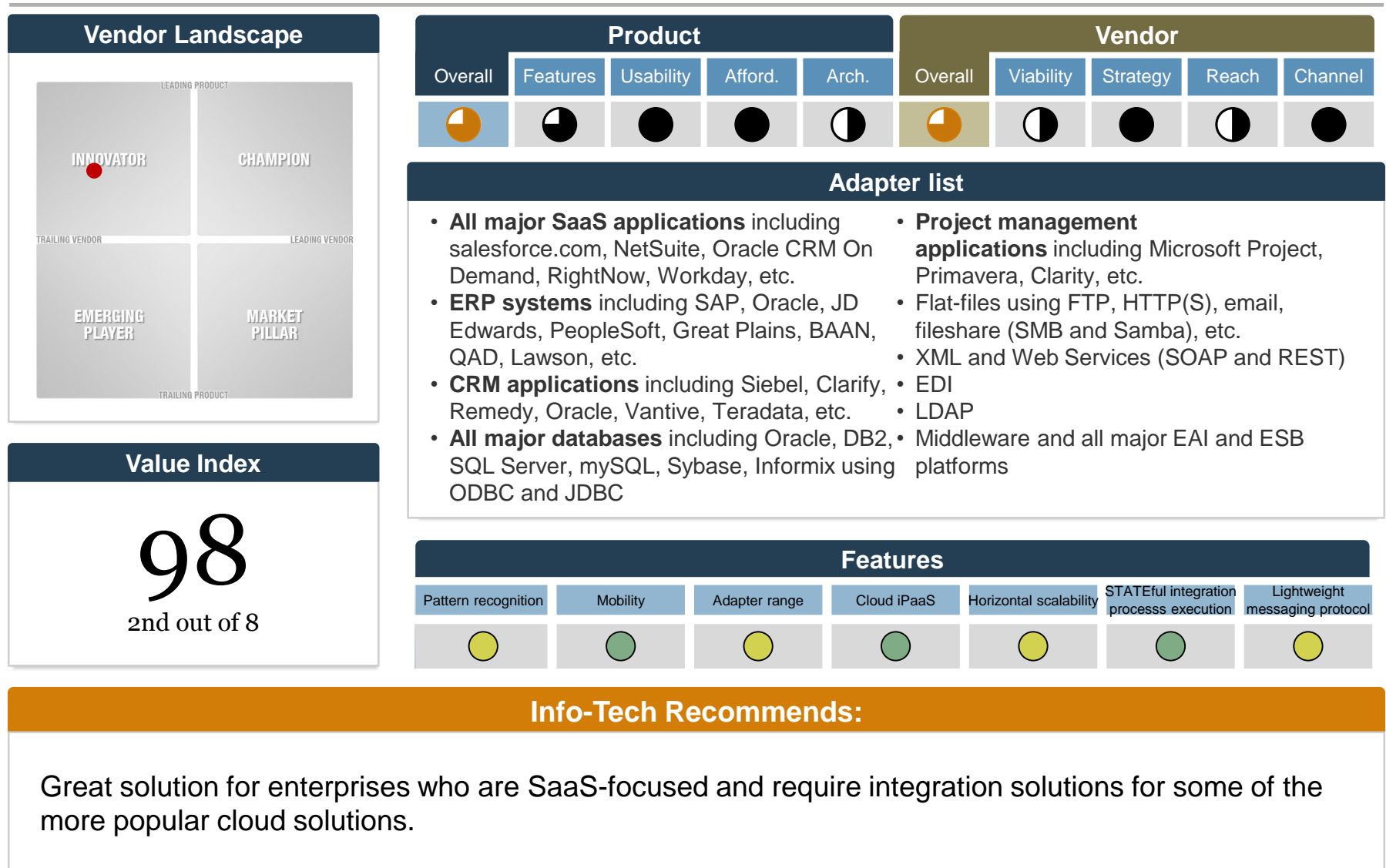
Strengths

- Jitterbit is one of the least expensive of the solutions in this Vendor Landscape with a low three-year TCO that is based on a monthly subscription for its baseline model.
- Jitterbit's market strategy, to partner and integrate extensively with big cloud SaaS providers like Salesforce.com is unique, and this exposure has led it to be Salesforce.com's default data loader.

Challenges

- Jitterbit is not yet an established vendor, having only been around less than a decade and having limited global reach.
- Jitterbit's adapter range is specific but small. Enterprises needing a large range of adapters to deal with their applications and legacy systems may require a more advanced solution with more connectivity options.
- Pricing for Jitterbit scales upwards as more connections are added.

Jitterbit's feature list is average, but the price is right



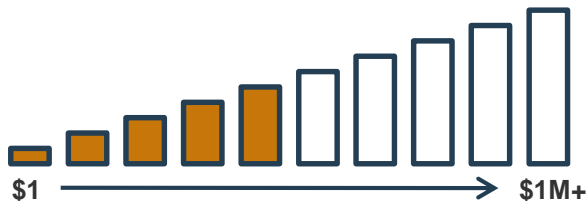
JBoss Enterprise middleware takes advantage of its open source capabilities

Innovator

Product: JBoss Enterprise Middleware
Employees: 4,500
Headquarters: Raleigh, NC
Website: jboss.com
Founded: 1993
Presence: NYSE: RHT



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



Pricing solicited from public sources

Overview

- JBoss Enterprise is an open source middleware solution that is subscription-based. It offers businesses the flexibility to mix and match integrated platforms and plug-and-play frameworks.

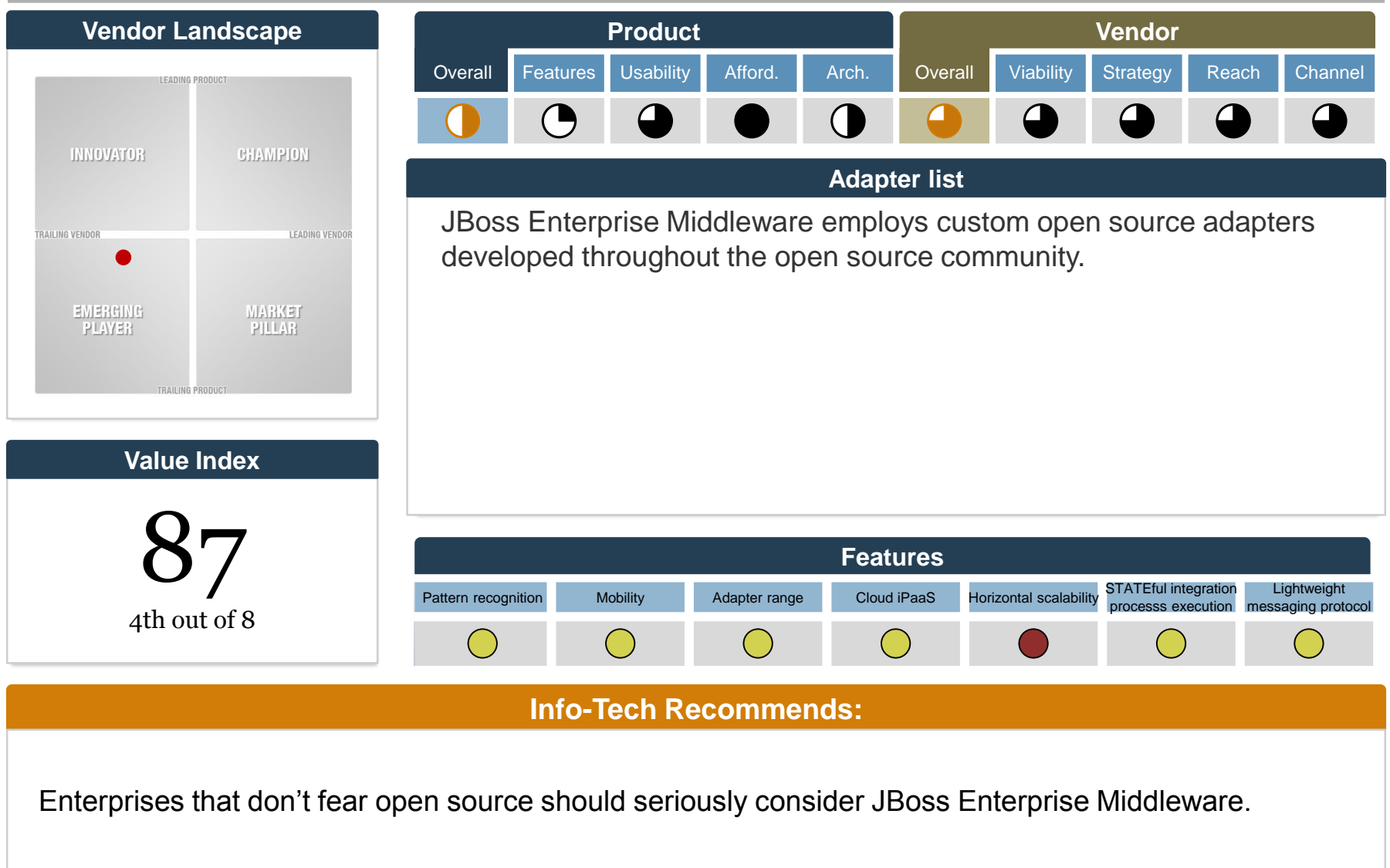
Strengths

- Available via subscription that includes software, support, updates and patches, and multi-year maintenance packages.
- Messaging failover and session replication are key features of the core application; clustering capabilities maintain transaction reliability. Can handle mission-critical applications.
- Newest release includes features to automate real time rules-based decisions, and complex event processing, which aid in streamlining and improving quality in business operations.

Challenges

- Not easily configurable after downloading. Depth in programming knowledge is required.
- Performance and application monitoring tools are fairly basic.
- Relies on third-party tools as it isn't a component of an integrated platform.

Red Hat offers a great open source option that is well-supported

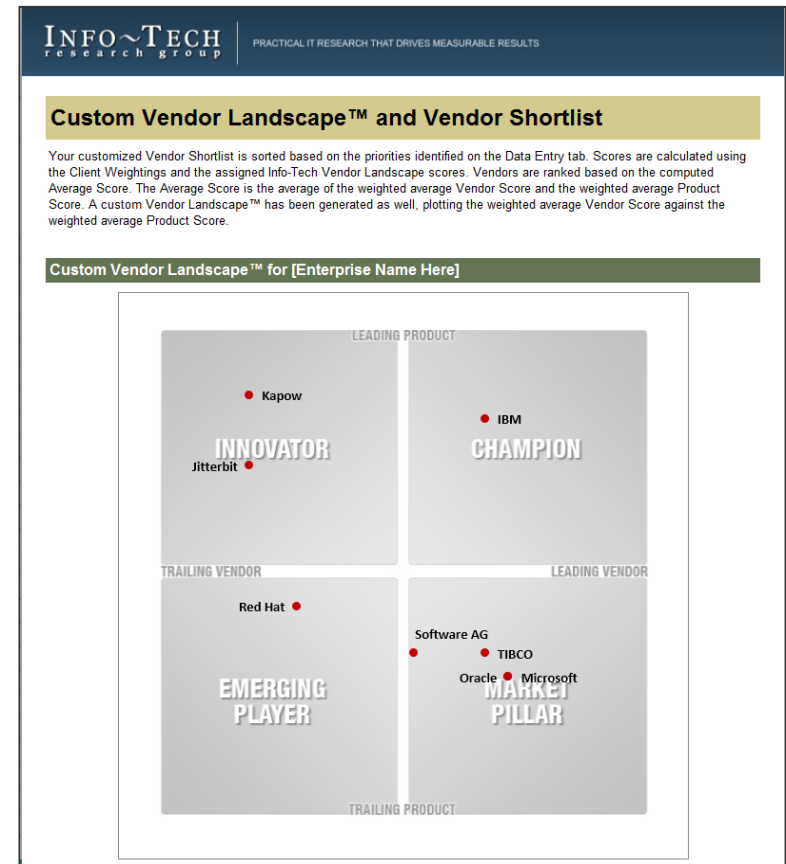


Identify leading candidates with the *Application Integration Middleware Vendor Shortlist Tool*

To generate a customized shortlist of vendors based on *your* key priorities, use Info-Tech's [Application Integration Middleware Vendor Shortlist Tool](#).

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



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).

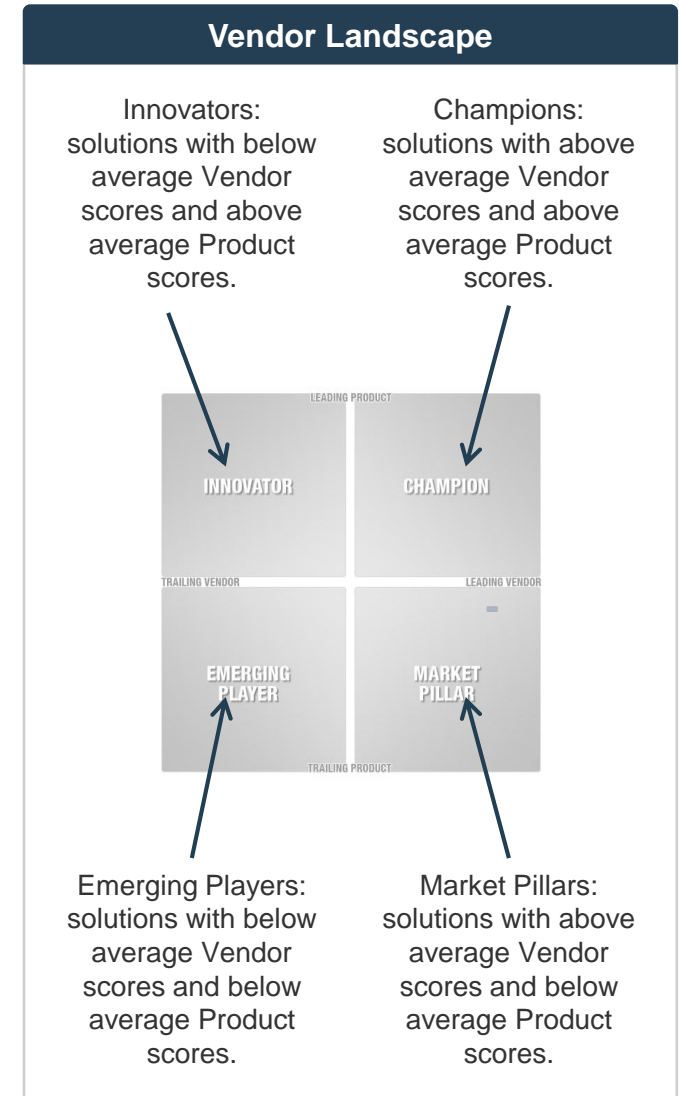
Vendor Landscape Methodology:

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.



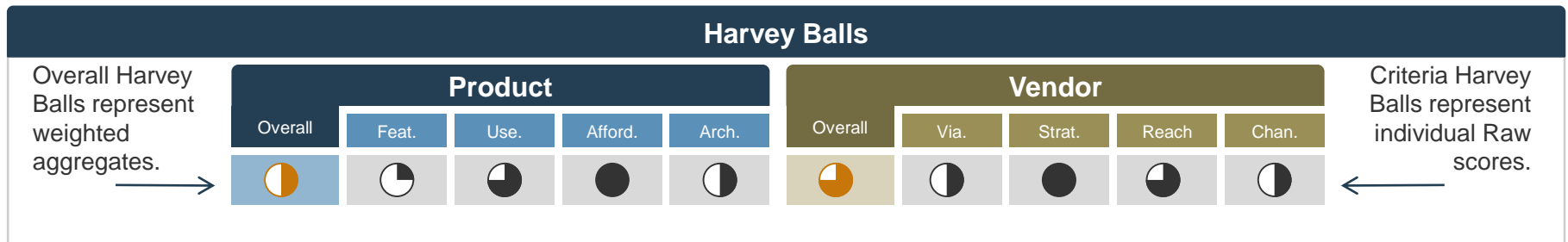
Vendor Landscape Methodology:

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:

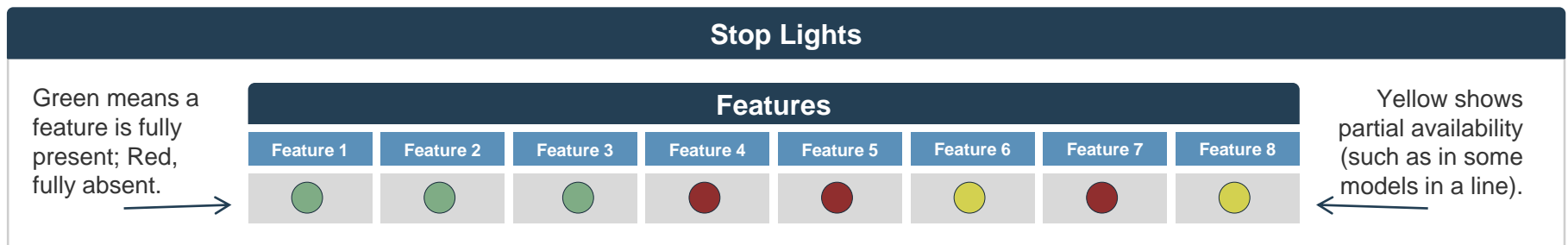
Information Presentation – Feature Ranks (Stop Lights)

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”.



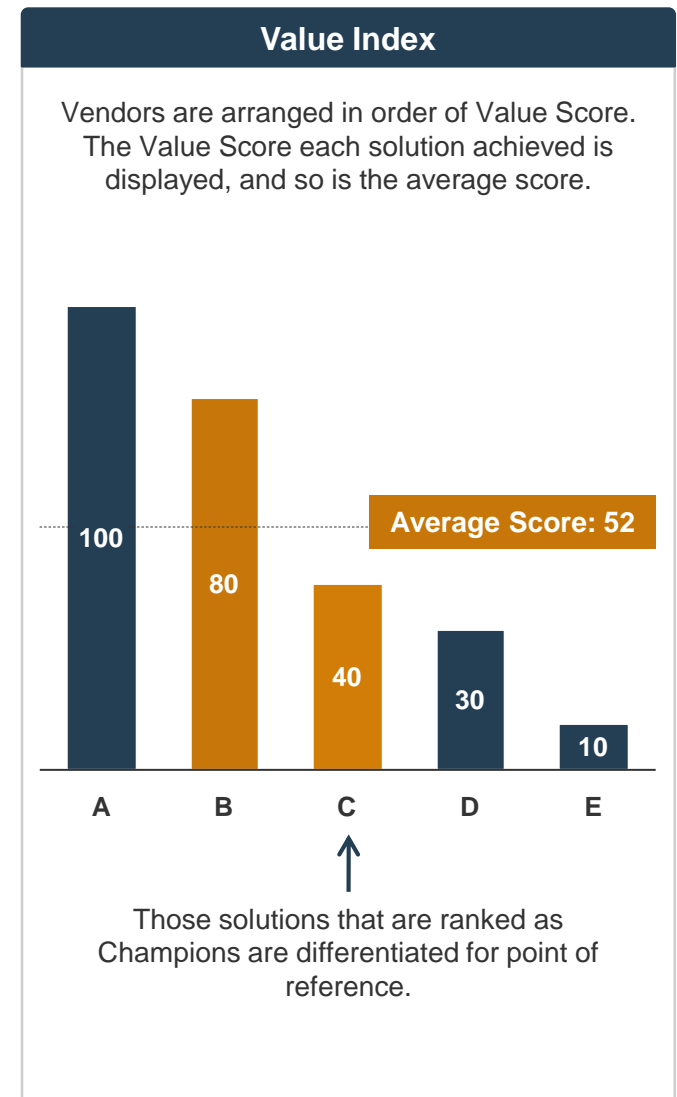
Vendor Landscape Methodology: Information Presentation – Value Index

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

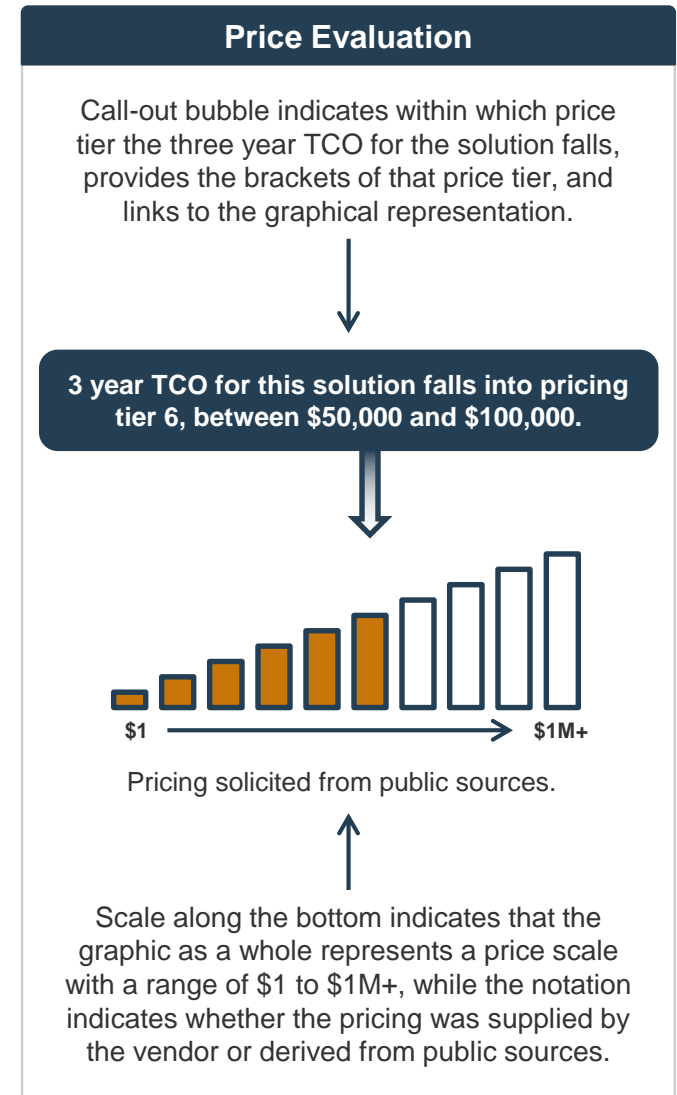
Info-Tech's Price Evaluation is a tiered representation of the three year Total Cost of Ownership (TCO) of a proposed solution. Info-Tech uses this method of communicating pricing information to provide high-level budgetary guidance to its end-user clients while respecting the privacy of the vendors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

Company information:

- 10,000 employees
- 15 locations
- 120 IT staff that includes 20 internal developers dedicated to development/integration

In terms of the integration, please consider the following:

- 6 dual processor mission-critical application servers located in a central data center
- 2 quad processor database servers – 1 runs SQL, the other runs Oracle
- Separate backup site that includes redundancy for all mission critical solutions
- Salesforce.com licensed for 3,000 users within the company
- Other applications in use include:
 - an ERP system
 - an HR system
 - a Finance system
 - Exchange
 - 5 additional internally developed software solutions (including the company website, which is hosted internally).
- ***All 10,000 employees have access to certain components of each of the systems.***
- 6,000 Windows PCs (running Windows 7) in use within the company
- 200 iPhones in use by management, although there are no mobile applications considered for integration.