Vendor Landscape: Cloud Infrastructure-as-a-Service

Options are proliferating as Cloud Infrastructure-as-a-Service provides a highly agile and low capital cost option for outsourcing IT infrastructure.
Introduction

Cloud Infrastructure-as-a-Service (IaaS) is seeing explosive growth, both in the proportion of enterprises looking to IaaS deployment (37% in a recent Info-Tech survey) and in the number and variety of vendor offerings.

This Research Is Designed For:

✓ Enterprises looking to outsource a portion of their IT infrastructure to an external host.

✓ Businesses looking to avoid capital expense in expanding their compute and storage infrastructure.

✓ Companies looking to integrate or federate internal and external infrastructure to meet and manage growing capacity demands.

This Research Will Help You:

✓ Understand what and who is new in the Cloud Infrastructure-as-a-Service market.

✓ Evaluate Cloud IaaS providers and products for your enterprise needs.

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

Info-Tech evaluated fifteen competitors in the IaaS market, including the following notable performers:

Champions:
• Amazon played a large part in creating this market and is still leading it today. New features and services are consistently being rolled out as Amazon unrelentingly pursues innovation.
• Rackspace earned the title of Champion for its work with OpenStack, product strategy, and its interface’s ease of use.
• GoGrid was also there at the start of the IaaS market and has continued to improve and hone its offering since.
• AT&T has one of the largest networks to support its cloud offerings, earning the Champion title for its overall strength.
• Terremark offers a strong product backed by the vast resources of Verizon, securing it the Champion title.
• HP, despite its product still being in beta form, was named Champion, promising to only improve its offering as time goes on.
• iland has earned the Champion title largely through its extensive and impressive feature set.

Value Award:
• Amazon has been given the Value Award for pairing the most competitive prices in the industry with a strong solution.

Trend Setter Award:
• iland was given the Trend Setter Award for its work in championing VMware-based IaaS within the industry and its innovative offerings, such as Virtual Desktop Infrastructure (VDI) support.

Info-Tech Insight

1. Cloud IaaS is set for rapid growth
   Of the three forms of cloud service delivery (Infrastructure-as-a-Service, Software-as-a-Service, Platform-as-a-Service), IaaS is growing fastest – 200% from 2010 to 2012. (See Appendix 1 for more).

2. Cloud IaaS options proliferating
   With mainstreaming of server consolidation and virtualization technologies (example, VMware) IT is seeing Cloud IaaS options from a multitude of local, national, and international co-location and managed service providers.

3. Hybrid services are hot
   Providers are differentiating themselves through hybrid service offerings. This includes internal/external and private/public cloud hybrids, but also outsourcing multi-service hybrids with co-location and managed services.
Market Overview

How it got here

- Cloud Infrastructure-as-a-Service is a delivery model for cloud computing where the customer can provision compute resources – such as processing, storage, and networks – on a pay-by-consumption basis from an abstracted compute cloud (See Appendix 7).

- In 2006, Amazon disrupted an existing infrastructure service outsourcing market – that includes web hosting, co-location, and fully managed services – with its elastic compute cloud (EC2), which was based on Amazon’s excess infrastructure capacity.

- In response to Amazon’s inexpensive and agile offering, traditional hosting vendors, such as Rackspace and GoGrid, soon had competing Cloud IaaS services, as have large tech-vendors and global managed services providers (e.g. IBM, HP, CSC, AT&T).

Where it’s going

- In tough economic times, the urge to outsource is greatest. As IT capital budgets remain tight, “can we use the cloud for this?” is becoming a more common question, and this will continue to fuel interest in IaaS.

- The vendor landscape for Cloud IaaS is growing as service providers build out consolidated, virtualized infrastructures based on the same technologies being used by their customers. For example, a number of providers base their solutions on VMware virtualization.

- In addition to the large solution providers covered in this Vendor Landscape, mid-sized enterprises are increasingly contracting Cloud IaaS from the same local and regional service providers that supplied co-location, hosting, and managed services.

Info-Tech Insight

Growing adoption of internal infrastructure consolidation and virtualization is spurring growth of external Cloud IaaS. Server virtualization is now mainstream with the majority (58%) of workloads virtualized in 2012. Concurrently, Cloud IaaS services based on similar architectures have grown, as have “hybrid” service plays that federate internal and external virtualized Infrastructure-as-a-Service.
IaaS Vendor selection / knock-out criteria: market share, mind share, and platform coverage

- The Cloud IaaS market is broadening. With widespread adoption of enabling platforms, such as VMware vCloud Director (vCD) and the open source OpenStack, hundreds of local and regional service providers now have clouds.
- 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 growing reputational presence among small to mid-sized enterprises.

**Included in this Vendor Landscape:**

- **Amazon.** A founder in the IaaS market, continually leading the industry with its innovative and practical solutions.
- **AT&T.** A top service provider for businesses around the globe, AT&T has expanded to include cloud computing.
- **Bluelock.** VMware vCloud Datacenter provider with IaaS offerings, Bluelock provides flexibility for IT leaders.
- **CloudSigma.** As an IaaS provider with a focus on taking advantage of Cloud capabilities, it aims for a versatile platform.
- **Computer Sciences Corp.** CSC’s solution includes integrating IaaS within the customer's existing IT environment.
- **GoGrid.** Specializing in IaaS solutions, GoGrid brings its considerable experience as an infrastructure hosting provider.
- **HP.** Tech giant, HP, dips its toes into the Cloud services pool, focusing on the delivery of IaaS to enterprises.
- **Hosting.com.** Hosting.com provides solutions with impressive high availability and disaster recovery capabilities.
- **IBM.** With a strong business centric history, IBM helps clients optimize the process of adopting IaaS.
- **iland.** iland is a new and up and coming provider that is getting attention for innovative service offerings.
- **Joyent.** Flexible and fast product offering from Joyent makes for an intuitive choice for developers with hefty loads.
- **Dimension Data.** Leading IaaS provider boosted to big leagues through acquisition by global service player.
- **Rackspace.** Its innovative Cloud hosting and managed hosting solutions secures its global presence in the market.
- **Savvis.** Acquired by Centurylink, Savvis’s solutions now have a much larger backing of resources for support.
- **Terremark.** After acquiring Terremark, Verizon has been able to aggressively expand its IaaS offerings.
Cloud IaaS criteria & weighting factors

**The Table Stakes**

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<thead>
<tr>
<th>Product Evaluation Criteria</th>
<th>Description</th>
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<tr>
<td>Features</td>
<td>The solution provides basic and advanced feature/functionality.</td>
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<td>Usability</td>
<td>The solution’s dashboard and reporting tools are intuitive and easy to use.</td>
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<td>Affordability</td>
<td>The three year TCO of the solution is economical.</td>
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<td>Architecture</td>
<td>The delivery method of the solution aligns with what is expected within the space.</td>
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<th>Vendor Evaluation Criteria</th>
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<td>Viability</td>
<td>Vendor is profitable, knowledgeable, and will be around for the long-term.</td>
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<td>Strategy</td>
<td>Vendor is committed to the space and has a future product and portfolio roadmap.</td>
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<tr>
<td>Reach</td>
<td>Vendor offers global coverage and is able to sell and provide post-sales support.</td>
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<td>Channel</td>
<td>Vendor channel strategy is appropriate and the channels themselves are strong.</td>
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**Criteria Weighting:**

- **Features:** 25%
- **Usability:** 20%
- **Architecture:** 25%
- **Affordability:** 30%
- **Product:** 50%
- **Vendor:** 50%
- **Strategy:** 35%
- **Channel:** 30%
- **Reach:** 10%
The Info-Tech Cloud IaaS 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.

For an explanation of how the Info-Tech Vendor Landscape is created, please see [Vendor Landscape Methodology: Information Presentation](#) in the Appendix.
Balance individual strengths to find the best fit for your enterprise

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<th>Product</th>
<th>Overall</th>
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Legend: ☀ = Exemplary, 🏆 = Good, 🏆 = Adequate, 🏆 = Inadequate, 🏆 = Poor

For an explanation of how the Info-Tech Harvey Balls are calculated, please see Vendor Landscape Methodology: Information Presentation in the Appendix.
Balance individual strengths to find the best fit for your enterprise

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*Vendor declined to provide pricing

For an explanation of how the Info-Tech Harvey Balls are calculated, please see [Vendor Landscape Methodology: Information Presentation](#) in the Appendix.
The Info-Tech Cloud IaaS 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 publicly available pricing could not be found.

For an explanation of how Price is determined, please see Vendor Landscape Methodology: Information Presentation in the Appendix.

For an explanation of how the Info-Tech Value Index is calculated, please see Vendor Landscape Methodology: Information Presentation in the Appendix.
Table Stakes represent the minimum standard; without these, a product doesn’t even get reviewed

### The Table Stakes

<table>
<thead>
<tr>
<th>Feature</th>
<th>What it is:</th>
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<tbody>
<tr>
<td>More Than One Data Center Location</td>
<td>The vendor’s cloud offerings are based in multiple data centers in multiple geographic locations.</td>
</tr>
<tr>
<td>Consumption-Based Pricing Model</td>
<td>Vendor offers at the very least a metered pay-as-you-use model for establishing servers and storage in their public cloud.</td>
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<tr>
<td>Self-Service Portal</td>
<td>Customers can access cloud services through a self-service web portal.</td>
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<tr>
<td>Data Center Safety and Protection</td>
<td>The vendor’s data center should have a minimum of SAS 70 Type II certification.</td>
</tr>
<tr>
<td>Resource Elasticity</td>
<td>Acquired cloud-based resources (storage, processing) can easily and rapidly be scaled up or down as with demand.</td>
</tr>
<tr>
<td>Availability Service Level Agreement</td>
<td>Guaranteed level of service availability and compensation for failure to meet levels in a written service level agreement.</td>
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### 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.

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**Info-Tech Insight**

If basic features are all you need from your cloud computing 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**

<table>
<thead>
<tr>
<th>Feature</th>
<th>What we looked for:</th>
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<tbody>
<tr>
<td>Service and Pricing Tiers</td>
<td>The vendor offers multiple pricing options (subscription, term contracts, etc.).</td>
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<tr>
<td>Transition Support Services</td>
<td>Training and other support services to help IT with the transition to external services.</td>
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<tr>
<td>Hybrid Cloud Offering</td>
<td>Offers a hybrid model for the sale and support of IaaS across federated private and public cloud.</td>
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<tr>
<td>Breadth of Hybrid Offerings</td>
<td>Sell and support a mix of collocation, managed services, and cloud-based offerings.</td>
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<tr>
<td>Availability and Recovery</td>
<td>Uses multiple sites to provide replication and recovery for hosted data and server workloads.</td>
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<td>Network Management</td>
<td>The vendor provides intelligent monitoring, QoS reporting, and monitoring of network services.</td>
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<td>Advanced SLA</td>
<td>Sets performance levels, such as minimum network and storage performance expectations.</td>
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<tr>
<td>Extensive Template Library</td>
<td>Maintained library of pre-built VM template images for a range of application servers.</td>
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<td>Multiple OS Options</td>
<td>Supports multiple Linux offerings and multiple Microsoft Windows versions.</td>
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<tr>
<td>Advanced Granular Access</td>
<td>Enables multiple users with variable access to the same cloud based on assigned roles.</td>
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For an explanation of how Advanced Features are determined, please see [Vendor Landscape Methodology: Information Presentation](#) in the Appendix.
Each vendor offers a different feature set; concentrate on what your organization needs

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Amazon continues to expand upon services and capabilities to offer clients innovative features

**Champion**

- **Product:** Elastic Compute Cloud (EC2)
- **Employees:** 15,185
- **Headquarters:** Seattle, WA
- **Website:** [amazon.com](http://amazon.com)
- **Founded:** 1994
- **Presence:** NASDAQ: AMZN

**Overview**

- Amazon was the first to market with Cloud IaaS services, and has been the industry standard since. It offers a cost-effective solution, which start-ups and smaller companies will find particularly attractive.

**Strengths**

- Highly flexible and agile services. Auto scales client resourcing needs, both up and down, so they always have access to capacity without always paying a high price point for it.
- Amazon Web Services has an impressive number of additional features which are forever growing. Since it updates and introduces new features at an extraordinary rate, Amazon stays at the forefront of customers’ needs.
- Its low pricing makes Amazon one of the most attractive options for SMEs.

**Challenges**

- Customer trust: high profile loss-of-service incidents still has some potential customers shaken.
- 24/7 support comes at a premium, whereas most competitors have some level of free 24/7 support.
- The number of additional features can be confusing, especially in regards to how it all fits together.

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

Pricing provided by vendor
Amazon’s numerous data centers and various pricing options provide unparalleled flexibility, particularly attractive to SMEs.

### Vendor Landscape

<table>
<thead>
<tr>
<th>Innovator</th>
<th>Emerging Player</th>
<th>Leading Vendor</th>
<th>Trailing Vendor</th>
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### Value Index

**100**

1st out of 15

### Product

|---------|-------|------|---------|-------|

### Vendor

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### What we’re hearing

“Amazon won with their ability to autoscale based on load when my users demanded them, not when I demanded them. We could have the capacity without paying for the standby.”

Consultant

“Their vanilla reporting is very basic. You can get better reporting but you have to pay for it. Understandable, but unfortunate.”

Adrian Brudnicki, IT Manager, Matrix Solutions

### Features

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### Info-Tech Recommends:

A proven service provider with a wide scope, and an excellent choice for enterprises new to Cloud IaaS. Amazon is particularly valuable to start-ups and agile projects that require processing storage quickly and cheaply.
Verizon has been penetrating the market in multiple areas through acquisitions, most notably Terremark

**Champion**

- **Product:** Computing as a service (CaaS)
- **Employees:** 196,000 (Verizon total)
- **Headquarters:** New York, NY
- **Website:** verizonbusiness.com
  - Terremark.com
- **Founded:** June 30, 2000
- **Presence:** NYSE: VZ

**Overview**

- Verizon Business is a broadband and telecommunications company formed in 1983 as Bell Atlantic, then renamed Verizon in 2000. Verizon made a strong launch into the IaaS market in 2011 with its acquisition of Terremark.

**Strengths**

- Terremark has a global presence, with over 45 data centers located across the world.
- Active 24/7 monitoring and customer reporting.
- Its solution is compatible with over 450 different operating systems.
- Easy migration of workloads from internal data center to Verizon Cloud through CloudSwitch technology.

**Challenges**

- Terremark is focused on large enterprise, not a clear choice for the more modest and agile demands of the SME.
- Customers must commit to minimum term requirements.

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

Pricing provided by vendor
The resources gained through the Terremark and CloudSwitch acquisitions lend the solution seamless integration capabilities.

Value Index

80
5th out of 15

Info-Tech Recommends:

Terremark’s typical target market is US-based large enterprises or those with a global web-based business who will benefit from Terremark’s 45+ data centers across the globe. Alternatively, US small to mid-size enterprises with stringent security needs will also find Terremark a good fit.

What we’re hearing

“We really appreciate Terremark’s ease of use and reliability of data. One drawback was that the initial setup took longer than expected.

Matthew Colona, CIO, Pite Duncan LLP

“We were considering moving a very significant amount of business to them and they would barely speak to us. It was impossible to get anyone on the phone. They were just short and rude.

VP of Operations, Software Industry

Features

---|---|---|---|---|---|---|---|---|---
• | • | • | • | • | • | • | • | • | •
Rackspace continues to be a top IaaS consideration for SMEs

**Champion**

- **Product:** Cloud Hosting
- **Employees:** 3,712
- **Headquarters:** San Antonio, TX
- **Website:** rackspace.com
- **Founded:** 1998
- **Presence:** NYSE: RAX

---

**Overview**

- Rackspace has over a decade of experience in hosting and collocation, and now hosts over half of the Fortune 500 companies in its data centers, while still keeping a strong focus on the SME market.

---

**Strengths**

- Rackspace has data centers across the world, in the US, UK, and Hong Kong.
- Provides a low-cost and intuitive cloud with optional managed services that suit the SME.
- Rackspace promises customers dedicated 24/7 support with its team of “Rackers” through its “Fanatical Support” guarantee.
- Rackspace embraces open standards and is a primary creator of OpenStack, an open source cloud management platform which is widely used by service providers for their IaaS.

---

**Challenges**

- Managed service levels are available, but only at additional costs.
- Lacks granular access options of multiple accounts for cloud services.
- Rackspace has a limited range of pricing options, providing only month-to-month subscriptions.

---

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

Pricing solicited from public sources
Rackspace has a solid history in this market as a vendor, and its solution continues to offer a competitive feature set.

Rackspace offers cost-effective ABD along with flexibility in resource planning. However, Rackspace has presented challenges in its management communication and its ability to maintain high performance of services.

Survey Respondent

Info-Tech Recommends:

Rackspace has hosting experience and is starting to gain recognition among consumers. It is aimed at SMEs with limited in-house IT talent since they will find the most benefit in Rackspace’s exceptional support.
Coming from web hosting and co-location, iland leverages a strong VMware partnership for IaaS

**Champion**

- **Product:** iland Cloud Services
- **Employees:** 42
- **Headquarters:** Houston, TX
- **Website:** [iland.com](http://iland.com)
- **Founded:** 1995
- **Presence:** Privately Held

**Overview**

- iland's history as a hosting provider goes back to the 1990s. It has leveraged VMware's vCloud to provide innovative IaaS solutions for a growing global client base.

**Strengths**

- Provides customers with solution customization by allowing individual specification of processing, memory, storage, and bandwidth.
- Extensive list of public templates available, as well as the ability to import own templates and transfer them between environments.
- Has strong partnership with VMware, providing seamless integration with VMware technology and vCloud Director.
- Support for innovative uses of IaaS, such as cloud-based virtual desktop infrastructure.

**Challenges**

- All data center space is leased, though equipment is owned by iland.
- While support is available 24x7x365, it is provided at an additional cost.
- iland is one of the smaller providers in a landscape that is becoming increasingly competitive.

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

Pricing provided by vendor
iland’s Cloud Services has a comprehensive feature set, but the included support and management is on the weaker side.

What we’re hearing

“I get attention from them. The honeymoon is over and they still make me feel like I’m important. Plus, we like the idea of the multiple VDCs; that was a big selling point for us. I’m pushed to come up with any issues. As things have come up, iland has been very quick to address them so they become non-issues almost instantly.”

VP of Operations, Software Industry

“I choose to stay with them because they are very professional. Their price is not expensive at all compared to other vendors.”

CTO, Software Industry

Value Index

83
3rd out of 15

Info-Tech Recommends:

iland’s solution has an impressive set of features, but offers less consulting-type services pre- and post-sale to help the customer in crafting their solution. Organizations with a clear understanding of their own needs and requiring advanced features will be impressed with what iland can offer them.
HP expanded its cloud computing offerings with HP Converged Cloud portfolio, currently released as a beta

**Champion**

- Product: HP Cloud Compute
- Employees: 324,600
- Headquarters: Palo Alto, CA
- Website: [HPCloud.com](http://HPCloud.com)
- Founded: 1939
- Presence: NYSE:HPQ

**Overview**

- Hewlett Packard (HP) began in 1939 out of a car garage in Palo Alto and has expanded into nearly every country worldwide.
- In 2008, HP acquired Electronic Data Systems (EDS), increasing the company’s number of data centers.

**Strengths**

- HP Converged Cloud is based on a single standardized hardware/software architecture – HP CloudSystem and HP CloudSystem Matrix – underpinning private and public cloud services as well as on-premise Data Center provisioning.
- The breadth and architectural unity of HP’s offerings make it a strong candidate for support of enterprise Hybrid Clouds such as hybrids of on-premise private clouds with on-demand external public and private capacity.
- The public cloud part of the portfolio, HP Cloud Services, is aggressively priced as it moves from public beta to full service.

**Challenges**

- HP brings significant vendor strengths to cloud IaaS from its managed services and infrastructure convergence background. However, its public cloud offerings have only recently debuted in public beta. Capabilities are somewhat untested.
- The early days status of HP Cloud Services means that some advanced features, such as advanced performance SLAs and network monitoring services, are “coming soon” roadmap items.
HP has ambitious plans to rapidly ramp up features as it moves beyond its beta offering.

Info-Tech was unable to solicit third-party statements for this solution.

Info-Tech Recommends:

HP’s cloud offering is still being developed, with a good deal of key features planned for future releases. As such, only companies with very basic needs will be satisfied with the product in its current form. On the other hand, the beta is free and offers a great opportunity for clients to try out IaaS.
GoGrid’s offering is highly compatible with mid-market needs and constraints

**Champion**

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<thead>
<tr>
<th>Product:</th>
<th>Cloud Hosting</th>
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<tbody>
<tr>
<td>Employees:</td>
<td>150</td>
</tr>
<tr>
<td>Headquarters:</td>
<td>San Francisco, CA</td>
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<tr>
<td>Website:</td>
<td>gogrid.com</td>
</tr>
<tr>
<td>Founded:</td>
<td>2001</td>
</tr>
<tr>
<td>Presence:</td>
<td>NA</td>
</tr>
</tbody>
</table>

Overview

- GoGrid claims the role of first mover in this market, arriving with Amazon, making it one of the most experienced infrastructure providers. It has gone on to build a rich ecosystem of partners over the years.

Strengths

- Open architecture allows users to easily import/export their applications.
- Unique storage architecture provided through its different storage options (local, cloud, dedicated hosted servers, etc.).
- Industry-leading SLA offers 100% uptime and a 10,000% credit.
- Simplified and transparent pricing provides cost certainty.
- Provides free, dedicated support team 24x7 for “any service impact.”
- Cloudlink allows users to bypass public internet and connect customer data centers to its cloud.

Challenges

- Minimal network management services are inherently available through the solution. Customers looking for advanced monitoring would need to add a third-party application.

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

Pricing provided by vendor

$1 $1M+

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

Pricing provided by vendor

$1 $1M+

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

Pricing provided by vendor

$1 $1M+
GoGrid’s competitive pricing and long history make it a solid option for most organizations

External web-facing businesses, such as web-hosting companies and advertising agencies, should strongly consider GoGrid. The solution is particularly popular among mid-market customers with 1,000 FTEs or less.

For the last two years their support has been bulletproof. Their prices are very competitive. Their service level is just right. We have worked with other vendors who made us feel like we only acquired a bureaucracy. With GoGrid we acquired a partner.

The only challenge has been billing, which we monitor every month. Any contested invoice is quickly corrected, but it usually requires us to have to notify them.

Senior Application Developer, Software Industry
AT&T is a reliable IaaS provider with extensive experience and vast resources for hosted services

**Champion**

Product: Compute as a Service
Employees: 266,590 (AT&T total)
Headquarters: Dallas, TX (AT&T HQ)
Website: att.com
Founded: 1931
Presence: NYSE: T

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

---

**Overview**

• American Telephone & Telegraph (AT&T) was formed in 1931 as the parent company of the Bell System. Although it started as simply a telephone service provider, AT&T has grown into a leader in telecommunications, with operations worldwide.

**Strengths**

• AT&T has one of the largest networks in the world, providing customers with nearly unmatched network access.
• Offers diverse template library to build server images.
• Solution is highly integrated with cloud storage, and fits well into its offering of an integrated set of enterprise tools.
• Physical security of data centers is backed by audit controls.

**Challenges**

• AT&T offers limited geographical scope to potential customers.
• Geared toward companies with wide variety of storage and database needs.

---

Pricing solicited from public sources
AT&T’s solution will appeal to most, but larger organizations may find the single pricing method unsatisfactory.

Info-Tech was unable to solicit third-party statements for this solution.

Info-Tech Recommends:

A solid service geared towards large enterprise users or SMEs with high security needs. Ideal profile would be a medium-sized business with a large data center and in a growth phase.
Savvis offers a robust solution, supported through its own impressive resources and through a strong partner network.

**Market Pillar**

- **Product:** Savvis, a CenturyLink Company
- **Employees:** 2,400
- **Headquarters:** St. Louis, MO
- **Website:** savvis.com
- **Founded:** 1995
- **Presence:** NYSE: SVVS/CTL

**Overview**

- Over the last decade, Savvis expanded its offerings outside the US into Asia, Europe, and Canada. Savvis was acquired by CenturyLink, a telecom company, in June 2011.

**Strengths**

- A wide variety of support is offered, extending from on-boarding and transition to the Cloud, all the way to full managed services. Strong reporting and network management analytics are also provided to aid in self-management of the solution.
- After the acquisition by CenturyLink, Savvis has 48 data centers, a bigger network, and over two million sq. ft of data center space, significantly increasing its global presence.
- Savvis pays its SLAs based on the availability of the Operating System and infrastructure components – regardless of why the cloud server is unreachable, clients will be compensated.

**Challenges**

- Customers may not know what their options are with Savvis; the range of services can be daunting.
- Windows and Linux operating systems are supported, but customers only have access to the most recent versions.
- While customers can import images, there is a limited number of existing templates provided.

The vendor declined to provide pricing, and publicly available pricing could not be found.
With a managed services orientation, Savvis provides a strong support system from on-boarding to ongoing day to day usage.

Vendor Landscape

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<tr>
<th>Innovator</th>
<th>Champion</th>
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<tr>
<td>Emerging Player</td>
<td>Market-Pillar</td>
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<td>Trailing Vendor</td>
<td>Leading Vendor</td>
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<th>Overall</th>
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Product

Vendor

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What we’re hearing

Info-Tech was unable to solicit third-party statements for this solution.

Value Index

N/A

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

Features

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Info-Tech Recommends:

Savvis appears to have little to no interest in serving SMEs, which makes it a poor fit for small shops. However, large enterprises with a need for hardened security and strong monitoring capabilities on a global level would do well looking here.
Dimension Data has an extensive portfolio of services and a global presence in the managed IT services industry.

### Innovator

<table>
<thead>
<tr>
<th>Product</th>
<th>Cloud Hosting</th>
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<tr>
<td>Employees</td>
<td>15,000+</td>
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<tr>
<td>Headquarters</td>
<td>Johannesburg, South Africa</td>
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<tr>
<td>Website</td>
<td>Dimensiondata.com</td>
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<tr>
<td>Founded</td>
<td>1983</td>
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<tr>
<td>Presence</td>
<td>Privately Held</td>
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### Overview

- Dimension Data acquired OpSource in 2011, one of several acquisitions it has made in the last several years. OpSource is now a vital part of Dimension Data’s newly formed Cloud Solutions Business Unit.

### Strengths

- Core to its value proposition is its support and counsel of functions and features that make it easy for clients to setup and manage cloud resources quickly.
- Strong cloud platform and network guarantees, which provide compensation when service level agreements are not met and 24x7x365 service.
- Security is ensured through support of hardware based networking and granular controls.
- Broad global coverage with five data centers located in four different countries, with two more to be established this year.

### Challenges

- Possesses and manages its own physical infrastructure, but does not own its data centers.

---

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

Pricing provided by vendor
Dimension Data offers one of the most complete feature sets of the companies reviewed

**Value Index**

78
7th out of 15

**What we’re hearing**

*Info-Tech was unable to solicit third-party statements for this solution.*

**Features**

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**Info-Tech Recommends:**

Dimension Data is a great choice for businesses that already use the Cloud to help their customers. It should be seriously considered by medium-sized enterprises that have significant web-based business, or that want to be able to replicate their internal infrastructure on a compute cloud.
CloudSigma is a newer entrant to the market, but has aggressive plans for global expansion

**Innovator**

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<th>Product:</th>
<th>Cloud Computing</th>
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<tr>
<td>Employees:</td>
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<tr>
<td>Headquarters:</td>
<td>Zürich, Switzerland</td>
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<tr>
<td>Website:</td>
<td><a href="http://Cloudsigma.com">Cloudsigma.com</a></td>
</tr>
<tr>
<td>Founded:</td>
<td>2009</td>
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<tr>
<td>Presence:</td>
<td>Privately Held</td>
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**Overview**

- CloudSigma was founded in 2009, but went live in June 2010. It focuses on large enterprise customers with its pure play cloud offering.

**Strengths**

- Extensive list of compatible drives offered, and it is continually growing as clients can share their template publicly with other organizations.
- Only provider to offer both solid state drive (SSD) and hard disk configuration to its IaaS offerings.
- Offers advanced SLAs, covering not only 100% Virtual Server Availability and Network Uptime, but also offering performance SLAs in the form of 1 ms or less Network Latency.
- Provides highly granular and transparent billing options.

**Challenges**

- CloudSigma only has two data centers, one in Zurich and one in Las Vegas, both of which are through partners. It does have plans to aggressively grow the number of data centers in the next two years with approximately six to eight new locations.

---

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

3 year TCO: $1 - $1M+

Pricing provided by vendor
CloudSigma’s offering gives substantial flexibility and control to clients through its exclusively developed API

**Vendor Landscape**

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<th>Vendor Landscape</th>
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<td>Afford.</td>
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<td>Market-Pillar</td>
<td>Arch.</td>
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**Value Index**

72

9th out of 15

**What we’re hearing**

"We really like CloudSigma’s support; it’s extremely good. An issue, a question, whatever – they came back to us very quickly.

Patrick Rodies, CTO, Preview Networks

"Most of the IaaS vendors didn’t meet our requirements on all three fronts of security, performance, and reliability. We offer our services to media professionals that have high requirements for film associations, requirements more stringent that HIPAA. CloudSigma meets our needs and goes the extra mile with customer service.

Chuck Stormon, CEO, Attend

**Features**

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**Info-Tech Recommends:**

Organizations with big media and big data processing needs will find CloudSigma’s SSD option particularly impressive. However, since CloudSigma is purely a cloud vendor, organizations looking for multiple services (co-lo, managed services) should consider vendors with a broader product offering.
IBM’s extensive history and infrastructure expertise makes a strong foundation from which to launch its IaaS solution

**Emerging Player**

- **Product:** SmartCloud
- **Employees:** 399,409
- **Headquarters:** Armonk, NY
- **Website:** ibm.com
- **Founded:** 1911
- **Presence:** NYSE: IBM

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

Pricing solicited from public sources

**Overview**

- International Business Machines (IBM) was founded over a century ago out of the merger of four technology firms. It has a long history in the virtualization space, knowledge, and experience, which lends itself well to its SmartCloud offering.

**Strengths**

- IBM’s hundred year history has allowed it to accumulate a solid base, which includes 78 data center facilities in the Americas. Its Tier 3+ facilities have advanced biometric security and are PCI compliant.
- IBM’s solution would be an extension of infrastructure that many enterprises are already using.
- IBM has a large network of partners to draw from to provide support and add-on features.

**Challenges**

- Marketing and product focus is limited to mid- to large-sized enterprises.
- IBM SmartCloud is specifically designed for enterprises that use IBM as their main provider.
Virtual environments under IBM have great security options, such as customizable firewalls and IP filtering.

Info-Tech was unable to solicit third-party statements for this solution.

IBM may not be as good a choice for SMEs. Large enterprises with heavy data processing needs and security concerns, such as biotechnology companies, healthcare providers, and financial institutions, would be more appropriate customers.
Joyent’s history of fast performance makes it a good fit with the media and gaming industry

Emerging Player

Product: Joyent Cloud
Employees: 97
Headquarters: San Francisco, CA
Website: joyentCloud.com
Founded: 2004
Presence: Privately Held

Overview

• Joyent Cloud is a subsidiary of Joyent. It is a public cloud with a unique architecture focused on providing high-performance IaaS for customers requiring low latency and fast application response.

Strengths

• Joyent Cloud’s technology focuses on greater utilization of CPU and RAM to deliver greater application performance. It is the only cloud running on the ZFS file system, which delivers copy-on-write data reliability.
• Joyent Cloud has four live data centers (three in the U.S. and one in Amsterdam), and plans to add two more in Asia during the second half of 2012.
• It offers a solution with high scalability, both in terms of vertical scaling to handle traffic spikes and horizontal build-out to support application growth.

Challenges

• It is the only cloud offering based on a Unix-type operating system (SmartOS). This means the userland is different, which may cause confusion for some customers.
• While Joyent has impressive uptime SLAs, more advanced SLAs around performance have yet to be introduced.
Joyent’s offering provides unrivalled speed and I/O efficiency and performance

Joyent should be considered especially by web-based companies with a low tolerance for latency, such as internet gaming vendors. Historically, customer verticals have included mobile, game, e-commerce, SaaS, and PaaS companies.

Info-Tech was unable to solicit third-party statements for this solution.
Hosting.com seeks to distinguish itself by excelling in key niche areas

Emerging Player

- **Product:** Enterprise Cloud
- **Employees:** 350
- **Headquarters:** Denver, CO
- **Website:** Hosting.com
- **Founded:** 1997
- **Presence:** Privately Held

Overview

- Hosting.com is another hosting veteran that has steadily expanded through its own innovation and development, as well as through acquisitions.

Strengths

- Hosting.com offers strong consultancy services, working with clients to build out their solution.
- Solution has been heavily developed to support high availability and built-in recovery, seen in its Always On approach and Cloud Replication product.
- Offers unique cost savings through cloud server "parking," which allows customers to reserve processing capacity at a minimum fee.

Challenges

- Hosting.com has a big focus on customer support, but still lacks the resources for sales and support that some of the bigger names can draw upon.

Pricing provided by vendor

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

$1

$1M+

Pricing provided by vendor
Hosting.com builds its services around its “Always On” strategy to have high availability and built-in recovery.

### Vendor Landscape

<table>
<thead>
<tr>
<th>Vendor Landscape</th>
<th>Info-Tech</th>
<th>Tech</th>
<th>Research Group</th>
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<tbody>
<tr>
<td>Leading Provider</td>
<td>Innovator</td>
<td>Champion</td>
<td>Market-Pillar</td>
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### Product

<table>
<thead>
<tr>
<th>Feature</th>
<th>Use</th>
<th>Afford</th>
<th>Arch</th>
<th>Overall</th>
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### Vendor

<table>
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<tr>
<th>Vendor</th>
<th>Overall</th>
<th>Via</th>
<th>Strat</th>
<th>Reach</th>
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### What we’re hearing

*Info-Tech was unable to solicit third-party statements for this solution.*

### Value Index

<table>
<thead>
<tr>
<th>Value Index</th>
<th>Overall</th>
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<tr>
<td>44</td>
<td>13th out of 15</td>
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### Features

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### Info-Tech Recommends:

Hosting.com’s solution is best suited for organizations primarily looking to use IaaS to run mission critical applications. Its Always On strategy and Cloud Replication product will give these organizations peace of mind when entrusting their vital workloads to the Cloud.
Bluelock strives to provide a simple, transparent product that helps customers meet their business goals

**Emerging Player**
- **Product:** Bluelock Virtual Data Centers
- **Employees:** 35
- **Headquarters:** Indianapolis, IN
- **Website:** bluelock.com
- **Founded:** 2006
- **Presence:** Privately Held

**Overview**
- A pure play IaaS provider, Bluelock was the first VMware vCloud Datacenter provider on the scene, and it has continued to grow in that role.

**Strengths**
- Bluelock’s value proposition is largely centered around the service and attention it dedicates towards working with its clients in building a solution.
- Offers strong reporting and analysis capabilities through its business decision support tool, Bluelock Portfolio. It allows you to track historical patterns and project out monthly use.
- Provides seamless integration of VMware technology.
- Very customer-centric approach; project roadmap is being built around customers’ expressed needs.

**Challenges**
- Only two data centers, both in the North America, and one is leased and only used for recovery. The limited geographical offerings may decrease Bluelock’s appeal to global clients.

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

Pricing solicited from public sources
A strong selling point for Bluelock is its network management features, specifically its unique cost projection tool.

---

**Vendor Landscape**

- **Leading Product**
  - Innovator
  - Champion
- **Trailing Vendor**
  - Emerging Player
  - Market-Pillar

---

**Value Index**

45

12th out of 15

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**Product**

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**Vendor**

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**Features**

- Serv & Pricing
- Trans. Support
- Hybrid Cloud
- Offering Breadth
- Avail. & Recov
- Network Mgmt
- Adv. SLAs
- Temp. Library
- Multiple OS
- Gran. Access

---

**What we’re hearing**

Info-Tech was unable to solicit third-party statements for this solution.

---

**Info-Tech Recommends:**

Mid-size and large enterprises that currently have a significant investment in VMware should consider Bluelock as an IaaS partner.
IaaS is just one part of an extensive portfolio offered by CSC, which is primarily focused on large enterprise.

**Emerging Player**

- **Product:** CSC CloudCompute
- **Employees:** 91,000
- **Headquarters:** Falls Church, VA
- **Website:** [csc.com](http://csc.com)
- **Founded:** 1959
- **Presence:** NYSE: CSC

**Overview**

- CSC has been delivering technologically enabled solutions across a broad range of use cases for over 50 years. In the IaaS market, it offers a solution with scalable control for easy on-demand changes in size.

**Strengths**

- Impressive security offered through its Defense-in-Depth Security framework, which enforces multiple measures around access control, logical security, data integrity, and physical security. Unified solution with built-in cyber security.
- Recently established a center of excellence for training and onboarding services.
- Flexibility in both management and size of cloud deployed.

**Challenges**

- Minimum contract requirements for private cloud may be beyond most SMEs.
- Pricing options are more limited than competitors.

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

Pricing provided by vendor
CSC’s Center of Excellence for On-boarding and Training will transform the way cloud transitions are handled

Info-Tech was unable to solicit third-party statements for this solution.

Info-Tech Recommends:

CSC is a discriminating choice for medium to large business with high security and compliance issues. It is also a strong choice for public sector departments with security and regulatory compliance concerns.
Identify leading candidates with the *Cloud IaaS 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
Some vendors are better suited for the complexity and global needs of large scale enterprises.

International organizations should look for vendors that boast resources around the world, as well as offer federation with other managed services.

**1. Targeted at Large, Complex Organizations**

**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**
  - CSC
  - IBM
  - HP
  - Savvis
  - AT&T

- **Viable Performers**
  - CloudSigma
  - Amazon Web Services
  - Terremark

- **Adequate Performers**
  - Hosting.com
  - BlueLock
  - GoGrid
  - Iland
  - Joyent

For an explanation of how Scenarios are determined, please see [Vendor Landscape Methodology: Information Presentation](#) in the Appendix.
Other vendors have targeted their offering to SMEs by prioritizing economics and start small entry points.

Smaller organizations should be more primarily focused on costs and scalability.

1. SME Focus

2. Exemplary Performers
   - Amazon Web Services
   - Rackspace Hosting
   - Joyent

3. Viable Performers
   - Terremark
   - GOGGRID

4. Adequate Performers
   - CloudSigma
   - BluLock
   - Savvis

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, please see Vendor Landscape Methodology: Information Presentation in the Appendix.
Many organizations are using VMware for internal virtualization, looking to federate with external cloud

Many cloud IaaS providers have built their service offerings on VMware and are appealing to customers with hybrid internal/external cloud offerings.

Exemplary Performers

Viable Performers

Adequate 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.

For an explanation of how Scenarios are determined, please see Vendor Landscape Methodology: Information Presentation in the Appendix.
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
7. Definitions of Cloud Computing and Cloud Infrastructure-as-a-Service
8. Definition of Facilities Service Tiers
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 the 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 vendors 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, they will be evaluated as best as possible based on publicly available materials only. Because these materials are not as comprehensive as a survey, briefing, and demonstration, the possibility exists the evaluation may not be as thorough or accurate. Because 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 to facilitate scoring and for future reference, as required.
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 10 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 10. For example, if a particular Vendor Landscape evaluates eight specific features in the Feature Criteria, the summed score out of 8 for each evaluated product would be multiplied by 1.25 to yield a value out of 10.

In Scalar Scoring, a score of 10 is assigned to the lowest cost solution and a score of 1 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 10 points (if it is very close to the lowest price) or 1 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 10 as explained in Cumulative Scoring, above.

Scores out of 10, known as Raw scores, are transposed as-is into Info-Tech’s Vendor Landscape Shortlisting 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 minimise 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 Vendor 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 1 and 10 (exact value determined by how much lower than the arithmetic mean their overall Vendor score is).
5. Overall Product score are 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 Vendor 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 1-10 to Harvey Ball scores on a scale of 0-4 where exceptional performance results in a score of 4 and poor performance results in a score of 0 (zero).

5. Harvey Ball scores are converted to Harvey Balls as follows:
   - A score of 4 becomes a full Harvey Ball
   - A score of 3 becomes a three-quarter full Harvey Ball
   - A score of 2 becomes a half full Harvey Ball
   - A score of 1 becomes a one-quarter full Harvey Ball
   - A score of 0 (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 insufficient 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 Harvey Balls 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.”

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<td>Green means a feature is fully present, Red fully absent.</td>
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<tr>
<td><strong>Features</strong></td>
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<tr>
<td>Feature 1</td>
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<td>[Green]</td>
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(Yellow shows partial availability (such as in some models in a line).)
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 scorer 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. Because 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 vendor’s 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. Because these sources are not official price lists, the possibility exists they may be inaccurate or outdated, and so the source of the pricing information is provided. Because 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 as close to an “apples to apples” comparison 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 requires vendors to provide four hour on-site 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 on site support to 12 countries in EMEA while Vendor s A and B are only able to provide four hour on-site 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 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 make all appropriate edits and supply an edited copy of the materials to the vendor within one week for final review.

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

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

Vuong Corp. is a mid-level, web-enabled business looking to move 20 production servers to a Cloud IaaS service. They plan to commit to their chosen IaaS vendor for five years, though the TCO they are calculating is for a three-year span. They have offices in multiple time zones, so require support availability over extended hours.

The expected solution capabilities are as follows:

• The organization wishes to place 20 production servers to the Cloud using IaaS. The baseline for each server should be 1 CPU and 1 GB of RAM with a Linux OS.
• The storage provided to the organization should be persistent, and can hold 20 GB of data.
• 24x7x365 support services should be available, whether at an additional cost or not.
• The solution should facilitate and enable data movement across all 20 servers, accommodating 50 GB of data moving inwards and 500 GB transferring out.
• Solution cost estimates should not include increases in cloud server requirements, and assume that the entire production environment uses cloud-based resources. Costs should also be calculated on a metered basis.
Definitions of Cloud and Cloud Infrastructure-as-a-Service

In September 2011, the National Institute of Standards and Technology published “The NIST Definition of Cloud Computing” (http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf). With a growing, and confusing, array of services being called “cloud”, the “NIST definition” has quickly become a touchstone for vendors and consumers alike to classify and evaluate cloud offerings.

The NIST definitions include details on cloud service models (IaaS, PaaS, SaaS). According to NIST:

- **Cloud computing** is a “model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.”

- **Cloud Infrastructure-as-a-Service** is a cloud-based service delivery model “where the capability provided to the consumer is to provision processing, storage, networks, and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications. The consumer does not manage or control the underlying cloud infrastructure, but has control over operating systems, storage, deployed applications, and possibly limited control of select networking components (e.g. host firewalls).”

There are four deployment models for cloud computing – Private Cloud, Community Cloud, Public Cloud, and Hybrid Cloud.

- **Private Cloud.** “The cloud infrastructure is provisioned for exclusive use by a single organization comprising multiple consumers (e.g. business units). It may be owned, managed, and operated by the organization, a third party, or some combination of them, and it may exist on or off premises.”

- **Hybrid Cloud.** “The cloud infrastructure is a composition of two or more distinct cloud infrastructures (private, community, or public) that remain unique entities, but are bound together by standardized or proprietary technology that enables data and application portability (e.g. cloud bursting for load balancing between clouds).”
Definition of Facilities Service Tiers

Abstraction, typically through virtualization, is a fundamental component of cloud computing. However, beneath the abstraction layer and resource orchestration of all Infrastructure-as-a-Service clouds, there is physical hardware and facilities. In evaluating IaaS providers, Info-Tech considered the data center assets owned and controlled by the provider. Info-Tech’s research into co-location and managed services tells us that generally, hosting providers fall into three tiers.

- **Tier 1.** Occupied by vendors with a large “influence” on the market. Basically it is a size designation, not necessarily a capability or quality issue. The vendors in this tier influence the market or have significant brand or geographic scope/scale. Savvis/CenturyLink, IBM, HP (and EDS), Rackspace, Verizon/Terremark would all be examples of this Tier 1 designation.

- **Tier 2.** Occupied by vendors with much less “influence” on the market, but having just as good capabilities and often a slightly smaller geographic scope/scale. Can accommodate small, mid-sized, and large organizations, but typically focus on the mid-sized enterprise. These vendors are typically regional vendors. This tier is highly commoditized, which makes it difficult to differentiate vendor services.

- **Tier 3.** Generally lower grade facilities or resellers looking to sell extra space, or aggregators who gather clients to enter them into a Tier 1 facility. Typically in this tier, the vendor does NOT own any of its facilities or maybe only one facility (with other facilities possibly being owned by others). A problem with Tier 3 is that they cannot fully guarantee their SLAs. Their contracts will often include language about not being accountable for anything beyond their control, which can be a big area if the facilities hosting their gear is “beyond their control.”

Generally, Info-Tech recommends against opting for Tier 3 vendors unless there is a significant and demonstrable cost savings (25% or more off what would be available from a Tier 1 or Tier 2). By avoiding the significant CAPEX and OPEX of owning their own facilities, Tier 3 providers are able to differentiate on total costs. But care should be taken to fully assess and understand any and all risks involved.