

# Cool Vendors in Cloud Management, 2015

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IT I&O leaders and cloud service brokers will see more modularized and easier-to-implement emerging cloud management tools that enhance multicloud brokering and integration with public cloud services. While the market is rife with new entrants, it will stay in flux through 2018.

## Key Findings

- Greater enterprise acceptance and usage of public cloud services, in particular IaaS, is driving greater investment in vendor offerings that assess, migrate, compare and manage public and private cloud services.
- Many of the newer cloud management offerings provide operational management and governance functionality, even if their products are not used to provision cloud services.
- Volatility in cloud application development and ongoing operational processes, and the role of cloud management, will result in continued fragmentation of the cloud management tools market.

## Recommendations

- Select cloud management tools with a 12 to 18 month ROI due to immaturity and churn in the market.
- Plan for multiple tools to meet diverse cloud management requirements, as no vendor meets all requirements.
- Assess cloud management tools' APIs and modularity as part of the evaluation process to assure they can be integrated with other tools and processes in your environment.
- When acquiring CMPs, manage your adoption risks. With smaller vendors, plan for contingencies due to acquisition and market shake-out risks. With both large and small vendors, manage change risks as products are updated at least two times per year, if not on a more continuous basis.

## Analysis

*This research does not constitute an exhaustive list of vendors in any given technology area, but rather is designed to highlight interesting, new and innovative vendors, products and services. Gartner disclaims all warranties, express or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.*

There are many cloud management platform (CMP) tools on the market; however, despite being over six years old (Gartner published the first cool vendors in cloud management in 2009), the market is still immature and in flux (see "Exploring Cloud Management Trends and Actions to Take"). The flux will continue as enterprises continue to experiment with various ways to build new applications across hybrid public cloud and on-premises environments, and determine the role of the CMP in the development, provider selection and ongoing management of those cloud native and optimized applications. Moreover, it will remain in flux while cloud management technology vendors figure out how to keep up with the tremendous churn and enhancements in the public cloud marketplace. As a result, we are seeing an increasing number of smaller, more focused point solutions emerging to manage cloud services, but not necessarily providing the full functionality of a CMP.

Some market churn can be seen by acquisitions that have been made, which also points to the need for IT leaders and cloud service brokers (CSBs) to plan for contingencies when acquiring smaller providers to account for their acquisition and potential change in strategy or investment after acquisition. One way to mitigate this risk is by planning for a relatively short 12 to 18 month ROI, so that if a change in CMP is required, it has already contributed to business goals. In addition, enterprises can mitigate risks through thorough understanding and evaluation of the CMP architecture and data structures, to reduce the time it takes for migration, if needed. However, large enterprise CMPs also have churn in their products and levels of investments, so selecting large companies does not mitigate overall risk in a highly fluctuating market.

The following lists the seven cloud management vendor acquisitions that have appeared in our Cool Vendor reports since 2010:

- Cool Vendors in Cloud Management, 2013: Enstratus (by Dell in May 2013)
- Cool Vendors in Cloud Management, 2012: Cloupia (by Cisco in December 2012), Eucalyptus (by HP in September 2014) and ServiceMesh (by CSC in October 2013)
- Cool Vendors in Cloud Management, 2011: Adaptivity (by EMC in May 2013) and DynamicOps (by VMware in July 2012)
- Cool Vendors in Cloud Management, 2010: CloudSwitch (by Verizon in August 2011)

At the same time there have been many new entrants vying for the attention of IT leaders and CSBs for cloud management solutions and capabilities. Next-generation cloud management architectures are becoming easier to use and implement. They are approaching the functionality of the native cloud management tools bundled with public cloud services. They also enable management and governance without requiring the use of native tools to provision services, and they do not restrict the use of public cloud APIs and services. Next-generation cloud management architectures are also more componentized and, as such, their solutions can fit better with solutions already used by

the enterprise and can also have narrower entry points and the opportunity to expand once selected. This is critical, since no CMP meets every requirement and enterprises should expect to plan to acquire multiple tools to meet their needs. As a result, IT leaders should assess CMP tools' APIs to be sure they will more easily integrate with other tools and processes used by the organization.

Characteristics such as componentization and enabling management and governance without restricting public cloud API usage are inherent with the cool vendors selected for 2015: DivvyCloud, ITapp, Krystallize Technologies and RISC Networks.

## What You Need to Know

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With a greater acceptance and use of more mature public cloud IaaS services, many enterprise clients are looking to establish greater governance and management over them, as they find themselves having to manage a hybrid environment. They want to be sure that services comply with enterprise standards, are up-to-date with security and that costs and usage don't escalate out of control. They also want assessment tools to help them evaluate which on-premises workloads are most appropriate for the public cloud IaaS model, and better understand the estimated costs across various providers and the private cloud, so they can broker the right selection for their enterprise. In essence, they are looking for tools that enable them to become an IT service broker for their enterprise. New entrants have kept the cloud management marketplace vibrant while forcing longer term and broader suite suppliers to update their architecture and enhance their solutions. We expect the market to remain volatile and immature over the next three years as the use cases and value proposition for cloud management capabilities solidify with respect to their role in provisioning and managing cloud native and optimized applications as well as brokering IT services. Buyers will continue to see best-of-breed but narrow solutions targeting deep functionality compete with broader but less deep suite functionality from larger vendors. Similar to traditional management markets, IT leaders and service brokers will need to weigh the trade-offs in acquisition and integration of multiple cloud management tools to the functionality offered by a larger vendor's suite.

## DivvyCloud

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Washington, DC ([www.divvycloud.com](http://www.divvycloud.com))

*Analysis by Dennis Smith and Donna Scott*

**Why Cool:** DivvyCloud offers on-premises cloud management operational software that allows enterprises to have visibility over multiple public and private IaaS cloud services from a single interface, and enables near-real-time event processing and actions based on changes in state. The agentless technology allows the tool to be used in existing brownfield cloud environments that differentiates DivvyCloud from existing cloud management platforms that are only able to manage services that it has provisioned. As a result, DivvyCloud does not restrict the use of cloud services and APIs like many CMPs do. Moreover, DivvyCloud tools are more plug-and-play, and may coexist more easily with other CMPs and other IT operations management tools.

DivvyCloud performs near-real-time event processing on data from many services in multiple cloud environments, in an agentless manner, and stores this data in a unified database analogous to a CMDB. This allows visibility, normalization and access into the overall cloud environment and continuous changes to cloud services. For example, some early customers are using the tool to bring together multiple disparate cloud environments for a more accurate picture of total cloud usage. Others are using the event engine to identify policy violations (such as a nonstandard OS version or configuration, or lack of charge code) and take action such as terminating the virtual machine (VM) or service. Among the public clouds supported are Amazon Web Services, Google Compute Engine, OpenStack-based public cloud such as Rackspace and HP Helion, and Microsoft Azure. On premises, DivvyCloud supports OpenStack, Apache CloudStack and VMware; however, early customers are requesting more depth with DivvyCloud's VMware implementation. DivvyCloud supports both Linux and Windows operating systems; however, today it offers extended data collection functionality on Linux, including installed system software and detailed hardware inventory.

Besides event processing, DivvyCloud can also provision cloud services across multiple cloud environments much like other CMPs, but is currently restricted to template-based provisioning (integration with Docker, Chef and Puppet are coming later this year). In addition, DivvyCloud enables security tracking and governance, including the ability to retrofit security policy after the initial provisioning of the service based on real-time events. Future plans will see the tool expand beyond its current infrastructure focus to application and database management.

The DivvyCloud founders are experienced in supporting real-life, large-scale enterprise cloud deployments and the product is geared toward these challenges. The company is currently very small (less than 10 employees), and operating under angel funding, with a half dozen paying customers. The product is offered with an on-premises implementation and subscription licensing measured based on the total number of managed primary resources (such as virtual instances, volumes, snapshots and security groups) across all public and private clouds. An example of a smaller implementation would allow for 500 total resources and would cost \$750 per month. Discounts apply as volumes increase. For example, a larger implementation of 5,000 resources is priced at \$5,000 per month.

**Challenges:** DivvyCloud is entering a market with dozens of vendors offering various types of cloud management platforms and operational management tools. They will need to continually expand their offering to support more public cloud providers, as well as greater depth in support of private clouds. Additionally, DivvyCloud will have to enhance its offerings with standard reporting and demonstrate how to optimize deployed cloud services to clearly show less technically savvy users how to get value from the DivvyCloud investment. DivvyCloud will need to react, evolve and grow as the market and competition change over time.

**Who Should Care:** I&O leaders that need to manage the services of multiple cloud providers will appreciate DivvyCloud's ability to offer visibility and near-real-time event management and remediation.

## ITapp

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San Jose, California ([www.itapp.com](http://www.itapp.com))

*Analysis by Donna Scott and Dennis Smith*

**Why Cool:** ITapp was founded in 3Q12 and its cloud management platform (CMP) offering AppCenter was launched 4Q13. AppCenter ships as a virtual appliance for VMware or Amazon Machine Images (AMI) for AWS and focuses on provisioning and managing infrastructure services and application stacks for both private and public cloud services. Unlike most CMPs, which operate best in "greenfield" (newly provisioned) environments, AppCenter discovers VMs already running in public cloud providers and on-premises data centers, and enables them to come under management without reprovisioning yet enabling management of greenfield environments. AppCenter's functionality includes:

- Support of multiclouds and hypervisors, including public cloud providers AWS and CenturyLink with Azure support coming in 2Q15, and Google Compute Engine and SoftLayer later in 2015. On-premises resources are supported based on vSphere, Xen and OpenStack.
- Aggregated chargeback across cloud providers.
- Support of both hosted virtual desktop provisioning as well as standard IaaS-plus-middleware (application stack) provisioning.

A key differentiating factor is ITapp's intuitive and customizable user interface, which enables customers to deploy ITapp fairly quickly relative to many more complex CMPs. Like many CMPs, the service blueprint defines services for provisioning; however, with ITapp, workflows are automatically generated for many actions, thus improving the speed of implementation. These include provisioning, deprovisioning, start, stop, resizing and reconfiguration. Another feature that speeds time-to-value is its Enterprise IT app store that offers out-of-the-box content for compute, storage and network services as well as application services including Apache, PostgreSQL, Cassandra, MySQL and Oracle DBMS. Users can create a blueprint for an application using a drag-and-drop visual designer. Customers tell us that it is reasonably easy to connect ITapp to the rest of the enterprise with its connectors to Infoblox, Chef, Puppet, F5 and Cisco ACI (NSX support is coming in 3Q15). Moreover, ITapp employs a policy framework that enables automated or guided provider selection based on both metadata rules and best fit of resources; individual provider selections can be made visible to the end users or driven purely from policies.

ITapp will market with both a direct and indirect model of selling to midsize (300 to 5000 employees) and large enterprises (more than 5000 employees) and service providers. It targets both IT operations and line-of-business application development teams. ITapp is priced on an annual subscription basis with smaller configurations of up to 200 VMs priced at around \$500/VM and larger environments at \$400/VM with escalating discounts based on volume. AppStore content and connectors are included in the per VM pricing; no additional licensing is required.

**Challenges:** ITapp is currently focused on the VM life cycle market, and not focused on managing the services that are contained inside the VM such as application monitoring and autoscaling. In addition, it does not support bare metal provisioning, relying on the customer to have already installed their VM clusters and provisioning on top of that. While ITapp offers capabilities for policy-based provisioning to cloud providers, it does not yet support cost analysis or provider SLA support in its policy engine.

ITapp is a small company that carries longevity risks and could potentially be acquired; depending on the acquirer and the customer, this could be positive or negative. As of February 2015, it had about 25 employees and a handful of paying customers. As a small company, it is difficult to reach potential customers, especially in such a crowded market of over two dozen CMP vendors. Moreover while ITapp has been responsive to its early customers, adding functionality they needed (for example, to support a greater number of AWS services), the challenge of managing public cloud services is the sheer volume and frequency of new releases, which is hard for any vendor to keep up with let alone a smaller one.

**Who Should Care:** I&O leaders and cloud service brokers in enterprises that desire to offer their customers (including application developers) an intuitive approach to private or hybrid cloud IaaS and IaaS plus middleware services will be interested in assessing AppCenter.

## Krystallize Technologies

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Austin, Texas ([www.krystallize.com](http://www.krystallize.com))

*Analysis by Ed Anderson*

### Why Cool

Krystallize Technologies is taking on the question many organizations should be asking — "What is the real and practical differences between cloud services in terms I care about?" Cloud service offerings from different providers often deliver very different experiences. Most noticeable are the differences in the features supported by the platform; however, the performance characteristics of each cloud environment often differ widely based on a number of different factors, including the location of the service, the applications running in the cloud service and many others.

Krystallize has developed a set of technologies to do real-time performance measurement, benchmarking and monitoring of the cloud service offerings from major providers, including public, private and hybrid cloud services. The technology is delivered in a SaaS-based offering called CloudQoS, which profiles the performance attributes of different cloud environments. When applied across the cloud environments used by a given organization, CloudQoS runs an assessment of the cloud services and provides a comparative view of the results through a graphical tool that highlights the performance of each cloud service. The results provide a real-time assessment of the quality of service delivered by each cloud platform, in addition to pricing information that helps clients determine and compare price to performance. This information allows users to make decisions regarding the best match between their available cloud environment and the requirements of their application. The approach used by CloudQoS is an outcome-based approach, which also provides a means to correlate actual cloud service performance with service-level agreement (SLA) commitments from the provider.

Using synthetic transactions, which simulate an actual application workload, a CloudQoS assessment performs a myriad of performance measurements across the core platform resources including network, compute, memory, storage and virtualized configuration(s), as well as representative application behaviors and data volumes. The synthetic transactions can be targeted at a variety of cloud service offerings including Amazon Web Services, Microsoft Azure, IBM

SoftLayer, Google Compute Engine, Rackspace, and others. Upon completion of performance assessments, CloudQoS displays performance results and recommends the "best" cloud platform for optimizing the cost of running specific application scenarios. CloudQoS can also be used to perform ongoing real-time service monitoring of SLA, quality of service, incident management, root cause issue identification and preconfiguration and postconfiguration change comparisons. CloudQoS provides insight to areas of improvement for service optimization such as workloads, virtual subscriptions and more.

As cloud adoption — including public, private and hybrid cloud — continues to grow, organizations will increasingly be faced with the challenge of determining where they will get the best performance for the price they are paying, including the resources they already have in place. Krystallize CloudQoS is designed to help organizations assess cloud services and produce the data necessary to make smart decisions regarding workload placement based on the optimal price and performance.

Krystallize has approximately 15 employees and contractors, and has obtained an initial round of seed funding. CloudQoS pricing is subscription-based, listing \$29.95/month/instance, with declining prices based on volume.

## Challenges

Cloud management and monitoring tools, often referred to as cloud management platforms (CMPs), have shown increasingly rich capabilities. Most CMPs focus on access management, service management and service optimization and are already expanding to address advanced analytical capabilities across cloud providers as required by CSB roles. Performance management and monitoring, including cost analysis and optimization insights, are a natural extension of existing CMP tools. Krystallize has accelerated the introduction of these capabilities to the market, but other CMP providers are likely to follow suit as price/performance assessment becomes a key element of overall cloud management strategies. Krystallize may also be challenged by APM vendors adding public cloud performance assessments and comparisons.

## Who Should Care

IT leaders and cloud service brokers responsible for managing internal and external cloud services, will benefit from the insights generated by the Krystallize Technologies in optimizing their cloud operations and management activities.

## RISC Networks

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Asheville, North Carolina (<http://www.riscnetworks.com/>)

*Analysis by Ed Anderson*

**Why Cool:** RISC Networks historically offered SaaS solutions to technology vendors to help their customers upgrade and improve their on-premises systems. In early 2014, it started offering CloudScape, which profiles applications, and manages the selection and migration process to

public cloud service providers, typically on behalf of system integrators. RISC Networks targets IT leaders and cloud service brokers at end-user organizations (in addition to system integrators) aspiring to migrate their applications to the public cloud. RISC Networks has around 20 employees and is private, self-funded and profitable.

There are two key product offerings providing the foundation for this capability:

- IT HealthCheck — A SaaS-based business technology analytics platform used to perform IT infrastructure assessments, including networking infrastructure and performance
- CloudScape — A SaaS-based application assessment tool used to identify and assess application components and dependencies as well as cost, in anticipation of a cloud migration

One of the significant challenges with application migration to the cloud is fully understanding the operating characteristics of applications, including application components, dependency and performance. Undertaking a successful cloud migration initiative requires a clear understanding of all application dependencies to ensure the capabilities are at least preserved, if not enhanced, when moving the application to a cloud environment. The tools from RISC Networks provide an assessment of application dependencies, resource requirements and performance characteristics. Once the application has been profiled, the information is presented to the user as a visual representation.

RISC Networks applies a patent pending technology they call "unified correlation logic" or UCL, which provides a mapping of current application components to potential cloud alternatives, and identifies which applications are most suitable for migration. CloudScape also includes the ability to simulate the network traffic of the application running in a cloud environment. This capability is often used to evaluate different cloud offerings to find a "best fit" for the application before any commitments are made.

In addition to cloud suitability, CloudScape also provides cost modeling so that IT planners can use the collected asset and performance data to create cost models for different cloud providers. The tool provides several different views:

- Inventory cost model — A comparison of the existing (noncloud) environment with a potential cloud environment.
- Optimized cost model — A patent-pending, cost-optimized recommendation using current, on-site application storage, networking, CPU and memory requirements.

RISC Networks can also offer assessments for movement to private cloud environments, but they would lack pricing information. RISC Networks CloudScape offers a full range of automated reports and visualizations, giving users a comprehensive yet simplified view of their networks and potential cloud migration opportunities. Migrating an application, especially a complex application, to the cloud can be a risky proposition. RISC Networks aims to highlight both the benefits and risks of a cloud migration to increase the likelihood of success.

IT HealthCheck is offered to enterprises on an annual subscription basis of \$27,600 for the enterprise edition. It is also available as a basic edition (less functionality) at \$6,000/year.

CloudScape is offered through channel partners as a SaaS subscription, and typically bundled as

part of a cloud migration service. List price is \$18,000 for an annual subscription for 3,600 node units (such as workload instances and network devices) which equates to analyzing 300 servers/month for 12 months.

**Challenges:** RISC Networks is a small provider and operates in a highly volatile marketplace where new cloud offerings and tools are continually made available to end-user organizations as well as service providers. Providers of cloud management tools will increase their capabilities and encroach on the functionality of RISC Networks' tools. Likewise, IT service providers, one of RISC Networks' key markets, are developing their own tools as part of their cloud consulting, migration and managed service offerings.

RISC Networks faces the challenge of remaining up-to-date and relevant in this fast-moving market. While RISC Networks addresses a key need today, management tools, cloud offerings and IT services capabilities will continue to grow and mature, offering consumers multiple options in their cloud assessment and migration activities.

**Who Should Care:** Both IT HealthCheck and CloudScope are offerings that are available to IT leaders and cloud service brokers in end-user organizations. They can benefit from the insights into their cloud application portfolio, particularly if they are considering migrating applications to the cloud.

## Gartner Recommended Reading

*Some documents may not be available as part of your current Gartner subscription.*

"Selecting an Approach for Managing Public Cloud Services"

"Exploring Cloud Management Trends and Actions to Take"

### Evidence

Gartner fielded over 500 inquiries on cloud management since January 2014.

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