



# Omdia Universe: Selecting a Hybrid and Multicloud Management Solution, 2020–21

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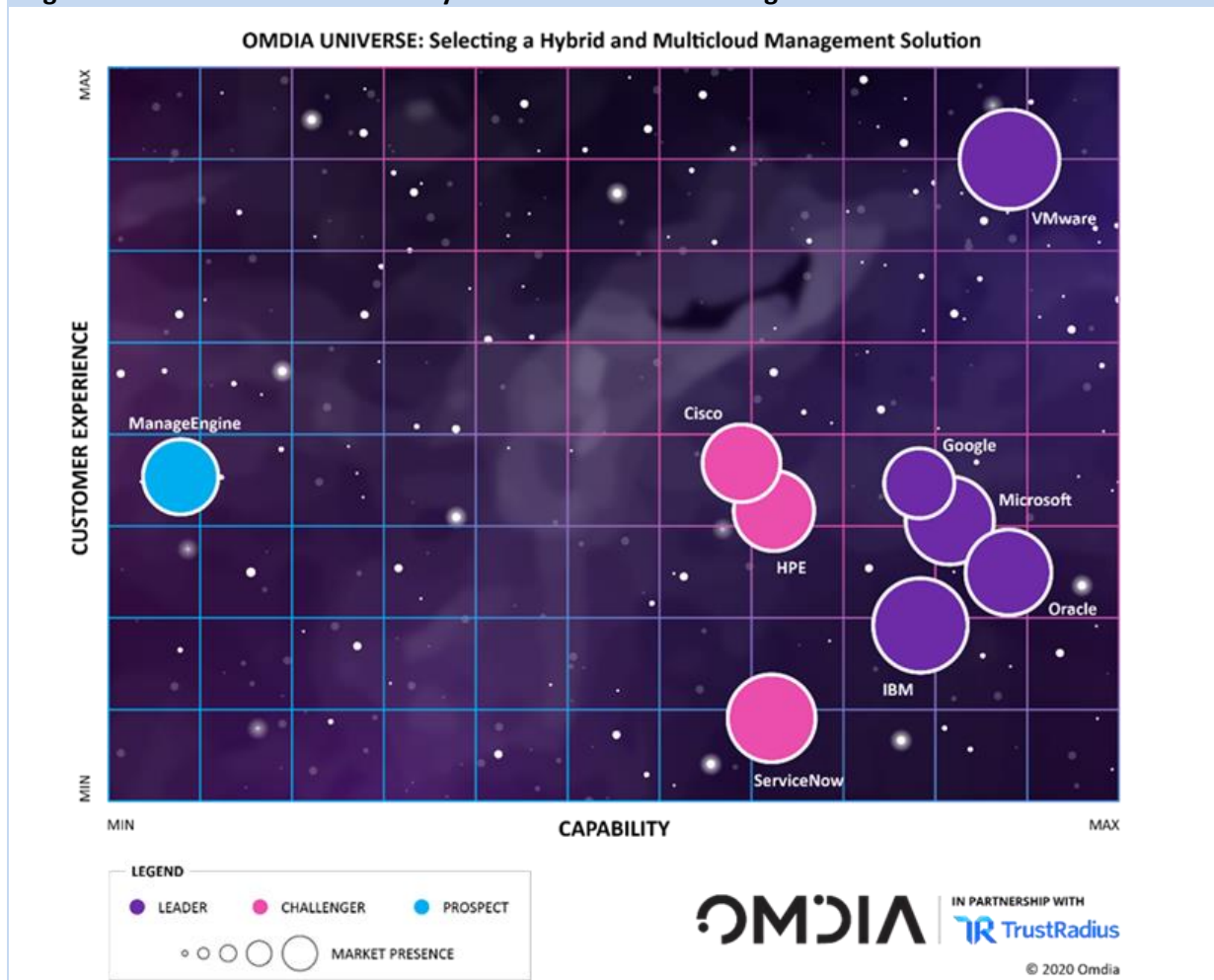
Roy Illsley

## Summary

### Catalyst

The role and purpose of IT in organizations is undergoing significant change, driven by the need for businesses to become more agile. This report provides a side-by-side comparison and evaluation of leading hybrid and multicloud management solutions, with the findings delivered as the Omdia Universe (see **Figure 1**). It considers the significance of management in a hybrid and multicloud world to support the business requirement for agility.

**Figure 1: The Omdia Universe for hybrid and multicloud management**



Source: Omdia

### Omdia view

The challenges of managing cloud resources and services has become a much greater part of the IT department's role and responsibility over the past 10 years. The use of cloud computing is continuing to grow as organizations look for more agile approaches to IT delivery of applications, workloads, and services. Initially, many organizations adopted cloud for business productivity and

customer-facing applications, but increasingly, the types of applications and workloads moving to a cloud environment are changing to include core systems such as ERP, CRM, and so on. While it is true that the cloud is not the ideal environment for every workload/application, it is now becoming the accepted norm that a cloud-first strategy is more common.

As the type of workload/applications moving to the cloud is changing so is the expectation of what the cloud provider must deliver to meet business needs. This increased demand for resiliency, protection, and service continuity has seen the growth of hybrid cloud environments. The hybrid cloud is not a singularity; it is a construct that enables bridges between clouds to be built so as to support workloads/applications that require on-premises deployment. The cloud providers are extending the operational and functional benefits of their cloud platforms to customer premises. The goal is to make it easier for enterprises to take advantage of cloud services. The motivation is to drive more traffic and revenue to the cloud and to capture those customers that have previously been reluctant to move core applications to the cloud because of regulation and compliance requirements.

## Key messages

- For the second successive report, VMware is the clear leader in the Omdia Universe, scoring an overall average of 80.80% across all three dimensions.
- Microsoft, IBM, Google, and Oracle are also classified as leaders, all scoring an average of over 70%. The other distinction was that the leaders were responsible for 95% of the 16 subcategory-leading scores.
- The challengers' performance ranged from an average score of 67% to just below 70%, but the key differentiator was that no challenger recorded more than one subcategory-leading score.
- The prospects all showed significant promise as solutions that are being developed. Prospects are characterized as having some gaps in their capabilities that are still a work in progress.

## Analyzing the hybrid and multicloud management universe

### How to use this report

Omdia is a proud advocate of the business benefits derived through technology, and hybrid and multicloud management is at the forefront of realizing benefits to marketers across the globe. The Omdia Universe report is not intended to advocate an individual vendor but rather to guide and inform the selection process to ensure all relevant options are considered and evaluated in an efficient manner. By using in-depth reviews on TrustRadius to derive insights about the customer experience, together with the analyst's knowledge of the market, the report findings gravitate toward the customer's perspective and likely requirements, characteristically those of a medium-large multinational enterprise (5,000-plus employees). Typically, deployments are considered across

the financial services, TMT (technology, media, and telecoms), and government sectors, on a global basis.

## Market definition

In this report, Omdia developed a series of features and functionality that would reveal differentiation between the leading solutions in the marketplace. The criteria for hybrid and multicloud management are as follows:

- **Monitoring:** this looks at a solution's ability to monitor resource usage and its impact on performance. In the 2020–21 report, monitoring is extended beyond just performance monitoring to include mobile, services, and containers technologies.
- **Private cloud management (server, network, storage, I/O):** this includes the ability to manage all aspects of the infrastructure delivery chain from server, network, storage, endpoint, to I/O.
- **Public cloud management:** this considers how well the solution integrates with other cloud solutions, allowing not only visibility into resource usage, but control and management of those environments.
- **Service modeling and financial management:** one of the biggest challenges for any CIO is being able to predict future resource needs by type and delivery method. This section looks at how well the solutions allow for modeling and support “what-if” analysis. An increasingly important, if underrepresented, capability is that of managing the cost and financial aspects of delivering services to line-of-business customers.
- **Operational management (scale, delivery, provisioning):** this examines the ability to manage at scale across different geographies and technologies.
- **Security management (DevSecOps):** the rise of DevSecOps has changed how the IT operations function thinks about the management of applications. This section focuses on how well the solutions support the concept of security and lifecycle management and align with any DevSecOps approach.
- **Backup and resiliency:** the ability to secure and protect data should be implicit in any solution. Although these solutions are primarily seen as backup and recovery solutions, they must be able to perform basic data protection and support security integrations.
- **Lifecycle management and automation:** the need to automate as many operational activities as possible aligns with the CIO's need to reduce costs. This section looks at how the solutions enable different levels of automation.
- **Reporting and integration:** this capability is the need to produce more than the standard weekly resource usage report. This section evaluates the solution's ease of integration with other data sources and how user friendly its reporting capabilities are.
- **Marketplace management:** this evaluates the ability to operate and manage the applications and services that customers can select and deploy to the cloud from a marketplace.

## Market dynamics

### Changes from previous report

One of the most obvious changes in the market since the previous report ( *Omdia Decision Matrix: Selecting a Hybrid and Multicloud Management Solution, 2018–19*) is the number of vendors taking part has reduced from eleven to nine. This reduction in the market is due to a number of factors:

- 1. Mergers and acquisitions in the market have reduced the number of vendors. This trend has been driven by the increased breadth of requirements, forcing specialist vendors to be acquired and incorporated into fewer bigger vendor offerings. For example, Red Hat's capabilities are now incorporated into IBM's offering, Micro Focus is now part of HPE's submission, CloudHealth was acquired by VMware, and CliQr is now fully integrated into Cisco.
- 2. The multicloud inclusion criteria of this report eliminated a number of those vendors with only proprietary management solutions for either single on-premises private cloud or a single public cloud.

### Key market trends

The growth of hybrid cloud is seen as pivotal to the wider adoption of cloud computing, because it enables organizations to begin their journey to cloud computing in a way that matches their strategy. However, different cloud providers have taken different approaches to support the enterprise demand for hybrid cloud solutions:

- Amazon Web Services (AWS), Microsoft, and Oracle have developed proprietary edge and hybrid cloud appliances.
- Google and IBM have software solutions based on a platform-agnostic container-based environment.

The two approaches to enabling distributed cloud workloads are not exclusive. The proprietary cloud platform of the cloud providers also supports open source container-based application deployment and management. However, the management is much more rudimentary than with the software-based platforms developed with the open source community. The hardware/appliance approach is witnessing cloud providers working with hardware OEMs to deliver edge and hybrid cloud infrastructure solutions for their own clouds.

The management challenges faced by IT departments are amplified as organizations adopt different public clouds and different hybrid cloud approaches. The complication is that organizations are selecting the cloud environments based on factors such as cost, resiliency, regulatory compliance, service disruption, and security to match the persona of the workloads/applications.

**Table 1: Vendor rankings in the Omdia Universe for hybrid and multicloud management**

Vendor	Product(s) evaluated
<b>Leaders</b>	
Google	Google Cloud Operations, Cloud Deployment Manager, Cloud Console, Cloud Shell, Cloud Console Mobile App, Cloud APIs, Anthos
IBM	IBM Cloud Pak for Multicloud Management
Microsoft	Azure Automation, Azure Advisor, Azure Backup and Azure Site Recovery, Azure Lighthouse, Azure Migrate, Azure Monitor, Azure Portal, Azure Resource Manager, Azure Arc, Azure Stack, Azure Cost Management
Oracle	Oracle Enterprise Manager, Oracle Cloud (services covering management, observability, security, database, application development, and marketplace)
VMware	vRealize Suite, Tanzu Observability by Wavefront, CloudHealth, Skyline
<b>Challengers</b>	
Cisco	Cisco CloudCenter
HPE	GreenLake
ServiceNow	ITOM Operator Enterprise
<b>Prospects</b>	
ManageEngine	Cloud Spend, Site 24x7

Source: Omdia

## Market leaders

The market leaders all scored an average across all three dimensions of greater than 70%, and they accounted for 95% of the subcategory-category leading scores. The leaders also demonstrated a breadth of capability with only 20% of the recorded below-subcategory-category average scores. The other criterion for being a leader was being within 11% of the overall leader's score.

## Market challengers

The challengers all scored between 67.53% and 69.31% and were characterized as solid performers with the gap between their performance and that of the leaders (except VMware) being a matter of fine margins. Omdia considers that the market is in transit and is shifting its emphasis from a

technical management capability to a services-centric approach. The challengers to different degrees all demonstrated a strong performance in the service management aspects.

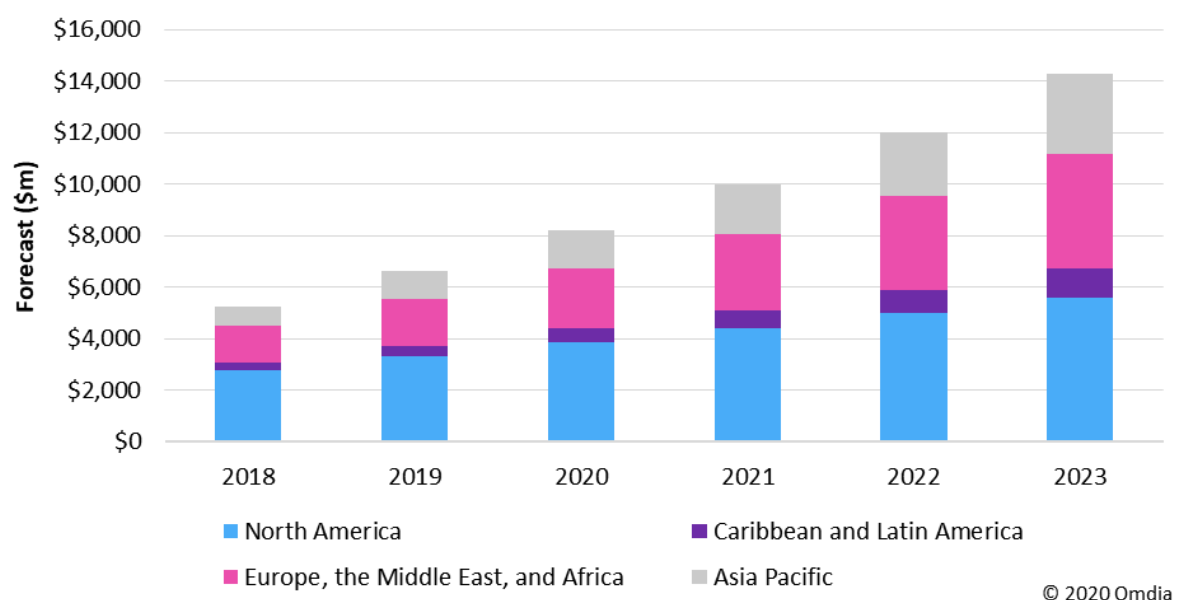
## Market prospects

The market prospects all scored below 60% on average and were characterized as being solutions in development. The prospects provided strong capabilities in a few subcategories, which were matched by weaknesses in other subcategories. However, Omdia believes that the prospects all have development plans for evolution of the solutions.

## Market outlook

The market in hybrid and multicloud management is growing at a CAGR of over 22% between 2018 and 2023, according to Omdia's *Software Market Forecasts: Infrastructure, 2018–23*. Omdia forecasts the market will be worth more than \$14 billion by 2023, with North America the largest market, accounting for \$5.6 billion (see **Figure 2**). To put this in context, the infrastructure management market is forecast to be worth just over \$2 billion by 2023, with North America again the largest market, accounting for almost \$700 million. Further evidence of the move to cloud is provided by an analysis of the infrastructure spending by IT departments. In 2019 the average percentage of the IT budget spent on server and storage was 4.65%, compared to 7.85% spent on cloud (infrastructure as a service [IaaS], platform as a service [PaaS], and software as a service [SaaS]). The forecast is for this gap to widen as IT budgets in enterprise organizations reduce spending on physical infrastructure, a trend accelerated by the COVID-19 pandemic.

**Figure 2: Omdia market forecast for hybrid and multicloud management**



Source: Omdia

## Vendor analysis

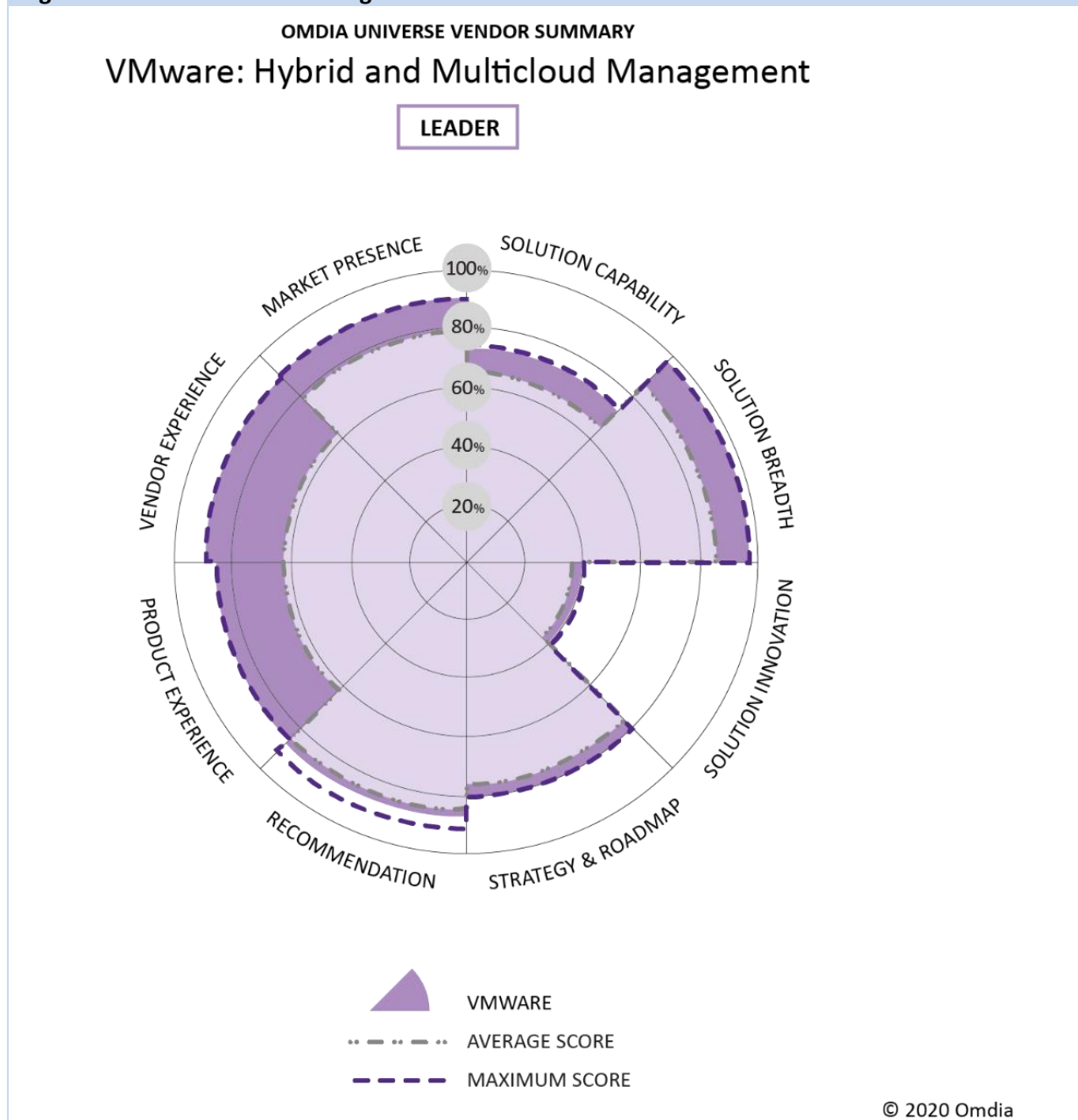
### VMware (Omdia recommendation: Leader)

**Products: vRealize Suite, Tanzu Observability by Wavefront, CloudHealth, Skyline**

*VMware should appear on your short list because it was the clear leader in all three dimensions of the universe*

For the second successive report on hybrid and multicloud management, VMware was the clear leader. **Figure 11** shows the high-level performance of VMware, which scored an average across all three dimensions of 80.80% and was the only vendor to score an average of above 75%. VMware scored an average of 73% in the capability dimension, 90% in market impact, and 87.48% in customer experience. VMware's capability strengths were backup and resiliency (85%), monitoring (85%), and lifecycle and automation (81%); its weakest capability was security management (65%).



**Figure 11: Omdia Universe ratings: VMware**

Source: Omdia

VMware's ability to monitor scores highly because of a combination of capabilities. In terms of monitoring the core resources, vRealize was able to monitor and to take action on a wide range of metrics. VMware vRealize's capabilities covered CPU, memory, storage, and network metrics for VMs and containers. VMware also takes into account dynamics such as limits, reservations, availability, and so on. The breadth of coverage for both VMs and containers was considered to be one of the most comprehensive in the report. For example, vRealize provides a complete monitoring solution for all storage whether presented to VMs or containers. The solution monitors and takes into account reserved/used/allocated storage, latency and read/write ratio. Management packs for third-party storage solutions can extend vRealize to assure the health of arrays, logical unit numbers,

and even individual HDDs. vRealize also supports health monitoring for a number of AWS, Azure, and GCP services. Capabilities of vRealize in network monitoring include the ability to measure metrics such as input/output operations per second, latency, dropped packets, and so on. Omdia considers the ability to perform physical-to-physical, virtual-to-virtual, and virtual-to-physical path diagnostics to be a noteworthy capability, particularly as these capabilities provide support for virtual networking and security devices.

VMware's vRealize provides cost and capacity management for vSphere-based private cloud or for the VMware stack running in public clouds such as VMware Cloud on AWS, while CloudHealth by VMware is the solution for public clouds. In the public cloud management and financial management space, CloudHealth provides a SaaS solution focused on helping organizations optimize, govern, and secure their public cloud environments. Nearly two years since its acquisition, CloudHealth has seen significant growth as part of the VMware portfolio and now manages more than \$12 billion of public-cloud spend annually worldwide. Recently, CloudHealth brought to market the innovative FlexOrgs feature, which enables large distributed enterprises to effectively manage their distributed cloud environments by delegating and empowering the lines of the business. Integration between CloudHealth and vRealize Operations can bring public-cloud data into vRealize for a unified view.

VMware's newest capabilities are in the cloud-native space, where its Tanzu solution was launched to provide much-needed support for this sector. Tanzu Observability by Wavefront (Tanzu Observability) is a full observability and monitoring solution for cloud-native applications including serverless, Kubernetes, service mesh, and so on. Omdia likes the fact that Tanzu Observability comes with more than 220 out-of-the-box integrations with the most commonly used cloud-native technologies. Omdia rated VMware highly for its ability to support multiple different service-mesh technologies. Tanzu Observability platform supports integrations with popular service-mesh implementations including AppMesh, Envoy, and Istio. With a zero-configuration installation, Tanzu Observability by Wavefront delivers immediate observability into all Kubernetes environments (VMware Tanzu Kubernetes Grid, VMware Tanzu Mission Control, Red Hat OpenShift, etc.) and autodiscovered Kubernetes workloads. This cloud-native capability is extended using vRealize Operations and vRealize Automation to monitor and provision the infrastructure supporting Kubernetes. The vRealize solution comes with out-of-the-box integration with vSphere 7 with Tanzu, which is expected, but also extends the monitoring to container management platforms such as OpenShift and VMware Tanzu Kubernetes Grid or to any conformant Kubernetes distribution with management packs. VMware has continued to build out its management capabilities: vRealize has more than 180 management packs to extend its monitoring capabilities into other technologies such as hardware, OS, applications, and public clouds, and Tanzu Observability by Wavefront has more than 220 integrations. Omdia scored VMware highly for this ability to extend the solution to popular third-party products that organizations are already using.

In the backup and resiliency subcategory, VMware includes a DR management solution, which uses an automated policy-based approach. However, the solution from VMware is predominantly targeted at protecting virtual machines in a vSphere environment. Omdia considers it to be a simple and easy-to-use capability that enables organizations to use it for multiple different use cases such as DR, disaster avoidance, planned data center migrations, site-level load balancing, or even application maintenance testing. Omdia rated highly the ability to migrate protected workloads and services from one site to another through a single recovery plan that specifies the order in which

VMs are shut down and started up, the resource pools to which they are allocated, and the networks they can access. Omdia's note of caution is that this only applies to VM-based workloads, which are currently the dominant type of workload, although this is beginning to change as more cloud-native applications move to production environments. Another strength of the VMware solution was its ability to test recovery plans using a temporary copy of the replicated data and isolated networks in a way that does not disrupt ongoing operations at either site. The solution supports the use of multiple recovery plans that can be configured to migrate individual applications or entire sites. Omdia considers that this granular control enables flexible testing schedules because organizations can perform testing to meet different scenarios.

VMware's capabilities in the lifecycle and automation subcategory were, for the most part, in line with those of the other vendors. However, it was in automation that VMware scored highly. It uses a variety of approaches to deliver automation:

- Dynamic thresholds are used to detect abnormal behavior, which can be used to trigger automated remediation actions.
- AI-based analytics are used to automate workload performance optimization, moving workloads between clusters based on utilization, capacity, business intent, and operational intent and even right-sizing workloads.
- Predictive VMware DRS provides intelligent analysis of workload behavior to predict potential resource bottlenecks and activate live migrations ahead of time to avoid performance issues during peak activity.
- AI-based capacity analytics can predict how much capacity is left, how soon it will run out, and what reclamation actions can be taken to reduce waste and cost. It can also help model multiple future scenarios, such as for additional projects, hardware refresh, or public cloud migration.

VMware's weakest capability was security management, but this was still above the average for the cohort. Like most of the other vendors, its main weakness for this report was the lack of encryption and key management capability. VMware provides encryption and key management by using third-party providers. Omdia considered VMware's CloudHealth Secure State capabilities and its ability to work with both AWS and Microsoft Azure to be noteworthy capabilities. CloudHealth Secure State capabilities provide cloud security and compliance monitoring that helps organizations detect and remediate misconfigurations.

## Methodology

### Omdia Universe

The process of writing a Universe is time consuming:

- Omdia analysts perform an in-depth review of the market using Omdia's market forecasting data and Omdia's ICT Enterprise Insights survey data.
- Omdia creates a matrix of capabilities, attributes, and features that it considers to be important now and in the next 12–18 months for the market.

- Vendors are interviewed and provide in-depth briefings on their current solutions and future plans.
- Analysts supplement these briefings with other information obtained from industry events and user conferences.
- Analysts derive insights on the customer experience with each solution via reviews and ratings on [TrustRadius](#).
- The Universe is peer reviewed by other Omdia analysts before being proofread by a team of dedicated editors.

## Omdia ratings

- **Market Leader.** This category represents the leading solutions that Omdia believes are worthy of a place on most technology selection short lists. The vendor has established a commanding market position with a product that is widely accepted as best of breed.
- **Market Challenger.** The vendors in this category have a good market positioning and are selling and marketing the product well. The products offer competitive functionality and good price-performance proposition and should be considered as part of the technology selection.
- **Market Prospect.** The solutions in this category provide the core functionality needed but either lack some advanced features or suffer from a low customer satisfaction rating.

The scoring for the Universe is performed by independent analysts against a common maturity model, and the average score for each subcategory and dimension is calculated. The overall position is based on the weighted average score, where each subcategory in a dimension is allocated a significance weighting based on the analyst's assessment of its relative significance in the selection criteria.

## Inclusion criteria

There are many vendors in the IT management market offering solutions to customers of all sizes. However, inclusion in this Universe is based on the vendor's ability to offer solutions specifically for the hybrid and multicloud management aspects of data center management. All the vendors have verified the accuracy of the data. As is typical with these projects, some vendors are unable to meet the strict deadlines for the return of submissions so decline to participate.

The criteria for inclusion of a vendor in the Universe for Hybrid and Multicloud Management, 2020–21 are as follows:

- The vendor must be a global vendor with customers in all of three regions: Asia Pacific; Europe, the Middle East, and Africa; and North America.
- A solutions vendor must offer cloud management capabilities that enable the management of platforms/infrastructure other than its own technology.
- A software vendor's solution must be capable of managing more than just server virtualization. It must cover at least three of the four main areas (compute, storage, network, and applications).

- The vendor must have at least 250 customers, and they must be a mix of midsize enterprises (1,000–4,999 employees) and large enterprises (5,000-plus employees).

## Exclusion criteria

The hybrid and multicloud management market is considered a new and evolving management market, and Omdia accepts that some vendors have entered this market from different backgrounds such as infrastructure management, services management, or cloud. Vendors and products are excluded from the analysis according to the following criteria:

- The vendor's solution is only applicable to five of ten different classifications in the capability dimension: monitoring, private cloud management (server, network, storage, I/O), public cloud management, service modeling and financial management, operational management (scale, delivery, provisioning), security management (DevSecOps), backup and resiliency, lifecycle management and automation, reporting and integration, and marketplace management.
- More than 50% of the vendor's solution is made up from partner solutions or third-party solutions.
- The vendor has no direct contact with the end customer; everything is done through channel partners.

## Appendix

### Further reading

[Reviews of Cloud Management Suites on TrustRadius](#)

*Omdia Market Radar: Hyper-converged Infrastructure 2019/20*, INT003-000253 (December 2018)

*Omdia's Cloud Economics Self-Assessment Model*, IT0022-000938 (May 2017)

*Software Market Forecasts: Infrastructure, 2018–23*, PT0192-000001 (September 2019)

*Understanding the complexities of cloud economics*, IT0022-000937 (May 2017)

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