

F R O S T & S U L L I V A N

BEST PRACTICES

AWARDS

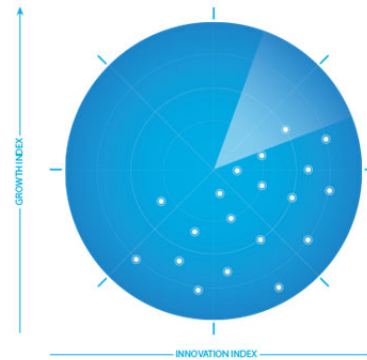
F R O S T & S U L L I V A N

2020 BEST
PRACTICES
AWARD

vmware®

2020 NORTH AMERICAN HYBRID CLOUD
MANAGEMENT PLATFORM GROWTH,
INNOVATION & LEADERSHIP FROST RADAR AWARD

FROST RADAR™



CONGRATULATIONS!

Frost & Sullivan is proud to present VMware with this year's Frost Radar™ Best Practices Award for Growth Innovation & Leadership in the Hybrid Cloud Management Platform market.

Frost & Sullivan's global team of analysts and consultants continuously research a wide range of markets across multiple industries and locations. As part of this ongoing research, we identify companies that consistently develop new growth strategies based on a visionary understanding of the future, and thus more effectively address new challenges and opportunities. This involves extensive primary and secondary research across the entire value chain of specific products and services. Against the backdrop of this research, Frost & Sullivan recognizes VMware for these valuable achievements.

This recognition is strictly reserved for companies that are market leaders and are achieving high growth in an intensely competitive industry. This includes emerging companies making great strides in market penetration or seasoned incumbents holding on to their perch at the pinnacle of the industry. Achieving Growth Excellence is never an easy task, but it is one made even more difficult considering today's intensely competitive environment, customer volatility, economic uncertainty, and rapid technology evolution. In this context, VMware's receipt of this Award signifies an even greater accomplishment.

Moreover, this recognition is the result of many individuals (employees, customers, and investors) making daily choices to support the organization and meaningfully contribute to its future. Frost & Sullivan enthusiastically acknowledges and celebrates these achievements.

Once again, congratulations on your accomplishments and we wish you great success in the future.

Sincerely yours,

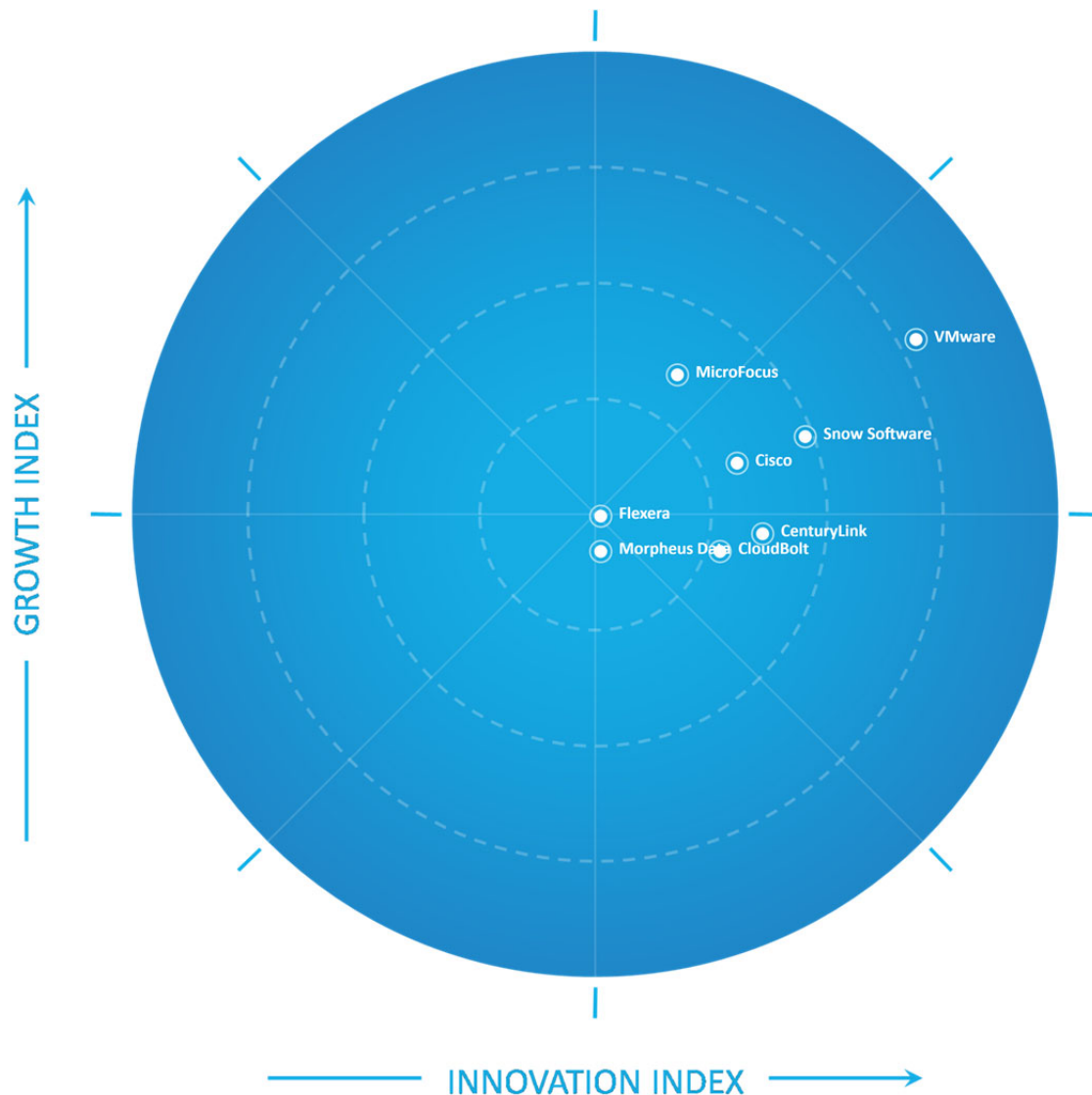
Darrell Huntsman

Chief Executive Officer

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The Frost Radar™

Hybrid Cloud Management Platform Market



Source: Frost & Sullivan

In a field of 100 global industry participants, Frost & Sullivan has independently ranked the top 8 companies in the above Frost Radar™ analysis.

The key parameters independently analyzed by Frost & Sullivan include:

- Innovation Scalability
- R&D
- Product Portfolio
- Mega Trends Leverage

- Customer Alignment
- Growth Pipeline
- Vision and Strategy
- Sales and Marketing
- Revenue Growth
- Market Share Growth

Frost & Sullivan studies related to this independent analysis:

- *Intelligent Cloud Management - Improving the Business Experience Using Analytics and AI*
- *Cloud Management Platform Buyers Guide, 2017*

The Growth Environment

To optimize IT investments and accommodate a variety of workloads and applications, enterprises are deploying many types of IT infrastructure and services. This leaves the enterprise IT director with the challenge of managing the variety of infrastructure environments and deployment models. Of the IT leaders that Frost & Sullivan surveyed, 74% are concerned about incomplete visibility across cloud and on-premises environments. Nearly 58% list “managing multiple clouds” among their top hybrid IT challenges; and 61% cite difficulty in integrating premises-based and cloud environments.

In response, vendors of both cloud infrastructure and IT management software have brought potential solutions to market—hybrid cloud management platforms. Such platforms have been designed with the ability to manage the resources of multiple deployment models and environments—physical and virtualized machines based on-premises or in the cloud; and, in some cases, even containers—through a single enterprise management portal.¹ The platforms offer visibility across an enterprise’s total environment; control to change the environment as needed to meet business needs or objectives; and, in many cases, automation and predictive analytics that learn how the environment operates, allow the setting of appropriate thresholds, or make intelligent change recommendations that will optimize the efficiency of the hybrid cloud.

Hybrid cloud management platforms have become a necessary tool for efficiently and effectively managing the enterprise IT environment. Operating in a growth market, Frost & Sullivan observes how hybrid cloud management providers help ensure that customers’ cloud infrastructures deliver sufficient capacity regardless of changes or spikes in usage, and ensure performance of any type of application or service that might be deployed. Today, cloud management platform providers are enhancing their management platforms in a way that streamlines infrastructure tasks via repeatable processes, decreased human intervention, and increased automation. At the same time, they must enable their customers to retain control over their own cloud environments; as such, the platform must be customizable for each business’s goals and operations.

¹ Readers interested in additional information about container technology can refer to SPIE 15-17, [*Docker Containers: Now Playing at a Cloud Service Provider Near You*](#).

Whereas cloud management platforms previously focused on basic visibility and control of the infrastructure, they now focus on moving beyond basics to clearly improve the value.

Frost Radar™ Growth Innovation & Leadership Award

VMware

Growth

- VMware delivered nearly \$11 billion in revenue in FY 2019, with approximately \$2 billion based in its cloud management capabilities.
- Overall revenue grew 12% year-over-year, with the company's management capabilities delivering above-average market growth.
- CloudHealth multi-cloud management delivered the strongest growth within VMware's hybrid cloud management portfolio.
- VMware is poised for continued growth of its hybrid cloud portfolio based on its strong pipeline for increased sales in 2020.
- The frequent nature of updates and product enhancements continually adds new value and opportunities to upgrade customers' services, thus expanding the pipeline with each update.
- The company's strong partnership with AWS and other public cloud providers offers another avenue for customer acquisition—as a partner of IaaS providers.

Innovation

- VMware upgraded its vRealize Suite in the last quarter, offering new capabilities around container management, integration with VMware Cloud on AWS, as well as Azure and GCP.
- The upgraded vRealize Automation platform also offers enhanced DevOps capabilities, including enhanced Infrastructure as Code and infrastructure pipelining.
- VMware has also increased its integration between vRealize Operations and CloudHealth, enabling vRealize Operations to ingest data from CloudHealth.
- The recent launch of a SaaS version of vRealize Operations, offers feature parity with the on-premises product to manage performance, capacity, cost and compliance for private cloud and VMware Cloud on AWS, with monitoring and troubleshooting capabilities that extend to also AWS, Azure and GCP.
- With the launch of the SaaS version of vRealize Operations, all VMware cloud management offerings are now available both on-premises and as SaaS.
- VMware also recently launched vRealize Automation integration with VMware Cloud on AWS as self-service consumption and Infrastructure as Code layer, nicely complementing the service.
- CloudHealth recently released FlexOrgs, a new capability that enables customers to build CloudHealth organizations that closely reflect their business. With FlexOrgs, customers can create and delegate sub-organizations via API, with each sub-organization inheriting permissions

from the parent org. This allows organizations to work independently with decentralized management, while maintaining centralized visibility and control.

Next Steps

- As VMware further integrates vRealize Operations and CloudHealth for a truly single pane of glass hybrid and multi-cloud management experience, Frost & Sullivan believes that its capabilities in this market will develop even stronger than at present.
- VMware should accelerate its integration of machine learning and artificial intelligence into its hybrid management platforms to further streamline business operations and drive enhanced customer benefits.
- Frost & Sullivan notes that the company should also consider further vRealize Automation integration with VMware Cloud on AWS to enable self-service hybrid cloud use cases.

What is the Frost Radar™?

Companies to Action – Benchmarking Future Growth Potential

What is it?

A robust analytical tool that benchmarks companies' innovation focus and growth performance in a given market.

How is it built?

Through in-depth analysis built on Frost & Sullivan's 360-degree research methodology (primary and secondary research) and objective rating of companies in a given market.

Why do you need it?

To understand how companies benchmark against each other in their ability to innovate and grow against a backdrop of industry transformation.

What will it accomplish?

Companies can gain an objective, independent perspective of their innovation and growth strategies, including their robustness, effectiveness, relative competitive strength, and implications for their long-term success.

How to use it?

The Frost Radar™ is a dynamic tracking tool that offers frequent rating and positioning of companies that are leading the industry in growth, innovation, or both. Because of changes in the operating environment and internal organizational changes, their positioning in the Frost Radar™ will change over time. It is important to leverage the Frost Radar™ to ensure that companies are aware of changes to their ecosystem and their relative positions to it.

What does it mean to be on the Frost Radar™?

Companies have been chosen to be in the Frost Radar™ because they have proven themselves to be worthy by demonstrating excellence in growth, innovation, or both, and are able to translate that into proven solutions that benefit their clients.

Growth, Innovation & Leadership Award

The Growth Innovation Leadership (GIL) best practice award is bestowed on companies that are market leaders at the forefront of innovation. These companies consolidate or grow their leadership position by continuously innovating and creating new products and solutions that serve the evolving needs of the customer base. These companies are also best positioned to expand the market by strategically broadening their product portfolio.

Frost Radar™ – Benchmarking Future Growth Potential

2 Major Indices, 10 Analytical Ingredients, 1 Platform

Vertical Axis – The Growth Index

Growth index is a measure of a company's growth performance and track record, along with its ability to develop and execute a fully aligned growth strategy and vision; a robust growth pipeline system; and effective market, competitor, and end-user focused sales and marketing strategies. The elements of this index include:

- **GI1: Market Share (previous 3 years):** This is a comparison of a company's market share relative to its competitors in a given market space for the previous 3 years.
- **GI2: Revenue Growth (previous 3 years):** This is a look at a company's revenue growth rate for the previous 3 years in the market/ industry/category that forms the context for the given Frost Radar.
- **GI3: Growth Pipeline:** This is an evaluation of the strength and leverage of a company's growth pipeline system to continuously capture, analyze and prioritize its universe of growth opportunities.

- **GI4: Vision and Strategy:** This is an assessment of how well a company's growth strategy is aligned with its vision. Are the investments the company is making in new products and markets consistent with the stated vision?
- **GI5: Sales and Marketing:** This is a measure of the effectiveness of a company's sales and marketing efforts in helping it drive demand and achieve its growth objectives.

Horizontal Axis – The Innovation Index

Innovation index is a measure of a company's ability to innovate products/services/solutions (with a clear understanding of disruptive Mega Trends) that are globally applicable, are able to evolve and expand to serve multiple markets, and are aligned to customers' changing needs. The elements of this index include:

- **II1: Innovation Scalability:** This determines whether an organization's innovations are globally scalable and applicable in both developing and mature markets, and also in adjacent and non-adjacent industry verticals.
- **II2: Research and Development:** This is a measure of the efficacy of a company's R&D strategy, as determined by the size of its R&D investment and how it feeds the innovation pipeline.
- **II3: Product Portfolio:** This is a measure of a company's product portfolio, focusing on the relative contribution of new products to its annual revenue.
- **II4: Mega Trends Leverage:** This is an assessment of a company's proactive leverage of evolving, long-term opportunities and new business models, as the foundation of its innovation pipeline.
- **II5: Customer Alignment:** This evaluates the applicability of a company's products/ services/ solutions to current and potential customers, as well as how its innovation strategy is influenced by evolving customer needs.