On the Radar: CAST AI delivering visibility and optimization to cloud and cloud-native environments

Summary

Catalyst

The application landscape is changing rapidly, with cloud-native applications such as containers being developed and deployed to take advantage of the benefits a distributed cloud environment provides. Omdia's *Software Market Forecasts: Infrastructure, 2020–25* shows a compound annual growth rate (CAGR) for container management platforms of nearly 25% by 2025. This increase in the use of management platforms is in response to the growth in applications expected over this period. However, the platforms do not provide all the capabilities CIOs will need, so smaller vendors such as CAST AI are emerging with specialist optimization capabilities for these cloud-native environments.

Omdia view

The need to manage business-critical applications in the cloud requires IT to be able to control the many different variables that affect performance and security through the application of policies. The rise of cloud-native applications has been led by one specific team, developers, and has spawned an entirely new set of tools, processes, and solutions to develop, deploy, and manage these applications. This was the genesis of DevOps, but with the increase in adoption of a microservices approach, the management of these services from both a development and an operational perspective now requires a new approach.

Omdia believes that as the technologies such as cloud-native, edge computing, and serverless evolve, they bring with them expectations of greater openness in terms of workload and data portability, as well as the expectation of being available everywhere. However, challenges with deploying and managing cloud-native

On the Radar: CAST AI delivering visibility and
optimization to cloud and cloud-native
environments

1

and the edge are still only just being addressed. For example, the fusing of storage, security, data protection, and compliance is a new concept to many IT professionals that occupy traditional roles. The ability to use specialist solutions for optimizing the environment and reporting on costs alongside other more generic management platforms is a new challenge facing CIOs. These different solutions to the different challenges must work together otherwise the management of these environments will remain fragmented and will remain the user's responsibility to integrate them into a comprehensive solution/platform.

Why put CAST AI on your radar?

The challenge with operating in a cloud and a cloud-native environment is the complexity due to the number of moving parts, different services, and applications executing, which increase significantly. Optimizing these environments requires a new way of thinking and use of new automated tools, not just trying to retrofit modified existing tools. CAST AI has developed a new approach based on cloud technology to meet this challenge and as a result delivers a continuous, optimized environment automatically.

Market context

The software infrastructure market was worth approximately $130bn at the end of 2020. Omdia predicts the market will grow at a CAGR of 14% between 2020 and 2025, which will make the market worth an estimated $260bn by the end of 2025. This growth is driven by the convergence of some key technologies that are shaping the technology landscape for the foreseeable future and the impact on a shift in organizational use of technology as a result of the COVID-19 pandemic.

The main technology trends are: firstly, the move to greater use of cloud computing, and in particular hybrid and multicloud; secondly, the wider adoption of automation and the use of AI/ML to deliver more efficient operational management capabilities to improve the customer experience and increase service availability and quality; thirdly, the shift to cloud-native, containers, serverless, and microservices. The result of these trends is increased technology complexity in organizations. Meanwhile, customer experience demands show an ever-increasing need for businesses to do things differently and apply these technologies rapidly in ways that can deliver improvements to business outcomes. This is the current conundrum, as organizations need to use the technologies to solve business problems, but need to do it quickly and easily and make sure that costs and resources are optimized.

Product/service overview

The approach taken by CAST AI is to follow a simple three-step process: analyze, optimize, and stay optimized. CAST AI uses its dashboard as the hub of its operations, and the dashboard shows active clusters as well as those that have been deleted. These clusters can be opened from this dashboard, and this takes the user directly into the cluster management menu. In the cluster management menu all the log information, policies associated with that cluster, and the nodes that form part of the cluster can be accessed. CAST AI has made the node management operation as simple and straightforward as possible. A user can see the information about any particular node, such as its name, the type of VM, which cloud it is in, its role and state, and the current resource usage. CAST AI can manage the resource consumption in two ways to match the processes and operating policies of the organization. It can perform full cluster automatic scaling per cluster where it manages all the resources, or it can manage only part of the cluster resources –

On the Radar: CAST AI delivering visibility and
optimization to cloud and cloud-native
environments

2

the choice is that of the customer. CAST AI also enables the user to control when any cluster can operate by providing a scheduler; by default, clusters are not scheduled.

Company information

Background

CAST AI is a Miami-based company, born in 2020, thanks to a team of passionate cloud experts driven by a vision of decentralizing the cloud industry, and empowering innovators to build future-ready products.

CAST AI co-founders are Yuri Frayman (CEO), Leon Kuperman (CTO), and Laurent Gil (Chief Product Officer). Prior to founding CAST AI, the same team led two companies to exit: Zenedge, a cybersecurity firm that was acquired by Oracle in 2018; and Viewdle, an AI company that was acquired by Google in 2012. CAST AI has a European branch in Vilnius, Lithuania.

Current position

The three stages of the process operate and deliver different value to the customer, but they are connected so the value is multiplied with each stage.

Analyze
The first stage of the process is to connect any cloud account to the CAST AI software, then it will perform a search to discover all the applications and workloads. Currently, CAST AI supports AWS and GCP cloud. The output from this analyze stage is a cost savings report. CAST AI evaluates the current configuration and compares that to its AI-optimized configuration. In this comparison report it shows the potential cost saving that a customer can make.

Optimize
The "optimize" stage converts the analysis into reality by automatically reconfiguring and rebalancing the resources. CAST AI creates an optimum configuration based on the recommendations of the AI analysis it performed in the "analyze" stage.

Continuous optimization
The maximum value is derived when the continuous optimization capabilities are used. CAST AI will continuously reshape a cluster based on the findings from its AI algorithm that calculates the optimum configuration based on actual usage. This rebalancing is intelligent and only works on problematic workloads, thereby reducing its impact on business operations.

Future plans

CAST AI did not share any future plan, but Omdia expects CAST AI to expand its support for cloud providers and to also work with AIOps vendors so that the value of its capability can be seen by a wider audience.

Key facts

Table 1: Data sheet: CAST AI

Product/service name	CAST AI	Product classification	Cloud-native optimization
Version number	n/a	Release date	n/a
Industries covered	All	Geographies covered	All
Relevant company sizes	All	Licensing options	Mixed
URL	https://cast.ai	Routes to market	Channel and direct
Company headquarters	Miami, FL; Vilnius, Lithuania	Number of employees	60

Source: Omdia

Analyst comment

The container management platforms and solutions that have proliferated provide a way to solve the issues of managing the containers and microservices at scale. However, these solutions do not cover all the new management requirements, such as managing costs and resource optimization. These aspects will probably be added to these solutions over time, but Omdia believes that specialist vendors that can operate across platforms represent the best option for customers as these capabilities are required now.

The challenge for many CIOs is that the optimization of the environment is not a one-off exercise and must be delivered as a continuous process. This need to monitor and respond to the fluctuating demand is a significant difference between managing an on-premises and a pay-as-you-go (aka cloud) model. CIOs need the correct tools to help ensure that the organization is making optimum use of the resources and is not wasting money paying for resources that are not being used. To ensure that the adoption of cloud is not an ever-increasing cost, new processes and operating procedures are needed to work with the new tools. Omdia believes that solutions like CAST AI represent the sort of approach organizations need to adopt.

Appendix

On the Radar

On the Radar is a series of research notes about vendors bringing innovative ideas, products, or business models to their markets. On the Radar vendors bear watching for their potential impact on markets as their approach, recent developments, or strategy could prove disruptive and of interest to tech buyers and users.

On the Radar: CAST AI delivering visibility and
optimization to cloud and cloud-native
environments

4

Further reading

Omdia Universe: Container Management Solutions, 2022–23 (May 2022)

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On the Radar: CAST AI delivering visibility and
optimization to cloud and cloud-native
environments

5

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