Role of service mesh rises as Decipher Technology rebrands around Grey Matter

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451 Research

S&P Global
Market Intelligence

Introduction

Decipher Technology Studios is rebranding to better reflect what it does – around its Grey Matter mesh networking platform. The company name is retained but its online presence is all Grey Matter.

451 TAKE

Service mesh proponents rightly see the buildout of hybrid and multicloud deployments generating a tailwind, which, if deficits can be addressed, should benefit market participants. By targeting the entire organization rather than only the team-based deployments that have mostly characterized service mesh deployments to date, Decipher hopes to reach beyond the competition and is rebranding around its Grey Matter product to better position itself to meet the opportunity. Its focus is on building an end-to-end platform using AI to surface anomalies and BI to turn this into insight and actionable recommendations.

Technology

The latest Grey Matter release includes AI traffic filters and BI tools that work on top of the service mesh and infrastructure it resides on, template-based workflows, a multicloud mesh network catalog, IDE integration, L3/L4 network layer integration and mesh network governance.

Decipher's Grey Matter is a platform for complex, enterprise mesh application and microservice architecture (MASA). The company says Grey Matter's omnidirectional mesh platform enables the following:

- Fine-grained control of microservices, APIs and applications in an enterprise environment that consists of legacy OSS and BSS implementations, VMs, containers and hybrid cloud implementations.

- Network and data micro-segmentation and policy enforcement for zero-trust protection.

- Business insight over internal mesh traffic such as service-level management and business criticality measurement atop the telemetry.

- Chain-of-evidence data capture.

- Architecture-wide automation that improves IT operations' responsiveness to analytics-driven change.

Grey Matter uses the Envoy open source proxy or Hashicorp's Consul with Decipher's own management and control plane extensions to run sidecars throughout an enterprise as a hybrid mesh network layer. The mesh sits atop legacy OSS and BSS web services, applications, libraries and APIs, while bridging new cloud-native environments running atop Kubernetes and commercial clouds.

Use cases

The key business use cases for Grey Matter are modernization (using a single application network and security command and control layer), governance pipelines (application network layer delivery into development pipelines) and edge (connecting public cloud to internal datacenters and the edge). These translate into mesh service architecture management, network infrastructure automation and universal service mesh platform technology use cases.

Decipher says customers are typically trying to juggle the need for new cloud-native developments at the same time as working with existing legacy and SaaS investments. The problems include the high cost of modernization and the use of heterogeneous networks which are neither reliable or secure, while expertise is hard to find and keep. Customers will typically have multiple Kubernetes and service mesh implementations that must be managed, controlled and secured.
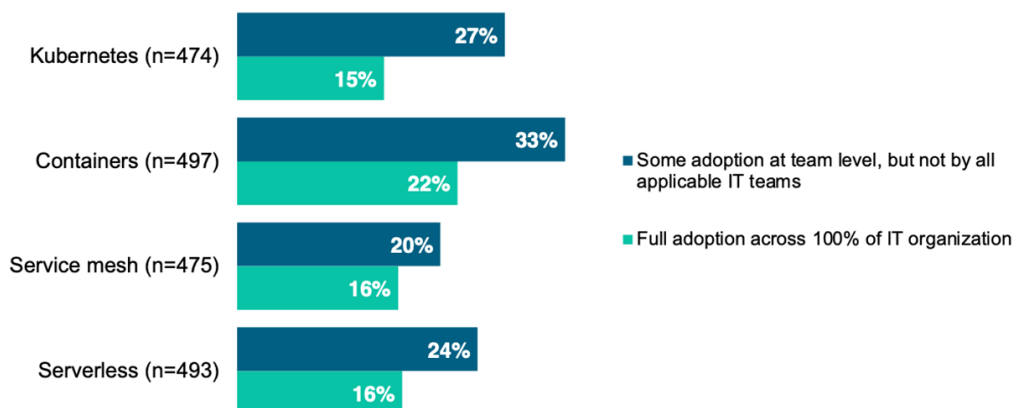
It believes the use case for service mesh will accelerate with the buildout of hybrid and multicloud deployments where users are mixing hyperscale environments with cloud-to-ground deployments of AWS Outposts, Amazon EKS Anywhere, Google Anthos, IBM Satellite or Microsoft Arc in their own datacenters. Service mesh, it argues, will enable customers to manage these heterogeneous estates.

451 Research has called out telco as the outstanding buildout market opportunity for cloud native; however, the CUPS architecture (Control and User Plane Separation of EPC evolved packet core nodes) and mostly proprietary service-based architectures will make it hard for general purpose service meshes with combined control and data planes to gain traction. It's a white-box opportunity at this time and for telco 'hardened' approaches.

Business model

Bootstrapped since its 2015 founding, the 63-person Decipher grew revenue to $14.5m in 2020 and counts some 14 customers across government and public sector, communications and telecoms, manufacturing, financial services, service providers and IT ISVs. Its buyers are the CTO, CISO and IT managers – decisions which are also influenced by IT architects, developers and SREs. It prices per mesh and data planes under management. Now seeking funding, Decipher believes that with the tailwind of multicloud that the service mesh market could be worth as much as three times its current value, which it reckons to be in the order of $400m by 2023 (two-thirds in cloud and one-third on-premises).

Cloud-Native Adoption at the Team Level

Technology	Some adoption at team level, but not by all applicable IT teams	Full adoption across 100% of IT organization
Kubernetes (n=474)	27%	15%
Containers (n=497)	33%	22%
Service mesh (n=475)	20%	16%
Serverless (n=493)	24%	16%

Source: 451 Research, Voice of the Enterprise: DevOps, Workloads & Key Projects 2020
Q: What is your organization's adoption status for the following technologies? Please select one for each technology.

Competition

According to market research and recent reporting, Decipher believes it trails only Buoyant in terms of service mesh revenue and market share and to be ahead of HashiCorp Consul Connect, F5 (Aspen Mesh), Kong, Solo.io, Tetrate, AWS, Traefik Labs, A10 Networks and Red Hat (IBM). Its competition among vendors which don't use Istio (but may use Envoy) are HashiCorp Consul and Meshery; Istio and Envoy vendors F5 Aspen Mesh, Solo.io, VMware NSX, Mulesoft Anypoint, Pivotal Ingress Router. It sees AWS App Mesh, Red Hat OpenShift Service Mesh, IBM Istio on IKS and Google Istio on GKE and Anthos Service Mesh as platform- or technology-specific.

SWOT Analysis

STRENGTHS

Decipher believes it is now reaching beyond its competition: while most service mesh vendors remain focused on serving the needs of individual teams (see figure above), it is now focused on enterprise-wide deployment with its enterprise templates and libraries and the ability to integrate into DevSecOps pipelines.

WEAKNESSES

The key benefits of service mesh are not in dispute but accessing them continues to be. While it may be cheaper to use Grey Matter rather than spending on DIY approaches, the key challenges associated with service mesh remain the time and engineering resources required; operations and management costs; system verification, validation and certification costs, DevOps and IT operations complexity and talent retention.

OPPORTUNITIES

A service mesh can solve a host of problems by encoding instructions for encrypting, routing and authenticating traffic at the application level. A lot of the hype around the technology is due to its promise of Swiss Army knife-like versatility. The US National Institute of Standards and Technology recently published a report stating that a service mesh is the only option for consistently enabling service discovery, security, resiliency and monitoring without requiring changes to the underlying microservices code in a distributed system.

THREATS

Service mesh appears to be a good way to dictate behavior and therefore application outcomes – optimizing cost and decreasing risk. When translated into improved business outcomes, it means a better customer experience. However, operational and performance overheads of service mesh complexity at scale continue to be the main challenge the industry must address.