AT A GLANCE

Accelerate Digital Transformation

with

Orchestral.ai's IT Infrastructure Orchestration Solution

Orchestral.ai
AI-Driven Orchestration

Introduction

In an unprecedented period of digital transformation, business leaders across the globe must adapt and utilize new tools to stay competitive, improve customer retention and enhance employee fulfillmentby driving a reactive digitaltransformation agenda within the departments of their enterprise. Given that the information in all areas of an enterprise-scale organization is digitized from HR down to IT, it is more imperative than ever for IT Ops to maintain access to all areas with no hindrance from departmental boundaries so the requisite business service is delivered in a timely manner. In order to keep up with the new paradigm shift in the business operations, IT Ops must adopt Agile and DevOps methodologies to be relevant in the transformation as the newly elevated center of excellence for business operations. However, this evolution in IT Ops also heralds a swathe of challenges that require action in order to be successfully addressed, and to ensure our goal: That business objectives are delivered.

Challenges

Business needs the IT services rendered, its data collected, collated, normalized and analyzed at a moment's notice to keep the business agile and to stay ahead of the competition. The digitized business aims to be up and running with 5-9's (5 Mins and 16 secs downtime per year) availability and to ensure optimal resource utilization to be nimble.

In turn, IT personnel have had to deal with managing hundreds of disparate, distributed business applications spread across the organization and handled by siloed departmental developers and Line of Business (LOB) owners. Each of these departmental owners have their own toolkits, processes and procedures to achieve their respective business objectives. This leads to:

- Dilution of the overall intent of the business requirement

- Overprovisioned IT resources leading to sub-optimal infrastructure usage

- Siloed visibility limited to specific individual areas of operation

- No communication between silos resulting in the loss of valuable insights intended to support business priorities

- Ineffective tooling used to automate different areas of the IT operations

- Fragmented strategies with disparate processes, procedures and priorities

In order to address the above challenges effectively, IT Operators must adopt Agile and DevOps practices. Agile and DevOps methodologies are inextricably linked and reinforce one another. Our approach is designed to ensure that not only the challenges mentioned above are addressed, but to mitigate the challenge of avoiding the iceberg lurking below the surface. IT teams adopting Agile and DevOps methodologies become key enablers of digital transformation for their respective organizations.

*"Our approach is designed to...mitigate the challenge of **avoiding the iceberg** lurking below the surface."*

Orchestral.ai Solution

Orchestral.ai's Autonomous Infrastructure platform, Symphony, as shown in   Figure 1, introduces two products to address this complex set of challenges: **Maestro** and **Composer**.

Maestro provides an AIOps platform capable of providing predictive decision making and analytical insights into Enterprise IT Infrastructure, including Public and Private Clouds, using patented Machine Learning (ML) and Artificial Intelligence (AI) algorithms.

Composer is an event-driven workflow automation engine specializing in cross-domain workflows with over 450 infrastructure integrations readily available.

Maestro hosts a set of ML/AI based functions to provide   predictive and analytical decision - making capabilities that enhance the user experience when defining service objectives as well as monitoring and ensuring the maintenance of objectives/intent throughout the life of the service.

Key functions include:

i. An intelligent **Resource Prediction Engine** that analyzes available infrastructure components to provide appropriate sizing of infrastructure for applications.

ii. An AI/ML **Service Delivery Module** leveraging real time infrastructure data to determine the allocation and placement to provision the requisite service.

iii. A Service Assurance Module designed to deliver the necessary analytics with several AI/ML algorithms for executing a **Monitor, Analyze, Plan and Execute (MAPE)** loop for the services rendered within the Symphony Platform in order to track and accomplish designated Service Level Objectives (SLOs) per service delivered.

iv. A **Data BOT,** a vendor agnostic agentless data capture engine to monitor the infrastructure in real time to ensure its optimal functioning.

v. A **Vendor Agnostic Role/Domain Based Portal** to provide a single pane of visibility with multiple dashboards.

Maestro's Infrastructure Expert System provides reactive and predictive analytics which allow for auto remediation or self healing capabilities by triggering auto remediation workflows. The expert system also provides the ability to trigger alerts and workflows based on the behavioral anomaly algorithms developed for monitoring infrastructure behavior.

Orchestral Symphony Platform

Figure 1 - Symphony Platform Architecture

Composer

Composer, powered by **StackStorm**, is an if-this-then-that (IFTTT) rules-based workflow engine with over 450+ integrations readily available to integrate the different infrastructure target systems and tool chains of a given organization. The highly scalable architecture of Sensors, Rules and Actions enables Composer to execute hundreds of workflows per second. Composer sensors empower IT Ops to monitor the entire infrastructure and create rules to trigger an array of orchestrated actions/workflows for problem resolution. A triggered workflow may range from simply notifying a user that an action has occurred, to architecting a complex remediation workflow that will inform the operator upon resolution.
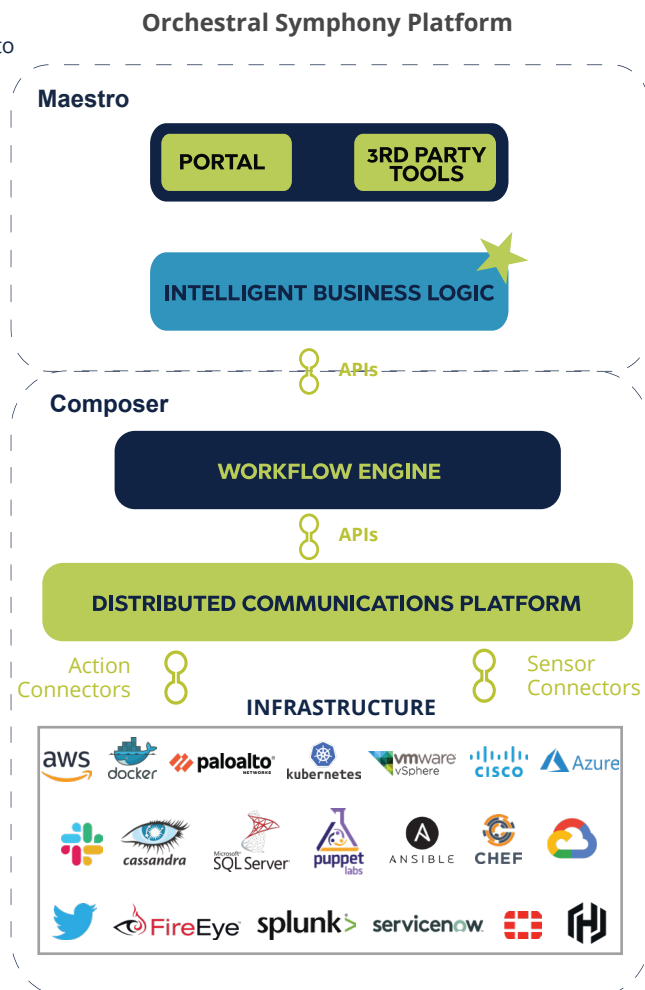
Utilizing Composer gives organizations the key tool needed to accelerate their IT's digital transformation, by helping to speed up mundane tasks and freeing the IT professionals to focus on what they do best. Here are a few examples of how Composer can orchestrate your IT infrastructure:

i.   **Provisioning** and **Orchestration** of servers and target end points.

ii. **Cost Management** and **Resource Optimization** to ensure business time is not being wasted.

iii. **Identity, Security,** and **Compliance** to ensure that all roles are established and followed.

iv. **Systems Monitoring** and live **Analytics** to always be up to date with the system performance.

Summary

Orchestral.ai's Symphony platform, with its products **Maestro** and **Composer** results in a comprehensive platform-based solution to address the challenges listed above. The platform ensures that:

i. The business requirements are adequately captured through its **Declarative (visual and verbal) Expression of Intent**.

ii. The **Predictive Application Sizing Engine** provides the optimal infrastructure sizing.

iii. The **Workflow Based** service delivery system ensures services are properly orchestrated on the infrastructure.

iv. The **Orchestral Data Bot**, **Infrastructure Expert System** and **Service Assurance** functions provide data capture and analytics to streamline communication between infrastructure components and the services they are associated with. Critical functions of the MAPE loop, Monitor, Analyze and Plan are also provided.

v. The **Vendor Agnostic Portal** provides a number of configurable dashboards for a 360-degree view of an IT team's infrastructure components and services along with an overall perspective on the state of IT operations.

The appropriate use of sensors, rules and actions/workflows allow the IT professional to execute an inner MAPE loop at the infrastructure level in the Symphony architecture where as Symphony's Service Assurance module executes an outer service level MAPE loop. The two MAPE loops being executed in a concentric manner induces a much higher degree of resilience into the infrastructure.

The combination of these products is greater than the sum of their parts; by providing IT Ops with a uniquely customizable toolbox designed to enhance the Agile delivery methods, continuous quality, security, compliance, reliability and resilience and platform consolidation to herald the next generation digital transformation within the operating environment, be it an Enterprise, Service Provider or a Cloud.

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Orchestral.ai is a team of like-minded technology professionals possessing a combined experience of over 100 years in the IT industry.

Our team is uniquely versed in building commercial web scale cloud architectures, has extensive knowledge and experience in data center operations and building data centers across the globe. We also pride ourselves on our expertise in the field of system modeling for capacity planning, scaling business applications, and our focus on the user experience. The combined expertise of our team at Orchestral has been leveraged to assemble the patented technologies aimed at alleviating the pains currently plaguing the IT industry.

Contact Us

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