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MICROSERVICES ARCHITECTURE (MSA)
CENTER OF EXCELLENCE (COE)
ACCELERATE SUCCESS SERVICE®

*Eupraxia Labs (EL) Professional Services offers the Microservices Architecture (MSA) COE **Accelerate Success Service ®** to realize the full benefits of an MSA implementation in the shortest time conceivable. You can quickly establish a private, public, or cloud technical foundation and implementation capability to dramatically increase program and project p across the entire enterprise. Enhanced communications with stakeholders, through an MSA governance framework, will help to ensure the successful implementation of any Eupraxia Labs and/or third party cloud-based product or service. When delivered with the proper amount of discipline, an MSA will help your applications evolve more rapidly, make your applications more portable than ever, and make those same applications more adaptable than ever imagined. Whether they are for private or public consumption, your applications will achieve heightened business value and help you realize returns-on-investment (ROI) at record levels*

Overview

An MSA COE can rapidly advance the MSA maturity level of any organization by breaking down a monolithic or composite architecture into smaller pieces of code, address the business functions in smaller well-orchestrated pieces, and readily deploy them in containers such as Docker. An MSA COE does not replace your software development organization, it simply enhances its capability at an accelerated pace.

Martin Fowler really said it most succinctly: Microservices Architecture (MSA) is a subset of Services-Oriented Architecture (SOA) and called it "SOA done right." MSA does not eliminate a "share-everything" approach, such as SOA. It seeks to achieve "share-nothing" to the maximum extent possible, but keep it DRY (Don Repeat Yourself). Streamlining A/B testing, achieving rapid deployment, and minimizing operational interruptions is highly achievable. It is quite simple: Off-line services do not generate revenue or achieve stated company objectives. A production feature that unexpectedly fails will be naturally constrained to a smaller business area and the problem resolution will be effected that much more rapidly.

One of the most telling shortfalls of many SOA implementations was the lack of a cloud-based Platform-as-Service (PaaS) to accelerate the development life cycle of the projects. Clunky and arcane tools like some vendor's SOA Suite products often hamstringed the development efforts and increased round trip development times in an effort to "share-everything". Now coupled with the industry-leading open source PaaS, OpenShift Origin 3, the decomposed

KEY FEATURES

- Time-predictable, low-risk service to quickly build Center of Excellence (COE) expertise

- Eupraxia Labs Subject Matter Experts (SME) assist you in creating and maintaining a Center of Excellence

- Rapidly align business objectives with stated IT objectives and identify decomposable software and services to achieve maximum business value (BV) realization and accelerated ROI

- Discover the MSA governance best practices suited to your environment

- Create an MSA Roadmap tailored to your requirements

- Receive recommendations and Delivery Roadmaps to better envision and realize your MSA Architecture

KEY BENEFITS

- Learn how to use Full and Open Source (FOSS) products and tools with the features, capabilities, and facilities needed to achieve the desired business value

- Knowledge sharing from highly trained Eupraxia Labs Consulting experts

- Define and adopt a FOSS Cloud Reference Architecture (CRA) that will streamline project implementations and optimized the delivery into your production (PROD) environments

EUPRAXIA LABS CONSULTING DIFFERENTIATORS

- Eupraxia Labs expertise in delivering best practices using standardized methodologies, process, open source tools, and open source resources

- Breadth and depth of services to integrate functional, technical, and change management services needed for optimal adoption

- Eupraxia Labs Consulting-provided Reference Architectures (optimized through numerous MSA and SOA engagements

- Reduced risk by using highly experienced consultants to ensure a

successful implementation of any Eupraxia Labs, or partners, full and open source (FOSS) product or service.

- Deep knowledge of integration with FOSS offerings such as Keycloak Identity and Access Management (IAM), OpenERP (Odoo), 3scale API Management, and WSO2 Identity Server, and many more.

- Flexible Delivery: Onsite, offsite (remote), and offshore.

moving parts of the enterprise architecture are more rapidly developed and tested in environments that more closely resemble the production environments. Through leading edge FOSS API management tools, such as WSO2 API Manager, an MSA COE will help you develop, document, deploy, and secure APIs for rapid consumption and appropriate monetization.

As it is with any information technology initiative, in support of stated business objectives, it is best to anticipate and be prepared for some form of resistance throughout the enterprise. This is almost always true when newer technologies and innovations are introduced. In these cases, it is human nature to revert back to what is comfortable when rough patches are hit. Becoming comfortable with MSA can be a longer-term endeavor for many organizations. However, Eupraxia Labs' well-structured MSA COE Accelerate Success process can get your stakeholders more comfortable with MSA on a day-by-day basis. By working with Eupraxia Labs Consultants who have "been there and done that", your own personnel will learn more quickly and be in an enhanced position to assume the role of mentors, Solution Architects (SA), and Enterprise Architects (EA) throughout your entire enterprise. In the near term, Eupraxia Labs will help you determine the right path for requirements gathering, analysis, development, deployment, and management of your MSA environment. An MSA Roadmap provides guidance to the MSA initiative allowing multiple projects, within a portfolio, to progress in parallel yet remain fully orchestrated and coordinated. This process ultimately results in a common end goal that provides value much greater than the sum of the individual projects. With the MSA Roadmap in place, your own personnel trained and ready, and the right path chosen your momentum will be unstoppable and your success will be inevitable.

The MSA COE offering is modular in nature. That is, your MSA COE may only need to accelerate success in certain areas due to a previous investment and commitment to establish an MSA COE. If you already have a SOA COE, the similarities will be striking and the implementation time will be dramatically reduced. We'll streamline the process at every opportunity without sacrificing company business and revenue objectives.

Scope of the Offering

MSA Roadmap: Using the Eupraxia Labs Agile Methodology within the Atlassian Cloud (or an optional OpenShift Container Platform (OCP) delivery of Atlassian), Eupraxia Labs Consultants will guide you through the four (4) main phases in the MSA Roadmap creation process:

Current State Assessment to measure the current state of your MSA initiatives.

Future Vision Definition to establish the goals and reasons for your MSA program.

Gap Analysis to evaluate the gap between your current state and your future vision for each of the capabilities.

Activity Selection and Scheduling uses the output from the Gap Analysis phase to create a logical ordering of work to be performed.

//TODO – redo diagram.

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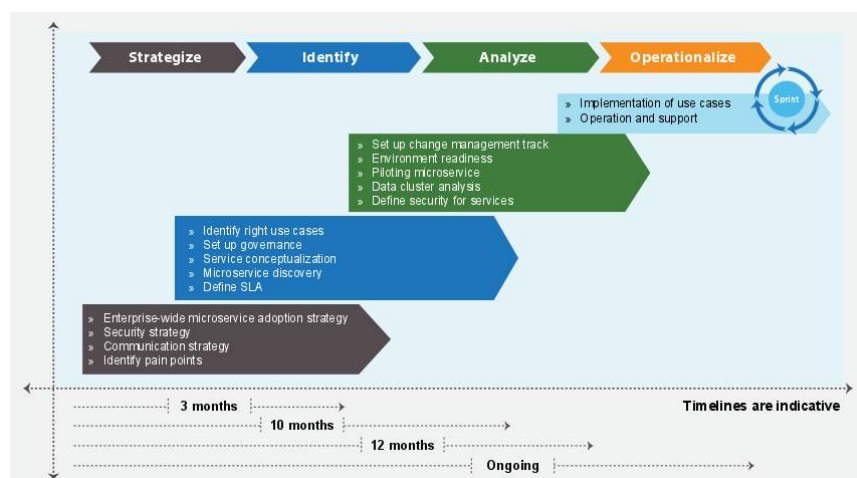
MSA/FOSS Cloud Reference Architecture (CRA):

Mobilization provides the refinement of the scoping and level and effort, identifying enterprise participants, and scheduling constraints.

Business and IT Drivers involves executives from the Lines of Business (LOB), and IT department(s) are interviewed to get their perspective on drivers that might affect future vision enterprise and cloud architecture.

Current State examine and obtain an understanding of the current state of IT, monolithic processes and issues, and business objectives.

Future Vision is to define a future vision for business units and IT based on MSA.

Roadmap is to produce an MSA Roadmap for your company that describes a methodical and logical way to achieve your Future Vision goals.

MSA Service Engineering:

Mobilization uses a set of interviews and meetings with the organization to assess the maturity of your organization with respect to MSA and specifically, MSA service engineering.

Microservice Architecture starts with the engagement kickoff and educating your organization in the concepts of MSA service engineering. It also helps familiarize you with the terminology that will be used throughout the engagement. The workshops covered in Service Architecture include the following:

A kickoff aimed at introducing the organization to MSA engineering
Service Architecture workshops to define a common baseline Microservice
Architecture and Governance

Microservice Analysis helps you develop procedures and policies covered by Microservice Analysis that coincide closely with the types of activities typical of traditional software engineering analysis practices, but additionally take into account the needs of the MSA.

Microservice Delivery covers the core engineering processes and guidelines required to define, design, construct, and test services. The workshops covered in Service Delivery are aimed at defining the approach to the following:

1. Microservice Definition
2. Microservice Design

3. Microservice Implementation
4. Microservice Testing

Microservice Management covers the activities to transition and operate services. The workshops covered in Service Management are aimed at defining the approach to the following:

1. Microservice Deployment
2. Microservice Delivery
3. Microservice Operations, Administration and Maintenance (OA&M)

Wrap-Up where all work products are completed for the engagement and prepared for project acceptance and sign-off.

Post Delivery is the successful completion of an engagement, a few post-delivery activities should take place, i.e., acceptance, sign-off, and fully documenting lessons learned.

MSA Governance:

Mobilization occurs to set expectations and boundaries of the engagement.

Current Reality includes the current reality assessment to provide important information on baseline conditions and helps determine what changes will have the greatest positive impact on your organization.

Future Vision for MSA Governance consists of, but is not limited to:

1. Identifying and partially elaborating the processes and practices that are needed to be employed.

2. Ownership/stewardship thereof defining the roles required in governance and responsibilities of those roles identifying.

3. Detailing organization structures that contain the roles and execute the processes.

Roadmap Guidance addresses how to transition from the Current Reality to the defined Future Vision in a pragmatic and effective manner.

Post Delivery follows the successful completion of an engagement, a few post-delivery activities should take place, i.e., acceptance sign-off and documenting lessons learned.

Governance Services (Optional): Eupraxia Labs will optionally provide a governance environment for publishing and consuming MSA artifacts by:

1. Installing the Atomic Registry, based on the OpenShift technology, in an existing development (DEV) environment with source code management (SCM) and CI/CD capability and/or

2. Providing a Docker Image for GitLab Community Edition (CE) to act as the source code management (SCM) repository, as a Continuous Integration/Continuous Deployment/Continuous Delivery (CI/CD^2) pipeline, and as an optional Docker image registry using the GitLab Container Registry (GCR). GitLab CE with persistent storage can be optionally installed in an existing OpenShift Origin or Red Hat OpenShift Enterprise (OpenShift Container Platform) cluster.

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3. Providing a completely self-contained virtual machine (VM) appliance pre-configured for Docker image storage, CI/CD[2], and SCM.

API Management Services (Optional): Eupraxia Labs will optionally provide an Eupraxia Labs API Management solution. Well-managed, internal APIs provide a structural advantage as an organization grows and adapts. By providing API access to the data and transactional functions of internal systems, organizations gain agility and increased ability to collaborate, change and innovate.

Application Integration Services for FOSS OpenERP (Optional): Eupraxia Labs will optionally provide an OpenERP Docker Image along with an Atomic Docker Image Registry (DIR) and an API Manager to demonstrate the rapid deployment of a fully-featured Full and Open Source Enterprise Resource Planning (ERP) solution integrated with new microservice components.

Hands-on Working Sessions: Learn by working with FOSS tool and methodologies and participating in facilitated conversations and hands-on exercises to increase the productivity of your design and development teams. The sessions cover the following topics:

Building a Microservices Application from a monolithic example – Learn the different capabilities of FOSS tools and methodologies and how to access the new capabilities.

Architectural Assistance: Knowledge sharing from highly trained and experienced Eupraxia Labs consultants who will help to get your staff started with Design Patterns and proven design and development artifacts.

Implementation Planning Services Review: We'll review your implementation plan, including the full deployment into your enterprise. We'll assist you in defining appropriate "Future Phases" through the proper phased introduction of functionality and capabilities along the provided MSA Roadmap.

Key Benefits

The Eupraxia Labs Professional Services team is focused exclusively on Eupraxia Labs and its partner's full and open source technologies. We have the experts that others turn to for leading practices in Eupraxia Labs hardware, software, and services implementations. The MSA COE Accelerate Success Service is executed over a pre-determined period, consistent with the size of your company and MSA initiatives and MSA goals. **Accelerate Success Services®** will provide your staff with a more in-depth understanding of MSA and MSA governance, initial MSA Design Patterns and proven design and development artifacts, and readiness to optimize your initial or continued MSA experience. Eupraxia Labs Consulting experts work with your business and IT staff to review and evaluate both your current architecture and processes and help optimize future design, determining solid business justifications that drive immediate benefits in your environment.

Additional Optional Services

MSA Cloud Architect Advisory Service (EL-CAAS) Leveraging an Eupraxia Labs Cloud Architect as a trusted advisor through the full lifecycle with continuation of design planning through implementation, deployment, and operations (DevOps).

MSA Identity and Access Management (IAM) Service Deploy and run the Keycloak uber jar (SAML, OAuth2) in support of a microservices environment. Examine the best methods to

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protect microservices in "just enough appserver" for microservice type applications. Fully examine the protection and access of microservices-based resources within the context of the secure enterprise.

Getting Started

Leverage Eupraxia Labs' methods, tools, and extensive experience with customer implementations across diverse industries and geographies. Tight integration across Professional Services, Development, Customer Support, Education, and Delivery puts the entire Eupraxia Labs team firmly behind you on your way to success. To learn more, contact your local Eupraxia Labs Sales Representative, call (512) 681-4501, or visit https://www.eupraxialabs.com/page/consulting

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