SMART-ENV: SOA Environment Strategy

Date: *[Report Date]*

ORGANIZATION: *[Organization Name]*

ORGANIZATION POC: *[Organization POC Name]*

SOA ENVIRONMENT: *[SOA Environment Name]*

SMART TEAM

*[Team Member 1] (Lead)*

*[Team Member 2]*

*[Team Member N]*

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Executive Summary

The selection of an SOA environment is an important decision for any organization because it constitutes a large upfront investment that sets constraints on all service consumers and service providers. The SOA Migration, Adoption and Reuse Technique - Environment (SMART-ENV) is a technique that helps an organization understand a target SOA environment in detail, including requirements and constraints that the environment places on services and service consumers.

An analysis of *[SOA Environment Name]* as a SOA environment for *[Organization Name]* was conducted between *[SMART Engagement Start Date]* and *[SMART Engagement End Date*] using SMART-ENV. Several assumptions were made in this analysis.

* *[List of Assumptions]*

The proposed strategy for adoption of *[SOA Environment Name]* as a SOA environment can be summarized as follows:

1. *[List of Strategy Steps/Elements]*

# Development Approach for SOA Environment Strategy

The analysis of *[SOA Environment Name]* was conducted using the SOA Migration, Adoption and Reuse Technique - Environment (SMART-ENV). The end goal for SMART-ENV is a strategy for adoption of an SOA environment given the organization and environment requirements and constraints. For SMART-ENV, the concept of SOA environment includes SOA infrastructure, development and operational support structure, and community support.

The end goal for SMART-ENV is the identification of a strategy to address SOA environment gaps and risk areas based on requirements/constraints by answering questions such as

* What role does the organization play with respect to the target SOA environment?
* What resources are available?
* What business and technical value does the SOA environment provide for the organization?
* What are the main elements of the environment?
* What are the requirements/constraints that the SOA environment places on services, service consumers and the host infrastructure?
* What are the requirements/constraints that services, service consumers and the host infrastructure place on the SOA environment?
* What support structure needs to be in place for users of the SOA environment?
* What governance needs to be in place to ensure proper management and usage of the SOA environment?

SMART-ENV consists of three elements

* A process that gathers information about the SOA Environment, determines the gap between the SOA environment capabilities and service-oriented system requirements, and identifies risk areas
* A SMART Interview Guide – Environment (SMIG-ENV) that guides discussions for the SMART-ENV information gathering activities
* Templates for output products

The SMART process has thirteen activities, as presented in Figure 1. The goals for each of these activities are:

* *Establish Migration Context:* Understand the role of the organization with respect to the SOA environment, understand the business and technical value provided by the SOA environment, and identify the main elements of the SOA environment.
* *Understand Service Invocation Capabilities:* Identify and understand implications and requirements related to the transport protocols supported by the SOA environment, such as support for synchronous and asynchronous communication.
* *Understand Routing Capabilities*: Identify and understand implications and requirements related to the routing mechanisms supported by the SOA environment, such as content-based, address-based, Quality-of-Service (QoS)-based and business-rule-based routing mechanisms.
* *Understand Mediation Capabilities*: Identify and understand implications and requirements related to mediation mechanisms supported by the SOA environment, such as protocol translation, data transformation and translation, and message validation.



Figure 1. SMART-ENV Process Activities

* *Understand Process Orchestration Capabilities*: Identify and understand implications and requirements related to process orchestration capabilities supported by the SOA environment, such as business process modeling notations and tools, business process execution engines and code generation tools.
* *Understand Event Processing Capabilities:* Identify and understand implications and requirements related to event processing capabilities supported by the SOA environment, such as publish/subscribe mechanisms and complex event processing (CEP).
* *Understand QoS Capabilities:* Identify and understand implications and requirements related to QoS support in the SOA environment, such as security, reliable messaging and transaction management.
* *Understand Management Capabilities*: Identify and understand implications and requirements related to management capabilities of the SOA environment, such as monitoring, logging and administration console.
* *Understand Development and Operational Support*: Identify and understand implications and requirements related to development and operational support for the SOA environment, such as service registry and repository, documentation, development tools, governance, and user support.
* *Understand Community Support*: Identify and understand implications and requirements related to community support for the SOA environment, such as communities of interest, online forums, user groups and user conferences.
* *Identify SOA Environment Gaps*: Identify and analyze the gap between the capabilities provided by the SOA environment and the requirements placed by service providers and service consumers on the SOA environment.
* *Identify Risk Areas*: Identify risk areas and mitigation strategies based on the identified gaps in the SOA environment.
* *Develop SOA Environment Strategy*: Develop a SOA environment adoption strategy for the organization, based on the role that the organization plays with respect to the SOA environment, which may include experimentation, training, technology selection, governance, requirements elicitation and other strategy elements.

The first activity, *Establish Migration Context*, and the activities grouped under *Understand SOA Environment Capabilities* were executed through direct interviews and presentations by *[List of Presenters and Presentations. Documentation Reviewed. Any Other Information Sources]*.

For the *Analyze the Gap* activity we relied on the information gathered in the first set of activities in addition to *[All Additional Information Sources, e.g. Interviews, Code Reviews, Code Analyses, Documentation Reviews]*.

Section 2 contains the proposed SOA environment strategy, as well as a set of risks identified during the process. Section 3 contains the detailed SOA environment findings that support the strategy. Section 4 contains general conclusions and next steps.

# SOA Environment Strategy

The following strategy was developed based on the SMART-ENV approach for understanding the implications of adopting *[SOA Environment Name]* as a SOA environment within *[Organization Name]*. The rationale and details that support the strategy are included in Section 3.



## Context

The context for this strategy is an understanding of the organization and its role with respect to the SOA environment, the expected business and technical value provided by the SOA environment, and the main elements of the SOA environment

### Organization’s Roles and Characteristics

*[Organization’s role, e.g. provider of services to be deployed in the SOA environment, developer of service consumers that use services deployed in the SOA environment, responsible for selection of an SOA environment and its components, responsible for implementation and management of the SOA environment]*

*[Summary of organization’s characteristics that are relevant to the strategy]*

### Expected Business and Technical Value

*[Summary of the organization’s understanding of the business and technical value that the SOA environment]*

### Main Elements of the SOA Environment

A high-level understanding of the SOA Environment elements, including infrastructure elements, service consumers and service providers, is presented in the notional SOA environment architecture in Figure 2. The strategy elements are intended to support the realization of this notional architecture.

*[Notional SOA Environment Architecture]*

Figure 2. Notional SOA Environment Architecture

## Strategy Elements



### Strategy Step/Element 1

*[Rationale for Strategy Step/Element 1]*

### Strategy Step/Element 2

*[Rationale for Strategy Step/Element 1]*

### Strategy Step/Element N

*[Rationale for Strategy Step/Element 1]*

## Risks

What follows is the list of risks that were identified during the SMART-ENV engagement. The above strategy contains mitigation strategies for each of these risks.

Table 1. Identified Risks

*[Risk Areas; Add/Modify/Delete Column Names as Fit]*

# Summary of SOA Environment Findings



## Service Invocation Capabilities

*[Content of Discussion Topics from SMIG-ENV that are Relevant to Support Strategy]*

## Routing Capabilities

*[Content of Discussion Topics from SMIG-ENV that are Relevant to Support Strategy]*

## Mediation Capabilities

*[Content of Discussion Topics from SMIG-ENV that are Relevant to Support Strategy]*

## Process Orchestration Capabilities

*[Content of Discussion Topics from SMIG-ENV that are Relevant to Support Strategy]*

## Event Processing Capabilities

*[Content of Discussion Topics from SMIG-ENV that are Relevant to Support Strategy]*

## Quality of Service Capabilities

*[Content of Discussion Topics from SMIG-ENV that are Relevant to Support Strategy]*

## Management Capabilities

*[Content of Discussion Topics from SMIG-ENV that are Relevant to Support Strategy]*

## Development and Operational Support

*[Content of Discussion Topics from SMIG-ENV that are Relevant to Support Strategy]*

## Community Support

*[Content of Discussion Topics from SMIG-ENV that are Relevant to Support Strategy]*

# Conclusions and Next Steps

*[High-Level Summary of SOA Environment Strategy]*

*[Recommended Next Steps]*

References

*[Add Author]*

*[Add Entry]*