SMART-ESP Interview Guide

Version 1.0

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The SMART-ESP Interview Guide (SMIG-ESP) is an instrument that guides the discussions with stakeholders and developers in the first four activities of the SMART-ESP process:

* Establish Context
* Identify Expectations, Constraints, and Strategy
* Identify Desired Service Capabilities
* Analyze Legacy Assets

Answers to these questions will help determine the degree of difficulty and level of effort required to migrate one or more of the organization’s business process areas toward a service portfolio approach. The use of this instrument assures broad coverage and consistent analysis of difficulty, risk, and cost.

Information gathered during the interviews is captured in artifacts used throughout the process:

* Stakeholder information is captured in the **Stakeholder List**
* General migration issues are captured in the **Migration Issues List**
* Mapping between key to-be business processes and candidate services is captured in the **Business Process-Service Mapping Table**
* Risks and issues specific to the legacy system components targeted for migration are captured in the **Component Table**
* Candidate services and their characteristics are captured in the **Enterprise Service Table**

The subsections below will contain details about artifacts affected.

# Establish Context

This activity develops an understanding of the goals and expectations of the migration effort. It seeks to learn about the present (“as-is”) state, whatever is known about the “to-be” state, the drivers for change, as well as constraints on any change. The organization is asked to define key business goals, and is also asked about their understanding of how a service portfolio approach will help meet those goals. In addition, the organization will be asked about budget and schedule; outcome of any previous migration efforts; the candidate process area(s) that would make up the service portfolio, and the target SOA environment at a high level. Appropriate stakeholders and candidate services for migration are identified, together with the business/operational processes or mission threads that they support.

After this activity, there should be enough information to determine quickly whether the enterprise is appropriately prepared for migration to a service portfolio approach, and whether there is sufficient information to continue the SMART process. Some reasons not to continue would include: the chosen process area could potentially be a poor candidate for business or technical reasons; or the organization as a whole may be unready for a widespread migration to services. In some cases, the recommendation will be to gather additional information before attempting the migration; in other cases, the recommendation will be that the organization needs, at this time, additional analyses before attempting such a migration.

The organization will be asked questions about

* Business goals that drive the migration effort
* Budget and schedule for the migration effort
* High-level description of the target SOA environment
* Characteristics of
  + the organization that is sponsoring the migration effort
  + the stakeholders of the legacy systems that may be involved (if different)
  + the organization that is performing the migration (if different)
  + the expected service consumers and providers

The list of artifacts created in this step is

* Migration issues are captured in the **Migration Issues List**
* Stakeholder information is captured in the **Stakeholder List**

## Business Context of the “As-Is” State

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| --- | --- |
| **Discussion Topic** | **Questions** |
| General Information about the Organization | * What are the major business functions carried out by the organization? * What are the major process areas that occupy the majority of your time? * What proportions of your major business functions are entirely (or primarily) software-based? * How much do the organization’s software systems interact with external software systems? * What is the age of your software asset base? |

## Stakeholders

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| **Discussion Topic** | **Questions** |
| Legacy System End Users | * Who are the end users of the critical legacy systems (i.e., that will likely be part of the migration to a service portfolio)? * Will those users continue to use those systems during the migration process? * Will legacy system end users be available for consultation during the migration process? |
| Access to Legacy Systems | * Who owns those legacy systems? * Will legacy system owners be available during the migration process? * Will legacy system developers be available during the migration process? * Will legacy system maintainers be available during the migration process? |
| Organization Performing the Migration | * Are current developers or maintainers going to be performing the migration? |

## Target SOA Environment

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| **Discussion Topic** | **Questions** |
| High-Level Understanding of the Target SOA Environment | * What are the main components of the target SOA environment? * Is it a standard or a proprietary environment? * Is this the organization’s first attempt to deploy services in this environment? |

## Business Drivers for a Service Portfolio Environment

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| **Discussion Topic** | **Questions** |
| Business Goals that Drive the Migration Effort | * What are the business drivers for the migration effort? * Have any studies been conducted to verify these business drivers? * What are the short-term goals of the migration effort? * What are the long-term goals of the migration effort? * Are the short-term and long-term goals compatible? |
| Budget and Schedule for the Migration Effort | * What is the timeframe for the migration? * Who is paying for the effort? * What is the budget for the migration? |
| Other Migration Efforts | * Have any other migration efforts been attempted? * What was the outcome? * Why did it fail or succeed? * What are lessons learned? * Which services developed as part of that effort are involved in the migration toward a service portfolio? |

# Identify Expectations, Constraints, and Strategy

This activity gathers information about the planned strategy of the organization for migrating to a service portfolio approach. The end goal is to understand the organization’s expectations on how a service portfolio approach will come about, how such an approach will benefit the organization, and how prepared the organization is to make the changes that will be necessary. As part of this activity, the key operational process area(s) that will be the focus of the migration target is identified, as are the plans for how the migration will be effected. In addition, information is gathered on any constraints, internal or external, that may affect the migration, or may affect the maintenance of the “to-be” state once it is achieved.

The organization will be asked to present:

* High-level description of the to-be candidate process area(s) (scope, complexity, criticality, differences from the as-is processes, existing systems that support it)
* If available:
  + List of existing services
  + List of other services that have been identified
  + Main business processes or mission threads that will be supported by these services
  + List of the legacy systems that support (or contain the capabilities to support) the identified services

The list of artifacts updated in this step is:

* Stakeholder information is captured in the **Stakeholder List**
* General migration issues are captured in the **Migration Issues List**

## Organizational Aspects of the Enterprise

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| **Discussion Topic** | **Questions** |
| Scope of “the Enterprise” | * What is the actual definition of “the Enterprise” that is the focus of the migration effort? * How well defined are the boundaries of “the Enterprise” and any larger organizational structures? |
| Portfolio Management within the Organization | * Does the Enterprise presently make use of portfolio management? * How is “a portfolio” defined? (e.g., are there multiple portfolios within the enterprise?) * What are the factors that partition different portfolios? |
| Governance | * Is there sufficient authority within “the enterprise” (as defined above) to effect the policies needed for the migration? * Is the introduction of any new governance practices expected to be part of the migration to a service portfolio approach? |

## Planned Migration Strategy

| **Discussion Topic** | **Questions** |
| --- | --- |
| Service Implementation | * Have you established a Service Metadata standard (taxonomy)? If so, which of the following attributes are included:   1. Attributes (type, use, description)   2. Owner information   3. Function   4. Version metadata   5. Exceptions/warnings   6. Dependencies   7. Endpoints   8. Contracts/Policies |
| Deployment | * Is there a phased plan for implementing services? * Has a deployment strategy been defined? |
| Training | * What are the training needs for business and technical communities? |

## Service Usage

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| **Discussion Topic** | **Questions** |
| Service Provision and Consumption | * What services do you expect to consume? Which provide? Which both provide and consume? * Is there a target proportion of consumption vs. provision? * Will a service consumed from an external source be ‘in a portfolio”? * Are there any expectations about providing services to external users? * What plans have been made for maintenance of services that are provided? |
| Expectations for External Service Usage | * Are any of the new services expected to be made available for external consumption? |

## Post-Migration Strategy

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| **Discussion Topic** | **Questions** |
| Retirement | * What plans have been made for long-term retirement of legacy assets that have been service-enabled? * What is the expected strategy for service retirement? |

# Identify Desired Service Capabilities

This activity builds on the information gathered in the previous sections. Given the strategic business goals of the organization, and the understanding it has about migrating to a service portfolio, this section seeks to identify the process area(s) that is most appropriate for migration, analyzes its key operational processes, and considers the specific services that will support those processes.

The list of artifacts created in this step is:

* Mapping between key to-be business processes and candidate services is captured in the **Business Process-Service Mapping Table**
* Candidate services and their characteristics are captured in the **Enterprise Service Table**

The list of artifacts updated in this step is:

* Stakeholder information is captured in the **Stakeholder List**
* General migration issues are captured in the **Migration Issues List**

## Candidate Process Area(s) for Migration

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| **Discussion Topic** | **Questions** |
| Candidate Process Area(s) | * What business process area(s) has been identified as a likely candidate for a service portfolio implementation * Is this one of those identified earlier in Establish Context (second question)? * What are the criteria that make it a good candidate? * If there is more than one candidate, do you intend to migrate all of them to service portfolio implementations? |
| Relationship to Key Business Goals | * How does this process area relate to the key business goals of the organization? * How critical is it that this process area undergo process re-engineering? * How critical is it that this process area be migrated to make use of a service portfolio? |
| Identification of Operational Processes | * What are the operational processes in this process area? * Can you rank these processes in terms of their importance to the business goals? * Can you rank these processes in terms of the present degree of automation? * For each of these processes, what is the complexity of the operational processes? * How independent are these operational processes from each other? From other processes in the enterprise? * What is the granularity of the operational processes? |
| Documentation | * What documentation exists for the as-is operational processes in this area? * In what form and condition is the documentation? * How current is the documentation? |
| Process Re-engineering | * How different are the expected to-be processes from the as-is processes? * What are the expected usage patterns compared with present usage patterns? * What degree of retraining will be required? |

## Analysis of Operational Processes

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| **Discussion Topic** | **Questions** |
| Identification of Process Steps | * For each of the operational processes identified, what are the individual process steps? * Are these process steps of roughly the same granularity (i.e., in time, complexity)? * Are they of roughly the same criticality? * Are any of them especially human labor-intensive? |
| Manner of Execution of Process Steps | * For each of the process steps identified, what is the nature of the automated support? * For each transition from one step to the next, what degree of non-automated work must be done? |
| Identification of Common Steps | * For any process steps that appear to be similar, what are the aspects that differentiate them? * How critical are those differentiators? |

## Candidate Services for Portfolio

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| **Discussion Topic** | **Questions** |
| Potential Services | * Which of the process steps identified above should be considered as candidate services? * If any are not candidate services, why? |
| Missing Services | * Can you identify desired services in addition to those identified? * How critical are these services? |
| Potential Services as a Portfolio | * To what degree are these services related to each other? * What is the common factor that aggregates them? |
| Potential Service Consumers | * Are the likely consumers of these services clearly identified? * Are there any other potential consumers that might be identified later? * What kind of process change will the potential consumers need to make for these services? |
| Mapping Between Candidate Services and Legacy Components | * How straightforward is a high-level mapping between these services and legacy components? * What new code will have to be written to fully satisfy service requirements? |

Analyze Legacy Assets

This activity gathers information on the general state of the organization’s legacy software assets, in particular, those systems that support the operational processes identified in the previous section. The questions seek to determine high-level technical data on condition, architecture, degree of interface complexity, and so forth. In addition, it gathers data on ownership and governance, as well as the degree to which the legacy systems successfully support the as-is processes, and how much of that functionality must change to support the to-be operational processes. If the organization is already making use of services, they are asked about the origin of the service implementations, and other aspects of their usage and condition.

The purpose for seeking all of this information is to reveal risks related to service-enabling the existing software base, both in terms of technical difficulty, as well as the probable degree to which the legacy systems will support the to-be operational processes.

Since the purview of SMART-ESP is at the enterprise level, data on the other legacy assets is of interest as well, since the strategy that is one of the outputs of SMART-ESP will concern those other assets, at least to some degree.

The list of artifacts created in this step is:

* Risks and issues specific to the legacy system components targeted for migration are captured in the **Component Table**

The list of artifacts updated in this step is:

* Stakeholder information is captured in the **Stakeholder List**
* General migration issues are captured in the **Migration Issues List**
* Mapping between key to-be business processes and candidate services is captured in the **Business Process-Service Mapping Table**
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## Overview of Legacy Technology Base

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| **Discussion Topic** | **Questions** |
| General State of the Legacy Asset Base | * At a high level, can you assess the quality of the legacy technology base? * Is there an up-to-date inventory of IT and other legacy software assets? |
| Governance | * What formal governance policies exist over your IT assets and practices? * Is there a single authority that can resolve differences between internal organizational entities? * If not, has any consideration been given to how differences can be resolved? |
| Infrastructure | * What level of granularity is supported by the current IT infrastructure? How is business functionality mapped and implemented? * How does the current IT infrastructure support change to business models and practices? |
| Lifecycle Management | * What are the current processes for identifying, requesting, specifying, designing, implementing, testing and deploying new functionality? |
| Maintenance | * What is the level of activity needed to maintain the legacy technology base? * How difficult is it to perform the maintenance? |
| Systems that Support the Process Area for Migration | * Which of these systems support the operational processes discussed in the previous section? |

## State of the Systems for Migration

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| **Discussion Topic** | **Questions** |
| Functionality | * What are the key functionalities of the systems that support the operational processes? * Is there additional functionality needed (e.g., for the to-be processes)? * If so, how is it expected to be provided? |
| Retirement | * Are any of the legacy systems to be migrated scheduled to be retired in the near future? * What is going to take the place of the retired applications i.e. what is the replacement strategy for the systems? |

## System Quality

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| **Discussion Topic** | **Questions** |
| Condition | * How stable are these systems in general? * How old are they? |
| Documentation | * What is the quality of the documentation? |
| Interfaces with Other Systems | * For each system, what is the complexity of its interfaces to other systems? * Are these interfaces part of the code targeted for migration? |
| Architecture | * Can you estimate whether their code is such that service-enabling will be relatively straightforward? |
| Commercial Components | * Are there dependencies on commercial components? |

## Current Use of Services

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| **Discussion Topic** | **Questions** |
| General | * What services are currently in use within the organization? Within the enterprise? * Which as-is processes do they support? * What are the availability and uptime requirements for the current set of services? How is this defined, stored and enforced? |
| Versioning | * How are current services versioned? |
| Security | * What is the current security model for service discovery, binding and invocation? * How are authentication, authorization (role-based access to services) and non-repudiation/information assurance handled? |
| Registry | * Is there a directory/registry/repository for registering/finding/using metadata for components and data? |
| Modeling | * What are the modeling techniques currently in use for representing business processes? |

# Checkpoint for Migration Feasibility

After each activity of SMART-ESP (with the exception of **Establish Context**), a brief check is made on whether to continue with the process, and whether the migration to a service portfolio approach is feasible.

After **Identify Expectations, Constraints, and Strategy**, it should be true that

* + - * Migration to a service portfolio is a reasonable approach based on the organization’s business goals.
      * Migration goals are clear and shared among stakeholders.
      * There is a high-level understanding of the as-is and to-be states, as well as of the target SOA environment.

After **Identify Desired Service Capabilities,** it should be true that

* + - * Candidate services and potential service consumers have been identified.
      * A choice of the business process areas(s) to be migrated has been made, together with knowledge about which legacy systems will be supporting the migration.
      * There is a clear understanding of the desired services that will make up the service portfolio for the chosen process area

After **Analyze Legacy Assets**, it should be true that

* + - * The legacy technology base has the potential to support the desired set of services for the chosen portfolio
      * The quality of the existing components is likely to permit migration to services in a reasonably efficient manner

In each case, if the overall he migration has potential but requires additional information to make an informed decision, then the activity may need to be repeated. Examples of such needed information might be:

* + - * Business goals may need to be clarified to a greater degree in order to understand clearly what is expected from the migration.
      * Potential service consumers may need to be identified to provide a clear justification of the need for the services.

At any point, the migration may not appear to be feasible. Characteristics of the business context and/or the legacy systems may indicate that the migration is not feasible, or the magnitude of the effort may be larger than the expected return on investment.

It is not likely that this will occur. But in such a case, the client should be advised of this view by the SMART-ESP team. If the client still wishes to pursue a SOA strategy, it may be that the client would benefit from a SMART-AF (Adoption Feasibility) workshop in the future.