Guided Procedures Usage Guide

Applies to:
SAP NetWeaver 7.0
SAP NetWeaver Composition Environment 7.1
For more information, visit the Business Process Expert homepage.

Summary
This paper provides guidelines when using Guided Procedures on SAP NetWeaver 7.0. It includes typical business scenarios and recommendations when building processes, blocks, and callable objects.

Company: SAP
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Author Bio
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1. Introduction
This document provides recommendations for using Guided Procedures with SAP NetWeaver 7.0. Previous experience with Guided Procedures is assumed in this document. For an introduction and general information about Guided Procedures please refer to online help.
For guidelines on specifying composite applications please read 'Guidelines for Specifying Composite Applications’ published on SDN.

2. Typical Business Scenarios for Guided Procedures
In general, Guided Procedures are best suited for sequential, human based processes. The following are typical examples of Guided Procedures:

- **Departmental tasks that occur outside of the corporate IT process**
  - In this example a company has a centralized process owned by IT. For example, this could be a process to book a trip (for example, in SAP ERP) or a process for expense approval. Both of these processes are centralized for the entire company.
  - While each business department must follow this central process, some departments may want slight deviations. For example, a department that generates direct revenue for the company may be able to book all trips in the ERP system directly, while another department needs a special departmental approval before booking a trip.
  - The departmental approval process is a good candidate for Guided Procedures. The person can submit their request for the trip, business reason, expected costs. Once the departmental manager approves the request, then the corporate-wide process can begin.

- **Processes that require non-SAP system access via URL’s or Web Service calls**
  - In this example you need to access a non-SAP system via a URL or web service call. Perhaps you fill out a form to start a Guided Procedures process. The process uses a URL to call the external system where required objects are created, for example a folder or a business object. Once these steps are completed, an email is sent to the initiator with information on the updates performed.

- **Processes that require multiple SAP, non-SAP systems, or no application systems**
  - In this example you have a process that is human-based, and it uses multiple systems. In the previous example we mentioned accessing a non-SAP system via a URL or a web service call. Perhaps once that step is completed we also need to update one or multiple SAP application systems (SAP ERP, SAP CRM, or SAP SRM, for example).
  - Another example could be a process that uses no systems. Perhaps a process for approval on an idea for a new product, or a process seeking multiple approvals before outsourcing a particular project.

- **Offline, interactive forms processes.**
  - In this example a company creates materials, vendors, or some other object in an SAP application system, such as ERP, or in SAP NetWeaver Master Data Management. However, before creating the object, an email is sent to key people who provide input.
  - This business example is a very common usage of Guided Procedures. A Guided Procedure can facilitate routing SAP Interactive Forms by Adobe to multiple people. Each person provides their information and a Web Service or API call is used to update the related SAP system(s).
3. Recommendations

It is recommended that you upgrade to the latest support package. Fixes for Guided Procedures are placed in support packages, and keeping up-to-date will ensure you have all the latest fixes installed.

3.1 Process and Block Recommendations

A process may contain one or several blocks. Blocks are groups of steps that can be reused. For performance reasons it is recommended to:

- Focus on straightforward, sequential process flow
- Avoid:
  - Dynamic parallel blocks (if dynamic parallel blocks are required, the number of concurrent users should be less than 15).
  - Nested blocks and deep hierarchy (block in block)
- The number of steps in a block can be up to 75 as long as there are no parallel dynamic blocks.

3.2 Context and Parameter Mapping Recommendations

At runtime, the Guided Procedures framework stores process context data in the so-called GP context. The following rules should be applied:

- Save ‘simple’ / ‘low amount of’ intermediate data in GP (Process) context.
- No value help (F4) should be stored in GP context as it could change
- Parameters in the GP context should be restricted to keys. Texts will be included in GP context only if texts for keys cannot be determined via F4 help values in the callable object UIs. These measures help prevent inconsistencies.
- Only expose parameters that must be used within the process. If a parameter is not used, it should not be exposed.

3.3 Callable Objects Recommendations

Callable objects link to specific functions to execute. In this section we will first provide general recommendations for callable objects, and then provide specific recommendations for Visual Composer, Java Web Dynpro, and Interactive Forms callable object types.

3.3.1 General Recommendations for Callable Objects

- Best choices for callable objects:
  - Web Dynpro for Java with the Guided Procedures interface
  - Web Service
  - Java Background
  - Visual Composer using guidelines provided in 3.3.2
  - Interactive Forms using guidelines provided in 3.3.4
- Callable Objects offering an UI should ensure data consistency by calling a service to validate data (such as a ‘check’ service) to avoid inconsistent data being persisted.
- If consistency checks depend on data entered in different callable objects, the corresponding actions including the update service will be called within a loop block. Then actions can be executed again depending on the results of the check service.
Further explanation of separation of UI and Update:

Figure 1 shows that user interactions can be divided into two actions / callable objects, one handling just the UI and the other handling the backend calls (background action). This separation offers high flexibility of the process flow definition, so for example it would very easy to add an approval step between data maintenance and the service call.

![Diagram of process flow](image)

Data consistency has to be ensured by the callable object offering an UI. When calling the update service no input data dependent errors should occur. This ensures that it will not be necessary to change edited data which would require going back to the callable object offering the UI.

3.3.2 Visual Composer

The Visual Composer enables a model-driven development of applications using web services for interactions with underlying layers.

- Avoid using nested tables
- A common pitfall is the generation of very complex models. When using Flex as your runtime try to keep the models small as there is a 32k size limitation for the Flex Compiler (Adobe Flex 1.x limitation).
- Avoid creating dynamic User Interfaces using Visual Composer. In such cases consider using Web Dynpro.
- Avoid using tables/structures as an end point of a VC Model.
- Avoid the use of very long descriptions for field labels. The length of the label is not definable or controllable and will be truncated at runtime.
3.3.3 Web Dynpro for Java

Remember that the Web Dynpro Java application is only used for the UI layer. All necessary business logic or object persistence on top of the backend layer should be implemented in the business layer.

- We recommend that you have no business logic or object persistence within Web Dynpro Java components.
- Restrict yourself to the coding absolutely necessary to call the web services and create the user interface.
- All WDJ components have to implement the interface IWebDynproCO (package com.sap.caf.eu.gp.co.api).

3.3.4 Interactive Forms by Adobe

- Online forms are implemented by adding an SIF control within Web Dynpro Java components.
- Data retrieval from and to the form is achieved by interaction with the component context. The backend connectivity is implemented within the WDJ component and the rules for WDJ apply.
- Offline forms are implemented by creating an ‘Interactive Form’ type callable step within Guided Procedures.
- Minimize the amount of scripting within the form, and in particular, do not call Web services so as not to confuse the layers.

3.4 Universal Worklist and Roles

The Universal Worklist is used as the central access point to tasks, alerts and notifications. You can access the UWL to manage and track your Guided Procedures actions.

- We recommend using UWL as the workflow inbox since it integrates assignments from different workflow systems, including Workflow, Alerts, Knowledge Management notifications and Collaboration Tasks, and non-SAP tasks.
- UWL with Guided Procedures cannot be used as a mass processing tool, each work item has to be processed individually.
- UWL is "inbox only", no actions in UWL are possible effecting the GP process instance, e.g. approve, reject.
- For Default roles administrator and overseer GP Runtime Work Center should be used.
- Total number of roles in a process should be no more than 5.
Related Content
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