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English



**SAP Business One Add-On
On Demand
B1-ADDON-OD 1.0
Test Plan**

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Preface






This document can be used as a checklist for all major topics to be checked during the certification process of a B1 Add-on on Demand.

This document, however, does not substitute any kind of the release specific documentation like standards & guidelines, release notes, etc.

How to read this document

The target group for this document includes both, Vendors and SAP internal staff. The use inside SAP is for the purpose of the certification of an Add-On on Demand developed by a Vendor. The Vendor himself uses this document in advance of the certification process, to submit relative documents and test reports that meets the necessary requirements for the certification. Once again: This document should not be used as a substitute for any kind of release specific documentation.

Icons

Icon	Meaning
	Caution
	Example
	Note or Tip
	Recommendation
	Syntax

1 Introduction

1.1 Purpose

This document describes the tests to be performed during SAP Business One Add-On Solution Certification for the integration of an external solution or an Add-On enhancement to SAP Business One in SAP Business One OnDemand environment

1.2 Overview

The requirements for the certification test are mainly grouped as technical and functionality requirements.

Unless noted otherwise all the requirements are mandatory.

1.3 Test Location

SAP Business One Add-On Solution Certification is performed by SAP Integration and Certification Center (ICC). Depending on the Add-On Solution as well as the agreement between SAP ICC and the Independent Software Vendor (ISV), the certification test can be performed;

- In a hosting provider infrastructure provided by SAP/ SAP identified hosting provide (← details to be checked)
- In a hosting provider environment with agreement between ISV and provider - optional

. The ISV will bring any additional hardware and/or software required together with the Add-On to be certified.

1.4 Test Environment

In addition to the Add-On solution to be certified, the following constitute the necessary environment for the certification testing.

- Database System for SAP Business One, Microsoft SQL Server 2008 R2 Standard or Enterprise edition on all database servers
- All machines in OnDemand environment are installed with Windows Server 2008 R2 Standard or Enterprise edition
- Virtualization infrastructure system (Microsoft Remote Desktop Services or Citrix)
- Microsoft Internet Information Services if Microsoft Remote Desktop Services is adopted
- SAP Business One – the versions mentioned in the certification contract and declared compatible versions in ARD
- Latest support packages for SAP Business One
 - Required patch level will be communicated by the ICC consultant
- Latest SAP Business One OnDemand software package
 - Required patch level will be communicated by the ICC consultant

Following B1OD_AdministratorGuide.pdf in SAP Business One OnDemand package, configure well all the below components:

1. Configure the server landscape a. Configure a Windows time server

- b. Configure the domain controller
 - c. Configure database instances
 - d. Install certificates
 - e. Install the license server
 - f. Configure the presentation server farm
 - g. Configure Mailer
2. Install SAP Business One OnDemand components
 - a. Install the System Landscape Directory
 - b. Install the Cloud Control Center
 3. Add Cloud Operators
 4. Register infrastructure components using the Cloud Control Center
 5. Create the required service units
 6. Create tenants
 7. Add SAP Business One Users

1.4.1 Infrastructure landscape

To test Add-Ons, the environment should be prepared with the below servers/components:

Mandatory: Web Access Portal, RDS Gateway (or Citrix), Domain Controller, Cloud Control Center & System Landscape Directory, License Server, Software Repository & Shared Folder.

At least two database instances, and two presentation servers.

Optional: Mailer, Integration Component, Remote support platform.

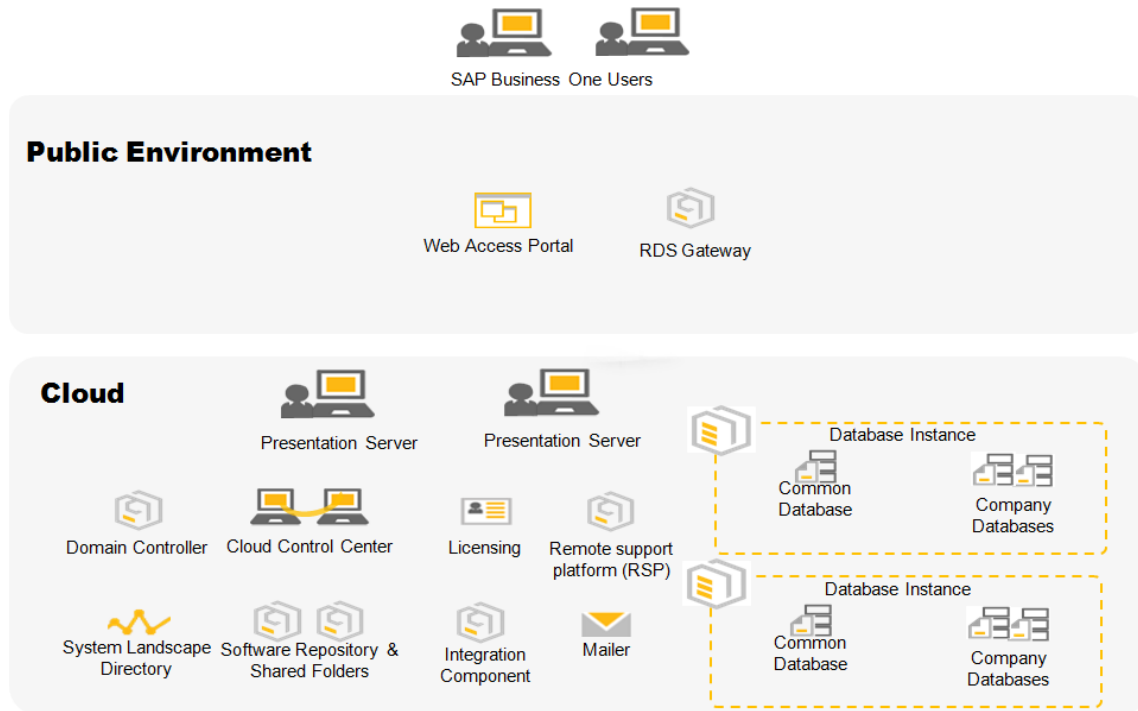
Recommended Landscape:

Server 1 installed with: Web Access Portal, RDS Gateway (or Citrix), Domain Controller, Cloud Control Center & System Landscape Directory, License Server, Software Repository & Shared Folder.

Server 2, Server 3: Microsoft SQL 2008 R2 Database Instance

Server 4, Server 5: Presentation Server

Software Repository Contains: All required Business One Install/Upgrade packages, and a dedicated folder for extension repository.



1.5 Test Process

The following lists different tasks need to be performed for a successful certification test.

- a) The ISV sends the completed the Technical Product Profile (TPP) to the ICC consultant
- b) ICC consultant reviews the TPP and communicates to finally agree on the functional test cases.
- c) Utilizing the OnDemand test environment
 - a. Required Service Units are created (two service units)
 - b. Tenants are prepared with proper company databases (two tenants for each service unit)
- d) Utilizing the B1TE tools as needed
 - a. Technical requirements are verified
 - b. Functional requirements are verified
- e) After a successful test, ISV's Add-On is awarded with the certificate
- f) If one or more of the mandatory tests fails, the test is rescheduled to continue at a later date so that the ISV can correct the missing or non-compliant functionality.

2 Preparing for the test

Based on the test location, the following subsections outline the preparations necessary for a smooth certification test session.

2.1 Testing in a hosting provider infrastructure provided by SAP/ SAP identified hosting provide

In order to perform the certification test in cloud environment in one of ICC laboratories, the ICC consultant is responsible to prepare the necessary environment within SAP or an identified hosting provider refer to test environment requirements.

Hence the ICC consultant will have the following installed before the scheduled certification date.

- Database System
 - By default the MS SQL Server 2008 R2 Standard or Enterprise edition database system will be installed.
- SAP Business One OnDemand
- SAP Business One System – including the SDK
 - The version specified in the certification contract
 - Unless requested otherwise, the ICC consultant will install the default SAP SBODemo database for the region. (e.g. SBODemo_US for Americas)
- Recent SAP Business One support package
 - Unless agreed otherwise, the most recent patch level will be applied.
- SAP Business One Test Environment (same version as the SAP Business One system)
- Service Units and tenants are created according to test contract

The ISV will bring

- the installation (setup) file(s) for the Add-On solution to be certified
- any other required software and/or hardware that is not provided (licensed) by SAP
- two solution licenses to be used during the certification testing
 - If the ISV chooses to comply with the optional technical requirement of using the SAP Business One Licensing mechanism. Otherwise this is not required – see the section [3.2 Licensing \(Optional\)](#) for more information on this.

2.2 Testing over an Internet Collaboration Session

If the certification test will be performed over an Internet Collaboration session (WebEx, Live Meeting etc.) the ISV contracted or agreed with third party hosting provider will;

- Schedule the Internet Collaboration session for the date and time agreed with the ICC consultant
- Provide OnDemand environment installed with SAP Business One OnDemand package, and corresponding service units and tenants are prepared for test.
- Install SAP Business One system on each presentation server– based on the version specified in the certification contract
- Apply the recent support packages for SAP Business One
 - Based on patch level agreed with the ICC consultant
- Install SAP Business One Test Environment – B1TE
 - B1TE can be downloaded from SAP Developer Network – <http://sdn.sap.com>
- Obtain two solution licenses to be used during the certification testing
 - If the ISV chooses to comply with the optional technical requirement of using the SAP Business One Licensing mechanism. Otherwise this is not required – see the section [3.2 Licensing \(Optional\)](#) for more information on this.

During the certification test session, the ICC consultant will

- provide a link to download a clean SAP Business One database backup
 - Unless requested otherwise, the default SAP SBO-Demo database for the region. (e.g. SBODemo_US for Americas)
 - This database backup will be restored over the SAP SBO-Demo database that the ISV recently installed.

2.3 Testing in third party hosting environment

In general the process outlined in the 2.2 section applies.

3 Technical requirements

Unless noted otherwise all the requirements listed below are mandatory.

3.1 Install / Uninstall

Requirement

- The installation package should be compliant with Light-weight Deployment:
 - have no install shield or MSI wrapper
 - only one executable file to start the add-on
 - can has sub-folders related binary files and data files
 - only one ARD file, and generated by AddOnRegDataGenLW.exe
 - referred files in ARD existed in right relative path
 - Add-On's compatibility information with Business One versions declared in ARD file
 - can be a zip package or folder
- The installation process should run smoothly and according to the documentation supplied by the ISV.

Action

- Verify the installation package with light-weight deployment criteria above
- Deploy the Add-On installation the in Cloud Control Center of B1OD
- Assign the Add-On to the target Service Unit and Tenants
-
- Check the configuration / customization against the provided documents.
- Verify that the process runs smoothly.
- Verify if any separate Database is created
- Verify if any SQL table (non UDT) is created in SAP Business One database.
- A few, documented "manual" changes are allowed. Manual changes are those that require cloud operator or reseller to configure values to the properties associated to the Add-On.
- Use [B1 DB Profiler](#) to check usage of APIs.

Tools

[B1 DB Profiler](#):

B1 DB Profiler tracks usage of Business Objects (including UDOs) in the SAP Business One application or DI objects in DI API or DI Server. These should be the only changes in the SAP Business One database tables.

[Microsoft SQL Profiler / OSQL / ISQL](#):

These tools can be configured to track actions performed on a particular database – also outside the SAP Business One SDK APIs. As of Microsoft SQL Server 2005; OSQL/ISQL has been replaced with SQLCMD.EXE

Expected Result

The installation package of Add-On should be compliant with Add-On lightweight framework, and can be deployed in Cloud Control Center.

The Add-On installation doesn't deploy any additional component deployed on DB Server.

Duration depends on particular Add-On; should in general be finished after a couple of minutes.

Only a very few manual changes / configurations to be performed – if at all.

3.2 Multi-tenants support

Requirement

The different customers in the same Service Unit must be able to run the Add-On in parallel with data isolation and security.

Action

- Assign the Add-On to different tenants in the same Service Unit in Cloud Control Center.
- Run the Add-On in parallel with different tenants

Expected Result

Different tenant can run the Add-On correctly in parallel with their exact output as Add-On is in B1OP with singer tenant mode.

3.3 Multi-version Support (Optional)

Requirement

Multiple versions of Add-On can be deployed in the same Presentation Server.
The upgrade of Add-On can handle such multi-version deployment.

Action

- Assign the multi versions of the same Add-On to the same Service Unit and different tenants (but on the same presentation server) in Cloud Control Center.
- Run the Add-On of different versions in parallel.
- Upgrade the lower version of Add-On to higher version.

Expected Result

Different tenant can run the same Add-Ons of different versions correctly in parallel.
Upgrade of one version doesn't affect another version.

3.4 Licensing (Optional)

Requirement

Optionally the ISV may choose to use the licensing mechanism offered in SAP Business One.

In order to comply with this requirement, the ISV should have registered the Add-On for licensing and use the mechanism (AddOnIdentifier generated from License Key Name; to be used in Add-On code).

Action

Before assigning an Add-On solution license to the user, the Add-On will be launched.

Expected Result

As the license for the Add-On solution is not assigned to the user yet the Add-On will fail to connect to the API(s).

Remarks

SAP Business One license mechanism is described in detail in the SDK Help Center and the licensing documentation. In addition he requests licenses for the system – including licenses for his Add-On.

When using the SAP Business One license mechanism UI API + DI API work on a named user basis.

Link

<http://sdn.sap.com>

- SAP Business One
 - Business One Knowledge Center
 - Licensing
 - SDK Licensing Presentation

<http://sdn.sap.com>

- SAP Business One
 - Business One Knowledge Center
 - SAP Business One 2007
 - SDK Help Center v 2007
 - SAP Business One 8.8
 - SDK Help Center v 8.8

3.5 Data Storage

Requirement

Database Storage:

Only UDTs in SAP Business One databases are allowed for database storage.

The followings cases are not allowed.

- Separate DB rather than SAP Business One database
- SQL tables rather than UDT in SAP Business One databases

File Storage (optional if applicable):

- Having tenant/company specific data with file storage.
 - The following API in UI API to get Tenant Shared folder should be used:
 - `GetExtensionSharedFolderPathEx()`
 - `GetExtensionSharedFolderPath()`
- Having user specific data with file storage.
 - The following API in UI API to get Tenant Shared folder should be used:
 - User storage folder (recommended): `GetUserStorage()` in UI API
 - User profile roaming folder: (available in DotNet Framework)
`Environment.GetFolderPath(Environment.SpecialFolder.ApplicationData)`
`Environment.GetEnvironmentVariable("APPDATA")`
 - Handle the situation that exception that user storage folder is not set the hosting partner

Action

Run [B1 DB Profiler](#) and [B1 .NET Profiler](#) when the Add-On is running

Expected Result

No triggers and stored procedures added and/or used by the Add-On solution.

Tools

[B1 DB Profiler](#)

B1 DB Profiler tracks usage of Business Objects (including UDOs) in the SAP Business One application or DI objects in DI API or DI Server. As a consequence, these should be the only changes in the database.

[B1 .NET Profiler](#) (.NET only)

B1 .NET Profiler tracks usage of DI API objects and usage of ODBC, OleDB etc.

Remarks

The use of advanced database objects in non-SAP Business One databases is permitted.
The use of views for extracting data is permitted.

3.6 Advanced Database Objects

Unless there will be a significant difference from B1 to B1 OD, this step and check has been carried out from B1 add-on certification.

Requirement

The use of advanced database objects such as stored procedures and triggers in the SAP Business One databases are not allowed.

Except the SAP provided stored procedures SBO_SP_TransactionNotification and SBO_SP_PostTransactionNotice (as of SAP Business One 2007) modifying and/or creating as well as executing any SAP or non-SAP stored procedures are not allowed as they

- may cause conflicts with SAP Business One processes
- are not portable between different database systems
- cause possible problems during upgrading and/or patching the SAP Business One databases
 - Using DI API or DI Server instead guarantees backward compatibility for an Add-On running on a customer system.

Therefore the usage of stored procedures in the SAP Business One databases will not be accepted regardless of their purpose as to write and/or extract data.

Similarly as they may get erased during upgrades and conflict with SAP Business One processes, triggers are also not allowed in SAP Business One databases.

Please note:

As of SAP Business One 2007:

- SBO_SP_TransactionNotification can be used for both propagating information about a change in a Business Object (UDO or standard SAP Business One) as well as interrupting (i.e. rolling back) the propagated transaction.
- Setting the @error parameter to a non-zero value (hence causing a rollback) is allowed.
- For purely transaction propagating purposes SAP recommends to use of the newly introduced stored procedure SBO_SP_PostTransactionNotice.

Action

System table listing triggers will be checked (see SAP Note 767032).

SQL statement to check for Microsoft SQL Server:

```
"USE *DB*
SELECT T0.name 'trigger',
(Select name from sysobjects T1 where T1.Id = T0.Parent_obj),
'table' FROM sysobjects T0 WHERE type = 'TR'"
```

Usage of Stored procedures will be checked as well.

Expected Result

No triggers and stored procedures added and/or used by the Add-On solution.

Tools**B1 DB Profiler**

B1 DB Profiler tracks usage of Business Objects (including UDOs) in the SAP Business One application or DI objects in DI API or DI Server. As a consequence, these should be the only changes in the database.

Microsoft SQL Tools

The tools will be used to check for triggers and additional stored procedures.

Remarks

The use of advanced database objects in non-SAP Business One databases is permitted.
The use of views for extracting data is permitted.

3.7 Modifying SAP Business One Data

Unless there will be a significant difference from B1 to B1 OD, this step and check has been carried out from B1 add-on certification.

Requirement

The use of Data Interface (DI) objects (via DI API or DI Server API) is required to modify (i.e. add, remove, delete) SAP Business One data. In contrast to using DML (i.e. SQL queries) queries, this ensures the consistency of the SAP Business One data.

Any additional connection should be indicated to SAP in advance (in the Technical Product Profile). This includes details about its purpose and a description of how intensively it is used in order to plan the tracking of these connections accordingly.

SAP will track opening of connections to the database and check for potential DML actions on SAP Business One tables run through these connections and DML actions run through DI API RecordSet object. Such DML actions are not acceptable for certification.

This rule applies to any table in the SAP Business One database except user-defined tables (UDT) which are not used for user-defined objects (UDO) or any custom tables.

Action

Run B1 DB Profiler and see the changes logged there to detect lack of usage of DI API / DI Server objects.

The Profiler will be running during the test. At the end of the tests (or at any point of time) the logged information will be evaluated. Unclear results will be discussed. Eventually cases might be retested and investigated more deeply.

Expected Result

Reasonable number of lines in the log (basically every DML call should go through the objects in the APIs).

Each test case described to test the Functional Requirements should include a list which objects are expected to be used (ideally, but not mandatory with details about the usage: access / create / update / delete / ...).

Data from SAP Business One tables may only be read according to the preconditions described above in the requirements section.

Tools

B1 DB Profiler:

B1 DB Profiler tracks usage of Business Objects (including UDOs) in the SAP Business One application or DI objects in DI API or DI Server. As a consequence, these should be the only changes in the database.

B1 .NET Profiler (.NET only)

B1 .NET Profiler tracks usage of DI API objects and usage of ODBC, OleDB etc.

B1 .DI Logs Reader (starting from B1 2007 version)

Microsoft SQL Profiler / OSQL / ISQL:

These tools can be configured to track actions performed on a particular database – also outside the SAP Business One SDK APIs. As of Microsoft SQL Server 2005; OSQL/ISQL has been replaced with SQLCMD.EXE

Remarks

DML operations are acceptable with the RecordSet object for user table only. For other business objects use only the relevant DI objects and not the RecordSet object. Any DML operations on system tables pose a high risk for data corruption, and will not be supported.

For the sake of maximum version compatibility and database system independency the usage of SQL statements should be avoided whenever possible.

3.8 Exception / Error handling

Unless there will be a significant difference from B1 to B1 OD, this step and check has been carried out from B1 add-on certification.

Requirement

Errors and exceptions have to be handled correctly.

- When handling transactions via DI API, please note the following:
 - a) There is only one level of transactions – hierarchical transactions are not supported
 - b) In case of any errors which cause an exception (wrong data format) or failure of a single transaction (Add, Update, etc.) the global transaction will be rolled back.

Hence any single transaction afterwards will have immediate impact in the data in the SAP Business One database. If this is the case an exception will be thrown when the developer tries to call the function to end the transaction (`EndTransaction`).

The ISV is required to describe where this mechanism is used and handle potential error cases accordingly

- When calling the UI API methods please note:
 - Any misuse of the UI API methods will result in an exception that the Add-On should handle. Similarly the Add-On should also handle the exceptions that occur in any EventHandler routine.

Action

Error cases may be constructed by SAP based on the test cases provided in addition to the tracking done through B1 .NET Profiler.

- **Transaction handling in DI API:**
 - The cases where this option is used have to be specified in the Functional Test section.
 - During the test drive SAP will check these cases.
 - If possible, SAP will take a look at source code and see how a potential failure - e.g. because of a wrong data format is handled; the entire transaction has to be started again after the user / the Add-On corrected erroneous data.
- **Exceptions in UI API:**
 - Check the logs of B1 Profiler.

Expected Result

- **Transaction handling in DI API:**
 - The expected behavior is that all operations in a global transaction fail - or all succeed.
- **Exceptions in UI API:**
 - Potential exceptions should be captured and handled by the Add-On – though UI API might be able to handle them instead in certain cases.

Tools

[B1 DB Profiler](#)

B1 DB Profiler tracks usage of Business Objects (including UDOs) in the SAP Business One application or DI objects in DI API or DI Server. As a consequence, these should be the only changes in the database.

[B1 .NET Profiler](#)

B1 .NET Profiler tracks usage of DI + UI API objects + exceptions – including calls to `StartTransaction / EndTransaction`.

[B1 DI Logs Reader](#) (from B1 2007 version)

B1 DI Logs Reader tracks usage of DI API objects + exceptions – including calls to `StartTransaction / EndTransaction`

Links

[SDK Help Center](#)

3.9 Compliance with SDK guidelines

Unless there will be a significant difference from B1 to B1 OD, this step and check has been carried out from B1 add-on certification.

Requirements

SDK Guidelines can be found in the SDK Help Center:

- In the “Compatibility Guidelines” check the section “Namespace Conventions” which is most important and helps to avoid conflicts between Add-Ons on the customer site.
 - Please note: It is required that the Add-On implementation follows the rules in using a namespace.

- In the “Compatibility Guidelines” check the section “Multilingual Support” information about the support for that in the APIs.

Furthermore the following information should be supplied to follow the guidelines:

- Modifications of menus / SAP Business One forms should be documented.
- Application events should be handled.

Action

- Namespace compliance:
The B1 Form Checker will perform namespace checks for UI elements.
The B1 DB Browser will check compliance for additional tables and fields.
- Multilingualism:
This can be checked through switching the “Display Language” at least, if the vendor wants to sell the solution in regions with different or various languages spoken. If this is not intended, it should be stated in the vendor’s documentation! If it is, the partner part of the UI will be checked:
Visually compare static text fields, descriptions (in status bar) and error messages to reflect the selected language.

Remark:

To switch the display language goes in the SAP Business One application to “Modules” / “Administration” / “System initialization” / “General Settings” and then to the “Display” tab.

- Modifications:
Compliance can be checked based on the logs of B1 .NET Profiler:
If there are calls to UI API when a SAP Business One form comes up, this indicates that the Add-On at least reacts to that event. Often changes in the layout of SAP Business One forms will be performed at this point in time.
- Application events:
Company change, SAP Business One Shut Down, Stopped in “Add-On Manager”:
Add-On should perform clean-up (menus only in the case of being stopped through Add-On Manager) + shut down

Language change:
Menus should be cleaned up + recreated
Static texts + descriptions should appear in the right language (if applicable)

Expected Result

- The Form Checker + B1 Profiler will be running during the test.
- Namespace compliance:
Non-compliance will be detected and reported.
 - Multilingualism:
The partner UI part should reflect the language change as stated in “Action”
 - Modifications:
TPP information should match the log recorded during session.
 - Application events:
Add-On solution should react as described in “Action”.

Tools

[B1DBBrowser](#)
[B1 Form Checker](#)
[B1 Query Generator](#) / [B1 Debug Information](#) option
[B1 .NET Profiler](#)
[B1 DI Logs Reader](#)

Links

[SDK Help Center](#)
[SDK Standards & Guidelines.pdf on SMP](#)

3.10 Documentation of event handlers

Requirement

Complete documentation of event handlers (i.e. handling the calls originating from SAP Business One forms) has to be provided by the ISV.

Action

In addition to manually verifying the functionality of the user interface, B1 Event Bubble Checker will be configured to track UI events to identify possible cases where the events are blocked by the Add-On.

This will be compared with the information given in the TPP.

Expected Result

The information in the B1 .NET Profiler and the B1 Event Bubble Checker should match with the information provided in the TPP / user documentation.

Remarks

It is important for the customer to know about differences between the functionality described in the documentation of the SAP Business One application and the entire solution – i.e. standard SAP Business One + the Add-On solution.

Tools

[B1 Event Bubble Checker](#)
[B1 .NET Profiler](#)

Link

[SDK Help Center](#)
[SDK Standards & Guidelines.pdf on SMP](#)

3.11 Compliance with Screen Design Guidelines

Requirement

The Add-On solution should integrate with SAP Business One seamlessly. Following the SAP Business One User Interface Standards and Guidelines will improve usability and consistency of the integrated solution.

Action

Basic layout checks are done through the tool [B1 Form Checker](#). Forms, Menus will also be checked visually for the look and feel as well as the functionality.

Expected Result

The B1 .NET Profiler and B1 Form Checker will be running during the test.
B1 Form Checker should not list errors.
Depending on the results (e.g. errors or warnings generated) SAP might need to run additional or more intensive checks and may find that the Guidelines are formally met, but the integration is too far from being seamless. This is the overall goal of the Guidelines and the checks.

Tools

[B1 Form Checker](#)
[B1 .NET Profiler](#)
[B1 Debug Information](#) option

Link

[SAP Business One User Interface Standards on SDN](#)

Remarks

Especially using ActiveX controls might be critical and should be described in the in detail in the TPP.
In general displaying images via an ActiveX control is allowed. However, SAP provided controls should be used where applicable.

3.12 Extending SAP Business One GUI

Requirement

The use of the SAP Business One SDK User Interface (UI) API is required to extend the SAP Business One GUI.

The UI API shields the GUI of the SAP Business One application from corruptions due to incompatible changes performed by an Add-On program. In addition it should be ensured that a solution integrated into SAP Business One GUI provides a seamless look & feel to the end-user.

An Add-On solution should therefore not hook on SAP Business One forms window handles to display screens.

Action

During the session, SAP will have B1 .NET Profiler running aside the solution and keep an eye on the logs.

In case a window is hooked on to SAP Business One forms, there will be no logs of events in B1 .NET Profiler for this window.

Expected Result

Partner Add-Ons should not use such a mechanism.

Tools

[B1 .NET Profiler](#) (.NET only)

Remarks

4 Functional requirements

Requirement

Partner should provide information about the purpose of the Add-On solution including test cases.

Tools

Potentially scripting tools (maybe using UI API – or Windows mechanisms) could be used where applicable.

The test cases in section 5.1 of the TPP will be copied into the Certification Test Report.

5 Stability / Performance requirements

If applicable, performance/load testing will be performed for the Add-On.

These performance/load test cases will determine if the product can handle a number of users or amount of data without running out of resources or having transactions suffer excessive delay.

Requirement

Mechanisms used to process data should be suitable for its purpose.

The test cases in section 5.2 of the TPP will be copied into the Certification Test Report

6 Appendix

6.1 Test Tools

A short description of the SAP Business One Test Environment – B1TE - can be found below. For more information please see the [documentation](#) that comes with [B1TE](#).

- **B1 DB Browser**
SAP Business One DB Browser is a stand-alone tool to browse through the SAP Business One database table definitions.
SAP will verify the DB structure for namespace compliance.
- **B1 DB Profiler**
B1 DB Profiler tracks usage of DI objects.
Check log of B1 DB Profiler, if applicable, to detect lack of usage of DI API / DI Server objects. Direct writes will appear different from DI object usages in SQL Profiler.
- **B1 .NET Profiler**
Tool will be used to track calls to UI API and DI API. Applicable for .NET based Add-Ons.
- **B1 DI Logs Reader**
Tool to be used to track calls to DI API. Applicable for any add-on developed using DI API or Java Connector.
- **B1 Form Checker**
Tool will check basic compliance with Standards & Guidelines (namespace usage for menus, form types, form UIDs) and Screen Design Guidelines (distance from border, size on UI elements etc.).
- **B1 Bubble Checker**
Tool to track the events that the Add-On blocks to propagate to other event handlers.

- **MS SQL Profiler / OSQL / ISQL**[†] – Microsoft tools for MS SQL Server
SQL Profiler is shipped with Microsoft SQL Server 2000 (part of the client tools).
“Trace” files can be configured which track actions performed on a particular database such as:
 - Opening and closing of database connections
 - DML statements on the database in general or
 - DML statements run through a particular DB connectionOSQL is part of the Microsoft SQL Server Desktop Engine (MSDE) installation whereas ISQL is shipped with Microsoft SQL Server 2000 (part of client tools).

SQL script files can be used to track the same information as in SQL Profiler.

[†] As of Microsoft SQL Server 2005;

- OSQL/ISQL has been replaced with SQLCMD.EXE
- MSDE has been replaced by Microsoft SQL Server 2005 Express Edition

The output of the SQL tools can be directed into files or tables for evaluating later.