

Improvements in ISV Solution Certification Program

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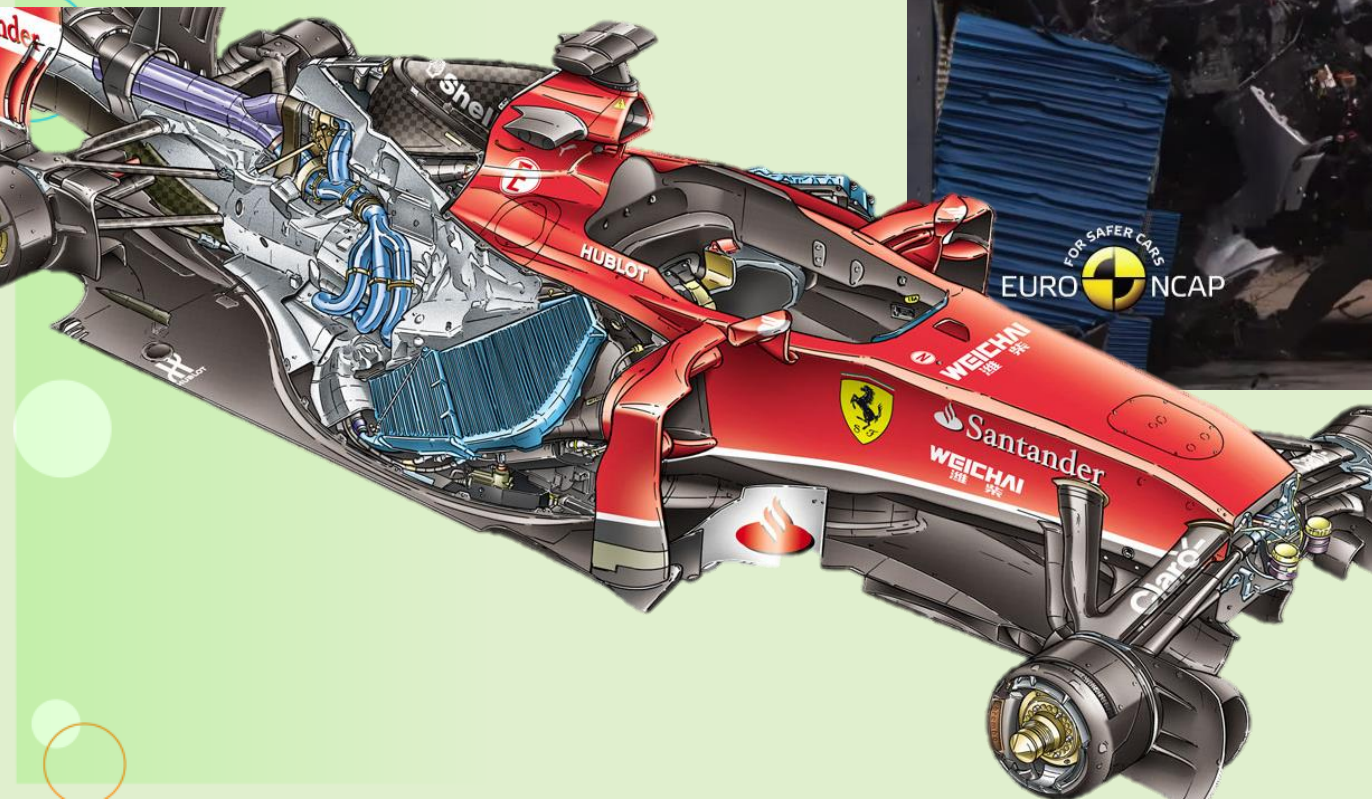


Goals of the ISV Solution Certification Program

- Assure that ISV solution meets basic security standards and is secure to use within an Acumatica ERP application
- Verify that ISV solution does not impact the overall performance of Acumatica ERP
- Provide data consistency within the Acumatica ERP environment
- Guarantee compatibility of ISV solution with Acumatica ERP
- Verify that ISV solution is developed by certified Acumatica Developers and contains all necessary product documentation
- Ensure that ISVs are committed to Acumatica release cycle



Our Main Goal – Highest Quality ISV Solutions!



Improvements to streamline development process

- Make the certification process more transparent to ISVs with main focus on the essentials
- Provide a set of tools to ISVs to test the solution prior to applying for certification
- Focus on coding standards and in-lab performance testing
- Establish test methodology and criteria for passing for each requirement and recommendation
- Evaluate ISV solutions in action by performing in-lab key functionality verification tests



An example of the new requirement structure...

4.4 The ISV solution must not affect the performance of Acumatica ERP

		Solution Category		
Type	Test Method	Embedded	Connected	Composite
Required	In-lab test	✓	✓	✓

Summary and Intent

This requirement is to eliminate poor design of the ISV solution that results in significant performance degradation of the Acumatica ERP environment.

Resources

For information about troubleshooting performance issues in the Acumatica ERP environment, refer to the [Acumatica Customization Guide](#).

How to Comply

Ensure that performance and overall responsiveness of standard Acumatica ERP screens and processes is not affected after the installation of your ISV solution. To pass this requirement, all ISV solution screens must comply with the performance benchmarks set for standard Acumatica ERP screens and processes.

Test Methodology

After installation of your ISV solution, the test engineer will import and restore the provided tenant snapshot with demonstration data. Then the test engineer will use the Performance Monitor Tool to check that performance of standard Acumatica ERP screens and processes is not affected and all ISV solution screens comply with the performance benchmarks set for standard Acumatica ERP screens and processes.

Criteria for Passing

This requirement is mandatory. If the solution causes performance degradation of the Acumatica ERP environment or contains screens, that do not comply with the performance benchmarks set for standard Acumatica ERP screens and processes, then it will fail the test.



Categories of ISV Solutions

- An ***embedded*** solution is an ISV solution that extends Acumatica ERP by using only the Acumatica xRP framework and the Acumatica Customization tools
- A ***connected*** solution is an ISV solution that communicates with Acumatica ERP application only through the Acumatica ERP web services API
- A ***composite*** solution is an ISV solution that combines traits from both embedded and connected solution



ISV Solution Requirements and Recommendation

0. Prerequisites
1. Development Requirements
2. User Assistance and Product Documentation Requirements and Recommendations
3. User Experience Requirements and Recommendations
4. Installation and Setup Requirements and Recommendations
5. Upgrade and Maintenance Requirements



ISV Solution Certification Prerequisites

1. List of solution objects and integration scenarios:

- Site Map & Mobile Site Map nodes
- BLCs & BLC extensions + DACs & DAC extensions
- Custom Segmented Keys
- References to DACs from the standard Acumatica ERP application
- Integration scenarios performed by the solution via web services
- Complex ERP operations invoked or/and customized by the solution
- Push notifications + Import/Export scenarios
- Third-party assemblies + external services utilized or exposed by the solution

2. Proof of certification



Development Requirements (*embedded* solution)

1. The ISV solution must pass the code analysis tests provided by Visual Studio and Acuminator
2. New application objects must use their assigned initials
3. The solution-specific database schema changes and data access entities (DACs) must follow Acumatica design guidelines
4. The ISV solution must follow localization best practices
5. The ISV solution must perform all data access through Acumatica business logic
6. URLs to access external services must be configurable



Upcoming Certification Tools (*embedded* solution)

- **Acuminator** will be enhanced with new static code analysis rules:
 - Violation will result in an **error** or a **warning**:
 - **W1** - significant warnings
 - **W2** - production quality warnings
 - **W3** - informational warnings
- **Localization Validation Tool**
- New built-in validations in the **Customization Manager**:
 - New objects initials
 - DB schema changes and data access entities (DACs)
 - Analysis of the assemblies referenced by the ISV solution



Localization Validation Tool

```
C:\Users\rdevyatko\CodeRepository\Tests\Selenium\AcumaticaCertification\bin\Debug\AcumaticaCertification.exe
[09:43:13 INF] Using setting _customizationDirectory with value CustomizationLib
[09:43:14 INF] Using setting _sitePath with value C:\Users\rdevyatko\Customizations\078137
[09:43:14 INF] Using setting _username with value admin
[09:43:17 INF] Starting validation of the solution
[09:43:38 INF] Starting validation of Translation Requirement
Screen ExternalResource has been validated
Screen Default has been validated
Screen MobileAuth has been validated
Screen ProjectBrowser has been validated
Screen ReportLauncher has been validated
Screen RMLauncher has been validated
Screen AP101000 has been validated
Screen AP102000 has been validated
Screen AP102010 has been validated
Screen AP201000 has been validated
Screen AP202000 has been validated
Screen AP202010 has been validated
Screen AP203500 has been validated
Screen AP204000 has been validated
Screen AP205000 has been validated
Screen AP301000 has been validated
Screen AP302000 has been validated
Screen AP303000 has been validated
Screen AP303010 has been validated
Screen AP304000 has been validated
Screen AP305000 has been validated
Screen AP401000 has been validated
Screen AP402000 has been validated
Screen AP403000 has been validated
Screen AP404000 has been validated
```



Development Requirements (*connected* solution)

1. Must include WSDL schemas of all screens it utilizes through the Screen-Based Web Services API
2. Must follow integration guidelines for the Contract-Based Web Services API
3. Must comply with core Acumatica ERP integration guidelines
4. URL to access Acumatica ERP application must be configurable and its credentials managed securely



Development Requirements (*all* solutions)

1. The ISV solution must deploy all Acumatica ERP specific components through customization projects
2. The ISV solution must access the Acumatica ERP web services API using the TLS v1.2 protocol
3. The ISV solution must include installable demonstration data



User Assistance and Product Documentation Requirements and Recommendations

- Requirement: The ISV solution must include Help that is targeted to the solution user
- Requirement: The ISV must provide an installation and configuration guide
- Recommendation: The ISV solution documentation should include sections for technically oriented users



User Experience Requirements and Recommendations

- Requirement: The ISV solution must comply with core Acumatica ERP user experience guidelines
- Requirement: The ISV solution that restricts the functionality of Acumatica ERP must document the restriction
- Requirement: The ISV solution must report errors related to integration via the Acumatica ERP web services API in a user-friendly manner



Installation and Setup Requirements and Recommendations

- Requirement: Acumatica ERP must start without errors after the ISV solution is installed
- Requirement: The ISV solution must not affect the performance of Acumatica ERP
- Requirement: The ISV must document the Acumatica ERP license that is required for their solution installation
- Recommendation: The ISV should document the uninstallation procedures



ISV Solution Key Functionality Verification Tests

1. Specify the intended purpose of the ISV solution
2. Identify the most representative use cases for your solution
 - Business Process Modeling Notation (BPMN)
 - UML Activity Diagram
3. Design and record functionality verification tests
 - Verification objects
 - Verification methods
 - Preliminary setup and configuration
 - Parameters
 - Test procedure (written preferably using the Given-When-Then style)



Testing *Embedded* Solution in Action by Acumatica

1. Create a new Acumatica ERP website with **Sales Demo template**
2. **Configure features** in accordance with the ISV solution license requirements
3. **Import and publish all customizations** provided by the ISV
4. Set up ISV solution by following **installation and configuration guide**
5. Validate **User Experience** requirements and **Help documentation**
6. Import and restore tenant snapshot with **demonstration data**
7. Manually perform **Key Functionality Verification Tests**



Testing *Connected* Solution in Action by Acumatica

HTTP monitor to analyze the traffic



 **Acumatica**

When will these changes happen?

