



Guide to the SIF 3 Certification Program



www.A4L.org

March 2017, version 1.3

Contents

1. Introduction	2
1.1 What is SIF Certification?	2
1.2 What are the major pieces of collateral defining SIF Certification?	2
Highlights of the SIF Certification Program	3
1.3 What SIF releases have Certification Programs?	3
1.4 How many releases does an application have to certify to?.....	4
1.5 Certification Collateral specifics	4
1.6 Additional Collateral for Compliance Testing.....	5
1.7 SIF Certification Email points.....	6
2. SIF Architectural Overview	7
3. Developing a Certifiable SIF Application	9
3.1 Do it yourself.....	9
3.2 Leverage Open Source	9
3.3 Find a Partner	9
APPENDIX A	10
Certification Checklists.....	10
Checklist – Initial Certification.....	11
Checklist – Certification Renewals.....	12
PART ONE	12
PART TWO	12
Checklist – Amendment to existing SIF Certified products	13
Checklist – Update to an existing SIF Certified product.....	14
Checklist - Certification of an OEM (Original Equipment Manufacturer) or re-badged product	15
Checklist – Adding a Profile to a SIF Certified product.....	16

1. Introduction

This SIF 3 Certification Guide is targeted at vendors and/or end users (applicants) who wish to officially certify that their product(s) conform to the SIF standard and additionally one or more profiles. It documents all the steps required for SIF 3 Certification and the certification policies which they support.

Any vendor interested in the SIF 2 Certification Program should refer to the *Guide to the SIF 2 Certification Program* document, available from the website here: <http://www.a4l.org/page/SIFCertification>

1.1 What is SIF Certification?

Simply put, any vendor or applicant's software product which has demonstrated conformance with the requirements contained in the SIF Specification under formal testing conditions is awarded SIF Certification. Once this is accomplished certification for profiles may be added for that product, subsequently, allowing the applicant to market the certified product to end users (school agencies and State Educational Agencies) that utilize SIF implementations. The detailed set of requirements is identified in the applicable SIF Implementation Specification, and the formalized testing capability is provided by the SIF Test Harness (*Test Suite* – see *Glossary of Terms*). Only the suppliers of a certified product may use the SIF Certification logo in connection with their product.

1.2 What are the major pieces of collateral defining SIF Certification?

In addition to the information provided in this Guide, there are three other important documents located on the SIF Certification website at <http://www.a4l.org/page/SIFCertification>

- The *SIF Certification Program Policy* is the collection of rules and requirements which govern the SIF Certification Program
- The *Trademark License Agreement* defines the acceptable usage of the SIF Certification Logo.
- The *SIF Certification Agreement* contains the formal set of responsibilities and obligations for all parties involved with the SIF Certification process

Applicants must conform to the terms and conditions contained in all three of these documents prior to certification. The more significant highlights of the SIF Certification process are outlined below, and later sections of this Guide provide more comprehensive information.

Highlights of the SIF Certification Program

1. The SIF Certification Program is administered by the SIF Association doing business as (dba) the Access 4 Learning (A4L) Community.
2. After an applicant has formally agreed to all the required terms, a license to use the SIF Certification logo will be awarded to their product once it has passed the applicable test suite(s), and the appropriate fee for certification testing has been paid.
3. The applicant must sign the *Trademark License Agreement*.
4. Certified products are subject to renewal of certification on a periodic basis as stated in the *SIF Certification Policy*. All profiles associated with that product will be renewed at the same time, regardless of when they were issued.
5. All product information supplied to the A4L Community will be treated as confidential.

At the end of this document is a [Certification Checklist](#) to help an applicant successfully navigate the registration process.

Note: In the event of any conflicts, this guide defers to the *SIF Certification Program Policy*, the *Trademark License Agreement*, and the *SIF Certification Agreement*.

1.3 What SIF releases have Certification Programs?

Not every release of the SIF Standard comes with its own individual Certification Program, although the A4L Community endeavors to provide a Test Suite for most. At the time of this writing, the SIF Certification Program is currently associated with the following versions:

- SIF Implementation Specification (North America), Version 2.0r1
- SIF Implementation Specification (North America), Versions 2.3 – 2.6
- SIF Implementation Specification (North America), Version 2.7M
- SIF Implementation Specification (North America), Version 3.1
- SIF Implementation Specification (United Kingdom), Version 1.1
- SIF Infrastructure Implementation Specification, Version 3.0.1¹

The complete specifications for these and other SIF releases are located at <http://www.a4l.org/page/SIFSpecifications>

¹ The SIF Infrastructure Implementation Specification, Version 3.0.1 is a global release and applicable to all locales.

The Certification Program for the earlier SIF Implementation Specification, US Version 1.5r1 has been closed.

1.4 How many releases does an application have to certify to?

SIF minor releases are always constructed to avoid “breaking” legacy applications. It is then usually only necessary for a vendor to certify their application against one minor release within a major version, in order to demonstrate that there would be minimal interoperability issues with another application certified to any minor release for that major version.

An exception is where an end user requires a specific piece of functionality which was introduced in a later minor version, to be available to applications in the SIF solutions they are constructing. In such cases, the requirement might be for software which was SIF-certified to a particular minor release of the standard or later.

Additionally, an Educational Authority may designate a “data profile” that tightens and customizes the SIF Specification more closely to their specific needs. Examples of such customizations might include changing optional elements to mandatory or adding specific values to existing code lists. Depending upon the level of support desired, a specialized SIF Test Harness may be produced to validate these additional requirements are being met, and in some cases an entire profile-specific program may be created to certify vendor products to the profile.

1.5 Certification Collateral specifics

The collateral defining or explaining the SIF Certification process is located on the SIF Certification website at <http://www.a4l.org/page/SIFCertification>. These documents cover the business rather than the technical issues surrounding the certification process.

They include:

- The **SIF Certification Program Policy**, which defines the SIF Certification policies and procedures, including:
 - Details on what constitutes SIF Conformance
 - The test harness and its role in certification
 - The licensing requirements to display the SIF certification logo
 - How to have your product be included in the SIF Certified Products Registry.

This is generally the first document that you should review, as it overviews the remainder of the documents and agreements below, and describes when and how they

should be used. It is located at: <http://www.a4l.org/resource/collection/D44B484D-4C49-4A46-BC51-FB1D3F672D15/SIF%20Certification%20Program%20Policy.pdf>

- The **SIF Certification Fee Schedule** which enumerates the certification product categories and contains the associated fee schedule at: <http://www.a4l.org/page/CertificationFees>
- The **Registry** of all certified SIF applications at: <http://cert.sifassociation.org/SitePages/CertificationRegistry.aspx>
- The **Trademark License Agreement** (TMLA), filed once for each vendor, which defines the responsibilities of both the A4L Community and the Licensee regarding the use of the SIF Certification logo on a product which successfully passed certification testing, at: <http://www.a4l.org/resource/collection/D44B484D-4C49-4A46-BC51-FB1D3F672D15/Trademark%20License%20Agreement%20-%20TMLA.pdf>
- The **SIF Certification Agreement**, filed once for each product undergoing certification, in which the vendor uniquely defines the product and agrees to the specified certification policies at: <http://www.a4l.org/resource/collection/D44B484D-4C49-4A46-BC51-FB1D3F672D15/SIF%20Certification%20Agreement.pdf>

1.6 Additional Collateral for Compliance Testing

The following collateral is of a more technical nature, targeted at the developer of a company or organization seeking to get their product certified as being compliant with a release of the SIF standard. Note that for adapter application pairs, certification to any minor version of a major release (example: SIF 3.1) will ensure interoperability with applications conforming to later versions of that major release (SIF 3.x).

- The various SIF Test Harnesses available for pre-testing application (and middleware) compliance with a selected version of the SIF standard, at: <http://www.a4l.org/page/TestSuites>
- The SIF Compliance Frequently Asked Questions (FAQ) list, containing answers to the most common technical problems encountered by developers during the certification testing phase prior to product certification, will be made available soon.
- SIF Test Harness SSL/TLS connection testing tool at: <http://compliance.sifinfo.org/sslhello/>
- To report a technical problem with the Test Harness, email staff@A4L.org.

1.7 SIF Certification Email points

An applicant may contact the SIF Certification Authority via email at TestResults@sifassociation.org for questions regarding certification.

The SIF Test Suite Maintenance Authority at TestResults@sifassociation.org should be contacted for any questions or problems regarding the test suites.

During the Certification process, the Access 4 Learning (A4L) Community may send email notifications to the designated certification contact for the applicant. These notifications could provide information on the organizational actions required to certify a product or renew or update a product's certification as well as a change of status for the current certifications.

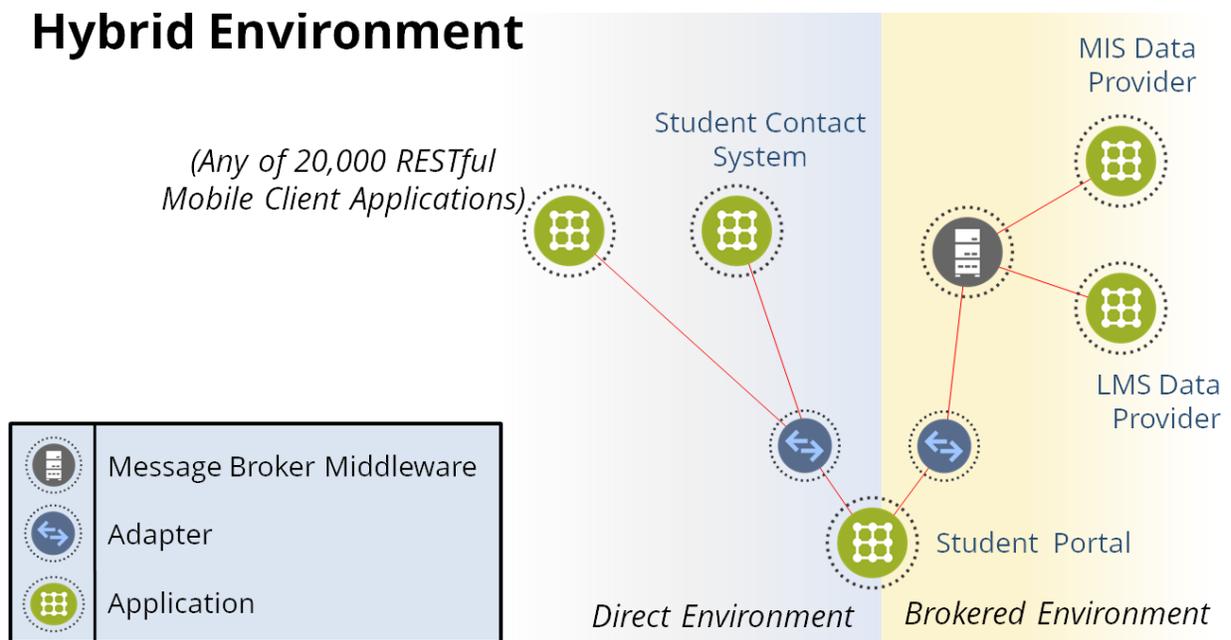
Email will be sent from various addresses within the sifassociation.org and A4L.org domains, and any organizational spam filters should be adjusted accordingly.

2. SIF Architectural Overview

The SIF Certification process spans two main categories of software products, each with a separate and distinct certification suite:

- Middleware (also known as an Enterprise Service Bus or Broker)
- Adapter / Application Pairs

A diagram of the SIF Environment(s) architecture is shown below:



A SIF Environment consists of a collection of interoperating educational applications, which can either be connected via a Broker (Enterprise Service Bus or Middleware, previously known as a Zone Integration Server (ZIS) in all SIF solutions prior to SIF 3.x), or directly to each other via a SIF Adapter. In essence:

- The Broker is a middleware product specifically tailored to supporting the SIF infrastructure. As the centerpiece of the Environment, it has more rigorous SIF certification requirements than the other components.
- The educational application is of a type, such as a Student Information System, District Transportation system or State Data Warehouse, whose interoperability requirements (the data elements it needs and those it supplies) are currently defined within the SIF Standard.
- The SIF Adapter, which maps between the application’s internal data model and the interoperability requirements of the SIF standard.

SIF Certification is focused on ensuring application to application interoperability. As such (and as indicated in the diagram) the entire series of certification suite tests are applied only to the data passing between the various Adapters and the Broker (if applicable).

How an individual Adapter is connected to its application is thus external to the SIF Standard, which affords a considerable degree of architectural flexibility to educational application vendors seeking to get their products SIF certified.

In the 'Multi Environment' diagram:

Direct Environment

In a direct environment, an application is integrated directly with its SIF Adapter. Whether or not the Adapter was written by the application vendor, the vendor was involved in making necessary changes to the application that would support the interoperability requirements of the SIF standard.

Brokered Environment

The Brokered Environment Broker securely and reliably connects N Service Consumers to a dynamically changing list of M Service Providers through Middleware.

One major feature of this architecture is that the Brokered Environment offers a superset (rather than replaces) the functionality of the Direct Environment. As a result, *any Consumer application which interoperates successfully in a Direct Environment can be redeployed into a Brokered Environment without reprogramming.*

In the case of the Consumer Adaptor above, the behavior of the adaptor is expected to be the same.

3. Developing a Certifiable SIF Application

The architectural flexibility of the Adapter to Application connection results in considerable business flexibility for any vendor of an educational application who wants to obtain SIF Certification. All are valid alternatives, and each of them is currently reflected by one or more entries in the SIF Certification Registry.

3.1 Do it yourself

SIF 3 is a standard of standards. Another way of looking at this is it has a solid core of web technologies and patterns. So your favorite languages, libraries, and frameworks for your favorite environment should serve you very well. For the application requiring only simple interoperability, this may be the best option.

3.2 Leverage Open Source

Say you want to kick it up a notch and leverage a lot of SIF 3's functionality or just build your own software without becoming an expert on SIF. There exist some excellent Open Source tools specifically for SIF 3. For the sophisticated application that needs to be completely under the owner's control, this is a top option.

Examples:

<https://github.com/nsip/sif3-framework-java> <https://github.com/nsip/Sif3Framework-dotNet>

3.3 Find a Partner

It is fair to say that the SIF Standard would not be where it is today without our infrastructure vendors. Beyond providing middleware, they combine database expertise and SIF know-how to quickly produce quality products for others. When quality and timeline are your primary concerns, bringing in the experts is the finest option.

APPENDIX A

Certification Checklists

The following checklists are divided into the relevant SIF Certification categories as follows. Please refer to the SIF Certification Policy document for additional information on each category.

- Initial Certification
- Certification Renewals
- Amendments to existing SIF Certified products
- Update to existing SIF Certified product
- Certification of an OEM (Original Equipment Manufacturer) or re-badged product
- Adding a Profile to a SIF Certified product

Relevant documentation referenced in these checklists can be found on the SIF Certification site: <http://www.a4l.org/page/SIFCertification>

Checklist - Initial Certification

Product Name: _____

Go to the [SIF Certification](#) page. Underneath the page title, click on 'More in this section...', then select 'SIF Certification Programs & Test Suites'. Then choose the relevant Test Suite.

Description	Due Date	By Whom	Completed Date
Complete CSQ			
Complete Test Harness			
Submit completed CSQ and Test Harness results (will be sent automatically on completion of Test Suite if selected)			
Complete SIF Certification Agreement			
Complete Trademark Licensing Agreement (TMLA)			
Email completed SIF Certification Agreement and TMLA to testresults@sifassociation.org			
Go to the Online payment page and submit your payment. You will receive an email confirmation once payment has been processed.			
Send Payment confirmation email, including details of your product as requested, to Penny Murray .			

Please note: The SIF Certification Program is only available to members of the Access 4 Learning (A4L) Community, formerly the SIF Association. Continued SIF Certification of your product is dependent on membership of the A4L Community.

Checklist - Certification Renewals

Product Name: _____

Identify whether your product needs re-testing - if no re-testing is required, skip to Part Two.

PART ONE

Go to the [SIF Certification](#) page. Underneath the page title, click on 'More in this section...', then select 'SIF Certification Programs & Test Suites'. Then choose the relevant Test Suite.

Additionally, do this for each applicable profile.

Description	Due Date	By Whom	Completed Date
Complete CSQ			
Complete Test Harness			
Submit completed CSQ and Test Harness results (will be sent automatically on completion of Test Suite if selected)			

PART TWO

Description	Due Date	By Whom	Completed Date
Complete SIF Certification Agreement			
Email completed SIF Certification Agreement to testresults@sifassociation.org			
Go to the Online payment page and submit your payment. You will receive an email confirmation once payment has been processed.			
Send Payment confirmation email, including details of your product as requested, to Penny Murray .			

Please note: *The SIF Certification Program is only available to members of the Access 4 Learning (A4L) Community, formerly the SIF Association. Continued SIF Certification of your product is dependent on membership of the A4L Community.*

Checklist - Amendment to existing SIF Certified products

Product Name: _____

If a certified product is to be renamed, with no other change to the scope defined in the Conformance Statement, the certification may be amended upon request to the A4L Community.

Description	Due Date	By Whom	Completed Date
Submit email with notification of your request to rename an existing certified product (including original CSQ) to testresults@sifassociation.org			
Go to the Online payment page and submit your payment. You will receive an email confirmation once payment has been processed.			
Send Payment confirmation email, including details of your product as requested, to Penny Murray .			

Please note: *The SIF Certification Program is only available to members of the Access 4 Learning (A4L) Community, formerly the SIF Association. Continued SIF Certification of your product is dependent on membership of the A4L Community.*

Checklist - Update to an existing SIF Certified product

Product Name: _____

If the changes made are within the scope, as defined in the Conformance Statement, then there is no requirement to re-test or update the certification information.

If the changes are outside the scope of the certified product, or require modification of the scope through an update to the Conformance Statement, then the Solution Provider is required to re-test and provide the information necessary to update the Conformance Statement to accurately represent the conformance claim.

Go to the [SIF Certification](#) page. Underneath the page title, click on 'More in this section...', then select 'SIF Certification Programs & Test Suites'. Then choose the relevant Test Suite.

Description	Due Date	By Whom	Completed Date
Complete CSQ			
Complete Test Harness			
Submit completed CSQ and Test Harness results (will be sent automatically on completion of Test Suite if selected)			
Complete SIF Certification Agreement			
Email completed SIF Certification Agreement to testresults@sifassociation.org			
Go to the Online payment page and submit your payment. You will receive an email confirmation once payment has been processed.			
Send Payment confirmation email, including details of your product as requested, to Penny Murray .			

Please note: The SIF Certification Program is only available to members of the Access 4 Learning (A4L) Community, formerly the SIF Association. Continued SIF Certification of your product is dependent on membership of the A4L Community.

Checklist - Certification of an OEM (Original Equipment Manufacturer) or re-badged product

Product Name: _____

A re-badged or OEM (Original Equipment Manufacturer) product will not require re-testing, but reference must be provided to the test results of the previously certified product to which it is technically identical, with the agreement of the Solution Provider of the referenced certified product.

Description	Due Date	By Whom	Completed Date
Complete CSQ (this must be technically identical to the original certified product, apart from product name and vendor information)			
Complete SIF Certification Agreement			
Submit completed CSQ, SIF Certification Agreement AND covering email containing information relating to the original certified product (i.e. provide name and reference to the successful test results of the previously certified product, and affirm that the Solution Provider has granted permission for its test results to be referenced for the re-badged or OEM product) to testresults@sifassociation.org			
Go to the Online payment page and submit your payment. You will receive an email confirmation once payment has been processed.			
Send Payment confirmation email, including details of your product as requested, to Penny Murray .			

Please note: *The SIF Certification Program is only available to members of the Access 4 Learning (A4L) Community, formerly the SIF Association. Continued SIF Certification of your product is dependent on membership of the A4L Community.*

Checklist - Adding a Profile to a SIF Certified product

Product Name: _____

Profiles are added to a certified product and are renewed concurrently with the products certification to a SIF Implementation Specification. Since profiles have additional specific requirements, a separate CSQ is required when added a profile to your product.

Go to the [SIF Certification](#) page. Underneath the page title, click on 'More in this section...', then select 'SIF Certification Programs & Test Suites'. Then choose the relevant Test Suite.

Description	Due Date	By Whom	Completed Date
Complete CSQ			
Complete Test Harness			
Submit completed CSQ and Test Harness results (will be sent automatically on completion of Test Suite if selected)			
Go to the Online payment page and submit your payment. You will receive an email confirmation once payment has been processed.			
Send Payment confirmation email, including details of your product as requested, to Penny Murray .			

Please note: *The SIF Certification Program is only available to members of the Access 4 Learning (A4L) Community, formerly the SIF Association. Continued SIF Certification of your product is dependent on membership of the A4L Community.*