

POSIX®: *Certified by*  
*IEEE and The Open Group*

Certification Policy

**Prepared by**

**The Open Group**  
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POSIX is a registered trademark of the IEEE.

## 1. Overview

### 1.1 Introduction

This document defines the policies that govern the operation of the POSIX® certification program developed and operated by the IEEE, through its Standards Association, and The Open Group. These policies define what can be certified, what it means to be certified, and the process for achieving and maintaining certification. These policies also define the obligations on Product suppliers, including a requirement for the Supplier to warrant and represent that the Product meets the applicable Conformance Requirements, which include conformance to the applicable IEEE POSIX standard(s) as interpreted by the appropriate<sup>1</sup> Specification Authority (see Section 1.2 Definitions) from time to time, and a passing result from a currently authorized version of the test suite.

This document is intended primarily for Suppliers who would like to have a product certified. This policy in conjunction with the appropriate Certification Agreement and POSIX trademark license agreement constitutes the set of requirements and obligations for achieving certification. Buyers intending to procure Certified Products will also find this document useful for understanding what they can expect from a Certified Product.

POSIX certification is available to Products meeting the conformance requirements as specified in a Product Standard (see Section 1.2 Definitions). There exists a Product Standard for each type of Product that can be certified within the POSIX Certification Program. A Product can be certified against one or more Product Standards.

There are two levels of certification defined:

- Platform Specific Certification
- Product Family Certification

*Platform Specific Certification* applies to a single defined environment, whereas *Product Family Certification* applies to all members of a binary-compatible family (see Section 1.2, Definitions).

The POSIX certification program is a voluntary program, but is required of suppliers who wish to use the POSIX trademark. POSIX certification is open to any Product meeting the conformance requirements and is not restricted to any particular operating system implementation.

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<sup>1</sup> For example, for IEEE Std 1003.1™-2001 this is the *Austin Group* and for the IEEE Realtime standards this would be the PASC SSWG-RT Working Group.

## 1.2 Terminology and Definitions

This table defines terms or clarifies the meaning of words used within this document. Where an acronym is also used, it is provided in parentheses.

Applicant	The Supplier who is in the process of having a Product certified.
Binary-Compatible Family	A family of hardware platforms that run identical binary operating systems and applicable Product Standard-related software executables.
Certificate	A document issued to POSIX trademark licensees certifying that a product has successfully met the requirements for certification to a Product Standard for which the trademark is applicable under this program.
Certification Agreement	The agreement between the Applicant and the Certification Authority that defines the certification service to be provided, and contains the legal commitment by the Applicant to the conditions of the certification program.
Certification Authority (CA)	The organization officially sanctioned to manage the day-to-day operations of the certification program in accordance with the policies contained in this document.
Certification Register	The official list of all Certified Products, which is maintained by the Certification Authority and made publicly available via the internet.
Certification System Deficiency (CSD)	An agreed error in the certification system, which is inhibiting the certification process. A Certification System Deficiency is one possible outcome of a Problem Report.
Certified Product	A Product that has successfully completed the certification process and for which the Supplier of such Product has been notified in writing by the Certification Authority that certification has been achieved.
Conformance Requirements	A definition of the mandatory and optional behavior a Product must implement in order to be considered conformant.
Conformance Statement	The Supplier's documented set of claims describing precisely the way in which the Product meets the Conformance Requirements, including which optional features are supported. It provides a precise identification of the Certified Product and the environment in which conformance is guaranteed.

Certification Policy	The Certification Policy (this document) defines what can be certified, what it means to be certified, and the process for achieving and maintaining certification. These policies define the obligations on Product suppliers, including a requirement for the Supplier to warrant and represent that the Product meets the applicable Conformance Requirements, which include conformance to the applicable IEEE POSIX standard. It also defines the process to address whatever might go wrong during the certification process. The policy is intended to be broad enough to cover future certification needs.
Certification Program Guide	The document that describes the processes for how a Supplier achieves certification for a Product. The guide is used in conjunction with this policy document. The guide provides detailed instructions on the steps a Supplier must take to have a Product certified and where to obtain relevant information and documents.
Interpretation (INT)	Decision made by the Specification Authority that elaborates or refines the meaning of an IEEE POSIX standard, or a standard or specification referenced by an IEEE POSIX standard. An Interpretation is one possible outcome of a Problem Report.
Problem Report (PR)	A question of clarification, intent, or correctness of a standard, a test suite, or the certification system, which, if accepted by the Specification Authority, will be resolved into an Interpretation, Test Suite Deficiency, or Certification System Deficiency respectively.
Product Standard	The document in which Conformance Requirements are specified for a particular type of Product, and against which Products may be certified in the program. There will be one Product Standard for each type of Product to be certified.
Registration Form	A form completed by the Applicant to register a particular Product for certification. The form contains information on the Applicant and the Product to be certified.
Specification Authority (SA)	The IEEE designated working group or expert group, which is responsible for developing, maintaining and interpreting the standard(s).
Supplier	A Product vendor who is interested in, applying for certification in, or has certified a Product in the POSIX Certification Program. During the period in which a Supplier is going through the certification process to get a Product certified, the Supplier is referred to as an Applicant.

Test Suite Certification Release	Certification releases are those test suite releases that have been approved by the IEEE and The Open Group as suitable for formal testing. The CA will maintain a list on its web site of the current version(s) of each test suite valid for use in formal testing.
Test Suite Enhancement Release	Test suite enhancement releases consist of enhancements to existing certification test suites (e.g. to include new coverage) or entirely new test suites.
Test Suite Maintenance Release	Test suite maintenance releases are updates to approved certification test suites, and are created to address Interpretations or Test Suite Deficiencies that have arisen.
Test Suite Deficiency (TSD)	An agreed error in a test suite, which is causing the test suite to produce an incorrect result code that impacts certification. A Test Suite Deficiency is one possible outcome of a Problem Report.
Test Suite Maintenance Authority (TSMA)	The entity or entities responsible for maintaining the test suites.
POSIX trademark	The IEEE's certification mark. Individual Product Standards state whether the POSIX trademark is applicable to them.
Trademark License Agreement (TMLA)	The agreement between the Supplier and the IEEE, which contains the legal commitment by the Supplier to the conditions for use of the POSIX® trademark.
Trademark Licensing Authority (TLA)	The entity responsible for administering the Trademark License Agreement.

## 2. Certification Process

This section defines the process a Supplier must follow to achieve certification for a Product.

The parties involved in the certification process are:

- Applicant
- Certification Authority
- Specification Authority
- Test Suite Maintenance Authority
- Trademark Licensing Authority

### 2.1 Preparation for certification

The objective of the POSIX certification program is to encourage and facilitate the development and market availability of Products that meet the standard(s). Test suites have a dual role in this context: first, they help developers and quality assurance teams to ensure the Product meets the standard(s) and, second, they are used to ensure that only eligible Products are marketed as compliant.

Prior to applying for certification, the Supplier should perform internal development and quality assurance testing using the applicable test suite(s), and any additional verification methods the Supplier deems appropriate, to ensure the Product meets the applicable Conformance Requirements and is ready for entry into the certification program.

In addition, the Supplier must become familiar with the certification program and the requirements for certification. The Supplier should review this policy document, the applicable Product standards, any agreements that are part of the program, and other related information such as the Certification Program Guide. All information and documents related to the POSIX certification program are available on the CA's web site.

The documents available from the CA's web site include

- The Certification Policy (this document)
- Descriptions of the Conformance Requirements (see Section 3.1).
- POSIX Conformance Documentation templates.
- The Certification Program Guide.
- The Certification Agreement
- The Trademark License Agreement
- Product Registration Form
- Conformance Statement Questionnaire

### 2.2 Conformance Statement

The Applicant must produce a Conformance Statement to describe the Product and the way in which it meets the Conformance Requirements. The Conformance



Statement is produced when the Applicant completes a Conformance Statement questionnaire. The Conformance Statement contains information about the Product (e.g. version, operating environment), which options the Applicant claims the Product supports, and any other related information. It will also contain any test suite related information necessary to set up and configure the test suites.

### 2.3 Applying for Certification

In order to apply for certification, the Applicant is required to demonstrate that the Product to be certified meets the applicable Conformance Requirements. The Applicant will submit the completed Registration Form, Certification Agreement, and Conformance Statement to the CA.

The CA will review the submission to ensure that it is complete and correct. If an error or inconsistency is found, the Applicant will be required to correct any problems before the certification process can continue.

### 2.4 Formal Testing

Formal testing must be performed using a currently authorized version of the applicable test suite(s). The Applicant performs formal testing with the applicable test suite(s), and then submits the test results to the CA for audit.

The Product must obtain a pass result for all tests in order to obtain certification. No fail results are permitted unless the Applicant has referenced a valid approved Problem Report.

Each test suite will produce a test report summarizing the results of each test. The test results report(s) submitted to the CA shall always include the full output from an uninterrupted run of the test suite, and contain only passing test results.

In the event that any test fails due to an agreed interpretation of the standard or problem with the test suite, the Applicant must resolve any non-passing test result to a pass by correct reference to an approved Problem Report. The test report must also indicate that all appropriate tests have been run.

The list of test suites currently authorized for use in the program is available from the CA's web site. Information on how to obtain the test suite(s), the various test result codes produced, and how to submit results to the CA is available in the Certification Program Guide.

### 2.5 Audit

The CA will check to ensure the submitted certification information, including the Registration Form, Conformance Statement and test results, demonstrate that the Product passed the formal testing process and meets the applicable Conformance Requirements. The CA will perform the audit of all certification-related information within 6 business days of receiving a complete submission.

### 2.6 POSIX trademark licensing (optional)

If the Applicant decides to use the POSIX trademark in association with their certified Products, and has not previously completed a trademark license agreement for use of the POSIX trademark, then the Applicant must execute a trademark license agreement prior to any use of the POSIX trademark. The CA's web site will contain

information on how to obtain and complete the trademark license agreement and how to submit it to the Trademark Licensing Authority for execution.

## 2.7 Notification and publication of certification

The CA will notify the Applicant in writing of the audit result.

If the result is success the CA will enter the Product into the Certification Register. If there is a trademark license agreement in place, a certificate will be issued to the Applicant, and the Applicant will be notified that the POSIX trademark may now be used in connection with the Certified Product, according to the terms defined in the license agreement.

Applicants have the option to keep certification confidential for a defined period of time, as described in Section 12.3. During this period, the Product will not be included in the Certification Register and, if there is a trademark license agreement in place, a certificate will not be issued, and the Supplier may not use the POSIX trademark with the Certified Product.

If the audit indicates that the Conformance Requirements have not been met, the CA will reject the application for certification and report the discrepancies with the Conformance Requirements. The Applicant may then undertake corrective action and re-apply.

## **3. Conformance**

### 3.1 Conformance Requirements

It is an explicit condition of POSIX certification that the Supplier of a Certified Product warrants and represents that the Certified Product meets the applicable Conformance Requirements.

The Conformance Requirements for POSIX certification are specified in a Product Standard document. A Product Standard is a precisely defined and documented set of functionality against which Products may be certified. There will be one Product Standard for each category of Product to be certified.

Each Product Standard document includes a description of the nature and purpose of the Product Standard, detailed technical Conformance Requirements, specific testing requirements that must be satisfactorily completed, and, if applicable, a summary of the migration issues to the current Product Standard from previous versions of the Product Standard.

For POSIX certification, the Conformance Requirements include conformance to the applicable IEEE POSIX standard(s) as interpreted by the appropriate Specification Authority from time to time, and a passing result from a currently authorized version of the test suite(s).

### 3.2 Conformance Statement

A Conformance Statement is the Supplier's documented set of claims describing precisely the way in which the Product meets the Conformance Requirements, including which optional features are supported. It provides a precise identification of the Certified Product and the environment in which conformance is guaranteed. It

also includes details on the specific configuration used to validate conformance, in sufficient detail to enable the results of any applicable tests to be reproduced. It is produced by completing the relevant template Conformance Statement.

Conformance Statements are submitted to the CA as part of the application process for certification. It is the responsibility of the Supplier to ensure that the information supplied in the Conformance Statement is correct and complete. The Conformance Statement will be included in the Certification Register entry for the Product once it is certified.

Suppliers must ensure that the Conformance Statement of a Certified Product is kept accurate and up-to-date. Changes to the Conformance Statement of a Certified Product may only be made by the CA. If the Supplier wishes to change administrative details such as contact names, addresses, etc., the CA will make these changes upon request. Any other change, such as to a Product name or one affecting the conformance of the Certified Product, is subject to the requirements set forth in Section 8.

## 4. Obligations of Suppliers of Certified Products

### 4.1 Achieving certification

Claims of conformance with the IEEE POSIX standard(s) or claims of certification may only be made in relation to Certified Products, that is, Products that meet the Conformance Requirements and for which the Certification Authority has provided written notice that certification has been achieved. Claims of conformance or certification may not be used with Products that have not completed the certification process, or that have been withdrawn from the certification program.

Once the CA has notified a Supplier that a Product is a Certified Product, the Supplier may make a statement that the Product is "certified to the *(Insert Product Standard Name)* and is listed on the certification register at *(insert URL)*". Note that certification in itself confers no rights to use the POSIX trademark (see Section 5).

**The Certification Agreement requires the Supplier to publicly "warrant and represent" that each Certified Product meets the applicable Conformance Requirements as well as agree to the policies expressed in this document.**

The buyer therefore has a confidence that the Product conforms to the standard and will continue to do so.

### 4.2 Maintaining certification

The Supplier of a Certified Product is required to ensure that the Product continues to conform to the applicable standard(s), including all Interpretations that have been granted by the Specification Authority. The Supplier must also continue to provide support and maintenance for the Certified Product during its period of certification.

The CA has the right to audit the Supplier's claims of conformance and adherence to the requirements of this policy. The CA may at any time request Suppliers of Certified Products to provide the CA with any information reasonably related to their Certified Products' conformance with the applicable standard(s) and schema. If the Supplier fails to provide such information within 30 days of the request, then the CA may remove the Product from the Certification Register, in which case the Product

ceases to be a Certified Product and the Supplier may no longer make a claim of certification in relation to the Product.

Buyers and prospective buyers of a Certified Product who discover a non-conformance in the Certified Product should report such non-conformance to the Supplier of the Product. If the Supplier does not address the non-conformance within 30 days, the issue may be raised to the CA. Recourse should always be made through normal support channels before escalation to the Certification Authority.

If a Certified Product is found by any means to no longer meet the Conformance Requirements, written notification should be provided to the Supplier of such Certified Product who shall:

- a) Within 60 days rectify the non-conformity and satisfy the CA and/or the notifier of the efficacy of the rectification; or
- b) Within 60 days satisfy the CA and/or the notifier that the Certified Product is conformant; or
- c) Within 60 days, cease making any claim of certification in relation to the Certified Product, in which case the Product ceases to be a Certified Product; or
- d) Within 30 days invoke the appeals process as described elsewhere in this document.

If option d) is selected, the Supplier will have 30 days from the completion of the appeals process to implement the decision or cease making any claim of certification in relation to the Certified Product.

If the Supplier fails to take one of the above actions within the timescales described above, the Product will cease to be a Certified Product.

#### 4.3 Removal of certification

If a Product ceases to be a Certified Product the Supplier may no longer make any claim of certification in relation to that Product. The Supplier at its expense shall remove any existing claim of certification from all subsequent Production of that Certified Product and from all sales literature and other materials. The CA may inspect any such Certified Product, sales literature or other materials to ensure adequate removal.

Once a Product ceases to be a Certified Product, any future claim of certification in relation to that Product will require re-certification of the Product.

Furthermore, if the Supplier has executed a Trademark License Agreement (see Section 5) to be used in conjunction with a Product, which ceases to be a Certified Product, the associated Trademark License Agreement shall be immediately terminated.

## 5. Licensing the POSIX trademark for Certified Products

Licensing the POSIX trademark is an option for Suppliers who wish to use the trademark in association with their certified Products. There is no requirement to

license the trademark for a Supplier to have a Certified Product listed on the Product Register only.

#### 5.1 Award of the POSIX trademark

The POSIX trademark may be applied to Products that meet the POSIX Conformance Requirements once the Certification Authority has provided written notice that certification has been achieved and a Trademark License Agreement has been fully executed.

The POSIX trademark may only be used on or in relation to Certified Products. It may not be used with Products that have not completed the certification process, or that have been withdrawn from the certification process.

Award of the POSIX trademark is not an endorsement of any Product.

#### 5.2 Licensing the POSIX trademark

In order to use the POSIX trademark in relation to a Product, the Supplier will be required to sign a Trademark License Agreement with the Trademark Licensing Authority. This license agreement is the legal contract governing how the POSIX trademark may be used and defines the rights and obligations of the Supplier.

The trademark license agreement requires the Supplier to publicly “warrant and represent” that each Certified Product meets the applicable Conformance Requirements as well as agree to the policies expressed in this document. The trademark license agreement provides an even stronger commitment to the buyer that the Product conforms to the standard and will continue to do so.

#### 5.3 Use of the POSIX trademark

The terms for use of the POSIX trademark in relation to a certified Product are as described in the Trademark License Agreement.

#### 5.4 Removal of the POSIX trademark from a Product

The terms for removal of the use of the POSIX trademark in relation to a Product are as described in the Trademark License Agreement. Once the rights to the POSIX trademark have been removed, any future use of the POSIX trademark in relation to that Product will require re-certification.

Failure to adhere to these provisions will be a breach of the trademark license agreement and shall result in its termination.

## **6. Certification Register**

#### 6.1 Inclusion in register

The Certification Register is a public web-accessible record of all Certified Products and is maintained by the CA. The register contains the name of the Supplier, name of the Product, the Conformance Statement for the Product, and an indication as to whether or not the Supplier has licensed the POSIX trademark.

Once the CA is satisfied that the Applicant's Product meets the applicable Conformance Requirements and all other requirements for certification have been met, the CA will issue written notice to the Applicant that the Product is a Certified Product and enter the Product in the Certification Register.

## 6.2 Removal from register

Only Certified Products are included in the Certification Register, thus if a Product ceases to be a Certified Product, the CA will remove it from the register.

A Supplier may at any time, without charge, request the CA to remove the Supplier's Product from the Certification Register. Such Product will then no longer be considered a Certified Product.

Failure by the Supplier to renew the certification of a Certified Product, as described in Section 9, shall be deemed to be a voluntary removal of that Product from the Certification Register. Such Product will then no longer be considered a Certified Product.

## 7. Test Suites

In the POSIX certification program, test suites are made available for formal testing for certification. This section defines the policies for reviewing and formally accepting the different types of test suites defined for use in the program.

### 7.1 Certification Releases

From time to time, the IEEE and The Open Group will approve new certification releases for use in the program. The IEEE and The Open Group may introduce new test suites as replacements for existing test suites or as part of a continuing policy of extending test suite coverage. Certification releases are categorized as either a maintenance release or enhancement release, depending on the nature of the changes in the test suite. All new releases of a test suite will undergo a beta testing process. Any faults identified during the beta test will be rectified prior to submitting the new release to the test suite approval process. All new releases must be approved prior to use in the program.

#### 7.1.1 Maintenance Releases

Maintenance releases will have a 2-week beta testing period. Upon acceptance by the IEEE and The Open Group, maintenance releases may be used for formal testing and will replace existing certification releases after a 3-month overlap period.

#### 7.1.2 Enhancement Releases

Enhancement releases will have a one-month beta testing period. Upon acceptance by the IEEE and The Open Group, enhancement releases may be used for formal testing and will replace existing certification releases after a 6-month overlap period.

## 7.2 Test suite results

The CA will archive all test results provided to the CA for audit in conjunction with an application for a new certification or an update to an existing certification. The archives will be kept for 6 years to provide an auditable trail.

## 8. Certification Requirements

Certification can apply to a single instance of a Product (Platform Specific Certification), or extend to a family of related Products (Product Family Certification), as described below. This section defines the requirements for achieving initial certification, maintaining certification when modifying a Certified Product and for achieving certification for a new Product that is based on or derived from a Certified Product. The subsections detail the types of modifications that may be made to Certified Products, and any corresponding requirements for re-testing and/or re-certification.

In each case where a "New Certification" is required in any of the subsections below, the Supplier must submit a new application for certification along with a new Conformance Statement and applicable test results. Upon successful completion of the certification process, the CA will create a new entry in the Certification Register for the new version of the Product, and if applicable, issue a new certificate. The Certification Register entry for the original Certified Product, if applicable, will remain in the register unchanged, unless the Supplier explicitly requests to have it deleted.

### 8.1 Platform Specific Certification

Platform Specific Certification applies to a single platform instance supporting the applicable Product Standard.

Certification requirements for such an instance can be summarized as follows:

	Test Requirement	Certification Requirement
Platform Specific Certification	Full Test Campaign	New Certification

In the case where a Platform Specific Certification needs to be changed to become a Product Family Certification then an additional Test Campaign from another distinct member of the Product Family is required and a New Certification is required.

### 8.2 Product Family Certification

The requirements on a Product Family Certification are as follows:

- All members of the Product Family must be members of a binary-compatible family and must be listed on the Conformance Statement.

- All family members must support all mandatory features and all optional features as specified in the Conformance Statement for the Product Family. Family members may optimize the implementation of specific interfaces, for example to take advantage of processor extensions, so long as the ability to execute a binary Strictly Conforming Application is not affected.
- There must be no changes between family members that may cause a strictly conforming application program to fail.
- There must be no changes between family members that would affect the correctness of the Conformance Statement or the results of running certification tests. It is anticipated that the changes be limited to include those that identify a specific family member, depend on optional features that the binary-compatible family does not claim to support, or those that identify differences in family-member performance.

Certification requirements for such an instance can be summarized as follows:

	Test Requirement	Certification Requirement
Product Family Certification	Full Test Campaign	New Certification

### 8.3 Product Maintenance Releases

Maintenance releases to the hardware and operating system software of a Certified Product may take place throughout the life of a Certified Product.

For the purposes of this certification program, such a maintenance release is defined as being:

- A limited update that can be installed without a complete re-installation of the system
- A change that does not affect the behavior of a strictly conforming application
- A release which does not subtract from the Certified Product's support for optional features related to the Product Standard

	Test Requirement	Certification Requirement
Platform Specific Certification	None	Certification Information update
Product Family Certification	None	Certification Information update



Maintenance releases which consist entirely of changes to software representing functionality outside the scope of the current IEEE POSIX standard(s), AND which are entirely decoupled from POSIX-related software do not require re-testing and re-certification.

In order to update the Certification Register entry to reflect the maintenance release of the Certified Product, the Supplier must submit a new application for certification indicating that it is for a maintenance release, and indicating that the product is functionally identical to an already certified product. A written statement should be provided to the CA that this is the case. The Supplier is not required to provide a conformance statement or test report. The CA will update the product details of the Conformance Statement and the Certification Register to reflect the maintenance release.

#### 8.4 New Software Versions

A new version of a Certified Product that does not qualify as a *maintenance* release, and thus contains a material change in the POSIX-related software constitutes a new Product with respect to testing and certification.

A material change in the software is one that may affect its conformance to the applicable IEEE POSIX standard(s), or which may affect the results of testing with any approved test suite.

It is the responsibility of the Supplier to ensure that the Certified Product remains compliant and thus to determine whether a modification constitutes a material change. For clarification, a material change includes, but is not limited to:

- Changes that may impact the behavior of currently supported mandatory and optional features of the IEEE POSIX standard(s)
- Additions to or removal of support for optional features
- Changes that may have a direct or indirect impact on the behavior of a test
- Changes in the underlying hardware or software components that may affect the behavior of the POSIX related software

A new version of a Certified Product, which has been repackaged and shipped as a new product with a reduced set of supported features, qualifies as a New Software Version.

A new version of a Certified Product targeting a different binary-compatible hardware family is considered a New Software Version even if the source code is identical.

	Test Requirement	Certification Requirement
Platform Specific Certification	Full Test Campaign	New Certification
Product Family Certification	Full Test Campaign	New Certification

### 8.5 Renamed Products

If a Certified Product is to be renamed, with no change to the Certified Product's software or hardware operating environment, the certification may be amended upon request to the CA. The CA will change the Product name on the Conformance Statement and in the Certification Register and if applicable, issue a new certificate.

The Supplier will be required to provide a written statement to the CA indicating that there have been no material changes to the Certified Product.

	Test Requirement	Certification Requirement
Platform Specific Certification	None	Certification Information update
Product Family Certification	None	Certification Information update

### 8.6 Re-branded Products

If technically identical Products are to be shipped by more than one Supplier, each Supplier will have to apply for certification, in order to have their Product listed in the Certification Register. A re-branded Product shipped by a different Supplier constitutes a new Product with respect to certification, since the new Supplier will be required to assume the warranty for the Product. Such 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 Supplier of the referenced Certified Product.

The trademark license agreement is not transferable, so the Supplier of the re-branded Product will need to sign a new trademark license agreement if the trademark is to be used in connection with the Product.

	Test Requirement	Certification Requirement
Platform Specific Certification	None	New Certification
Product Family Certification	None	New Certification

To add a new entry to the Certification Register for the re-branded Product, the new Supplier must submit a new application for certification, indicating that the Product is identical to an already Certified Product. The Supplier must submit a Conformance Statement that is technically identical to the Certified Product apart from the Product name and vendor information, and reference the test results of the previously

Certified Product. The Supplier must also submit a written statement indicating that the re-branded Product is indeed technically identical to the referenced Certified Product, and written notification from the Supplier of the original Product authorizing the test results from original Product to be referenced for the new listing.

If the audit result is a success, the CA will update the Certification Register to reflect the re-branded Product and if applicable, issue a new certificate.

## 8.7 Other Variants

Except where specifically stated in this document, any other variant of a Certified Product which may have a material affect on the conformance of the Product to the IEEE POSIX standard(s) constitutes a new Product, which will be subject to full testing and certification.

## 9. Renewal Process

### 9.1 Duration of Certification

Certification is valid for 12 months from the date at which the CA provides written notice to the Supplier that certification has been achieved.

### 9.2 Certification Renewal

The Supplier of a Certified Product is required to renew certification annually. Approximately sixty calendar days prior to the renewal date, the CA will notify the Supplier that renewal is due.

If the Supplier does not renew within 30 calendar days after the renewal date, the CA will remove the Certified Product from the Certification Register. Such Product will then no longer be considered a Certified Product and, the non-renewal shall also result in a termination of any licensed trademark rights.

The Supplier is required to ensure that the Certified Product continues to meet all applicable Conformance Requirements and to re-affirm the warranty of conformance. This includes the requirements to conform to the applicable IEEE POSIX standard(s), including all Interpretations that have been granted by the IEEE, and pass a currently authorized version of the test suite(s).

A supplier can renew without a need to re-test if the following criteria are met:

1. The supplier wishes to renew, and
2. The company will support the product for the duration of the renewal period, and
3. There are no outstanding issues from enhanced test suites or known compatibility reports which would require re-testing.

The CA will define the requirements renewal. The need for re-testing will typically be determined by any changes in test coverage between the previous certification and the renewal, and the Interpretations that have been granted since the previous certification. If re-testing is required, the CA will notify the Supplier of the requirements for re-testing. If a re-test is not required, the only requirement on the

Supplier is to pay the certification renewal fee and trademark license renewal fee (if applicable).

Once all requirements are met, the CA will renew the certification and inform the Supplier. The CA will update the Certification Register and if applicable, issue an updated certificate to reflect that certification has been renewed.

### 9.3 Trademark License Renewal

Refer to the Trademark License Agreement for details.

## **10. Problem Reporting and Interpretations Process**

### 10.1 Overview

During the certification process or during the preparation phase, a Supplier may encounter a problem that inhibits or will inhibit the certification effort. The Supplier may file a Problem Report via the CA's web site to obtain resolution to the issue. The CA is the sole interface with the Supplier for problem reporting, though others will be involved in determining the resolution.

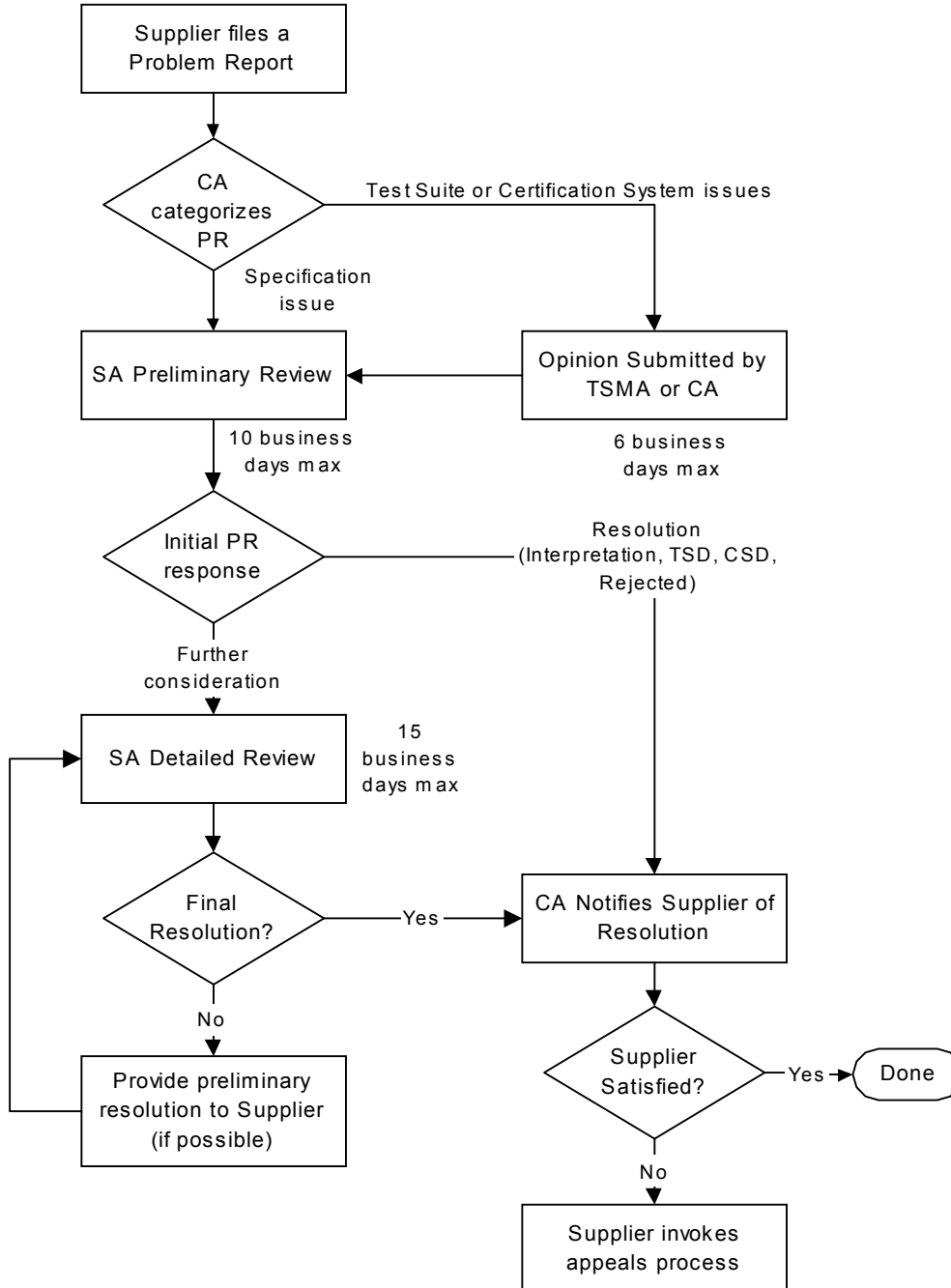
The types of problems that may be found include:

- Errors or ambiguities in the standard(s) against which conformance is based, specifically, in the IEEE POSIX standard(s), or the underlying standards referenced by the IEEE POSIX standard(s)
- Errors in the test suite(s) used to assess conformance with the standards, specifically, in the test suite(s)
- Errors in the certification system, specifically related to the registration process, agreements and completion of Conformance Statements

The Problem Report is used specifically for the types of errors listed above which are inhibiting the certification effort. For general questions on the certification process, running the test suites, or other problems not covered above, the Certification Authority's web site should be consulted for further information.

## 10.2 Problem Report Resolution Process

The process is outlined in the following diagram:



The Specification Authority (SA) is the appropriate interpretations body for the IEEE Standard, and is responsible for reviewing and providing a resolution to all Problem Reports. The key element of the review process is a deterministic timeline for a

formal resolution to the Problem Report. The TSMA or CA provides an opinion to the SA for test suite and certification problems.

The SA will perform a preliminary review and an initial response will be provided via the CA to the Supplier within 10 business days of the Problem Report submission. This stage allows simple problems to be dealt with expeditiously. A detailed review will be undertaken for issues that are more complicated, or when the preliminary review does not resolve the issue. Final resolution will be provided within an additional 15 business days.

In most cases, 25 business days is sufficient to provide a final Problem Report resolution. However, in exceptional circumstances, final resolution may take longer. If possible, the Problem Report will be addressed sufficiently within the 30 business days to allow the certification process to proceed pending final resolution. The CA will notify the Supplier by the 25th day of the delay and preliminary resolution, if available.

If the Supplier is not satisfied with the final resolution, the Supplier may invoke the appeals process.

The problem report resolution process will allow the Supplier to remain anonymous, so pre-certification activity is kept entirely confidential. The anonymous review process requires that requests be filtered automatically prior to distribution to the review group. Filtering will remove the Product and Supplier sections of the PR, so these are the only sections that should contain company names, Product names, or other confidential information. Please note that if Supplier-specific information is included in the sections reserved for the technical descriptions, filtering will not result in an anonymous request.

In order for the SA to resolve Problem Reports for issues related to the test suites, an opinion from the Test Suite Maintenance Authority is required. Likewise, for Problem Reports related to the certification system, the SA will require an opinion from the Certification Authority. These opinions must be provided within 6 business days, in order for the SA to provide its preliminary response on time.

### 10.3 Resolution of Problem Reports

The possible outcomes for Problem Report resolution are:

- accepted as an error or ambiguity in the standards (an Interpretation)
- accepted as an error in a test suite (a Test Suite Deficiency)
- accepted as an error in the certification system (Certification System Deficiency), or
- rejected.

Interpretations, Test Suite Deficiencies and Certification System Deficiencies will never cause previously Certified Products to be “un-certified”, but can affect a Certified Product’s continued conformance. Interpretations, Test Suite Deficiencies and Certification System Deficiencies evolve the definition of conformance over time and Certified Products are always required to conform to the current definition of conformance. At the time of certification renewal, the Supplier will be required to demonstrate that the Certified Product conforms to the applicable IEEE POSIX standard(s), including all Interpretations that have been granted since the previous certification.

#### 10.3.1 Interpretations

An Interpretation elaborates or refines the meaning of a standard, therefore clarifying an error or ambiguity in the standard. Interpretations apply to a specific version of a standard and are permanent against that version. They remain in force until the standard is updated, at which time, the elaboration or refined meaning should be incorporated into the updated version of the standard.

Interpretations always apply to a particular version of an IEEE POSIX standard. Therefore, if a Problem Report submitted against a standard includes rationale that cites conflict with a previous or subsequent version of the standard, the PR will be assessed without reference to such rationale. In particular, conflict with another version of the same IEEE POSIX standard does not in itself form grounds for granting an Interpretation.

Interpretations of IEEE POSIX standards will never result in Product behavior that was previously considered to be conformant being declared non-conformant, at a given revision level of the IEEE POSIX standards. However, Interpretations may cause a change in a future release of the standard that will prohibit behavior previously considered acceptable. Interpretations can only result in Product behavior that was previously considered to be non-conformant being declared to be conformant.

The Specification Authority is responsible for deciding the meaning of conformance to normative referenced standards in the POSIX context, such as the ISO C Standard. Problem reports regarding such underlying or referenced standards in the context of POSIX will be processed as normal. Problem reports regarding underlying or referenced standards in any other context will be rejected.

#### 10.3.2 Test Suite Deficiency

A Test Suite Deficiency is an agreed error in a test suite, which is documented in an agreed Problem Report. Test Suite Deficiencies apply to a specific version of a test suite and are permanent against that version. They remain in force until the test suite is updated, at which time, the error should be fixed in the test suite update. If the Test Suite Maintenance Authority should decide not to fix a TSD in the updated

test suite, the TSMA will submit a new Problem Report and assign it as a TSD against the new test suite version, flagging the TSD as a re-issue.

In all circumstances, the complete test suite or set of test suites must be run during formal testing. The existence of any Test Suite Deficiency with respect to a test suite does not absolve an Applicant from running the test in question, or any part thereof.

### 10.3.3 Certification System Deficiency

A Certification System Deficiency is an agreed error in the certification system. The certification system includes the workflow and information systems provided to implement the certification process. Certification System Deficiencies apply to the version of the certification system in which they are found. If the problem is blocking the certification effort, a patch will be made to the certification system to enable certification to proceed. Otherwise, the problem will be fixed in a future update of the certification system and the Certification System Deficiency will remain in force until such update.

### 10.4 Problem Report Repository

The CA will maintain a web-accessible repository of all submitted Problem Reports. This repository will be publicly accessible. The publicly accessible information will contain the technical details such as the nature of the problem and its current status of resolution, but will not contain sections reserved for Supplier and Product details, thus maintaining the confidentiality of the Supplier.

An Applicant may cite an Interpretation, Test Suite Deficiency, or Certification System Deficiency to resolve discrepancies in test reports or to support their application for certification in any other way, irrespective of the origin of the Problem Report.

## **11. Appeals Process**

Suppliers may appeal decisions made by the SA or the CA. The occasions that may give rise to an appeal include, but are not limited to, the following:

- a) The Supplier disagrees with the resolution of a Problem Report
- b) The Supplier disagrees with the CA's grounds for denying the award of certification
- c) The Supplier of a Certified Product disagrees with a formal notification of the need to rectify a non-conformance

Appeal requests should be made to the CA. The Certification Program Guide describes the process for raising an appeal.

There are two levels of appeal: a Technical Review and a Board Review. Review decisions will be made in accordance with the IEEE and The Open Group policies.

At each level of appeal, the Supplier has the right to representation at the review meeting to make the technical case, though is not required to do so. The appeals process will be anonymous if the Supplier does not wish to be represented at the review meetings. In such case, the CA will remove the details of the Supplier and Product from all information provided for the Technical and Board reviews.



A Supplier wishing to dispute an SA or CA decision may request a Technical Review. Technical Review requires the responsible expert group to consider the matter and produce a response with a recorded vote according to its voting rules, within 21 calendar days of the request. The responsible expert group may commission reports from independent experts, and may seek input from other committees within the IEEE and The Open Group as it sees fit.

If the Supplier is not satisfied with the outcome of the Technical Review, the Supplier may request an appeal to the joint IEEE and The Open Group POSIX Certification Review Board within 14 calendar days of being notified in writing by the CA of the results of the Technical Review. The Review Board is an independent panel of experts appointed by the IEEE and The Open Group. It may ask for technical reports from the relevant working groups and may also ask for reports from independent experts. The Board Review will be completed within 30 calendar days of the Supplier's written request for a Board Review. The results of a Board Review are final and cannot be further appealed.

## **12. Non-Disclosure Policy**

### 12.1 Non-Disclosure

Information relating to an Applicant and the Product to be certified will not be disclosed during the certification process, that is, prior to the award of certification. This includes information related to the Registration Form, Conformance Statements, and Problem Reports.

Test results will never be disclosed. Information regarding the results of using the test suite(s) shall not be disclosed in any publicly available document or to any third party by the CA, the Applicant, or any test house acting on the Applicant's behalf.

In addition, the CA will not disclose any information regarding unsuccessful applications for certification.

### 12.2 Disclosure of Certification Information

Certification information consists of the fact that certification was achieved, the description of the Certified Product and the Conformance Statement for the Certified Product. Any claims of conformance or information related to the certification process may only be made public after the CA has notified the Applicant in writing that the Product has passed the certification process.

The Certification Authority will make certification information publicly available by including it in the Certification Register available on the CA's web site.

### 12.3 Optional Confidential Treatment of Certification Information Prior to Product Launch

On occasions, a Supplier will apply for and achieve certification prior to the Product's launch in the marketplace. To enable a Supplier to keep such information confidential prior to Product launch, the Supplier may request that the certification information be kept confidential for a maximum period of six months from the date of written notification by the CA that the Product has achieved certification.

During this period, the Supplier may not make any representation of conformance with the IEEE POSIX standard(s) or claims of being certified without first informing the CA that the confidential period has expired. If the Supplier has signed a POSIX trademark license agreement, the POSIX trademark must not be used in association with the Product during this period. In the event the Supplier wishes to keep the certification information for a Product confidential permanently, the Supplier may request withdrawal and deletion of such information. Such Product will then no longer be considered a Certified Product.

The certification information will cease to be held confidential upon the earlier of notice by the Supplier that the confidential period has expired, or at the end of the six-month period, provided that the Supplier has not requested withdrawal and deletion of such information.