Brand Program Documentation

Practical Guide to the Open Brand

The Open Group

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Preface

The Open Group is a vendor-neutral, international consortium of more than 200 members whose mission is to cause the creation of a viable, global information infrastructure that provides the vital linkages between the billions of dollars worth of computing resources installed worldwide and the emerging Internet technologies. Among The Open Group's members are end-user organizations, including leaders in worldwide finance, government, academia, health care, commerce, and telecommunications, which have combined information technology (IT) budgets in excess of U.S.$55 billion annually.

To meet the needs of companies and organizations worldwide, The Open Group is facilitating the creation of the IT DialTone: a ubiquitous, trusted, reliable IT infrastructure that is as easy to use as the telephone, over which valuable operational business may be conducted.

In order for technologies to meet the aggressive goals of an IT DialTone, interoperability among different vendors' products and legacy systems must be ensured. The Open Group operates a program that provides the buyer with this assurance. The Open Brand allows vendors to guarantee their products' conformance to open standards. More than U.S.$23 billion in procurements worldwide have realized the business benefits of using the Open Brand in their IT purchases. This *Practical Guide to the Open Brand* provides a full explanation for use by vendors and buyers of open systems.

The Open Group was formed in February 1996 by merging X/Open Company Ltd. (founded in 1984) and the Open Software Foundation (founded in 1988). It is headquartered in Cambridge, Massachusetts with more than 250 employees in offices and research facilities in Menlo Park, California; Reading, England; Brussels, Belgium; Grenoble, France; and Tokyo, Japan.

For more information see The Open Group web site at *http://www.opengroup.org*.

How to Use this Guide

This Guide is designed primarily for those who wish to apply for the Open Brand, although it will be of value to those who, for procurement purposes, wish to examine the requirements and establish the exact terms for Product Registration. Suppliers familiar with the Open Brand will go straight to **How to Achieve the Open Brand** on page 27, referring to the other chapters for the detail as necessary. For readers unfamiliar with the Open Brand we recommend reading the **Introduction** on page 3, referring as necessary to the individual chapters for explanation of Product Standards, Conformance Statements, Indicators of Compliance, Testing, and so on.

Information is maintained on The Open Group web site at *http://www.opengroup.org/registration* where readers can find a glossary of terms. Between this Guide and the web site, you will find everything you need.

A summary of external references is given below:

http://www.opengroup.org/registration	Starting point.
http://www.opengroup.org/regproducts	Directory of Registered Products.
http://www.opengroup.org/prodstandards	Current set of Product Standards.
http://www.opengroup.org/publications	Catalog of Specifications and books.
http://www.opengroup.org/togaf	Architecture Framework.
http://www.opengroup.org/sib	Standards Information Base.
http://www.opengroup.org/testing	Testing Technology information.
http://www.opengroup.org/testing/checklist	Product Registration Checklists.
http://www.opengroup.org/csqs	Conformance Statements and Conformance Statement Questionnaires (CSQs).
http://www.opengroup.org/corrigenda	Publications Corrigenda.
http://www.opengroup.org/interpretations	Interpretations/Temporary Waiver process.
http://www.opengroup.org/interpretations/database	Interpretations Database.

Since some of the detailed information, such as the Product Standards, is subject to change, an approach to the Conformance Administrator (email *conformance@opengroup.org*) will bring practical help and support.

It is recommended that you contact the Conformance Administrator before starting any Product Registration activity.

The following email addresses can be used for specific enquiries:

conformance@opengroup.org	Reaches the Conformance Administrator. Your first point of reference on all aspects of Product Registration.
ogtesting@opengroup.org	Reaches the testing unit.
ogpubs@opengroup.org	For queries about Specifications and publications.
interpretations@opengroup.org	For receipt of formatted interpretation requests only.
webmaster@opengroup.org	For web access problems.
helpdesk@opengroup.org	For more general questions.

Introduction

The Open Brand is signified by the "X" Device which can be associated with and used in relation to IT systems that have been registered with The Open Group as being fully conformant to one or more specific defined sets of functionality known as Product Standards. Its use is governed by the Open Brand Trademark License Agreement (TMLA). Anyone wishing to register a product, or products, and use the "X" Device must first sign the Open Brand Trademark License Agreement and thereby "warrant and represent" that any products they register will fully conform to the identified Product Standard(s) and will continue to do so.

An Open Brand Certificate is issued for each Registered Product and an entry is made in the Directory of Registered Products which can be found on The Open Group web site at *http://www.opengroup.org/regproducts*. A single product may be registered as conformant to more than one Product Standard.

The Open Brand cannot, and does not, attempt to dictate the content of any transaction in any specific supplier/customer relationship. It does not attempt to force a purchaser to buy, or a supplier to supply, items that the customer does not require. What it can, and does, do is provide the mechanism through which, if a buyer wishes to procure a product that is guaranteed to conform to a Product Standard, the supplier will provide a fully conformant product in accordance with the terms of the Open Brand Trademark License Agreement.

The rules are very simple. The Open Brand applies to a product or product range marketed by the supplier, and means that if a configuration matching a particular Product Standard is ordered from that product range it will be delivered in full, and all the conditions of the Open Brand Trademark License Agreement will apply to it.

Anyone buying a Registered Product is guaranteed that:

- The product conforms to the identified Product Standard.

  The product conforms to all the specifications and standards, and complies with any special conditions, identified in the Product Standard.

- The product will continue to conform.

  The product is guaranteed to remain conformant throughout fixes, functional enhancements, and performance improvements. If it does not continue to conform, its Product Registration, and the ability to use the trademark, will be lost.

- Any conformance problem will be fixed within the prescribed timescale.

  In the real world, conformance problems may arise from time to time. The Trademark License Agreement requires that these must be corrected in the defined timescale.

Product Standards relate to one or more of the following:

- Software portability (through Application Programming Interfaces or System Interfaces)

- Application or system interoperability (through Protocols and Services)

- Interaction with users or administrators

The detailed requirements for conformance are identified in each Product Standard. They include both implementation detail and any specific testing requirements. The Product Standard refers to formal standards, CAE Specifications, or other standards or specifications that have been adopted or defined by The Open Group and included in its Standards Information Base (SIB). The Standards Information Base forms part of The Open Group Architecture Framework (TOGAF). The Open Group Architecture Framework is explained on The Open Group web site at *http://www.opengroup.org/togaf* and the Standards Information Base is accessible at *http://www.opengroup.org/sib*.

It is important to note that one Product Standard can include another Product Standard, and that additional conformance requirements may be included as a requirement within a more comprehensive Product Standard.

Registration of a product requires that it conforms to the requirements of the Product Standard. The Conformance Statement (see **Conformance Statements** on page 15) states precisely how the specific product conforms. The process is shown in the following figure:
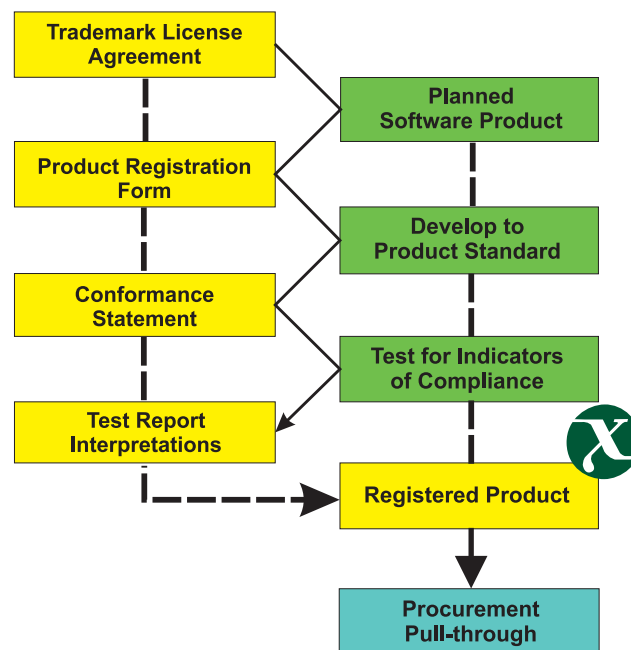
Figure 1 The Path to the Open Brand

Following the merger of X/Open Company Ltd. and the Open Software Foundation (OSF) to form The Open Group, the X/Open Brand (introduced in 1988) is now known as the Open Brand. Other terminology has also changed to reflect the broader perspective of the Program. Profile and Component Definitions are replaced by Product Standards. The acronym ''XPG'' has

been dropped (its expansion "X/Open Portability Guide" was dropped long ago). Conversion tables from the old to the new terminology can be found on The Open Group web site at *http://www.opengroup.org/registration*.

Trademark License Agreement

The Trademark License Agreement is the legal contract between The Open Group and each organization (licensee) wishing to register products in the Open Brand Program. It lays down the obligations and rights of each licensee. Because the licensee publicly "warrants and represents" that each Registered Product will conform to the Product Standard, the buyer has a guarantee that the product will conform to the specification and will continue to do so.

Note that the buying relationship is between the supplier and the buyer. The Open Brand is used as a quality mark that provides additional, explicit benefits when the product purchased is registered in the Open Brand Program.

Buyers look for the Open Brand mark and often mandate that products offered in response to their procurement documents carry the Open Brand. At the beginning of 1997, over U.S.$23 billion of IT purchases had so far made use of the Open Brand.

The Open Brand Trademark License Agreement, together with all the documents it references, governs the Open Brand Program. The trademarks used in the Open Brand Program are registered across the world and are assiduously protected. For this and other historical and legal reasons, X/Open Company Ltd., the U.K. subsidiary of The Open Group, operates the Program and executes the Open Brand Trademark License Agreement under English Law.

The Open Brand Trademark License Agreement includes five Schedules that change over time:

Schedule 1   Lists the trademarks included in the Program.

Schedule 2   Details the costs associated with the Program.

Schedule 3   Lists the territories and classes in which trademarks are registered.

Schedule 4   Details the Standards of Quality—what it means to conform.

Schedule 5   The Trademark Usage Guide that lays down precise rules for the use of the trademarks. It is a practitioner's guide, designed to be used by product managers and marketing professionals to help them use the Open Brand and other trademarks correctly. The Trademark Usage Guide is also available separately, in both printed and electronic forms.

The Open Brand Trademark License Agreement is executed by completing and signing the TMLA Application Form. The signature page must be sent in original or faxed form. The TMLA Application Form can be downloaded from The Open Group web site at *http://www.opengroup.org/registration*.
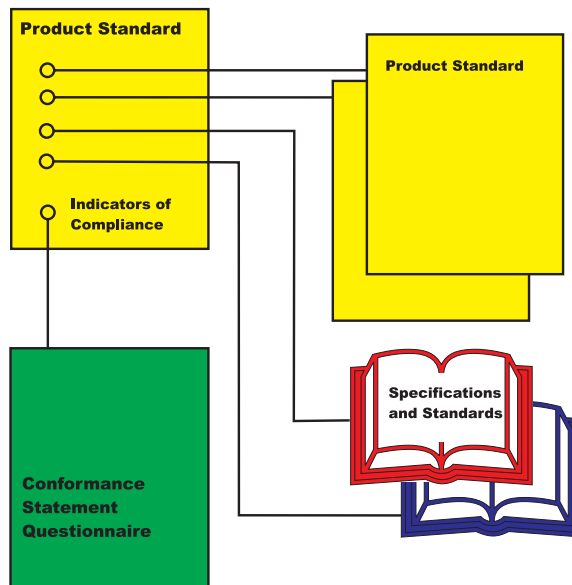
Product Standards

Overview

A Product Standard is a precisely defined and documented set of functionality to which products can be registered as conformant under the Open Brand Program.

Each Product Standard describes its purpose, gives detailed technical conformance requirements, and identifies specific testing requirements that must be satisfactorily completed. Where appropriate it may also highlight important information that has to be included in the Conformance Statement (see **Conformance Statements** on page 15).

Most of the detailed requirements for conformance to Product Standards are usually identified by reference to other documents rather than being defined in the Product Standard itself. All such references are precisely stated such that the referenced documents are clearly and uniquely identified (title, version number, date, and so on). Conformance is to a specific version of an identified document and a Product Standard is not automatically updated by virtue of a newer version of the document (specification or standard) being released. Where conformance is only to specific parts of a document, the relevant parts are clearly identified. The relationship between the various documents is shown in the following figure:

Figure 2 Relationships between Documents

The current set of Product Standards is listed on The Open Group web site at *http://www.opengroup.org/prodstandards*, where links to the full text of each Product Standard can be found.

Key Concepts

Product Standards are central to the Open Brand Program. They are the single reference points linking the referenced specifications and standards, any other Product Standards, and the test suites and other conformance requirements. The Conformance Statement for each Registered Product states precisely how the product satisfies the requirements of the Product Standard.

Registered Products are dependent upon services typically provided by the operating system software and hardware. In some cases a Registered Product may be completely independent of any operating system, but may require some other kind of service such as a communication service. The Product Standard therefore states these dependencies and specifies the Operational Environment within which the Registered Product runs.

Portability is associated with the ease with which a system, application, data, or user can be transferred from one environment to another.

Software applications may rely on Application Program Interfaces (APIs) provided by the Registered Product. These Portability Interfaces provide one level of portability, allowing for the same software application to work with different products registered to the same Product Standard.

Software applications that use the defined Portability Interfaces often require direct access to services other than those provided by the Registered Product. The Portability Environment defined in the Product Standard establishes the overall environment required for software portability.

The relationship between the Operational Environment required for the Registered Product, the Portability Interface provided by the Registered Product, and the Portability Environment required by the (application) software are shown in the following figure:
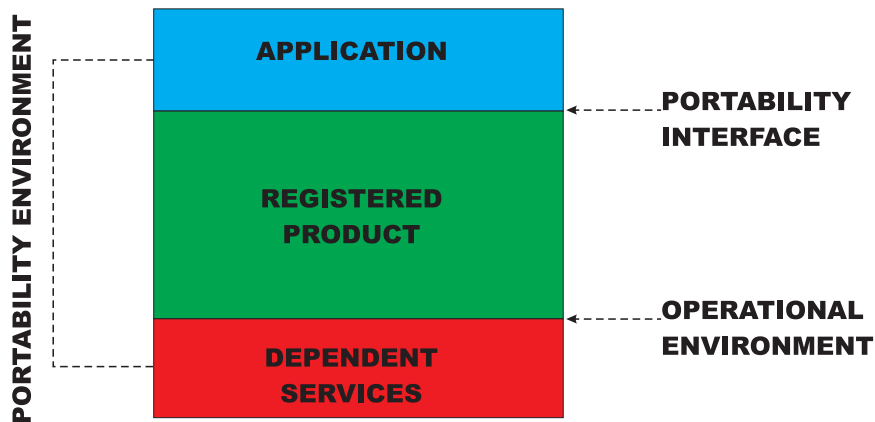
Figure 3 Environments and Interfaces

Interoperability, in its fullest sense, means the ability of application processes meaningfully to exchange information and services regardless of physical location, network topology, and the vagaries of computer architectures.

In the context of the Open Brand Program, the concept means the provision of services and protocols that support the interoperability of applications to the extent defined by the Product Standard. End-to-end interoperability invariably requires correct configuration of the end systems and all other network elements.

The Open Group's Interoperability Assurance Program, associated with the Indicators of Compliance for interoperability (see the description of **Indicators of Compliance** below),

provides a mechanism for the resolution of interoperability issues encountered in the field. Any requirements from the Interoperability Assurance Program are defined in the Indicators of Compliance section of the Product Standard and described in the Conformance Statement for the Registered Product.

Content

Each Product Standard is defined under a set of headings. However, readers should note that the structure of the Product Standard might vary with additional or alternative headings used as necessary. The usual headings are given below:

- **Name**

  The formal name of the Product Standard.

- **Label for Logo**

  The label or "text field" used in association with the "X" Device to form the Brand logo, as defined in the Trademark Usage Guide. Where there is a family of Product Standards the label will reflect the "family" name; otherwise there will be no label and the "X" Device will be used on its own.

- **Description**

  A brief but precise description of the nature and purpose of the Product Standard with relevant background material and a clear statement of how it differs from other similar Product Standards.

- **Conformance Requirements**

  This, the main section of the Product Standard, is a definition of all the implementation conformance requirements that must be met by a product for registration in the Open Brand Program. Conformance requirements are addressed with respect to the human-computer interface, portability, and interoperability. These attributes are discussed in more detail below.

- **Operational Environment**

  A definition of the environment or set of environments within which the functionality identified by the Product Standard can be employed.

- **Portability Environment**

  The Portability Environment primarily concerns application portability and is used to constrain usage of the Registered Product to specific services or environments. It defines interfaces or services that must be available to each source program in addition to those of the product itself. They are usually defined in terms of an additional Product Standard (or set of alternative Product Standards) to which the product, or configuration of products, must also be registered.

- **Overriding Standards**

  Identifies the formal standard(s) to which the Product Standard defers. It is the intention of The Open Group that products conforming to Product Standards should also conform to overlapping formal standards, and therefore the Product Standard defers to the relevant formal standard.

  It should be noted that deference is to a particular identified version of a formal standard upon which the Product Standard was built—the Product Standard does not automatically defer to later versions of the same standard.

Any discrepancies between the Product Standard, the Specification, and the formal standard(s) are unintentional. In such cases the formal standard is deemed to be superior and there is therefore no conflict, either for an implementor or a buyer, in requiring conformance to both the Product Standard and the formal standard at the same time. For the buyer, simply stating that the Open Brand is required ensures that the relevant standards conformance is achieved.

- **Indicators of Compliance**

  Identifies one or more designated test suites that must be used during conformance testing (see **Testing Requirements and Indicators of Compliance** on page 17 for more detail). Where no designated test suite is specified at the time the Product Standard is published, the Indicators of Compliance section is marked accordingly. The Open Group web site at *http://www.opengroup.org/testing* should be checked for any updates to the test suites. No test suite can ever ensure conformance; the test suites are therefore known as Indicators of Compliance.

- **Migration**

  A short summary of the issues, if any, concerned with migration to the Product Standard. The primary focus is the migration of applications, but information on other aspects may be provided where appropriate.

Attributes Associated with Conformance Requirements

To conform to a Product Standard, a product (or product configuration) must conform to all of the attributes that are defined for that Product Standard. Some of the key attributes include:

- Human-computer Interface
- Portability Interface
- Programming Language Environment
- Interoperability
  - — Data Interchange Formats
  - — Communications Interfaces and Protocols

Note that a Product Standard may refer to a subset of the key attributes as appropriate.

The following paragraphs explain what it means for a product (or product configuration) to conform to each attribute of a Product Standard. The first statement associated with each attribute identifies its purpose, and the second how it is achieved.

- **Human-computer Interface**

  This attribute facilitates the consistency of the interface, and the consistent presentation of information on different display devices. It defines how a conformant product must exchange information with a human user over an appropriate I/O device.

- **Portability Interface**

  This attribute facilitates the portability of software, usually (but not limited to) applications in source code, that use the functionality defined by the Product Standard. It identifies interface specifications (typically APIs), that a conformant product must support, and to which a program using the relevant interface should adhere. Note that the Portability Environment and Operational Environment are defined elsewhere in the Product Standard (see **Key Concepts** on page 10).

- **Programming Language Environment**

  This attribute defines the programming language(s) in which an application must be written in order to invoke the services of the Product Standard. It may also identify a particular dialect of the language. A conformant product is required to support source programs written in the required dialect. Where a particular dialect of the programming language is important it will be identified (for example, ISO C language, rather than just C Language).

  Where a Portability Interface is specified in terms of a particular source code, the conformant product is required to support source code programs written in that language/dialect. Products that are registered as conformant to a Product Standard that includes a defined Portability Interface must provide facilities for source programs to be compiled, or must be registered in association with a defined compilation (or cross-compilation) environment. (Note that the requirement for a compilation environment to be available does not mean that the compilation environment has to be delivered with every (or indeed any) specific product shipment. The content of a product configuration that is actually delivered is a matter for the vendor and purchaser to agree as part of normal contract negotiation).

- **Interoperability**

  A Product Standard may permit a choice of protocols in order to accommodate a variety of sub-network architectures and implementations.

  This section may also include requirements from the Interoperability Assurance Program (see **Key Concepts** on page 10).

- **Data Interchange Formats**

  This attribute facilitates data interchange as one element of interoperability. It identifies data format definitions to which conformant products must interpret or create data.

- **Communications Interfaces and Protocols**

  This attribute facilitates communication as one element of interoperability. It normally identifies specific communications protocols that conformant products must support. In some cases no specific protocols are mandated and instead it is required that the actual protocols for which support is available must be declared in the Conformance Statement.

In cases where one of these attributes is not relevant, or not specified, the Product Standard explicitly says so using a phrase such as "not applicable" or "none" where appropriate.

All conformance requirements must involve a stimulus and result. The same stimulus must produce the same well-defined result on all conformant systems. For APIs this is explicitly the case, as the definition of an API call states what the result of calling it will be, but for the other aspects too it is important that there are clearly defined causes and effects. It is not sufficient, for example, for a Product Standard just to require that a particular protocol be supported. It must be set into a cause and effect context—use of the protocol must be associated with specific well-defined functionality and behavior within the product.

Detailed conformance requirements are expressed by any combination of:

- Reference to formal standard documents (for example, ISO, IEEE Standards)
- Reference to CAE Specifications of The Open Group
- Reference to recognized documents from other organizations
- Reference to other Product Standards
- Detailed definitions contained in the Product Standard itself

- Identified constraints or additional conditions

The Open Group Standards Information Base is the formal repository for specifications and Standards that have been adopted by The Open Group. The Standards Information Base is available on The Open Group web site at *http://www.opengroup.org/sib.*

Conformance Statements

A Conformance Statement must be produced for each product registered as conformant to a particular Product Standard. It is constructed by completing the appropriate Conformance Statement Questionnaire and it must be maintained in an up-to-date form.

A unique self-contained Conformance Statement Questionnaire is available for each Product Standard at *http://www.opengroup.org/csqs*.

A Conformance Statement uniquely identifies the product and provides details of the way that the product implementation meets the relevant Product Standard. It also identifies the precise environment and software configuration in which conformance was tested, and if applicable defines the binary-compatible family (see **Binary-Compatible Family** on page 26).

The following are examples of what may be included in a Conformance Statement:

- Either the Product Standard, or the specifications or standards, may state that a conformant implementation may optionally support some particular feature. The Conformance Statement establishes beyond doubt whether the product in question actually does support that feature.

- The specification may state that a particular parameter or limit value is implementation-defined. In that case the Conformance Statement establishes the exact value for the Registered Product.

- The Product Standard may specify further information required in the Conformance Statement.

- In many cases the Product Standard allows support for one or more of a defined set of communications protocols, and in these cases the actual protocols supported must be recorded in the Conformance Statement. Where a Product Standard does not mandate any particular protocols, it allows any supported protocols to be declared in the Conformance Statement.

In addition, in the cases where it is impossible or economically not feasible to provide automated test suites, the Conformance Statement can help to establish exactly how conformance to the specification is demonstrated.

If a Product Standard has a communications aspect, then as well as the Registered Product being tested, other systems will be involved in testing for conformance. (Appropriate equipment must be at the other end of the link and there are likely to be other elements that are involved in establishing the connection.)

The Conformance Statement should declare any conformance or interoperability testing that has taken place, and must specify the exact configuration of all systems used in testing.

It should be noted that where no specific Indicator of Compliance is specified in the Product Standard, applicants will have performed sufficient tests of their own to undertake the obligations of the Trademark License Agreement; however, such tests will be specific to each individual vendor.

When complete, the Conformance Statement is submitted to the Conformance Administrator for electronic review as part of Product Registration. Applicants need to obtain a user ID and password for access to the Web to enable them to create, edit, recall, and save Conformance Statements in progress, which remain hidden from the public. When approved, the Conformance Administrator transfers the completed Conformance Statement to the public pages on The Open Group web site at *http://www.opengroup.org/csqs*.

Licensees of the Open Brand are required to make the Conformance Statements for Registered Products available for examination on request to prospective customers free-of-charge. Suppliers can fulfill this obligation by:

- Promoting printed matter

- Making available documents on their own web site

- Pointing to The Open Group web site at *http://www.opengroup.org/csqs*

Licensees are required to keep Conformance Statements maintained up-to-date to ensure that the Conformance Statement always reflects the most current and accurate information. If any material changes are made to the product which affect the Conformance Statement, an amendment must be made to the copy of the Conformance Statement on The Open Group web site (submitted via the web), and to any other form in which the Conformance Statement is made available. Note that the Conformance Administrator reviews any changes to the Conformance Statement before they are made public.

Buyers of Registered Products are strongly recommended to obtain access to the relevant Conformance Statement as it contains valuable information regarding the product and the way it conforms to the standards and specifications referred to in the Product Standard.

Testing Requirements and Indicators of Compliance

A condition of Product Registration is that a product has not only been designed to be conformant to a Product Standard but also that conformance has been tested in practice. This applies regardless of whether or not a designated test suite (Indicator of Compliance) is identified in the Product Standard. In all cases the precise hardware/software environment in which conformance has been established must be identified in the Conformance Statement, and it must be sufficiently detailed to enable conformance to be re-demonstrated and test results reproduced.

Many Product Standards identify, in the Indicator of Compliance section, that a specific test suite must be used during conformance testing. In these cases a test report which shows that there were no unresolved issues or failures (except for those covered by appropriate Interpretations, Test Suite Deficiencies, or Temporary Waivers) must be submitted along with, or prior to, the Product Registration application.

Designated test suites are given in generic terms (for example, a "VSX4 test report"), rather than by identifying a specific version of each suite and the detailed testing requirements, to avoid the need to re-issue a Product Standard every time the situation changes. In practice, specific versions of test suites are mandated at any given point in time. The Conformance Administrator can advise, although details of the current test suites and other criteria are available on The Open Group web site at *http://www.opengroup.org/testing*.

New versions of test suites replace current versions with a 6-month overlap period, during which time either will be accepted as the valid Indicator of Compliance.

New test suites will normally become mandatory for Product Registration after a 9-month notice period, and thereafter a test suite report will be required at the first annual renewal of all relevant Product Registrations.

Conformance test suites typically test for the presence or absence of functionality, and the behavior of functionality when present. The Conformance Statement is the means by which an applicant declares which optional functionality is supported, and therefore a test report for a product should match the functionality claimed for it in the Conformance Statement. For example, if the Conformance Statement states that the implementation provides POSIX-2 C-language binding, then the conformance tests should have verified that the implementation provides these facilities according to the CAE Specifications.

In performing test report audits on Product Registrations, The Open Group carries out extensive checks to determine the consistency of what is claimed for a product, comparing the information in the Conformance Statement against the test suite reports.

Some test suites are made available under license from The Open Group. In other cases, for instance in the programming language Product Standards where the specifications conform to formal standards, the Product Standard references the test suites that have been developed to support the existing formal certification programs for these languages. Full details of the test suites and related matters can be found on The Open Group web site at

http://www.opengroup.org/testing.

In support of a Product Registration application, The Open Group requires, among other things, a formal test report in respect of Product Standards for which an Indicator of Compliance is specified.

There are two alternative sources of test report that may be used for Product Registration:

1. The Open Group recognized laboratories, which have been through a formal quality assessment procedure

2. Other test facilities; that is, those which have not been through a formal assessment procedure

Recognized laboratories are required either to have been assessed directly by The Open Group for the conformance of their procedures to ISO guide 25, or to have been accredited by a national or regional accreditation body for the conformance of their procedures to ISO guide 25.

ISO guide 25 is concerned with the ability to repeat and reproduce formal test procedures, and therefore provides the Open Brand Program with a firm foundation of dependable test reports.

The alternative approach using other test facilities is dealt with by means of quality control rather than quality assurance. Registration applications through such test facilities are subject to a high percentage of technical audits (between 80% and 100% depending on the particular technology in question). This approach contrasts with the case of recognized laboratories in which a low percentage of test reports are subject to a technical audit (typically 5%). Through careful design of test suites and the use of detailed technical audit procedures to ISO 9000 it can be assured that the applications from other test facilities are to the same standard as those from recognized laboratories. However, this approach is less certain and often requires multiple re-submissions of the applications.

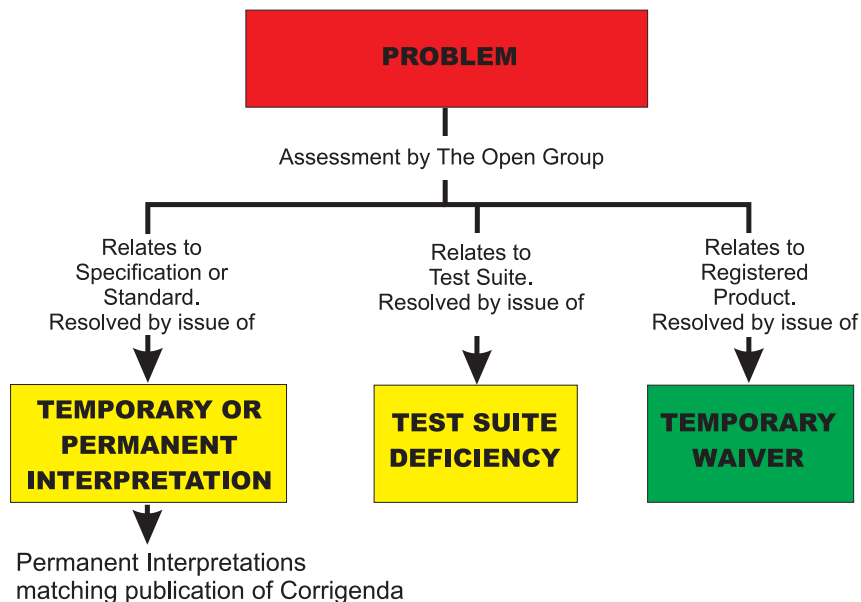# Interpretations, Test Suite Deficiencies, and Temporary Waivers

Overview

Errors or ambiguities may be discovered in the specifications or formal standards referred to in Product Standards. Acknowledgement by The Open Group of such errors or ambiguities results in Interpretations (see *http://www.opengroup.org/interpretations*) and Corrigenda (see *http://www.opengroup.org/corrigenda*). The Interpretations Index is available at *http://www.opengroup.org/interpretations/database*.

Errors may also be found in the test suites referenced in Product Standards. Acknowledgement by The Open Group of such errors results in Test Suite Deficiencies (TSDs), which are reported on The Open Group web site at *http://www.opengroup.org/interpretations/database*. Test Suite Deficiencies will usually be fixed in subsequent releases of the test suite affected.

From time to time, and in any event not less frequently than every 3 months, The Open Group updates its lists of Interpretations and Test Suite Deficiencies which may be cited in support of Product Registrations.

Errors may also be discovered in the implementation of the product being registered. Under certain conditions, The Open Group may grant Temporary Waivers where the impact on users is deemed to be minor. This allows Product Registration to proceed.

Figure 4 Interpretations, Test Suite Deficiencies, and Temporary Waivers

The relationship between Interpretations, Test Suite Deficiencies, and Temporary Waivers is shown in the figure. In most cases the first indication of a problem arises when there is a discrepancy in the test report when running the test suite against a product. The applicant is advised to check the published list of Interpretations and Test Suite Deficiencies before proceeding. The problem is reported to The Open Group, which determines the outcome (see **Interpretations, Test Suite Deficiencies, and Temporary Waivers** on page 19).

Interpretations

Interpretations of Specifications will never result in product behavior that was previously considered to be conformant being declared non-conformant. Interpretations may only result in product behavior that was previously considered to be non-conformant being declared to be conformant. Permanent Interpretations refer to the Specifications or standards, not to products. Any Product Registration application may refer to Permanent Interpretations to resolve discrepancies in test reports or to support the application in any other way, irrespective of the origin of the Interpretation request.

The Open Group issues Corrigenda where there are material errors in the referenced Specifications. Interpretations relating to the Specifications and published Corrigenda overlap, although the former is specifically related to Product Registration. At the time of Product Registration or at renewal, vendors should check for the presence of Corrigenda to Specifications. Corrigenda are published alongside the publication details on The Open Group web site at *http://www.opengroup.org/corrigenda*.

In areas of the Specifications that either replicate or reference other standards, Interpretations of Specifications are in effect Interpretations of the other standards. In these areas, the relevant standards organization will be contacted and involved, but to avoid unnecessary delay and inconvenience to the applicant, The Open Group at its sole discretion may issue a Temporary Interpretation.

The Open Group will submit a request for an Interpretation of the underlying standard to the standards body involved, and will include the rationale by which The Open Group decided to grant the Temporary Interpretation. The Open Group will deal likewise in handling Interpretations relating to specifications from other organizations referenced in Product Standards. Temporary Interpretations remain in force until the standards or controlling body delivers an Interpretation.

If the standards or controlling body delivers an Interpretation that is in line with a Temporary Interpretation, then the Temporary Interpretation will be converted to a Permanent Interpretation. If the standards body delivers an Interpretation that is in conflict with a Temporary Interpretation, then the Temporary Interpretation will be withdrawn and a Temporary Waiver issued with a normal 12-month lifetime (see **Temporary Waivers** on page 21).

Test Suite Deficiencies

The Open Group at its sole discretion may, on application from a licensee, agree that a test suite has an identified deficiency, provided that the evidence supporting the request substantiates the claim.

Test laboratories will be required to continue to use the suspect portion of the test suite in all circumstances, but, when a failure is reported, will be able to determine the applicability of the Test Suite Deficiency to the case in hand. This means that the suspect portion of the test suite is effectively withdrawn only in those circumstances where it falsely reports failure.

Test Suite Deficiencies will be permanent against the particular version of the test suite to which they apply, and will automatically give rise to test suite bug reports. Bugs will normally be fixed

within the test suite maintenance cycle.

Temporary Waivers

Where there are a limited number of implementation errors and these are demonstrated to be of a minor nature, with negligible impact on interoperability or portability, The Open Group at its sole discretion may issue Temporary Waivers which allow Product Registration to proceed.

Temporary Waivers are valid for 12 months, after which time the errors must have been eliminated from the Registered Product for which the Temporary Waiver has been granted. Since Temporary Waivers are granted only at the discretion of The Open Group, an applicant does not know in advance whether or not a Temporary Waiver will be granted in any particular instance. Applicants are therefore warned not to rely on being able to register a product as long as there is a Temporary Waiver application pending for that product.

In order to minimize the variation in acceptance and rejection criteria, The Open Group will, at the request of an applicant following a refusal of a Temporary Waiver request, allow for Anonymous Review by an expert group. Where The Open Group has already sought the advice of an expert group during initial analysis, the applicant will be so notified.

Suppliers of Registered Products must make details of Temporary Waivers available. The requirement to make public the technical details of a temporary waiver may influence the wording used when completing the Temporary Waiver request. The Conformance Statement will identify whether there are any Temporary Waivers against the product.

At annual renewal of the Product Registration, The Open Group requires the licensee to supply proof that the error condition covered by any expired Temporary Waivers has been cleared. A licensee must correct errors and make available a maintenance release incorporating the necessary corrections within the 12-month period, and must ensure that all subsequent shipments of the product under the Open Brand incorporate the corrections.

All requests for Temporary Waivers will be dealt with on their individual merits. Not more than one Temporary Waiver will be issued to a vendor for an identical failure. Furthermore, no Temporary Waivers will be granted for an identical failure to that for which an Interpretation has been published.

Requests for Interpretations, Test Suite Deficiencies, and Temporary Waivers

Details of alternative methods of submitting requests for Interpretations, Test Suite Deficiencies, and Temporary Waivers can be found at *http://www.opengroup/interpretations* together with an on-line copy of the procedure to be used. At this URL there is an on-line web form and also a template request form in plain text (with embedded *troff* formatting commands) which can be completed and mailed to *interpretations@opengroup.org*. Either method is acceptable.

The Open Group will use reasonable efforts to respond promptly to each request for Temporary Waivers or Interpretations, regardless of whether the request is or is not to be granted. Requests will normally be processed within 20 working days of receipt. If the applicant is not satisfied with the result, Anonymous Review and Formal Appeals processes are available.

In processing an Interpretation or Temporary Waiver request, The Open Group is likely to refer the issue to an expert group (normally the group that developed or maintains the specification) for Anonymous Review. Note that the review process requires that requests be filtered prior to distribution to the appropriate review group. The filter is automatic and will remove the product and applicant sections of the form. If company or product names are placed in the sections reserved for the technical descriptions, filtering will not result in anonymity.

Applicants are encouraged to apply for Interpretations and Temporary Waivers in advance of Product Registration. Applying in advance means that the technical process of evaluation is decoupled from the administrative process of Product Registration.

With respect to the list of Interpretations that The Open Group maintains, and to the Temporary Waivers that a licensee of the Open Brand is required to make available under the terms of the Trademark License Agreement, the fact that the technical details will be made available to prospective customers may influence the choice of wording when making requests.

When a request is processed, The Open Group will inform the applicant by electronic mail of the decision quoting the reference number supplied by the applicant at the time of submission.

If an applicant wishes to dispute the refusal by The Open Group to grant a request, they may ask for an Anonymous Review by an appropriate expert group (normally the group or standards body that developed the specification). If this takes place, the application will automatically have details of applicant and product removed before being passed to the expert group for comment.

The applicant may, alternatively or subsequently, invoke a Formal Appeal. Both the Anonymous Review and the Formal Appeal processes are defined in the Trademark License Agreement. Note that if an expert group has already reviewed the request, a second review is unlikely to produce a different result.

The Formal Process

The process of assessing requests for Interpretations, Test Suite Deficiencies, and Temporary Waivers is as follows:

1.   Electronic request arrives at The Open Group.

2.   Request is routed to a technical expert for assessment.

3.   Expert's response is returned to The Open Group.

4.   The Open Group decides to grant or refuse the request.

5.   Where The Open Group considers the request could be controversial it initiates a full Anonymous Review process and informs the applicant.

6.   The applicant may request Anonymous Review or Formal Appeal.

7.   An Anonymous Review requires 14 working days for completion during which the Product Registration application is suspended and the applicant notified of the delay.

Product Registration

Each product to be registered needs to be the subject of a complete, authorized Product Registration Form. The completed and signed Product Registration Form should be sent with supporting materials together with an accompanying cover letter and the purchase order details. Supporting materials should include hard copy and electronic documentation as appropriate: the completed Conformance Statement and the test report(s) or certificate(s) that serve as Indicators of Compliance.

The Conformance Administrator (email *conformance@opengroup.org*) can provide the appropriate Product Registration Form and Checklists tailored for each Product Standard. This identifies the supporting materials required for that Product Standard.

Alternative methods of Product Registration involving the use of The Open Group web site are being developed and will be available at *http://www.opengroup.org/registration*. The procedures will be linked to the Trademark License Agreement application, where a hard copy or facsimile signature is already required, to provide full electronic Product Registration without the need to transmit hard copy or facsimile copies of the signature page of the Product Registration Form.

The Conformance Administrator can advise on appropriate fees and will prompt for renewal of each Product Registration.

Multiple Ports, Third-Party Products, and Binary-Compatible Families

Multiple Ports of the Same Product

Some licensees may wish to register their products across a large number of different families of computer systems. Rather than imposing the high costs of multiple tests and multiple Product Registration applications, The Open Group takes a pragmatic view and includes a method for minimizing unnecessary work without reducing the quality of the Open Brand. The process builds on the existing approach to Quality Assurance (QA) taken by the licensee of the Open Brand and requires a primary port to one or more binary-compatible families to undergo stringent testing, with all of the subsequent ports undergoing QA tests. Licensees should contact the Conformance Administrator to discuss the process.

The process is as follows:

1. The Open Group must be assured as to the quality of the testing process; that is, that procedures are in place to ensure that the necessary testing is actually carried out on each port and a process is in place to determine what testing is necessary.

2. The testing process requires submission to an appropriately recognized Laboratory. A detailed test plan should be agreed in advance with The Open Group. This should include the rationale for which ports are and which are not to be fully tested. The Open Group reserves the right to charge reasonable fees for analyzing test plans.

3. The applicant may then register each product for which conformance has been demonstrated.

4. The licensee can add one or more environments to the Product Registration at any time by submitting an application and the relevant Conformance Statements, provided that testing has been in accordance with the agreed plan.

5. The Open Group has the usual rights of audit as defined in the Trademark License Agreement.

6. The Conformance Statement must contain the detail of the actual test environments and their relationship to the product implementation on other platforms.

7. The Conformance Statement must also detail which configurations were tested using the full conformance suite and which have been subject to QA testing.

The Open Group may request the licensee to supply information reasonably related to the conformance of the product to the Product Standard.

Third-Party Products

Licensees of the Open Brand are not obliged to directly sell the products that they register. They are required to ensure that the Registered Products are available in the marketplace. Licensees can therefore register products that they market by reference to or by incorporation of third-party products.

This process does not in any way diminish the obligations imposed upon the licensee by the Trademark License Agreement; the obligations are the same as if the complete Registered Product were sold directly by the licensee. The licensee is therefore advised to have appropriate agreements with each third-party supplier.

Binary-Compatible Family

The Open Brand applies to software products that conform to the Product Standard in a defined hardware, or combined hardware-system software environment (that is, the underlying hardware and any system software necessary to allow the product to function). The relationships are shown in the following figure:
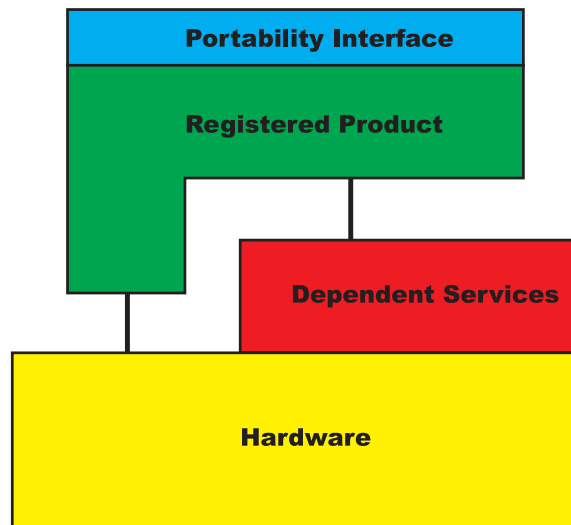
Figure 5 Relationships in a Defined Hardware-Software Environment

The supporting environment may be available in a variety of different realizations.

Where a series of environments are binary-compatible, the product may be registered in all of the series on the basis of a single test report and one Product Registration application. Additional members of a binary-compatible series may be added subsequently.

Identification of the binary-compatible family must be made in the Conformance Statement.

No strict rules are given by The Open Group on what constitutes binary-compatibility, as it is architecture-specific, but note that the audit program may request the conformance of a Registered Product to be demonstrated on any appropriately configured member of a claimed binary-compatible family.
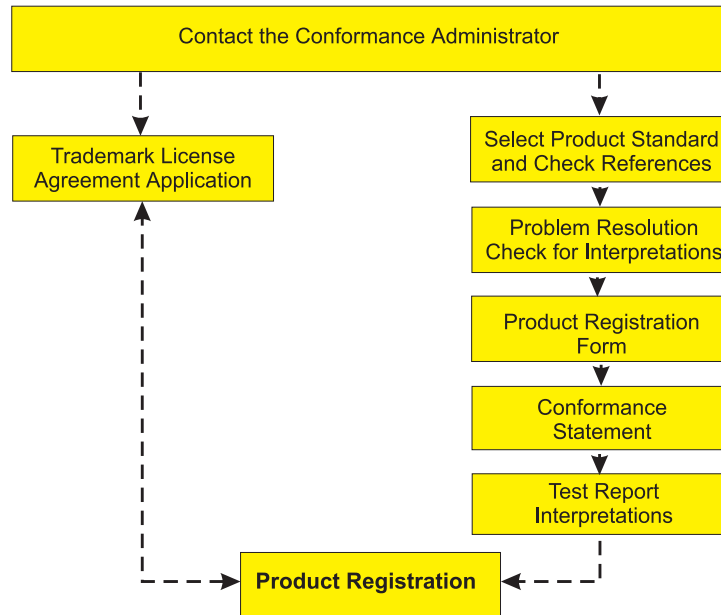
How to Achieve the Open Brand

The key steps are shown in the following figure:

Figure 6 Registration of a Product

The key steps are described below in chronological order:

1. Although the concept of Product Registration is simple, it is highly recommended that you contact the Conformance Administrator before starting the process. Email the Conformance Administrator at *conformance@opengroup.org*. This will enable The Open Group to answer any questions and confirm the understanding of the various steps. It also helps the scheduling of any audits and sets up a working relationship with all concerned. The Conformance Administrator will be able to advise the customer if there have been any recent enhancements to the process. This gives the best possible chance of completing the Product Registration in the required time.

2. Your company needs to have a signed Trademark License Agreement in place before you can register a product. Check to see whether your organization has signed the latest Open Brand Trademark License Agreement. A single signing of an up-to-date Trademark License Agreement covers all your Registered Products. We provide a TMLA Application Form at *http://www.opengroup.org/registration*; however, the form must be printed, signed, and submitted to the Conformance Administrator. A covering letter relating to royalty payments and program options should accompany the completed and signed form. A sample letter is available on the web.

3. You should examine details of The Open Group Product Standards at *http://www.opengroup.org/prodstandards* and determine which Product Standard best fits your need. Checklists are available to assist Product Registration at *http://www.opengroup.org/testing/checklist*.

4. You are advised to check the referenced specifications and standards and look for any published corrigenda at *http://www.opengroup.org/corrigenda*. You should ascertain whether any Permanent or Temporary Interpretations have been issued by looking at *http://www.opengroup.org/interpretations/database*. It might be appropriate to establish whether any Test Suite Deficiencies have been issued. Advanced preparation of this type will reduce the incidence of problems at a later stage.

5. Indicators of Compliance relate to successful completion of conformance tests. Examine the Product Standards to see where test results or a test certificate is required. Where they are required, you will need to send a signed and dated hard copy of the first pages of the relevant test report, or a hard copy of the relevant certificate, such as an AJPO Ada Certificate. In addition, you need to submit electronic files including relevant test results, journal files, and a list, in table form, of any results that require Interpretations together with the referenced granted Interpretation numbers. The results should be from a currently authorized version of the test suite. Unless previously agreed with The Open Group the test results should come from an uninterrupted pass of the test suite. The specific requirements for each Product Standard are provided on the Web at *http://www.opengroup.org/testing*.

6. If there are any deficiencies in the test suite report, re-check for published Interpretations and Test Suite Deficiencies at *http://www.opengroup.org/interpretations/database* and report any problems to the Conformance Administrator who will advise on the appropriate next steps.

7. A Conformance Statement is required for each Product Registration to a particular Product Standard. Applicants create them by accessing the relevant Conformance Statement Questionnaire on The Open Group web site at *http://www.opengroup.org/csqs*, answering all the questions and submitting the completed Conformance Statement electronically. Please note that there is one Conformance Statement Questionnaire for each Product Standard and you may need to submit multiple Conformance Statements where one Product Standard references another.

8. Each product to be registered needs to be the subject of a complete, authorized Product Registration Form (see **Product Registration** on page 23). The completed and signed Product Registration Form should be sent with an accompanying letter with supporting materials and purchase order details. Supporting materials should include hard copy and electronic documentation as appropriate: the completed Conformance Statement(s) and the test report(s) or certificate(s) that serve as Indicators of Compliance.

9. If all the information is in order, The Open Group will register the product and provide an Open Brand Certificate. Details from the Register appear on The Open Group web site at *http://www.opengroup.org/regproducts*.

10. If the information is not in order, applicants may be asked to re-submit their application or supporting materials.

11. Successful applicants should schedule for annual renewal of their Product Registration.

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