

X/OPEN

**ALPHA AND BETA
TEST ACTIVITY
PROCEDURES**

ISSUE 3.0

16 January 1994

This document is subject to change control.

The document controller is J P Andrews.

The document originator is C P French

The document authoriser is J de Raeve

© 1990,1994 X/Open Company Limited

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright owners.

SECTION 1 - INTRODUCTION

1.1 OBJECTIVE OF DOCUMENT

The objectives of this document are as follows:-

- To define the working procedures for the acceptance of test systems and their release for the X/Open branding programme.
- To define the criteria for acceptance and release of test systems for the X/Open branding programme.
- To define the error and status reporting procedures to be applied during the acceptance process, including any deviations.
- To identify the means by which the release status of a test system is defined and maintained.

1.2 SCOPE OF DOCUMENT

These Acceptance Procedures identify the generic methods and procedures for the acceptance of procured test systems. The generic procedures are applicable to any software test system, irrespective of function, and may also have applicability to any software product. The activities and procedures defined within this document form a basis for the initial acceptance of X/Open Verification Suites and their subsequent releases as a result of enhancements. The specific test and acceptance criteria employed may, however, require enhancement for each system subject to assessment. For example, the XTI Verification Suite has networking functionality and this may require additional technical evaluation of such specific test system features.

The test system acceptance procedures are valid as a stand alone document but may form part of other X/Open operational quality documents. Irrespective of the quality assurance methodologies applied to procurement as a whole, this acceptance plan can be applied as the final quality control procedure prior to release of the system as GA for branding purposes.

1.3 THE OVERALL TEST SUITE ACCEPTANCE PROCESS

1.3.1 THE STEPS IN THE PROCESS

The acceptance of a test suite, following handover from the developer, normally undergoes 2 stages of evaluation and acceptance, alpha and beta testing. Alpha acceptance testing is usually the first opportunity for X/Open members to evaluate the test system. Once this is complete, Beta testing commences. This is the final opportunity for X/Open members to evaluate the test system and recommend (or reject) its General Availability. At this stage its use in the X/Open branding programme is a key aspect. Finally X/Open, using the recommendations of the reports from these testing periods, decides whether to make the test suite generally available.

1.3.2 THE KEY PLAYERS

There are 4 key players in the process of getting a test suite to its eventual customers. A

summary of their roles is given below and expanded on later in the body of the document.

The Test Development Group — Each test system development programme has a corresponding group, whose purpose is to monitor progress, evaluate the product and recommend the acceptance or otherwise of the system after each phase. These groups are generically known as Test Development Groups (TDGs). The TDG will make recommendations that the programme should progress from alpha to beta testing and from beta testing to general availability. (These groups are sometimes known by their email group address, eg XoVGbase).

The Verification Strategy Group (VSG) — This group has the role of advising and setting guidelines for the overall strategy, quality and priorities of the total X/Open test development programme. This group will comment on the procedural aspects of the test activity. (This group is sometimes known by its email group address, XoVGstrat).

X/Open — X/Open staff will act upon the recommendations of the TDG and the VSG. They have the final decision on taking the test suite to general availability.

The Technical Managers — X/Open will recommend to the TMs that the test suite be used to support the X/Open branding programme. The TMs have the authority to allow the test suite's use in branding.

1.4 DISTRIBUTION

- The Verification Strategy Group (XoVGstrat)
- Potential and actual test system suppliers as required
- The appropriate Test Development Group members
- X/Open's Testing Business Unit staff

1.5 DOCUMENT HISTORY

Issue A	1 June 1990	First Draft for review
Issue B	1 Aug 1990	Second Draft incorporating comments
Issue 1.0	1 Sept 1990	After Final review of Draft
Issue 2.0	2 Oct 1991	After review based on operational experience of Verification Working Group
Issue 3.0	16 January 1994	After review by Verification Strategy Group on Aug 11 1993

1.6 GLOSSARY OF TERMS

Alpha acceptance activity — The period in which Alpha acceptance testing takes place. This is usually the first opportunity for X/Open members to evaluate the test system.

Alpha Site — An organisation, normally an X/Open member, who has committed to undertake Alpha acceptance testing, during the Alpha acceptance activity.

Alpha Acceptance Report — A proforma report completed by an Alpha Site which summarises the Alpha acceptance testing that has taken place.

Assertion — A statement of functionality for a function or command that is derived from a statement of requirement for that function or command.

Assertion Test — The software designed and written to ascertain the compliance of the implementation to an assertion.

Beta acceptance activity — The period in which Beta acceptance testing takes place. This is the final opportunity for X/Open members to evaluate the test system and recommend (or reject) its General Availability.

Beta Acceptance Report — A proforma report completed by a Beta Site which summarises the Beta acceptance testing that has taken place.

Beta Release Form — A proforma document completed by the TDG chairman which summarises the Beta acceptance testing by all the Alpha sites. This document also give authority for General Availability of the test system and its application to the branding programme.

Branding Programme — The activities, including testing, which lead to product vendors marketing products in accordance with the Trade Mark Licence Agreement.

Build Standard — Reference to document that defines the files and documentation that constitute the configuration of the version and release of the test system, including all the component version numbers.

Certificate Of Conformance — A form that a Test System supplier completes with each release of a test system which documents that the test system suppliers quality department believe to the best of their knowledge that the product meets the X/Open specification.

Certification testing — A process of testing and evaluating a given hardware and software implementation using processes and procedures defined by a certification body with the expressed purpose of determining conformance to an Open Systems Standard.

Code — The computer test programs (C and Shell) in both Source and object form.

Conformance testing — A process of installing, configuring and executing test suites on a given hardware and software implementation for the expressed purpose of evaluating the implementation.

Critical Error — See Appendix C of this document.

Enhancement — See Appendix C of this document.

Error — This can be used in reference to either code or documentation. A code error shall mean that the program code is implemented in such a way that it does not operate or gives incorrect results. A documentation error shall mean that the documentation is technically incorrect, inaccurate or does not enable the intended user to produce the intended results.

Evaluating test suites — A process of reading and executing test suite code which test conformance to Open Systems specifications and standards, with the expressed purpose of determining and defining the problems with the Test Suites or the implementation under test

Fatal Error — See Appendix C of this document.

Function — A routine or command. Sometimes called components or modules.

General Availability(GA) — A test suite may become generally available for use in the branding process after recommendation (as defined in these procedures) and subsequent final approval by X/Open.

Incident Report — A means by which potential errors or observations related to a test system are documented. Incident reports also act as the medium by which errors or enhancements are classified and any action identified.

Interim Bug Fix Release — A planned release during acceptance testing to clear outstanding errors.

Maintenance Release — A release of the test system after its GA to clear errors.

Procurement Contract — For the purpose of this document, a procurement contract defines the legal basis for a vendor to design, implement and supply a test system to X/Open whose purpose is to test conformance to a defined specification.

Product — For the purpose of this document, an implementation of software to an X/Open specification which can be verified by the test system in question.

Release Package — The test system media, documentation and associated supplier release form.

Rework — A defined programme of work to correct errors in the test system. Where deemed necessary, enhancements to the test system may also form part of this programme of work.

Six Sigma quality — A measurement of quality which in effect translates to zero defects.

Standard Error — See Appendix C of this document.

Supplier — For the purposes of this document a supplier is defined as a vendor who by means of a procurement contract is contracted to supply to X/Open a test system in accordance with the constraints specified by this document.

Test Case — A test for which a specific verdict is assigned relating to a test assertion.

Test Development Group (TDG) — Each test system development programme has a corresponding group, whose purpose is to monitor progress, offer advice and recommend the acceptance or otherwise of the system after each phase. [Originally there was a single Verification Working Group]. An X/Open email group address will be set up for circulation of all correspondence between members of the group.

Test Environment — The specific combination of hardware and software in which the test takes place. For the acceptance of test systems the test environment will by definition include an implementation of the standard tested by the test system.

Test program — An executable program which contains all the assertion tests for a function.

Test System (or A product whos purpose is to assess the conformance of implementations against a base standard.

Unplanned Interim Release — A release to clear a fatal error as quickly as possible. Such a release will normally take place directly from the test system supplier.

Verification Suite — The set of test cases within a test system used to assess conformance with the X/Open specification.

Verification Strategy Group (VSG) — This group has the role of advising and setting guidelines for the overall strategy, quality and priorities of the total X/Open test development programme. (This group is sometimes known by its email group address, XoVGstrat).

Verification Working Group (VWG) — This single group has been superseded by a number of TDGs (see above).

X/Open Conformance Quality Manager — A member of X/Open staff responsible for the quality assurance activities of the branding programme including test system acceptance.

X/Open Test Development Manager — A member of X/Open staff responsible for the day-to-day management of X/Open's test development programmes, including financial and contractual matters.

SECTION 2 — ALPHA RELEASE

The Alpha acceptance activity starts after the test system supplier's Quality Assurance department has initially released a test system or re-released an existing test system after enhancement. The Alpha acceptance constitutes a detailed "hands-on" technical evaluation of the test system, independent of the design team. The Alpha acceptance activity does not relieve the test system supplier of the need to validate and verify the test system prior to release; rather, it adds confidence that the test system will be fit for GA and use in the X/Open branding programme. In addition, Alpha acceptance authorises payment for the test system supplier. At the end of the Alpha acceptance activity a review of the test results will be undertaken by the appropriate Test Development Group (TDG). The Alpha acceptance activity completes when this review concludes that the test system is fit for release for Beta testing.

2.1 CONDITIONS FOR ENTRY TO ALPHA ACCEPTANCE

The Alpha acceptance activity starts after the satisfactory completion of relevant procurement contract conditions including the activities defined in the test system supplier's Quality Assurance Plan and their associated review by the X/Open Conformance Quality Manager. At this point the test system supplier's Quality Assurance representative will signify the fitness of the test system for external evaluation by means of the Supplier Release form which includes a Certificate of Conformance (see Appendix D).

2.2 THE ROLE OF ALPHA SITES

The role of Alpha sites is to evaluate the test system. Candidate Alpha sites will be solicited prior to X/Open letting a contract for test system procurement. Alpha sites will be selected from candidates meeting the Alpha site criteria defined below. The number of Alpha sites deemed adequate will depend on the type of test system for acceptance and its strategic use. For guidance three is considered an absolute minimum. If less than three candidate Alpha sites can be identified X/Open will seriously consider whether the letting of the contract is justified in the context of such an apparent lack of interest by the members. Selected Alpha sites will commit to be responsible for the Alpha acceptance testing of the first release and subsequent bug fix releases of the test system for the Alpha acceptance activity. Alpha sites shall also state their support in principle to being responsible for further Alpha acceptance testing should it be deemed necessary to extend the Alpha acceptance activity. Normally Alpha sites will be volunteers who will gain from being able to offer early exposure of their products to the test systems. In order to ensure that sufficient Alpha sites are available for a given release it may, under exceptional circumstances, be necessary to buy in services for Alpha testing. Normally, however, Alpha sites will receive no financial compensation for their effort and in no case will an X/Open shareholder be paid for Alpha acceptance testing.

The role of Alpha sites is a crucial one. The most diligent of test system supplier's quality departments will only trap a proportion of the errors in internal validation and verification testing. The large number of possible parameters and configurations for testing, combined with the inherent limitations of software testing, mean that it is impossible to simulate all possible error modes from exposure to a single product. Each time the test system is applied to a different product its operation will be different and hence more errors will be exposed. Thus

Alpha testing sites, in exposing the test system to different products, will identify a number of errors. The Alpha acceptance testing is intended to trap a number of significant errors and thus substantially improve confidence in the fitness of the test system for Beta acceptance testing.

2.3 CRITERIA FOR SELECTION OF ALPHA SITES

Alpha sites will be selected primarily but not exclusively from TDG member organisations. These candidate sites shall meet the following criteria to be selected for Alpha acceptance testing. X/Open will recommend the selection of Alpha sites to the TDG who will make the final selection.

1. Staff shall be available who are familiar with the principles of software testing and experienced in the analysis, execution and use of verification software.
2. Sites should have a direct email connection to X/Open (Internet or direct dial).
3. The Alpha sites should have the necessary hardware and software environment to run the verification suite.
4. The site should have access to at least one product against which the test system can be run. This product shall preferably not be the same product/environment combination as that used for the test system supplier's internal validation and verification testing. Organisations who are not X/Open shareholders will only be selected as Alpha sites if they have access to an implementation that has not been used for verification and is not available to an Alpha site who is an X/Open member.
5. The Alpha site shall commit to support the complete Alpha acceptance testing throughout the planned Alpha acceptance activity.
6. The Alpha site shall state an intention in principle to support testing during any extension to the Alpha acceptance activity as a result of rework.
7. The Alpha site shall in principle commit to providing testing effort for the acceptance for subsequent upgrade releases of the test system after application to the X/Open branding programme.
8. The Alpha site shall commit to work to the Alpha acceptance test plan.
9. The Alpha site commits to comply with all reasonable requests for access to hardware facilities by the test system supplier in order to clear errors. It is preferable but not mandatory for the Alpha site to offer dial in facilities to the test system supplier for this purpose. Alpha sites in providing this access may take whatever steps they deem necessary to protect confidentiality of their commercially sensitive information for example, unannounced hardware. Only if the Alpha site has considered the various options and can find no practical method to satisfactorily protect proprietary information should confidentiality be used as grounds to reject access to the test system supplier.
10. The Alpha site should agree to comply with the requirements of this document for progress reporting and error reporting.

2.4 ALPHA TEST PROCESS

The processes for Alpha and Beta acceptance testing are for the most part identical, from the point the start criteria are met until the conditions for completion are to be evaluated. The details of this common process are described in Section 4.

2.5 CONCLUSION OF THE ALPHA TEST PROCESS

2.5.1 ALPHA ACCEPTANCE REVIEW

At the completion of the Alpha acceptance activity a review will be held by the TDG at which the formal reports of the Alpha sites' acceptance testing will be presented and the test coverage assessed. This report will be based on the completed Alpha Acceptance Report form. By consolidating the reports of the Alpha sites, the overall status of the test system may be assessed and a decision taken on whether to advise X/Open to accept or reject the test system.

If a recommendation for rejection is agreed by X/Open a new Alpha acceptance activity will start after test system rework. In this case the additional period for Alpha acceptance will be shorter, as decided by the TDG. A period of two weeks additional testing is envisaged as suitable in most cases. It is to be hoped that all the Alpha sites will be able to support such an extension to the Alpha acceptance activity however it is acknowledged that the number of Alpha sites participating may need to be reduced to a minimum of two. Should less than two sites be able to assist in further testing, X/Open may need to solicit new Alpha sites from the membership. When the additional test period is over a further acceptance review takes place. This review may again require yet a further extension to the test period and this process continues until the test system reaches a status such that it may be accepted.

2.5.2 CRITERIA FOR ACCEPTANCE

Unfortunately it is not possible to lay down rigid criteria as to whether to accept a test system in a given set of circumstances. This is because of the overall technical and political constraints in which the decision must be made. For example, although there may be a critical error identified from the code review this may apply to a test assertion for which there is little prospect of realisation by products in the medium term. Indeed, it may not be possible to exhaustively test this assertion in the absence of an product. In such a case, if the demand for the test system is urgent, it may be appropriate to recommend acceptance despite the presence of this error. Conversely, the volume and type of standard errors may indicate that the quality of the test system is inadequate for acceptance even in the absence of more critical errors. In this case it may be appropriate to recommend rejection.

The following criteria offer guidance for the decision to recommend to X/Open the acceptance or rejection of the Alpha acceptance to allow progression to Beta release.

The TDG shall recommend to X/Open that the test system shall be rejected, and a new Alpha acceptance activity start, if any of the following conditions apply:-

1. There are any outstanding fatal errors.
2. There are one or more critical errors outstanding for which the estimated time for correction exceeds two working weeks. Reports raised less than seven days before the

acceptance meeting should be disregarded in this respect unless directed otherwise by the TDG.

3. More than five percent of test cases have errors outstanding.
4. One or more of the Alpha sites recommends rejection by means of the Alpha Acceptance Report. This will be based on the quality measurement criteria described in Appendix A.
5. Less than 2 sites return an Alpha Acceptance Report.

If the test system is not rejected it may be accepted subject to an agreed rework programme. X/Open will withhold the final payment to the contractor subject to the rework programme being completed, as defined by X/Open. Note that an enhancement, though possibly forming a constraint on the commencement of Beta acceptance, does not hold up the payment of the test system supplier.

Should it be deemed necessary by the TDG to reject the test system then a defined rework programme must be identified and a full justification for the decision to recommend acceptance must be included in the minutes of the TDG and as a separate document to the Verification Strategy Group (the XoVGstrat mail group).

2.5.3 PROCESS FOR ALPHA ACCEPTANCE.

Should the TDG recommend acceptance of the test system this is signified by means of a formal minute in the TDG minutes or, if this decision is taken outside of the meeting, by means of a formal statement to the email group.

The Verification Strategy Group is entitled to recommend rejection, on the basis of procedural matters.

Once the Alpha release form has been approved, the X/Open Test Development Manager will release any outstanding payment to the test system supplier. However, a percentage of the contract price may be retained by X/Open until any identified rework programme is completed.

SECTION 3 — BETA RELEASE

The Beta acceptance activity starts after agreement of the TDG as recorded in a meeting minute and by means of an email statement to XoVGstrat. The Beta acceptance activity constitutes a review by TDG members of the test system leading to its General Availability (GA) for use in the branding programme. The Beta acceptance activity completes when the TDG recommends that the test system is fit for GA.

The purpose of the Alpha acceptance activity is a technical evaluation leading to completion of the procurement contract and payment of the test system supplier. By contrast the Beta acceptance activity, whilst a technical evaluation, also adds marketing and political considerations and leads to the GA of the test system and its use in branding.

3.1 CONDITIONS FOR ENTRY TO BETA ACCEPTANCE

The condition for entry to the Beta acceptance activity is the endorsement by X/Open of a recommendation that the test system is fit for Beta acceptance. All Fatal and Critical errors (Codes 1 & 2) will be planned for completion prior to Beta release. In practise it may not be possible for the test system supplier to clear all the errors in the planned timescale but this in itself need not necessarily prevent the commencement of Beta testing if the TDG and X/Open deems that the test system may be accepted. Enhancements need not be resolved prior to release of the test system to the members for start of Beta acceptance unless specifically requested by the TDG, however a defined rework procedure may be associated with the Beta release for the clearance of errors. Final payment of the test system supplier will be withheld by X/Open until the errors outstanding from the Alpha activity are completed. This constraint on payment does not however apply to enhancements which are by definition outside of the procurement contract. In the case that critical errors are outstanding from the Alpha acceptance activity these must be completed within two weeks. Should this not be the case the Beta acceptance activity will be extended by one day for each days slip in the clearance of the errors. All rework from the Beta acceptance activity to be undertaken will be identified in the TDG minutes on the statement of beta acceptance.

Once the test system supplier signifies that all outstanding errors from the Alpha acceptance activity have been cleared, this must be verified by testing (unless all the errors are minor). This testing will normally be undertaken by the Alpha sites who identified the errors.

3.2 THE ROLE OF BETA SITES

The Beta acceptance activity gives the TDG membership the opportunity to review the suitability of the test system for GA and use in the branding programme. The Alpha acceptance activity will have identified and resolved a number of serious errors, that is fatal and critical (error codes 1 & 2). During the Beta acceptance activity the test system will receive further exposure to real products and it is therefore likely that new errors will be exposed. It is also possible that during the Beta acceptance members may wish to raise non-technical issues for consideration prior to release: an example would be whether the timing is appropriate for GA.

3.3 CRITERIA FOR SELECTION OF BETA SITES

Only TDG members will be eligible to take part in Beta acceptance. Other criteria are as described earlier for Alpha sites (see 2.3).

3.4 BETA TEST PROCESS

The processes for Alpha and Beta acceptance testing are for the most part identical, from the point the start criteria are met until the conditions for completion are to be evaluated. The details of this common process are described in Section 4.

3.5 CONCLUSION OF THE BETA TEST PROCESS

3.5.1 BETA ACCEPTANCE REVIEW

At the completion of the Beta acceptance activity a review will be held by the TDG. The review will reach its decision based on the Beta Acceptance Reports from the members and in particular their release vote. This review will either mandate GA or define the action that must take place before this can happen.

The members may decide to :-

1. Recommend the GA of the test system and its suitability for use in the branding programme.
2. Identify actions that must take place prior to GA.
3. Require a restart of the Beta acceptance evaluation.

3.5.2 CRITERIA FOR ACCEPTANCE

The criteria for recommending the release of the test system is that both the following are true :-

1. There are at least 3 Beta Acceptance Reports.
2. The ratio of the number of votes for release to the number of votes for rejection is 2 or more.

All TDG members may vote on acceptance using a Beta Acceptance Report even though they may not themselves have undertaken testing activity. However it is to be expected that members will not vote for acceptance unless a satisfactory level of Beta acceptance testing has taken place overall.

Irrespective of the release vote, a defined action programme may be derived from the Beta Acceptance Report forms with particular reference to those members who voted against release. The completion of this action programme does not necessarily constrain the release of the test system. A target date however is required for the clearance of outstanding errors and any enhancements deemed necessary by the membership. Normally this shall be by the next maintenance release.

It should be noted that any enhancements included in the rework programme may have commercial implications as additional funding might be required to finance such enhancements.

If the vote has not recommended a release a further decision is required. The members can either:-

1. Require that another period of Beta acceptance starts after the completion of the rework period.
2. Designate at least three Beta or Alpha sites to validate that the rework is complete and recommend X/Open to release the test system without further reference to the membership. In checking that the rework is complete these sites shall undertake sufficient testing to give confidence that no new errors have been introduced by the rework.

It is envisaged that the decision on the necessity for a further Beta acceptance will be made by consensus. However, if no agreement can be reached, another Beta acceptance evaluation period shall take place unless a two to one majority of the membership recommend the release after acceptance by designated sites.

In the case that a further period of Beta acceptance testing is deemed necessary this need not be for the full eight week period. The TDG will define the length of the extension. A period of two weeks additional testing is envisaged as suitable in most cases. When the additional test period is over a further acceptance review takes place. This review may again require yet a further extension to the test period and this process continues until the test system reaches a status such that it may be accepted.

Is the responsibility of the TDG to complete the Beta release form and to recommend whether or not X/Open proceeds to GA of the test system.

3.5.3 PROCESS FOR GENERAL AVAILABILITY

The procedure for GA of a test system is similar whether or not it takes place immediately after Beta acceptance or after the completion of an action programme. The recommendation for the GA of the test system is made by the TDG, either at a meeting or as a result of an Email debate and vote.

The Verification Strategy Group is responsible for the quality of the procedures used to accept test systems. In this role, the VSG will prepare a brief report to X/Open on whether or not the acceptance processes (both alpha and beta) have been carried out correctly. X/Open will use both the TDG's alpha and beta acceptance reports and the VSG report in making its decision regarding GA and in making a recommendation to the Technical Managers on the suitability of the test suite for use in the branding programme.

Once the Beta release form has been approved, the X/Open Test Development Manager can proceed to General Availability and commercial licencing of the test suite. However, it is the Technical Managers who authorise the use of the suite as a branding tool, in association with the corresponding specification and component definition. Following this there is normally a period of time (of the order of 9 months) during which the suite may optionally be used to support branding applications, but after which it becomes obligatory.

SECTION 4 — THE PROCESS FOR ALPHA AND BETA TESTING

The procedures and methods for Alpha and Beta acceptance testing are fully defined in this section. For the most part the process for Alpha and Beta testing are the same and this section covers both - where they differ this is clearly identified.

4.1 X/OPEN EMAIL ALIASES

At the start of activity on each test suite, X/Open will set up a set of email aliases. These have a generic naming structure, as follows (where *name* is, for example XNFS or XTI) :-

XoVG<name> — this is the group of people actively involved in the acceptance process. It is for general correspondence and planning. It is not for commercially sensitive information.

<name>_support — this is a route to the test suite developers, for general questions. It is copied only to X/Open staff, and so is commercially confident.

<name>_error — this is for error reports, using the proforma supplied with the test suite. This allows a copy, sanitised by removal of commercially sensitive material, to be broadcast to XoVG<name> for general interest. The original is seen only by the test suite developer and X/Open staff.

4.2 RELEASE OF SOFTWARE TO TEST SITES

4.2.1 PROCESS FOR SUPPLIER RELEASE

The test system supplier releases the test system by dispatching it directly to the test sites with a copy to the X/Open Test Development Manager. The test system shall be supplied on the media and with the number of copies defined within the contract. Increasingly, the preferred means of distribution is by FTP over the Internet or electronic mail for smaller amounts of data. The test system shall be dispatched with the associated supplier release form and certificate of conformance. The X/Open Test Development Manager will undertake a documentation and deliverable check on the release package to ensure that it conforms to the supplier release form. If any discrepancies are observed, the test system supplier will be informed and the issues resolved as part of the error reporting process. Discrepancies which may impact the effectiveness of the testing will be classified as 'FATAL'. All subsequent releases to test sites, including interim bug fixes, during the test acceptance activity will be dispatched directly by the developer.

4.2.2 SUPPLIER RELEASE FORM

With each release of the test system to X/Open, the test system supplier will email a completed supplier release form, included as Appendix D of this document.

4.2.3 RELEASE TO TEST SITES

All planned or emergency re-releases of the test system during the acceptance activity will normally be by means of email. Any queries on the test system release received should be referred to the X/Open Test Development Manager.

4.3 THE ACTIVITIES OF TEST SITES

If the acceptance test is to have maximum impact in improving confidence in the fitness of the test system for branding it is important that the test sites conform to the requirements of this document.

In order to encourage a more uniform measure of evaluation, a number of standard criteria are identified in Appendix A. Following these guidelines will help each site devise their own test activity plan. At the end of the testing activity, a summary of these quality measurements will be included in the Alpha or Beta Acceptance report.

4.3.1 INCIDENT REPORTING

Potential error observations and queries shall be reported via the relevant TDG's email group (as set up for this particular test development) using the incident report proforma available as a raw troff file from the X/Open Test Development Manager. This X/Open mailbox will automatically relay the report to the test system suppliers support department. In addition a sanitised version of the error report will be automatically be relayed to the test sites. In order to ensure that confidential information is not passed on in this way it is essential that the format of the template is not altered in any way, and that no system or company details are included in the text, excepting in those areas defined for this in the template. Since the relay is automatic no responsibility can be taken by X/Open should this warning not be heeded. Incident reports will be monitored by the X/Open Test Development Manager and are archived automatically at X/Open for reference. The X/Open Test Development Manager will check each email receipt of incident reports for completeness. It is the responsibility of the X/Open Test Development Manager to ensure that all incident reports are answered and, where appropriate, actioned in the appropriate time.

4.3.2 USE OF THE ACCEPTANCE REPORT

Each test site shall produce an Acceptance Report to summarise its acceptance activity as a whole. The Acceptance Report proforma is included as Appendix A of this document. It combines the results of each test of a product/environment combination and provides a summary of the test coverage and any incident reports raised. The Acceptance Report provides an opportunity for the test site to make its objective and subjective comments on the test system. At the end of the test acceptance activity the test site should complete the Acceptance Report proforma including a recommendation as to whether the test system should be accepted in its current state. If the test site does not recommend acceptance the objective reasons for this position shall be defined with reference to the criteria of the generic acceptance test plan. Where information within the Acceptance Report is considered commercially confidential the test site may mark the Acceptance Report CONFIDENTIAL. When a test site marks a Acceptance Report CONFIDENTIAL, the information which is subject to this confidentiality should be clearly specified - for example by highlighting or a reference list. Reasonableness must be used in this, as clearly much of the report need not be confidential; incident reports for example are by definition shown to the test system supplier and are available in a sanitised form. A confidential Acceptance Report will not be generally distributed to other TDG member at the acceptance review without removal of the sensitive information. Furthermore, X/Open undertakes not to divulge to any other party information defined as confidential without the permission of the author of the Acceptance Report.

4.3.3 PROGRESS REPORTING

Each test site shall provide an informal written report to the X/Open TDG every two weeks. This report shall:-

1. Identify the product/environment combinations.
2. Define the number of incident reports raised.
3. Identify any significant critical or fatal errors encountered (see Appendix C, Incident Reporting).
4. State the percentage progress against the sites planned testing programme.
5. Raise any other issues for consideration by the TDG.
6. Identify any red flag items. This section may be used to highlight any areas that the test site particularly wishes to draw to the attention of the developer or other test sites.
7. Raise any other issues for consideration by the TDG.

The X/Open Test Development Manager will relay each report to the test sites as a collection of individual files. However this may be accompanied by a consolidated report of RED FLAG items.

At the end of the test acceptance activity the test site shall make its final report by means of the Test Acceptance report proforma. The Acceptance Report shall be formally presented to the X/Open TDG for review of the test acceptance testing activity across all the test sites. The review of the Acceptance Reports will where possible take place by the email and teleconference. Only if necessary will a formal meeting will be held, for example where there is disagreement on the outcome of the review. Where the review takes place remotely the TDG chairman will ensure that there is an acknowledgement of receipt of the review material by each of the group members.

4.3.4 INTERIM RELEASES BY SUPPLIERS

During the acceptance activity the test system supplier may make bug fix releases. The acceptance activity will planned to last last for between 8 and 12 working weeks depending on the test system involved. During this period, X/Open will normally make a maximum of two planned interim releases. However this maximum may be increased where necessary as recommended by the TDG and agreed by X/Open.

In the event of a fatal error being identified during testing (see Appendix C, Incident Reporting) then an unplanned interim release shall be made by the test system supplier to clear the error within three working days of categorisation. If it is not possible for the test system supplier to clear the fatal error in the defined period then the test acceptance activity will be extended by one day for each days slip in clearing the error providing such an error was not found to be spurious.

Such unplanned releases may take place directly from the test system supplier. The test system supplier shall make such unplanned releases to all sites simultaneously and all test sites are required to install and continue testing on this new release. To facilitate this rapid clearance of fatal errors the test sites will have committed to provide all reasonable facilities to the test system supplier. The use of such facilities shall take place at the test system suppliers expense

unless the error is proven to be spurious.

The X/Open Conformance Quality Manager will, if necessary, arbitrate if a dispute as to whether the error is spurious arises between the test system supplier and test site. A spurious error is defined as an error which results from conditions which are outside of the control of the test system supplier. In the case that the error is spurious, the supplier may make reasonable charges to the test site for direct out of pocket expenses for working on site (for example travel/subsistence). These charges must where appropriate be invoiced against receipts. It is very difficult to lay down rules as to what constitutes a spurious error, so the decision can only be taken on a case by case basis. The following are illustrations of conditions that MAY give grounds for an error to be considered as spurious.

1. The test system has been used incorrectly, that is activities have been undertaken which are explicitly excluded by the test system documentation.
2. The test system has been used outside of its specified constraints, (Eg. it has been installed in an environment that does not provide the resources as defined in its documentation.
3. The error is due to wholly to failure of the environment in which the test system is installed. Though it is reasonable to expect the test system to undertake some degree of checking of its environment, it is not reasonable for it to be tolerant to every kind of error. (Eg. hard disk failures, bus errors, and perhaps the presence of certain viruses.)
4. Misleading definition of the problem (Eg. the problem and/or the conditions under which it occurred are incorrectly described in a way that would PREVENT it being reproduced from the information provided.)
5. Failure to reproduce the problem where it has NOT been described as intermittent.
6. Extreme non conforming behaviour by the implementation against which the Test System is being tested that it cannot reasonably be expected to tolerate (A somewhat contrived example may be that the system's "delete" command has implicit wild card characters in file specifications and thus may remove files that are different from the file and pathname specified.)
7. Failure of the test site to properly maintain and control the test system. (Eg. modifying the code or only partly installing updates)

4.3.5 INCIDENT CATEGORISATION

When an incident report is raised it should be defined in sufficient detail to enable it to be classified (see Appendix C, Incident Reporting). The incident report shall be provisionally classified by the test site, and in all cases shall conform to the definitions for categorisation. The final classification is confirmed by the test system supplier; however, where the criticality of the classification is reduced relative to that provisionally allocated by the test site, this must be justified the test system supplier in the response section of the report. The classification of incident reports will be monitored by X/Open. X/Open may alter the criticality of a classification on technical or quality grounds. Any reclassification of incident reports by either the test system supplier or X/Open must conform to this document's definitions for categorisation. X/Open is the final authority for incident categorisation however in the case of dispute the issue will be placed before an appropriate X/Open Working Group for arbitration.

Incident reports should be classified in accordance with Appendix C of this document. Each incident report shall have the provisional categorisation confirmed (or otherwise) by the test system supplier within one working day of receipt. Incident reports shall be planned for clearance within the following times depending upon classification.

CATEGORY	DESCRIPTION	CLEARED BY
Error 1	Fatal	3 days from receipt
Error 2	Critical	Next release
Error 3	Standard	end Alpha or Beta, as appropriate
Enhancement 4		As agreed by X/Open
Information 5	None of above	Not applicable

Note 1: for an error or enhancement to be cleared it must have been tested and endorsed, thus adequate time for this must be allowed by the test system supplier prior to the end of the acceptance period. The review, testing and endorsement of the fix will be undertaken by the originator of an error or enhancement report.

Note 2: the above table gives target dates for clearance of the various types of incident categorisation. For reasons outside the control of the test system supplier it may not be possible for these targets to be met. The test acceptance criteria give guidance on the course of action to be taken if errors or enhancements remain outstanding at the end of the test acceptance activity.

CONTENTS

SECTION 1 - INTRODUCTION	2
1.1 OBJECTIVE OF DOCUMENT	2
1.2 SCOPE OF DOCUMENT	2
1.3 THE OVERALL TEST SUITE ACCEPTANCE PROCESS	2
1.3.1 THE STEPS IN THE PROCESS	2
1.3.2 THE KEY PLAYERS	2
1.4 DISTRIBUTION	3
1.5 DOCUMENT HISTORY	3
1.6 GLOSSARY OF TERMS	3
SECTION 2 — ALPHA RELEASE	7
2.1 CONDITIONS FOR ENTRY TO ALPHA ACCEPTANCE	7
2.2 THE ROLE OF ALPHA SITES	7
2.3 CRITERIA FOR SELECTION OF ALPHA SITES	8
2.4 ALPHA TEST PROCESS	9
2.5 CONCLUSION OF THE ALPHA TEST PROCESS	9
2.5.1 ALPHA ACCEPTANCE REVIEW	9
2.5.2 CRITERIA FOR ACCEPTANCE	9
2.5.3 PROCESS FOR ALPHA ACCEPTANCE.	10
SECTION 3 — BETA RELEASE	11
3.1 CONDITIONS FOR ENTRY TO BETA ACCEPTANCE	11
3.2 THE ROLE OF BETA SITES	11
3.3 CRITERIA FOR SELECTION OF BETA SITES	12
3.4 BETA TEST PROCESS	12
3.5 CONCLUSION OF THE BETA TEST PROCESS	12
3.5.1 BETA ACCEPTANCE REVIEW	12
3.5.2 CRITERIA FOR ACCEPTANCE	12
3.5.3 PROCESS FOR GENERAL AVAILABILITY	13
SECTION 4 — THE PROCESS FOR ALPHA AND BETA TESTING	14
4.1 X/OPEN EMAIL ALIASES	14
4.2 RELEASE OF SOFTWARE TO TEST SITES	14
4.2.1 PROCESS FOR SUPPLIER RELEASE	14
4.2.2 SUPPLIER RELEASE FORM	14
4.2.3 RELEASE TO TEST SITES	14
4.3 THE ACTIVITIES OF TEST SITES	15
4.3.1 INCIDENT REPORTING	15
4.3.2 USE OF THE ACCEPTANCE REPORT	15
4.3.3 PROGRESS REPORTING	16
4.3.4 INTERIM RELEASES BY SUPPLIERS	16
4.3.5 INCIDENT CATEGORISATION	17