

Alpha Testing Vs Beta Testing: What's the Difference?

Alpha Testing

Alpha Testing is a type of acceptance testing; performed to identify all possible issues and bugs before releasing the final product to the end users. Alpha testing is carried out by the testers who are internal employees of the organization. The main goal is to identify the tasks that a typical user might perform and test them.

To put it as simple as possible, this kind of testing is called alpha only because it is done early on, near the end of the development of the software, and before beta testing. The main focus of alpha testing is to simulate real users by using a black box and white box techniques.



Beta Testing

Beta Testing is performed by "real users" of the software application in "real environment" and it can be considered as a form of external [User Acceptance Testing](#). It is the final test before shipping a product to the customers. Direct feedback from customers is a major advantage of Beta Testing. This testing helps to test products in customer's environment.

Beta version of the software is released to a limited number of end-users of the product to obtain feedback on the product quality. Beta testing reduces product failure risks and provides increased quality of the product through customer validation.

KEY DIFFERENCE

- Alpha Testing is performed by the Testers within the organization whereas Beta Testing is performed by the end users.
- Alpha Testing is performed at Developer's site whereas Beta Testing is performed at Client's location.
- Reliability and Security testing are not performed in-depth in Alpha Testing while Reliability, Security and Robustness are checked during Beta Testing.
- Alpha Testing involves both Whitebox and Blackbox testing whereas Beta Testing mainly involves Blackbox testing.
- Alpha Testing requires testing environment while Beta Testing doesn't require testing environment.
- Alpha Testing requires long execution cycle whereas Beta Testing requires only few weeks of execution.
- Critical issues and bugs are addressed and fixed immediately in Alpha Testing whereas issues and bugs are collected from the end users and further implemented in Beta Testing.

Alpha Testing Vs Beta testing:

Following are the differences between Alpha and Beta Testing:



Alpha Testing	Beta Testing
Alpha testing performed by Testers who are usually internal employees of the organization	Beta testing is performed by Clients or End Users who are not employees of the organization
Alpha Testing performed at developer's site	Beta testing is performed at a client location or end user of the product

Reliability and Security Testing are not performed in-depth Alpha Testing	Reliability, Security, Robustness are checked during Beta Testing
Alpha testing involves both the white box and black box techniques	Beta Testing typically uses Black Box Testing
Alpha testing requires a lab environment or testing environment	Beta testing doesn't require any lab environment or testing environment. The software is made available to the public and is said to be real time environment
Long execution cycle may be required for Alpha testing	Only a few weeks of execution are required for Beta testing
Critical issues or fixes can be addressed by developers immediately in Alpha testing	Most of the issues or feedback is collected from Beta testing will be implemented in future versions of the product
Alpha testing is to ensure the quality of the product before moving to Beta testing	Beta testing also concentrates on the quality of the product, but gathers users input on the product and ensures that the product is ready for real time users.

Types of Beta Testing

There are different types of Beta tests in software testing, and they are as follows:

Traditional Beta testing: Product is distributed to the target market, and related data is gathered in all aspects. This data can be used for Product improvement.

Public Beta Testing: Product is publicly released to the outside world via online channels and data can be gathered from anyone. Based on feedback, product improvements can be done. For example, Microsoft conducted the largest of all Beta Tests for its OS -- Windows 8 before officially releasing it.

Technical Beta Testing: Product is released to the internal group of an organization and gathers feedback/data from the employees of the organization.

Focused Beta: Product is released to the market for gathering feedback on specific features of the program. For example, important functionality of the software.

Post-release Beta: Product is released to the market and data is gathered to make improvements for the future release of the product.

Phases of Testing

Alpha and Beta tests are typically carried for "off-the-shelf" software or product-oriented companies. The Phases of Testing for a product company typically varies from a service-oriented organization. Following is the testing phase adopted by product firms



Pre-Alpha:- Software is a prototype. UI is complete. But not all features are completed. At this stage, software is not published.

Alpha: Software is near its development and is internally tested for bugs/issues

Beta: Software is stable and is released to a limited user base. The goal is to get customer feedback on the product and make changes in software accordingly

Release Candidate (RC): Based on the feedback of Beta Test, you make changes to the software and want to test out the bug fixes. At this stage, you do not want to make radical changes in functionality but just check for bugs. RC is also put out to the public

Release: All works, software is released to the public.

Note: Above is a standard definition of the Testing stages but in order to garner marketing buzz, companies combine stages like "pre-alpha beta", "pre-beta" etc.

Entry Criteria for Alpha testing:

- Software requirements document or Business requirements specification
- Test Cases for all the requirements
- Testing Team with good knowledge about the software application
- Test Lab environment setup
- QA Build ready for execution
- Test Management tool for uploading test cases and logging defects

- Traceability Matrix to ensure that each design requirement has atleast one [Test Case](#) that verifies it

Exit Criteria for Alpha testing

- All the test cases have been executed and passed.
- All severity issues need to be fixed and closed
- Delivery of Test summary report
- Make sure that no more additional features can be included
- Sign off on Alpha testing

Entrance Criteria for Beta Testing:

- Sign off a document on Alpha testing
- Beta version of the software should be ready
- Environment ready to release the software application to the public
- Tool to capture real time faults

Exit Criteria for Beta Testing:

- All major and minor issues are closed
- Feedback report should be prepared from public
- Delivery of Beta test summary report

Advantages of Alpha Testing:

- Provides better view about the reliability of the software at an early stage
- Helps simulate real time user behavior and environment.
- Detect many showstopper or serious errors
- Ability to provide early detection of errors with respect to design and functionality

Advantages of Beta Testing

- Reduces product failure risk via customer validation.
- Beta Testing allows a company to test post-launch infrastructure.
- Improves product quality via customer feedback

- Cost effective compared to similar data gathering methods
- Creates goodwill with customers and increases customer satisfaction

Disadvantages of Alpha Testing:

- In depth, functionality cannot be tested as software is still under development stage Sometimes developers and testers are dissatisfied with the results of alpha testing

Disadvantages of Beta Testing

- Test Management is an issue. As compared to other testing types which are usually executed inside a company in a controlled environment, beta testing is executed out in the real world where you seldom have control.
- Finding the right beta users and maintaining their participation could be a challenge

Myths of Alpha and Beta Testing:

Myth: Alpha and Beta testing are carried out too late in the testing life cycle to merit a benefit

Truth: Alpha and Beta testing help highlight crucial issues with the software application and provide user feedback.

Myth: the Same type of testing is done in Alpha and Beta Testing and they are not different scenarios

Truth: Alpha Testing is done in a lab environment, whereas Beta testing is done by real users reporting real problems based on firsthand experience. Both scenarios are remarkably different.

Myth: Beta type of testing is difficult and time-consuming

Truth: Beta testing takes time/experience to obtain the most value. But the data/feedback it provides is invaluable.

Myth: Beta testing generates little or no useful data

Truth: A successful Beta Test can generate tons of valuable information which is otherwise difficult to procure in a lab environment.

Conclusion

In Software Engineering, no matter how many tests you perform, how many bugs you kill, your software is useless if your end-users do not like it. Beta testing (second letter of Greek alphabet) helps provide authentic feedback of your software from real users.

Alpha testing (first letter in the Greek alphabet) helps simulate real-time user environment before the software is sent for Beta Testing and helps shape a stable software candidate eligible for Beta Tests.

Alpha and Beta Testing are indispensable in your testing lifecycle.