

Prototype to commercial product realization



STAG enables an offshore customer in the wireless technology space to get client buy-in from a robust prototype demo, and brings advancement in product stability for commercial release with a 65% reduction in testing effort.



Domain -
Wireless/Telecom



Technology - LAMP platform
and VMware

CUSTOMER AND PRODUCT BACKGROUND

The customer is a young and dynamic company from the US operating in the wireless technology space and specializing in developing niche video optimization products for the mobile and Internet platforms.

The product in question was a video optimization solution for the Internet that was based on the architecture of the company's flagship product – a video optimization solution for the mobile platform – but with enhanced features. Targeted at network operators/Internet Service Providers (ISPs), this product was designed for ACTA Server Architecture and VMware/Virtual Box platforms, using the LAMP platform.

The product allows service providers to enhance drastically the quality and efficiency of rich media content delivery by optimizing for real-time network connections and also for individual mobile connections. It also ensures improved user experience by decreasing stalls, providing optimal quality of service through inline transcoding based on actual network speed and content type. This in turn ensures increased efficiency in bandwidth allotment, allowing users to watch more video content within their data plans. The ability to do this without transcoding is what makes the solution highly scalable.

PROBLEM STATEMENT

Since the product was a new initiative, there was need for a high degree of reliability and tight integration with the prospective customer's existing systems and interfaces to gain the all-important client buy-in. The company preferred to have on board an experienced testing partner who could back its product quality initiatives to go to market on time and thereby capitalize on the business opportunity.

The knowledge transfer was a major challenge, because of the lack of detailed product documentation, limited interaction with the product team who were stationed in the USA, and non-availability of the complete product setup to independently explore the product. Also, the product had 14 enhanced features, which added to the level of complexity.

SOLUTION

STAG invested in setting up a test lab locally and deploying the product, using virtualization to limit the distributed product components to just one QA server. By doing so, the team was able to explore the product in depth and gain much needed clarity about it, its features, and the interactions involved. By applying HBT's questioning technique to understand the key components and their interactions, the team was able to identify flaws in eight functional flows in three of the components, resulting in their redesign in terms of functionality.

The test effort was synchronized with the immediate customer focus, which was to ensure that the product was ready for a demo. To achieve this, the team designed 287 test cases, tested 18 builds, and isolated 69 defects. The team also made 5 suggestions which were included in the subsequent product development stage.

Once client buy-in was achieved, the team shifted focus towards ensuring two major client releases. The team applied HBT's Negative Thinking technique and EFF model to design 136 potential defects for two components. This enabled the isolation of 25% of the defects – 33 of them major – in the pre-QA release stage of each of the components.

The development team's plan was to have 26 builds of the product prior to market release, with on-time completion of regression. The STAG team designed and executed 252 test cases.

OUTCOME AND VALUE ADDITIONS

A robust demo product release was vital as it helped in achieving the first client buy-in.

Since the major issues were fixed and verified in the initial build releases itself, the test cycle effort was reduced by around 65% - the test execution time for all the components was reduced to 1 day each from 3 days as most of the test cases became redundant (as the product became stable) in the final stages.

Considering that the product's market release was scheduled to be after 26 builds, the advancement of the stability of the product from the 16th build onwards enabled them to focus on the non-functional aspects of the product. This increased the customer's confidence in the product enough to go for two more customer releases.



In the product evolution stage – first 10 builds – #167 defects found



In the full product functionality stage – next 16 builds – #124 defects found