Test Management solution for Enterprise Mobility ISV
Leading Enterprise Mobility ISV gets efficient quality results by leveraging us in Test Management for its flagship Mobile Device Management solution.

Challenge: To ensure perfect product quality for niche MDM product for highly competitive Enterprise Mobility market.

Solution: We deployed fast-paced test team to provide pragmatic test deliveries with lowest CoQs at market driven schedule.

Result: Almost real-time testing of Security Management of Mobile Devices on multiple Device & OS platforms.

About client?

Client is a world leading Enterprise Mobility ISV based in Maryland, USA with its latest multi-platform product offering for Mobile Device Security Management. Their flagship product offering called BT comes in at a time when the market is demanding Security Management for mobile and handheld devices. BT is a client-server solution for the large enterprises which want to manage, monitor and analyze mobile & hand-held devices distributed to their work-force. BT offers complete device management & security solution for RIM and iOS based devices using Microsoft Windows & Microsoft Exchange infrastructure. It assists the enterprise NOC professionals in provisioning, configuring, managing, monitoring and upgrading mobile devices like BlackBerry or iPhones with their corporate applications, security patches and application upgrades remotely Over-The-Air with zero manual intervention which are 100% transparent to the device user.

The Challenge

In July 2010, client decided to include Mobile Device Management features into BT and provide support for BlackBerry and iOS devices. The challenge was to come out with the solution within the same year as there were already 5-7 competitors with varying quality and feature portfolio. Client did not have readily available expertise in this new technology (SCEP- the IETF standard for Security Certificate Enrollment Protocol; Apple APNs and mobile device management framework), nor did they have any experience in ensuring quality for this multi-platform architecture at such a tight schedule. To outsource the test management was the most obvious option but there were many constraints involved in this strategy. BT was client's flagship product and they did not want to share the business and technical know how to a third party for business security reasons. Moreover, there was no bandwidth available with them to coordinate the project execution efforts with the third-party vendor.

In purview of the outsourcing constraints, the client approached us and requested to come out with a trustworthy test operation, execution and management strategy.

The Solution

V. Raina, Senior Manager of BT, suggested its management to revisit outsourcing options with reliability, security and expertise as key selection factors. On getting the management nod for

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the third party's involvement; Raina did an extensive research on the prospective vendors and their service offerings. None of the vendors except us qualified on the parameters of technical prowess, cost effectiveness and process capabilities. Eventually, client expressed its willingness to rope-us-in for providing the test solutions for BT.

Our team geared up to take up the responsibility of providing a cost effective and speedy creation of test strategy for BT. We scheduled several rounds of discussions with the Engineering teams and Quality Assurance & testing teams of client. Our team recorded every detail of these discussions meticulously and the compiled information was thoroughly analyzed. This preliminary analysis of BT ecosystem helped in understanding the constraints involved in setting up the test environment. The Engineering technology stack included the new IETF standard protocol for Security Certificate enrollment called SCEP; Apple's APNs interaction; and iOS4 device management framework. Engineering team—already tied up with learning and implementing—started churning out feature implementations quickly. The test team quickly understood the product requirements, grasped the technology stack and came out with a high-level Product Test Strategy within 10 business days. This strategy was based upon our standard test methodology which is completely conformant to PMI, CMMI and Agile Methodology's best practices.

Subsequently, the our test execution team started churning out the test cases in real time as the engineering team was writing new code-lines. This test team wrote 200 odd test cases using Orthogonal Array approach valid for 6 combinations as shown in Table 1 below.

Combination Matrix					
Devices	Server	Server Mode	https?	MailServer	OperationEnv
iPhone 3G	32bit	single	yes	Exchange	OTA 2G
iPhone 3GS	64bit	dual	no	Google	OTA 3G
iPhone 4				Domino	OTA 4G
iPad				Zimbra	WiFi
iPod Touch					VPN on WiFi
non-iOS device					

Table 1: Combination Matrix

This real time test execution included flavors of Progressive Elaboration for understanding Requirements by both development and test participants; and Exploratory Testing for testing features in flux.

The Result

The test management framework provided for BT enabled the client in shortening the test cycle by half thereby reducing the total time to market perceived in July 2010 and assisting client in meeting the mid-December 2010 deadline.

Client management who was a worried lot during the Q3 of 2010 experienced rise in comfort-level as our test team took charge of testing effort. This became possible because of the proven Test Methodology that the team followed for test execution. The tight schedule and steep learning curve involved for the whole team left almost negligible time for structured testing. The Methodology enabled the entire team in testing out the new features and sub-features at real time with high accuracy. The engineering team did not have the luxury of going through multiple

rounds of test cycles, document requirements in detail. The need was to have First Time Right test approach which this approach resulted in.

Client did not have to waste their time in multiple runs of test cycles without doing any integration and feature addition. The approach was to have new feature additions in each build, and test team picked daily builds for same day testing. This became operationally feasible with a distributed team in place. We had the test resources working in India and in USA. Build A was picked by the team in USA and results were shared to the engineering team. Later the subsequent build was picked by the team in India to contribute on top of what US team had tested.

With such an overlapping yet progressive test cycle during implementation phase; the Early Release (EA) was certified and the EA build was shared for more repetitive tests to Sales Engineers of client. The test team continued its tight integration with the engineering team during the post EA phase to come out with a Controlled Availability (CA) within a span of three weeks. Then CA was handed over to Sales Engineers and the cycle continued with approach continued with post CA for the General Availability (GA). With this Continuous Integration intensive test approach the team was able to increase get the BT Health Index with each build release. Such results were possible only due to the reliable yet fast Test Strategy developed by fooServ consultants in play.

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