

Putting Enterprise Mobility To The Test: Mobile Testing for SAP®

A Conversation with Worksoft CTO Shoeb Javed

*SAP is one of the best-known, most widely adopted enterprise software platforms in the world. Its applications can touch virtually every aspect of a company's operations, from the loading dock to the C-suite and everything in between. Today, the watchword for the enterprise is mobility, and SAP is making a strategic commitment to be at the forefront of mobilizing the enterprise. SAP partner Worksoft has long provided testing services for SAP software, and now is bringing mobility into its top ranked end-to-end testing solutions. Benchmark recently spoke with **Worksoft Chief Technology Officer Shoeb Javed** about the shift to enterprise mobility and effective test strategies for enterprise mobile applications.*

Benchmark: What is the current corporate attitude toward mobile? Is it being embraced reluctantly, enthusiastically? Is there any sense of urgency about it?

Shoeb Javed: We are a solution provider primarily focused toward customers that use SAP. And SAP is enthusiastically embracing mobile — it's a cornerstone of their strategy for all their new products coming out, as well as their existing products. They talk about providing solutions on premise, on demand, and on device. So 'on device' is a key part of their overall strategy.

If you also look at the software segments that they talk about, you see the core ERP — the business suite of applications — you see analytics, and then you see mobile, cloud and database.

So mobile is a big, new software segment for them when they classify their lines of business. We see SAP really embracing mobile, really pushing, really making sure that all of their applications are mobile-enabled — all of their core ERP applications as well as their analytics applications, and then other solutions that they're coming out with in the marketplace.

Benchmark: Their head of mobile said just recently at the Madrid conference that one of their key objectives is to transform enterprises to a mobile-centric computer model. So it sounds like they're pretty serious.

Shoeb Javed: Yes.

Benchmark: Are SAP clients and the actual users of the software embracing mobile, or are they taking their time to evaluate it? What are you seeing?



Shoeb Javed: There are certain areas where they are jumping on faster than others. In the SAP business objects solutions and other analytics solutions, I think a lot of customers have adopted mobile versions. They use them from their iPad and as well as phones and so on.

So analytics is a big area that's driving adoption. I think the other is in the field, basically in the sales and marketing area for field salespeople. There are a number of applications that people are adopting either coming from SAP or they're building their own. I think those are the two main areas where we see that. In terms of core business suite, ERP, CRM, those kind of applications, I think the adoption tapers off a little bit.

They also purchased Sybase. They are providing the Sybase Unwired Platform as their primary mobile platform. And they also bought another company recently called Syclo that is focused on building mobile solutions for SAP. So they are making sure that they have a number of mobile applications available.

Benchmark: The way you describe it sounds like the low-hanging fruit is what's being picked — the people who are already mobile for a company, the salesforce that's out in the field, etc., but perhaps it's less a matter of somebody for whom it's just convenient to be able to access things outside the office without having to use a computer.

Shoeb Javed: Right. And the people that do analytics, those people tend to be in mid- to upper-level management. They're going to use mobile devices more than, let's say, somebody that's doing order entry, for example.

But this is just the beginning. What people do is, as part of creating these mobile applications for HR and inventory management and for any number of their SAP functions, they also look at the whole picture and try to see if they can simplify it, or make it better or make it easier to use.

So they take up, let's say, a standard SAP set of user interfaces to do a particular task and they try to make it simpler and better-looking, and then they do a number of other restructuring things when they come out with the mobile applications, rather than simply copying it and offering the same screen from the mobile device.



That whole process is still in the beginning stages. I think there will be a huge amount of adoption because of just the sheer number of these applications that are available now. But it hasn't quite tipped yet. It hasn't gone completely mainstream yet.

The other thing you see is that the user interface technology that SAP is providing now, and they're basing their entire platform on, they're all HTML5-based, modern user interfaces — no more of the proprietary, SAP GUI-style applications. So I think that, by default, forces those applications to be available on all platforms and will drive further adoption.

Benchmark: What are the biggest challenges to enabling enterprise-wide mobile functionality for a workforce?

Shoeb Javed: When you see SAP discuss this, it is not quite the usual things that you might suspect. The first one is not having a clear strategy. People feel like they don't have an overarching adoption strategy for mobile for their company. They have ad hoc usage but not an enterprise-wide strategy. So building that strategy and putting that in place seems to be the biggest challenge for them. How do I do it corporate-wide in some sort of uniform way?

Clearly, security is another concern. And also device diversity, the sheer number of platforms that need to be supported, so that companies that are incorporating 'bring your own device' concepts, have to deal with that whole device diversity. So security, device diversity, and then having an overall mobile strategy put into place.

The other thing, obviously, is choosing a consistent platform. How do you manage the mobile device in the field, as well as how do you deal with security in order to work in a uniform way, and how do you connect that mobile middleware infrastructure to the backend SAP system?

Benchmark: Are you finding that BYOD – “bring your own device” - is becoming increasingly the norm?

Shoeb Javed: Yes, and it seems surprising how many people talk about it from our own customer base, which tend to be large corporations.



Benchmark: To move into your area of expertise — what are the most important factors for successful enterprise mobile testing?

Shoeb Javed: The biggest thing is, if you look at testing on mobile solutions, it's an n-squared problem now. Typically what you do is test your end-to-end business processes. Our solutions let you test, for example, your order-to-cash or procure-to-pay or any number of end-to-end business processes that are critical to your business. And so you test order-to-cash — it may be 10 variations of order-to-cash that you have in your company.

So adding mobile now adds a new dimension because now you have to test it on, let's say, five different mobile devices or 10 different variations. So suddenly I went from 10 to 50 tests. So we feel that test automation now becomes a must-have rather than a nice-to-have solution. Because without automation, you can't cover all these variations. That's the most significant aspect — can I have a single, uniform, automated test that will cover multiple devices and multiple variations of my business process at the same time?

That's the most important thing that people are looking for — reducing the amount of time it takes to do that testing and that the solution covers all the major device platforms, not just the most common ones.

The other thing is, the mobile testing gets fragmented, and then it gets disconnected from testing the rest of your applications. Maybe you only test some mobile part of the mobile application without worrying about whether it worked end-to-end across your entire system. So it's important to include the mobile test in the larger context of an end-to-end business process test, so it gets covered from all the different angles.

Benchmark: If Worksoft didn't exist, or prior to Worksoft, what were or are people doing to test their mobile enterprise applications?

Shoeb Javed: You'd be surprised at how limited it is. People are sitting with their devices and they're manually pushing buttons. They have a device in their hand and they sit with it and bring up their application and they do it. Sometimes you can do crowdsourcing, but a lot of large enterprises don't trust that. And they don't necessarily want random strangers to be exposed to their data, either.

What you have to look at is normal people that use SAP and are implementing SAP — they are not professional testers. They're not



necessarily QA people. So we find that people are less sophisticated when it comes to mobile testing. And sometimes they don't even do it at all.

But as it becomes more and more mainstream, most of our major customers have asked us at one point or another for a solution. How are you going to address this? I might not need it today but I definitely know I need it in the near future.

Benchmark: You mentioned some of the important concepts for testing — make sure you test end-to-end, not just mobile but mobile in context of the rest of your system, and the importance of testing on real devices in the field. What are some other pitfalls to avoid when you're testing mobile enterprise applications?

Shoeb Javed: One of the considerations is, how do you manage the inventory of devices? How do you consistently allow access to distributed teams to your infrastructure? I think if each person has a phone, then that doesn't scale very well, right? One of the things that Keynote DeviceAnywhere helps with is to have a centralized infrastructure that can then be accessed from anywhere by distributed teams.

And then another pitfall of mobile testing is okay, who has the device and how do I get one and how do I know I've tested on the right device? And how do I catalog all the results and keep them in some central location where I can access them?

And you want to make sure that the principles of automation still apply, even to mobile applications, which is, you want your tests to be resilient to changes in the application, so if you do an automated test and your application changes, you want to make sure that your test doesn't break and you don't have to start from scratch again.

So clearly, if each time something changed you had to redo your entire test, it would defeat the whole purpose of automation. You need to keep that in mind.

But the other thing, too, is you want to try to make the test as uniform as possible across different device types, so you are able to achieve the concept where one test covers multiple devices as much as is practical. Because if you load a different test for every single device, then you have to maintain all those tests across your entire device spectrum. I would try to make the test common as much as I can across multiple devices.



Benchmark: One of the strengths of Worksoft Certify is that no coding is required, the scripting is easy. Have you pulled that through to the mobile side of things?

Shoeb Javed: Yes. We worked hard to make sure that ease of use carried through to mobile. That's where I think Keynote helped too, because with Keynote we are able to bring the device screen back to your PC. Even if the device is hosted in the cloud or hosted somewhere in your data center, Keynote allows us to interact with that device like it was right next to you – and handle it just like every other application that you need to test.

What we do then is, we build our tests by simply interacting with the device. So you would do things like, I want to push this button or I want to enter text into this field or I want to swipe the screen or any number of different things like that.

The API is pretty robust. It allows us to do what we want to do, while offering that same experience like you would do for a desktop. So for example, if you had a desktop application, you would just run it on your PC, and then you would build your test and interact with the application. You'd say, okay, I want to push this button, I want to do something over here. We've been able to carry that through on a mobile device, because we are able to get the mobile device screen right on our PC and interact with it, even though it is actually operating a real device.

Benchmark: SAP has a huge ecosystem, and then with Sybase in the mix it gets even bigger, plus all their other partners. Does your testing ability apply virtually across the board?

Shoeb Javed: Yes, it does. We are an SAP partner and integrate into SAP Solution Manager, which is their primary application lifecycle management platform. So the advantage now would be that that integration now also extends to testing mobile devices, which will be important for SAP customers.

Then all the record-keeping that you have to do — you have the results of tests and you need to store them somewhere, and you may have to store them for seven years. SAP takes care of a lot of that, so you can just plug into all of that for all your mobile applications too.

It's a new SAP, and it's a new world. And our job is to make sure all of it works.

About Shoeb Javed

Chief Technology Officer Shoeb Javed is responsible for technology strategy, software development, quality assurance and customer support for all Worksoft solutions. He works with quality assurance and business leaders of some of the largest global Fortune 1000 corporations to help automate testing of complex packaged enterprise applications to speed up project timelines and improve operational efficiencies.

During a diverse 20-year career, Shoeb has successfully led the development of next-generation enterprise software, digital media and converged telecommunications solutions. Prior to Worksoft, Shoeb was CTO of Variview Technology, and he has also held leadership roles at Ericsson, M68 Technologies, Vesta Broadband Services, and Intellect Network Technologies.

Shoeb holds an MS in Electrical Engineering from the University of Hawaii, and a BS in Electronic Engineering from the University of Nagpur, India.



About Worksoft Inc.

Worksoft® is a leading global provider of test automation software for packaged enterprise applications. Companies use Worksoft solutions to innovate faster, shorten project timelines, reduce costs, and improve business process quality for SAP® and related software, including cloud, mobile, and portal technologies. Unlike legacy test automation systems, Worksoft is easy to use and supports business agility, performance testing, and end-to-end functional testing with high levels of automation – often exceeding 80% process automation. Worksoft customers include more than 150 premier companies and nearly half of the Fortune 100 in manufacturing, financial services, government, healthcare, retail and transportation sectors. For more information, contact Worksoft at +1-972-993-0422 or visit www.worksoft.com