VMworld Connects, Engages, and Impresses Conference Attendees with a Next-Generation Mobile App

The VMworld® organizing team wanted a best-in-class mobile app that would enable the best possible experience for conference attendees. They wanted an app that would set new benchmarks for ease of information access, personalized communication, real-time content delivery, and user engagement. The app also needed to be radically scalable, secure, and easy to integrate with on-premises corporate information systems and cloud-based services. Raw Engineering met the challenge by building a new mobile app with its built.io mobile backend-as-a-service platform and the VMware vCloud® Air™ platform.

VMworld is among the largest tech industry events, a global convocation of thought leaders, technology developers, and IT professionals who innovate at the intersection of virtualization and the cloud. Hosted by VMware, the 2014 event drew 24,000 attendees to San Francisco and 9,000 more to Barcelona. They came to explore VMware and related technologies that are virtualizing data centers and extending them into the cloud, streamlining application delivery, and providing secure virtual workspaces. They took the opportunity to teach and learn in more than 500 breakout sessions and a busy agenda of labs, workshops, group discussions, and demonstrations.

The Challenge

The VMworld events team had experimented with mobile apps as a replacement for printed show guides and paper-based communications. The first iterations were actually Web apps with iOS and Android wrappers, which risked rejection by the respective app stores. They lacked intuitive navigation as well as some desired functions, such as push notifications. Important third-party services, such as the Lanyon’s survey administration, were only available through the providers’ standalone apps.

The team wanted a more complete and fully integrated mobile app for the conference that would enhance information access, personalized communication, real-time content delivery, and user engagement. For 2014 they carefully defined the requirements for a new development push.

Functional requirements included the ability for users to

- Build and view personal conference schedules.
- Receive personalized event-related notifications.
- Easily engage and interact through social channels.

In addition, the VMworld event team wanted the ability to

- Deliver surveys and collect results.
- Update the conference agenda in real time.
- Publish daily conference highlights.
- Capture useful insights on attendee behavior and app usage.

The VMworld event team chose Raw Engineering to develop a new mobile app based on the firm’s built.io mobile backend-as-a-service platform and deployed on the VMware vCloud Air hybrid cloud service.
Technical requirements for the app included the ability to

• Maintain service levels and response times during periods of peak utilization.
• Pass rigorous security and legal reviews for VMware identity and authentication systems.

But the most challenging requirement for the proposed conference app was the need to have the client software available for download in the Android and Apple app stores in just 12 weeks. This meant that development, customization, and deployment could take no more than six weeks.

The Solution: Next-Generation Mobile App

The event team made two critical decisions. First, they chose Raw Engineering to develop the conference app based on the firm’s built.io mobile backend-as-a-service platform. Second, they decided to deploy the built.io platform on the VMware vCloud Air hybrid cloud service.

The built.io mobile backend and application development platform enables developers to build new enterprise apps quickly, using familiar tools for iOS, Android, and JavaScript. It deploys on a virtualized infrastructure to allow flexible scaling of server, database, and network resources. Key features of built.io that were decisive for the VMworld team include smart push notifications, social integration, deep analytics, REST APIs for Web service integration, enterprise-class data security, and a built-in content management system.

Raw Engineering and VMware technicians worked closely to deploy and optimize the built.io platform on the vCloud Air service. Meanwhile, Raw developers raced to build custom features and complete key integrations with the following:

• VMware corporate identity system for authentication and access to attendee data
• Lanyon Solutions for registration services, session management, and surveys
• Crittercism for network performance metrics and app exception reports
• Twitter for in-app social sharing

The VMware vCloud Air service provided the conference app developers with a highly scalable public cloud infrastructure platform built on the trusted foundation of VMware vSphere® software. The vCloud Air service combines enterprise-class security, reliability, and performance with the scalability only the cloud can deliver. It also provides end-to-end management with tools such as VMware vRealize™ Operations™ software, which was essential for monitoring system performance under highly variable conference user loads.

Business Results and Benefits

Accelerated development and deployment – The VMworld mobile conference app was designed, built, customized, integrated, and deployed in less than six weeks. “That we were able to stand up an environment capable of handling these staggering loads, from scratch, in such a compressed time frame is truly impressive,” says Matthew Baier, chief operating officer at Raw Engineering.

Strict security and privacy standards – Because the app uses attendees’ personal information, great care was taken to ensure security and compliance. Despite the compressed development schedule, a full month was devoted to load testing, security and privacy audits, and legal review. VMware’s Red Team reviewed the source code for design flaws and subjected a pilot deployment to manual and automated penetration testing. Security evaluation focused closely on data storage, transport, and sharing, and particular care was taken to avoid any data storage on mobile devices.

Scalability to maintain responsiveness under extreme loads – When the VMworld Monday morning keynote session adjourned, nearly 24,000 attendees hit the app simultaneously to locate their next sessions. Backend system loads exceeded 2,000 API calls per second, significantly higher than anticipated. The application team was able to quickly request and deploy the additional vCloud Air resources necessary to handle the load and maintain speedy application response.
vmware case study

FIVE USE CASES FOR VMWARE CLOUD AIR

1. Development and testing – Move bursty test and development workloads to the public cloud for affordable capacity, a consistent environment, distributed development, and convenient collaboration.

2. Extend existing apps – Accommodate seasonal peaks, gain geographic reach, reduce latency, free up data center capacity, or drive consolidation by extending existing applications on VMware vCloud Air.

3. Disaster recovery – Use vCloud Air as a secondary data center to store backup copies of applications and data.

4. Web and mobile apps – Evolve existing applications by breaking them into tiers, creating new Web and mobile front ends, making applications service oriented, or leveraging infrastructure APIs to add scalability or context.

5. Cloud-Hosted Desktops – Allow you to embrace the hybrid cloud for hosting virtual desktops, as well as other digital workspaces, across a consistent hybrid platform.

Enhanced attendee experience at VMworld events – With personalized schedules, daily event highlights, and real-time session updates delivered straight to their smartphones, conference attendees were always informed and included. The app’s sophisticated targeting engine helped visitors find appropriate presentations based on role, use case, or business need. Attendee enthusiasm can be judged by the download totals: 15,652 for San Francisco, 5,203 for Barcelona.

Increased user engagement and social exposure with in-app social tools – Integrating the conference app with Twitter and Facebook encouraged connection and interaction between attendees. A favorite feature allowed users to take selfies in the mobile app, then post them to their Twitter accounts with the designated VMworld hashtag. The app’s social feeds and features also helped connect hundreds of thousands of VMware customers and partners who could not attend the event in person.

Simple content updates and personalized notification capabilities – With content management and notification systems built directly into the conference app, the event team could update the event schedule and session catalog in real time as changes occurred. Then they could push personalized alerts directly to each of the attendees involved, all with no assistance from the app developers.

Deep insight into system performance and user behavior – Between vRealize Operations and Crittercism, the application team was able to track several hundred million data points including buttons pressed, resources consumed, surveys submitted, network throughput, storage performance, latency, and more. “We can dig way down into the ways that users interact with the app to see what features are the most popular,” says Neha Sampat, chief executive officer at Raw Engineering. “All the things you would look for in a deep Web analytics platform, we have those capabilities in this mobile environment.”

95 percent reusability between conference events – After overwhelmingly positive feedback from the San Francisco attendees, the event team was able to reuse 95 percent of the app in Barcelona without additional development. “The ability to refresh content without development will help us use this app across multiple events,” says Eduardo Pinheiro, director of event operations at VMware, and “that will increase our return on investment.”

For more information, please visit: VMware vCloud Air