

Improving the security of cloud apps accessed by mobile devices

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IBM inventors have patented a technique that can enable businesses to improve cloud security and support secure transactions by preventing mobile devices from accessing software code that has been maliciously or inadvertently modified after it was encrypted.

With the rise of the mobile workforce, many businesses are embracing bring your own device (BYOD) environments or they have employees using mobile devices while working at remote, off-site locations. These scenarios introduce new security vulnerabilities to corporate networks because employees can unknowingly download and attempt to run cloud apps that have been sabotaged. IBM's patented invention helps businesses increase their confidence associated with implementing BYOD policies while averting nefarious code before it has a chance to cause any problems.

IBM received [U.S. Patent #8,341,747](#), "Method to provide a secure virtual machine launcher," for the invention.

"This patented invention will help organizations confidently and securely embrace the advantages of a [mobile workforce](#) while remaining protected against malicious content or intent," said Andrew Cornwall, inventor and mobile software developer, IBM. "Our technique helps businesses prevent altered apps from running and unleashing their wrath on businesses, their networks and their customers."

IBM's invention provides security controls that restrict and prevent

access to apps unless their original, previously encrypted code remains unchanged and uncompromised. For example, if an app is modified after it has been encrypted—without being properly decrypted and re-encrypted—IBM's patented security mechanism will recognize that the code was altered and prevent it from running. This approach is differentiated by detecting if an app has been modified before being executed, versus after, and provides businesses with additional control over which apps can be accessed.

Security for Mobile Leaders

According to a recent IBM Institute for Business Value survey, mobile leaders are making noteworthy investments in BYOD strategies, recognizing it requires a new approach to IT support and customer service. IBM found that leaders understand the importance of making mobile capabilities secure with 79 percent reporting that their organizations have well-documented policies in place for employees using [mobile devices](#) (versus 48 percent of non-leaders).

IBM's secure virtual machine (VM) launcher invention can address the complexity of deploying and improving the security of business-critical cloud-based apps. A VM is a computer application used to create a virtual environment that mirrors physical operation systems, applications and programs. While VMs are frequently used for enterprise tasks, such as remote backup and disaster recovery, they also are increasingly embedded in consumer devices such as mobile phones, tablets and portable game consoles to ease software updates and management.

IBM's [invention](#) can be applied to encrypted files that are sent from the cloud or a corporate server to a VM. The objective is to prevent embedded devices from executing code that has been altered—either maliciously or inadvertently. With billions of embedded VM devices currently in use—from an estimated three billion mobile phones to 125

million smart televisions—and millions of additional applications projected in the future, IBM's secure VM launcher patent has the potential to deliver improved security to a wide range of devices and applications.

Provided by IBM

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