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Panasonic Develops New Solution to Protect Personal Data on Android™ Smartphones Collaborating with Red Bend Software

Osaka, Japan – Panasonic today announced the development of a new solution to protect personal data such as photos, videos, documents and e-mails stored on Android smartphones. Developed in collaboration with Massachusetts-based Red Bend Software*, this solution enables to prevent leakage of personal data from lost smartphones or unintended behavior of downloaded applications. Panasonic plans to incorporate this solution into its future smartphone models.

Panasonic's new solution provides a virtual isolated "safety box" folder for Android smartphones, enabling to protect personal data from leakage caused by loss of the smartphone or unintended behavior of downloaded software.

As smartphones are increasingly used to perform many tasks, including photo and video shooting and e-mailing, a lot of personal data have come to be stored in smartphones today. Therefore, the loss of a smartphone can lead to the risk of leaking personal information. In addition, a variety of networkable-applications are now available, and smartphone users can download them to access cloud-based services. On the other hand, these applications can present security risks, such as an unintended transfer of information and data on the smartphone via the network.

In the case of traditional phones such as feature phones, terminal manufacturers have incorporated a protection mechanism called "secret mode" or "privacy mode" in their phones by developing dedicated application software and dedicated content file formats as a set. However, with the spread of smartphones, application software is now developed by third-parties in an open environment. This made it difficult to realize personal content protection with a set of dedicated application software and dedicated content file formats in an open environment like Android, since a variety of applications freely developed by third-parties started to be downloaded and executed.

In the new solution, a new mechanism was constructed to configure a folder to protect and store personal data. This protected area inside the smartphone is isolated from the Android platform, using a virtual machine. This enables to control access to the folder containing the personal contents via the menu on the smartphone and application software on Android. Therefore, the solution will enable to protect the personal contents by combining with personal authentication such as the use of passwords or an IC card.

This technology has the following features.

1. A folder with protection function, which is virtually isolated from Android platform

and accessible from application software on Android platform, is configured under lock/unlock control. Because the Android platform itself has not been modified, standard Android application software can be used normally.

2. Since the folder to store data is locked and unlocked just like a safety box, many kinds of content file formats such as private photos, videos, memo pads, or other documents can be protected. Regarding e-mails, they can also be easily protected by assigning message folders to this folder with protection function.

It has been achieved using the following key technologies:

(1) Multiple OS implementation technology on a single CPU by means of virtualization software

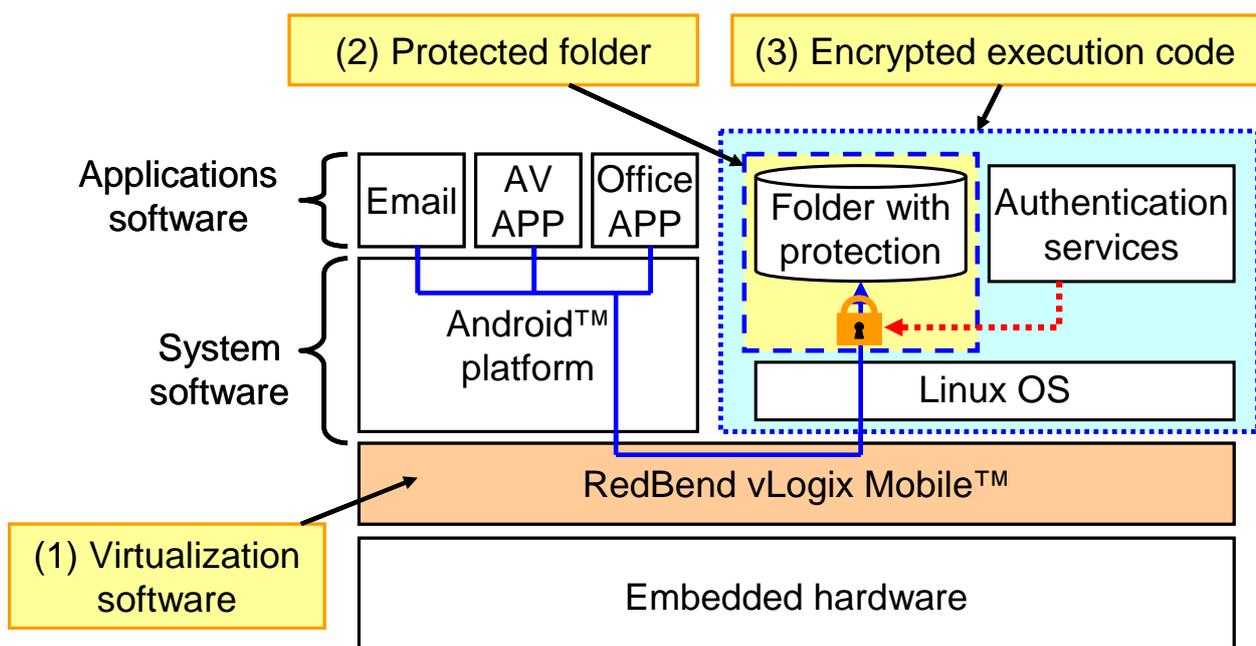
By utilizing Red Bend's mobile virtualization software, vLogix Mobile™, it is possible to enable the coexistence of multiple OSes running on a single CPU. In this cooperation, Panasonic and Red Bend have introduced an environment in which a Linux-based OS and the Android platform coexist. The collaboration has led to a rapid decrease in development costs.

(2) Implementation of a folder with protection function on Linux OS which can be accessed with authentication from application software on Android platform

Information which a user wants to protect is stored in a folder which is not on the Android platform but on the Linux OS, and the folder is disclosed to Android platform under a certified condition only. Previously, dedicated application software was required for each OS when multiple OSes are running on the virtualization software. However, by utilizing the new technology, Android applications can be used normally. Furthermore, this technology can even be applied to the various applications developed by third-parties.

(3) Protection technology for OS executable codes by encryption

Not only the important information but also the entire Linux environment including authentication services is encrypted in ROM (Read Only Memory). This increases the level of security by preventing reverse engineering of an authentication service process or preventing attacks that try to modify this code.



* Red Bend Software

Red Bend® Software, the leader in Mobile Software Management (MSM) with more than 1 billion Red Bend-Enabled™ devices, makes mobile devices and services continuously better in a rapidly changing world. Red Bend is the only company that provides standards-based products and solutions for software management, device management and mobile virtualization that work on any mobile phone and connected device uniformly, efficiently and securely over the air. Red Bend enables its customers to stay competitive in a fast-moving market by helping them deliver high-value services on an increasing number of connected devices with growing software complexity. More than 80 leading device manufacturers, mobile operators, semiconductor vendors and automotive companies worldwide trust Red Bend with their most important assets — the mobile and connected devices their consumers depend on.

Android is a trademark of Google Inc.

vLogix Mobile and Red Bend-Enabled are trademarks of Red Bend Software.

About Panasonic

Panasonic Corporation is a worldwide leader in the development and manufacture of electronic products for a wide range of consumer, business, and industrial needs. Based in Osaka, Japan, the company recorded consolidated net sales of 8.69 trillion yen (US\$105 billion) for the year ended March 31, 2011. The company's shares are listed on the Tokyo, Osaka, Nagoya and New York (NYSE:PC) stock exchanges. For more information on the company and the Panasonic brand, visit the company's website at <http://panasonic.net/>.

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