

## YouTube Video

### ETRI video of Android OS switching

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DNIPROPETROVSK, UKRAINE, September 24, 2013 /**24-7PressRelease**/ -- [Apriorit](#), research and development partner of Electronics and Telecommunications Research Institute (ETRI), announces the release of the new technology to contribute to the ViMo (Virtualization for Mobile) project. Apriorit was in charge to research and then implement an idea of switching between two separated instances of Android OS running simultaneously on a single device. This task was successfully completed broadening ViMo functionality and significantly increasing the number of user scenarios for the new technology.

**ViMo** project is devoted to the development of a micro VMM (Virtual Machine Monitor) for mobile systems designed to enable devices to run multiple operating systems (RTOS + GPOS) concurrently. The underlying idea driving this project is the widespread trend of consumerization of corporate devices and data; this is evidenced by increasing numbers of employees installing business applications on their mobile devices. Following this trend, the thought emerged that mobile devices should include some sort of protected environment for business information and programs isolated from personal user data. One method of creating such an environment is mobile device virtualization, though no ready-to-use products exist for this purpose.

When taking into regard the hardware limitations of mobile devices, full mobile virtualization is problematic because each hosted virtual system would run at less than optimal performance levels. One solution to the issues created by full virtualization is OS switching. Under this scheme, multiple operating systems can be loaded on a single device but only one will be running actively at any time.

Institute provided Apriorit with a device based on the Cortex A8 (S5PC100; ARMv7 architecture). After feasibility research had given positive results, Apriorit team started development works and implemented the solution with a user-friendly interface that provided switching between virtualized Android OS instances in less than one second. After switching, the user was returned to the exact same place in the same task as before.

ETRI researched the project requirements and decided to rely on Apriorit specialists. Work required significant Linux kernel development, development in Assembler and also Reverse Engineering, mainly for hardware drivers. Due to the research-oriented process and agile development methodology, the team managed to provide results in short terms.

"This approach was absolutely unexplored and required deep investigation. No analogues, no research documents - we needed an exclusive solution," says Dr. Ahn, Chang-Won, Principle Researcher of ETRI. "When Apriorit team arrived to Korea, to our laboratory, and presented the working solution, we were happy and at the same time astonished: it was very hard to imagine that this task could be finished just in 6 person-months!"

Quick project development allowed ETRI to be the first on this market and enjoy the benefits of the exclusive product. Solution immediately stirred the interest of major market players upon release. ETRI is currently in contact with top manufacturers such as Samsung, LG, etc. to commercialize the groundbreaking technology.

The Apriorit Case Study for this project is available in [PDF format](#).

**[Electronics and Telecommunications Research Institute \(ETRI\)](#)** is Korea's largest government-funded research institute, focused on developing talent, techniques, and innovative ideas in the field of Information Telecommunications. The ultimate goal of ETRI is enhancing social and economic aspects of modern society. Founded in 1976 with headquarters in Daejeon, ETRI employs 1736 professionals and has produced some of the most significant technological advances in Korean history.

**[Apriorit](#)** is a software research and development company focused on security, virtualization, and system management solutions. Its specialties are kernel level and driver development, enhanced software research including reverse engineering, network technologies, work with different OS and mobile platforms. The company has more than 10 years of market experience and several development offices in Ukraine.