

Embedded Operating Systems are at the Core of Growing Software Value, According to New Research by VDC

Embedded/real-time OS markets are rapidly evolving to support emerging Internet of Things device classes by both traditional ISVs and new competition.

“Embedded and real-time OSs are the foundation for enabling the development of new connected devices and systems. OEMs and SIs have more options for OSs and vendors must accommodate more of the software stack.”

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Markets for embedded and real-time operating systems will see strong growth through 2016, resulting from escalating requirements in traditional applications and new device class opportunities driven by the Internet of Things, according to new research by VDC Research ([click here](#) to learn more about this report). However, incumbent vendors are increasingly challenged by a wide variety of market forces including growing competition from traditional and unconventional sources and the rampant growth of freely available and open source software. Global shipments of open source/freely available OSs amounted to more than 3.7 times the shipments of commercial embedded OSs in 2013. Embedded OS providers must deliver value and support in several areas of the software stack and enable OEMs and other customers to focus their time and resources on creating meaningful differentiation.

Real-time operating systems (RTOSs) will be critical for enabling a wide variety of IoT applications across industries. In fact, real-time capabilities/performance is the leading embedded OS selection criteria for current projects in a variety of verticals including automotive/transport, medical, and telecom/datacom, according to VDC's recent survey of embedded engineers. “The space for small-footprint, real-time OSs is seeing dramatic change resulting from the proliferation of free solutions like FreeRTOS and new offerings from nontraditional sources like ARM,” says VDC analyst Daniel Mandell. “As larger OS vendors such as Microsoft continue to push down into smaller device footprints, smaller RTOS players will feel the pressure from their scalability and broader portfolios of software, middleware, tools, and services.”

Open source OSs have flourished with the rapid development of supporting communities, vendors, and ecosystems. Interoperability and integration are pinnacle to the IoT, and a variety of open source frameworks and tools have emerged from the likes of AllJoyn (from Qualcomm through the AllSeen Alliance), Eclipse, DeviceHive, and more. Linux continues to rapidly grow its vast developer base and proliferate within new device classes such as IoT gateways. However, the embedded market for Linux is highly fragmented with many players and is largely led by Wind River.

About VDC Research:

Founded in 1971, VDC Research provides in-depth insights to technology vendors, end users, and investors across the globe. As a market research and consulting firm, VDC's coverage of AutoID, enterprise mobility, industrial automation, and IoT and embedded technologies is among the most advanced in the industry, helping our clients make critical decisions with confidence. Offering syndicated reports and custom consultation, our methodologies consistently provide accurate forecasts and unmatched thought leadership for deeply technical markets. Located in Natick, Massachusetts, VDC prides itself on its close personal relationships with clients, delivering an attention to detail and a unique perspective that is second to none.

