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Insights for the Connected World

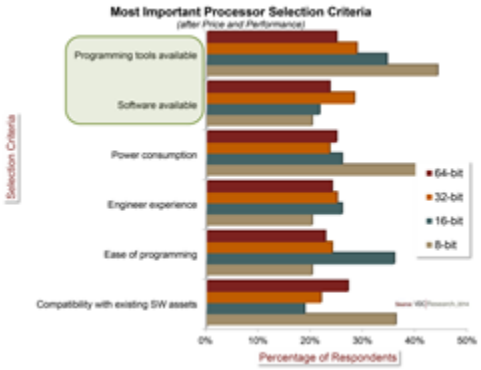
Press Release

Software Enablement is Critical to IoT & Embedded Processor Value, According to New Research by VDC

Programming tools, development environments, and other software have a major and growing influence behind purchasing decisions for embedded processors.

"Embedded software requires the greatest distribution of development costs and resources for today's projects and is a major opportunity for which processor vendors can add value/differentiation, attract new customers, and/or pursue new markets."

Natick, MA (PRWEB) October 16, 2014



The value of an embedded processor is increasingly defined by its supporting software development tools and platforms, according to a recently published study by VDC Research. The most important selection criteria for embedded processors, according to VDC's findings, is the availability of programming tools and software (see exhibit). The Internet of Things (IoT) will accelerate this trend as design teams wrestle with implementing often newfound low-power connectivity on systems that are generally more complex. Mitigating software development efforts is therefore an increasingly vital trait of embedded and IoT processor solutions.

Software development solutions are available from a variety of ecosystem players including processor vendors, core IP licensors, ISVs, and more. In fact, software enablement is a major component to the success of embedded processor market share leaders like Freescale, Intel, and Renesas. Freescale, for example, provides a variety of development tools tailored for its processor product families in addition to specific applications and functionality such as automotive and wireless connectivity. Software development capabilities are a major factor for third-party core architectures as well, as each has their own homegrown solutions supported by ecosystem partners. As a result, ARM, Imagination Technologies, and Intel have all made dramatic investments into their respective ecosystems for tooling, programming environments, OSs, middleware, and other software over the past several years.

Use and support of independent development environments (IDEs) and more sophisticated software/systems engineering tools has grown in parallel with the increasing end-user requirements for more robust software stacks. Currently offered/supported by the majority of embedded processor vendors, IDEs help aggregate and centralize vendors' development tools and other resources such as SDKs, application notes, sample programs, and more. "We expect it will become more critical for these vendors to extend the breadth of their offerings to incorporate other tools such as system configuration and automated testing tools," says VDC analyst Dan Mandell.

Embedded hardware suppliers have been forced to evolve from pushing devices to supporting comprehensive solutions. Beyond the core metrics of price and performance, software takes precedence among processor selection criteria. IDEs in particular have become a common battleground for swaying influence on purchasing decisions. Processor vendors will need to continue building their software expertise and support to encapsulate more end-user requirements and, ultimately, sell more hardware.

VDC's recently published IoT & Embedded Processors market research report forecasts and analyzes the markets for commercially available CPUs, GPUs, MCUs, and SoCs and their role in powering future embedded systems. Click here for more information about this study and our various other coverage areas.

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About VDC Research

VDC Research is a leading technology market analyst firm with a longstanding practice covering IoT and embedded computing technologies. Founded in 1971, the firm provides critical market intelligence to the world's leading technology vendors, who rely on its analysts for the data, ideas, and insights they need to make impactful strategic decisions with confidence.