

Canonical gives connected product companies a SMART START with its new suite of hardware and software

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Introduction

Canonical has introduced the SMART START bundle targeted at companies aiming to rapidly connect existing or new products. The bundle includes necessary hardware components, application integration, hosted infrastructure, professional services and technical support for nontechnology organizations looking to make the leap to the IoT-era.

The 451 Take

Canonical has a stake in the Internet of Things and connected products with Ubuntu, especially Ubuntu Core. Traditional nontechnology manufacturers frequently lack the expertise in-house to become a connected products vendor, so offering a one-stop shop for this capability should help Canonical get in at the beginning of the design process. Becoming a consultancy for neophyte businesses embarking on this journey could, however, prove to be a sinkhole of time and resources if Canonical can't find that delicate balance between every project being a custom engagement and the standard 'build once, sell to many' model favored by technology firms.

Company

Privately held Canonical was founded in 2004 by CEO Mark Shuttleworth and is headquartered in London. The company has approximately 650 employees and has estimated revenue of under \$100m annually. It is best known as the purveyor of the Ubuntu distribution and associated visualization, management and application enablement tools. It also distributes Ubuntu Core, a lean 'edge optimized' hardened version of Ubuntu that is well positioned for compute- and memory-constrained IoT devices.

SMART START

Canonical's SMART START offering is targeted at firms seeking to become connected product manufacturers, and it combines hardware certification, software and services to accelerate the development process. The company has pre-certified hardware (boards) based on either ARM or x86 architectures, has integrated with Raspberry Pi (any model), and offers to perform integration with a customer-selected board if they are not pre-certified. This last option invites considerable ongoing development effort on the part of Canonical if every customer orders 'off the menu,' so it is safe to assume that it is betting that businesses will defer to one of its pre-certified platforms.

The vendor then will port up to three existing applications to Ubuntu Core using Snaps, its package management system. Snaps containerize the applications as well as isolate them from one another. Snaps has mechanisms for resource usage restrictions and system call limitations to avoid any single application from overusing system resources, as well as capabilities within the file system itself for access permissions by application. Canonical is an advocate and supporter of open source and supports the Kura open source OSGi edge framework for IoT from the Eclipse Foundation as well as EdgeX, a parallel edge framework from the Linux Foundation.

Once the hardware has been selected and integrated, and the software applications ported to snaps, the next step is to set up the back end, which Canonical refers to as IoT app stores. These stores are privately hosted and managed in the cloud by the company and enable customers to push application updates globally to deployed devices at scale. Canonical has its own securely hosted cloud for the app stores with a global CDN. It has also integrated with two dominant cloud-provider IoT platforms, Microsoft Azure IoT Hub and AWS Greengrass, which are two of the top three IoT platforms in use by respondents to 451 Research's [Voice of the Enterprise: Internet of Things, Vendor Evaluations 2019 survey](#) – 37% of respondents in that survey are currently using Azure IoT, with 24% deploying AWS IoT.

The final component of the offering is professional services. As part of SMART START, Canonical provides training workshops and engineering consulting customized for each client based on their level of technical maturity. This pre-implementation consulting is mirrored in post-implementation by one year of technical support for the client as part of the SMART START package. This aspect of the offering is essential as the clients often do not have the requisite skills in-house (thus the need for this starter kit) but providing staff augmentation for each starter kit will increase the per-sale cost to Canonical considerably.

Competition

There are multiple vendors targeting the connected products segment; however, the primary competition will come from companies attempting to 'do it themselves' using off-the-shelf components. This approach has drawbacks in that these bricolages of parts lack any unifying version control mechanism for their components and are also ripe for security issues due to lack of hardening and vulnerability testing.

This has opened the door for businesses that focus on the connected products segment, with Ayla Networks being the provider best known for having targeted this market early on, although it has concentrated less on the consumer products segment in the past two years. Exosite is another firm with a focus on helping less-technical manufacturers become connected product companies.

SWOT Analysis

Strengths	Weaknesses
Ubuntu is pervasive in business and has a rich	The connected products segment is a large but low-margin

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ecosystem of partners to accelerate time to market and time to value for organizations that choose to utilize SMART START.	business and early connected products cut many corners to save money. There may be demand for SMART START but the willingness to pay remains uncertain.
Opportunities	Threats
Canonical has already deployed SMART START to onboard several well-known brands that it can use as collateral to land larger clients and demonstrate the scalability of its CDN.	The IoT edge landscape is Balkanized, with many industry efforts from the Eclipse Foundation, the Linux Foundation and standards bodies. This presents risk to clients who will want insurance that any path they take won't be a dead end.

Source: 451 Research, LLC