Call for EdgeX Dev Kit and VSWG Participation

September 2018
Key project accomplishments since April 2017 launch

• Bi-annual release roadmap established and first two release dates met
• Now almost 70 unique code contributors, 5X increase from January 2018
• Refactored entire code base from Java to Go Lang
  • Full seed platform was ~2.5GB memory, booted in minutes; now ~128MB and boots in ~5 seconds
• Established security + management plan, 1st features in July + October releases
• IIC alliance formed and first IIC test bed in process from Wanxiang Group
• Entire documentation base refreshed @ https://docs.edgexfoundry.org/
• Now at 63 project members with multiple marquee names joining in at SWC
• Increasing number of end customer PoCs in various industries
• Numerous tech providers integrating into commercial offers
  • IOTech announced Edge Xpert (Red Hat model) and xRT as a licensed real-time variant

State of the Union Blog from January 2018
Lots in the works for IoT Solutions World Congress!
Oct 16-18 in Barcelona

- Launch of Delhi code (available late Oct – early Nov)
  - 1st manageability features, more security tools, reference GUI and Device Service SDKs in Go and C
- Launch of EdgeX-based developer kits
  - Further accelerate adoption and build the foundation for an open IoT marketplace!
- Launch of additional Vertical Solution Working Groups
  - Targets: Building Automation and Transportation, open to others
- Debut of community demonstrator
  - Initial focus on building automation with more use cases to come
  - Will serve as an evolving foundation for plug-fests and test bed efforts
- Website and messaging refresh
- Several marquee names joining as new project members!
Big project presence at IoT SWC!

- Debut of **community demonstrator**
- **2 member kiosks**
  - Free to project members (minus T&E)
  - Selected based on best use of EdgeX in their commercial offer
In process: simplified EdgeX website and developer messaging, more use case focus

**Goal:** Simplify EdgeX Foundry website and establish clear onboarding paths for developers who are end users and/or project contributors

**Also in plan:**
- Dedicated page for getting started with Community Core Dev Kit
- Up-leveling Vertical Solution Work Group overviews from EdgeX Wiki to core web site, including promoting project members who are leading these efforts
  - (e.g. around manufacturing, oil and gas, buildings, transportation, healthcare, etc.)
EdgeX-based Dev Kits
Vision for EdgeX Dev Kits

Low-cost kits to onboard developers into the open EdgeX ecosystem to maximize their choices as needs evolve

Value to End Users:

- Innovate rather than reinvent
- Get started developing your solution at a low entry cost while maximizing options from edge to cloud
- Open ecosystem facilitates integration and build / buy / partner decisions
- Confidence that foundation has staying power due to backing from a growing, vendor-neutral community

Value to IoT Ecosystem Providers:

- Innovate rather than reinvent
- Realize drag from developers earlier in their PoC efforts without having to support myriad custom integrations with your commercial offerings
- Network effect stemming from an open ecosystem with transparent and trusted security and manageability
- Early influence in shaping a marketplace for EdgeX-certified components
- Additional benefits by ecosystem provider type highlighted on Slide 6

Examples only: options for launch being finalized and will grow via network effect in EdgeX ecosystem
# Options for Community and Commercial Dev Kit variants

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Community Core (OSS)</th>
<th>Community Plug-in (OSS)</th>
<th>Commercial Core</th>
<th>OSS/Commercial Platform</th>
<th>Commercial Plug-in</th>
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<tbody>
<tr>
<td>Offer</td>
<td>Builds for common developer-friendly boards available via EdgeX Github</td>
<td>Sample reference microservices (e.g. Device Services, Export/Application Services) contributed by community back to EdgeX project</td>
<td>Commercially-supported version of the baseline EdgeX framework and agnostic to all plug-in value add (example: IOTech Edge Xpert Kit)</td>
<td>Dev kits based on OSS freemium and paid commercial platforms leveraging EdgeX for interoperability (e.g. tied to a particular IoT cloud or platform)</td>
<td>Discrete, commercially-supported (freemium or paid) plug-ins such as Device Services, Cloud Connectors, Edge Analytics, Security Tools, etc.</td>
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<td>Target Developer Persona</td>
<td>End user developers or project contributors that are comfortable working with open source code and getting support via community channels</td>
<td>End user developers that want to focus on their own innovations and use-case-specific solutions rather than supporting open source code, while benefitting from being able to plug in value-add from the community</td>
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<tr>
<td>Fulfillment Model</td>
<td>100% DIY. Developer purchases prescribed HW through preferred online channel (e.g. Mouser, Amazon) and downloads builds from EdgeX Github</td>
<td>Developer purchases supporting HW accessories (e.g. boards, sensors) as needed online and downloads related microservices from EdgeX Github</td>
<td>At discretion of the commercial provider (e.g. direct or via channel, freemium vs. paid from start, etc.)</td>
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<tr>
<td>Support Model</td>
<td>Via community (e.g. EdgeX documentation and Rocketchat, meetups, hackathons)</td>
<td>At discretion of the commercial provider (e.g. online and/or on-site training and support, support of dev kit only or optional paid contracting services for customization and integration, etc.)</td>
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# Call for commercially-supported EdgeX dev kits and value-add plug-ins

<table>
<thead>
<tr>
<th>Ecosystem Player</th>
<th>Your Supported Offer</th>
<th>Benefit</th>
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<tbody>
<tr>
<td>Sensor/Device Maker</td>
<td>EdgeX Device Service(s) paired with your sensor/device offering(s)</td>
<td>Write EdgeX device interfaces once and more readily interoperable with any backend application</td>
</tr>
<tr>
<td>Gateway OEM</td>
<td>EdgeX builds for your HW and specified Operating System(s)</td>
<td>Qualify EdgeX framework on your HW once and access more developers and solution providers with less customized support</td>
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<tr>
<td>IoT Cloud/Platform</td>
<td>EdgeX Export Services paired with your IoT Cloud / Platform</td>
<td>Scale faster without having to build everything, write custom drivers for every sensor/device</td>
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<tr>
<td>Pure-play Application Provider</td>
<td>EdgeX application plug-ins (e.g. paid microservices for Analytics, Security, Management, Brownfield Connectivity, etc.)</td>
<td>Ability for developers to quickly realize the value of your offer as part of an end-to-end solution</td>
</tr>
<tr>
<td>Telco / WAN Connectivity</td>
<td>Managed services platform or available as plug-in for offers from other kit/platform partners</td>
<td>Attach of your MSP / connectivity offer and related services earlier in the development cycle</td>
</tr>
<tr>
<td>System Integrator / Service Provider</td>
<td>EdgeX development, training and/or support services for end users, with emphasis on end-to-end integration and path to production</td>
<td>New revenue stream via developer community and/or ability to more rapidly develop and demonstrate integrated solutions for your own end customers (e.g. as a SI)</td>
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WIP: Community Core Dev Kit

- MVP for IoT SWC launch is builds for one board/OS combination, one cloud and one device service for simplicity
  - Likely board choice is the Raspberry Pi 3 due to low cost and large developer base
  - UI: OS, cloud and sensor choice (selection will be based on utility and developer popularity)
  - Growing selection of additional plug-ins will be available through Community and Commercial efforts

- 100% DIY
  - Developer fulfillment through piecing together designated shopping list via online purchases
  - Support entirely through community (e.g. EdgeX documentation and Rocketchat, meetups, hackathons)

Various Cloud Choices (TBD)

Various Sensors

Available builds for prescribed boards/OS’es
Edge Xpert Dev Kit from IOTech

- “Freemium” model with a limited trial period of IOTech’s Edge Xpert plus optional paid support
  - Onboarding help via online and on site training, contracted professional development services
- Open for other partners to make their commercial offers (e.g. sensors, gateways, apps, cloud) available for selection to end users
- UI: packaged up as a kit with GW and sensors through the channel (e.g. Mouser)
- Developer options:
  1. Get started with IOTech’s consulting and then productize on your own
  2. Leverage IOTech’s turnkey services for customization and production support
Edge Xpert from IOTech

Commercially-supported Features:

• Hardened Device services (e.g. Modbus)
• Extended OT & Cloud connectivity e.g. OPC-UA, AWS IoT Platform
• Simple management GUI
• Commercial packaging and simplified installation
• Full support with guaranteed SLAs
• Product-quality documentation, tutorials and code examples
• Additional OS and hardware support e.g. ARM 32 bit
• Available standard and advanced training

Reference: Foundation for IOTech Dev Kit
Additional Vertical Solution Working Groups
Call for additional Vertical Solution Working Groups

- VSWG’s serve several important purposes
  1. Develop unique requirements and code contributions for their respective markets
  2. Feed requirements back into the EdgeX core working groups to optimize the core framework for many use cases spanning Industrial to Enterprise to Consumer, including B2B2C crossover like home health, usage-based insurance, smart grid, etc.

- Today we have established just two VSWG’s: Smart Factory (led by Samsung) and Oil and Gas (led by NOV) in order to tune process and allow code to mature

- The Delhi release represents an inflection point where it’s time to scale the addition of more VSWG domains

- **Calling for anchor sponsors and participants to launch new VSWG’s.** Great opportunity to demonstrate thought leadership for your company and lead the way towards building an open ecosystem for your target market(s)!
  - Buildings, Retail, Transportation, Healthcare and Smart Homes are among the most logical next focus areas, others welcome!
Join in as we further accelerate the growing EdgeX community!