New EdgeX Foundry Unifies the IoT Marketplace to Accelerate Enterprise IoT Deployments

50 companies join new Linux Foundation project to build an open framework for IoT edge computing

HANNOVER (HANNOVER MESSE) AND SAN FRANCISCO – April 24, 2017 – The Linux Foundation today announced the launch of EdgeX Foundry, an open source project to build a common open framework for Internet of Things (IoT) edge computing and an ecosystem of interoperable components that unifies the marketplace and accelerates enterprise and Industrial IoT. The initiative is aligned around a common goal: the simplification and standardization of Industrial IoT edge computing, while still allowing the ecosystem to add significant value.

IoT is delivering significant business value by improving efficiencies and increasing revenue through automation and analytics, but widespread fragmentation and the lack of a common IoT solution framework are hindering broad adoption and stalling market growth. The complexity of the current landscape and the wide variety of components creates paralysis. EdgeX solves this by making it easy to quickly create IoT edge solutions that have the flexibility to adapt to changing business needs.

"Success in Internet of Things is dependent on having a healthy ecosystem that can deliver interoperability and drive digital transformation," said Jim Zemlin, Executive Director of The Linux Foundation. "EdgeX Foundry is aligning market leaders around a common framework, which will drive IoT adoption and enable businesses to focus on developing innovative use cases that impact the bottom line."

Unifying the IoT Market

EdgeX Foundry is unifying the marketplace around a common open framework and building an ecosystem of companies offering interoperable plug-and-play components. Designed to run on any hardware or operating system and with any combination of application environments, EdgeX can quickly and easily deliver interoperability between connected devices, applications, and services, across a wide range of use cases. Interoperability between community-developed software will be maintained through a certification program.

Dell is seeding EdgeX Foundry with its FUSE source code base under Apache 2.0. The contribution consists of more than a dozen microservices and over 125,000 lines of code and was architected with feedback from hundreds of technology providers and end users to facilitate interoperability between existing connectivity standards and commercial value-add such as edge analytics, security, system management and services. This is complemented by the recent merger of the IoTX project into the EdgeX effort, which was previously supported by EdgeX Foundry members including Two Bulls and Beechwoods Software, among others. Additional supporting code contributions by EdgeX members are already underway.

"One of the key factors holding back IoT designs in the enterprise is that there are too many choices to safely and easily implement a system that will provide a return on investment in a reasonable timeframe," said Mike Krell, Lead IoT Analyst at Moor Insights & Strategy. "EdgeX

Foundry will fundamentally change the market dynamic by allowing enterprise IoT applications to choose from a myriad of best-in-class software, hardware and services providers based on their specific needs."

Founding members include: Advanced Micro Devices (AMD), Alleantia, Analog Devices, Bayshore Networks, Beechwoods Software, Canonical, ClearBlade, CloudPlugs, Cloud of Things, Cumulocity, Davra Networks, Dell, Device Authority, Eigen Innovations, EpiSensor, FogHorn Systems, ForgeRock, Great Bay Software, IMS Evolve, IOTech, IoTium, KMC Controls, Kodaro, Linaro, MachineShop, Mobiliya, Mocana, Modius, NetFoundry, Neustar, Opto 22, relayr, RevTwo, RFMicron, Sight Machine, SoloInsight, Striim, Switch Automation, Two Bulls, V5 Systems, Vantiq, VMware and ZingBox. Industry affiliate members include: Cloud Foundry Foundation, EnOcean Alliance, Mainflux, Object Management Group, Project Haystack and ULE Alliance.

Delivering IoT at the Edge

According to a Gartner report, there will be 20.4 billion connected things in use globally by 2020. The sheer quantity of data that will be transmitted from these devices is driving adoption of edge computing, where connected devices and sensors transmit data to a local gateway device instead of sending it back to the cloud or a central data center. Edge computing is ideal for deploying IoT applications because it allows for quicker data analytics and reduced network traffic. This is essential for applications which require localized, real-time data analysis for decision making such as factory optimization, predictive maintenance, remote asset management, building automation, fleet management and logistics.

"Businesses currently have to invest a lot of time and energy into developing their own edge computing solutions, before they can even deploy IoT solutions to address business challenges," said Philip DesAutels, PhD Senior Director of IoT at The Linux Foundation. "EdgeX will foster an ecosystem of interoperable components from a variety of vendors, so that resources can be spent on driving business value instead of combining and integrating IoT components."

Adopting an open source edge software platform benefits the entire IoT ecosystem:
- **End customers** can deploy IoT edge solutions quickly and easily with the flexibility to dynamically adapt to changing business needs;
- **Hardware Manufacturers** can scale faster with an interoperable partner ecosystem and more robust security and system management;
- **Independent Software Vendors** can benefit from interoperability with 3rd party applications and hardware without reinventing connectivity;
- **Sensor/Device Makers** can write an application-level device driver with a selected protocol once using the SDK and get pull from all solution providers;
- **System Integrators** can get to market faster with plug-and-play ingredients combined with their own proprietary inventions.

The Linux Foundation will establish a governance and membership structure for EdgeX Foundry to nurture a vibrant technical community. A Governing Board will guide business decisions, marketing and ensure alignment between the technical communities and members. The

technical steering committee will provide leadership on the code and guide the technical direction of the project.

Hannover Messe

Live demonstrations of the EdgeX platform will be on display at [Hannover Messe](#) in Hannover, Germany from April 24-28, 2017. The main EdgeX demo will be at the Dell Technologies kiosk in the Industrial Internet Consortium Pavilion (Hall 8, Stand C24).

Additional EdgeX demos will be in the following member areas:
- ForgeRock (Hall 8, Stand F31/1): edge security
- Opto 22/Dell/Linaro (Hall 8, Stand F31): integration with Opto 22's control and I/O system transmitting sensor information from a scale model wind turbine to EdgeX; Linaro demo of an over-the-air firmware upgrade of a wireless sensor
- SAP/Dell/IOTech (Hall 7, Stand B4): ingestion of OPC-UA data from a National Instruments CompactRIO

Industry Support for EdgeX Foundry

Analog Devices
"This strategic partnership with EdgeX Foundry is part of our commitment to playing a major role in providing solutions to help customers bridge the physical and digital world through IoT," said Michael Murray, General Manager of Industrial Sensing Products at Analog Devices. "We want to reduce complexity, democratize IoT standards and provide trusted data for customers, and we look forward to working with the EdgeX community to achieve those goals."

Canonical
"At Canonical, we have been pushing the need for standardization and commonality in the industry for a long time; the introduction of snaps being one example. We are therefore pleased to see a continuation of this with the launch of the EdgeX Foundry and proud to be one of the founding members" comments Mike Bell, Executive Vice President, IoT at Canonical. "We are obviously advocates of the open-source nature of the project and believe this will further enhance all players in the ecosystem to align to drive business growth and further innovation."

Dell
"We think EdgeX Foundry is the key to accelerating the fragmented IoT market and are proud to have been a part of the effort from the beginning," said Jason Shepherd, IoT Strategy and Partnerships, Dell. "We're big believers in openness and choice, and this modular architecture is designed to help anyone easily build edge computing solutions with preferred hardware, software, standards and services while minimizing reinvention. EdgeX Foundry is not a new standard, but a way to unify standards and edge applications."

Neustar
"As a leading provider of Identity solutions we are excited to be a founding member of The Linux Foundation's EdgeX Foundry project. We are firmly committed to open and common frameworks for developers, and we are particularly excited to provide a highly secure trusted device identity solution for this ecosystem" said Hank Skorny, SVP of IoT at Neustar. "EdgeX combined with Neustar's Trusted Device Identity platform will provide developers with a next

generation IoT solution to help secure their IoT systems from the escalating attacks on unsecured devices."

Collaborating with other IoT Efforts

EdgeX Foundry is collaborating with relevant open source projects, standards groups, and industry alliances to ensure consistency and interoperability across the IoT.

Cloud Foundry Foundation
"The goals and principles of EdgeX Foundry and Cloud Foundry naturally complement each other," said Abby Kearns, Executive Director of Cloud Foundry Foundation. "We look forward to working with EdgeX Foundry to enable companies to deploy IoT strategies and applications that accelerate business growth and drive innovation."

EnOcean Alliance
"The growing market for intelligent building control is dependent on interoperability to ensure that devices can communicate and perform as needed," said Graham Martin, Chairman & CEO of EnOcean Alliance, Inc. "We look forward to working with EdgeX Foundry to help unify the IoT community around a platform that can deliver automation and enable companies to easily develop IoT solutions that will enable more efficient operations."

Linaro
"The creation of a standard, secure, open, and architecture- and vendor-neutral gateway framework is a critical component of IoT based solutions. Hosted by The Linux Foundation, EdgeX Foundry's impressive industry support and open governance model allows open collaboration on a common gateway architecture by industry leaders," said Matt Locke, Director of the Linaro IoT and Embedded (LITE) Group. "This much needed unifying project will allow vendors to define and build a common gateway platform; a platform upon which they can build unique and compelling solutions across a wide range of market segments. We look forward to welcoming new members into LITE to work closely on the engineering needed to accelerate adoption of EdgeX Foundry. Supporting this new project complements and builds on LITE's engineering and technical support of The Linux Foundation's Zephyr project, which is aimed at enabling embedded and IoT devices."

Object Management Group
"Interoperability is paramount for integrating secure and scalable IoT solutions," said Richard Soley, Executive Director of the Industrial Internet Consortium and Chairman and CEO of the Object Management Group (OMG). "EdgeX Foundry will unify a wide array of standards and commercial offerings at the IoT edge, enabling faster ROI for industrial organizations. EdgeX is architected to enable tiered data ingestion and processing, aligning well with the various open standards for distributed computing driven by the OMG."

ULE Alliance
"The IoT faces a major challenge with a myriad of devices that address a vast number of diversified use cases. The success of IoT highly depends on seamless interoperability of devices built on different technologies by different vendors, each using the best suited technology for the specific use case," said Avi Barel, Business Development Director at the ULE

Alliance. "EdgeX Foundry is a major step toward addressing this great challenge, and ULE, as the highly secure and reliable radio technology, fully supports this initiative."

For more information on EdgeX Foundry including how to participate, please visit www.edgexfoundry.org.

About EdgeX Foundry
EdgeX Foundry is an open source project hosted by The Linux Foundation building a common open framework for IoT edge computing and an ecosystem of interoperable components that unifies the marketplace and accelerates the deployment of IoT solutions. Designed to run on any hardware or operating system and with any combination of application environments, EdgeX enables developers to quickly create flexible IoT edge solutions that can easily adapt to changing business needs. To learn more, visit: www.edgexfoundry.org.

About The Linux Foundation
The Linux Foundation is the organization of choice for the world's top developers and companies to build ecosystems that accelerate open technology development and commercial adoption. Together with the worldwide open source community, it is solving the hardest technology problems by creating the largest shared technology investment in history. Founded in 2000, The Linux Foundation today provides tools, training and events to scale any open source project, which together deliver an economic impact not achievable by any one company. More information can be found at www.linuxfoundation.org.

The Linux Foundation has registered trademarks and uses trademarks. For a list of trademarks of The Linux Foundation, please see our trademark usage page: https://www.linuxfoundation.org/trademark-usage.

Linux is a registered trademark of Linus Torvalds.

# # #

Media Inquiries:
Emily Olin
Senior PR Manager
The Linux Foundation/EdgeX Foundry
eolin@linuxfoundation.org