

The 2019 Intel Open Source Technology Summit (OSTS) brings leaders from across the industry to discuss the open source software driving the next generation of data-centric technology in areas such as containers, AI, machine learning and other cloud to edge to device workloads.



The OSTS started in 2004 as an internal conference hosting a few dozen engineers, but since then it has grown into a major event. The 2019 edition has 500 participants from major names, including Alibaba, Amazon, AT&T, Google, Huawei, JD.com, Microsoft, MontaVista, Red Hat, SUSE and Wind River.

Of course, the conference has Chipzilla show off the latest in open source advances, especially those optimised for Intel architecture. One example is ModernFW, an initiative with the aim to remove legacy code and modernise design for scalability and security. The approach delivers "just enough" code to boot the kernel, thus reducing security risks while allowing for easier management.

Another project is rust-vmm, a set of Intel-developed hypervisor components designed to deliver use-case specific hypervisors. Intel is also has developers contributing code and incorporating "0-day Continuous Integration" best practices to technologies beyond the Linux kernel. These include bash, chrony, the Fuzzing Project, GnuPG, libffi, the Linux Kernel Self Protection Project* OpenSSH, OpenSSL and the R programming language.

Speaking of Linux, Intel now offers the Developer Edition of its Clear Linux Distribution. It includes a new installer and store, bringing together toolkits for an OS with all Intel hardware features already enabled. Clear Linux is also expanded to provide end-to-end integration and optimisation for Intel hardware features and key workloads supporting the Deep Learning and Data Analytics software stacks.

The Deep Learning Reference Stack is an integrated, highly-performant open source stack optimised for Xeon Scalable processors. It includes Deep Learning Boost (DL Boost) and is designed to accelerate AI use cases such as image recognition, object detection, speech recognition and language translation. Meanwhile the Data Analytics Reference Stack helps enterprises analyse, classify, recognise and process large amounts of data using Hadoop and Spark.

Moving to workload consolidation, the growth of software-defined systems makes virtualisation even more important. Thus Intel introduces Fusion Edge Stacks with support for consolidated workloads using the ACRN device hypervisor, Clear Linux, Zephyr Project and Android. The Intel Robot SDK brings hardware and software in one resource, simplifying the creation of AI-enabled robotics and automation solutions with an optimised computer vision stack.

"Intel is in a unique position to bring together key industry players to address the complexity of building for diverse architectures and workloads and enable faster deployments of new innovations at scale," Chipzilla says. "Software is a key technology pillar for Intel to fully realise the advancements in architecture, process, memory, interconnect and security."

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