SAP Prototypes High-Performance Compression Algorithm Using Intel® FPGAs

Developers at SAP wished to create a proof-of-concept of cloud-based Compression as a Service. They needed to use FPGAs to accelerate the computationally intensive Re-Pair compression algorithm and hoped to employ Docker containers in SAP's HANA cloud employing SAP's own Garden Linux operating system. SAP developers used the Open FPGA Stack (OFS) to expedite deployment of their string compression workload onto an Intel® FPGA PAC D5005. OFS is an open source hardware and software infrastructure for custom FPGA development of boards or workloads. They were able to leverage Docker containers by following the OFS deployment flow. This was facilitated by the fact that OFS Device Feature List FPGA drivers have been included in all versions of the Garden Linux kernel from release 5.15 onwards. By using OFS, SAP is able to leverage workload portability across Intel FPGA-based devices, a growing ecosystem of OFS-enabled partner boards and workloads, flexibility in bare metal, virtualized, and containerized deployments, and upstreamed and open-sourced kernel drivers and user space code.

Products and Solutions
Open FPGA Stack
Open FPGA Stack GitHub Repository
Intel® FPGA PAC D5005

Industry
Software

Organization Size
10,001+

Country
Germany

Learn more
Case Study