SuperTest compiler test and validation suite helps UPMEM launch breakthrough in big-data analytics

Amsterdam, the Netherlands and Grenoble, France – 18 October 2018 - Solid Sands, supplier of the industry-leading and most comprehensive test and validation suite for C and C++ compilers and libraries, and Grenoble-based UPMEM SAS, a highly innovative processing-in-memory fabless chipmaker, today announced that UPMEM has acquired a SuperTest license to test and validate the compiler for its memory-embedded general purpose processor. UPMEM's processing-in-memory technology* is designed to speed up big-data analytics by a factor of 20 or more while also reducing power consumption, making it highly attractive for high-throughput data-intensive applications, such as human genome sequencing/mapping or string searching on compressed document databases. UPMEM will use SuperTest to test and validate the LLVM compiler it is developing for its unique embedded processor architecture.

"The compiler is absolutely critical, because if you have any kind of bug in your compiler it has a very serious impact on your customers. So we need to test it very intensively. After evaluating all the options, we chose SuperTest for two main reasons: firstly, because of its very exhaustive test coverage, and secondly, because its fine-grain reporting structure allows us to quickly pin-point the underlying cause of compiler errors," said David Furodet, Software Manager at UPMEM. "An added advantage was that it was very easy to get SuperTest up and running and delivering results."

When executing high-throughput data-intensive applications such as genome analysis or string searching, conventional hardware architectures require large amounts of data to be moved from system memory into on-chip cache, consuming a considerable amount of time and power. UPMEM's processing-in-memory technology shifts the highly repetitive tasks typical of these applications into a programmable processor embedded within the system memory DRAM chips. Application developers can continue to write their programs in C or C++, with appropriately compiled executable code segments loaded to these embedded processors at run-time. In tests, UPMEM's processing-in-memory solutions have been shown to increase the execution speed of many applications by a factor of 20 or more.

"SuperTest has long been used to validate compilers for conventional processor architectures such as x86 and ARM, revealing bugs in virtually all of the so-called standard compiler collections. However, it's equally good at testing and validating compilers for custom processor architectures like those being developed by UPMEM," said Marianne Damstra, Chief Commercial Officer at Solid Sands. "When developing a compiler from scratch, it's even more critical to test it to its limits, because you don't have the advantage of previous user experience to help you."

* UPMEM's processing-in-memory solutions are scheduled for commercial introduction in early 2019 in the form of plug-and-play replacements for conventional PC memory cards.

About UPMEM
UPMEM develops an acceleration solution for Big Data and AI applications, thanks to a new approach of Processing-In-Memory combining hardware and software. By optimizing big data processing, our programmable scalable solution offers at low cost, substantial time and energy savings. UPMEM Processing In-Memory on DRAM chips, readily installable in servers, and software tools offer an ultra efficient, scalable, programmable solution for accelerating drastically the data-intensive apps, with limited hardware and software impact. Only partial and familiar reprogramming is needed: the cost of adapting the application code and the cost of the chips is small compared to gains for big data large players. The benefits in terms of speed (20x) and energy savings (12x) provide very short paybacks for apps owners or cloud suppliers; it will also be accessible to smaller players through cloud services (AWS, MS Azure, OVH, ...) and open source SDK policy. For more information visit www.upmem.com.

About Solid Sands
Solids Sands is the one-stop shop for C and C++ compiler and library testing, validation and safety services. With SuperTest, Solid Sands offers the largest test and validation suite with a unique level of compiler and library test coverage. SuperTest starts where other suites end. SuperTest enables its customers to achieve the software quality level required by ISO language and functional safety standards. More information on Solid Sands products and services is available at www.solidsands.nl and you can follow us on LinkedIn and Twitter.

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