NEWS RELEASE

For Immediate Release

E4S Release 25.11 Now Available with New Container Images, Support for NVIDIA Blackwell GPU Architecture and More Than 125 HPC and AI Packages

EUGENE, OR., November 17, 2025— The E4S Project, today announced the immediate availability of E4S Release 25.11.

E4S, an HPSF project, is the open-source, community-driven *HPC-AI Software Ecosystem for Science*. This curated, Spack based collection of scientific libraries and tools forms the foundation of some of the world's most advanced scientific applications.

E4S 25.11 container images are now available with support for Rocky Linux 9.6 and Ubuntu 24.04 LTS with Python 3.12.11 and over 125 HPC and AI packages. It is the first release of E4S to support Rocky Linux with support for CUDA 90 (H100) and CUDA 120 (Blackwell) images. E4S supports Blackwell GPU architecture on x86_64 as well as aarch64 (Grace-Blackwell).

An all new E4S Spack Build cache [https://cache.e4s.io/25.11] with over 7500 optimized binaries supports this release using the latest Spack 1.0.2 [https://spack.io].

E4S public-domain software is thoroughly tested for interoperability and portability to multiple host computing architectures (aarch64, x86_64, and ppc64le) and will continue to be enhanced and expanded to address architectural changes and emerging new architectures. While E4S supports many products and distributions, users can confidently select any subset of functionality. The E4S team builds and tests the whole so users may select what you need.

Key features of E4S 25.11 support a timely expansion of the ecosystem's AI portfolio and include:

- Support for the NVIDIA Blackwell GPU architecture on x86_64 and aarch64 with CUDA v12.9
- NVIDIA NeMo Framework 2.5.0 [https://github.com/NVIDIA-NeMo/NeMo], a comprehensive framework for building, customizing, deploying, and maintaining generative AI models. It includes support for large language models (LLMs), video models, vision language models (VLMs), and speech AI
- NVIDIA BioNeMo Framework, 2.7 [https://github.com/NVIDIA/bionemo-framework] an open source, AI platform to accelerate drug discovery and biopharmaceutical research providing a comprehensive suite of frameworks, pretrained models, generative AI tools, and microservices for computational biology and chemistry. It includes support for modeling DNA, RNA, and proteins and offers optimized AI models and curated training recipes for biopharma supporting the entire drug discovery process

- Google Agent Development Kit (ADK) 1.16.0 [https://google.github.io/adk-docs/], for developing and deploying AI agents, while optimized for Gemini and Google ecosystem, is model and deployment agnostic
- Vllm v0.11.0 [https://github.com/vllm-project/vllm], an inference engine for efficiently serving LLMs at scale and supporting NVIDIA GPUs
- Hugging Face Hub v0.35.3 [https://github.com/huggingface/huggingface_hub] and CLI tools, a leading open-source platform for AI/ML often described as the "GitHub of ML". These tools provide access to a model hub with over a million pre-trained models for text classification, language generation, translation, summarization, and image generation. It features a Transformers Python library simplifying the use of deep learning models for NLP tasks.
- PyTorch [https://pytorch.org/], an optimized tensor library for deep learning using GPUs and CPUs.
- E4S also includes TensorFlow, JAX, Scikit-Learn, Pandas, Lbann, OpenCV, and Torchbraid optimized for GPUs, and features Intel oneAPI 2025.2 and AMD ROCm 6.4.3 to support GPUs from Intel and AMD respectively

ParaTools Pro for E4S(TM) [https://paratoolspro.com] supports NVIDIA GPUs on multi-user, multi-node, multi-GPU clusters using SLURM [https://slurm.schedmd.com/] and Heidi with Torque [https://adaptivecomputing.com/] schedulers featuring NVIDIA GPUs with Ubuntu and Rocky Linux images on commercial cloud platforms such as AWS, Microsoft Azure, Google Cloud (GCP), Oracle Cloud Infrastructure (OCI), and IBM Cloud.

"E4S 25.11 ushers in a new era of HPC and AI software portability, now delivering out-of-the-box support for Rocky Linux 9.6 and Ubuntu 24.04 LTS across x86_64 and aarch64 systems," said Prof. Sameer Shende, University of Oregon and ParaTools, Inc. *"With expanded compatibility for NVIDIA Blackwell GPUs on both x86 and ARM platforms, the E4S ecosystem empowers users to seamlessly deploy cutting-edge scientific, AI, and engineering applications anywhere—from personal workstations to exascale supercomputers and major cloud providers. This release offers more than 125 rigorously tested, GPU-optimized packages, an improved AI stack, Spack 1.0.2 integration, enhanced Python 3.12 support, and over 7,500 pre-built binaries—delivering reproducibility, ease of use, and unmatched scalability for HPC-AI workflows."*

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