

Success Story ———— ● ● ● ●

NATIONAL CENTER FOR HIGH-PERFORMANCE COMPUTING, TAIWAN

Solution Data Center & Supercomputing

Industry Academia and General Public



TWCC TAIWAN COMPUTING CLOUD

台灣杉二號
TAIWANIA 2

Use Case

As part of the National Science and Technology Development Plan—Digital Infrastructure, artificial intelligence was identified as a key focus. In accordance with the vision, the National Center for High-performance Computing (NCHC) of Taiwan, in cooperation with ASUS and other industry partners, initiated the design and the construction of TAIWANIA 2 supercomputer and Taiwan Computing Cloud (TWCC) AI Platform to achieve its mission of AI democratization, enabling innovation from the cloud to the edge and fostering the growth of academia and industries in Taiwan.

Requirements

- Build a state-of-the-art supercomputer system with a public cloud that has the ability to scale resources on demand for efficiently running AI workloads per the user's request.
- Provide effective and intuitive AI and big data cloud services and tools for AI developers and data scientists to quickly and easily configure, build and manage development and production environments and obtain outcomes.

Solutions

- Supercomputer comprising massive computing nodes and a 2,016 NVIDIA® Tesla V100 32GB GPU cluster, with more than 100 PB of data storage and best-performance networking.
- Extensive software-defined architecture consisting of the integration efforts of over 20 cloud and AI open source projects, from core services to monitoring services, making a scalable and efficient cloud infrastructure and AI platform.
- Smart and intuitive user interface allowing users to create a cloud computing service and environment quickly, simplifying using the cloud and diving into AI.

Accomplishment

The new purpose-built supercomputer, TAIWANIA 2, with 9 PFLOPS of computing performance, ranked 20th on the TOP500 list of the world's most powerful supercomputers and 10th on the Green500 list for energy efficiency in 2018.



TWCC, a next-generation AI cloud platform with an optimized software stack, enables at least 30% higher efficiency upon the deployment of a multi-node, multi-GPU distributed high-performance parallel computing environment.