Tachyum Prodigy® T896 Universal Processor

Tachyum’s Prodigy is the first Universal Processor combining General Purpose Computing, High Performance Computing (HPC), Artificial Intelligence (AI), Deep Machine Learning, Explainable AI, Bio AI, and other AI disciplines within a single chip. It allows for a simple programming model and environment based on a coherent multiprocessor architecture.

The T896 integrates 96 high-performance, 64-bit cores, 8 DDR5-6400 memory controllers, and 48 lanes of PCIe 5.0 to address high-performance mainstream applications such as hyperscale data centers, databases, data analytics, and big data.

Key Features

**High Performance Processor Subsystem**
- 96 64-bit cores in a single socket up to 5+ GHz
- 2 x 1024-bit vector units per core
- 4096-bit matrix processor per core
- Out-of-Order, 4 instructions per clock
- Virtualization and Advanced RAS

**Fully Coherent Caches**
- 64 KB I-Cache, 64 KB D-Cache, both with ECC
- 96 MB L2+L3 cache with DECTED ECC

**Multiprocessor Support for 2P and 4P Systems**

**High Speed Memory Controllers**
- 8 x DDR5-6400
- Maximum 16 TB per socket

**Integrated I/O**
- 48 lanes PCI Express 5.0
- 24 PCIe Controllers

**Additional Features**
- 5nm Process Technology
- 64 mm x 84 mm FCLGA Package

**High Performance Matrix and Vector Processing for AI/ML and HPC**
- 6 AI PetaFLOPS - Training and Inference
- 23 DP TeraFLOPS - HPC

- Runs binaries for x86, Arm, and RISC-V in addition to native ISA

*Preliminary specifications, may be subject to change*
Prodigy Software Ecosystem

Prodigy has a rich ecosystem of development tools, operating systems, application software, and software libraries to enable fast, easy development and quick time to market.