

Tachyum Prodigy

The World's First Universal Processor

- Tachyum is developing the industry's first universal processor, AI, and supercomputing chip – Prodigy
- Prodigy has **>3x higher performance** and up to **10x lower energy consumption** than its competition
- Prodigy solves key issues plaguing today's data centers, including high power consumption, low server utilization, and the processor performance plateau that is limiting performance

Company and Product Overview

Tachyum is a semiconductor company developing the world's first universal processor, Prodigy, which unifies the functionality of CPU, GPGPU, and TPU into a single monolithic device, delivering unprecedented performance, power efficiency, and TCO reduction for a wide range of applications and workloads, including cloud and HPC/AI.

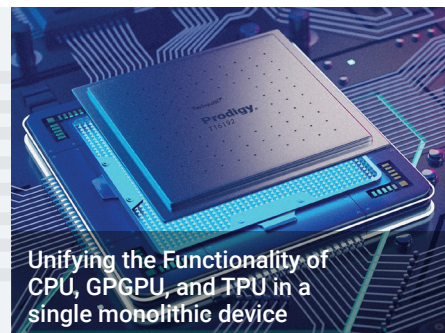
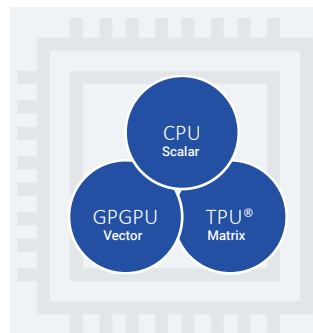
Prodigy's revolutionary architecture solves key issues that are plaguing today's data centers, including high power consumption and low server utilization. With Prodigy, hyperscale data centers can run cloud workloads during peak hours and AI workloads during off hours, keeping servers running 24/7.

Prodigy eliminates the need for costly and power-hungry accelerators, enabling high performance data centers to be deployed with a homogeneous architecture, enabling a simple software model and easy, straightforward maintenance.

In addition to running its native instruction set architecture, Prodigy also runs the binaries for x86, Arm, and RISC-V, providing fast, easy, out-of-the-box testing and evaluation.

Tachyum has approximately 100 employees with engineering teams in the Silicon Valley, Slovakia, the Czech Republic, and the corporate office in Nevada, Las Vegas.

Tachyum Prodigy



Unifying the Functionality of CPU, GPGPU, and TPU in a single monolithic device

Target Markets

The Prodigy family of processors encompasses eight product SKUs ranging from 192 to 48 cores with a wide range of performance, power, and features to address the following key markets:



Cloud



HPC
Big AI



Edge
Telco



Data Analytics
Big Data
Databases

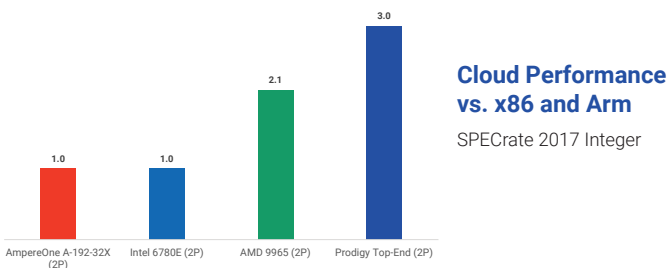


Crypto/Digital
Currency



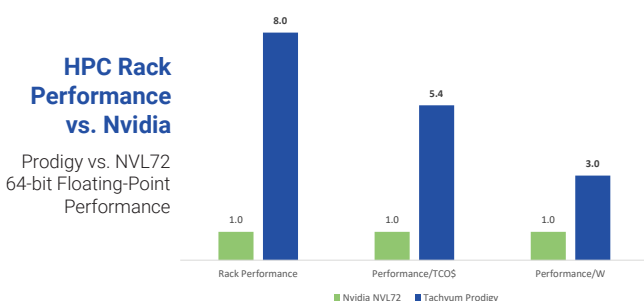
Storage

Cloud and HPC Performance Comparison



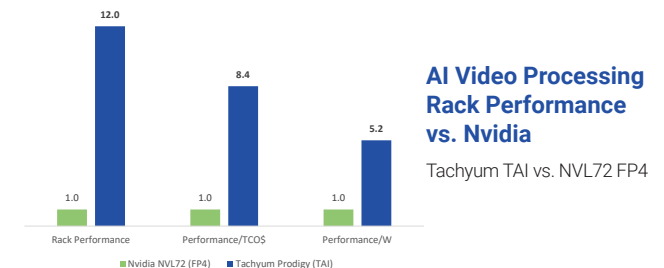
Cloud Performance vs. x86 and Arm
SPECrate 2017 Integer

Prodigy Racks Easily Switch from **3x Higher Cloud Performance** than x86 to **8x Higher HPC Performance** than Nvidia Blackwell NVL72



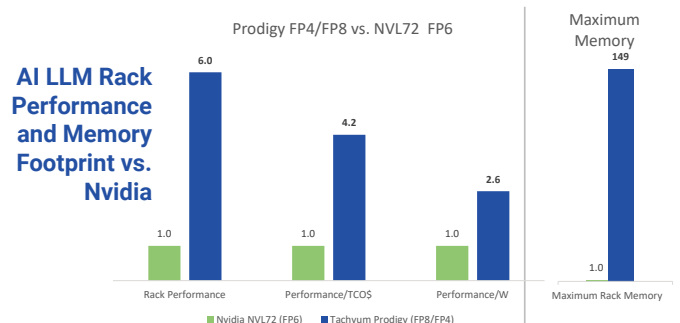
HPC Rack Performance vs. Nvidia
Prodigy vs. NVL72 64-bit Floating-Point Performance

Performance Comparison: AI Video Processing and LLMs



AI Video Processing Rack Performance vs. Nvidia
Tachyum TAI vs. NVL72 FP4

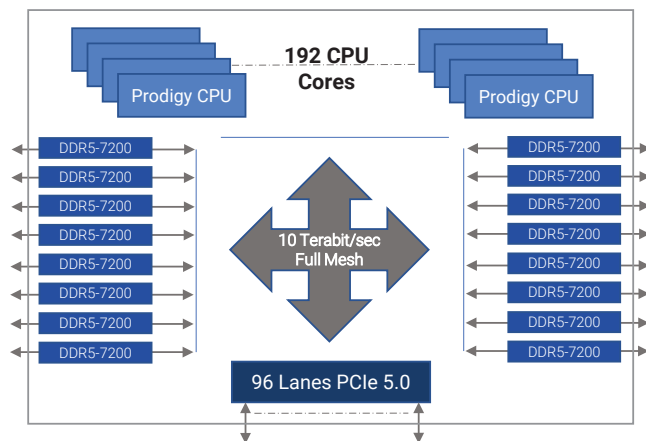
Prodigy Racks Deliver Up to **12x Higher AI Performance** and **150x More Memory** than Nvidia Blackwell NVL72



AI LLM Rack Performance and Memory Footprint vs. Nvidia
Prodigy FP4/FP8 vs. NVL72 FP6

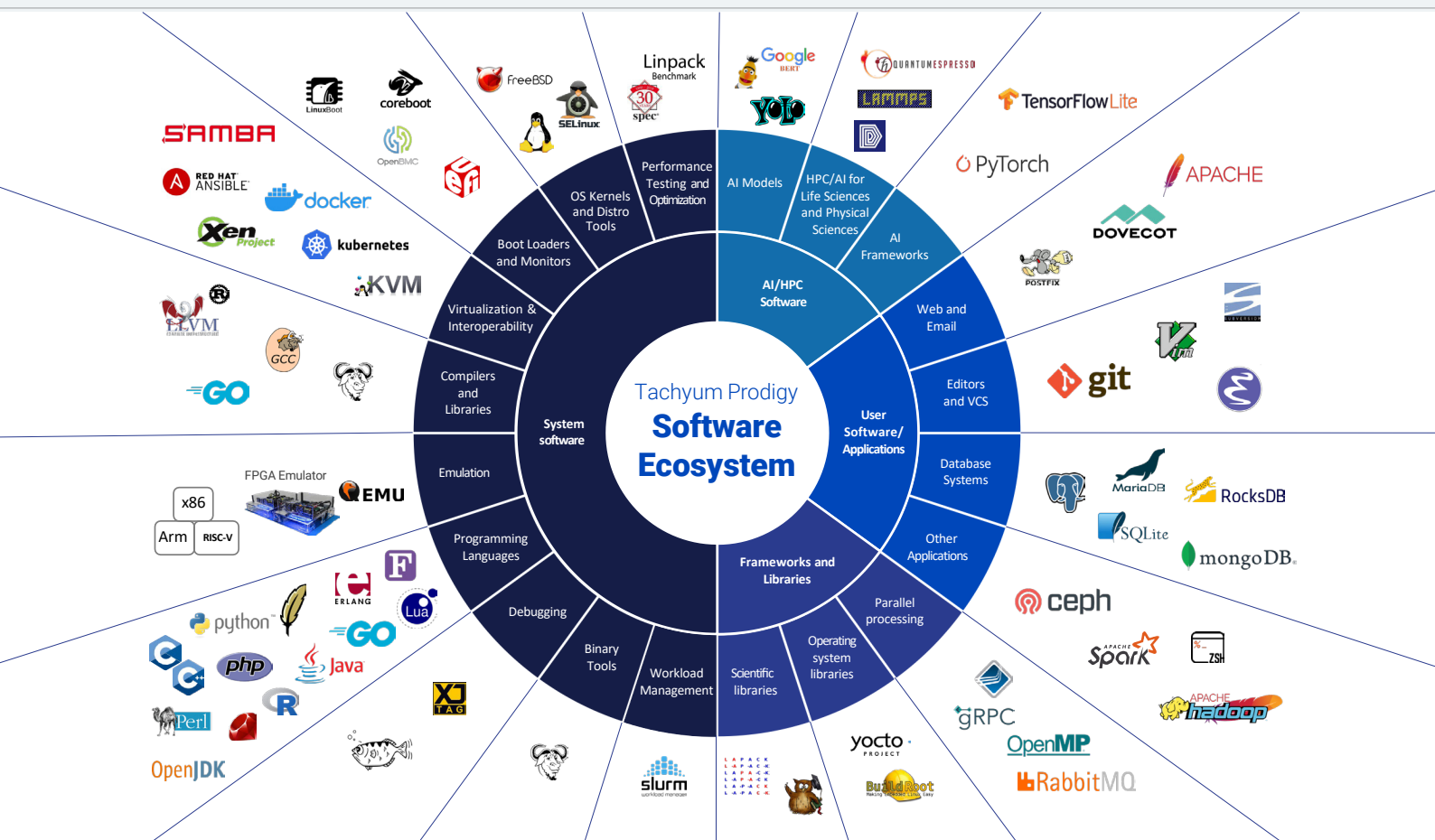
Prodigy Block Diagram and Key Features

- General Features**
- 192 CPU cores running up to 5.7 GHz
 - Hardware coherency supports 2 and 4-socket platforms
 - 16 DDR5-7200 memory controllers
 - 96 lanes of PCIe 5.0
 - 10 terabit/sec full mesh interconnect
 - Runs binaries for x86, ARM, and RISC-V
 - 5nm process technology
- HPC/AI Features**
- 2x1024-bit vector units per core
 - 4096-bit matrix processor per core
 - Wide range of data types from FP64 to FP8
 - Sparsity and super-sparsity



Prodigy SKU Summary

Workloads	SKUs	Cores	Freq (GHz)	DDR5 Controllers	PCIe 5.0	TDP (est.)	Applications
Top-End HPC/AI	T16192-AIX	192	5.7	16 x 7200+	96 lanes	950W	HPC, Big AI
Mid-Range HPC/AI	T16192-AIM	192	4.5	16 x 7200+	96 lanes	700W	HPC, Big AI
Entry-Level HPC/AI	T16192-AIE	192	4	16 x 7200+	96 lanes	600W	HPC, Big AI
Throughput	T16192-HT	192	4.5	16 x 6400	96 lanes	300W	Analytics, Big Data
Speed	T896-HS	96	5.7	8 x 6400	48 lanes	300W	Cloud, Databases
Efficiency	T896-HT	96	4.5	8 x 6400	48 lanes	300W	Cloud, Databases
Entry Level	T848-HS	48	5.7	8 x 6400	48 lanes	300W	Scalar Workloads
Lowest Power	T848-LP	48	3.2	8 x 4800	48 lanes	150W	Hosting, Storage, Edge



Complete Software Ecosystem at www.tachyum.com/sw



www.tachyum.com



Tachyum Inc., 8275 South Eastern Ave, Ste 233, Las Vegas, NV 89123, U.S.A.

Tachyum s.r.o., Karadžičova 14, CBC IV, 3rd floor, 821 08 Bratislava, Slovakia

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