Tachyum

Tachyum Prodigy® Series of Universal Processors

PRODUCT BRIEF

Tachyum's Prodigy Series of Universal Processors is the first processor architecture that combines 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 Prodigy Series includes multiple SKUs with the top-end SKU integrating 1024 high-performance 64-bit cores, 24 DDR5 memory controllers running up to DDR5-17600, and 128 lanes of PCIe 7.0. The Prodigy Series SKUs are designed to address a wide range of applications that include exascale supercomputing, HPC, big AI, physical AI, digital currency, crypto, cloud/hyperscale, data analytics, big data, databases, and storage. Prodigy's top-end SKU features are highlighted below, and a table summarizing all the SKUs follows.

KEY FEATURES - Prodigy Top-End

High Performance Cores

- 1024 64-bit cores in a single socket up to 6 GHz
- Powerful matrix and vector processors tailored for high-performance AI and HPC workloads
- Out-of-Order, 8 instructions per clock
- Virtualization and Advanced RAS

Fully Coherent Caches

- 128 KB I-Cache, 64 KB D-Cache, both with ECC
- 1 GB L2+L3 cache with DECTED ECC

Multiprocessor Scalability Supports up to 16-socket Systems

Memory Controllers

- 24 x DDR5 up to DDR5-17600
- Maximum 48 TB per socket

Integrated High Speed I/O

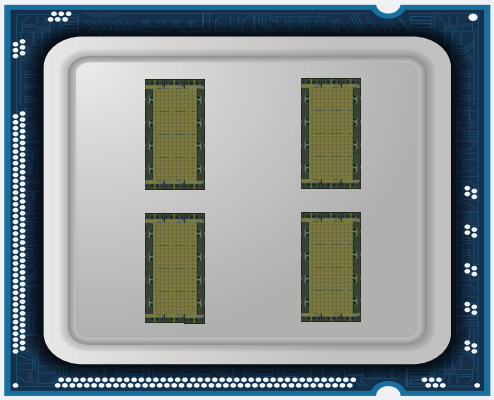
- 128 lanes PCI Express 7.0
- 64 PCIe Controllers

High Performance Matrix and Vector Processing for AI/ML and HPC

- 400 TAI PetaFLOPS - AI
- 400 DP TeraFLOPS - HPC

Runs Binaries for x86, Arm, and RISC-V in Addition to Native ISA

2nm Process Technology



TARGET APPLICATIONS

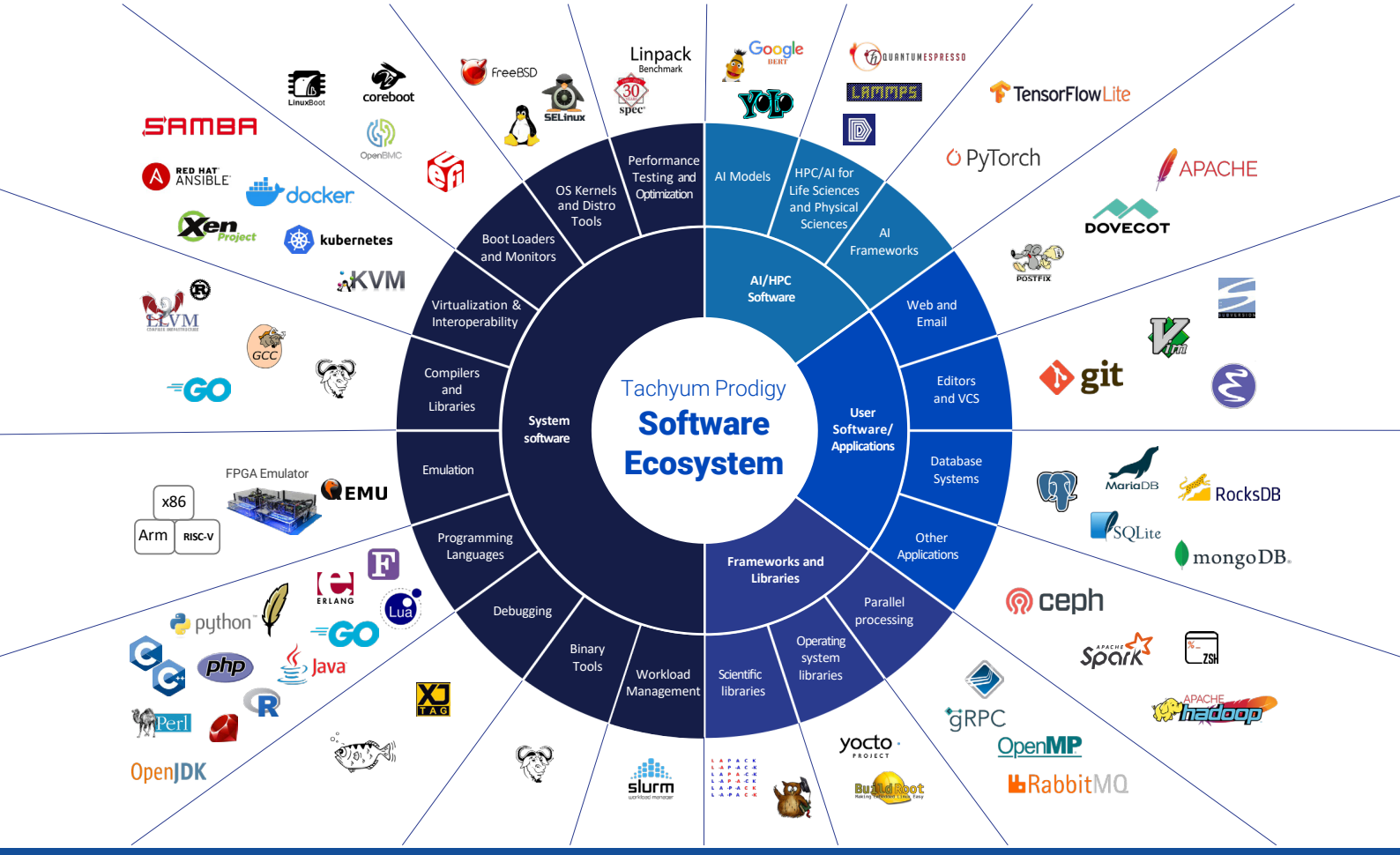
- HPC, Big AI
- Exascale Supercomputers
- Physical AI
- Cloud/ Hyperscale
- Big Data, Analytics
- Databases, Storage
- Edge/ Telco
- Crypto/Digital Currency

Prodigy SKUs

Product SKU	Number of Cores	Max Frequency (GHz)	Scalability	DDR5 Controllers	DDR5 Speed	PCIe 7.0 Lanes	TDP	Target Markets / Applications
T241024	1024	6.0	8S	24	17600	128	1600	Top-End HPC, Big AI
T24768	768	5.0	8S	24	17600	128	1000	Entry HPC, Big AI, Crypto, Digital Currency
T16512	512	6.0	16S	16	12800	128	800	Analytics, Big Data, Crypto, Digital Currency
T16448	448	5.5	16S	16	12800	128	645	Analytics, Big Data, In-Memory Databases
T16384	384	5.5	2S	16	12800	128	550	Cloud, Analytics, Big Data
T16320	320	5.0	2S	16	10700	128	420	Cloud, Edge/Telco
T16256	256	4.5	2S	16	10700	128	300	Cloud, Databases, Edge/Telco
T8256	256	4.5	1S	8	10700	96	300	Cloud, Databases, Edge/Telco
T8128	128	4.5	1S	8	9600	96	150	Physical AI, Cloud, Databases, Storage
T896F	96	5.5	1S	8	9600	96	140	Cloud, Databases, Storage
T896	96	4.0	1S	8	9600	96	100	Physical AI, Cloud, Databases, Storage
T464	64	4.0	1S	4	6400	48	70	Physical AI, Entry Cloud, Storage
T432	32	3.5	1S	4	6400	24	30	Physical AI, Low Power, Hosting

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. Complete Software Ecosystem is at www.tachyum.com/sw.



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