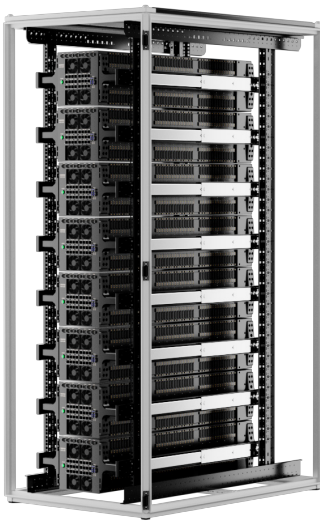


Boa-6

Highest Performance and Scalable Pre-Silicon Prototyping



Boa-6

Synopsys Boa-6 is the industry's highest performance and most scalable pre-silicon prototyping system. Because of its high performance, HAPS® is used in pre-silicon software development, as well as at-speed interface validation in the system environment.

The Boa-6 6 FPGA platform has 2X performance, 3X higher capacity, faster compile times, and 4X debug capacity and bandwidth over the previous generation. Boa-6 maintains compatibility with the HAPS ecosystem, enabling mixed systems with [HAPS-100](#). It uses the latest AMD Versal™ Premium VP1902 Adaptive SoC built on TSMC's 7nm technology.

HAPS prototyping solutions, including HAPS ProtoCompiler prototyping software, are optimized to deliver the best performance. HAPS ProtoCompiler prototyping software builds on 20+ years of FPGA synthesis expertise built with the Synopsys Synplify® FPGA synthesis product line.

Boa-6 Features and Benefits

- Performance: Up to 2x vs HAPS-100
 - Higher performance TDM; Higher host interface bandwidth, higher debug bandwidth
 - Ease of re-cabling / reduced barrier to re-cabling for performance optimization
- Capacity scaling from single FPGA to multi-rack setup
- Ease of HW cabling setup and in-field replaceability of connectors
- Better Debug capacity and bandwidth; 4x vs HAPS-100
- Faster compile time maintains turnaround time for larger design sizes
- Compatibility with HAPS ecosystem
 - Enable mixed systems: Boa-6 + HAPS-100
 - Maintain HT3 connectors for compatibility with existing accessories
- Form factor: fit better in rack environments, vertical PCB placement and connectors on the side to optimize space and connectivity within racks
- Configurable for emulation utilizing Synopsys EP-Ready Hardware

Specifications	
Capacity	6 FPGAs per system, up to 32 systems
FPGA	AMD Versal™ Premium VP1902 Adaptive SoC
Deployment	Rack or Desktop
Connectivity	Direct Connect Architecture
Scalability	QSFP, LVDS, MGB, USB3, HT3, HC3
Scalability	Multi-user, multi-design parallelization, team-design
Software	HAPS ProtoCompiler and Xilinx Vivado
Power Supply	220V
Max Power Consumption	2 kW
Dimensions	H: 216mm, W: 219mm, D: 990mm
Weight	35 Kg

HAPS ProtoCompiler Software

HAPS ProtoCompiler software helps the prototyping team create the fastest performing implementation of their design on the HAPS prototyping hardware. It enables the prototype to find both the optimum partitioning between the FPGAs and the best connectivity using the HapsTrak3 cable. ProtoCompiler uses its proven timing-driven synthesis engine to create a performance optimized prototype. ProtoCompiler is used for runtime and debug, and feeds into the [Synopsys Verdi®](#) debug environment.

IP Prototyping Kits

[Synopsys IP Prototyping Kit](#) for HAPS is the only product that can accelerate your schedule by providing push-button, out-of-the-box access to Synopsys Interface IP optimized for FPGA prototyping. By providing an interface IP prototype design, SW development teams do not need FPGA expertise to bring up their interface IP prototype. Product schedules can be accelerated when SW development begins prior to full SoC HAPS prototype availability. HW and SW development teams can now work in parallel.

Configurability for All Emulation and Prototyping Use Cases

Boa-6 is built on the Synopsys EP-Ready Hardware Platform that allows for reconfiguration to support ZeBu-200 synchronous clocking with ZeBu Software.

	Early RTL Verification	RTL Regression	Software Bring-up	Power/ Performance Analysis	Software/ Hardware Validation	Interface Compliance/ Certification
ZeBu	✓	✓	✓	✓	✓	
HAPS		✓	✓		✓	✓

For more information about HAPS prototyping contact your Synopsys representative or visit www.synopsys.com/haps