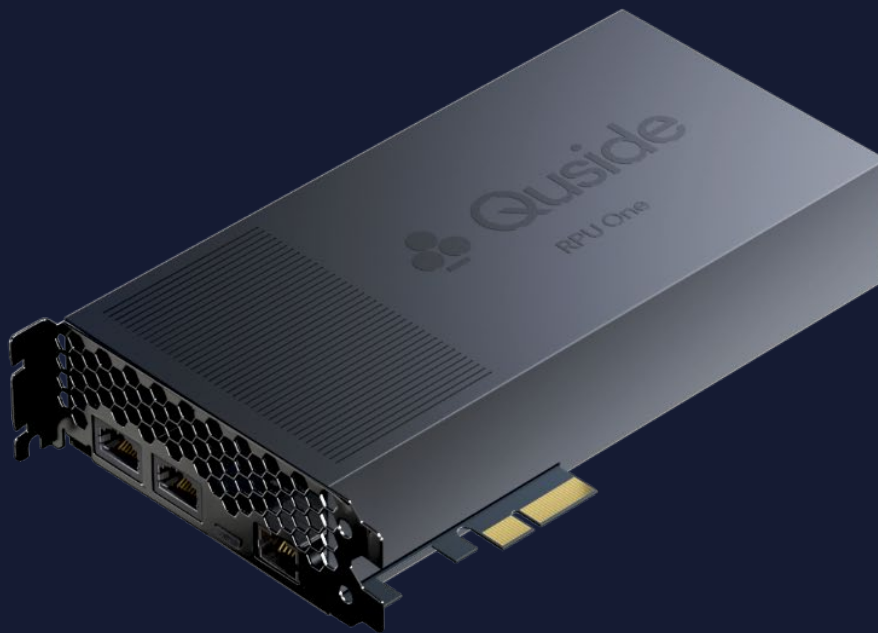


Quside RPU One



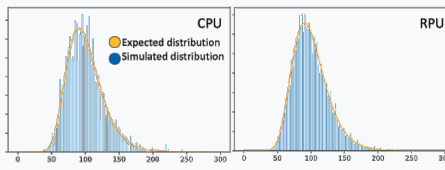
Accelerate your randomized workloads with the power of Quside™ Randomness Processing Units (RPU), which natively embed high-rate quantum entropy sources. A wide range of software relies on randomness for security, performance and efficiency. The RPU is the ideal platform to host this increasing type of computations.

Applications

BFSI

Acceleration of Monte Carlo risk simulation

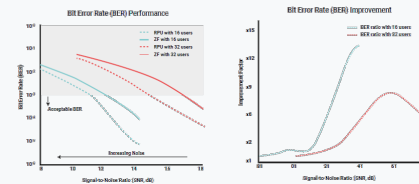
Using Quside's RPUs enables better convergence of the asset price distribution with the same simulation time.



Applications

Telco

By leveraging the power of stochastic methods for MIMO detection, 5G technologies can benefit significantly, such as increased quality of service for a given infrastructure or reduced infrastructure needs (up to 50% less).

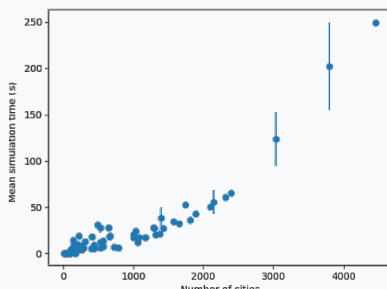


Applications

Logistics

Complete, deterministic travelling salesman problem (TSP) algorithms have exponential run times, making them prohibitive for large problems.

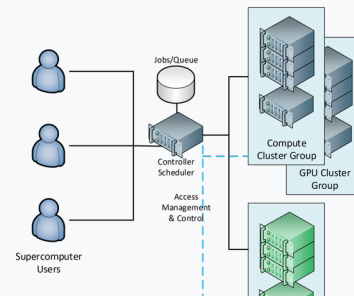
The relaxation of the optimal condition by introducing stochastic methods allows for a polynomial scaling of the TSP calculations.



Applications

HPC/Supercomputing

Unique hardware acceleration for advanced models in physics, chemistry, engineering, or mathematics, specifically stochastic modelling, Brownian motion and other atomic and molecular systems.



SPECIFICATIONS

	RPU Gen1	RPU Gen2
Distributions		
Uniform	32-bit and 64-bit floating-point (IEEE-754) and n-bits integer	
Normal	32- and 64-bit floating-point (IEEE-754)	
Log-uniform	32- and 64-bit floating-point (IEEE-754)	
Randomness		
Quantum entropy rate	400 Mb/s	1 Gb/s
Quantum min-entropy bounds	90%	82%
Average min-entropy	99%	92%
Tools		
User re-programmability	No	Yes
Available IP cores	Distribution sampling Including reproducibility and repeatability of simulations	
Tools	Accelerator, distributions quality, and performance check tool for troubleshooting	
Usage examples	Several usage examples ready to be compiled and executed in the supported programing languages C++ and Python	
Form Factor		
Interface	PCIe Gen2 x4 10Gbps	PCIe Gen3 x4 20Gbps
Max Power Consumption	25 W	25 W
Form Factor	PCIe Full-Height, Full Length, Double Width	
OS compatibility		
Compatible OS	Ubuntu 20.04	
Libraries	C++ and Python	
Virtualization Compatibility	VMWare ESXi 6.5+ support Virtual Appliance pre-configured and with Hardened OS	

Thanks for being part
of our quantum journey!

To learn more about our products visit
www.quside.com and contact: sales@quside.com

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