Quantum Elements' Constellation Platform Leveraged by Rigetti to Project System Performance at Scale

Rigetti using Constellation to simulate hardware to speed up design and optimization

LOS ANGELES, CA, UNITED STATES, November 12, 2026 /EINPresswire.com/ -- Quantum Elements, developers of software that shortens the path to fault-tolerant quantum computing, announces that Rigetti Computing, a pioneer in full-stack quantum-classical computing, is leveraging Quantum Elements' Constellation platform to model quantum device behavior to better understand how systems will perform at scale.

Constellation gives quantum teams a development environment for running high-fidelity dynamic simulations. Physically accurate quantum digital twins running on classical computers enable teams to design, test, and analyze quantum systems before committing to hardware experiments. Constellation provides this capability by modeling the physical behavior of specific quantum processors.

"Quantum Elements' Constellation platform has expanded our ability to model gate operations beyond few-qubit systems and understand the error channels that limit their performance," said Dr. Subodh Kulkarni, CEO of Rigetti. "Through three years of collaboration, we have validated the platform's ability to accurately predict single- and two-qubit gate performance on our 36-qubit and 108-qubit QPUs. Constellation is now part of our quantum error correction pipeline, providing inputs for the noise models we use to predict logical error rates."

"We're excited to see that Rigetti has integrated Constellation with their workflow to model hardware behavior," said Izhar Medalsy, CEO and cofounder of Quantum Elements. "Their commitment to advancing the broader industry's progress towards fault tolerant systems make them the ideal partner."

About Quantum Elements

Quantum Elements develops AI-native software and hardware-faithful digital twins for quantum computing. Its technology models the behavior of real quantum systems to support quantum

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hardware development, co-design, error suppression, quantum error correction, and application optimization.

Quantum Elements partners with leading companies and innovators in quantum computing including NVIDIA, IBM Quantum, Rigetti, Planckian and AWS.

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