IonQ and Q-CTRL Partner to Unlock Quantum Optimization with Fire Opal on Forte Quantum Processors

Native integration of Q-CTRL's Fire Opal software with IonQ's hardware will accelerate real-world applications without specialized quantum expertise.

LOS ANGELES, CA, UNITED STATES, April 23, 2026 /EINPresswire.com/ -- Q-CTRL, the global leader in quantum infrastructure software, and IonQ, the world's leading quantum platform company, today announced the native integration of Q-CTRL's Fire Opal software into IonQ's quantum processors to maximize their quantum performance.

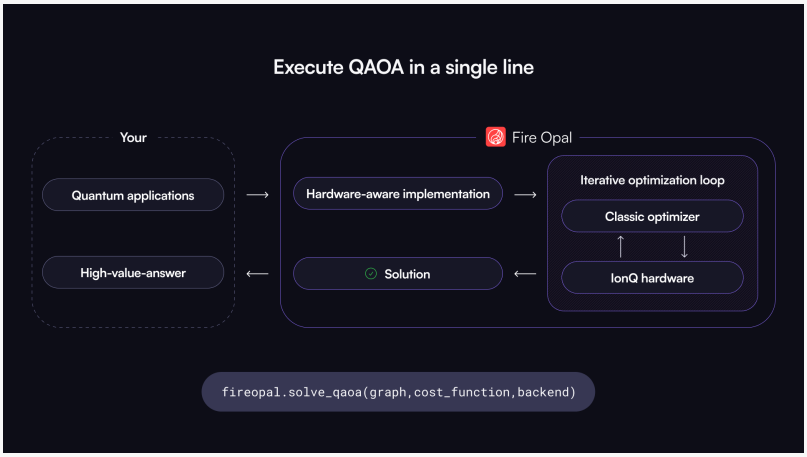
Quantum optimization is a compelling candidate for near-term quantum acceleration across problems in logistics, finance, energy, and more. For the typical customer, even an expert in quantum computing, extracting high-quality solutions from real hardware is highly challenging; many parameters and techniques must be manually tuned or adjusted by the user, mandating a depth and breadth of specialized skills few end users possess.

> The capability to solve world-changing problems is inside quantum computers. We're thrilled to partner with IonQ in empowering customers with the infrastructure software that brings this within reach."
>
> *Alex Shih, VP of Product at Q-CTRL*

Q-CTRL and IonQ are reducing the barriers to achieving true commercial value from the most advanced quantum processors, natively integrating Fire Opal's Optimization Solver directly into IonQ Quantum Cloud as a single, fully configured, easy-to-use function. Now any end user can focus on their optimization problem, allowing Fire Opal to automatically handle all aspects of execution on real hardware to achieve the most valuable results.

IonQ Quantum Cloud users can access Fire Opal's Optimization Solver directly on IonQ's Forte

and Forte-Enterprise devices, the company's highest-performing, commercially available quantum computers.



How to execute Fire Opal's Optimization Solver natively on IonQ quantum processes

“At Q-CTRL, we’re focused on providing the infrastructure software that makes it possible for end users to achieve true positive ROI from the most advanced quantum computers available,” said Alex Shih, VP of Product at Q-CTRL. “The capability to solve world-changing problems is right there inside of these extraordinary machines. We’re thrilled to partner with IonQ in empowering customers with the quantum-control infrastructure software that brings this power within reach.”

The value of the Fire Opal optimization solver coupled to IonQ Forte is captured in a telecommunications industry case study, delivering the correct solution to reduce network interference out of 68 billion possibilities.

In addition to this native optimization solver on the IonQ Quantum Cloud, Fire Opal’s performance-management capabilities for integrating error suppression into an arbitrary quantum circuit remain available for IonQ hardware via Amazon Braket. These expanded access points now enable users to achieve meaningful industrial outcomes and reliable results without specialized expertise in quantum hardware.

Q-CTRL has an unrivaled track record of creating modular, enterprise-grade infrastructure software, integrated across a range of quantum computing architectures, from trapped ions and semiconductor spins to superconducting qubits. Algorithm performance can be boosted by up to 1,000x, making Fire Opal an extraordinarily powerful and versatile tool for enterprise end users seeking reliable performance enhancement across their varied applications.

“In our experience, IonQ has been a leading hardware platform, and we are excited by what the native integration of Fire Opal error suppression and optimization can unlock,” said Dr. David Benoit, Senior Lecturer in Molecular Physics and Astrochemistry at the University of Hull. “We expect the Fire Opal optimization solver will significantly streamline our workflow by abstracting away from the specific quantum circuits and unlocking latent hardware performance, allowing us to focus fully on solving the core problem rather than managing the complexities of implementation.”

To use Fire Opal on IonQ Quantum Cloud, visit Q-CTRL’s website to request access: https://q-ctrl.com/fire-opal/ionq

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