Quantinuum
303 S TECHNOLOGY CT
BROOMFIELD CO
www.quantinuum.com

Product / Process Change Notification
Issue Date: May 22, 2024

Quantinuum H-Series Product Change Notification

Title of Change:	**System Model H2 N=56 Upgrade**
Date of Change:	May 29th, 2024
Contact Information:	QCSupport@quantinuum.com
Products Impacted:	H2-1 quantum computer, emulator, and syntax checker
Changes to Product Data Sheet:	**NO** ☐ **YES** ☒
Changes to Subscription Contract:	**NO** ☒ **YES** ☐
Changes to Interface:	**All** ☒ **Quantinuum API** ☐ **Microsoft** ☐
Description and Purpose:	The purpose of this notification is: 1) Notify customers that the H2-1 quantum computer has been upgraded to 56 qubits. 2) Notify customers that the H2-1 emulator will be available with up to 32 qubits for state vector emulation and up to 56 qubits for stabilizer simulation. See additional information below for more details.
Reason / Motivation for Change:	Updates to H2-1 quantum computer and emulator
Action Required by Customers:	None

Additional Information:

1) Notification of H2-1 quantum computer upgrade to N=56 qubits

On May 29th, H2-1 device with be upgraded to use N=56 compiler. After this upgrade, H2-1 will be available with 56 qubits and all circuits run will be processed using the new compiler.

Users may notice a performance difference before and after the compiler update. We are available to help investigate if significant changes are observed. The new compiler supports up to 56 qubits, but we recommend using H1-1 for circuits requiring less than 20 qubits.

A public announcement of this upgrade is tentatively scheduled for June 5th, 2024. Public facing collateral and documentation will be updated on this date as well. We ask that you hold any public communication on this upgrade until that time.

The Quantinuum System Model H2 Product Data Sheet will be updated [here] to reflect the H2-1 specifications, including typical, minimum, and maximum performance parameters on June 5th, 2024.

Quantinuum
303 S TECHNOLOGY CT
BROOMFIELD CO
www.quantinuum.com

2) Notification of the H2-1 emulator update to reflect H2-1 upgrade.

Effective May 29th, the H2-1 emulator will be upgraded to perform stabilizer simulations of circuits up to 56 qubits and state vector simulations up to 32 qubits. Initially, the emulator will have a rough alignment to the actual device, but the error model will be updated to match the machine by June 5th, 2024.

In addition, the error parameters in the Emulator Product Data Sheet will be updated [here] to reflect the current state of the H2-1 quantum computer on June 5th, 2024.