

# IBM invites users to test its quantum computer

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The IBM headquarters are based in Armonk, New York

IBM on Wednesday [opened its quantum computer processor](#) to anyone who wants to try what is expected to be a new kind of computing with enormously improved power and speed.

The cloud-based computing system will allow users to explore the

technology, which scientists say may solve certain problems that are impossible to solve on today's supercomputers.

"This moment represents the birth of [quantum](#) cloud computing," said Arvind Krishna, [senior vice president](#) and director at IBM Research.

"Quantum computers are very different from today's computers, not only in what they look like and are made of, but more importantly in what they can do. Quantum computing is becoming a reality and it will extend computation far beyond what is imaginable with today's computers."

The company said anyone can run experiments on the computing platform by accessing its website connected to the IBM Cloud.

Quantum computing, an area of research for a number of big tech firms, differs from traditional digital computing due to the physics in which the computing device handles a calculation.

Unlike conventional or digital computers, quantum computers use quantum bits or "qubits" that can exist in multiple states simultaneously, offering the potential to compute a large number of calculations all at once, speeding up results.

While quantum computing is still in its infancy, scientists believe it could lead to huge improvements in artificial intelligence, transform materials science and allow for search or analysis of vastly larger quantities of data than can be handled by today's most powerful machines.

IBM said its quantum processor housed at its Watson Research Center is a first step toward building a universal quantum computer with far greater potential.

The company received a research grant last year from the US Intelligence Advanced Research Projects Activity (IARPA) to advance the building blocks for a universal quantum computer.

Roger Kay, analyst at Endpoint Technologies Associates, said IBM's new machine is a relatively primitive quantum computer as it develops more refined models.

At some point, Kay said, a quantum [computer](#) could analyze as many potential scenarios "as there are stars in the universe," which could open up new avenues for research and other computing fields.

With that amount of computing power, Kay said, "decryption becomes almost trivial," and that government agencies could be able to deal with encryption used by criminals and others.

"The public should be concerned because your stuff can be decrypted too," Kay said.

But he noted that "the [quantum computing](#) era is still a decade away."

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