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# A blockchain database takes a village



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Microsoft's announcement of a partnership last week with a group of big banks that includes Citigroup and Wells Fargo to do experiments on [blockchain technology](#) must have bewildered at least a few people.

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Some may have wondered what on earth [blockchain](#) is. Others may have puzzled over why banks that normally compete for business are working together on anything.

They're not unreasonable things to think. Let's start with the emerging technology that forms the basis of the digital currency [bitcoin](#). A blockchain database is distributed among a network of computers, instead of being centralized on a server cluster. Built on top of that is a shared ledger; changes that get made to the ledger are made in a way that ensures security and are updated on all computers that are part of the blockchain.

That's useful in [industries like financial services](#), which often rely on a central clearinghouse to verify transactions. A blockchain would eliminate that middleman, slashing administration time and costs. Banks are looking at the technology to see what else it can be used for – eyeing new

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ways of handling stocks, derivatives and loans. But they can't do that kind of testing alone – hence partnerships like the one between Microsoft and startup R3, which leads a consortium of more than 40 banks.

Together, said [Martha Bennett](#), an analyst at Forrester Research, they can work out a panel of issues, including industry standards. To join a blockchain network, organizations need to agree on the technology stack and protocol to put to use.

“There is no competitive advantage for a bank or anybody else in trying to do blockchain on your own – unless you can somehow convince everybody to adopt your standards, and how likely is that?” Bennett said. “So it does require industry collaboration.”

It also helps to pull together resources to try out a complex new technology and see what works and how that might scale outside of the research-and-development labs.

Microsoft's end of the bargain is to lend tools and its cloud service [Azure](#) for the banks to do their testing. In return, it hopes to run their in-production blockchains when they're done.

The R3 group isn't the only gang looking to develop uses and standards for blockchain database technology. There is also the open source [Hyperledger Project](#), led by the Linux Foundation. It is looking at ways of doing other kinds of business transactions, too, not just financial ones, so its ranks include multinationals like IBM and Hitachi alongside banks BNY Mellon and State Street. That group overlaps with a growing number of blockchain startups and even with R3.

That's a good thing, Bennett said, because the contributions each of the players brings with it can feed into the larger development of the technology.

“It is very much an ecosystem play,” she said.

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