HashGraph

Q. Is 'HashGraph' the next big distributed ledger technology? Is that just a hype or many organizations/teams have started using it?

A. HashGraph is basically a graph that grows upward over time. Every node or we can say a participant keeps a copy of its transaction memory. Each member start by creating an event which is a small data structure in memory. Each event is container for 0 or more transactions. We can say that HASHGRAPH is the next big thing in the distributed ledger technology as it's more like an advanced blockchain and can easily replace the blockchain technology. It's not just a hype but it is getting famous in the developer's community. HashGraph technology is not that much in practice as it is a new concept and newer technology but there's a hype building around it. The main advantages of hashgraph over its other competitors is its speed, fairness and high level security. VISA has a speed of approximately 25000 transactions/second but HashGraph has a speed of 250000 transactions/second. It provides a new form of distributed consensus, a way for people who don't trust each other to securely collaborate and transact online without the need for trusted intermediary. The platform is lightning fast, highly secure and fair and unlike some blockchain based platform doesn't require to compute heavy proof of work.

Q. Can we check on user forums to understand if this is indeed the next big thing and it's uses?

A. Surely we can learn about this on user forums and it is most curious topic in the Developer's community and many of the forums such as Swirlds and Hedera HashGraph consensus are providing open platforms and sdk for developers to program and create their own applications based on HashGraph. It's only drawback is that it is a patented technology by Swirlds so in order to use it we have to develop a software based on it we have to use their sdk and unlike blockchain it's not available as an open environment. HashGraph aims to provide the benefits of blockchain as a distributed ledger technology without the limitations. It uses the gossip of gossip protocol with a voting algorithm to reach consensus quickly and securely without heavy proof of work.

Q. What are its differentiators over its competitors?

- Hashgraph is way faster than its competitors in terms of transactions per second. World's best electronic fund transfer company VISA has a speed of 25000 transactions per second whereas hashgraph can make 250000 transactions per second which is also way faster than blockchain.

- One of the important aspect of hashgraph is that it has achieved asynchronous byzantine fault tolerance which is a very important concept to be achieved in any decentralized technology and they have achieved it without any proof of work using a consensus based on voting algorithm.
- No mined block is discarded or stale in hashgraph. If there are two miners who create two blocks at same time the blockchain will discard one of the blocks in the chain whereas in hashgraph no block is discarded and all bloacks are in use.
- Hashgraph is highly secured and can prevent any DDOS attacks whereas blockchain is more prone to symbian attacks because the miner can decide out of the given blocks to choose which ever he mines whereas in hashgraph all the nodes are secured and lower level node are immutable so the hacker has to hack all the nodes of hashgraph to even hack one of the user's node.
- The data is secured with cryptographic hashes so its difficult to access by an outsider from the graph and data is secured.Also, hashgraph don't have a leader neither it requires a proof of work. Moreover, It promises todeliver a low cost and efficient performance with no single point of failure.

DISADVANTAGES(CON'S)

- Although hashgraph is a revolutionary distributed ledger technology, it has his own cons as well. Currently VISA has a speed of 2500 transactions/second but only 1 percent of transaction speed is used. Therefore, it will be higlt impractical to invest in a system where only 1 percent of its transaction speed is used on a normal basis.
- One of the major problem with hashgraph ledger technology is that it has been patented by leemon bird who deisgned the hashgraph so if some other developer or a community wants to use the technology they have to download the software development kit provided by bird's company SWIRLDS so it is not an open source nevironment platform for now.
- The major practical issue with distributed ledger system is its main advantage that is decentralisation because the main institution who are dominating the economy are running their show using a centralised system having a full control over the internet data.

VIEWS REGARDING SWIRLDS SDK

- The installation part is quite flexible and sdk could be run both directly from java development kit as well as from eclipse or any other java ide or software. However, the running time of swirlds hashgraph is too high as for only 4 users it take around 30 to 40 minutes to run the hashgraph. Although, the pros lies in the fact that as soon as the running part is completed it can process around 250000 transaction per second which is a huge and major advantage over other ledger systems such as blockchain.
- One of the major advantage is that the voting algorithm used for consensus is way faster and secure to attacks (symbian and ddos attacks) when compared to proof of work and proof of state algorithms and systems working on them.
- The main issue again to be mentioned with swirlds sdk is that it is a patented software technology so we again depend on a source to develop and code on hashgraph till a better solution is developed or an open source environment of the same can be released.