DO WE REALLY NEED A BLOCKCHAIN?

iTWire asked a number of leading players in the IT industry for their thoughts on Blockchain. The responses were just as mixed as we'd expected.

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Blockchain is probably one of the most divisive technologies around at the moment, even setting aside all of the currency implementations. With that in mind, we asked a broad range of industry players this question. "Blockchain is little more than a solution in search of a problem. So many applications seem to add nothing to what a well-designed database can do. Further, when blockchains are designed to mirror real-world objects, the connection from the physical item to its representation seems remarkably tenuous. Thoughts, expansions, denials all happily accepted." Just five responded.

Most responders wanted to separate Blockchain from cryptocurrencies (quite rightly so), but the overall tone of responses ranged over a gamut from wildly positive to vaguely pessimistic.

Unlike previous "controversial question" pieces (they're published fortnightly for readers who wish to follow the series) where we dissected responses and re-organised into common themes, we determined this time to present each response in its entirety.

Vykintas Maknickas, product strategist at NordVPN opened the discussion. "When talking about blockchain applications, people usually refer to decentralized databases behind those applications. However, blockchain should be considered as a new type of verification system rather than a database.

"[A] Shift of the definition makes blockchain perfect for problems that rely on third-party verification, e.g. notarization and value exchange (cryptocurrencies). As a result, blockchain can change traditional business processes

behind applications as soon as data integrity issues are resolved."

Upon receipt of this response, iTWire showed Maknickas a visual analysis of Blockchain according to NIST.

Maknickas responded, "The infographic only confirms what has been said before. People think of blockchain as a database. This comes as no surprise, as there are plenty of them already serving any purpose you can think of.

"However, databases in their traditional form are used to create value exchanges. They are perfect for the task because that's how traditional money works. Naming blockchain a database underestimates the potential of the technology because there is nothing blockchain as a database does better than a traditional database.

"Instead, blockchain creates an entity of verification on top of the database. And this entity, in most cases, cannot be controlled by any party using it as a database. What I'm trying to say is that blockchain shouldn't be compared with PostgreSQL/MongoDB/etc. It stands with IRS or any similar entity.

"The sooner blockchain developers realize this, the sooner we'll see applications that actually bring additional value beyond reading and writing data in a new fashion."

Next, Kevin Beasley, CIO at VAI offered his thoughts.

"While many organizations have well-designed databases and business processes in place, blockchain adds an additional layer of visibility, clarity, and accountability.

"For example, let's look at the pharma industry's supply chain, especially as experts work to create a vaccine. Blockchain technology increases transparency and improves vendor visibility and communication, so it's easier for a manufacturer to show the supplier and distributor life cycle step-by-step details and records of manufacturing, distribution, and transportation. With the use of blockchain, pharma companies and manufacturers are able to easily track vaccine manufacturing, storage, and distribution along the way, ensuring vaccines are delivered safely to the end destination when the time comes."

Thomas LaRock, Head Geek at SolarWinds offered this: ""In my opinion, blockchain is one long transaction log, written to forever, and never backed up. It's a ledger with some math. And while distributed ledgers are useful in some scenarios, you don't need a blockchain for every scenario.

"People and organisations turn to blockchain for decentralisation of trust among third parties. And while blockchain purports to solve a lot of problems, it doesn't solve the data entry problem. So many of our problems are data entry problems. Data can be tampered with—it can be entered with an error, whether intentional and malicious or a simple human mistake.

"A distributed ledger will replace a need for blockchain, and many major database vendors can deliver this. With these, you don't need to roll your own blockchain. What you need is an API. You update some data, then move on to the next task in your day. No need to overcomplicate things."

To some extent, Daniel Comarmond, Security Software Engineer for Thycotic Australia agreed, with a few caveats: "I can understand that a transparent single source of trust sounds like a good idea, but at this stage if I were seriously evaluating blockchain I'd need more clarity and confidence on a few items:

"Regulation: It seems to me that while some countries in Asia have taken a lead on introducing crypto regulation - and thus giving some legitimacy to the budding crypto industry - I've yet to see anything even acknowledging this either in Australia or the US, for example. "Security: I think my greatest issue with the way blockchain security is portrayed is that: the technology is unassailable; and it can be trusted because it's de-centralised. Are you prepared to trust a model that has no references? No way of vetting who shall take part in the same blockchain as you? Even if you choose a permissioned blockchain instead of a permissionless blockchain, who would you trust to administer participation? And then what if a threat actor attempts to change a block in the chain? Any change to the chain won't be

anonymous, we're told. But, what if that's the point... like an extremist taking credit for a bomb attack? Additionally, holding up the likes of Bitcoin and Ethereum as examples of blockchains that cannot be tampered with should also be questioned. Any new blockchain has to start somewhere - and a new, small blockchain will always be more susceptible to attack - potentially sabotage - precisely because less computational energy will be required to completely change a new, small blockchain.

"Energy: This is a double-whammy. Not only am I not convinced of the sustainability of more blockchains due to the energy required for the crypto operations, but we've already seen this desire to harness CPU cycles lead to cyber attacks. This is a popular use case for privilege management and governance in your organisation - ensuring that your organisation's resources are not abused by Bitcoin-mining software getting installed by threat actors, or worse by people you thought you could trust."

Next we spoke with Robert Merlicek, CTO - APJ at TIBCO. Merlicek chose initially to address the time-based component. "The question is not if blockchain is relevant, but when it is relevant. We must understand the conditions under which blockchain should be applied because it can solve many, but not all, problems. It's true that blockchain is not always the answer. As with any other technology, we must take into account various factors to determine if it is appropriate.

"Databases have their uses and needs, for relational and continuous data in particular. But blockchain and related technologies such as distributed ledgers (DLT) have many specific advantages over other technologies compared to databases - especially at a time when trust is paramount and governments all over the world are enacting legislation to set high standards for digital governance and security.

From there, he addressed the currency of Blockchain. "Blockchain provides a great way to transact and transfer information in a modern architecture because, first, it is decentralised and highly fault tolerant. With blockchain, information is spread across all nodes, so there is no single point of failure. Second, it provides validated transactions that are immutable, so it is resistant to change and tampering. Third, it can be a very secure environment as it is not only decentralised but secured at a block level. And finally, all transactions are transparent and therefore enforce visibility and trust.

"Due to its decentralised, tamper-resistant and highly transparent nature, blockchain is particularly well-suited to solutions in industries that include many parties in a wider ecosystem and/or require the utmost transparency and reliability. Use cases could cover everything from supply chain logistics and retail product touchpoints, to pharmaceutical lifecycle management and financial services for transactions of money and trades. Blockchain technology could even be used for voting.

"The advantage of blockchain solutions is that they eliminate the need for third-party clearing houses and also increase security, auditability, reliability, timeliness, and automation of business transactions and data.

"Admittedly, blockchain is not without its challenges. For example, it is not easy to code or develop in a distributed environment. There are also multiple different blockchain platforms and a lack of standards in the programming language to

create smart contracts or business logic, with everything from Java and C++, to GO and proprietary languages in use. It can also be hard to analyse the info in the chain.

"To overcome these challenges, TIBCO developed a blockchain smart contract solution called Project Dovetail which is an open source, graphical model-driven development environment built on Flogo. It delivers the ability for enterprises to write business logic and deploy on a blockchain and expose as APIs. It also enables enterprises to leverage other technologies like advanced analytics, and allows you to integrate data inside and outside of the blockchain. The flexibility of the solution means it can run in the cloud, on-premise or as a hybrid.

"Overall, blockchain technology is promising, and the number of use cases continues to grow regardless of vertical. Blockchain and related technologies have the potential to change the way many organisations share data and execute business processes across a network of companies. However, the key is to pick technology based on your business needs. There will always be a place for less complex solutions - for example, a blockchain may not be needed if a business network is small, or if the interactions only involve simple data passing."

It seems, in summary, that the experts are divided. However, none of them addressed the problem of irrevocably linking an element in the Blockchain with a physical item in the real world. Perhaps a follow-up question is warranted.