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CHINA TELECOM AMERICAS

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ENABLING WEB 3.0: THE ROLE OF DISTRIBUTED EDGE COMPUTING

Webinar: Questions and answers

Enabling Web 3.0: the role of distributed edge computing

This document outlines the questions and answers received from the STL Partners and China Telecom America's webinar, **'Enabling web 3.0: the role of distributed edge computing'** which was hosted on Tuesday 10th October.

You can watch the recording of the session, and also access the slides, using the link here**.** *We have included the following timestamps for the webinar recording:*

- **02:19** for the introduction to our presenters and panellists
    - **Luis Fiallo,** VP Product Management, China Telecom Americas
    - **David Palmer,** Blockchain Lead, Vodafone Business
    - **Helix Wolfson,** President of Metaverse Operations, Infinite Reality
    - **Tilly Gilbert,** Director, Consulting & Edge Practice Lead
    - **Tom Quinn,** Consultant, STL Partners
- **03:25** for STL's presentation on "Defining Web 3.0: key use cases and drivers"
- **29:35** for CTA's presentation on "The New Landscape Under Web 3.0"
- **46:20** for Q&A session

If you have any questions not addressed in the webinar or this Q&A document, or want to hear more about our research findings or from our speakers, please contact:

- **Tom Quinn, thomas.quinn@stlpartners.com**
- **Luis Fiallo, lfiallo@ctamericas.com**

Webinar questions and answers

The below questions were received from the webinar audience during the live session. The first section includes the live poll followed by questions and answers asked during the webinar and the second section includes questions that were not covered on the webinar.

Live questions and answers

Q: Could you elaborate on Vodafone's current role in the web 3.0 ecosystem and how you are bringing the Economy of Things (EoT) to life through your Digital Asset Broker (DAB) platform?

David Palmer, Vodafone: "Web3 has faced challenges in achieving widespread adoption. While it has seen numerous promising use cases and innovations, it has struggled to break into the enterprise and corporate world, particularly in terms of actual adoption and tangible results. Consider the statistics: there are nearly 8 billion smartphones and 20 billion IoT devices in operation. Additionally, there are over 4 billion digital wallets in use. It's evident that to drive adoption, web3 needs to leverage IoT devices, digital wallets, and social media. The same holds true for the metaverse.

The Digital Asset Broker addresses this challenge. One aspect we're addressing is enabling IoT devices to transact with each other and break down the silos that exist among these devices and telecom companies. We aim to introduce dynamics in IoT that allow devices to trust, communicate, and transact with each other securely. Our platform assigns a digital identity passport to every device within our ecosystem, ensuring secure communication and trust among devices. We also utilize cryptography and the secure element on SIM cards to provide these devices with wallets, enabling them to use their identity and link to payment credentials and smart contracts. This empowers devices to transact on behalf of their owners under specific conditions and to sign using owner-approved cryptography.

We also aim to transform the IoT devices on our platform, which currently number 160 million connections, into a decentralized ecosystem. This results in an identity passport and network, creating an ecosystem and economy out of subscribers. This approach allows these devices to have a head start and facilitates transactions among them. In essence, the Digital Asset Broker provides identity for devices, wallets for transactions and payments, and a trusted ecosystem for devices to begin transacting."

Q: Do you feel edge computing is a necessity for the development of this technology?

*Helix, Wolfson, Infinite Reality: "*In 2010, Eric Schmidt, the former CEO of Google, famously stated that every two days, we generate as much information as humanity had produced from the dawn of civilization up until 2003. In 2013, reports indicated that 90% of all the world's data had been generated

in just the previous two years. It was estimated that we were creating around 2.5 quintillion bytes of data daily, equivalent to 2,500 trillion bytes every day. This results in an incomprehensible volume of data being produced daily. When the metaverse sees widespread adoption, this amount is likely to increase, perhaps by a factor of 10 or more.

An analogy I find compelling is thinking of colonizing the metaverse in a similar way to how we contemplate colonizing Mars. Both endeavours require us to re-evaluate our current technologies and approaches. To achieve the colonization of the metaverse, which means having millions of concurrent users in rich graphical spaces at the same time, we need to fundamentally rethink our computing infrastructure. Edge and decentralized computing are undoubtedly the way forward in this regard."

Q: Infinite Reality is bringing some of these use cases to life- could you talk us through your recent collaboration with Vodafone at London Tech Week?

Helix Wolfson, Infinite Reality: "During London Tech Week, David and I worked on creating an impressive virtual showroom in a very short time. This showroom was powered by an AI product expert. When you entered it, you found yourself in an immersive environment, beautifully represented, and in the form of an avatar, you explored a virtual London cityscape. Inside the showroom, the AI product expert could provide you with information about the car on display, in our case, the latest electric VW car.

This concept is closely related to what David mentioned about the digital asset broker, as this car is part of the Internet of Things. Edge computing plays a crucial role here. It enables localization, ensuring that you experience events and changes related to the car in real-time. For instance, if it's raining outside, the metaverse you're in will reflect this change, thanks to the power of edge computing."

Q: What advice would you give to enterprises looking to take advantage of edge computing and web 3.0? And do you think there are sustainable use cases coming out of web 3.0?

Luis Fiallo, China Telecom Americas: "I attended a conference last week where they introduced MEF's Network-as-a-Service. Various industry experts expressed genuine concerns about the current reality. Throughout my years in the telecommunications industry, we've made significant changes, that much is certain. However, the question is, are these changes happening at the pace they should? It's hard to say. Not only us but also companies like Vodafone and many others are working diligently within our own geographic areas, focusing on our core infrastructure and implementing various changes. But it's essential to remember that we don't want to end up in a conflict with customers who question the value we provide.

What we are facing now, I believe, is an opportunity. There are companies out there developing blockchain solutions that empower carriers and potentially enterprises to make these changes, although there are cost considerations. But I think if we revisit this conversation in a year or two, we'll witness a substantial increase in deployments. I'm also aware of groups of telecom companies collaborating to prototype some of these solutions, but this process takes time.

One positive aspect is that we are actively developing standards and seeking input from non-telecom companies and communication service providers on how they can integrate these changes. We are also looking at Software-as-a-Service (SaaS) providers to facilitate access in the future. This raises a challenge for companies: how do you differentiate yourself when everyone else is likely to adopt similar solutions? Perhaps it's through the creation of more APIs that can enhance your return on investment, given the significant investments made in deploying these solutions. It's a considerable challenge, but I remain optimistic about our capabilities. I believe that progress will happen, and it will only accelerate over time."

Q: What do you think are the biggest challenges telcos and the broader web 3.0 ecosystem must face before the technology becomes more ubiquitous?

David Palmer, Vodafone: Great question. The narrative is moving, and I attribute some of this shift to OpenAI and ChatGPT. One challenge we face is that we often discuss web 3 and blockchain as the technology rather than focusing on their practical use cases, benefits, and opportunities. Data, I believe, is the driving force for businesses to adopt these technologies when they see real business benefits, new markets, and profit potential.

ChatGPT and OpenAI have shown us the path forward. The opportunity at hand is to construct a new infrastructure that combines cellular, decentralized blockchain, and AI into a unified operating system, which we call the metaverse. This infrastructure enables us to create applications for businesses and consumers. This is where the narrative is headed, and the judgment of its success will hinge on the users of these applications, which blend these technologies together.

The challenge is to reach this point. Over the last four to five years, many discussions have taken place regarding the relevance of blockchain in telecoms, and the bottom line is a resounding yes. Smart contracts are here to stay, and initiatives like the EU's EBSI initiative and identity wallet demonstrate the benefits of decentralized finance and payments. We can integrate all of this with the edge capabilities we possess in telecoms, but we haven't entirely defined this landscape yet. The digital asset broker (DAB) is setting the example by utilizing identity, wallets, automated payments, and smart contracts to bring the Internet of Things (IoT) to life.

However, I believe there's another significant narrative involving AI that will dominate this space. Part of this narrative focuses on the integration of web 3, AI, and the metaverse. Cellular connectivity is the glue that holds it all together. This is where the narrative needs to shift, emphasizing the holistic value for businesses, the creation of new opportunities, and, most importantly, how AI can thrive in this evolving landscape. If our discussions revolve only around the technology, progress will be slow, but the conversation should turn to how to bring all these elements together for business benefits and to support AI in this new landscape."

Post-webinar questions and answers

Q: In your model are you talking about a specific blockchain in particular or in general?

Luis Fiallo, China Telecom Americas: China Telecom has a partnership with Conflux Network. We jointly developed a blockchain SIM that is used on our Wing 2.0 OS platform. It gives us the ability to authenticate digital identity and digital assets, provide services specifically designed for that customer or asset, and allow access to approved services.

Q: Could you please explain a little more about the concept of B-SIM? (blockchain sim)

Luis Fiallo, China Telecom Americas: B-SIM gives us the ability to leverage blockchain technology to provide IoT services. In the future, we can continue to expand to other services. If you consider that we manage over 400 million IoT devices with 400+ APIs we need to build solutions that are scalable and secure that blockchain technology can offer.

Q: Is there a clear difference between Web 3.0 vs Web3?

Tom Quinn, STL Partners: Both Web3 and Web 3.0 present solutions to roadblocks that the current version of the internet is struggling to overcome. However, they are slightly different. Web3 refers to the decentralised and blockchain-based web, whilst Web 3.0 refers to a connected or 'semantic' web. The latter represents a broader trend that has been present in the industry for far longer, and we believe the development of Web3 will enable some of the key requirements for a Web 3.0. That is why STL Partners definition of Web 3.0 includes Web3 related themes: As the next iteration of the web, incorporating decentralised control, transparent usage and token-based economics.

Q: What is meant by P2E in this slide?

Tom Quinn, STL Partners: It refers to Play-to-Earn, a sector of gaming where players earn real-world rewards by achieving in-game accomplishments. STL believes that cryptocurrency will continue to transform this industry.

Q: How will decentralized compute and storage disrupt existing models i.e. Akash network?

Tom Quinn, STL Partners: Decentralised compute is able to deliver greater scalability across the network, enabling use cases across adjacent technologies such as CDN and IoT. While decentralised compute reduces the overall cost of data transfer, Akash network is testament to a reduction in the cost of compute, as referenced on their website as up to 85% lower than other cloud systems. While Akash Networks is currently centred around supporting dApp & DeFi and AI developers, this limits their disruptive capabilities. Akash Networks has unique capabilities to leverages underutilized cloud computing resources and allows access for users only when they need it. As Web 3.0 becomes more prominent, unique business models such as Akash Networks will play an increasing role in disrupting centralised cloud players.

Get in touch:

If you have any questions intended for China Telecom Americas or would like to learn more about their solutions, please contact:

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