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Blockchain for All Telecom Carriers: The Future of Public Blockchain Is Here

By: [Tiffany Brown](#)

For 99 percent of the world's telecommunications carriers and their customers, the concept of solving back office and operational issues has long been a pipe dream. Even for those forward thinkers who *have* been looking into blockchain and following developments in the technology and use cases for distributed ledger technology, the idea of putting proprietary contract logic, pricing, and location information on an immutable public ledger for the world to see remains largely untenable. Despite the alluring promises of the technology to resolve the very real everyday pain and costs inflicted by the current antiquated telecom ordering, billing, settlement, and dispute environment, security and privacy protocols have rendered blockchain a non-option for any business other than the world's largest telecommunications carriers. Only those that have dedicated the resources to stand up and maintain their own private blockchain environments between themselves and their largest trading partners and customers have been able to exploit the benefits of blockchain thus far.



Those select few carriers that can and have invested in blockchain are beginning to reap the significant advantages of the technology, including immutable and transparent data, unprecedented ordering efficiencies, and the simplification and modernization of complex business operations. For these companies, including the participants in the [MEF Project Soft Owl](#) live use case, the numbers are in, and the payoff is very real in terms of operational efficiencies and financial value.

Enter zero-knowledge proofs—and the case for taking a second look at public blockchain

Technology has evolved and the game is changing, removing any barrier to entry for all enterprises. In the past year, blockchain technology has significantly progressed by leveraging zero-knowledge proofs, or zero knowledge Ethereum Virtual Machines (zkEVMs), to reduce the costs and resources associated with private blockchain solutions and eliminate the privacy concerns associated with public blockchain solutions.

A key component lies in the zero-knowledge proofs used in the public blockchain. Because of zero knowledge, the users do not compromise the privacy of their secrets in the process of providing the proof. Any user can see the proof, but not the contract logic or data behind it. Only the carriers to which the proof applies have access to the correlated, behind-the-scenes records and proprietary information securely contained within them.

The result of the advances in the zero-knowledge environment makes entry into a blockchain environment easier for all carriers and enterprises. zkEVM makes privacy a non-issue on public blockchain, and access to public blockchain opens the door to the many advantages of blockchain for any carrier and customer that wants them.

If public blockchain still sounds too good to be true, rest assured, it isn't

Recognizing that the future of telecom and enterprise transactions relies on widespread adoption of blockchain solutions, industry thought leaders in forums such as MEF have united to establish standards and advance the agenda, resulting in the development of public blockchain use cases for telecom. As an example, a global communication solutions provider and LATAM network solutions provider are the first two participants in [MEF Project Wolf Town](#), an initiative that leverages smart contracts to automate SLA credit reports and enforcement.

The solution features MEF open-source smart contracts written in Solidity to leverage LSO APIs and Ethereum testnet (goerli) technology, which will soon be transitioned to a zkEVM environment. MEF recognized the need for a zkEVM environment that guarantees data privacy on a secure public blockchain and is currently in the process of developing and deploying that environment and making it accessible to all MEF members.

According to Andreas Freund, a leader in zero-knowledge technology who has worked with MEF on its various use cases, "Digitally transformed companies account for 50%+ of the world's GDP in 2023 with more and more services delivered through complex digital supply chains. Yet, digital transformations also bring more and more cybercrime, with damages accelerating and reaching up to \$10.5 trillion by 2025. In addition, more and more complex data privacy regulations globally are compounding enterprise security and privacy issues. To address these challenges, it is crucial to guarantee the accuracy and validity of every digital service transaction while limiting the exchange of sensitive information. This can only be achieved with zero-knowledge technologies inside of Zero Trust architectures as utilized in new, multi-party ERP systems such as a zero-knowledge Ethereum Virtual Machine (zkEVM) platform that utilizes the unrivaled security guarantees of public blockchains.

Project Wolf Town's zkEVM blockchain debut is scheduled for demo in Dallas at MEF's Global NaaS Event in October 2023 and will soon thereafter be open to any MEF member—and, eventually, to any carrier in the world.

SLAs provide excellent fodder for the industry's public blockchain use cases

If you're wondering why SLAs are the subject matter for this the Project Wolf Town use case, the answer comes down to the fact that these agreements are solely in need of automated and real-time resolutions

As every telecommunication carrier knows, SLAs are put into place and then mostly ignored. The manual process is simply too cumbersome to cost-effectively and efficiently manage for both the buyer and the seller. Delays and the inability for either party to verifiably authenticate or dispute claims often leads to settlements where neither party really knows if the SLA has been upheld. Unfortunately, this often leaves end user customers with unrecouped credits and service that falls short of promises and expectations. It also undermines any impetus for providers to investigate the root causes of service issues and take action to correct these issues in areas where problems frequently occur. Instead, the providers are left spending valuable resources and time researching and settling claims without the data to substantiate the validity of those claims. The blockchain solution takes the guesswork, human error, and hassle out of the SLA process. It features built-in and agreed upon logic based on MEF international standards for SLAs including service level availability and Mean Time To Repair (MTTR) calculations. The logic considers scheduled maintenance, force majeure, and other issues that exempt the seller from issuing credits, ensuring sellers do not expend resources investigating unsubstantiated claims. At the same time, it automatically and instantly generates mutually endorsed credits at the time of a service disruption or problem per the terms of the SLA. The solution minimizes disputes, improves customer experience, and provides resolutions both buyers and sellers can confidently trust.

Blockchain is available for all

Until now, blockchain solutions have been the domain of the largest carriers and enterprises, and these companies have deployed these solutions for many purposes, including ordering and billing simplification and accuracy. The recognized benefits are significant financially and operationally and are now accessible to smaller carriers and enterprises. Many of them are joining MEF and leading the way in public blockchain for SLA compliance as well as ordering, billing, and settlement standardization. Because of this work, any carrier will have the option of joining public blockchain solutions, paying only a nominal per-transaction fee or a nominal monthly fee for contract compliance. Carriers no longer need a blockchain budget or a dedicated staff to access the benefits of blockchain, including automated SLA management, ordering, billing, and settlement anywhere in the world.

Ultimately, as more carriers come on board, blockchain will help drive global equality in telecommunications. A future where customers in Kinshasa or Buenos Aires enjoy the same telecom access and benefits as those in New York City is literally just around the corner, representing the best possible scenario for the industry's continued growth and evolution. The carriers that adopt blockchain have the unique opportunity to set themselves apart as industry leaders in service transparency and customer experience.

The future of blockchain in telecom is right now

Private blockchain for ordering, billing, and settlement is already benefiting the largest carriers. Public blockchain for SLA management is a reality. There are no longer any lingering misconceptions that blockchain is all hype. There is no reason to expect that the evolution of the technology will end there. Companies of all sizes will need to be prepared for blockchain with modernized and rightsized systems, contracts, networks, and blockchain-ready inventories to put their organizations and customers in the best position to prosper in the next era of telecommunications.