

GMEX MultiHub Case Study

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GMEX MultiHub and Partners

GMEX MultiHub Limited (GMEX) supported by its partners - **AWS**, a provider of on-demand cloud computing platforms and **DXC Luxoft**, a leading capital markets system integrator - has developed **Digital MultiHub (MultiHub)**, a cloud based trading and post trade digital market infrastructure platform that provides interconnectivity and access to 3rd party services across traditional and digital asset markets.

MultiHub, as a 'multi-asset network of networks service' facilitates a first-of-its-kind collaboration across major institutions, regulatory regimes and start-ups, with the goal of bringing digital assets to a wider audience.

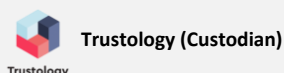
Our Partners and Clients include:



Amazon Web Services is the world's most comprehensive and broadly adopted cloud platform. AWS has been continually expanding its services to support virtually any cloud workload, and now has more than 200 fully featured services for computing, storage, databases, networking, analytics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR).



Luxoft, a DXC Technology Company (NYSE: DXC), is a digital strategy and software engineering firm providing bespoke technology solutions that drive business change for customers globally. Luxoft uses technology to enable business transformation, enhance customer experiences, and boost operational efficiency through its strategy, consulting, and engineering services.



Trustology has developed superior technology and services to help private and institutional clients secure and manage their cryptoassets. It combines unmatched private key protection against cyber and physical threats with low latency execution, safekeeping private keys and control codes inside tamper-proof programmable hardware security modules hosted in secure data centres, with encrypted backups in the cloud.



GCEX is an FCA regulated, technology-agnostic, platform that allows brokers, funds and other professional traders to access deep liquidity in traditional and digital markets.



SECDEX is a multi-asset hybrid exchange that combines the benefits of a digital exchange with those of a traditional exchange. It focuses on securities, debt, spot commodities and derivatives contracts in traditional and digital tokenised form.

Challenge

Enabled by a global shift in the regulatory landscape, digital assets are increasingly becoming a core component of capital markets with major players making significant investments. However, interoperability, a lack of standards and time to market remain a challenge, with fragmentation an unintended consequence of multiple blockchains and traditional infrastructure.

Additionally traditional financial markets are lagging behind the fast-evolving digital asset markets, with existing processes that are cumbersome and expensive and systems that remain siloed. Characterised by settlement inefficiencies (T+2) and limited protocols, legacy market infrastructures are resulting in surging costs and ineffective capital and liquidity deployments across the markets.

Currently the fragmented digital asset market largely replicates traditional silos through the utilization of single product, or ring-fenced, API connectivity. Without a standard approach to interoperability between the platforms, issues such as a lack of digital asset inventory portability and system security risk persist. Digital markets are also impacted by performance issues that are the result of poor customer service, regulatory risk and few system controls.

There is a pressing need to interconnect these disparate asset markets.

Solution

GMEX has developed MultiHub, an institutional grade Platform-as-a-Service (PaaS), to interconnect all participants in the capital markets value chain - exchanges, trading venues, banks, brokers, asset managers, asset service providers, custodians and FinTech vendors.

MultiHub enables fast and efficient cross-venue trading, clearing and settlement of traditional and digital assets - including cryptoassets and hybrid derivatives - with transaction immutability and integrity. It facilitates credit allocation and checking, collateral management and margin trading, order routing and netting across multiple trading venues, custodians and participants.

The platform is cloud enabled by AWS and powered by core ledger technology with microservices, which are supported by DXC Luxoft as a development partner, reducing technical complexity and enhancing connectivity.

As part of this initiative, GMEX became an AWS partner through the Amazon Partner Network (APN) and worked closely with DXC Luxoft and AWS to implement and deploy the MultiHub platform. GMEX initially validated the platform by connecting key partners and clients that were reflective of the end-to-end transaction value chain. These include Trustology as a digital custodian, GCEX as a regulated broker and SECDEX as a licensed exchange and post trade operator.



Simplification of digital market infrastructure access and time-to-market

- **Enables faster cross-venue trading, clearing and settlement** of traditional assets, digital assets and hybrid derivatives across multiple global nodes.
- **Ease of access** to assets held in custody with greater asset portability (less silos), without the security risks



Reduced fragmentation & connectivity complexity

- **Enhances connectivity** through a globally interconnected institutional-grade platform.
- **Cloud-native microservices** with standard multi-asset APIs link capital markets participants across jurisdictions.
- **3rd party, API-driven, services facilitation** such as KYC/AML and data analytics.
- **Multi-custodian connectivity** allows clients to select multiple custodians.



Scalable pricing and digital transition

- **Economies of scale** ensure that as transaction volumes increase, the corresponding price per transaction decreases.
- **Transition of 'legacy stack'** to digital and traditional assets (e.g. FX, securities, etc).
- **Efficient set up costs** when joining an established platform, with integration points versus a full stack development.
- **Allows for 'test-launch-pivot' product offerings.**
- **Environmental benefits** reduced energy use and costs involved in moving assets



Control and governance for Digital

- Core Ledger Technology allows the **single view for assets and positions** (NAV) management across multiple venues.
- **Treasury management** such as intra-day funding.
- **Asset management** with real-time netting and settlement, and the reuse of assets.
- **Limit management** can be either segmented or at portfolio level across traditional and digital assets.

Benefits for Capital Market Participants



Investors and Traders:

- Can move assets seamlessly with less complexity between exchanges and manage their own OTC execution.
- There is a reduced cost of entry into digital assets.
- The time and cost to move assets is also reduced



Exchanges and Trading Venues

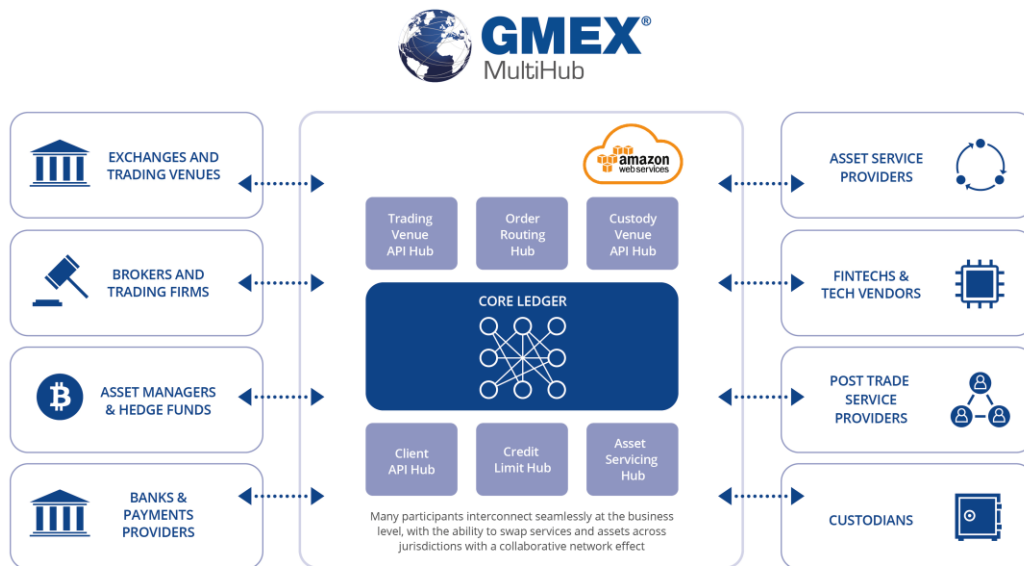
- Cross border transactions are facilitated
- Increased ease of multi-party settlement
- Asset utilisation for members across a broader ecosystem is optimised
- Easier to plug in and attract potential clients, partners and services
- Cross-selling services over the hub is made easier



Custodians

- Greater netting efficiency
- Asset rehypothecation is facilitated
- Easy access to new revenue streams from the multiple connected venues and participants
- Can cross-sell new services to the existing client base

Technology

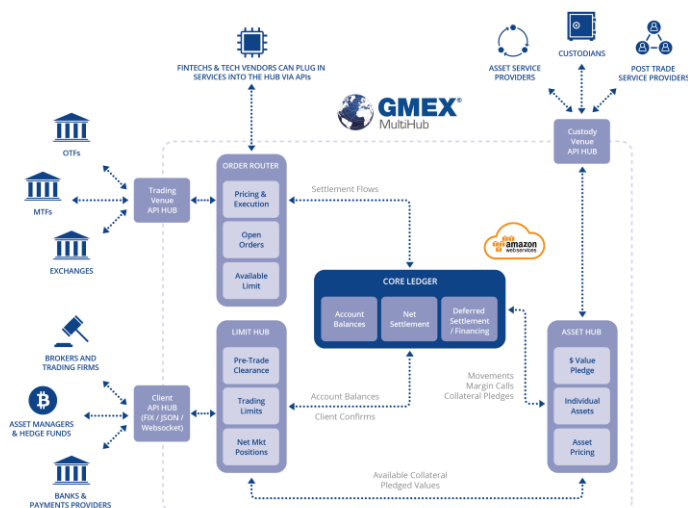


Access to GMEX API enabled distribution network effects (customers, liquidity, products) across GMEX ecosystem participants with shared incremental economic gains.

MultiHub facilitates many types of participants, with the ability to swap services and assets across jurisdictions by way of:

- A Credit Limit Hub - for multi-venue and participant credit allocation from custodians and banks
- An Order Routing Hub - facilitates order routing from participants to trading venues, exchange and brokers
- An Asset Servicing Hub – for asset pledge and margining facilitation

Structure



- Covers the full investment/trade lifecycle with all key participants
- Provides digital market infrastructure connectivity and interfaces between Trading Venues, Clients (e.g. Buy Side) and Post Trade/Custodians
- Based on a 'Hub and Spoke' model to solve current connectivity challenges
- Scalable design with open architecture to support new feature development and localisation for customers

Clients' and Partners' References

Anoop Nannra, Global Blockchain Lead at AWS, commented: "The portability of digital assets has become an increasing challenge impacting trading and therefore volumes." He added, "GMEX MultiHub powered by AWS makes it easier for customers to access, trade and settle digital assets with a reduced carbon footprint. This is because digital assets can be pledged by custodians without moving onto a blockchain as well as netted to optimize settlement, therefore reducing the time, cost and energy usage of constantly writing to the chain."

"This marks a significant move in capital markets. The GMEX MultiHub will drive digital transformation within the space and at the same time allows for accelerated execution and custody for institutional players as they get into or scale their digital assets activity", **said Alex Batlin, Founder & CEO of London-based digital assets custodian Trustology**, which has brought its scalable on-chain and on-exchange capabilities to GMEX MultiHub on AWS Marketplace.

Lars Holst, CEO of GCEX, a digital assets broker, added: "I am now able to advance my business by leveraging MultiHub and the associated suite of AWS tools pre-integrated with it, allowing us to focus on delivering value add. This means I can have a broader range of customers access our execution capabilities more efficiently and am able to convert that gain in velocity to an increase in liquidity confidence for our partners and their customers within the GMEX MultiHub community."

Hirander Misra, Chairman of GMEX Group and SECDEX Group, said: "MultiHub is a unique multi-asset network of networks service powered by AWS that enables cross-venue, cross-participant trading, clearing and settlement of both traditional and digital assets with a single point of connectivity for both industries, which negates the need to integrate across venues. This complements our mission to cost-effectively drive the accelerated institutional take-up of digital assets by making it easier to trade, clear, settle and pledge them alongside traditional assets, heralding the new age of Exchange 4.0."

Hugh Richards, MD, Products & Solutions, Luxoft, added: "As institutions increasingly adopt digital assets as part of their digital transformation agenda, the need for hybrid (both traditional and digital) settlement and custody solutions is required to simplify this adoption. Luxoft is pleased to be the development support partner for GMEX MultiHub, responding to the increasing demand for such decentralised trading solutions."

GMEX Digital Multi-Hub will be globally available via AWS Marketplace (an online software store that helps customers find, buy, and immediately start using the software and services that run on AWS), with plans to broaden regional coverage to meet the needs of different jurisdictions. For more information, please visit <https://www.gmex-group.com/multihub-digital-market-infrastructure>.

