GAVS' Blockchain-based
Master Data Management
Framework For Enterprises

Enterprise-wide Data Stewardship, Shared
Ownership Of Data

Master Data Challenges

With enterprises moving full throttle towards digital transformation and
the consequent proliferation of data, the magnitude of Master Data
Management (MDM) challenges are on a steep rise. Implementing a
sustainable MDM strategy has now gained critical importance.

Master Data Management
Challenges

Centralized Authority

• Centralized management of Master Data is complex, expensive and prone to security compromise & accidental loss.

Data Security

• A single malicious attack to a centralized infrastructure can do a lot of damage.

• Data may also be compromised by breaches through the backend, bypassing business logic-based front-end controls.

Data Lineage

• Audit trails may be incomplete, unavailable or corrupt leading to lack of data lineage & traceability, which in-turn will affect downstream systems.

Data Management

• **Data Reconciliation**
Mergers & acquisitions involve complex reconciliation and appropriate definition for Data Stewardship & Governance.

• **Data Movement**
Sharing Master Data across enterprise boundaries, with subsidiaries or BUs across geographies, or multi-master updates is highly resource intensive.
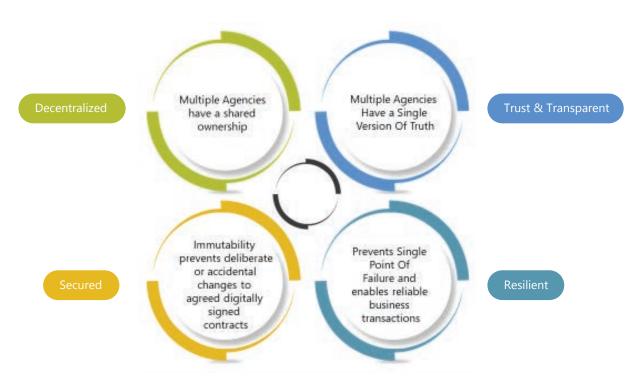
• **Transfer of Ownership**
Transfer of Master Data ownership to customers or to other BUs comes with a compliance risk due to the lack of cryptography-based authentication.

Blockchain-based
Master Data Management to the Rescue!

A Blockchain is a kind of distributed ledger consisting of cryptographically signed, irrevocable transactional records based on shared consensus among all participants in the network.

Decentralized — Multiple Agencies have a shared ownership

Trust & Transparent — Multiple Agencies Have a Single Version Of Truth

Secured — Immutability prevents deliberate or accidental changes to agreed digitally signed contracts

Resilient — Prevents Single Point Of Failure and enables reliable business transactions

Innovative application of Blockchain is key to transformation in several industry verticals

Decentralization

- The cornerstone of the Blockchain technology is decentralization. Decentralized Blockchain-based Master Data Management helps large enterprises visualize Data Management & Governance as a consortium between multiple geographically-spread business entities and subsidiaries, having shared ownership.

- The decentralized network helps cut down costs dramatically since it eliminates the need for a huge capital investment from the customer.

- This decentralized model protects from having a single point of failure & secures information from succumbing to a single malicious attack and accidental loss due to physical damage to centralized servers.

Data Security/Integrity/Resilience

- Blockchains are inherently secure because transactions are digitally facilitated by Smart Contracts that use digital signatures, data encryption, cryptographic hash functions, and consensus algorithms.

- The immutability and irreversibility of these Smart Contracts prevent deliberate or accidental modifications to transactions.

- Due to the inherent nature of Smart Contracts, business rules cannot be by-passed even by the owner of the contract instance and hence Data Governance & Data Security are automatically handled unlike the traditional centralized database solution.

- Even if the data networks are breached, data cannot be hacked unless the private keys for the respective accounts are available, which provides an additional level of security against data thefts.

Data Transparency/Traceability

- Since Blockchains are based on smart contracts and shared consensus, trust and transparency are an integral part of this technology and there is no one central authority who has full control over the data. This enables complete compliance to regulatory mandates such as SOX, HIPAA, and GDPR.

- The audit trail is immutable leading to complete data lineage and traceability.

Data Management

- The Blockchain eliminates the need for complex, expensive data reconciliation and data movement between different entities, since every entity is part of the Blockchain network. This can be a huge differentiator especially during mergers or acquisitions.

- The inbuilt data security and fine-grained access control mechanisms of Smart Contracts in Blockchain-based MDM, enable data stewards to comprehensively define access control to various subsidiaries and their departments and control data stewardship of the master data.

- Blockchain Smart Contracts once deployed, get a unique Hexadecimal address that stays unique across all nodes, which ensures that when a Master Data entity instance is created, the identity is preserved across all regions, geographies and even among subsidiaries.

- Blockchain network facilitates multi-master replication and conflict management.

- The ability to shift Master Data ownership to its owner (the customer) will help provide GDPR like privacy rights for the customer & is one of the most distinguishing capabilities of Blockchain-based MDM.

Value-adds of GAVS' MDM Framework on Blockchain

- Multi-domain, multi-entity and multi-version Master Data Management

- Role-based access for stakeholders like Data Steward, Data Producer, Data Consumer and Data Quality Manager, authenticated by organization-wide directory

- Support for embedding Metadata

- Advanced search features, extensive semantic full-text searches

- Duplicate identification and elimination with match and merge logic, using semantic search features, which will help prevent data sprawl and to maintain a single version of truth

- Support for Data Dictionary

- Resolution of multi-geography latency issues by appropriate setup of the Blockchain network

- Event-driven mechanism ensures master data change notifications to all participants, so they can act accordingly

- Potential to transfer ownership of Personally Identifiable Information to the end customer through a mobile-based Blockchain Wallet Interface

- Support for use cases like
  - Advanced collaboration between OEM and part manufacturers in manufacturing organizations
  - Sharing of Electronic Health Records between Healthcare providers, to enhance patient care, while still protecting patient privacy

- Step-by-step, limited rollout to ease organizations into their Blockchain implementations, for instance, without involving their partners in phase 1 and subsequent scope expansion to B2B scenarios

- Support for organizational move towards token economy by linking the concept of tokens with Master Data

- Built using cloud-based PaaS and IaaS, hence eliminates need for capital investment by the customer

The GAVS Advantage

Has been recognized by Gartner for its Blockchain consulting and PoC services

Made it to Gartner's list of 'Representative Technology Services Providers' for Blockchain

Only Blockchain consulting provider listed in the Azure Apps Marketplace

Offers Blockchain consulting and execution services, with tools and frameworks exclusively built on Azure Blockchain Service powered by JPMC Quorum

Respected by the Industry for thought leadership and peerless approach to consulting

GAVS' **Blockchain Offerings**

Assessment Services

- A 2-hour to half-day tool-based consulting engagement

- Blockchain Technology 101

- Gauging the current needs of the organization and readiness for Blockchain implementation

- Understanding core use cases to evaluate business value in Blockchain adoption

- Target Industry: Any, since this is a Blockchain awareness and preparedness assessment

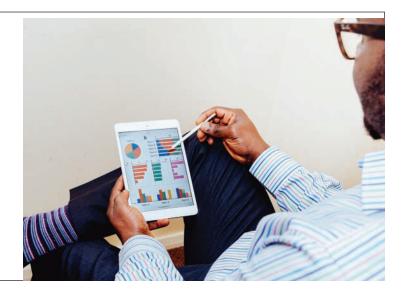- Target Audience: Business Leaders

PoC Implementation

- A 2 - 4 week actual implementation of the identified use case

- Delivery of a working Dapp(Blockchain app) to end users

- Target Industry: Manufacturing, Banking and Healthcare

- Target Audience: IT Dept, CIOs who would like to get a look & feel of the technology in action and showcase benefits of Blockchain adoption to the business to get their buy-in

Master Data Management

- Typically a 6-month customization of GAVS' pre-built framework for MDM on Blockchain

- Can either be hosted by GAVS or in customer's Azure subscription

- Target Industry: Large OEMs with multi-geography operations, large Financial conglomerates and HIE(Healthcare Information Exchange) interested in electronic mobilization of Healthcare information

- Target Audience: IT Dept, CIOs, Data Governance & Data Quality heads

About GAVS

GAVS Technologies (GAVS) is a global IT services & solutions provider enabling digital transformation through automation-led IT infrastructure solutions. Our offerings are powered by Smart Machines, DevOps & Predictive Analytics and aligned to improve user experience by 10X and reduce resource utilization by 40%.

GAVS has been recognized as a Cool Vendor by Gartner in 'Cool Vendors in ITSM 2.0, 2016' and positioned as 'Major Contender' in Everest Group PEAK Matrix™ for IT Infrastructure Automation, 2017. GAVS was also rated as a prominent India-based Remote Infrastructure Management player & one of the key small players serving the mid-market & enterprise clients in North America by Gartner.

For more information on how GAVS can help solve your business problems, write to inquiry@gavstech.com.
www.gavstech.com

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