



GBBC GSMI 6.0

DIGITAL IDENTITY & PRIVACY

KEY TAKEAWAYS



UNPACKING DIGITAL IDENTITY

Digital identity has become critical for accessing finance, government services, healthcare, and cross-border digital interactions. At the same time, rising privacy concerns, cyber risks, and regulatory requirements (e.g., data minimization, consent, transparency) make stronger, privacy-preserving approaches essential



THE CHALLENGE

As digital services scale globally, identity frameworks must balance trust, security, interoperability, and user control, while protecting people from misuse and over-collection of personal data. Traditional identity models often create fragmentation, excessive exposure, and dependence on centralized intermediaries



THE WEB3 ECOSYSTEM

Digital identity and privacy are foundational components of digital ecosystems. Decentralized identity, verifiable credentials, and privacy-enhancing technologies can enable secure, user-centric interactions across sectors

LANDSCAPE OF PRIVACY-PRESERVING SOLUTIONS

TOOLS

Attribute-Based Encryption (ABE)	Biometric Template Protection	Commitment Schemes	Differential Privacy Libraries	Digital Signature Schemes	Fully Homomorphic Encryption (FHE)	Hardware Security Module (HSM)	Hash Functions
Multi Party Computation (MPC)	Pseudonymization Engines	Public-Key Encryption	Ring Signature Schemes	Symmetric Encryption	Tokenization Engines	Trusted Execution Environment (TEE)	Zero-Knowledge Proofs (ZKPs)

PROTOCOLS

Anonymous Credential Protocols (Idemix)	Confidential Transaction Protocols (CT)	Data Marketplaces: Privacy-Preserving Data Market Protocols	Decentralized Identifier (DID) Protocols	Federated Learning with MPC/DP	Mixing/ Tumbling Protocols (CoinJoin)	Privacy Pools Protocol
MPC Key Management/Sig & Multi-Sig Protocols	Privacy-Preserving Smart Contract Protocols	Privacy Tokens	Remote Attestation Protocols (TEE/ TPM)	Shielded Transfer Protocols (Zcash, etc.)	SSI Protocols	Verifiable Credential (VC) Protocols

TECHNIQUES

Anonymity Set Enlargement (Mixing/Pools)	Association Set Compliance	Biometric Template Protection Techniques	Compute-on-Encrypted-Data	Data Minimization by Design
Differential Privacy	Pseudonymization	Selective Disclosure	Tokenization	Unlinkability

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