

Offline Payments at Scale as Digital Money — New Whitepaper from Crunchfish

Malmö, March 5th, 2026.

Offline payments are moving from contingency feature to critical infrastructure. The governed offline architecture removes structural trade-offs for payment systems. Crunchfish AB (“Crunchfish”) today publishes a new executive whitepaper on offline payments at scale as digital money.

OFFLINE PAYMENTS AT SCALE AS DIGITAL MONEY

Architectural Requirements for
Resilient Payment Systems



BANKABLE

IMPLEMENTABLE

GOVERNED



“Offline capability is inevitable as digital payments become critical infrastructure. The decisive question is whether it strengthens or weakens the financial system under stress. Our governed offline architecture removes the structural compromises that limit legacy offline models. By aligning banking economics, scalable deployment, and governance continuity, we enable resilience at institutional scale,” **says Joachim Samuelsson, CEO of Crunchfish.**

Offline payments have historically involved structural trade-offs. Either liquidity relocates to devices, or credit exposure accumulates during disruption. Crunchfish’s governed offline architecture is designed to eliminate that compromise. Through a reservation-based architecture operating above the underlying payment system.

Crunchfish enables offline payments that:

- Keep liquidity anchored within regulated institutions
- Predefine and bound exposure by design
- Preserve central ledger authority under disruption

Offline becomes digital money, not a workaround.

Institutional Framing

The executive whitepaper, titled *Offline Payments at Scale as Digital Money: Architectural Requirements for Resilient Payment Systems*, sets out the structural conditions required for offline capability to scale sustainably. For institutional deployment, offline payments must be:

- **Bankable:** Liquidity, Exposure and Funding Efficiency
Liquidity remains anchored within regulated institutions, exposure is predefined and bounded, and funding efficiency is preserved even when transactions occur without real-time connectivity.
- **Implementable:** Scalability, Interoperability and Vendor Neutrality
Architectures must scale operationally across devices and ecosystems while maintaining interoperability through standardised payment instructions and avoiding vendor lock-in.
- **Governed:** Monetary Integrity, Privacy Alignment and Operational Governance
Central settlement authority, supervisory oversight and privacy alignment must remain intact even when real-time validation is unavailable.

Crunchfish positions governed offline as the first architecture designed to satisfy all three simultaneously. The whitepaper contributes to the broader policy discussion among central banks, payment system operators, and financial institutions on how resilient digital payment architectures should be designed as payments infrastructure becomes increasingly critical to economic activity.

Institutional Engagement

The whitepaper references publicly communicated engagements within:

- Reserve Bank of India: Regulatory Approval
- European Central Bank: Digital Euro Innovation Platform
- Bank of England: Digital Pound Lab

These engagements reflect institutional examination of governed offline architecture in regulated environments.

Independent Expert Review

The executive whitepaper builds on a pre-print version released last week and has evolved significantly following valuable external feedback during the final editorial process. The final executive version therefore reflects input from experienced payments and banking practitioners and policy experts.

Peer reviews included in the paper come from:

- **Jeremy Light**
Former Managing Director (Payments) at Accenture
Board Member, PAPSS
Fintech co-founder
- **Gopalaraman Padmanabhan**
Former Executive Director, Reserve Bank of India
Former Chairman, Bank of India
Board Member, Axis Bank
- **Ram Rastogi**
Former Head of Product, National Payments Corporation of India (UPI, IMPS, AePS)
Chairman, Governance Council at Fintech Association for Consumer Empowerment in India
- **Jens Seidl**
Chair & CEO, Currency Research
- **Lars Sjögren**
Former COO, Danske Bank
Former CEO, P27 Nordic Payments Platform
Senior Advisor, McKinsey & Company

The whitepaper publication follows a pre-print released last week and subsequent expert feedback during the final editorial process. Valuable input was received from a senior central banker in a major European country, a senior Swedish banking executive, and a UK-based senior payments consultant.

The executive whitepaper is attached to this press release and available at www.crunchfish.com.

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About Crunchfish - crunchfish.com

Crunchfish is a deep fintech company developing patented governed offline payments technology for payment systems, banks, and payment applications. Its reservation-based Layer-2 architecture enables offline payments to operate as digital money, preserving central ledger authority, bounded exposure, and liquidity anchored within regulated institutions. By structurally aligning banking economics, scalable deployment, and governance continuity, Crunchfish enables offline capability at institutional scale without creating parallel forms of money or unmanaged credit risk. Crunchfish is listed on the Nasdaq First North Growth Market.