Hiroshi Tanaka Staff Back-End Engineer

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PROFILE SUMMARY

- **Staff Back-End Engineer** with **11 years** in **financial technology** at Goldman Sachs and Bloomberg, now setting the architecture for **payments, virtual accounts and liquidity services** on Goldman's cloud-built **Transaction Banking** platform.
- Sets the stack across languages (**Java 21**, Kotlin, SQL), frameworks (**Spring Boot**), data stores (**Aurora PostgreSQL**, DynamoDB), messaging (**Kafka on Amazon MSK**), infrastructure (**AWS**, EKS, Terraform) and testing (JUnit 5, Pact).
- Expert in **double-entry ledger design**, **exactly-once payment processing** and **ISO 20022** messaging, and settles consistency and failure trade-offs in **design docs** that compliance and risk teams can audit.
- Works with **product leads**, **payment operations**, **compliance and risk**, and corporate **client treasury teams**, reviews designs for **7 teams** in New York and Bengaluru, and runs the review after any payment outage.
- Chairs the Transaction Banking **architecture review**, wrote the **API and event standards** every new service follows, interviews for **Vice President engineering roles**, and has coached **4 engineers** to promotion.

TECHNICAL SKILLS

Languages:	Java 21, Kotlin, SQL, Python, C++ (Bloomberg)
Back-End Frameworks:	Spring Boot 3, Spring for Apache Kafka, Hibernate, Resilience4j
API Standards & Protocols:	REST, OpenAPI 3, gRPC, ISO 20022 (pacs.008, camt.053), SWIFT MT, OAuth 2.0 with mTLS
Databases & Data Stores:	Amazon Aurora PostgreSQL, Amazon DynamoDB, Redis (ElastiCache), Comdb2
Messaging & Streaming:	Apache Kafka (Amazon MSK), Kafka Streams, transactional outbox, Amazon SQS
Cloud & Infrastructure:	AWS (EKS, Aurora, KMS, PrivateLink), Kubernetes, Docker, Terraform, Linux
Testing & Observability:	JUnit 5, Testcontainers, Pact, Gatling, OpenTelemetry, Prometheus, Grafana

EDUCATION

Cornell University — **B.S. in Computer Science** — Ithaca, NY · Aug 2011 to May 2015

WORK EXPERIENCE

Goldman Sachs — Vice President, Software Engineering — New York, NY · Apr 2020 to Present

- Designed the virtual accounts domain for Transaction Banking, modeling accounts, holds and postings as a double-entry ledger in **Aurora PostgreSQL** that now tracks balances for **1.8M virtual accounts**.
- Set the contract rules for client-facing APIs (**OpenAPI** specs, idempotency keys on every payment call, cursor pagination, dated deprecation), and **23 services** now publish APIs that follow them.
- Replaced dual writes between the payments service and **Kafka** on **Amazon MSK** with a transactional outbox, ending lost status events on failover and cutting daily reconciliation breaks from 140 to **3**.
- Led the Fedwire **ISO 20022** cutover for wire payments, replaying **2.6M production messages** through the old and new mappers in CI and running both side by side before the July 2025 switch.
- Traced each payment end to end with **OpenTelemetry**, from the client API call to the Fedwire acknowledgment, cutting median time to resolve a stuck payment from 3.1 hours to **38 minutes**.

Bloomberg — Senior Software Engineer — New York, NY · Jul 2015 to Mar 2020

- Added a two-level cache (in-process plus **Redis**) in front of reference data lookups for **Data License** requests in **Java**, cutting p99 response time on per-security requests from 2.4 s to **190 ms**.
- Pulled field-level **entitlement checks** out of each delivery path into one **Java** service with an audit log, so clients only receive the data their license covers, closing **12 open audit findings**.
- Redesigned the request history schema in **Comdb2**, Bloomberg's distributed SQL database, partitioning by client and day, which cut the nightly billing job from 5 hours to **47 minutes**.