

WHITE PAPER / CASE STUDY

Assureaxe

HyperLedger FinTech Broker System

Automating the investment firm's front, mid and back office — the fifth-generation PM5 portfolio and business-risk platform

Operational risk · Trade processing · Mandate compliance · End-of-Day automation · Distributed ledger

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SEPTEMBER 2026

CLIENT

ASSUREAXE

Portfolio Manager PM5 · 2016

01 EXECUTIVE SUMMARY

Taking the human error out of the back office

Investment firms carry one of their biggest business and client risks in the back office: every trade has to be entered, checked against the client mandate, settled, valued and reconciled — and every manual step adds cost and the chance of a “fat finger” mistake.

Assureaxe is the fifth generation of a portfolio-management and operational-risk platform first built by founder Michael Hyman inside GH Asset Management (GHAM) in London, UK. Four earlier generations had protected GHAM from hiring additional operations staff and reduced human error while the firm won new investment mandates. The fifth generation — **Portfolio Manager PM5** — was re-architected by Daniel Brody as CTO as an online, software-as-a-service platform for small and medium-sized institutional investment firms, using **blockchain** and a secure, scalable **Microsoft Azure PaaS** foundation. The CTO Rescues portfolio describes it as a **HyperLedger-based broker system** for financial services.

PM5 starts with one screen — the **eTrade Ticket** — and carries each trade through mandate compliance, lot-by-lot accounting, End-of-Day posting, valuation, settlements and custodian reconciliation without further human intervention.

PLATFORM LINEAGE	YEARS OF HERITAGE	TARGET AUM	RECONCILIATION
Gen 5	25+	\$0.5–10B	Daily
four prior generations proven inside GHAM	GHAM in investment management (per 2016 deck)	USD AUM — small and medium-sized firms	every client portfolio balanced to the penny

Project snapshot

Client	Assureaxe (Portfolio Manager PM5) — Toronto, Ontario · heritage in GH Asset Management, London, UK
Founder	Michael Hyman, founder of GH Asset Management (GHAM)
Sector	Financial technology · institutional portfolio management · operational & business-risk management
Engagement	Fifth-generation platform architecture, software requirements specification (SRS), UI prototype and investor demonstration
Author's role	Daniel Brody — Chief Technology Officer; architect of the fifth-generation platform
Timeframe	SRS v1.0 → v1.0.3, 28 June – 16 July 2016; project charter draft 27 June 2016; investor presentation 2016

02 CLIENT & BACKGROUND

From a London bond house to a SaaS platform

Assureaxe grew out of a problem its founder solved for his own firm — and then recognized as a competitive advantage worth offering to the rest of the industry.

How Assureaxe evolved (2016 investor presentation)

- 1 Michael Hyman founded **GH Asset Management (GHAM)** in London, UK — described as a top-ranked global bond investment firm by Piper and Pensions & Investments, with more than 25 years in the investment-management industry.
- 2 The founder identified an opportunity to **reduce operational risks and headcount/costs** that plagued investment firms, through system automation of GHAM's mid- and back-office operations.
- 3 He developed **four generations** of the system; this initiative is **generation five**.
- 4 The system **protected GHAM from hiring additional operational staff** and reduced human error (e.g., "fat finger" mistakes) while the firm gained new investment mandates.
- 5 The founder recognized that the proprietary operational-risk platform gave a **significant competitive advantage** — protecting profit margins and business risk, and providing comfort to institutional clients.
- 6 The **fifth-generation architecture was developed by Daniel Brody**, a seasoned CTO, using blockchain and highly secure and scalable Azure PaaS.

The requirements describe the intent of PM5 as unchanged since the mid-1980s: an automated transaction-processing, mid- and back-office portfolio-management system for an asset-management firm — now delivered online as software-as-a-service to institutional portfolio managers, with trade tickets tracked seamlessly through the back office and the client mandate monitored automatically, with alerts when risk levels move beyond client compliance.

Who it serves

- Small and medium-sized institutional asset managers and hedge funds
- Insurance companies with short- and long-tail liabilities
- Pension funds, and small and medium-sized banks
- Family offices, broker-dealers, treasury operations, and government and non-government public institutions (investor presentation)

The investor presentation defined two target bands by assets under management — **small firms at \$500M–\$1B USD** and **medium-sized firms at \$1B–\$10B USD** — and focused on these firms because they were "distressed from global financial repression and rising operational costs."

03 THE CHALLENGE

Rising costs, shrinking margins, unforgiving operations

Operational risk

“The risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.” — AIMA, 2016 (as cited in the Assureaxe presentation)

1. An industry under margin pressure

The presentation framed the market after the 2008 credit crisis: operating costs had risen dramatically, **30% of all global government bonds had negative yields** under financial repression — expected to persist for the next 10–20 years (McKinsey, 2016) — and the result was collapsing profit margins and lower investor expectations.

2. Back-office cost that grows with assets

As assets under management grow, the cost of supporting larger portfolio-management activity rises, margins on new business diminish, and the chance of human error increases as settlement risk rises and checking-and-balancing processes become more complicated. The platform had to turn that back-office **variable cost into a fixed cost**, so firms could manage more clients and more assets without adding headcount.

3. Errors that surface at settlement

Finding trade errors is an ongoing problem, whether the error occurs at the asset-management firm or at the counterparty. The system had to reconcile and balance **every client portfolio to the penny, every day**, and give auditors and back-office staff a clean trail to trace mistakes made during or after a trade.

4. Cash and derivatives in one view

Portfolios combine cash instruments with options, futures, swaps and forward FX contracts, financed through repurchase agreements or stock lending, and hedged for currency risk. Existing systems, as the requirements put it, tracked “bits and pieces”; PM5 had to value the interrelationships — including financing costs, collateral and margin — in a single valuation.

5. Mandates, compliance and trust

Client mandates impose limits on credit ratings, issuance share, leverage, geography, sectors, currency hedging and Value-at-Risk. Breaches had to be pre-empted in real time, and the platform had to meet financial-industry expectations for data privacy and security assurance.

04 PROJECT SCOPE & OBJECTIVES

What PM5 set out to deliver

The online PM5 system was specified as a new build based on the older **PM3** system. The documented scope:

Scope item	Detail from the SRS and presentation
Trade Ticket	The eTrade Ticket as the driver and main user screen, with the back end as invisible to users as possible
Bloomberg integration	Third-party Bloomberg API for instrument data and real-time pricing via drag-and-drop
Mandate rules & compliance	Automated client-mandate management and alerts when risk moves beyond client compliance
Reports	Holdings, risk management, End-of-Day, settlements, valuation, transaction listing, performance and fees
End-of-Day	Automated daily posting of realized P&L, coupons and maturities to client sub-accounts
Custody integration	API integration with bank and brokerage custody; five major custodian banks identified
Security compliance	Possible BITS Shared Assessment, ISO 27002 assessment, SAS-70, and ISO 27001 certification
Distributed ledger	HyperLedger-based broker system; blockchain and AI introduced to protect against client-mandate breaches

The seven platform features (investor presentation)

1	Automate the investment operations' factory floor — eliminate paperwork
2	Better management of the business risks affecting the enterprise
3	Protect profit margins for investment firms
4	Convert back-office variable cost (diminishing marginal returns) into a fixed cost, enabling scalability
5	Minimize human-error risk
6	Introduce blockchain and AI to protect against client-mandate breaches

7

Pre-empt staff and counterparty mistakes preventing failed trades

Objectives

- **Ease of use** — completely automate the investment firm's back office in a streamlined way, saving the overhead costs that absorb firms as they grow assets under management.
- **Straight-through processing** — track trade tickets through the back office without human intervention.
- **Real-time mandate protection** — value positions and calculate leverage and risk metrics continuously from the Bloomberg price feed.
- **Auditability** — a lot-by-lot transaction listing that lets auditors trace and track every position.
- **Investor-ready product** — a demonstration system for prospective clients, followed by alpha and beta releases with early adopters.

05 SOLUTION & ARCHITECTURE

One ticket in, every report out

PM5 is a fully integrated, automated valuation and reporting system that provides full, online information on each client's asset and liability structure — supporting, managing, accounting, settling, valuing and administering portfolios in one system.

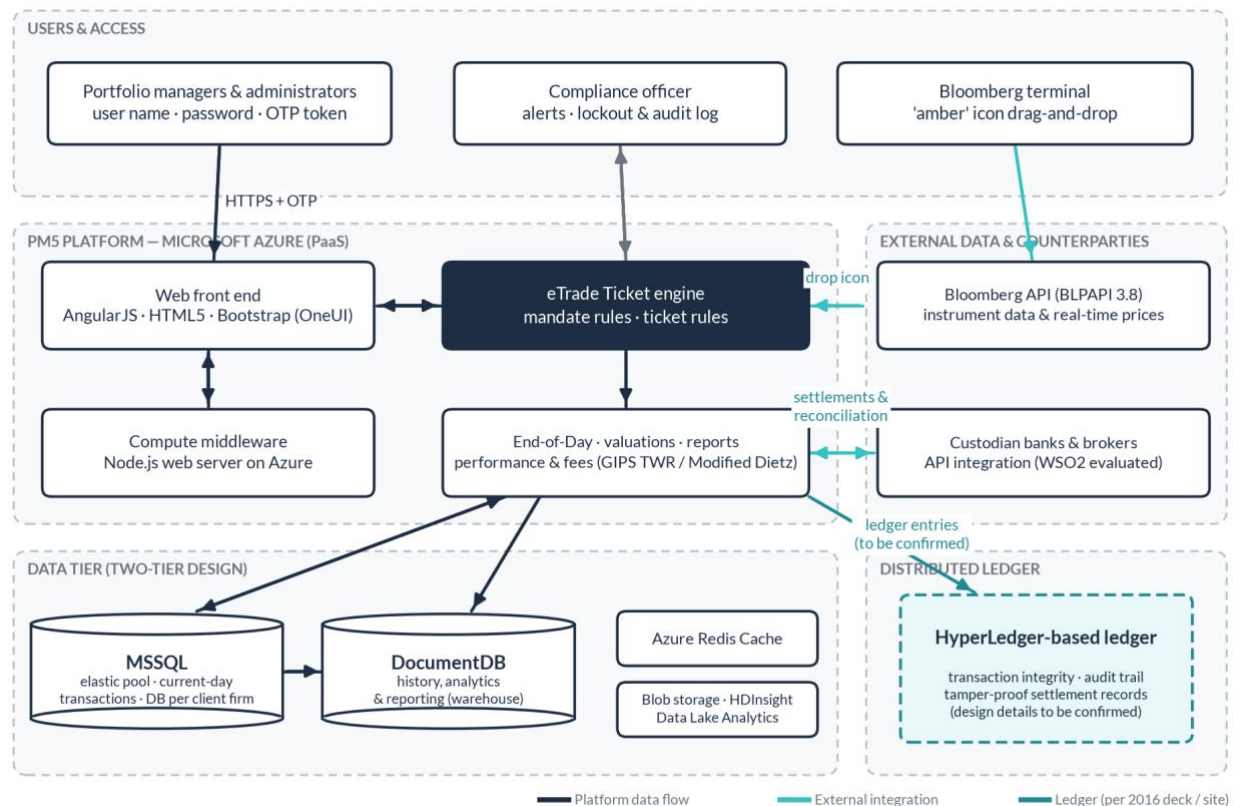


Figure 1 — Assureaxe PM5 solution architecture, drawn from the documented Azure technology stack, integrations and data tier. The ledger layer reflects the 2016 presentation and portfolio description; its integration points are to be confirmed.

How a trade flows

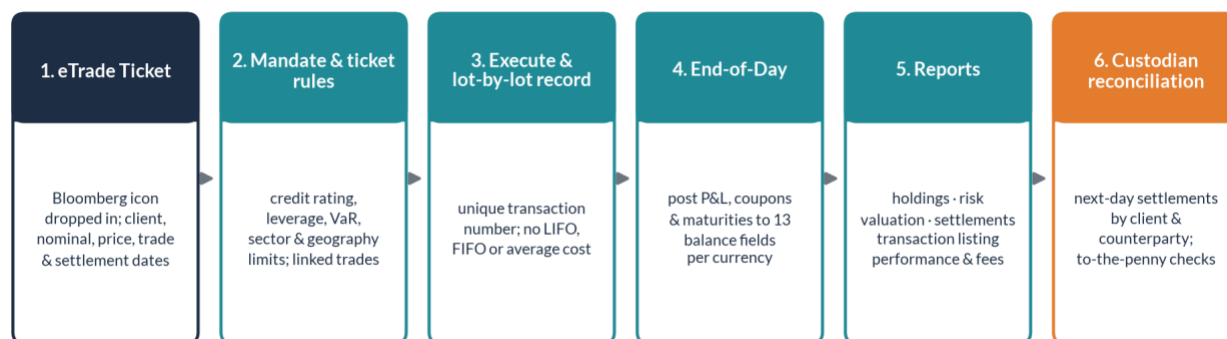


Figure 2 — The PM5 trade lifecycle, from eTrade Ticket to custodian reconciliation (from the SRS).

Solution pillars

1. The eTrade Ticket and Bloomberg “amber” icon

Every security on a Bloomberg screen carries a small “amber” icon that embeds its terms, conditions and characteristics — credit ratings, size of outstanding issue, and the formulas for accrued interest and dividends. Using the Bloomberg API (BLPAPI), the portfolio manager drags the icon into the PM5 ticket and the instrument data populates automatically. Earlier PM generations had to maintain a separate DLL of instrument terms; PM5 no longer needs it, while still allowing manual input for more generic instruments.

The ticket records trade date and settlement date (YYYY-MM-DD), a time stamp, an eTicket number (YYMMDD + sequence), client number, trade number, nominal amount, price (to four decimals), counterparty, custodian and notes. Tabs switch automatically by instrument type — bond/equity/commodity, foreign exchange, futures and options — and transactions can be single, or multiple with the nominal allocated across accounts.

2. Mandate and ticket rules

Database-driven rules cover S&P and Moody’s sovereign/corporate credit ratings, percentage of outstanding issue, geographic restrictions (e.g., no more than 10% in specific countries or regions) and sector limits. Formula-driven rules cover leverage and **Value-at-Risk**, used like a leverage constraint, with a RiskMetrics module planned for the calculation.

Ticket rules enforce required fields, linked versus unlinked trades (a cash-bond spread can require two bond tickets and two repo financing tickets), and closing transactions matched against open transaction numbers.

3. Lot-by-lot accounting and End-of-Day

PM5 does not use LIFO, FIFO or average cost. Each client trade is assigned a transaction number and closed out against it, giving auditors and back-office staff a clean trail for positions held in segregated client accounts at a global custodian bank.

The End-of-Day routine posts closed and matured positions, coupon payments, FX settlements and hedge closures; handles partly-paid gilts; and updates **13 portfolio-balance fields per client account and currency** (portfolio cost, accrued interest and capital gains by asset class, margin, allocated futures and options, and realized P&L).

4. Valuation, settlements and reporting

The valuation report separates fixed-income asset classes, shows long/short interrelationships across cash and derivatives, includes financing costs (repo or other) in total P&L, and shows collateral and margin posted — an interrelationship the SRS describes as not found in other financial reporting systems. It includes a currency overlay and outright currency and derivatives valuations.

The settlements report presents next-day settlements and cash positions per client and per counterparty for reconciliation with the global custodian. Additional reporting covers holdings, risk management, transaction listing, performance and fees.

5. Performance and fees

Performance follows the GIPS guidance on time-weighted returns, offering the user either a true time-weighted rate of return or the **Modified Dietz** method. Fixed fees are a percentage or basis points of portfolio value (usually the month's opening balance); performance fees can be based on absolute performance or performance against an agreed public index, with a hurdle stored in the client profile.

6. Instrument coverage

Bonds and gilts (including when-issued bonds, fractional pricing and six accrued-interest conventions), money-market instruments including negotiable CDs, futures and options with exchange mnemonics and Reuters delivery-month codes, spot and forward foreign exchange with accounting transactions between currency sub-accounts, mortgage-backed securities with principal factors, basis trades, and balance adjustments.

eTICKET

Enterprise Portfolio Manager (PM5)

1 Trade Date: YYYY-MM-DD 2 Settlement Date: YYYY-MM-DD 3 Time Stamp: 24:59:59

4 Ticket No: 161231999999

5 Bloomberg

6

7 OPEN CLOSE

Open Trade 8 Linked Trade 9 Execute

20 10

10 Search:

11 Client	12 Trade No	13 Nominal Amount	14 Price	15 Counterparty	16 Custodian	Other	17 Notes
ABC9999999	16123199999-99999	999,999,999,999.99	999,999,999.9999	Bank Next Door	XXX		This is a generic note manually entered with trade if required for the client.....
ABC9999999	16123199999-99999	999,999,999,999.99	999,999,999.9999	Bank Next Door	XXX		This is a generic note manually entered with trade if required for the client.....
ABC9999999	16123199999-99999	999,999,999,999.99	999,999,999.9999	Bank Next Door	XXX		This is a generic note manually entered with trade if required for the client.....
ABC9999999	16123199999-99999	999,999,999,999.99	999,999,999.9999	Bank Next Door	XXX		This is a generic note manually entered with trade if required for the client.....
ABC9999999	16123199999-99999	999,999,999,999.99	999,999,999.9999	Bank Next Door	XXX		This is a generic note manually entered with trade if required for the client.....
ABC9999999	16123199999-99999	999,999,999,999.99	999,999,999.9999	Bank Next Door	XXX		This is a generic note manually entered with trade if required for the client.....
ABC9999999	16123199999-99999	999,999,999,999.99	999,999,999.9999	Bank Next Door	XXX		This is a generic note manually entered with trade if required for the client.....
ABC9999999	16123199999-99999	999,999,999,999.99	999,999,999.9999	Bank Next Door	XXX		This is a generic note manually entered with trade if required for the client.....
ABC9999999	16123199999-99999	999,999,999,999.99	999,999,999.9999	Bank Next Door	XXX		This is a generic note manually entered with trade if required for the client.....
ABC9999999	16123199999-99999	999,999,999,999.99	999,999,999.9999	Bank Next Door	XXX		This is a generic note manually entered with trade if required for the client.....

18 Showing 1 to 10 of 35 entries

19 1 2 3 4 Next

Assureaxe Capital 2016 ©PM5

Figure 3 — Annotated Open eTicket screen from the PM5 SRS (July 2016).

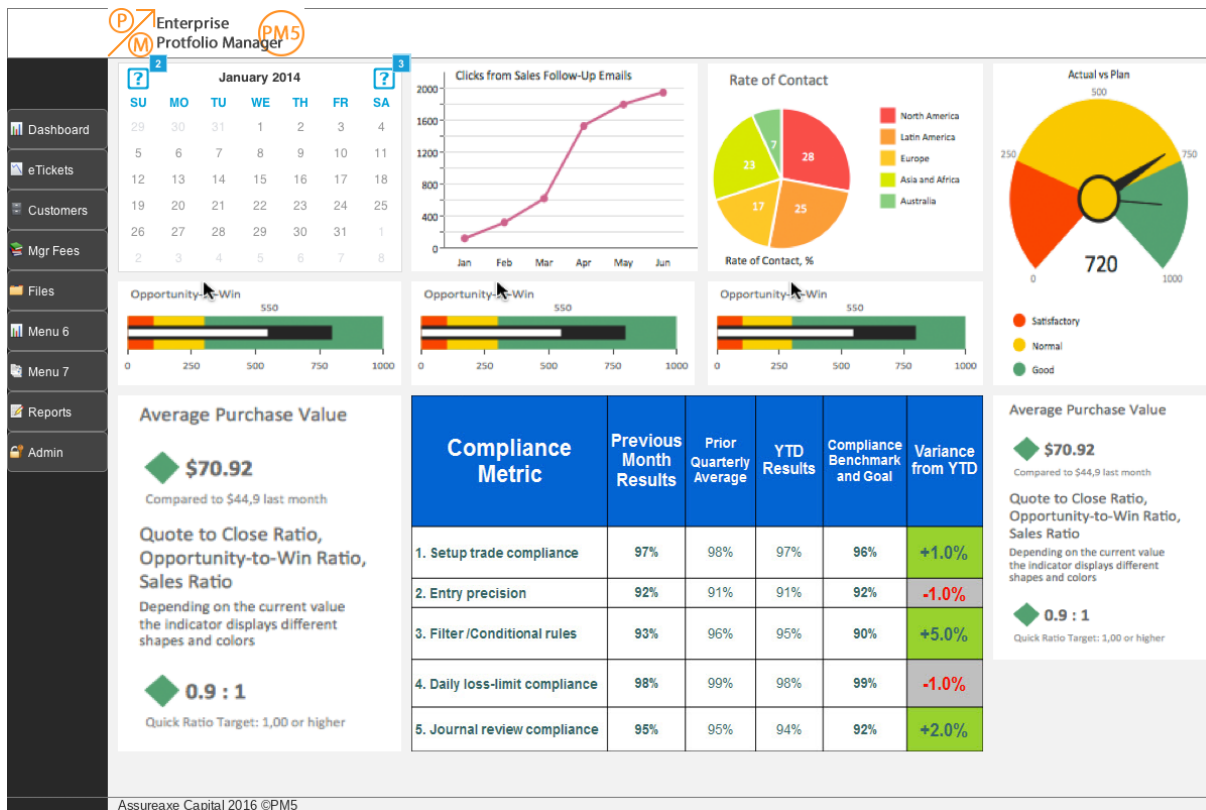


Figure 4 — PM5 dashboard wireframe from the 2016 UI prototype. Figures shown are placeholder sample data in the wireframe, not results.

06 HYPERLEDGER DESIGN

The distributed-ledger layer

The 2016 investor presentation titles the platform a “HyperLedger-based FinTech broker system” and states that the fifth-generation architecture uses blockchain, with blockchain and artificial intelligence introduced to protect against client-mandate breaches. The CTO Rescues portfolio describes the outcome as a HyperLedger-based broker system that establishes **blockchain-enforced transaction integrity, compliance audit trails and tamper-proof settlement infrastructure**, built on enterprise distributed-ledger technology to meet the governance requirements of regulated financial intermediaries.

The requirements documents available for this paper (SRS v1.0.3, the project charter draft and the UI prototype specification) describe the application, data and integration layers but do not document the ledger’s internal design. The table below records what is documented and what Daniel needs to confirm.

Design area	Documented in sources	To confirm
Framework	HyperLedger (presentation title; portfolio description)	[PLACEHOLDER: HyperLedger project and version, e.g. Fabric release]
Network topology	—	[PLACEHOLDER: participating organizations — firm, custodians, brokers — and peer layout]
Channels	—	[PLACEHOLDER: channel design and data segregation per client firm]
Chaincode / smart contracts	Mandate-breach protection; transaction integrity	[PLACEHOLDER: chaincode functions, e.g. trade recording, mandate checks, settlement]
Consensus / ordering	Tamper-proof settlement records	[PLACEHOLDER: ordering service and endorsement policy]
Identity & access	OTP-based user log-on; security manager issues credentials	[PLACEHOLDER: membership service provider / certificate authority design]
On-ledger records	Lot-by-lot transaction numbers and audit trail (SRS)	[PLACEHOLDER: which records are written to the ledger vs. MSSQL/DocumentDB]

Design rationale supported by the sources

- **Immutable audit trail.** PM5’s lot-by-lot model already gives every trade a unique transaction

number that is closed out against its opening trade — a natural fit for an append-only ledger record (inference; to be confirmed).

- **Multi-party settlement.** Settlements are reconciled daily between the firm, brokers/counterparties and global custodian banks — the parties a permissioned ledger is designed to connect (inference; to be confirmed).
- **Mandate integrity.** The presentation positions blockchain and AI specifically to protect against client-mandate breaches.

07 TECHNOLOGY STACK

Azure PaaS, Bloomberg data and a two-tier data model

Layer	Technology (as specified in the SRS)	Role
Cloud infrastructure	Microsoft Azure (PaaS)	Hosting for all platform services
Front end	AngularJS, HTML5, Bootstrap; OneUI admin dashboard template; ng-file-upload, angular-ui	Web application and eTrade Ticket UI
Application development	AngularJS, C++, C#, XML, HTML5, PL/SQL	Business logic, calculations and integrations
Compute middleware	Node.js web server on Azure	Server-side application layer
Performance	Azure Redis Cache	Increased speed
Transactional database	Microsoft SQL Server with elastic pool on Azure	Current-day live transactions; a database spawned per money-manager client
NoSQL / warehouse	Azure DocumentDB	Historical and analytical data; reports run from here
Analytics	HDInsight, Azure Data Catalog, Data Lake Analytics	Analytics and data management
Document & image storage	Azure Blob storage	Files and documents
Market data	Bloomberg API (BLPAPI 3.8, .NET)	Instrument data, real-time and reference data
Custody integration	Custodian APIs; WSO2 evaluated as an off-the-shelf API layer	Integration with five major custodian banks
Distributed ledger	HyperLedger (per presentation)	Transaction integrity and audit trail
Tooling	Visual Studio Code; GitHub; OrangeScrum project management	Development, source control and delivery

Monitoring was listed as “to be announced” in the SRS, and the architecture diagram section noted it was being replaced with an Azure diagram.

08 SECURITY & COMPLIANCE

Built for regulated financial intermediaries

- **Strong authentication.** Log-on requires user name, password and a hardware-based or mobile/software **one-time-password (OTP) authenticator**, supplied by the security manager.
- **Lockout and audit.** Three failed attempts lock the account for 15 minutes and log the incident for the **compliance officer**.
- **Assurance frameworks.** The scope identifies possible BITS Shared Assessment (created by the financial industry), ISO 27002 assessment, SAS-70, and ISO 27001 certification (highest level of assurance). The database design must comply with SAS-70.
- **Tenant isolation.** A separate transactional database is spawned for each money-manager client; the requirements note the constant concern for the privacy of tens of thousands of clients' data.
- **Segregated client assets.** Trades are settled with counterparties and held in segregated client accounts at a global custodian bank; the client profile records whether a segregated account is required and any database-location requirement.
- **Recognised calculation standards.** Performance follows GIPS time-weighted-return guidance; accrued interest follows documented market conventions, including the Bank of England convention for partly-paid stocks.
- **Ledger integrity.** Blockchain-enforced transaction integrity and compliance audit trails (portfolio description).

Status to confirm

[PLACEHOLDER: which assessments or certifications (BITS, ISO 27001/27002, SAS-70/SOC) were actually completed]

09 IMPLEMENTATION APPROACH

Prototype first, then alpha, beta and release

The SRS set a clear priority: have a demo system for prospective clients “sooner than later,” so the first steps were a lightweight prototype.

Phase	Activities and timing (as documented)
1 · Prototype / demonstration system	Bootstrap basic function screens from wireframes Bloomberg API drag-and-drop — or “fake it” for the demo AngularJS on a web server for basic functions Presentation plan: demonstration system in Q4 2016
2 · Alpha	Review with early-adopter customers
3 · Beta	SRS: beta release for early adopters by the end of January 2017 Presentation plan: launch beta product in Q2 2017; beta testing starting with a word-of-mouth campaign in Toronto markets
4 · Release 1	Presentation plan: Release 1 ready for market in Q3 2017, integrated with Bloomberg information systems

Proposed team

On-shore	Offshore
Chief Technology Officer	1 project lead / solution lead developer
Chief Product Officer — Founder	1 junior project manager for daily task detail
Marketing and sales team	1 senior database admin (NoSQL and PaaS)
Senior solution developer	4 experienced developers
	1 QA / testing and documentation

Delivery artefacts

- **Software Requirements Specification** — DRAFT SRS FinTech Portfolio Manager (PM5), v1.0 (28 June 2016) to v1.0.3 (16 July 2016), 85 pages, covering management fees, rules and math, End-of-Day and the Bloomberg icon.
- **Project charter draft** — FinTech Portfolio Manager (PM5), 27 June 2016.
- **UI prototype specification** — page tree and screens for the dashboard, tickets, customers, management fees, files, reports (fund net asset, performance analysis, equity analysis, investment look-through, portfolio value by investment and by account type) and administration.
- **Investor presentation (2016)** — business case, market, go-to-market plan and a functionality demo of the trade ticket, risk-management report, holdings report, portfolio balances by client and currency, transaction listing, valuation report and performance matrix.

10 RESULTS & BUSINESS IMPACT

What the engagement delivered

The sources document the platform's design, requirements, prototype and commercial plan; they do not report post-launch operating metrics. This section separates delivered artefacts and documented heritage from outcomes that need Daniel's confirmation.

Documented outcomes

- **Proven heritage.** Earlier generations of the system protected GHAM from hiring additional operational staff and reduced human error while the firm gained new mandates (2016 presentation).
- **A buildable fifth-generation blueprint** — cloud (Azure PaaS) architecture, a detailed 85-page SRS and a clickable UI prototype.
- **An investor-ready story** — the functionality demo and business case supporting a seed round and a planned Series A.
- **Positioning** — the presentation compared Assureaxe with SunGard, RiskMetrics, Algorithmics, Misys, Murex and Calypso and positioned it as “the only end-to-end integrator for business risk management.”

Commercial plan (2016 presentation)

Item	As presented
Market sizing	Over 200,000 small and medium-sized investment firms in the US alone; ~600,000 Bloomberg (310,000) and Thomson Reuters (300,000) subscribers as a distribution channel
Go-to-market	Beta testing and word-of-mouth sales in Toronto; integration with Bloomberg information systems; primary targets: small and medium investment firms, family offices, insurance companies and banks
Seed round	\$1.5M USD required; \$225K USD invested; 3M shares at \$0.50 USD; \$50K USD investment units (30 units)
Series A	\$6M USD for commercialization, multiple closings, minimum investment \$150K USD; potential round planned for January 2018

11 LESSONS LEARNED & KEY TAKEAWAYS

What still applies in 2026

01 Start from the domain, not the technology.

PM5 carried four generations of hard-won portfolio-accounting rules — accrued-interest conventions, lot-by-lot accounting, End-of-Day posting. Modernizing the stack (Azure, blockchain) worked because the domain model was preserved.

02 Make one screen the system of entry.

Driving everything from the eTrade Ticket, with instrument data dropped in from Bloomberg, removes re-keying — the root of “fat finger” risk — and keeps the back end invisible to users.

03 Buy market data; don’t rebuild it.

Replacing a hand-maintained instrument DLL with the Bloomberg API shifts reference-data maintenance to the provider and gives real-time valuations for risk, performance and fees.

04 Design compliance into the workflow.

Mandate rules, VaR limits, OTP log-on, lockouts logged to the compliance officer and SAS-70-aware data design are part of the transaction path, not an afterthought.

05 Use the ledger where trust is shared.

Distributed ledgers earn their place in multi-party processes — trades, settlements and reconciliations between firms, brokers and custodians — where tamper-proof audit trails matter most.

06 Prototype for the buyer early.

A demonstration system — even with Bloomberg integration “faked” at first — let the team put the product in front of investors and early adopters before the full build.

Why it matters

Assureaxe shows how a CTO can take a proven, founder-built operational-risk system and re-platform it for scale: preserve the domain logic that protects margins, move it to secure cloud PaaS, integrate the market data and custody ecosystem, and anchor multi-party trust in a distributed ledger. The result is a product that turns back-office cost into a scalable, fixed-cost platform for institutional investment firms.

One ticket in · Every report out · Every trade accountable

12 ABOUT THE AUTHOR & CTO RESCUES

Daniel Brody, Schulich MBA — CTO, CTO Rescues

Daniel Brody is an enterprise CTO/CIO with 30+ years of global experience helping companies stabilize, scale and transform mission-critical technology platforms. He has led technology strategy and execution across regulated industries including financial services, healthcare, gaming and enterprise SaaS, and holds multiple patents in digital systems and data architecture.

His MBA brings financial discipline to every technical decision: engagements are framed around EBITDA improvement, risk reduction and capital-event readiness, not just engineering quality. Daniel works directly with CEOs, boards and investors as a trusted advisor and operating partner.

CTO Rescues is the practice around Daniel: a fractional CTO / CIO-for-hire bench assembled for each engagement — **design-it · sell-it · build-it · implement-it**. Its portfolio spans carbon registries, healthtech, iGaming, fintech, marketing technology, enterprise ERP and digital media.

Expertise

Product & IP commercialization

Taking technology from architecture to market — roadmap, build leadership, GTM alignment and investor documentation.

M&A, exit & due diligence

Pre-transaction platform hardening, technical due diligence, post-merger integration and CTO transition support.

Platform turnaround

Rapid stabilization for platforms under stress and restored delivery velocity.

Cloud & AI transformation

Cloud modernization across AWS, Azure and GCP; AI-enabled ERP and enterprise data architecture.

READY TO BUILD, SCALE, OR EXIT?

Let's discuss your technology challenge.

If your challenge is platform modernization, regulated FinTech architecture, technical due diligence or exit preparation, book a Fractional CTO call or reach out directly.

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13 APPENDIX

Original PM5 system-process flowchart

The system-process flowchart from the PM5 SRS and project charter: transaction details and Bloomberg instrument characteristics feed the transaction ticket, which drives outputs, client files and reporting.

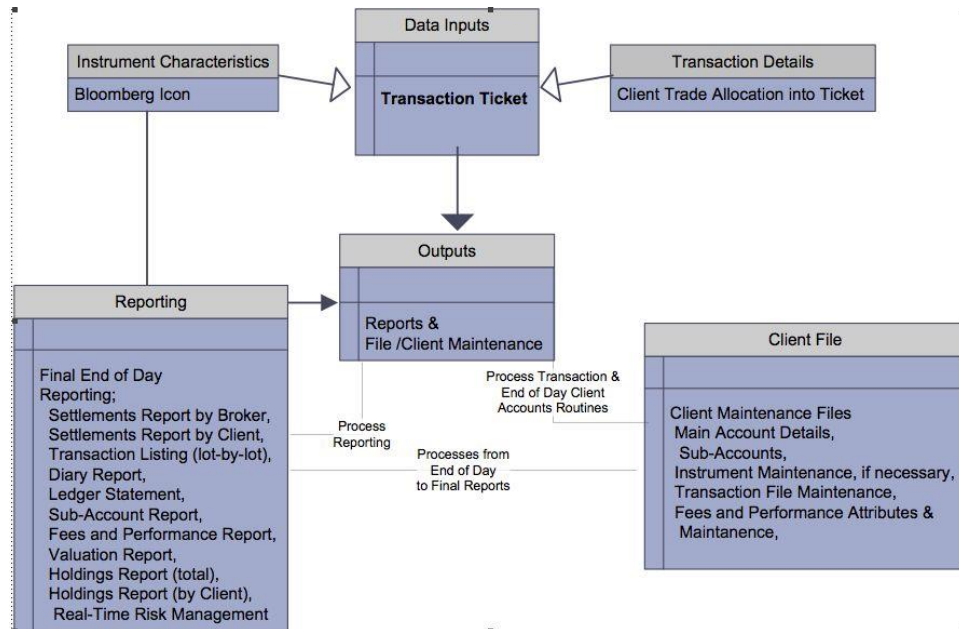


Figure 5 — PM5 system-process flowchart (SRS / project charter, June–July 2016).

Glossary of key terms (from the SRS)

Term	Definition
Basis	The differential between the cash price and the cash-equivalent price of the futures contract — the amount of convergence to the cash price.
Gross Redemption Yield (GRY)	The discount rate that makes the present value of the cash flows equal to the market price.
Lot-by-lot	Accounting in which each transaction has a numerical code and is closed out against its own opening transaction.
Annualized Hedge Efficiency (AHE)	The annualized percentage profit or loss on a foreign-exchange hedge.
Duration	The measure of the interest-rate exposure of a series of cash flows, standardized as a single number in days or years.
Value-at-Risk (VaR)	Used as a mandate constraint like leverage; if VaR is too high, the mandate is broken.