Case Study: Research and Model Management Platform

RAPTURE

Client Profile: Quantitative, multi-strategy asset manager

Objectives

- Deliver a research platform for a newly launched fund in a compressed time line
- Enable research teams to systematize their process in order to design and execute customized investment strategies within a common framework
- Areas covered: risk modeling, signal identification/generation, portfolio construction, back-testing, scenario analysis, etc
- Implement a transparent and reproducible process to efficiently ingest and store heterogeneous data sourced from numerous vendors in various formats
- Distribute results of analysis for investment decision making and trade execution

Outcome

- Moved from ideation to fund launch in less than six months
- Delivered an environment that ran on-premise with cloud backup; high availability and no business outage since launch
- Running simultaneous, multi-step processes with fault tolerance
- Fit for purpose; Performant; Reliable

How did we do it?

Rapture Labs extended core functionality to create Data Lifecycle Manager and Model Lifecycle Manager. Rapture Labs is the custom development arm of Incapture Technologies. We pair our decades of experience delivering solutions in asset management with the Rapture product suite to deliver timely, fit-for-purpose solutions.

Data

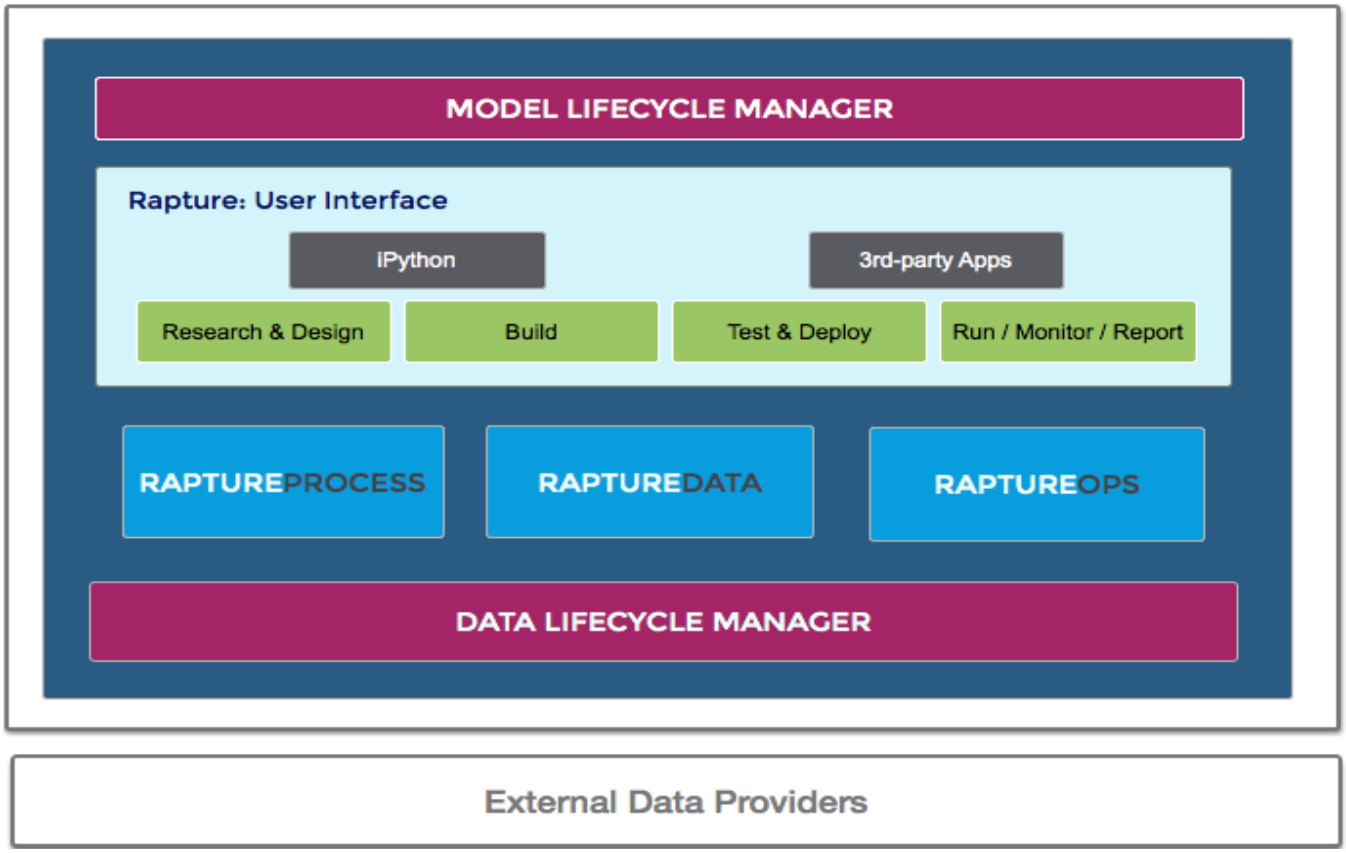
Functionality	Rapture Core	Rapture Labs
Capture	Data Capture workflow templates cover the most common ingestion use cases: Retrieve (FTP); Receive (Email); Request and Response (FTP, API)	Built adapters to ingest market data from, and integrate with if necessary, industry-standard providers like Bloomberg, Reuters, and Markit
Curate	Raw inbound files are automatically stored and versioned, and access is controlled through entitlements	Adapters normalize provider data and validate and transform using custom business logic.
Distribute	Raw files and normalized data are available via API and RIM GUI.	Added custom reports to the web app and thick-client tool.
Store	Repositories are collections of data that are abstracted as blobs, documents, or series.	MongoDB chosen for blobs (raw data and reports e.g. flat files, pdf, etc.) and documents (normalized data as json); Cassandra for series (e.g. asset and index prices as time series arrays).

Process

Area	Rapture Core	Rapture Labs
Workflow Manager	Model workflow templates store and version intermediate data sets during each run. Step dependencies support joining and splitting within a workflow. Steps are executable in a distributed environment for optimized processing. Process steps can invoke core code, customized code written by Labs, or code written by the client (e.g. Python, R).	Built a Workflow Manager to ease creation of research and portfolio management strategy workflows.

Operations

Area	Rapture Core	Rapture Labs
Console	Workflow results and performance are monitored and logged in the Operations Console, and authorized ops users may restart a workflow at any step.	Extended the Operations Console to include custom reports and notifications.



INCAPTURE TECHNOLOGIES

Founded by technologists with decades of experience designing and managing technology architecture for global Financial Services firms. We have developed a suite of tools that make it easier to build, deploy, and manage enterprise applications. These tools are particularly suited for data and process-driven businesses where operational transparency is crucial.

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