

Effective Integration and Processing of Market data

March 2010

Agenda

The Company

- InvestmentDataServices
- Allianz brands
- Market data requirements

The CRONUS System

- Software Architecture
- Infrastructure
- Evolution

Open discussion

The company at a glance

InvestmentDataServices is an international financial service provider of investment controlling services.

Main Services

Portfolio Analytics
Risk Services
Compliance Services
Client Reporting
Business Process
Management

People

180 professionals - from more than 20 nations - with outstanding academic backgrounds and extensive experience in the financial markets

Shareholder

founded in 2001 as a spin-off from Allianz SE (100% subsidiary of Allianz SE)

Clients

Allianz Group worldwide

- Insurance
- Asset Management
- Banking

Market Data Services

Organizational Structure

- § Account Management (4)
- § Development (9)
- § Operations (5)

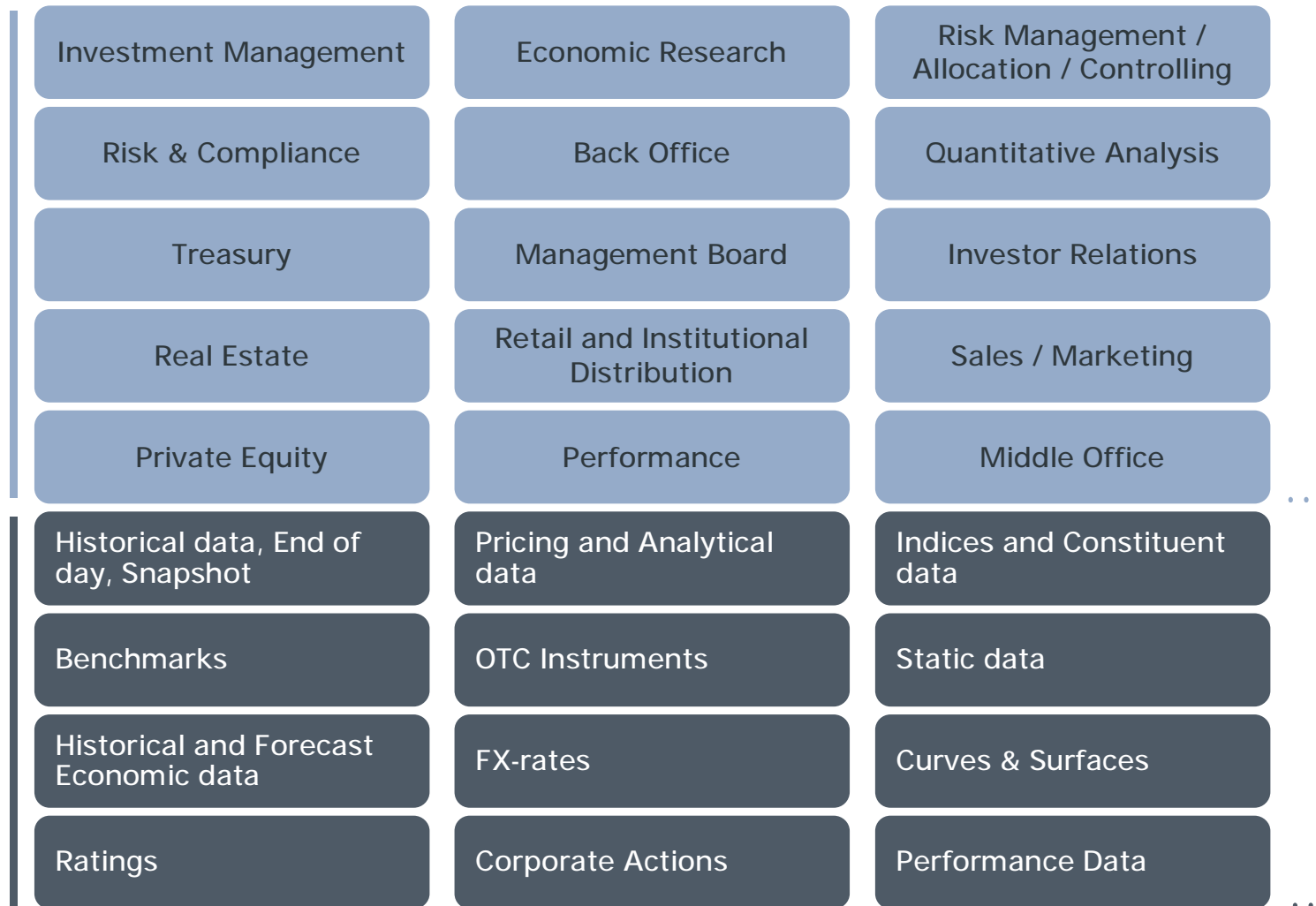
Data Vendors (>30).

All major vendors of Pricing and Static data, Ratings, Fixed Income and Equity Index and Fund related information.

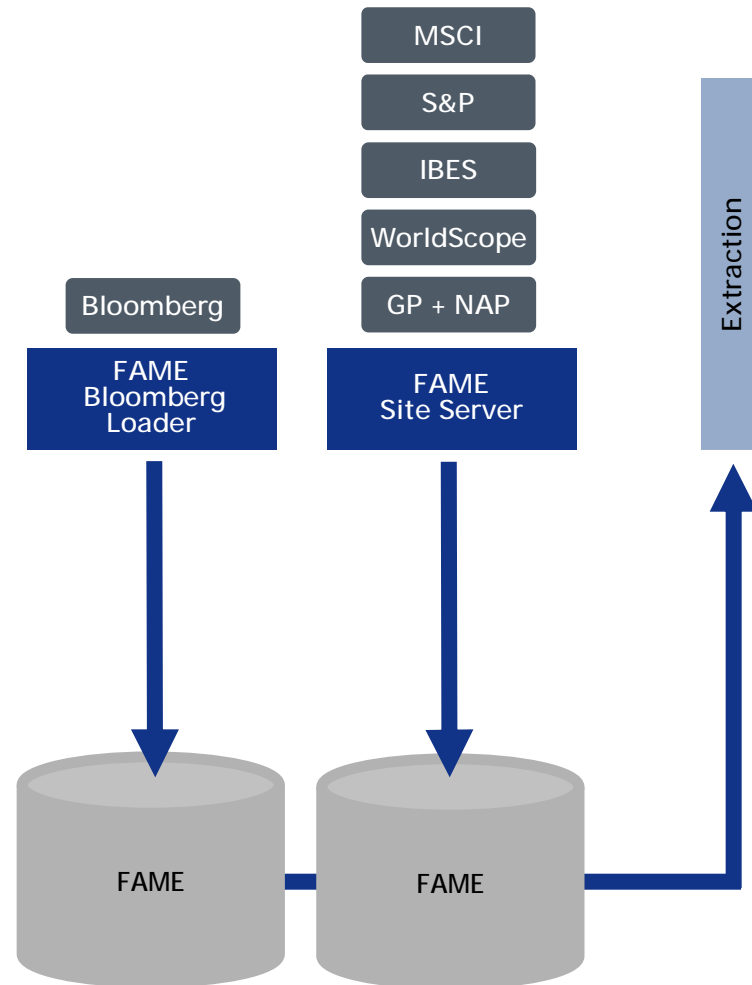
Allianz Group – bringing together many brands



IDS clients cover many financial functions. This results in broad data requirements

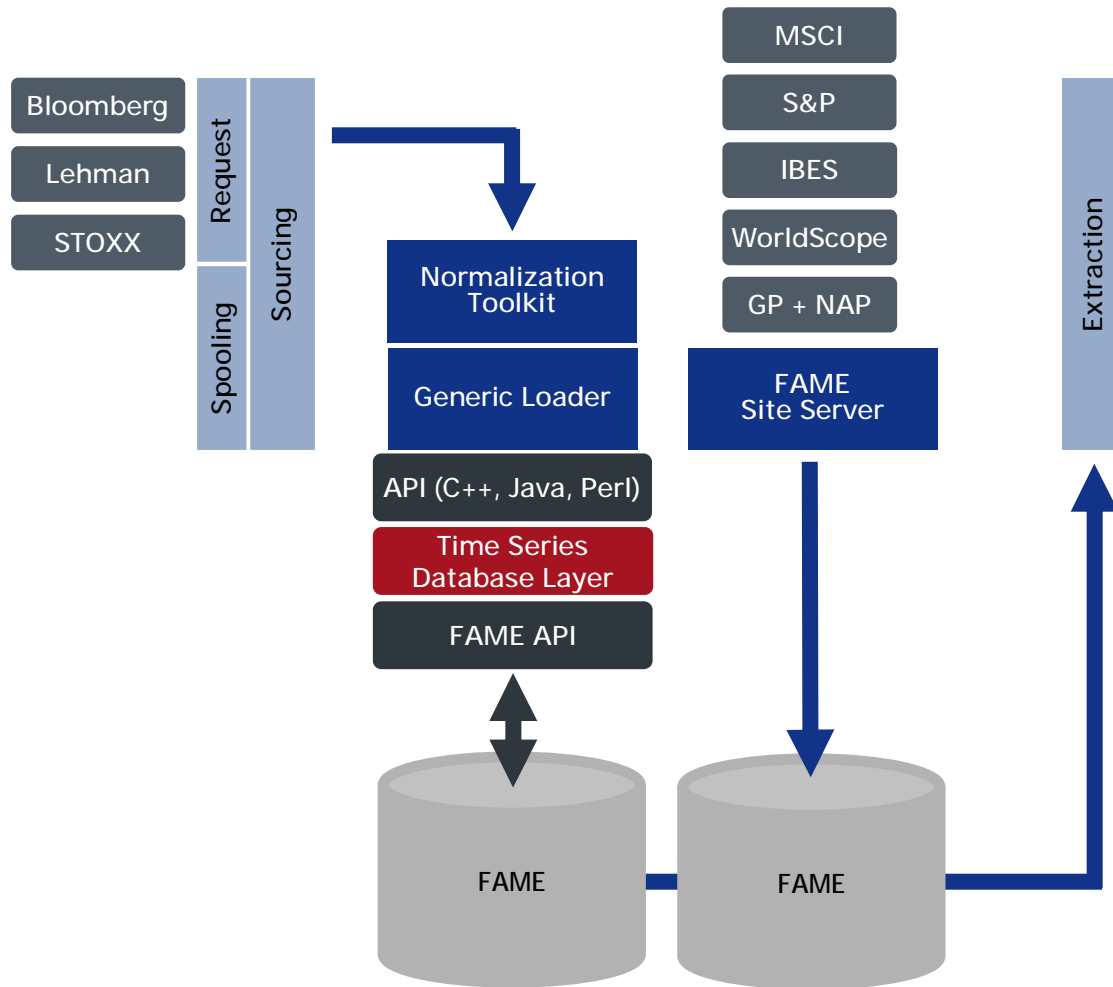


Software Architecture

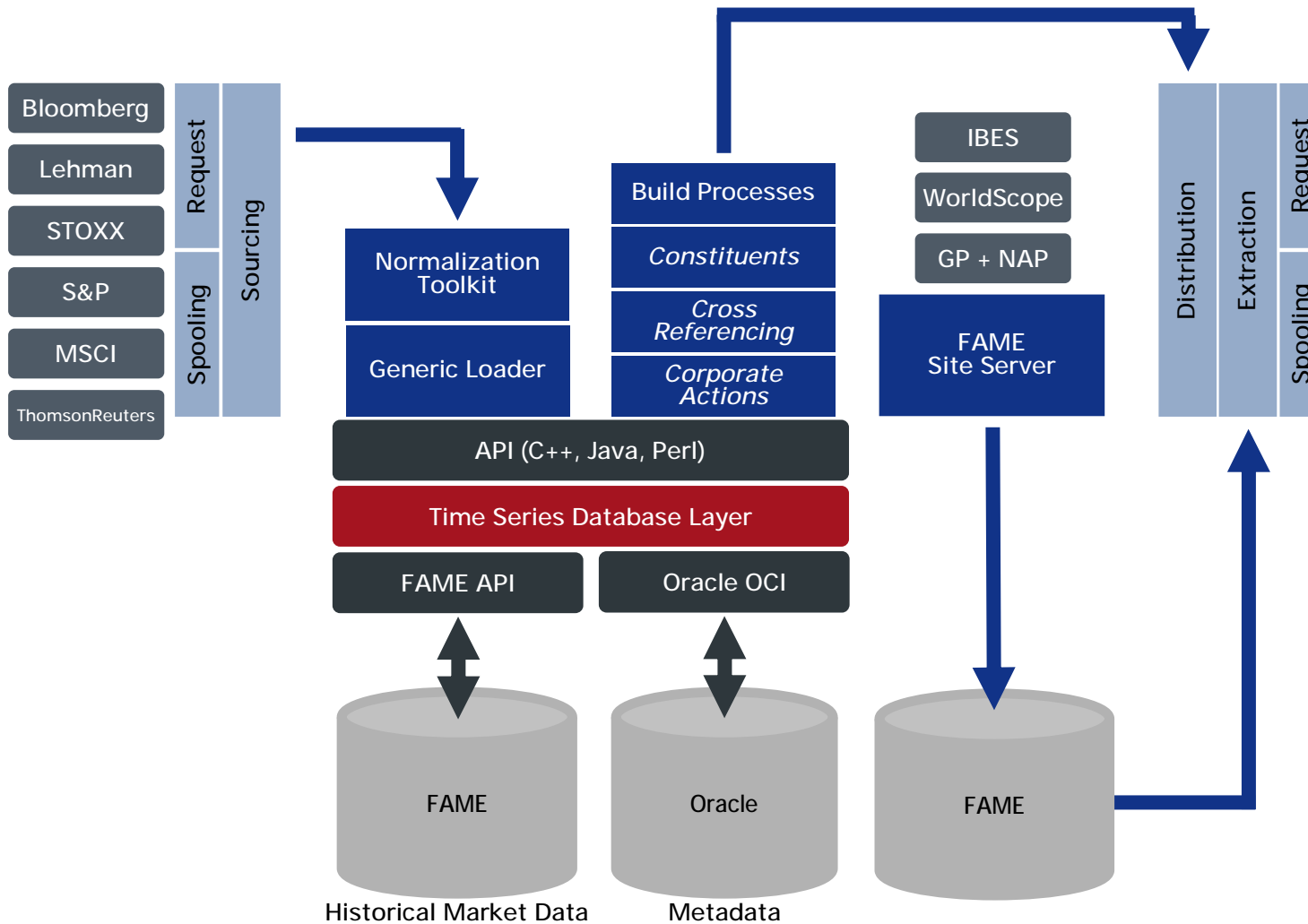


Software Architecture

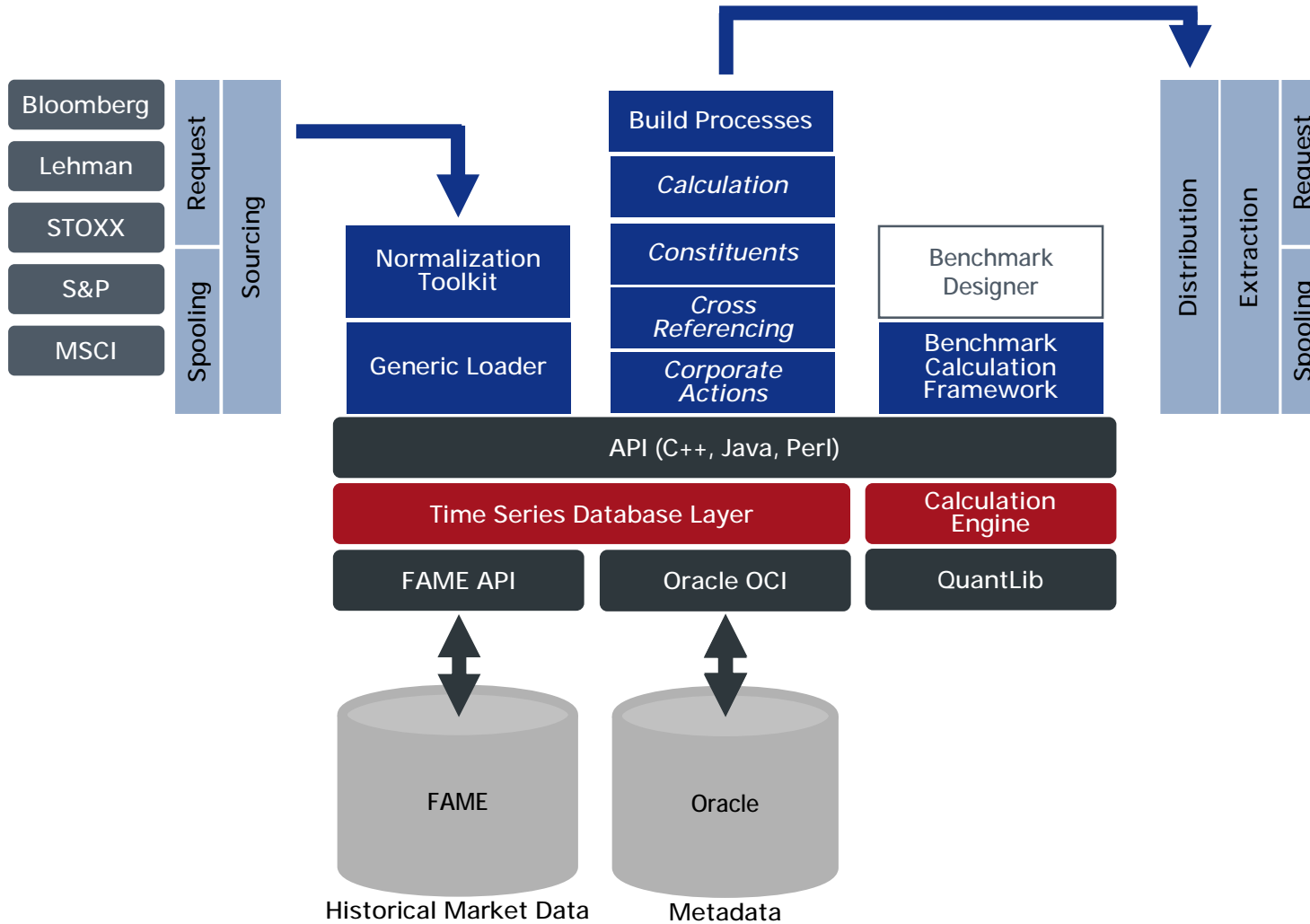
Piece-by-piece replacement through internal development



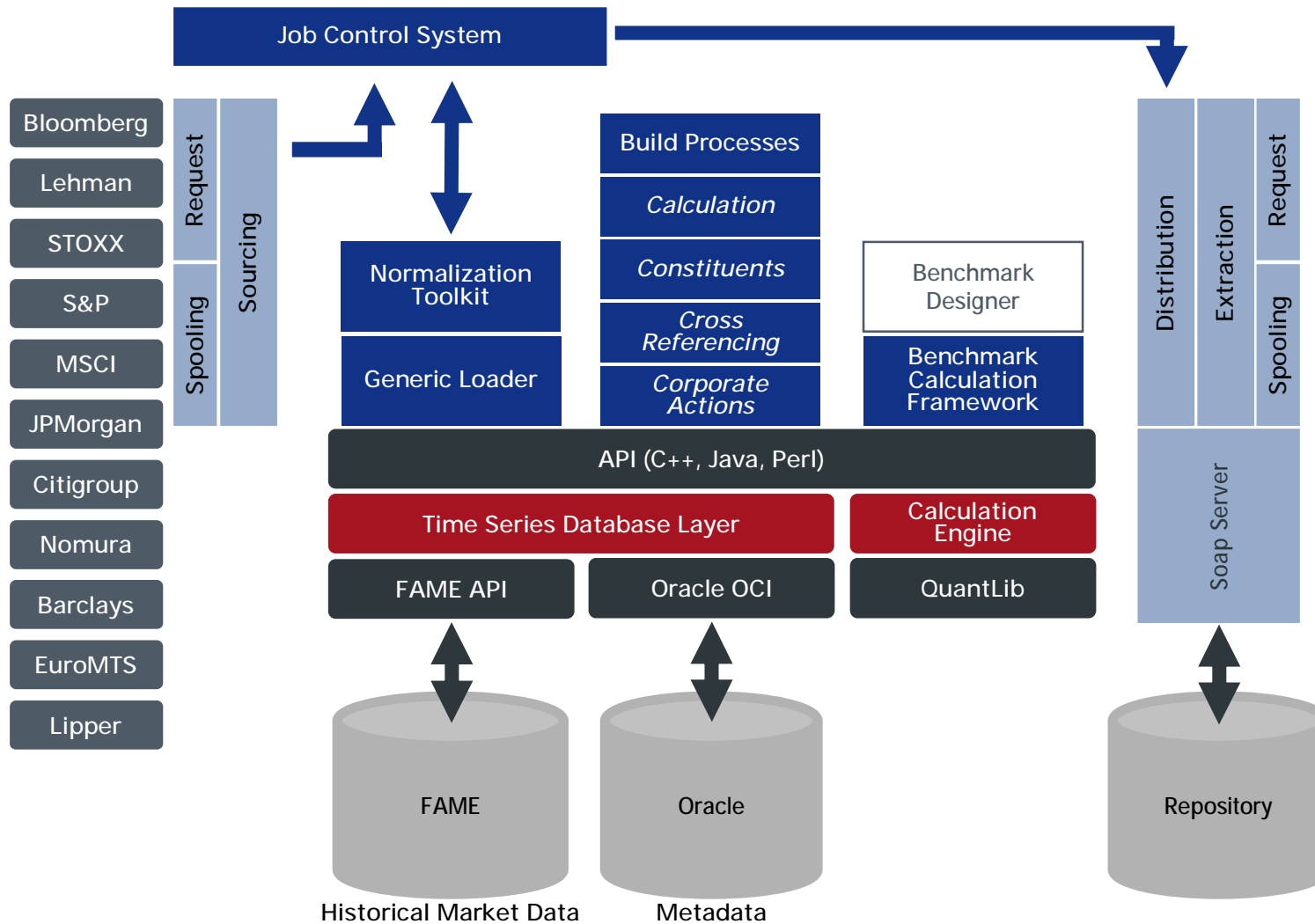
Software Architecture



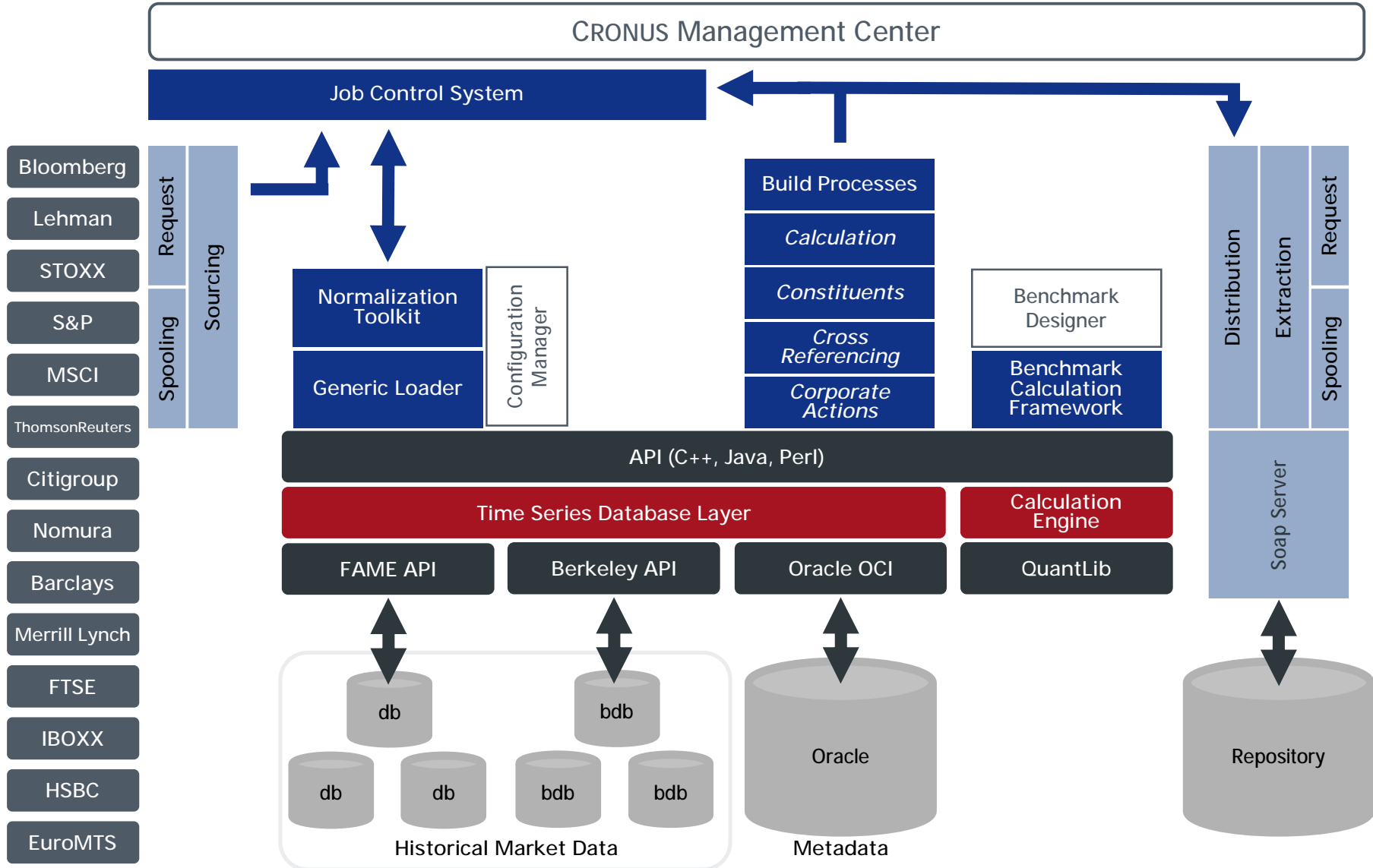
Software Architecture



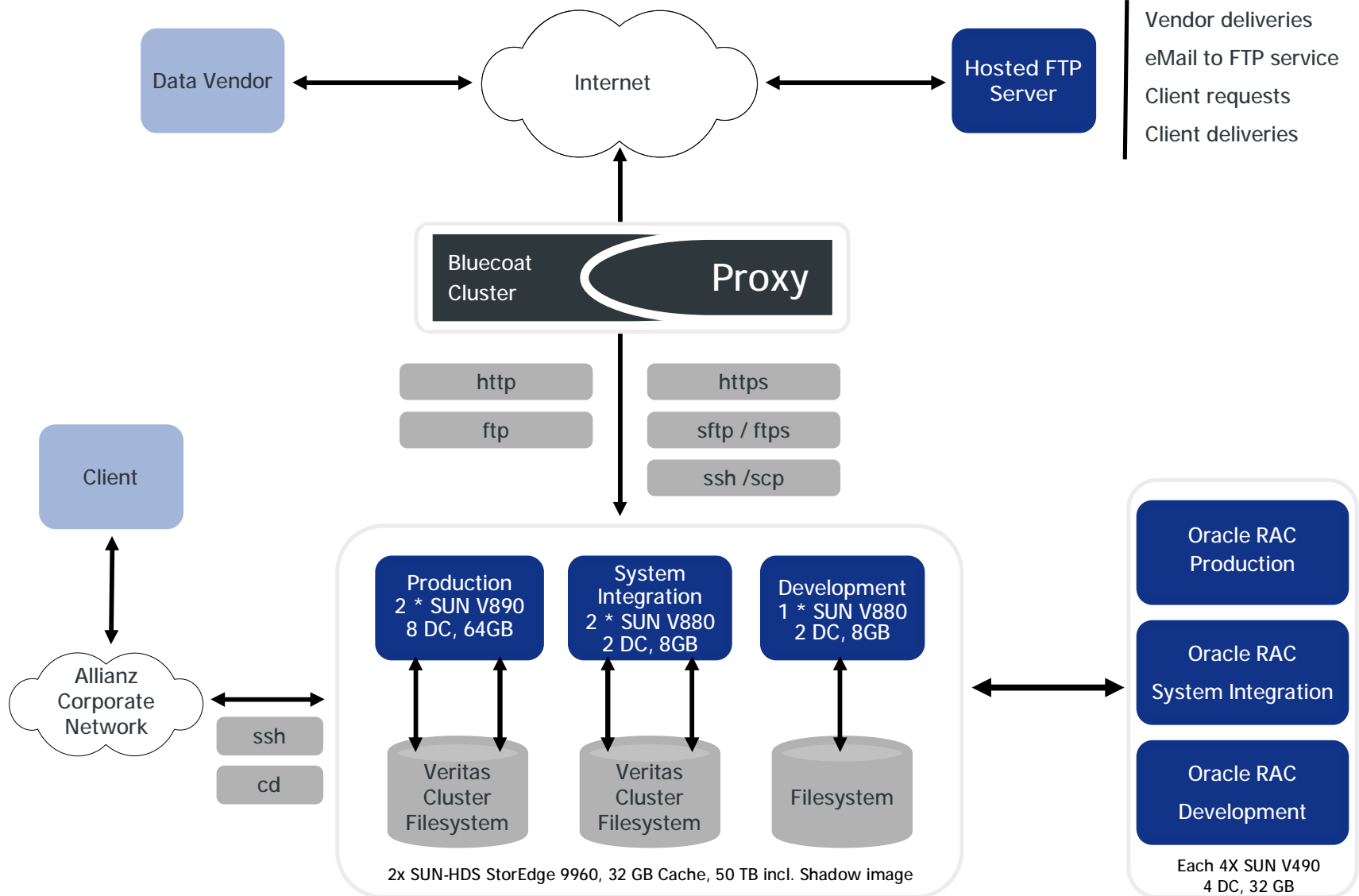
Software Architecture



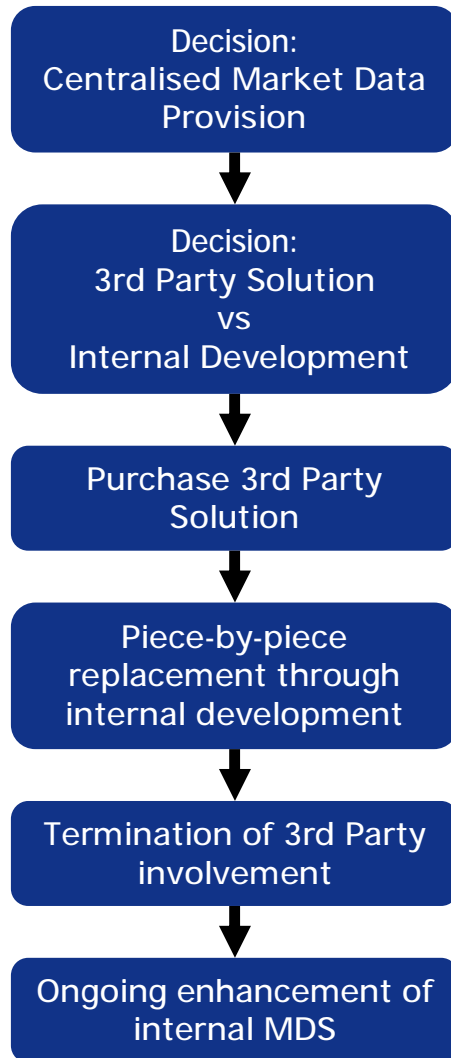
Software Architecture



Infrastructure



Evolution of IDS Market Data Services



Advantages of an internally developed solution

- Unlimited number of users, independent of license fees
- Flexibility to meet all requests
- Rapid turnaround for new requirements
- Any off-the-shelf solution needs considerable adaptation
- Bespoke solution designed and tuned to meet all of our client's needs
- Allows unparalleled flexibility and innovation
- Creation of a pool of business and technical expertise
- Continuous challenge and improvement
- Substantial on-going cost savings

Last but not least. Questions?

CRONUS

Driving the Intelligent use of Market Data

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Benchmark Calculation

Challenges

- Availability of data (multiple vendors)
- Complexity of Benchmarks (up to 10 levels, 100 nodes)
- Changes in the Benchmark definitions, occasionally post dated resulting in recalculation of the history.
- Benchmarks dependent on other calculated Benchmarks
- Priorities vs. Dependencies

Volume

Benchmarks:	6597
Linked Benchmarks:	10148
Aggregated Benchmarks:	827



Build processes

- Index Constituents Aggregation
 - Recreate the aggregation models defined by the index vendor
 - Calculate Constituents, Weights, Market Capitalization
 - Data Quality Checks
 - Efficiency (E.g. ~ 94,000 indices from one vendor calculated in 75 minutes.) In total over 400,000 indices with constituents calculated daily.
- Cross Referencing
 - Internal Unique Identifier
 - Independent of historical changes, vendors, exchanges etc...
- Corporate Actions
 - Data Quality Checks
 - Calculation of factors (Capital Adjustments, Currency Adjustments, Gross / Net Dividend Adjustments)
 - Provision of original and recalculated history as well as factors

