



# SUNGARD ANALYSTS' DAY

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TRANSPARENCY • EFFICIENCY • NETWORKS

WHAT'S YOUR POSITION?

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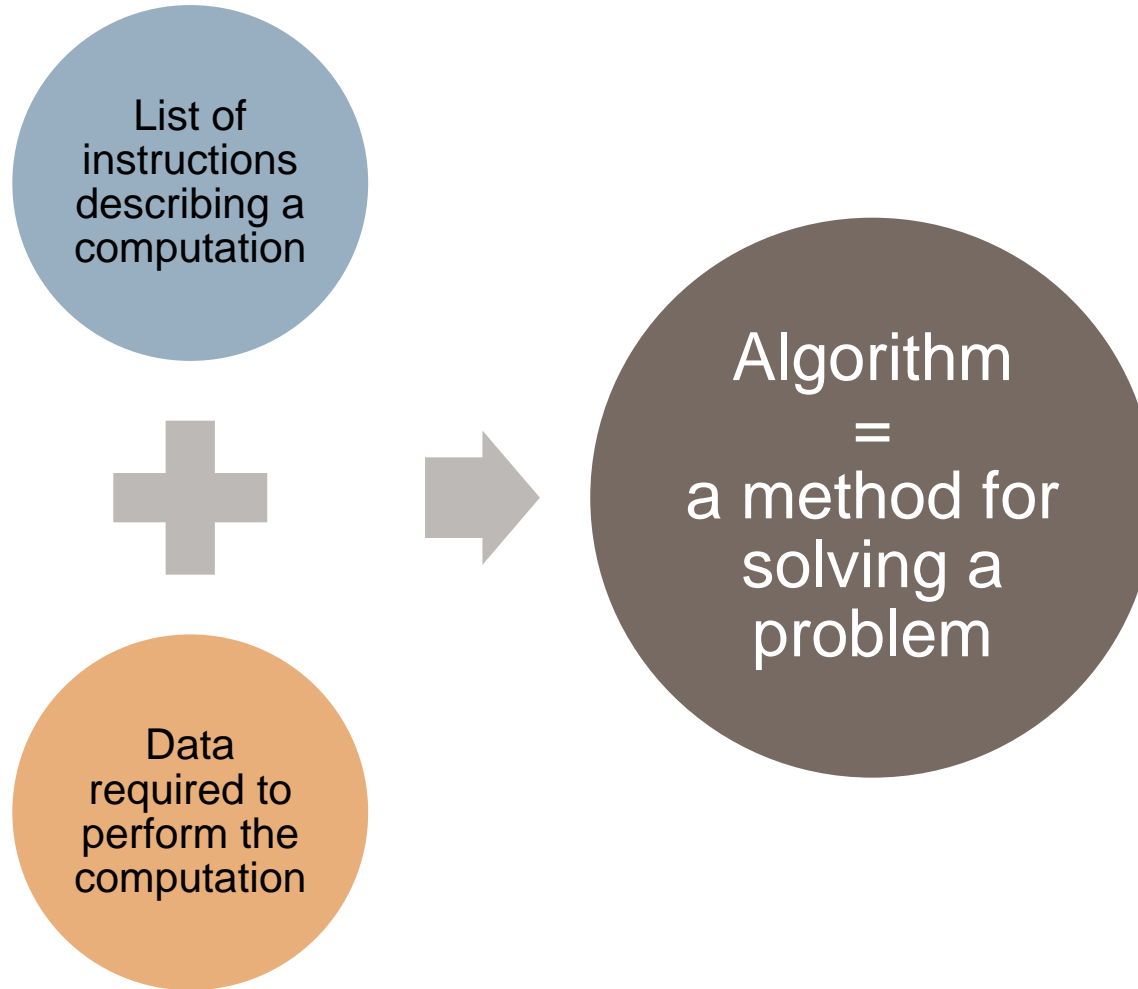
TEN IN PRACTICE

## Algorithmic Operations in Asset Servicing

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# Algorithm



# Algorithmic trading

- Also known as “automated trading” or “black-box trading”
- Computer algorithms make decisions regarding aspects of an order, such as timing, price or quantity of the order
- Today, input data can include news stories about company earnings and economic statistics
- Every year, Goldman Sachs invests tens of millions of dollars in algorithmic trading and now employs more IT specialists than traders

How do we advance this concept in Asset Servicing?

# Algorithmic Operations

- Exception Management
- Business Process Management
- Business Intelligence

Description



Applied Example

# Overview

- Exception Management
  - Rules-based decisions
  - Encapsulates expert knowledge
- Business Process Management
  - Provides process orchestration
  - Unites components holistically
- Business Intelligence
  - Operations data
  - Operational health

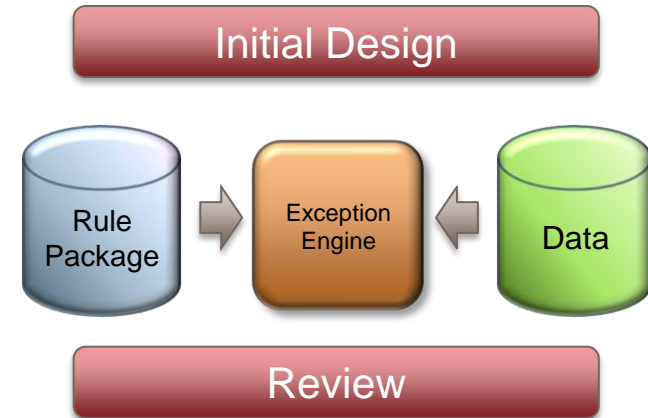
# Exception Management

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# Use of rules in algorithmic operations

Fund Accountants become knowledge engineers



- Rules make it easier to describe complex solutions in a verifiable form
- Separation of rules and data
  - Overcomes the need to wait for a new release
  - Shortens the implementation cycle for changes
  - Enables continuous improvement
- The firm's knowledge is documented and made available
- Risk associated with worker substitution is significantly reduced

# Exception Management at Citigroup

- Profile of Rules and Funds
- Positive Impact
  - NAV accuracy
  - Consistent application of tests
- Strategic Fit
  - Creates foundational component
  - Supports movement toward BPM-enablement

# **Business Process Management**

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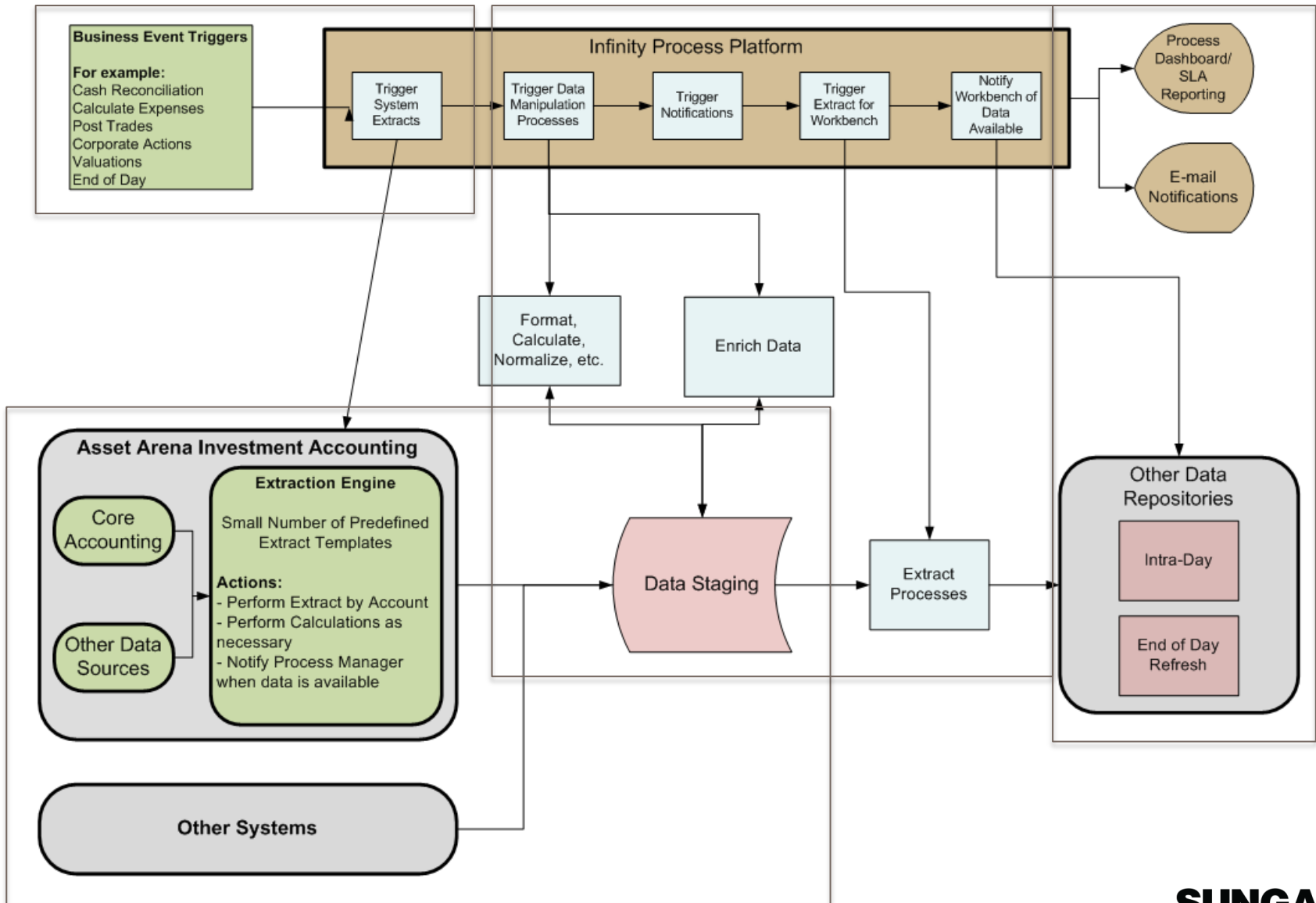
# BPM Value Proposition

- Increases User Efficiency
  - Automates manual steps
  - Increases analytical aspect of Operations
- Enforces Process Controls
  - Aligns work activities with procedural controls
  - Triggers data transmission based on control conditions
- Enhances Operational Transparency
  - Provides real-time dashboard views
  - Monitors SLAs
  - Analyzes costs
  - Performs process simulations

# Application to Operations

- Projects need to address the highest value
- Transparency for global operations
- Enforcement of operational steps
- Audit trail of performance
- Continuous improvement
- Automatically perform the next step

# Data Warehouse Feed



# BPM at Citigroup

- Data Extraction Benefits
  - Context of data
  - Data integrity
  - Ability to notify customers
- Operational Impact
  - One step instead of multiple steps
- Strategic Fit
  - Introduces the user to workflow capabilities gradually
  - Eliminates mundane tasks

# Business Intelligence

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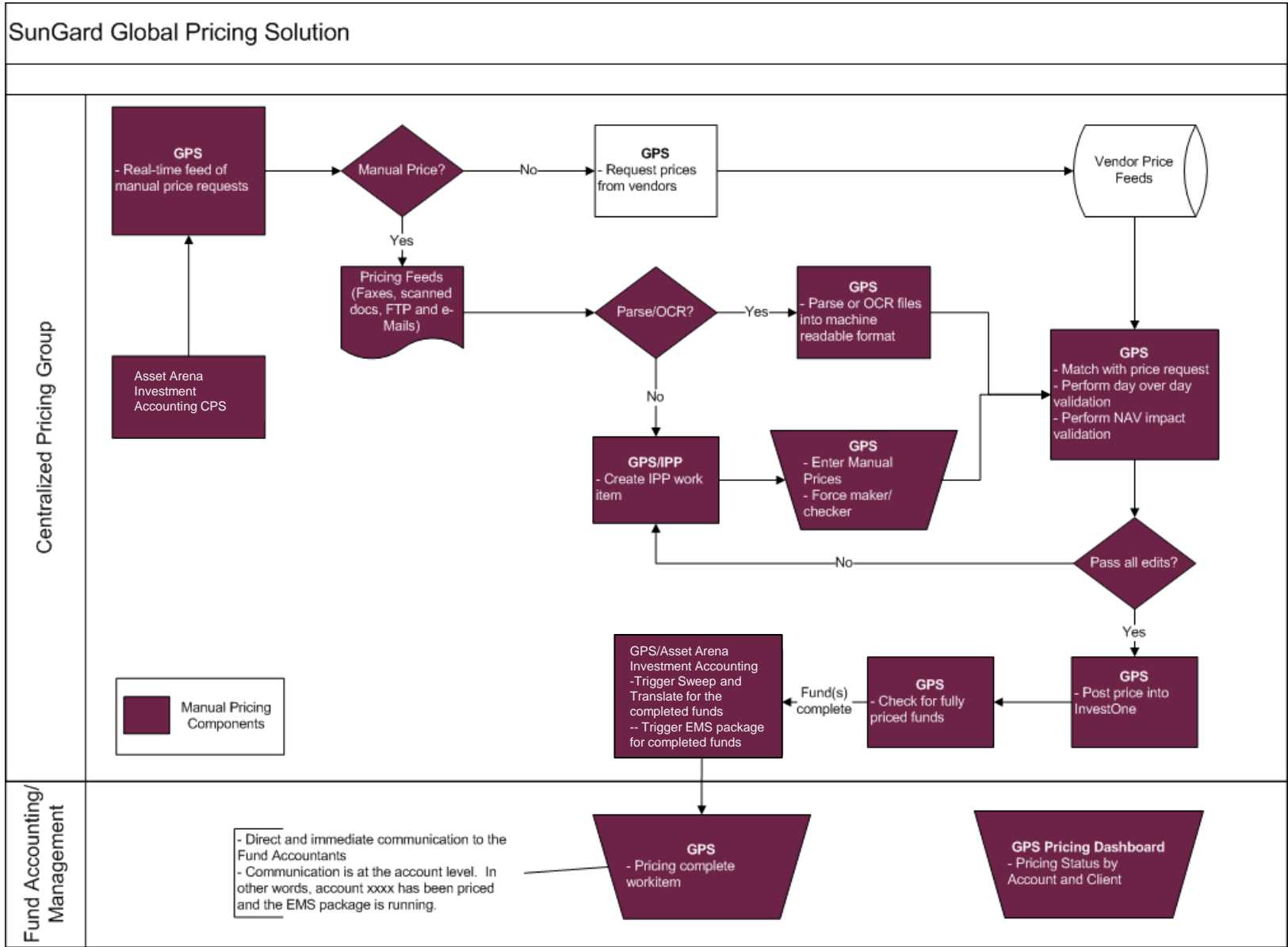
# Overview

- Operations teams need to know the state of centralized functions
- Management at customer firms need measurement tools to make operational decisions
- Projects that improve operational efficiency require measurement
- Operations and clients/stakeholders require performance measurement
  - KPIs
  - SLAs / Operational Milestones
- All of these require capture of data that is typically not captured in systems, and is short-lived

# Pricing Solution Benefits

Centralize Functionality	✓	<ul style="list-style-type: none"><li>• Efficient, automated inter-team communication</li><li>• Model supports manual and vendor price scrubbing</li><li>• Solution can integrate with other accounting engines</li></ul>
Specialized work teams	✓	<ul style="list-style-type: none"><li>• Process based - allows control of who does what when</li></ul>
Automate manual tasks	✓	<ul style="list-style-type: none"><li>• Auto post to accounting engine</li><li>• Auto update of required prices</li></ul>
Implement controls to ensure top quality product	✓	<ul style="list-style-type: none"><li>• Detailed management dashboard</li><li>• Proactive alerts prevent missed deadlines</li><li>• Extensive audit trail</li><li>• Dual entry model</li></ul>
Reduce operational expenses	✓	<ul style="list-style-type: none"><li>• Efficient process allows less people to do more</li><li>• Straight through processing for most common broker files</li><li>• Hosted solution</li><li>• Allows for optimized EMS rules</li></ul>

# Pricing Solution – High Level Flow



# Business Intelligence at Citigroup

- Data Collection
  - Improved knowledge of
    - Overall pricing process
    - State of every account
- Operational Impact
  - Supports a highly centralized process
  - Ability to notify fund accountants
- Strategic Fit
  - Shortens wait time for funds fully priced
  - Creates immediate efficiency gain

**Thank You**

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