



Enhancing Business Agility with IBM Software for Decision Management

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21st August 2012

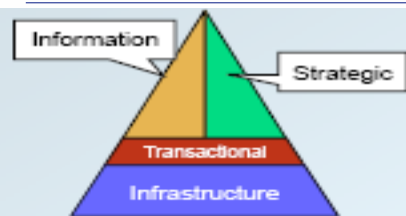
-  **1** Introduction
-  **2** Implementation and Adoption Patterns
-  **3** Products



Introduction & Vision



An Agile Business has Lower IT Costs



| Business Strategy and Top Performance | | | | |
|---|--------------------------------------|--------------------------------|---|-------------------------------|
| IT Portfolio Mix of Investments | Average Firm ¹ [n=337] | Cost ² [n=22] | Balance Cost & Agility ³ [n=50] | Agile ⁴ [n=22] |
| | | | | |
| \$IT compared to industry avg. as % of expenses | Average percent of expenses | 15% more than industry average | Industry average | 3% less than industry average |

1. All 337 US stock exchange listed firms in the sample of 640.
2. Cost Focus: top 50% on ROIC and bottom 25% on % of sales from modified product.

3. Balanced: middle 50% on % of sales from modified products and top 50% on ROIC.
4. Agile: top 50% on revenue growth and top 25% on % sales from modified products.

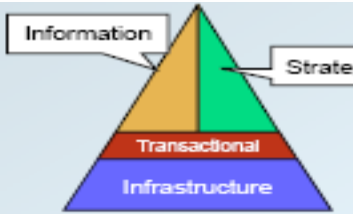
Source: Analysis by MIT CISR (Weill and Johnson) using IT Investment (2003-5 average) and firm performance (2003-4 average). IT Data: Collected by Meta/Gartner, Dr. Howard Rubin for 640 firms using MIT CISR framework. Performance data from Compustat. NSF Grant Number IIS-0085725



Center for Information Systems Research

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An Agile Business has Lower IT Costs



Cost-focused businesses spend more for IT than their Industry average.

Agile businesses, which are most easily created by a SOA, have reduced IT costs.

IT Portfolio Mix of Investments

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Business Agility Produces Real Measurable Results



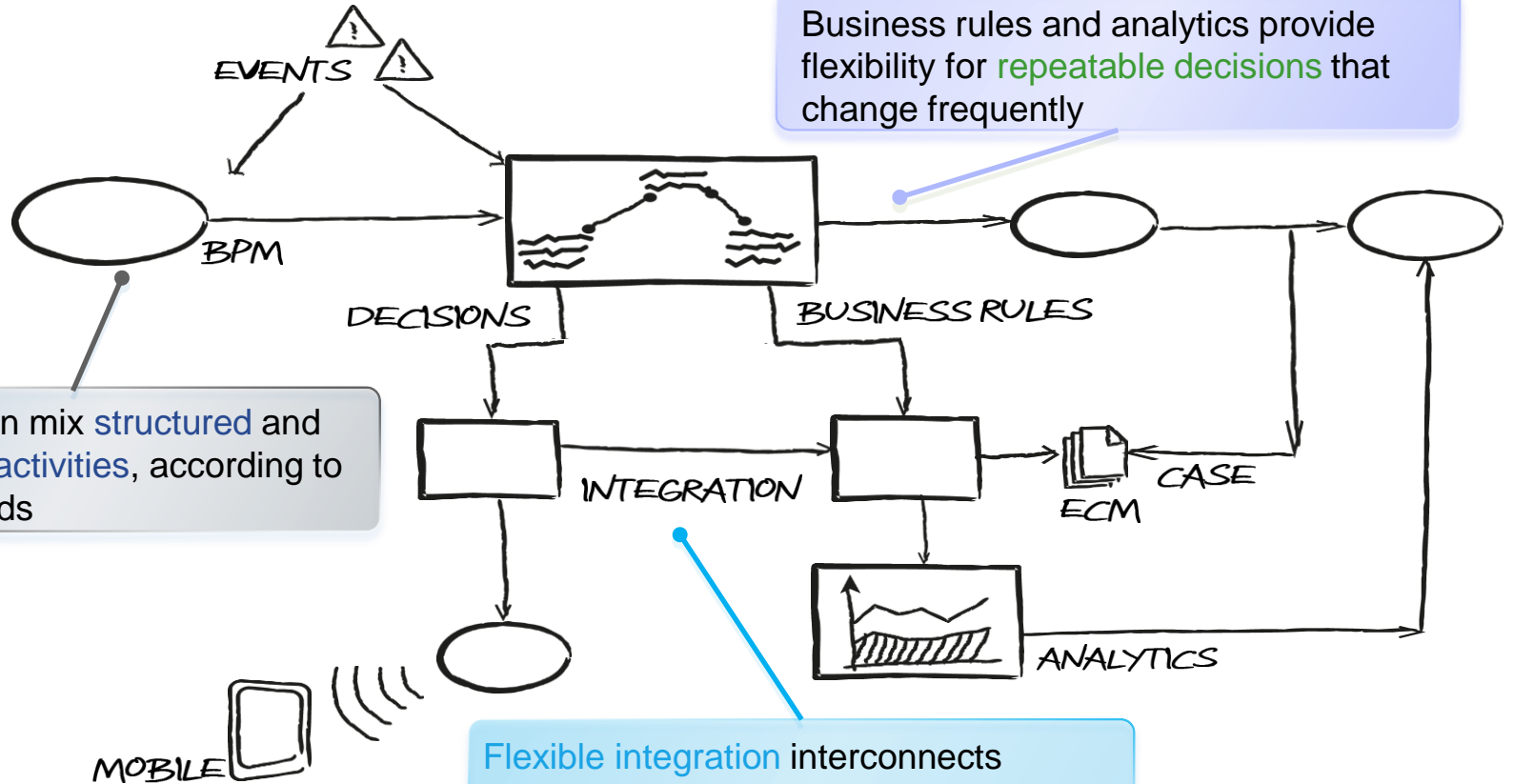
| | Performance | Agile | Staid | Measure ¹ |
|---------------|--------------------------|-------------|-------------|--|
| IF → | New Products | 8.8 | 3.2 | Percent of 2004 sales from new products introduced in previous three years. Average = 5.6% |
| Then → | Modified Products | 35 | 13 | Average percent of 2004 sales from modified products introduced in previous three years. Average = 22.5% |
| Then → | Growth | + 7 | - 10 | Average annual percent growth 2002–4 (relative to industry average). Average growth = 6.8% per annum |
| Then → | Profit Growth | + 37 | - 13 | Average annual percent change in ROE 2002–4 (relative to industry average) Average = 0.5% |

¹ Source: MIT SeeIT Survey of 649 firms: Agile = Average of firms above sample mean on percent of sales from new products in 2004 (i.e., 5.6%). Staid = Average of firms below sample mean. NSF Grant Number IIS-0085725 (Weill & Apel).



Building Blocks to Achieve Process Innovation

Empowering business and IT users to easily manage change



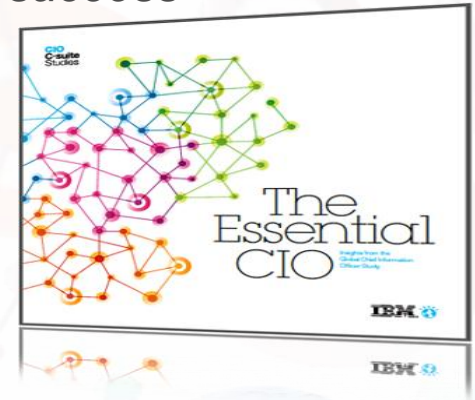
Transformation and Growth Require Better Decisions



CIOs recognise that effective decision automation is key to success

75%

of CIOs with mandates to transform the business are looking to “drive *better real time decisions.*”



84%

of CEOs of outperforming companies strongly differentiate their organizations by “*translating insight into actions.*”



Why Better Real-Time Decisions are Critical to Success

Accurate, real-time decisions improve business performance and results



Identify opportunities to *increase profitability*

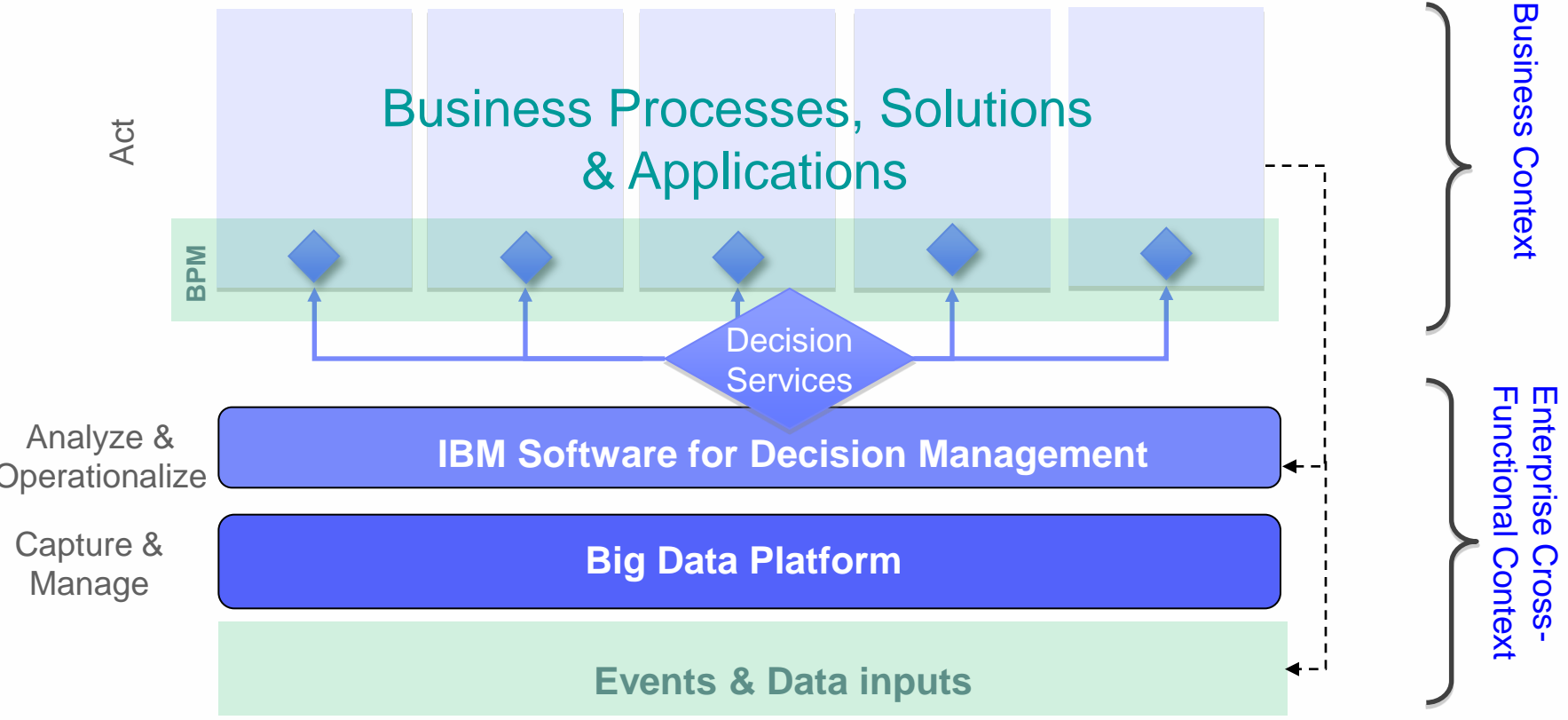


Enforce consistency to *ensure compliance*



Leverage information to *manage risk*

Integrated Platform for Optimizing Real Time Decisions



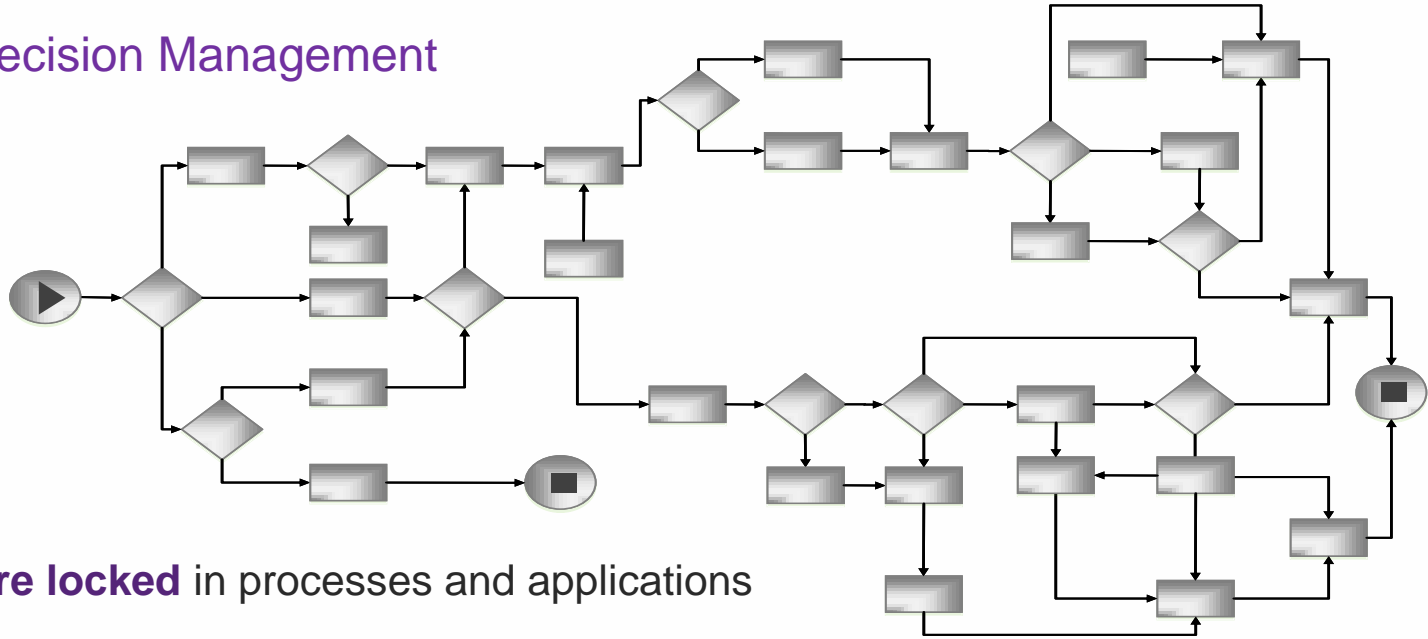
Adoption & Implementation Patterns



Decisions are Often Locked within Processes



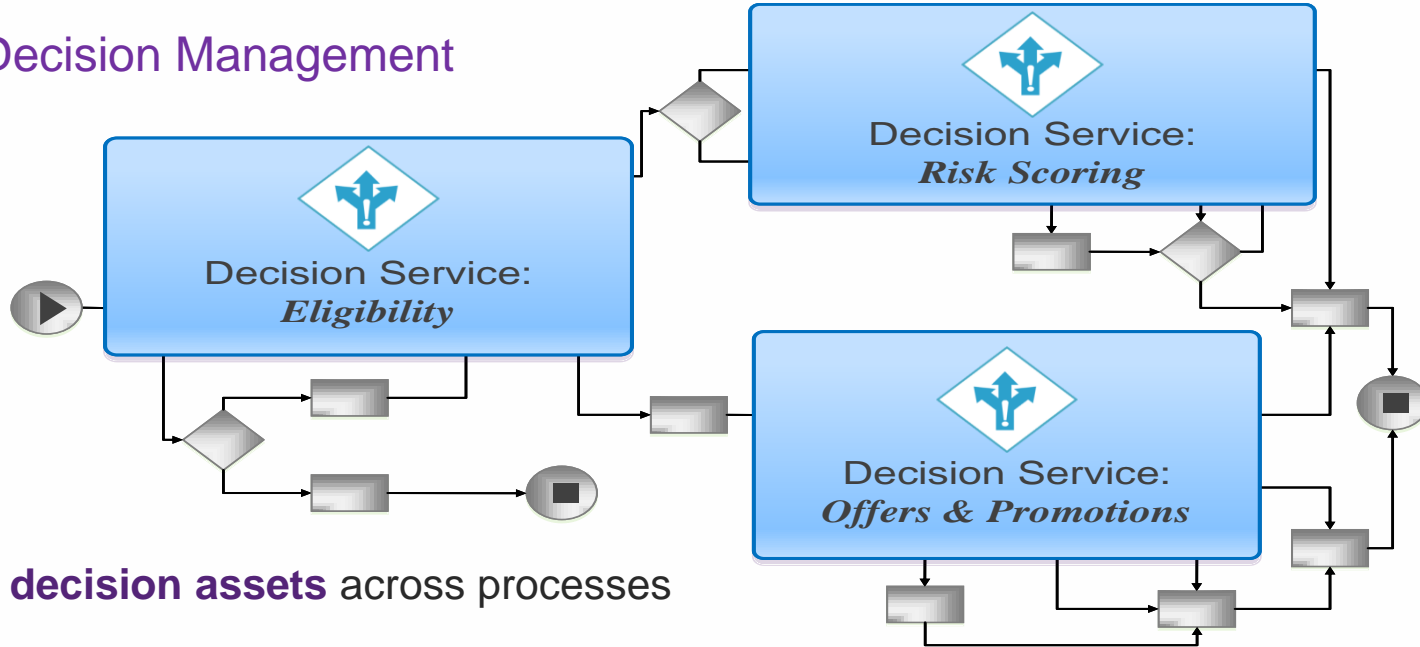
Without Decision Management



- **Decisions are locked** in processes and applications
- **Programming skills** are needed to create & modify decision logic
- Speed of business change is **limited** by IT bandwidth
- **Manual intervention** increases costs & reduces customer satisfaction

Decision Management Enables Reuse Across Processes

With Decision Management



- **Reuse decision assets** across processes
- **Empower business people** to own, author and update decision services
- **Respond quickly** to changing market conditions
- **Maximize automation** and straight-through processing

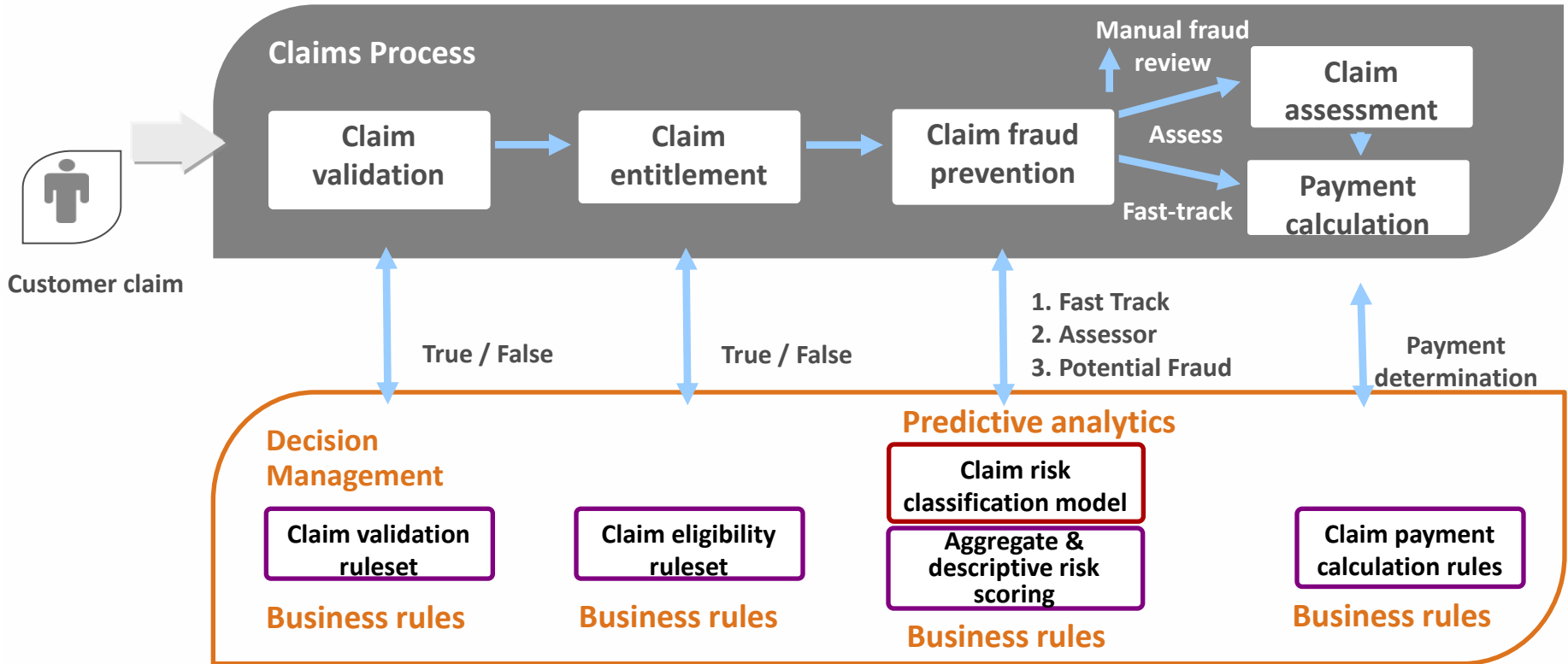
Decision Management is a business discipline that combines a variety of techniques to enable optimizing actions and outcomes

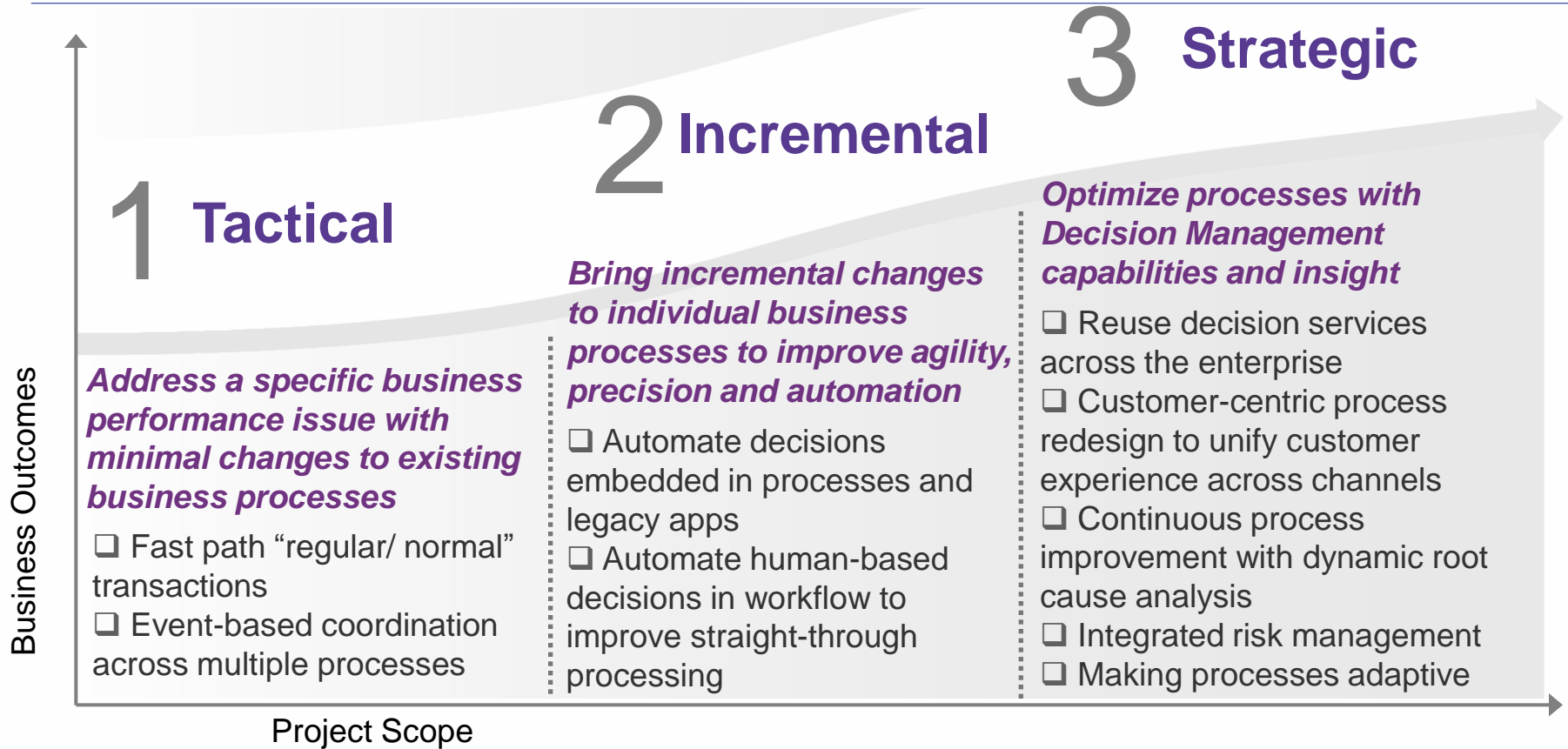


| Business Rules | Predictive Models |
|--|--|
| <p>What we are certain of:</p> <ul style="list-style-type: none">• The <i>certitude</i> surrounding facts that has been proven or have the force of law & regulations | <p>What we are uncertain of:</p> <ul style="list-style-type: none">• The <i>probability</i> of events and conditions occurring in the future |
| <p>What we know</p> <ul style="list-style-type: none">• <i>Explicit</i> statements of corporate policies and human expertise | <p>What we do not know</p> <ul style="list-style-type: none">• Unveiling <i>implicit</i> knowledge hidden in vast amount of data |
| <p>What to do:</p> <ul style="list-style-type: none">• Decide what <i>actions</i> to take (or not take) | <p>What is likely to happen:</p> <ul style="list-style-type: none">• Provide insight and context to be acted upon |
| <p>Easy to understand, natural language expressions</p> <ul style="list-style-type: none">• Understood & managed by business users and IT | <p>Mathematical expressions & decision trees</p> <ul style="list-style-type: none">• Understood and managed by business analysts |
| <p>Directly deployed and executed in an operational environment with business rule engine</p> <ul style="list-style-type: none">• no translation/coding required | <p>Deployed & executed in various ways</p> <ul style="list-style-type: none">• Automated coding, SQL, PMML• Sometimes through a real time scoring service |

Insurance Claims Processing with Decision Management

→ How it works





Products



Entry Points to Decision Management



IBM Operational Decision Management *IBM Analytical Decision Management*

(Business rules and events)

Focuses on the automation and governance of repeatable deterministic decisions that control critical business systems

Closely integrated with:

- Analytical Decision Management
- Business Process Management

(Predictive analytics and optimization)

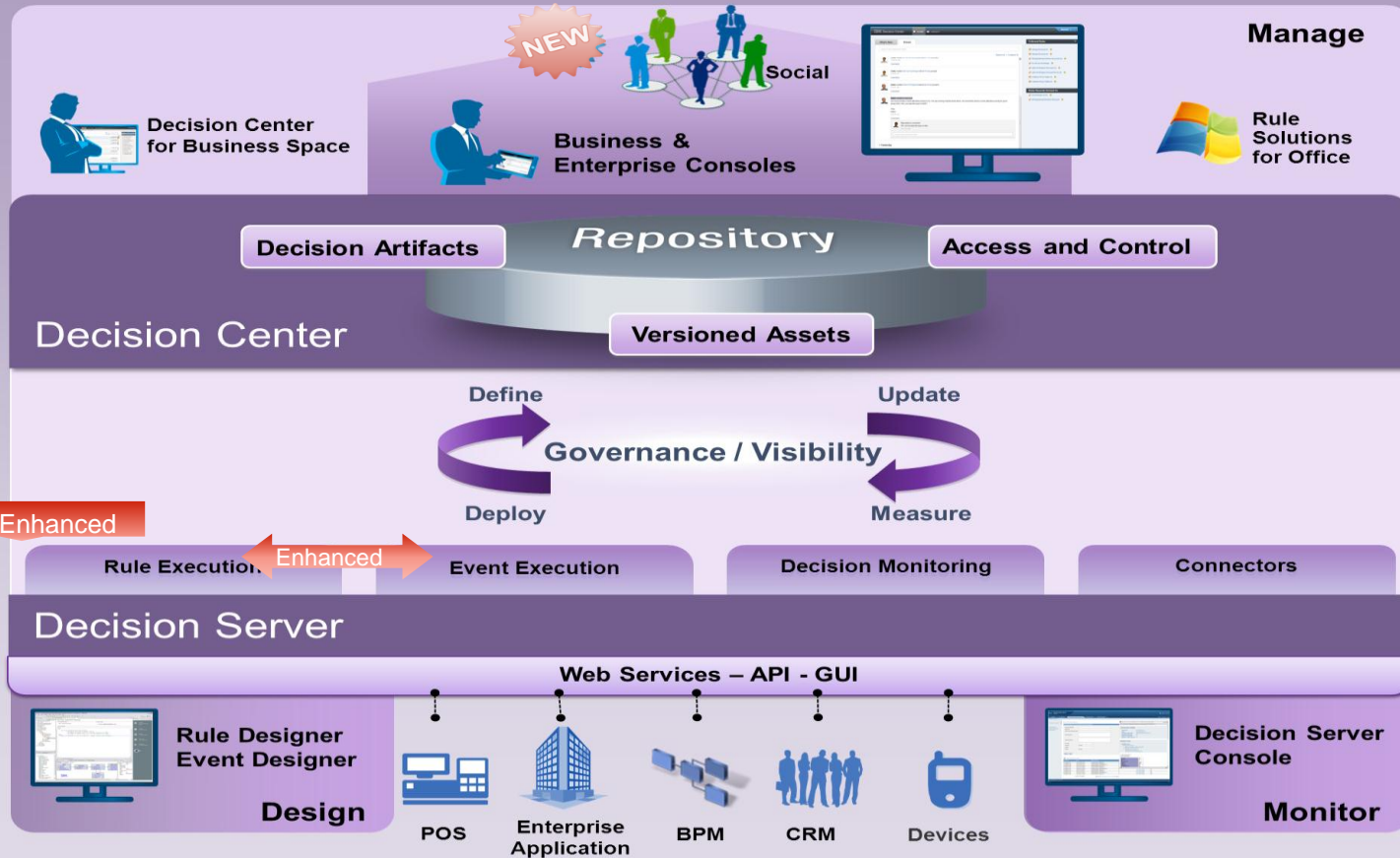
Focuses on the development and deployment of decision services bringing intelligence and predictive insight into repeatable decisions while maximizing outcomes

Closely integrated with:

- Operational Decision Management
- Business Intelligence



IBM Operational Decision Management



New Business Console in the Decision Center



Because business rules management should be as easy as your favorite social app

The screenshot displays the IBM Decision Center Business Console interface. At the top, there is a navigation bar with 'IBM DecisionCenter', 'HOME', and 'LIBRARY' buttons, and a user profile for 'Laure Boyer'. Below the navigation bar, there are two tabs: 'What's New' and 'Stream', with 'Stream' being the active tab. The main content area features a text input field for posting a new comment, followed by a 'Today' section. The first post in the stream is from 'Nicolas Carre', who created a new post asking for input on a New Jersey pricing policy. A comment from 'You' (the user) is shown below, stating that a discount rule will be added in the spring release. The second post is from 'Nicolas Carre' again, indicating a new version of the 'Young Driver Surcharge' rule. The third post is from 'Ryan Yheng', indicating a new version of the 'SUV Surcharge' rule. On the right side, there is a 'Followed Items' section listing various rules with star icons, including 'Airbag Discount', 'All Experienced Drivers Discount', 'Anti-lock Brakes Discount for NJ', 'Collision Price Table', 'Comprehensive Price Table', and 'Driver Ed Discount'. Below this is a 'Rules Recently Worked On' section, which currently shows 'You have not worked on any rules yet.'

Decision Table Editor



Using the Business Console for decision table editing

IBM Decision Center HOME LIBRARY cindy

Pricing > main > Collision Price Table NY (v1.2) ★ ⓘ

End Edit Details

1 - 16 | 16 - 18 | All

Rule

if

all of the following conditions are true :

- (the value of 'the vehicle' is more than \$ 5000 and at most \$ 10000)
- (the deductible of 'the coverage' is \$500) ,

then

set base premium for 'the coverage quote' to \$ 110 ;

| | Vehicle Value | | Deductible | Base Premium |
|----|---------------|------------|------------|--------------|
| | Lower | Upper | | |
| 1 | | | \$250 | \$ 100 |
| 2 | \$ 0 | \$ 5,000 | \$500 | \$ 90 |
| 3 | | | \$1000 | \$ 85 |
| 4 | | | \$250 | \$ 120 |
| 5 | \$ 5,000 | \$ 10,000 | \$500 | \$ 110 |
| 6 | | | \$1000 | \$ 100 |
| 7 | | | \$250 | \$ 130 |
| 8 | \$ 10,000 | \$ 20,000 | \$500 | \$ 120 |
| 9 | | | \$1000 | \$ 110 |
| 10 | | | \$250 | \$ 140 |
| 11 | \$ 20,000 | \$ 30,000 | \$500 | \$ 130 |
| 12 | | | \$1000 | \$ 120 |
| 13 | | | \$250 | \$ 155 |
| 14 | \$ 30,000 | \$ 50,000 | \$500 | \$ 145 |
| 15 | | | \$1000 | \$ 140 |
| 16 | \$ 50,000 | \$ 100,000 | \$250 | \$ 170 |

Easy navigation across multi-row tables

Equivalent action rule

New in ODM v8.0

Intelligent Rule Editor



Using the Business Console for rule editing

The screenshot shows the IBM Decision Center interface for editing a rule. The rule is written in natural language syntax. A dropdown menu is open, showing suggestions for the placeholder `<an auto quote response>`. The interface includes a breadcrumb trail, navigation icons, and a status bar at the bottom with error messages.

Natural language syntax

Automatic completion

Inline error detection

New in ODM v8.0

| Severity | Line | Message |
|----------|------|--|
| ✖ | 1 | The rule is incomplete, fill all the placeholders. |
| ✖ | 11 | The word ':' is missing. |

Governance Through Operational Decision Management v8



Align business operations with strategic intent in the face of change

The screenshot displays the IBM Decision Center interface for the 'Good Driver Discount' rule. The breadcrumb path is 'Pricing > main > Good Driver Discount'. The interface includes a navigation bar with 'HOME', 'LIBRARY', and 'IBM ODM'. Below the breadcrumb, there are 'New Rule' and 'Edit Rule' buttons. The main content area shows a 'Timeline' view of the rule's history. A vertical timeline axis is labeled '2012' at the bottom. Three version entries are shown:

- Version 1.2** (highlighted with a blue dot and a callout box): Created by Nicolas Carre - Mar 22, 2012. Description: Added a condition on the number of traffic tickets received.
- Version 1.1**: Created by Laure Boyer - Mar 22, 2012. Description: New discount rule for good drivers in New Jersey.
- Version 1.0**: Created by Laure Boyer - Mar 22, 2012.

A callout box on the right side of the screenshot states: "Timeline enables a quick view of version history".

New in
ODM v8.0

High Volume Mission-Critical Operational Decisions



Visa Europe

- Cross European payment platform
- 8000 transactions per second

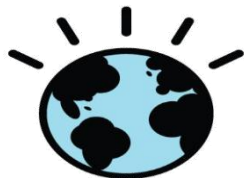
Swiss Customs

- Customs declaration validation platform
- 200,000 declarations per day

Novagalicia Bank

- Non-payment collection platform
- 200,000 non-payments follow up routing daily

**Execute mission
critical decision-making
at scale**



Predictive Customer Analytics

Acquire
Grow
Retain



- Up-sell/cross-sell
- Market basket analysis
- Churn prevention
- Customer segmentation
- Brand Monitoring

Predictive Operational Analytics

Manage
Maintain
Maximize



- Predictive maintenance
- Assortment planning
- Condition monitoring
- Reverse logistics
- Allocation management

Predictive Threat & Risk Analytics

Monitor
Detect
Control



- Claims fraud
- Credit-card fraud
- Insider threat
- Signals analysis
- Cyber security

Analytics - Driving Smarter Business Outcomes

Capture/Detect

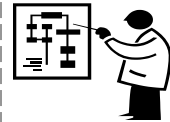
Enabling a complete view of the customer combining enterprise and social media based data



Data Collection

Predict

Understand customers micro-behavior across channels, predict their next move



Platform

Pre-built Content



Act

Deploy predictive analytics based decisions to be consumed by business processes, across access platforms, maximizing operational impact



Deployment Technologies

IBM Software for Decision Management Provides Full Coverage of Operational and Analytical Decision Management



Operations

IBM Operational Decision Management

Decision Center

Rules Designer

Events Designer

Decision Server

Rules

Events

Analytics

IBM Analytical Decision Management

IBM Analytical Decision Management

SPSS Modeler

ILOG CPLEX Optimization Studio

SPSS Collaboration & Deployment Services

Rules

Models

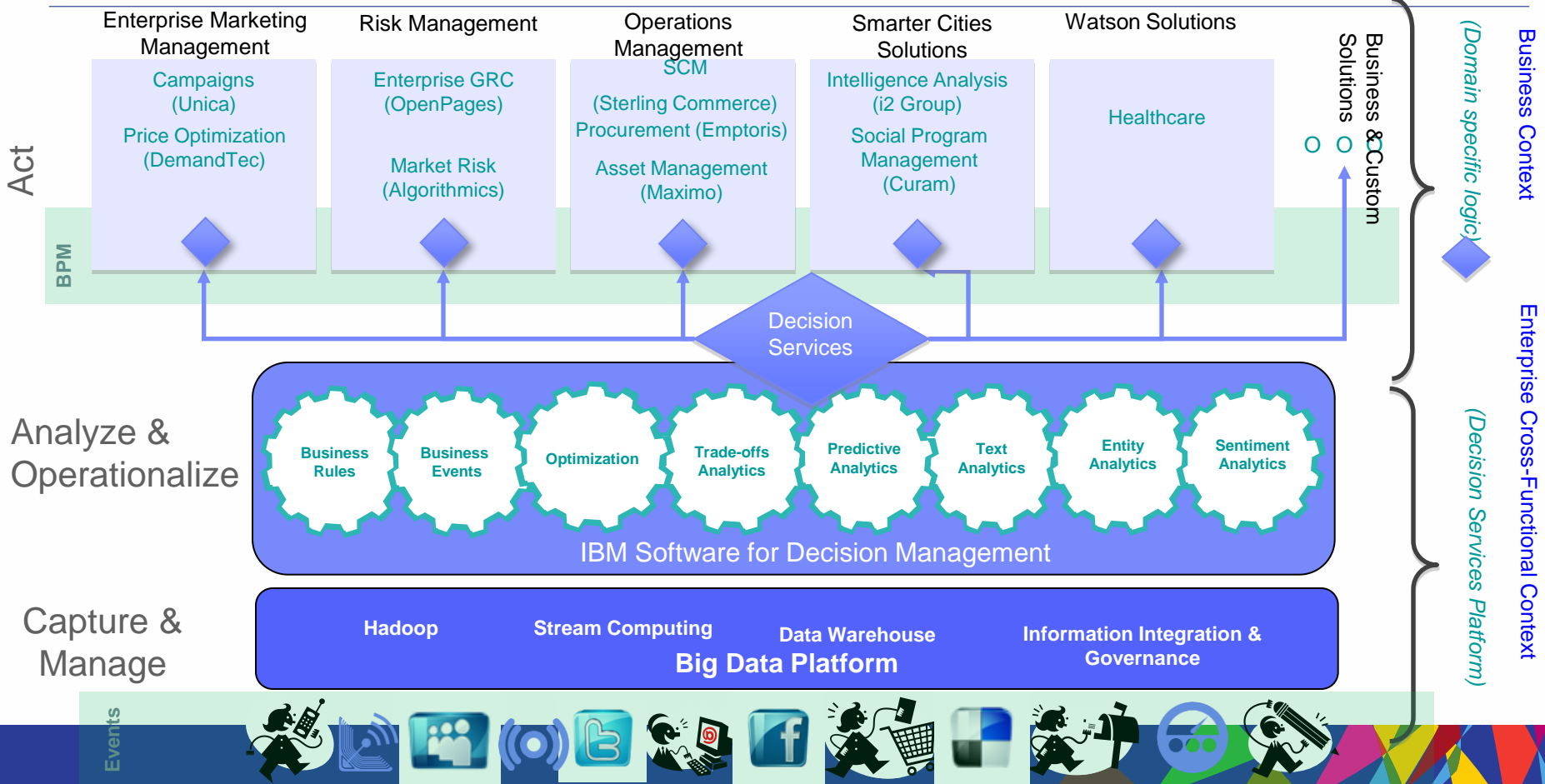
Map PMML models to rules

Design and run time integration

Web services integration

Co-located business rule engine deployment option

Integrated Platform for Optimizing Real Time Decisions



IBM®