

Modernize from the inside out: How digital decisioning can improve agility in your Z applications

—
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Agenda

| | |
|--------------------------------------|----|
| Why business rules for modernization | 03 |
| Discover business rules | 29 |
| Demo | 32 |
| Wrap up and learn more | 36 |

Why Business Rules



Chris Backhouse

Architect, IBM Operational Decision Manager on z/OS

Organizations are at various stages of application modernization initiatives

92%

of organizations have started, delivered, or are continuously improving app mod initiatives

58%

plan to modernize most applications in place

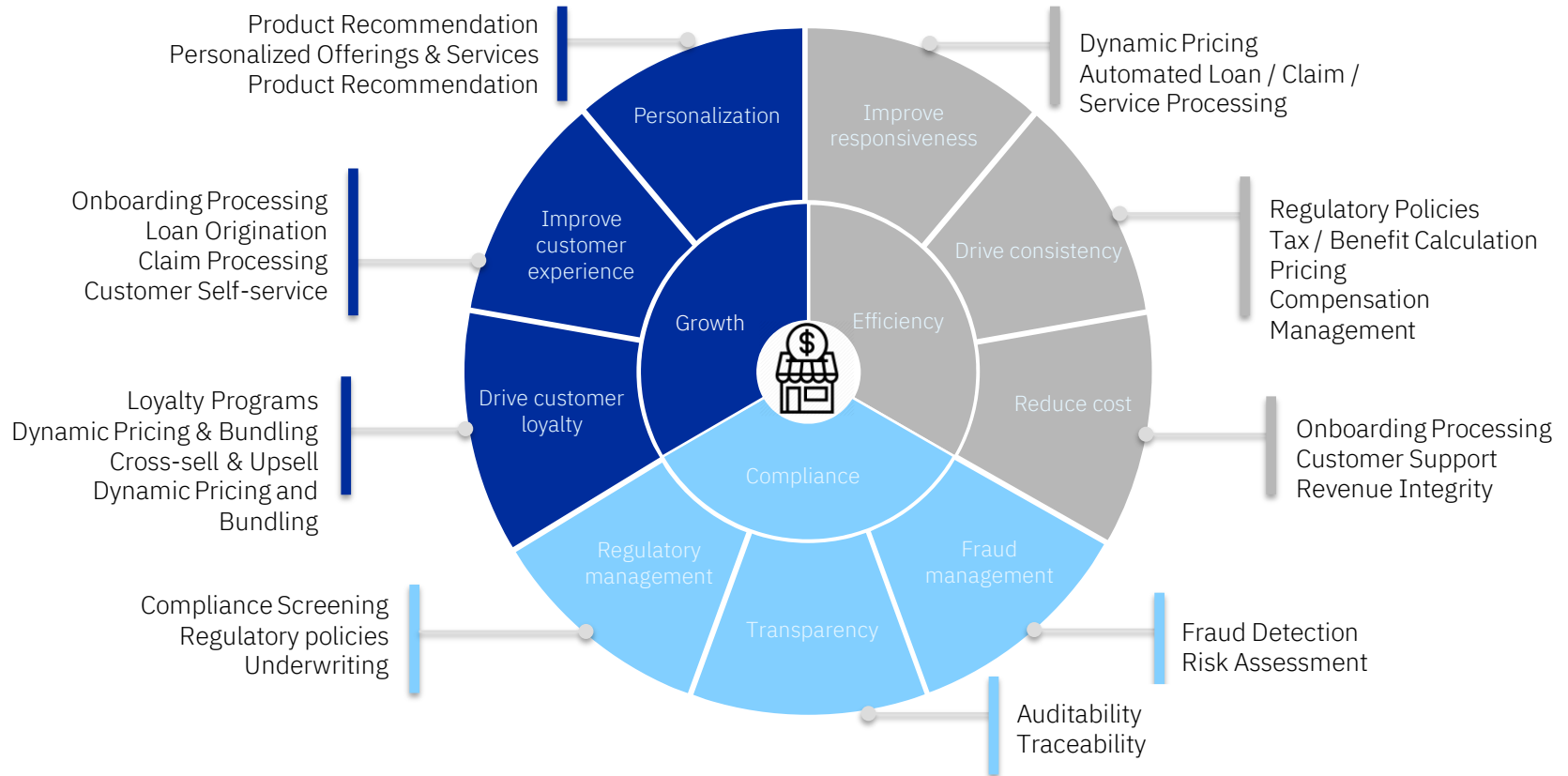


z/OS Modernization Strategies

- Expose services through APIs as your platform-agnostic language within the context of a hybrid cloud
- Leverage a cross-platform DevOps solutions to gain necessary speed and agility
- Modernize applications to gain business agility
 - Componentize them, build system APIs and Microservices
 - Build in agility with business rules

- Only expose existing assets as APIs if they are business relevant and agile
- Use **Operational Decision Manager for z/OS** to *optimize* your business applications
- **ODM for z/OS** is a key component in the Digital Transformation story

Business Decisions Are Everywhere



Three business priorities are driving today's decisions



Adapt to Market Changes Quickly

- Need to scale personalization and deep engagement with customers
- Increasing number of data sources required to make decisions



Increase Operational Efficiency

- More pressure for decisions that drive growth, retention and reduce costs
- Imperative to streamline and reuse common cases

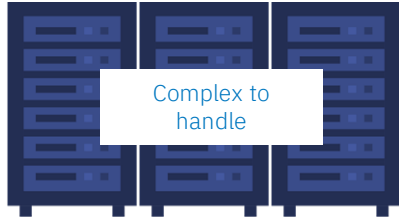


Compliance and Transparency

- Increasing regulatory constraints
- Need to develop trusted customer relationships
- Need for audit and traceability

Why Externalize and Manage Through Business Decisions

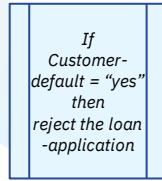
Traditional approach is programming-based



Business Applications

Complex to
handle

Rules are locked in processes
and applications



Business logic
is owned by IT

A simple change can impact multiple
rules and processes



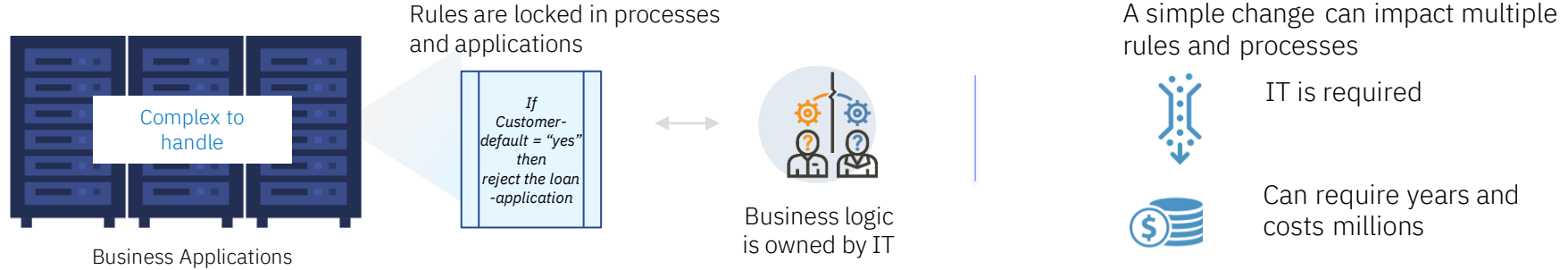
IT is required



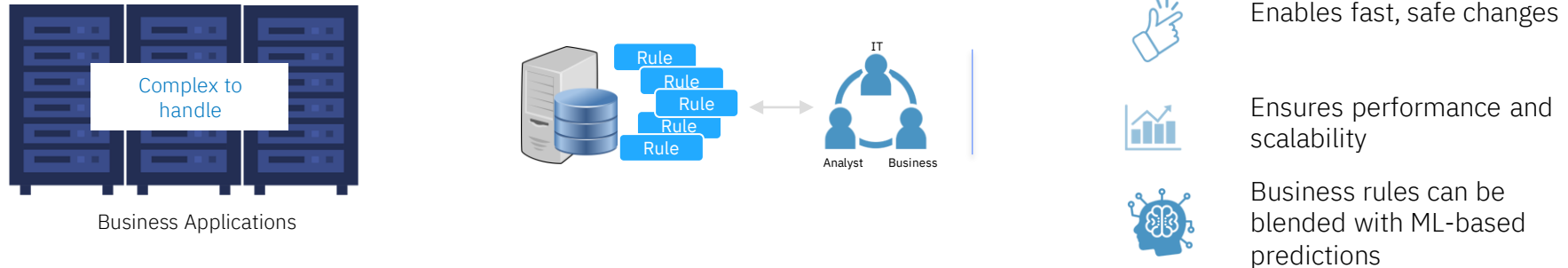
Can require years and
costs millions

Why Externalize and Manage Through Business Decisions

Traditional approach is programming-based



Decision management systems externalize the decision logic from applications



IBM Operational Decision Manager for z/OS

Manages and automates business rules to ensure operational decisions are:

- Easy to author and change
- Executed in real time at high scale
- Consistent with documented policies and regulations



Rules written in natural business language

Enables business to realize business policies, practices & regulations in natural language instead of code

Transparency

Decouples business rules from applications

Enables business rules to be changed daily or weekly without having to redeploy the entire application

Agility

Built-in reporting, auditing & governance

Lightweight governance model helps ensure the right rules go into production

Auditability



Redeployed pricing logic from hard-coded legacy apps to business-managed Operational Decision Manager in 6 months.



Gained a central point of control for the creation and dissemination of business rules on z/OS. The solution delivers 40-times faster processing to support rapid decision making.

Large Northeast US Financial Services Company

Challenges:

- Current application change request is a 9 month process from initial request to production roll-out
- Number and frequency of changes increasing exponentially (regulation and competitive threat)
- System z skills declining or at risk
- Current rules methodology (home grown table driven) cumbersome and not auditable

Benefits:

- Implemented Business Rules for z/OS to replace home grown tool
- Deployed in support of Online systems and Batch
- Reduced Development life cycle due to new rule testing methodology from 6 months to 2 weeks
- Reduced overall implementation time from 9 months to 6 weeks (integration test 4 weeks)
- Seeing a HUGE reduction in overall cost
- Increased top line revenue, more responsive to the business and customer

Project Approach



Designed a decision management solution that conformed to government regulatory requirements

- Integrate the Java batch capabilities of Compute Grid and the Decision Management capabilities of Business Rules for z/OS
- Running decision engine in parallel to original application code
- Looking for differences and exceptions

European Insurance Company

Challenges:

- Increase **flexibility** in pricing & underwriting to allow quick changes in response to evolving market conditions
- Reduce **time to market** for new products
- Reinforce **cross-selling and up-selling** capabilities as a key element to increase average premium
- Integrate the end-client together with the broker and back-office as part of the Digital Strategy

Benefits:

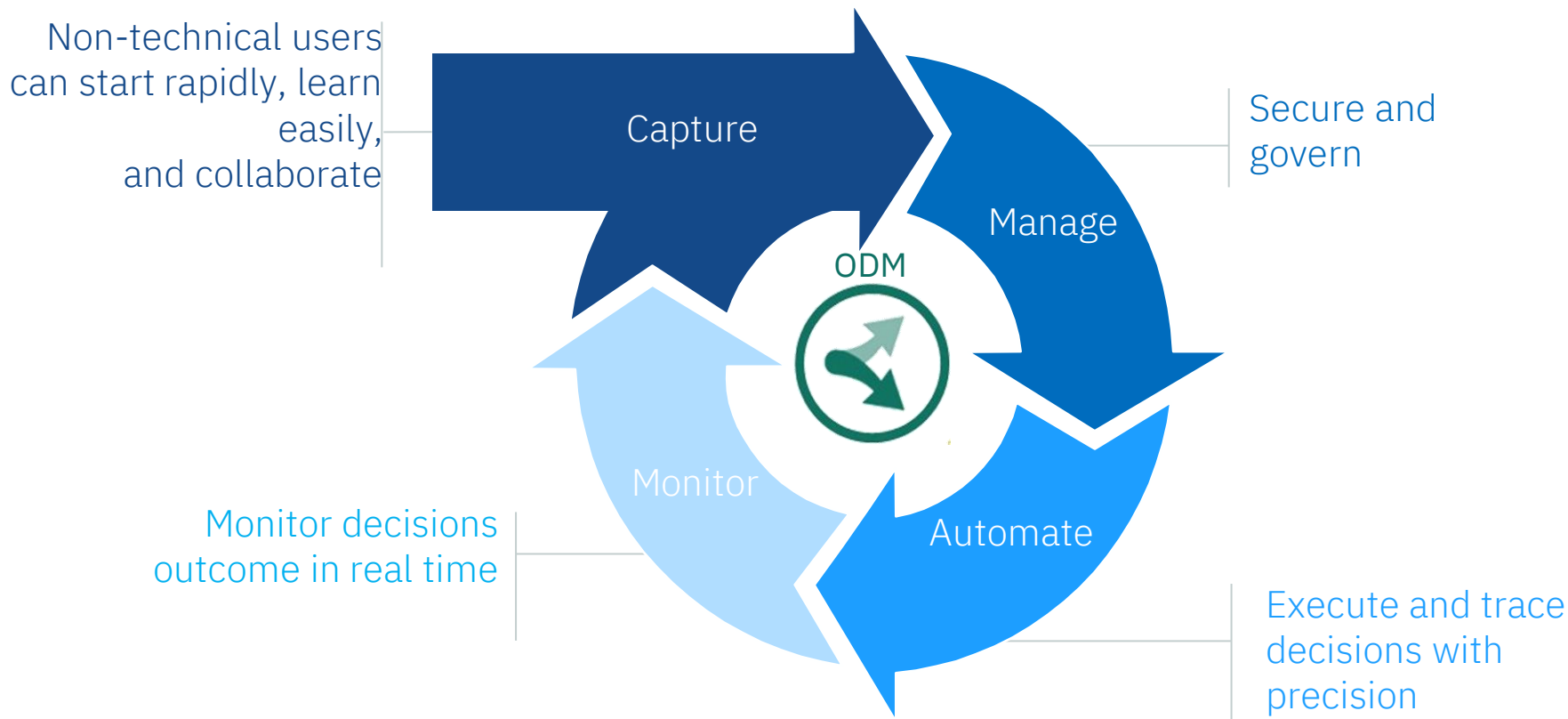
- Started with a cloud solution based on IBM PureApplication Service on SoftLayer and ODM
- The cloud environment was ready in 2 days for the client to start working immediately!
- ODM zRES then deployed on Mainframe to enable the **same rules** to be called from IMS back-office.
- The project started in **June** and the first Eligibility Rules application went in **production in October**.



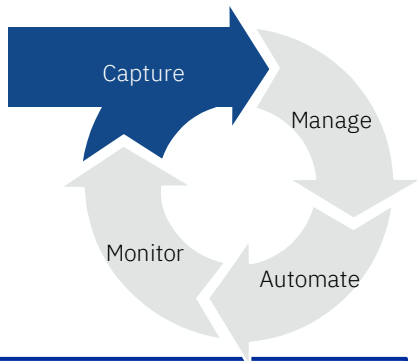
Project Approach

- Designed a decision management solution using ODM on the cloud
- Enabled that solution for ODM zRES called from IMS
- Sharing rules between mainframe and the cloud.
- The project earned a IBM Benelux Excellence Award.

Full Decision Lifecycle Management



How ODM Works






- Discover, model & validate
- Graphical environment
- Guided experience
- Leverages Principals of Decision Model and Notation (DMN™)
- Team collaboration tools

**Start quickly,
learn easily, and
collaborate**

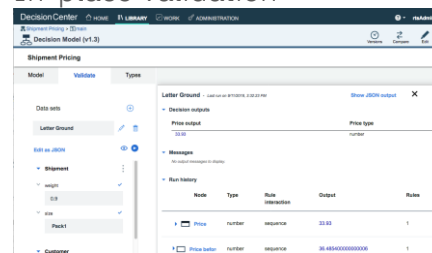
Natural Language

if
the driver has completed drivers ed course
and the number of accidents **the driver** has been involved is 0
then
 add a 2 % discount to 'Auto Quote Response', reason: "Good Driver Discount" ;

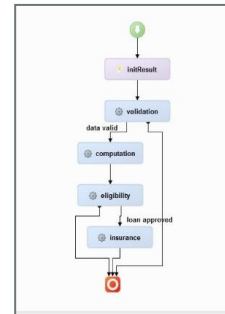
Decision Table

| computation - rate | | | | |  |  |  |
|--------------------|--------------------|-----|---------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| | Loan duration (yr) | | Loan to Value | | Yearly interest rate | | |
| | Min | Max | Min | Max | | | |
| 1 | <5 | 0 | 0.7 | 0 | 0.05 | | |
| 2 | <5 | 0.7 | 0.7 | 0.8 | 0.052 | | |
| 3 | <5 | 0.8 | 0.8 | 0.9 | 0.053 | | |
| 4 | <5 | | >0.9 | | 0.055 | | |
| 5 | 5 | 8 | 0 | 0.7 | 0.056 | | |
| 6 | 5 | 8 | 0.7 | 0.8 | 0.057 | | |
| 7 | 5 | 8 | 0.8 | 0.9 | 0.058 | | |
| 8 | 5 | 8 | >0.9 | | 0.059 | | |
| 9 | 9 | 12 | 0 | 0.7 | 0.06 | | |
| 10 | 9 | 12 | 0.7 | 0.8 | 0.061 | | |
| 11 | 9 | 12 | 0.8 | 0.9 | 0.062 | | |
| 12 | 9 | 12 | >0.9 | | 0.063 | | |
| 13 | 13 | 17 | 0 | 0.7 | 0.064 | | |
| 14 | 13 | 17 | 0.7 | 0.8 | 0.065 | | |

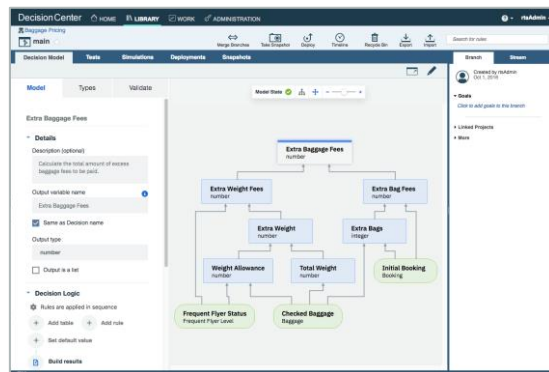
In-place validation



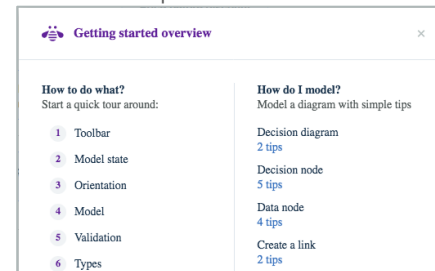
Rule Flows



Decision Models



Guided experience



Author rules with your natural business rule language

checkSSNareanumber (v1.0) ☆ ⓘ

```
if
  the area number of the SSN of 'the borrower' is one of { "000" , "666" }
then
  in 'the loan report' , reject the data with the message "The borrower's SSN area number cannot be " + the area number of the
  print "rejected with 1
else
  print "The borrower"
```

ⓐ accept the loan with the message <a string>
ⓐ add the message <a string>
ⓐ refuse the loan with the message <a string>
ⓐ reject the data with the message <a string>

- Point and click editing
- Configurable business terms
- Personalized conditions and actions
- Powerful constructs to deal with complex models
- Localized in 14 languages

- Same business language shown in decision tables

| | Loan duration (y) | | Loan to Value | | Yearly interest rate |
|---|-------------------|-----|---------------|-----|----------------------|
| | Min | Max | Min | Max | |
| 1 | < 5 | | 0 | 0.7 | 0.05 |
| 2 | < 5 | | 0.7 | 0.8 | 0.052 |
| | | | 0.8 | 0.9 | 0.053 |
| | | | ≥ 0.9 | | 0.055 |
| | | | 0 | 0.7 | 0.056 |
| | | | 0.7 | 0.8 | 0.057 |

if
all of the following conditions are true :
- (the duration (in years) of 'the loan' is less than 5)
- (the Loan to Value of 'the loan' is at least 0.7 and less than 0.8) ,
then
set the yearly interest rate of 'the loan report' to 0.052 ;

Author rules with decision tables

Loan Validation Service > main

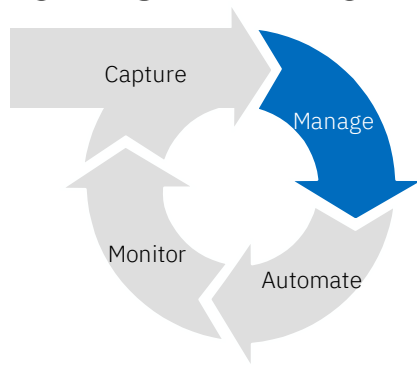
rate (v1.1) ☆ ⓘ

Download as Excel Import Excel File Undo Redo Preconditions Details Save Cancel

| | Loan duration (y) | | Loan to Value | | Yearly interest rate |
|----|-------------------|-----|---------------|-----|----------------------|
| | Min | Max | Min | Max | |
| 2 | < 5 | | 0.7 | 0.8 | 0.052 |
| 3 | < 5 | | 0.8 | 0.9 | 0.053 |
| 4 | < 5 | | ≥ 0.9 | | 0.055 |
| 5 | 5 | 8 | 0 | 0.7 | 0.056 |
| 6 | 5 | 8 | 0.7 | 0.8 | 0.057 |
| 7 | 5 | 8 | 0.8 | 0.9 | 0.058 |
| 8 | 5 | 8 | ≥ 0.9 | | 0.059 |
| 9 | 9 | 12 | 0 | 0.7 | 0.06 |
| 10 | 9 | 12 | 0.7 | 0.8 | 0.061 |
| 11 | 9 | 12 | 0.8 | 0.9 | 0.062 |
| 12 | 9 | 12 | ≥ 0.9 | | 0.063 |
| 13 | 13 | 17 | 0 | 0.7 | 0.064 |
| 14 | 13 | 17 | 0.7 | 0.8 | 0.065 |
| 15 | 13 | 17 | 0.8 | 0.9 | 0.066 |
| 16 | 13 | 17 | ≥ 0.9 | | 0.067 |
| 17 | 18 | 25 | 0 | 0.7 | 0.068 |

- View and edit large tables
- Filter
- Sort by columns
- Search by keyword
- Import / Export to Excel
- Check gaps / overlaps
- Format cells

How ODM Works



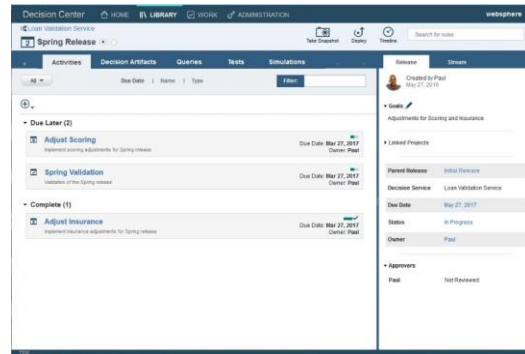
- Business environment
- Testing and simulation
- Built in governance framework
- Release management, versioning

Secured and traceable

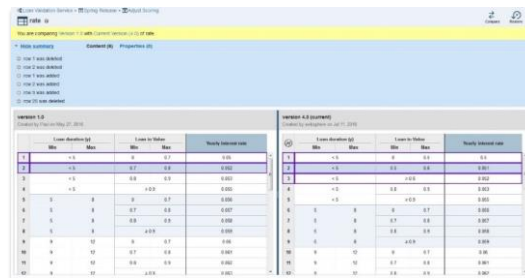
Simulation



Governance



Release management, versioning



Simple Access to the Decision Repository

The screenshot displays the IBM Decision Center interface, specifically the 'LIBRARY' tab. The top navigation bar includes the IBM logo, 'Decision Center', and links for 'HOME' and 'LIBRARY'. A user profile 'cindy' is visible in the top right corner. Below the navigation bar, there are tabs for 'Date' and 'Name', and a 'Filter' input field. The main content area is a grid of 12 decision model cards, each featuring a small icon, a title, a description, and a green 'NEW' badge in the bottom right corner. The models are arranged in two columns and six rows.

| Model Name | Description | Created/Updated By | Date |
|--------------------------------|--------------------------------------|--------------------|--------------|
| Pricing | Last updated by cindy on May 9, 2012 | cindy | May 9, 2012 |
| AutoInsuranceQuotingBOM | Created by adam on Apr 23, 2012 | adam | Apr 23, 2012 |
| miniloan-rules | Created by rtsAdmin on Apr 23, 2012 | rtsAdmin | Apr 23, 2012 |
| RuleAnalysisViewProject | Created by rtsAdmin on Apr 23, 2012 | rtsAdmin | Apr 23, 2012 |
| balsample | Created by rtsAdmin on Apr 23, 2012 | rtsAdmin | Apr 23, 2012 |
| wavelength | Created by rtsAdmin on Apr 23, 2012 | rtsAdmin | Apr 23, 2012 |
| wavel | Created by rtsAdmin on Apr 23, 2012 | rtsAdmin | Apr 23, 2012 |
| loanvalidation-rules-multivoc | Created by rtsAdmin on Apr 23, 2012 | rtsAdmin | Apr 23, 2012 |
| loanvalidation-rules-dependent | Created by rtsAdmin on Apr 23, 2012 | rtsAdmin | Apr 23, 2012 |
| loanvalidation-rules | Created by rtsAdmin on Apr 23, 2012 | rtsAdmin | Apr 23, 2012 |
| test-WSTestProject | Created by rtsAdmin on Apr 23, 2012 | rtsAdmin | Apr 23, 2012 |
| project | Created by rtsAdmin on Apr 23, 2012 | rtsAdmin | Apr 23, 2012 |

Intelligent Rule Editors

IBM Decision Center

HOME LIBRARY

cindy

Pricing > main > Aquisition Promotion for NJ (v1.0) ★ ⓘ

End Edit Details

if

- the state of residence of **the driver** is "NJ"
- and** **the driver** has never had their license suspended or revoked
- and all of the following conditions are true :**
 - the number of accidents **the driver** has been involved in equals
 - the number of traffic tickets **the driver** has received is 0
 - **the driver** has completed a drivers education course ,

then

emit Offer promotion to retain customer with reason: "Increase market share"
add a 0 % surcharge to **can auto quote response** , reason: **sa string**



- 'Auto Quote Response'
- 'the coverage quote'

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

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 |

Intuitive Timeline for History Visualization

The screenshot displays the 'Decision Center' interface. The top navigation bar includes 'HOME' and 'LIBRARY' tabs, with the user 'rtsAdmin' logged in. The breadcrumb trail shows 'All Projects > loanvalidation-rules > main'. A toolbar contains icons for 'Take Snapshot', 'New Rule', 'Exit Timeline', and 'Details', along with a search bar. Below the toolbar, a 'Show: All' dropdown is visible. The main content area features a vertical timeline for the year 2012, specifically for the month of October. The timeline consists of a central vertical axis with circular markers. To the left of the axis, three event cards are displayed, each with a user profile picture, a description, a timestamp, and a 'Comment' link. The events are: 'You created snap 1 snapshot' (Oct 22, 2012 3:46:35 PM), 'You changed the description of main branch' (Oct 22, 2012 3:38:49 PM), and 'You created approval rule' (Oct 12, 2012 1:24:00 PM). To the right of the axis, three more event cards are shown, each with a user profile picture, a description, a timestamp, and a 'Comment' link. The events are: 'You created a version of checkAmount rule' (Oct 22, 2012 3:43:46 PM), 'You created grade rule' (Oct 12, 2012 1:24:00 PM), and 'You created checkIncome rule' (Oct 12, 2012 1:24:00 PM). A blue callout box points to the 'Comment' link of the first event on the left, stating 'Comments document each new release'. Another blue callout box points to the 'Comment' link of the second event on the right, stating 'View and revert to a specific rule version in one click'. The IBM logo is visible in the bottom left corner.

Decision Center HOME LIBRARY rtsAdmin

All Projects > loanvalidation-rules > main

Take Snapshot New Rule Exit Timeline Details Search

Show: All

2012 October

2012

You created snap 1 snapshot
Oct 22, 2012 3:46:35 PM
Comment

You changed the description of main branch
Oct 22, 2012 3:38:49 PM
project description
Comment

You created approval rule
Oct 12, 2012 1:24:00 PM
Comment

You created a version of checkAmount rule
Oct 22, 2012 3:43:46 PM
test [v1.1]
Comment

You created grade rule
Oct 12, 2012 1:24:00 PM
Comment

You created checkIncome rule
Oct 12, 2012 1:24:00 PM
Comment

Comments document each new release

View and revert to a specific rule version in one click

IBM

Side-by-side comparison

The image displays a side-by-side comparison of two versions of a pricing policy within a software interface titled "Decision Center". The interface includes a top navigation bar with "HOME", "WORK", and "LIBRARY" tabs, and a user profile "Paul". A message at the top states: "You are comparing Initial Snapshot with current state. Close this message to return to the change activity."

The left pane shows "version 3.0" created by Paul on Apr 12, 2013. It features a rule titled "Patch the pricing policy" with a summary "Glob Spring surcharge". The rule content is: "if the value of 'the vehicle' is at least \$30000 then add a 4 % surcharge to 'Auto Quote Response', reason: 'Spring Surcharge'".

The right pane shows "version 10.0 (current)" created by Bea on Apr 15, 2013. It also features a rule titled "Patch the pricing policy" with a summary "Comprehensive Price Table". The rule content is: "if the value of 'the vehicle' is at least \$40000 then add a 10 % surcharge to 'Auto Quote Response', reason: 'Spring Surcharge'".

Below the rule content, a "Comprehensive Price Table" is displayed, comparing the two versions. The table has three columns: "Vehicle Value", "Deductible", and "Base Premium". The rows show the changes in the base premium for different vehicle values and deductibles.

| | Vehicle Value | Deductible | Base Premium |
|---|----------------------|------------|--------------|
| 1 | \$0 - \$5,000] | \$250 | \$43 |
| 2 | \$5,000 - \$10,000] | \$500 | \$40 |
| 3 | \$10,000 - \$20,000] | \$1000 | \$28 |
| 4 | \$20,000 - \$30,000] | \$250 | \$48 |
| 5 | \$30,000 - \$40,000] | \$500 | \$42 |
| 6 | \$40,000 - \$50,000] | \$1000 | \$33 |
| 7 | \$50,000 - \$60,000] | \$250 | \$52 |
| 8 | \$60,000 - \$70,000] | \$500 | \$45 |

Test Suites

- Test reports gives global and detailed test results for each test suite execution from the Business Console

The screenshot displays the 'Pricing test Report - 2014-03-20_05-56-54' in the Business Console. The interface includes a top navigation bar with 'HOME', 'LIBRARY', and 'WORK' tabs. The report details include:

- Test suite:** Test Suite (selected)
- Operation:** PricingDecision
- Scenario success rate:** 50% (102)
- Scenarios:** 2 scenarios (testsuite.xls)
- Decimal precision:** All decimals
- Output values:** None

The 'Run' section provides execution context:

- Date:** 3/20/14, 5:56 PM
- Run by:** Bea
- Rules from:** Rules from the release 'Spring Release' using the extractor 'PricingDecisionExtractor'
- Started in ruleflow task:** Pricing Flow
- Server:** Staging Rule Execution Server

The 'Details' section contains a table with columns: Name, Description, Status, and Unexpected Results. A filter button is located above the table.

| Name | Description | Status | Unexpected Results |
|------------|------------------------------------------------------------------|-------------------------------------------------------------|--------------------|
| Scenario 1 | | | |
| Status | Test | Result | |
| ✓ | the total price of Auto Quote Response is greater than or equals | The observed value "761.93994" is not lower than "700.0" | |
| ✓ | the total price of Auto Quote Response is lower than or equals | The observed value "761.93994" is not greater than "1000.0" | |
| ⓘ | the execution duration in milliseconds is lower than or equals | The observed value "513" is greater than "500" | |

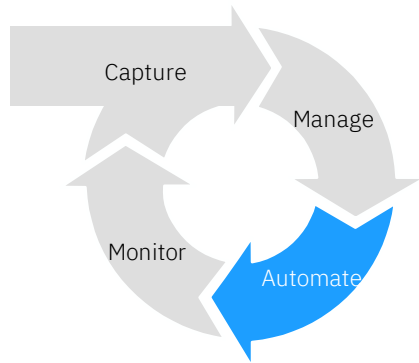
Below the table, the 'Execution details' section shows:

- Number of rules fired: 15
- Number of tasks not executed: 1

Annotations on the image highlight specific features:

- Successful scenarios:** Points to the 'Scenario success rate: 50% (102)'.
- Detailed tests results:** Points to the 'Details' table.
- Execution details:** Points to the 'Execution details' section at the bottom.
- Side-by Side comparison:** Points to the 'Compare' and 'Close' buttons in the top right corner.

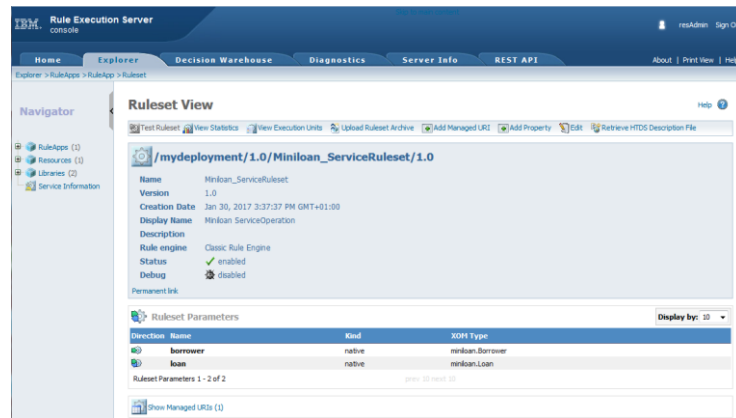
How ODM Works



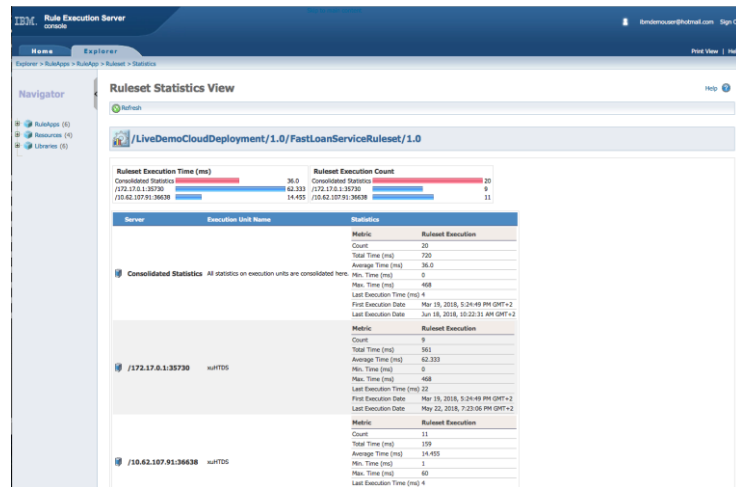
- Administration Environment
- Optimized algorithms
- Near real time decision making
- Scalable for large projects

Execute and trace decisions with speed and consistency

Rule Execution Server Console

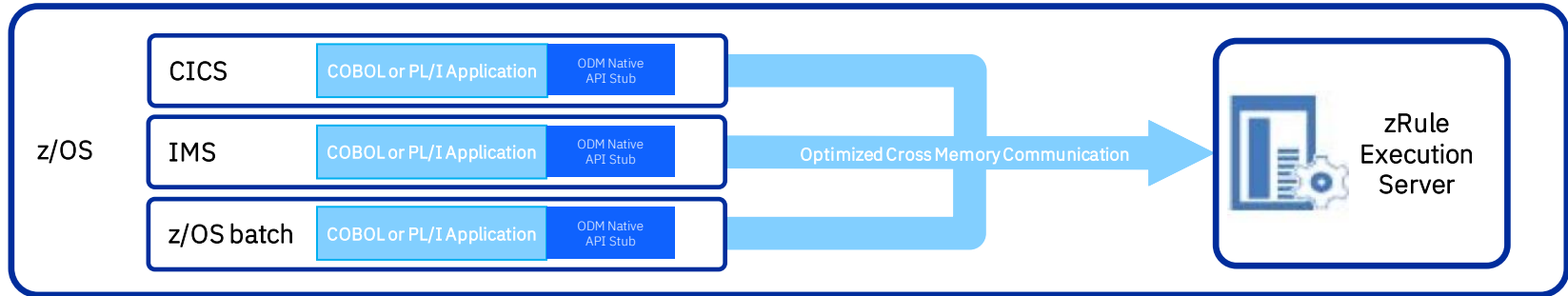


Execution Statistics



ODM Runtime Options for z/OS

- Decisions can be invoked from existing CICS, batch and IMS applications
- Runtime support for COBOL and PL/I data types
- Flexible runtime deployment to fit any System z environment:
 - Deployed on WebSphere Liberty Server for z/OS
 - Deployed as optimized standalone address space
 - Deployed in CICS TS Liberty environment
 - Deployed local to the batch address space



COBOL Programming API

1. Connect to zRule Execution Server

```
call 'HBRCONN'  
    using HBRA-CONN-AREA
```

2. Populate parameter data

```
MOVE "borrower" TO  
HBRA-RA-PARAMETER-NAME(1)
```

3. Execute the rules

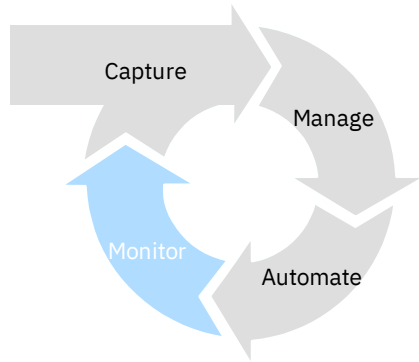
```
call 'HBRRULE'  
    using HBRA-CONN-AREA  
IF HBRA-CONN-COMPLETION-CODE = HBR-CC-OK  
THEN
```

4. Disconnect from zRule Execution Server

```
call 'HBRDISC'  
    using HBRA-CONN-AREA
```

```
1 { CALL 'HBRCONN' USING HBRA-CONN-AREA.  
   IF HBRA-CONN-COMPLETION-CODE = HBR-CC-OK  
   .  
   2 { MOVE ALL SPACES          TO BORROWER LOAN  
      MOVE ALL LOW-VALUES      TO HBRA-RA-PARMETERS  
      MOVE "/my_deployment/my_operation"  
      TO HBRA-CONN-RULEAPP-PATH  
      MOVE LENGTH OF BORROWER  TO HBRA-RA-DATA-LENGTH(1)  
      MOVE "borrower"          TO HBRA-RA-PARAMETER-NAME(1)  
      SET HBRA-RA-DATA-ADDRESS(1)  
      TO ADDRESS OF BORROWER  
      .  
      MOVE LENGTH OF LOAN      TO HBRA-RA-DATA-LENGTH(2)  
      MULTIPLY LENGTH OF MESSAGES  
      BY 99  
      GIVING WS-MAX-MESSAGE-LEN  
      ADD WS-MAX-MESSAGE-LEN TO HBRA-RA-DATA-LENGTH(2)  
      MOVE "loan"              TO HBRA-RA-PARAMETER-NAME(2)  
      SET HBRA-RA-DATA-ADDRESS(2)  
      TO ADDRESS OF LOAN  
      .  
      DISPLAY ' -- Invoking rules in rule execution server'  
      CALL 'HBRRULE' USING HBRA-CONN-AREA  
      .  
      3 { DISPLAY ' --'  
         ' name->'      NAME  
         ' -loan amount->' AMOUNT  
         ' -approved->'  APPROVED  
         .  
         4 { CALL 'HBRDISC' USING HBRA-CONN-AREA.  
            .
```

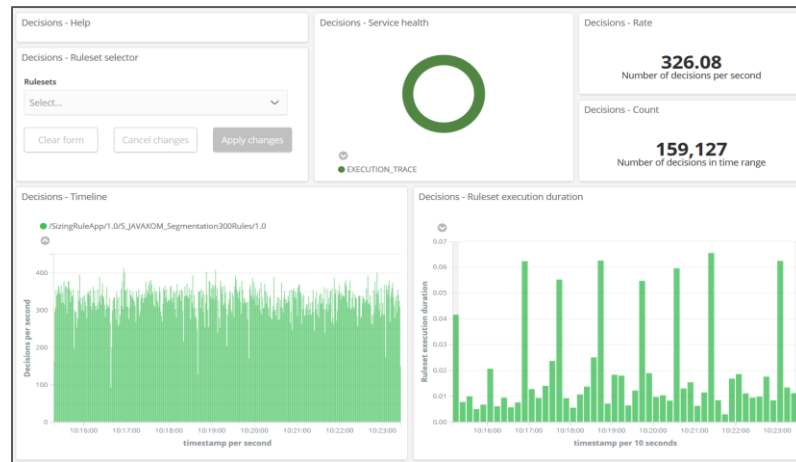
How ODM Works



- Available through **Business Automation Insights***
- Monitoring in Real time
- In production rules
- System and business data monitoring

Monitors decision outcomes in real time

Operations dashboard for decision execution monitoring (System data)



Custom business data dashboard (Business data)



(*) **Business Automation Insights** is a capability delivered in IBM Cloud Pak for Automation

Organizations create efficiencies, improve customer outcomes, and reduce risk

Improve customer experience

300%
increase

In throughput of regulated items combined with a 200% decrease in customer wait times

BROWNELLS®

Create efficiencies

80%
reduction

Reduction in number of loan applications that must be manually reviewed



Increase productivity

20%
more claims

Each day and on-board new clients in hours rather than days

ControlExpert

Maximize patient outcomes

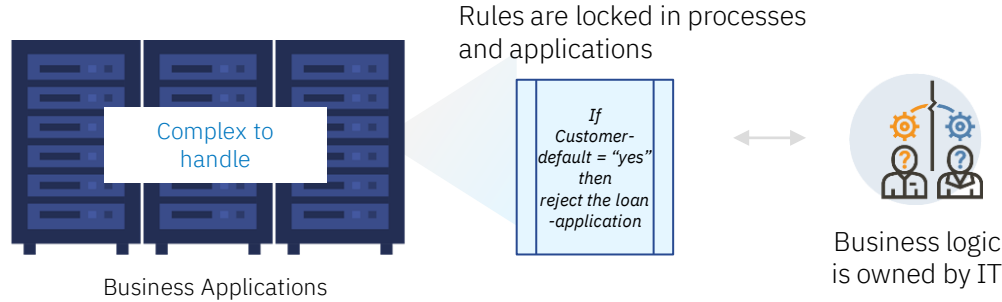
50+
liver transplants

NHSBT streamlines delivery and maximizes utilization of organ allocation schemes

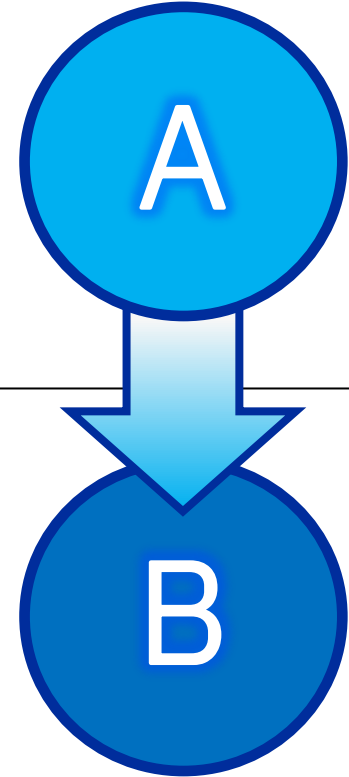


Externalize and Manage Through Business Decisions

Traditional approach is programming-based



Decision management system



Discovering Business Rules



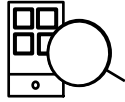
Mark Indermaur

Product Manager, IBM ADDI

Application Discover and Delivery Intelligence

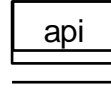


ADDI offers a **modern experience** that attracts and onboards new developers faster



Faster time to market with higher quality

- Quickly discover enterprise-wide application insights for COBOL, PL/I, Java™, Assembler, and Natural
- Impact analysis
- Hogan® Core Banking, and CAMS™ applications



Identify Business Rule and API candidates

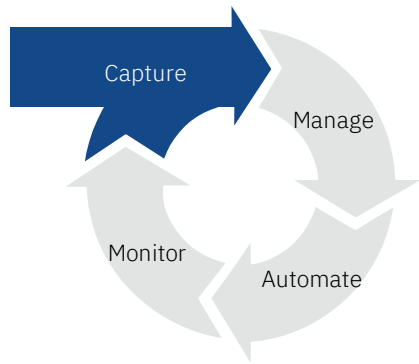
- Accelerate hybrid cloud application development and respond to market changes



Accelerate data modernization

- Discover and virtualize non-relational data on Z and virtualize with ADDI and IBM Data Virtualization Manager

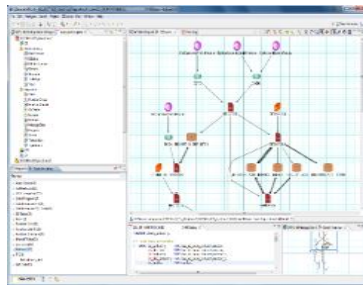
How ADDI Works with ODM



- Web UI for analysts and developers
- Analyze source code and documentation
- Discover business terms top-down or bottom-up
- Gain keyword usage statistics and affinity analysis
- Create business rule packages with code snippets

Collaborate to discover business terms and rules in Cobol applications

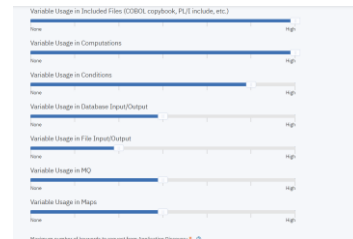
Analyze source code



Explore keywords

| Business Term | Definition | No. of Inflight | No. of Signets | Implementation Name | Status | Actions |
|----------------------|-------------------------------|-----------------|----------------|----------------------------------------------------------------------------|----------------------|---------|
| Equipment Charge | Equipment charges per patient | 5 | 5 | COBOL-PROGRAMS-... EQUIPMENT-CHARGE-... EQUIPMENT-CHARGE-... | In-Progress | |
| Equipment ID | Equipment ID | 4 | 4 | COBOL-PROGRAMS-... EQUIPMENT-ID-... EQUIPMENT-ID-... | Waiting for Approval | |
| Equipment Cost | Equipment cost of P&H | 3 | 3 | COBOL-PROGRAMS-... EQUIPMENT-COST-... EQUIPMENT-COST-... | None | |
| Lab Charge | Lab charges for patient | 5 | 5 | COBOL-PROGRAMS-... LAB-CHARGE-... LAB-CHARGE-... | Waiting for Approval | |
| Patient ID | Patient ID | 35 | 35 | COBOL-PROGRAMS-... PATIENT-ID-... PATIENT-ID-... | In-Progress | |
| Patient Total Amount | Total amount the patient | 4 | 4 | COBOL-PROGRAMS-... PATIENT-TOTAL-AMOUNT-... PATIENT-TOTAL-AMOUNT-... | Approved | |

Rank keywords



Catalog business terms

| Business Term | Definition | No. of Inflight | No. of Signets | Implementation Name | Status | Actions |
|----------------------|-------------------------------|-----------------|----------------|----------------------------------------------------------------------------|----------------------|---------|
| Equipment Charge | Equipment charges per patient | 5 | 5 | COBOL-PROGRAMS-... EQUIPMENT-CHARGE-... EQUIPMENT-CHARGE-... | In-Progress | |
| Equipment ID | Equipment ID | 4 | 4 | COBOL-PROGRAMS-... EQUIPMENT-ID-... EQUIPMENT-ID-... | Waiting for Approval | |
| Equipment Cost | Equipment cost of P&H | 3 | 3 | COBOL-PROGRAMS-... EQUIPMENT-COST-... EQUIPMENT-COST-... | None | |
| Lab Charge | Lab charges for patient | 5 | 5 | COBOL-PROGRAMS-... LAB-CHARGE-... LAB-CHARGE-... | Waiting for Approval | |
| Patient ID | Patient ID | 35 | 35 | COBOL-PROGRAMS-... PATIENT-ID-... PATIENT-ID-... | In-Progress | |
| Patient Total Amount | Total amount the patient | 4 | 4 | COBOL-PROGRAMS-... PATIENT-TOTAL-AMOUNT-... PATIENT-TOTAL-AMOUNT-... | Approved | |

Create business rule packages

| Business Rule Package | Description | Tag | Associated Business Terms | Associated Signets | Status | Actions |
|-----------------------|------------------------|----------------------|----------------------------|----------------------|----------------------|---------|
| Admitted | Insurance, Age | tag1 | Insurance, Age | 5 | In-progress | |
| Blondness | Add tag, tag | Blond, blondness | 4 | Approved | | |
| Outbirth | Package | tag1, tag2 | Date of birth, admitted | 6 | In-progress | |
| Insurance card number | BP package description | tag1, tag2, tag3 | Lab charges | 22 | None | |
| Admitted | add tag, tag | Insurance, insurance | 9 | In-progress | | |
| Blondness | tag | Blondness, insurance | 32 | Waiting for approval | | |
| Outbirth | BP name package | tag1, tag2 | Insurance card number | 19 | Approved | |
| Insurance card number | Name BP | tag1, tag2 | Trunk, insurance, Admitted | 3 | Waiting for approval | |

Demo



Rami Katan

STSM, Chief Architect for zDevOps AI & ML Systems

ADDI Demo

FileEditViewHistoryBookmarksToolsHelp

ADI

https://localhost:9443/adi/web/projects/ADI?action=com.ibm.dimez.dashboard.web

Search

IBM ADI

Search Application Discovery Artifacts

Rami

< Hospital

Review the summary charts for each contributing data provider. Many charts and chart groupings provide a more detailed breakdown when selected.

Business Rule Discovery

Keyword ExplorationBusiness TermsBusiness Rule Packages

Business Terms Summary

22% Approved

9 Total

9 with Artifact Relationships

0 without Artifact Relationships

9 with Snippets associated

+ ↗

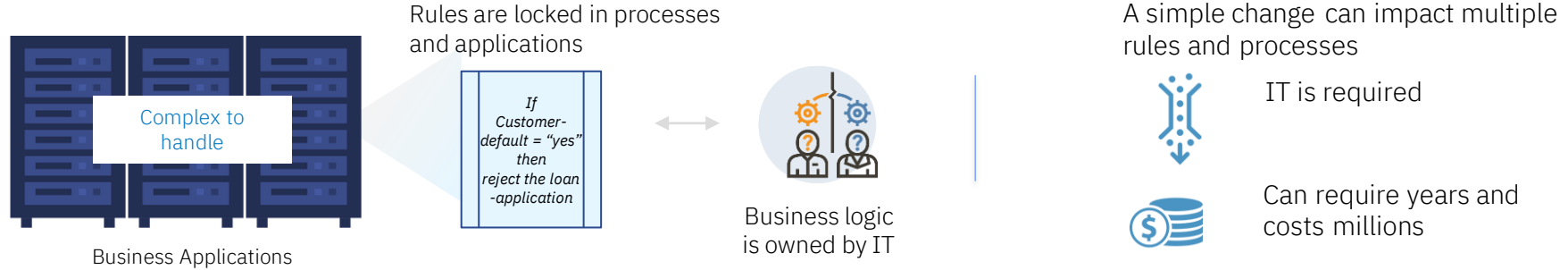
Business Terms

Search

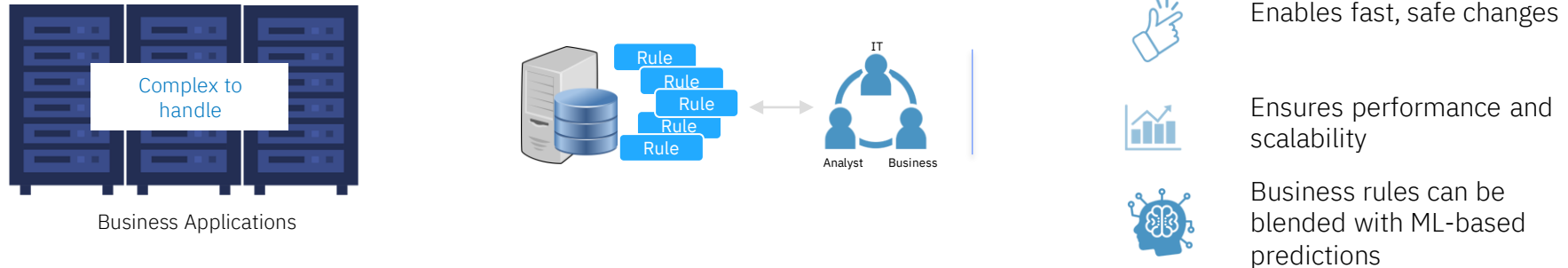
| Business Term | Definition | No. of Artifact Relationships | No. of Snippets Associated | Implementation Names | Status | Actions |
|--------------------------------------|-------------------------------------------|-------------------------------|----------------------------|--------------------------------------------------------|----------------------|---------|
| Discharge Date | Discharge Date from Patient Master File | 1 | 1 | DATE-DISCHARGE | New | |
| Equipment Charges | Equipment Charges | 3 | 3 | PATIENT-TOT-AMT, WS-EQUIP-CHARGES | In Progress | |
| Lab Charges | Lab Charges | 3 | 3 | DAILY-LAB-CHARGES-SUMMARY, WS-LAB-CHARGES, LAB-CHARGES | Approved | |
| Patient Id | Patient ID | 6 | 6 | PATIENT-ID, PATIENT-TOT-AMT | In Progress | |
| Patient Total Amount | The total amount the patient needs to pay | 4 | 4 | PATIENT-TOT-AMT, WS-LAB-CHARGES | Waiting For Approval | |
| Reimburse Percent | Reimburse Percent | 8 | 8 | PATIENT-TOT-AMT, REIMBURSE-PCT | Approved | |

Why Externalize and Manage Through Business Decisions

Traditional approach is programming-based



Decision management approach



Why choose Operational Decision Manager?

4 out of every 5

Top 5 WW
Retailers

60%

Top 20 WW Banks

60%

Top 5 WW Insurances

66

Fortune
200

2000+

Managed projects

800+

Business Partners

Hundreds

ODM
consultants

Source:
<https://accuity.com/resources/bank-rankings/>
http://brandirectory.com/league_tables/table/insurance-2016
<http://beta.fortune.com/global500/>
<https://nrf.com/resources/annual-retailer-lists/top-100-retailers/stores-top-retailers-2016>

Learn more about ODM and ADDI on Z

Read

- ODM Website:
<https://www.ibm.com/products/operational-decision-manager>
- ADDI Website:
www.ibm.com/products/app-discovery-and-delivery-intelligence
- [The Forrester Wave™: Digital Decisioning Platforms, Q4 2020](#)
- Forrester report: [Total Economic Impact of ADDI](#)

Try

- [ODM Trial on Z](#)
- [ADDI Trial on Z](#)

Attend

- [ADDI Webinar](#): Groupama modernizes IBM Z applications faster and with confidence
March 23, 12pm ET
- [ODM Webinar](#): Make smarter decisions: Apply intelligence to your Z applications with digital decisioning
March 29, 11am ET
- [IBM Z Day](#) virtual conference |
April 5, 10am-6:30pm ET

