



Highlights

- Enables business users to make changes to their automated business policies and decisions in collaboration with IT
 - Helps simplify decision governance and improve visibility with a centralized repository for business rules
 - Helps automate operational decision-making for consistency across multiple processes, applications and channels
 - Enables organizations to sense and respond to real-time business events
 - Provides more precise responses for highly variable decisions based on the specific context of the interaction
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IBM Operational Decision Manager

Improve operational effectiveness with next generation business rules

Business agility is the hallmark of successful organizations. It is the ability to adapt quickly and efficiently to changing markets, competitive actions and regulatory and legislative mandates. Information technology plays a critical role in how organizations operate and can help them make significant productivity and efficiency improvements.

In many organizations, operational systems are a “black box” for the people who formulate and direct business strategies and policies. Business teams entrust implementation of policies in IT systems to their technical development staff and expect it to be done rapidly. Business policy implementation in such instances can result in frustration for both the line-of-business (LOB) groups and IT personnel. LOBs want better visibility of the logic that drives their systems and they want to easily make changes based on business needs. IT wants to maintain control over systems while relinquishing day-to-day operational updates that are tied to the business domain and knowledge. Unfortunately, for many organizations, the ability to share responsibility for maintaining business systems is not feasible because of the technical expertise required.

IBM® Operational Decision Manager provides critical technology for organizations to improve the quality of repeatable transaction, application and process-related decisions. A rules-based platform, IBM Operational Decision Manager offers capabilities to increase the value of customer, partner and internal interactions by:

- Enabling LOB subject matter experts to create and maintain natural language rules that represent the decision logic, improving collaboration between business and IT teams



- Separating decision logic from processes, transactions and applications, helping improve the governance of change and facilitating reuse across business systems
- Executing more precise decisions based on the context of specific interactions

Improving business decision effectiveness

For most organizations, making the right decision at the right time requires frequent updates to their operational business systems. The dynamic nature of the business environment means that the business policies and objectives applicable today may or may not be applicable tomorrow. New business opportunities and risks, competitive actions, additional regulatory requirements and business policy changes are constantly occurring, requiring business systems to evolve with them.

One of the biggest challenges that organizations encounter while keeping pace with new and evolving business needs is the time required to implement change based on the traditional application development lifecycle—requirements specification, analysis, design, development, testing and deployment. This traditional approach can seriously inhibit the ability of an organization to adapt swiftly when its business systems must establish specialized pricing for a new customer or territory, ensure adherence to a contractual obligation or launch a new promotional program. This also creates a lack of visibility and understanding outside of IT relating to how business systems work. IT creates applications that provide specific functions, essentially acting as a “black box” to LOB users in terms of what drives the behavior of their systems and what is required to change that behavior.

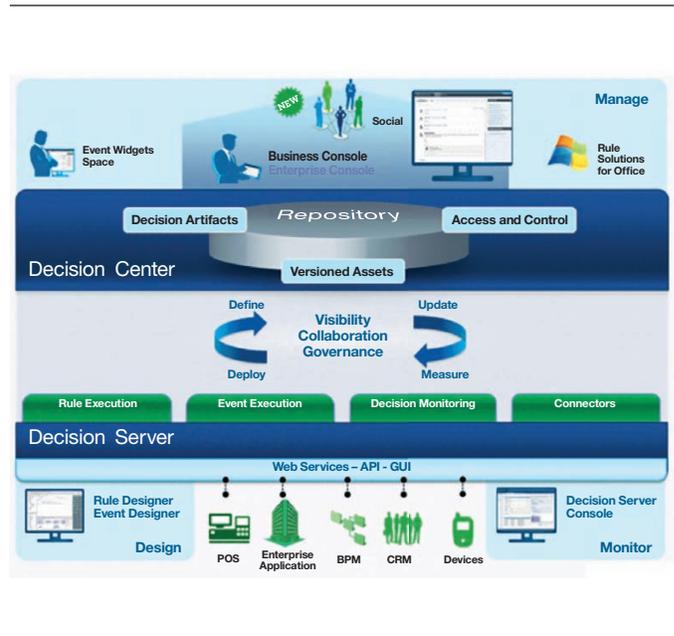


Figure 1. A robust platform for the management and execution of business rules and business events

IBM Operational Decision Manager fundamentally changes the situation with a set of capabilities that LOB users can use to participate directly in the policy and decision management process, while also separating decision changes from the application development lifecycle. In this way, business teams can implement decision changes more frequently and in a shorter time frame to meet their continually evolving needs.

Using IBM Operational Decision Manager, organizations can gain the power of visibility, collaboration and governance. As a result, they can improve their ability to take advantage of business opportunities and mitigate risk conditions.

The power of visibility

Typically, LOB users do not have insight into the decision logic that is implemented on their behalf by IT. The decision logic is written in a technical language and buried in code. LOB users may not be able to locate, read or understand the logic embedded in computer code, nor can they find their way around a technical and complex project structure.

With IBM Operational Decision Manager, LOB users can define and implement decision logic using non-technical language with a customizable vocabulary that reflects the domain-specific terminology of an organization. As a result, it becomes much easier for LOB users to understand the exact conditions and actions of a decision definition. The customizable vocabulary is mapped to an underlying object model that can deploy automated decisions to production systems. LOB users no longer have to worry about translating specifications into application code. Instead, they can author and maintain decisions directly. Intuitive rule editors guide the user, and the definitions can be tested and validated to ensure that they meet the organization's business requirements. Business event and business rule definitions can use a standard if-then-else text format called business action language. Business rules can also be defined using a variety of graphical formats, including decision tables, decision trees and scorecards, along with rule flows to specify the execution order of rule sets for a given decision request.

The ability for LOB subject matter experts to author and maintain decision definitions is made available by IBM Decision Center, which provides all the business-user-facing capabilities of IBM Operational Decision Manager. The Business Console, a business-user-friendly authoring environment, offers LOB users the ability to participate directly in the control of the definition and the governance of rule and event definitions that enforce their business policies. Users also can associate metadata to decision definitions, such as effective and expiration

dates, lifecycle status and relationships to other definitions, specifying additional context in how they are used in the production environment.

Within the Business Console is a What's New section which shows a list of items created in the project since the user last logged in. This section allows LOB users better visibility into actions taken on rules in which they are interested providing detailed information when they hover over each item.

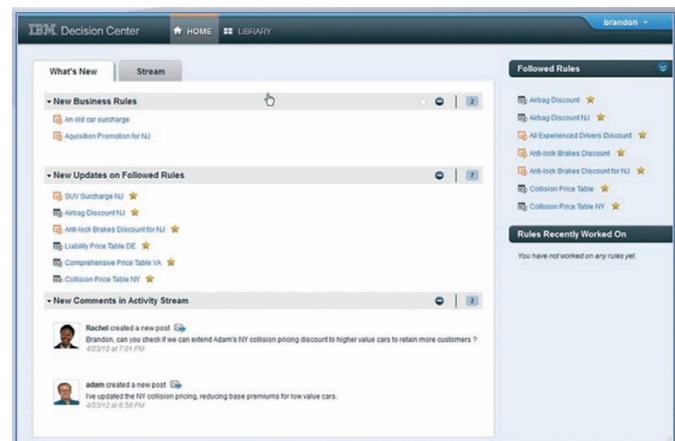


Figure 2. What's New quickly displays recently created items

A search capability for the entire rule repository using simple search terms enables business users who are not familiar with project structures to navigate their way through the rule repository. Rules can be found based on criteria, vocabulary terms, metadata, geographical location of where the rule applies or a number of other terms, making it very easy for LOB users to locate the rules or rule set that needs to be changed, verified or tested.

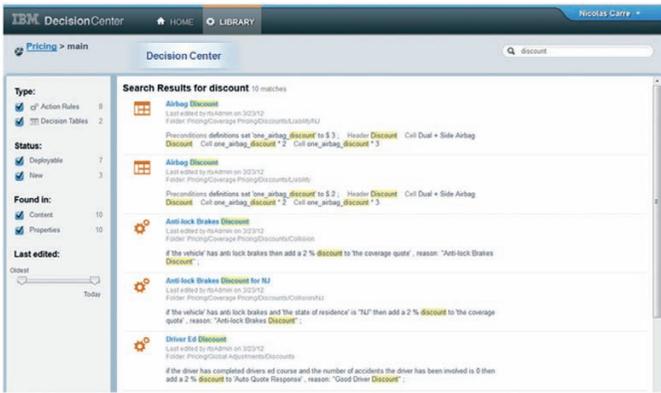


Figure 3. Locate a given rule using the search capability more easily

IBM Operational Decision Manager provides a set of testing capabilities to validate and ensure that rule changes are valid for all the data points and no edge cases are inadvertently missed. These testing capabilities that ensure the changed rules meet the needs of the business, are as follows:

- Unit and regression testing to ensure individual definitions execute as expected
- Functional testing to execute decision sets against test data and capture the results
- Simulation to measure the business results of decision sets against either historical or test data in order to assess the impact of rule changes.

IBM Operational Decision Manager helps achieve a clearer line-of-sight to the business operations by providing LOB users with visibility into the decision logic.

The power of collaboration

IBM Operational Decision Manager facilitates the collaboration between the business users who define the rule policies and their IT organizations that help implement the policies. It provides a single repository for business and IT users to collaborate.

IBM Operational Decision Manager also enables easy cross-functional and divisional collaboration allowing the business users to work effectively with identified subject matter experts to help ensure the correct business policies are defined and implemented. The Business Console provides social media style collaboration to help LOB users to tap into organization business expertise.

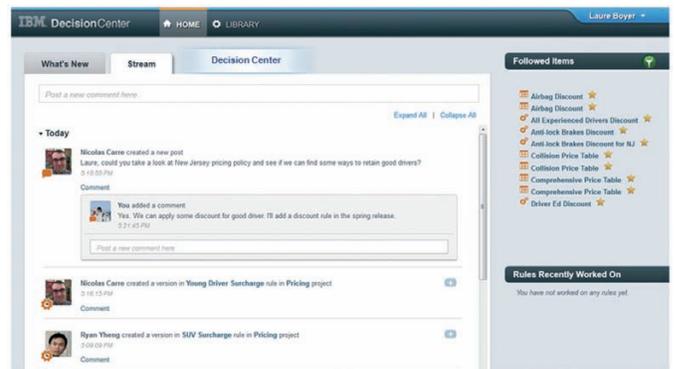


Figure 4. The Decision Center Business Console Activity Stream allows business users to collaborate on rule edits and decision assets

The power of governance

The ease and efficiency with which changes can be made to decision logic is only beneficial if there is also the ability to control those changes. When IT and LOB teams can govern changes, they both have confidence that they are correctly implementing decision logic and that changes truly reflect business requirements. IBM Operational Decision Manager provides the perfect combination of business user empowerment and change governance to ensure that the decision logic is implemented more easily, more securely and more reliably.

Change governance requires the ability to handle both immediate and future changes at the same time. With the multiple release management capability of IBM Operational Decision Manager, teams can work on multiple versions of a project; by creating branches from the baseline version of a project, they can create different versions that can be worked on in parallel.

This capability is particularly useful when working on several groups of changes that can be implemented in a staged manner. Disparate branch versions can be viewed individually and compared side by side to see their differences. As versions are ready for deployment, they can be used to create a new baseline and can be merged, in whole or partially, with other branch versions.

In the *Business Console*, business users can take a snapshot of the rule to get a point-in-time version of a given rule or rule set. A snapshot provides an immutable version of the decision logic and can be deployed or easily restored. A timeline is provided to show when snapshots were taken and a notification appears in the What's New section to the interested parties.

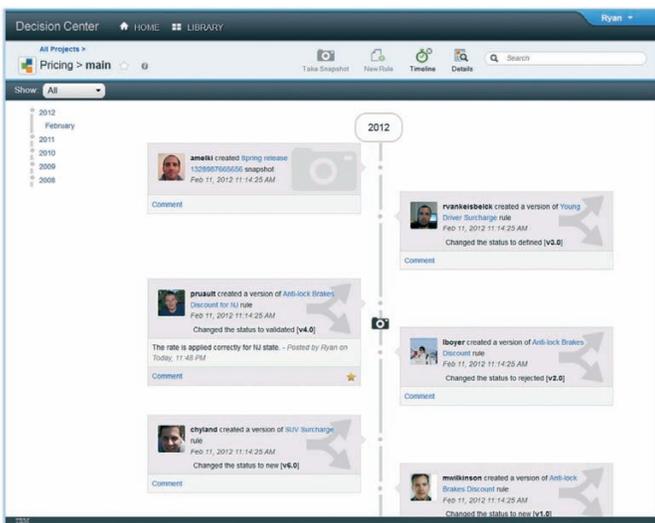


Figure 5. Timeline of snapshots allows a user to easily see the history of the rule changes and provides restoration capability

The *IBM Decision Center* repository is the foundation for change governance. The repository provides a single source for automated decisions that are used by applications, transactions and processes. Users of the repository can make a change in one

place that can be deployed over many systems. With role-based access controls, each LOB participant has specific access and management capabilities along with multi-level version control for individual definitions, sets of definitions and entire business rule and business event projects.

Intuitive interfaces provide access to the common repository and help improve the experience of specific sets of users:

- *Decision Center Business Console*. Business teams can now view changes as they occur, communicate on changes and share information and author rules using a web-based collaboration environment. The console provides a highly interactive and social experience for non-technical subject matter experts to understand what is being worked on and to control the maintenance of rules as they evolve to meet business policy requirements.
- *Decision Center Enterprise Console*. This web environment is designed to assist business analysts in managing changes through the rule lifecycle by providing a set of functional capabilities, including testing, simulation, analysis and reporting of decision logic. Administrative capabilities in this console control specified repository access and change permissions for individual users in both the console interfaces.
- *Event Widgets Space*. Widget components accessible through web pages provide capabilities for event testing and event capture and replay, as well as charts for processed event monitoring.
- *Rule Solutions for Office*. Business rule-based decisions such as business action language rules, rule flows and decision tables can be authored and edited using Microsoft Word and Microsoft Excel. Loading a lightweight plug-in for Microsoft Office, business users can work with file-based *ruledocs* in a guided manner, using rule editors that provide auto-completion assistance. Since *ruledocs* contain all the object model details for the project associated with the rules, users have access to the customized business vocabulary and rules are automatically validated for correct logic and syntax. *Ruledocs* are created using the *Decision Center Enterprise Console*, which extracts rule sets or entire rule projects from the repository. Individual business rules also can be accessed in the *Enterprise Console* and then directly opened and edited using *Rule Solutions for Office*.

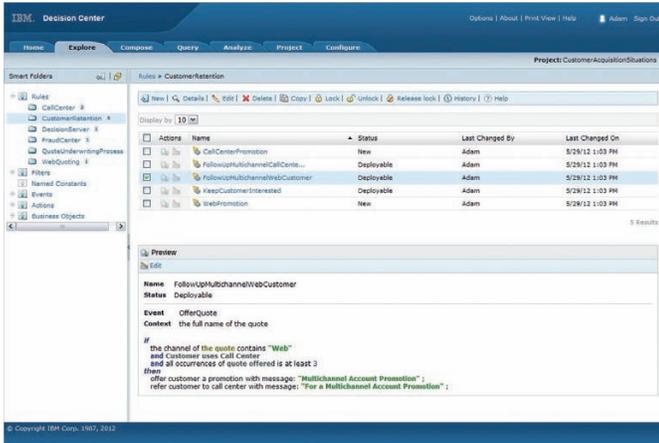


Figure 6. The Decision Center Enterprise Console provides a set of governance capabilities for business analysts

The breadth of governance capabilities in IBM Operational Decision Manager is essential to the proper implementation of decision change and brings assurance to IT that they can pass the control of decision changes to LOB subject matter experts.

Enabling robust runtime execution for mission critical operations

IBM Operational Decision Manager is much more than a repository for governing decision definitions. It also provides capabilities for executing decision logic that is required by processes and transactional applications. Its runtime capabilities are made available by IBM Decision Server, along with the development tooling for creating decision management applications that can intelligently automate a wide range of decisions, such as:

- Credit and loan approvals
- Claims processing
- Underwriting
- Compliance and reporting
- Dynamic pricing and bundling
- Risk assessment and fraud detection

IBM Operational Decision Manager can handle fully automated scenarios, wherein organizations use a web channel or a self-service system such as a point-of-sale terminal, as well as semi-automated decision support scenarios, wherein the person who receives the decision response personally interacts with the organization—through a call center or face-to-face. In semi-automated scenarios, the decision management application provides guidance and recommendations that help a person make the optimal decision when presented with a wide number of options or variables.

IBM Decision Server comes with specific execution runtimes for business rules and business events. Decision management applications can be designed and deployed to handle specific types of automation:

- Business rule execution runs data against sets of rules to determine a decision response that has been requested from a process or application. The rule execution runtime is designed to handle large numbers of rule conditions for any given request. It can execute a designated order of rules (a rule flow) or use an inference-based execution in which the rule engine determines which rules are required based on the context of the request. *The Rule Execution Server* can be integrated with additional data sources and systems as needed to complete a rule execution.
- Business event execution can process data from many different sources, detecting and responding to event patterns among related events, missing events and aggregated events. *The Event Execution Runtime* includes a number of integration connectors to maintain a persistent state with different systems. This makes it possible for the *Event Execution Runtime* to track data patterns over long time periods and correlate events from multiple sources. The result of an event pattern correlation can be an alert or an automated action. In many cases, the action will invoke business rule execution to determine the appropriate decision response, although it can also trigger actions in processes and applications.

These execution runtimes can be configured for integration with each other as part of a decision management application, providing simplified and efficient invocation of shared decision services that can be used for both rule execution and event processing, as well as enabling rule execution to emit events for correlation by the events runtime.

The *IBM Decision Server* runtime components support a wide range of platforms to meet the varying needs of enterprise architectures. They can run on both distributed and mainframe systems, typically running in an application server. For the IBM z/OS® operating system for mainframes, both the event and rule execution components can run inside IBM WebSphere® Application Server, while the *zRule Execution Server* component can be deployed as a stand-alone component or in an IBM CICS® Transaction Server. Another option for mainframe applications is compiling rule sets as generated COBOL that can be inserted directly into application code. This is a useful initial step in application modernization efforts, replacing existing code with decision logic that is easier to maintain and understand. After IT is ready to externalize the runtime decision logic from the COBOL application, the generated code can be replaced with a decision service request to either the IBM Rule Execution Server or the *zRule Execution Server*.

IBM Decision Server also includes the Eclipse-based development tooling that IT uses to build decision management applications. The *Rule Designer* and *Event Designer* are separate perspectives that can be run in a single Eclipse instance, providing developers a “one-stop” development environment in which virtually all the artifacts and operations needed to create and maintain rule- and event-based applications are included. From the Eclipse perspectives, a developer can:

- Create a logical business object model (BOM) for the application and map it to a customized, domain-specific vocabulary.
- Associate the BOM to an execution model and XML schemas.
- Create a metadata model for decision artifacts—application-specific data fields beyond standard metadata, for example, custom rule status properties.
- Specify packaging of decisions into executable sets, corresponding broadly to a single policy-driven decision in the application.
- Separate business rules in a rule set into tasks and specify a rule flow to orchestrate the execution of these tasks.
- Create decision definitions in a natural language or graphical format for business rules, which can be expressed in one or more localized versions such as English and Spanish.

- Create business rule-based scorecards that can be executed in a rule flow.
- Create default applications that invoke decisions for test purposes.
- Synchronize business rule and event projects with the Decision Center repository.
- Deploy applications to the production environment with the execution management and monitoring capabilities that are part of the runtime components.

Since testing is a key part of application development, the *Rule Designer* and *Event Designer* perspectives provide the ability to integrate with standard, platform-specific testing tools such as JUnit. When a test fails and the developer needs to investigate what went wrong, the developer can launch the application in debug mode using integrated co-debugging of decision definitions and Java code. Using the standard Eclipse debugging facilities to set breakpoints, the developer can then examine various aspects of the application and its interaction with the underlying system. In addition, developers can define test and simulation scenarios that can be used by LOB users in the Decision Center as part of the governance of decision change validation. Large scale data processing can also be performed to assess the impact of rule changes.

The combination of development and runtime capabilities in Decision Server enables IT to create highly flexible, adaptable decision automation solutions. These solutions can detect and react to data patterns as they occur in a specified time period and then provide the appropriate decision response to transactional and process-oriented business systems.

Helping make the best decision for each customer, partner and internal interaction

The ability to effectively automate decision making for operational business systems is imperative for optimizing organizational efficiency and can help increase employee productivity and improve the quality of actions that are made repeatedly in the course of the business day.

IBM Operational Decision Manager can automate a wide range of decisions for business processes and applications, integrating business rules management and business event processing to

help drive more responsive actions to business opportunities or risk conditions. With the set of capabilities that IBM provides in this offering, organizations can:

- Implement changes to decision logic with increased speed and agility.
- Help improve decision collaboration with enhanced visibility, collaboration and governance.
- Automate real-time actions with high performance and reliability.

IBM Operational Decision Manager can help improve the quality of application and process-related decisions, increasing the value of customer, partner and internal interactions. IBM Operational Decision Manager also helps improve governance of change and facilitates the reuse of decision logic for business systems across your organization, enabling accelerated responsiveness to evolving market demands, competitive actions and regulatory requirements.

For more information

To learn more about IBM Operational Decision Manager, please contact your IBM sales representative or IBM Business Partner, or visit: ibm.com/lbmodm

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