InfoSphere Master Data Management Server for Product Information Management 9.0

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Introduction

Leading organizations are breaking down their information silos to gain control of their most important and commonly shared enterprise information assets. These initiatives are being driven by master data management (MDM), a practice designed to achieve and maintain a single version of truth across the enterprise. Product information management (PIM), an element of MDM, establishes a single repository for products and services that can be used to address strategic business initiatives throughout an organization.

Creating a complete and consistent PIM solution requires addressing different data requirements across existing systems, aligning implementations with existing business processes and workflows, establishing appropriate role-based access and offering business users an easy and intuitive system. However, organizations deploying PIM must ensure that their implementation leverages existing data models and business processes and integrates into their existing systems landscape. The solution must also adapt to the continuing needs of the business—allowing the data model, the business processes and the systems they integrate with to change as requirements evolve or as the business grows.

IBM provides these foundational elements with IBM InfoSphere™ Master Data Management Server for Product Information Management. InfoSphere MDM Server for PIM is designed to be implemented in a wide range of industries and can be optimized for an organization's particular business needs. InfoSphere MDM Server for PIM Version 9.0 includes a host of new features that help ease the integration of PIM into enterprise systems, help capture broader collaborative business processes within the system and rapidly deliver value from PIM implementations.

InfoSphere MDM Server for PIM: A functional overview

Organizations face growing demands on their product and service information. Consumers want more information as they increasingly make buying decisions based solely on product information as opposed to physical interaction with the product. Tradesmen demand access to detailed information on mobile devices at their work location. Producers are catering to consumer demand by introducing new, differentiated products and services. And governments are requiring that vital information about products and services be managed accurately and effectively.

These challenges are often compounded by the conflicting requirements of current and future system landscapes, as well as increasing merger and acquisition activity that adds integration (business and system) pressures. In such environments, there are five key requirements for a PIM system: a flexible data model, business processes that can quickly adapt to changing business needs, the ability to manage multiple hierarchies, the ability to connect to disparate systems and a granular and easily extensible security model.

InfoSphere MDM Server for PIM meets these requirements by enabling companies to create a single, up-to-date repository of product and service information that can be used throughout their organization for strategic business initiatives (see Figure 1). Organizations using InfoSphere MDM Server for PIM can benefit from its robust features, including:

- Intuitive out-of-the-box user interfaces (UIs) and a UI generator
- Business process collaboration tools
- Data aggregation and syndication capabilities
- Granular access privileges
- Flexible data model and hierarchy management
- Service oriented architecture (SOA) capabilities

Additionally, organizations can benefit from the Global Data Synchronization (GDS) module which gets to the core of their business objectives—maximizing the effectiveness of trading partner relationships and improving overall supply chain efficiency to increase revenues.

The key benefits of GDS include:

- The ability to enrich product information to increase accuracy of attributes
- Compliance with global standards and data pool standards
- Enterprise-class robustness, scalability and performance capabilities that help address immediate global data synchronization needs and grow with you over time
- Sophisticated integration capabilities that help you leverage existing product information throughout your technology infrastructure
- Detailed insight into your GDS activities that can drive process improvements both internally and with trading partners
- A foundation for collaborative activities among supply chain partners, such as radio frequency identification (RFID), collaborative planning forecasting and replenishment (CPFR) and other business-to-business (B2B) initiatives
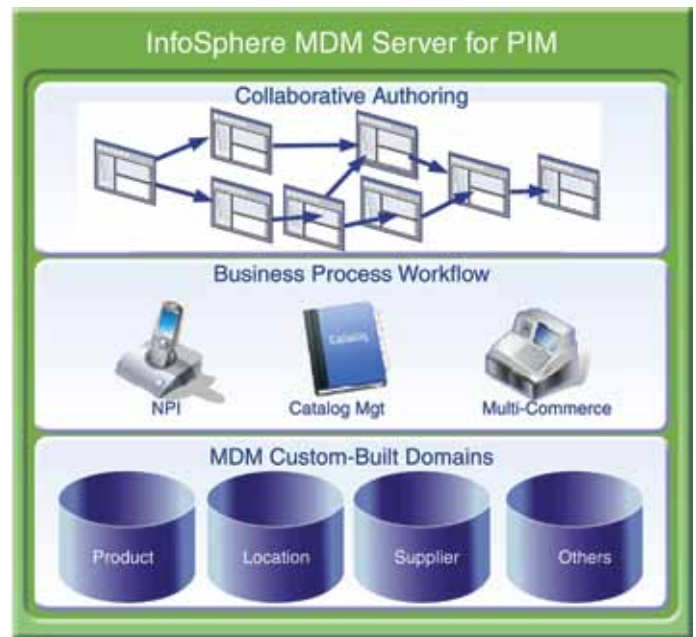

Figure 1: InfoSphere MDM Server for PIM combines a flexible data model with powerful features to enable business insights.

Developing a flexible Solution

Just as no one business model fits every industry, no one data model will fit every organization. Successful execution of a PIM strategy requires the ability to adapt as the organization changes over time and data model requirements evolve. The organization may grow organically into new product and service areas, or may need to integrate the systems, products and services of a merger or acquisition.

Organizations considering a PIM system must anticipate these demands and develop a system that can meet them quickly and with minimal expense. A company's unique businesses processes are what can ultimately differentiate the company from its competitors, and it is key for the systems the company uses to provide the most flexibilty to adapt to unique and changing needs.

InfoSphere MDM Server for PIM fulfills these requirements with a unique approach of abstracting the underlying physical database representation from the data model. Rather than relying on a visual representation of a database, InfoSphere MDM Server for PIM offers a simple and intuitive object model designed from business objects such as Catalogs, Hiearchies, Items or Categories. This separation delivers the data model flexibility and ease of use that organizations demand, while simultaneously allowing them to take advantage of the latest database technologies.

InfoSphere MDM Server for PIM offers several features that help organizations create data solutions that make intuitive sense to business end users, including the key personnel with responsibilities for around managing master product data. For example, a company can create a Spring Print Catalog comprised of a limited set of products, require a hierarchy specific to the print organization of the products and also require the data be tailored for print format. This flexible approach can translate into lower change management costs and encourage faster user adoption.

Finally, as business requirements change and grow, updating or adding product attributes, catalogs, sales channels or any other business object should not require intensive development efforts. InfoSphere MDM Server for PIM data models can be easily extended and modified by business users, often in just minutes. New information managed in the PIM solution can be automatically integrated with other systems.

Glossary of PIM terms	
Data model:	A representation of business and data requirements, designed using various and flexible business objects such as Catalogs, Items or Lookup Tables.
Catalog:	A collection of items related to each other via a business context. Catalogs are containers for items and can be associated with any number of hierarchies. For example, the Spring Print Catalog is a collection of just the print catalog products from the spring collection. It has its own hierarchy to organize the products within the print catalog and holds only the fields that apply to the print medium or channel.
Hierarchy (or category hierarchy, category tree or taxonomy):	A hierarchy is composed of categories and the relationships between them. Typically used to organize browsing or navigation, categories are like folders that can contain items or other categories.
Categories:	Categories are used both for browsing and organizing products. A category must be created within a hierarchy.
Items:	Items represent products and services, for example, stock-keeping units (SKUs), global trade item numbers (GTINs), market offers, or any other objects as defined by the business.
Attributes (or attribute names):	An attribute is the definition of a field, allowing data to be collected on an item or category. An attribute has a type, the validations and other metadata used in the capture of data against this attribute.
Attribute value:	The data that is captured against an attribute on an item or category.

IBM MDM Server for PIM includes features that address several segments of a PIM strategy, including catalog management, hierarchy management, category management, item management, location hierarchies and localization and GDS. These features allow information to be tailored for specific audiences and compiled logically to help enhance productivity and analysis.

Catalog management

A catalog holds a set of products or services, represented as items, as well as any type of relationship between items (bundles, packaging hierarchies, bill of materials, cross and up-sells,etc). Catalogs are also used to represent product offerings within a channel, to either a certain market or customer. They can present not only a specific set of products or services, but also the entire experience, from browsing and organization via tailored hierarchies to additional required fields and content or imaging tailored for that particular channel, market or customer (see Figure 2). Organizations may have multiple catalogs, depending on how their products and services are browsed and used and how closely related the products are.

Figure 2: A catalog holds a specific set of products or services, represented as items.

Catalogs are essential organizational tools, but businesses need to selectively give users access according to their job function, role or other business parameter. Without these tools, organizational productivity and security can be at risk.

The InfoSphere MDM Server for PIM security model allows filtering on multiple dimensions. With category-level security, users' default views can be set to their specific department or category, preventing them from viewing, altering or launching processes in departments or categories for which they have not been granted access.

InfoSphere MDM Server for PIM also allows system-level restriction of any field, helping businesses keep sensitive data secure. For example, visibility into sensitive fields, such as cost price, can be restricted to only the buyer who owns that product and finance personnel. To further improve security, organizations can assign the rights to edit a given field to a specific user or job role, and make those editing rights subject to a set of preconditions or actions as part of a larger business process. An advanced history logging mechanism makes it possible to track and leverage changes applied to any type of data as well as metadata (the data model). These history logs can then be used for auditing purposes or delta exports to downstream system.

Presenting information in a productive format is just as important as security and access control. InfoSphere MDM Server for PIM allows end users to see the information relevant to their job and function in a layout that is productive and meaningful to them. For example, organizations operating in multiple countries, languages, locales and currencies can improve productivity by assigning users to a particular set of languages (users can also designate primary and secondary preferred languages). Users can then search, browse and view entirely in their language, currencies and units of measures, in addition to seeing tailored marketing messages for the products in their market.

Hierarchy management

In large enterprises, hierarchies suffer from the same symptoms and problems as products and services. There may be multiple hierarchies from which the business can organize and browse products and services, such as product type, an organizational hierarchy, a departmental hierarchy, a Web hierarchy, enterprise resource planning (ERP) hierarchies and other system hierarchies. Existing systems often manage just a fragment of a hierarchy, so compiling a complete picture is a manual exercise requiring significant reconciliation and data cleansing. Processes to maintain corporate-wide, global hierarchies often do not exist, much less systems that attractively display a hierarchy.

In InfoSphere MDM Server for PIM, hierarchies use the same features and functions that apply to products and services. By supporting all data types for a category, all details describing a category can be captured. Just as products require different fields depending on type (a television might need a "screen size" field while a radio needs "number of pre-set stations"), so do categories (see Figure 3). Therefore, a single category can have fields that differ from other categories.

Figure 3: A hierarchy can contain the complete information of a category, including rich assets.

Through this extended category functionality, InfoSphere MDM Server for PIM helps organizations tailor their hierarchies to specific needs and manage them with the same ease and precision they experience when managing products and services.

Category management

Organizing and updating products and services is another important dimension of enterprise-wide product information management. A user should be able to browse a product or service via multiple routes and still retrieve the same information. If a change is made to the product or service, it should be reflected everywhere that item appears.

Products and services may also need to be organized in several ways. For example, a country with only a subset of the products and services could have a very different browsing structure. Furthermore, within a particular market there could be different ways to organize the products depending on the channel to market, such as a separate organization for the Web site and the print catalog.

All of these processes are enabled (or hindered) by the category management tools available to an organization. Therefore, robust category management capabilities are vital to a successful PIM implementation. In InfoSphere MDM Server for PIM, products and services (modeled via catalogs) are independent of categories and hierarchies. This allows a product or service to be mapped to multiple categories within a given hierarchy or simultaneously be mapped to other categories in other hierarchies. Because catalogs and hierarchies are independent, the same hierarchy can be used to organize multiple sets of products or services.

Item management

The InfoSphere MDM Server for PIM item management functionality captures a 360-degree view of a product or service. Therefore, an item in a catalog captures all attributes of the product or service, such as the key go-to-market information, rich assets such as PDFs or images, data required to drive operational and supply chain systems, relationships to other products or services and mappings to categories in multiple hierarchies. Because these structures reflect the way individual organizations view their products and services, the resulting data model is closely aligned with the business.

There are two types of item attributes in InfoSphere MDM Server for PIM :

- *Global or common attributes:* These are attributes that all items belonging to a catalog must have. Typically, they tend to be attributes requiring global visibility, such as Name, Part Number, GTIN and Short Description. These attributes are defined as the catalog's primary attributes and are associated with every item in the catalog.
- *Item category attributes:* These are attributes that an item acquires by virtue of its relationship with a category. For example, all items under a category called "Televisions" may need to have an attribute called "Screen Size," but the Screen Size attribute may not have relevance for other categories. Such attributes are associated to a specific category within the category hierarchy.

InfoSphere MDM Server for PIM can accommodate many attributes and handle a wide variety of data types including String, Rich Text, Number and Integer, Currencies, Lookup Tables, Dates and Times, Flags, Images, Documents and other binary assets. It also supports complex attribute structures, such as a hierarchy of attributes (i.e., an address composed of a number, street name, city, state and postcode) and multiple instances of attribute values (i.e., recurring field or groups of fields, such as a contact having multiple phone numbers).

Lookup tables are also a useful feature within InfoSphere MDM Server for PIM. These allow meaningful text to be displayed to users in drop-down menus and also allow selection by an internal or external system code or by some additional description. For example, users see "Contiguous U.S.A." in the drop-down menu, but can also select it by choosing "U.S.A. except Alaska and Hawaii" or "48 states," or by the ERP system code "48USA." When faced with larger tables, users can search to find the appropriate value.

Location hierarchy management

Large manufacturers and retailers can gain competitive advantage by micro-merchandising and managing location-specific data more effectively. But location-specific data can multiply quickly, becoming a data management challenge. Consider managing 10 location-specific attributes across 100 locations for 20,000 items. This alone amounts to managing 20 million attributes.

InfoSphere MDM Server for PIM helps control unmanageable data volumes. When a user defines an attribute for a product, service or supplier specific to the region, country, market/cluster or store level, all locations below that level inherit the attribute. For example, a materials price set at the market level will be inherited by every store in that market, and can be overridden for exceptions if necessary. This facilitates access to reliable information and helps dramatically reduce the data management maintenance burden.

Localization

For organizations operating in many countries, creating product and services offerings tailored to the local market is a critical requirement. This goes beyond creating country-specific catalogs to customizing the product information and selecting available products and services.

To support this customization, InfoSphere MDM Server for PIM stores all information in the Unicode character set,

enabling the capture of information in any language. Information including marketing or technical data may need to be altered for the local market, translated, reviewed and approved. InfoSphere MDM Server for PIM enables relevant fields to be designated as target market–specific, allowing them to contain an additional local market–specific value. It also contains country-specific formats and displays for numbers, currency and units of measure.

However, it is not just the information that needs to be managed in multiple languages and formats—the UI also needs to be available in the user's language. InfoSphere MDM Server for PIM's native UI is presented in 11 global languages, and everything from the hierarchy used to browse the products and services to a field's label can be localized into multiple languages. Users can view data side by side in multiple languages to review or perform translations.

Business process collaboration

Enabling collaboration in the creation and maintenance of the product information is a key function of a PIM system. InfoSphere MDM Server for PIM provides a comprehensive, out-of-the-box workflow capability that is highly scalable and configurable.

Enable faster product creation and updates

In addition to a 360-degree view of the product, InfoSphere MDM Server for PIM enables 360-degree collaboration on the product—bringing all parts of the organization into a single system with the needed checks and balances to help ensure speed, quality and accountability. Administrators can define as many workflows as necessary to represent the different business processes the system must support (see Figure 4).

The workflow engine goes beyond a state engine or a task manager, to enforce data quality and routing which is based on business rules and product authoring rules.
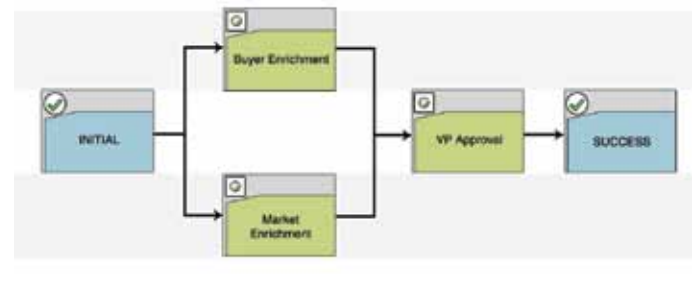

Figure 4: In InfoSphere MDM Server for PIM, a business process can include multiple workflows to promote efficiency and accountability.

Alerts can be used to drive users to the system, notifying them when a task awaits their attention. The system can also escalate tasks or warn the user if a task is not dealt with in a timely manner. Escalation can be configured as a step-level duration or deadline, one relative to the deadline for the process or a trigger for a "fast track" process managed by a team lead. When time is short or deadlines change, InfoSphere MDM Server for PIM allows a structured implementation of exception processes.

A core feature of the workflow is the parallel processing capability, which allows multiple users to work on different parts of the product at the same time. Working on the product in parallel can dramatically shorten product creation and update processes. For example, a marketing manager can work on marketing attributes while a technician updates the technical information of the product.

In addition, with InfoSphere MDM Server for PIM, a product can actually participate in multiple workflows at the same time. There can be as many workflows as there are independent functional areas; for example, an imaging update can happen while the product is being introduced into a new country.

Teaming

True 360-degree collaboration on a product requires additional teaming capabilities. InfoSphere MDM Server for PIM users can take ownership of a particular task—an essential capability when a team shares a common task list (see Figure 5).

Figure 5: The collaboration features of InfoSphere MDM Server for PIM include task listings; in this screenshot, the user is taking ownership of a task.

Users can also approve or reject a portion of the work and send it for revision with comments. Data that is being authored and reviewed is restricted to the collaboration workspace until all approvals are complete—only then is it released to affect published, live product data.

Two other features necessary for effective teaming are auditing and visibility. Auditing provides accountability of who changed what, when and with what comments. The UI highlights the differences and how they were made. Visibility features track where the product is in the process, who has taken ownership of it and how long has it been there. For both of these features, InfoSphere MDM Server for PIM provides out-of-the-box functionality from a platform and end-user perspective.

Facilitate data quality

Workflows in InfoSphere MDM Server for PIM are highly integrated with its flexible and extensive data model, helping to ensure that users enter the correct data. Available business rules, including data types, validations, drop-down menus, units of measures, currencies and precisions, can be applied during the workflow process. Not only are users restricted to what they need to see and how they need to see the data to do their job, but they are further restricted to what they need to do. Data can be organized to suit their job, while the validation rules can be configured to help ensure that a minimum data set is acquired and that it meets the business validations (see Figure 6).
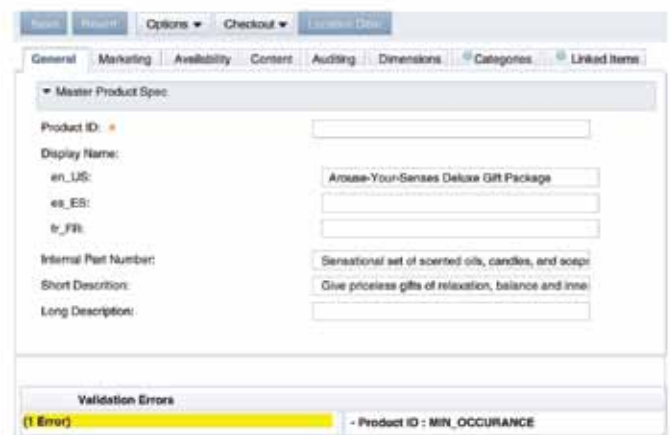

Figure 6: Validation rules can be applied to help ensure that acquired data meets business validations.

Deploy a comprehensive workflow platform

When configuring a workflow, different types of steps can be created; some require human action or attention (such as approval or edit steps) and some are automatic, triggering internal or external system actions. Using the InfoSphere

MDM Server for PIM platform's comprehensive workflow capability, it is possible to publish state or data to external systems and provide visibility into an end-to-end intersystem process.

Data model flexibility is preserved and enhanced with the capability to alter business processes as the organizational needs or implementation footprint grows. Tightly integrating the workflow engine inside the PIM system allows it to accommodate the growth of the business into a new product type: New data requirements can be modeled, a role or workflow step can be introduced to manage new data requirements and the workflow can be linked to the data model for the new product type. Finally, users can be mapped to new roles, enabling them to create and manage the data for the new product type. All of the capabilities described above for products exist for categories as well.

User interfaces
Native user interface
InfoSphere MDM Server for PIM offers a thin-client UI based entirely on HTML and JavaScript™ which enables quick user access from anywhere in the world and helps businesses avoid the deployment pains of specialized clients and upgrades. Within its small footprint, InfoSphere MDM Server for PIM uses the latest Web technologies to deliver a sophisticated and rich user experience.

The out-of-the-box native UI is dynamic, adapting to the configurations in the data model, access controls and workflow, and incorporates user settings and preferences to help users reduce implementation time (see Figure 7).
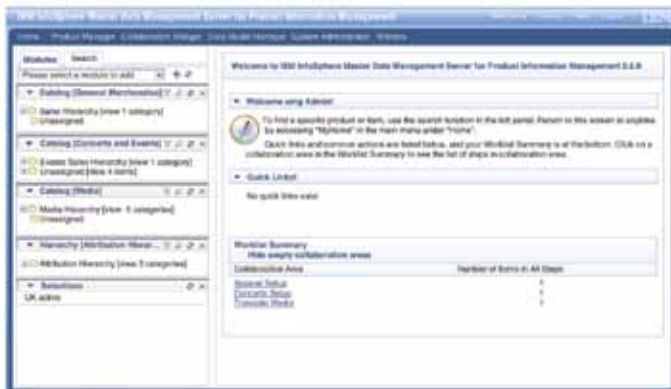

Figure 7: The InfoSphere MDM Server for PIM out-of-the-box user interface can be adapted to the workflow and user settings.

Multiple productivity tools are available for the users, including mass update capabilities allowing the maintenance of hundreds of items or categories simultaneously:

InfoSphere MDM Server for PIM also provides the ability to integrate with Content Management Systems. This feature allows users to search and leverage unstructured content such as images or PDFs , while working on product data in the native UI.

The UI represents the configuration of the business process, data model and validations specific to your enterprise. The ability to extensively configure InfoSphere MDM Server for PIM can help accelerate the time to value of the PIM implementation.

Custom tools

The InfoSphere MDM Server for PIM UI can be extended to adapt to an organization's business needs. All native business objects (Catalogs, Items, etc.) that are exposed through the standard UI are also exposed through application programming interfaces (APIs). This allows administrators to build custom UI screens, step-by-step using process wizards and utilities.

User Interface Generator

The MDM User Interface Generator is a model-driven development environment that facilitates construction of a role based user interface from a UML User Model. It is designed to generate targeted UI's that include just the tasks required for different types of users within an organization. It has previously been shipped as part of IBM's InfoSphere Master Data Management server, and supports the creation of clean UI's with only relevant widgets and data on screen, allowing rapid development of applications and easy adoption of changing business requirements. It is easily extended to include links to non-PIM systems and applications, and can be customized to suit customer-specific branding needs.

The MDM User Interface Generator supports the generation of iWidgets supported by the latest version of IBM WebSphere® Portal Server, IBM WebSphere Business Space and IBM Lotus® Mashups and supports the complete authoring and management of product attributes, specs and catalogs, plus multi-edit capabilities.

Benefits include:

- Quick and rapid build and prototyping of web-based applications.
- A true model driven iterative approach to development of bespoke applications
- A rich library of out of the box widgets that can be used in the generated applications.
- A clear separation between the generated UI and the back end data, allowing for an SOA approach to integration.
- Fully accessible and translatable applications
- A pluggable UI allowing hand coding of artefacts to suit the business needs

Access privileges and security

The InfoSphere MDM Server for PIM security model is many-to-many, allowing for very granular control as well as maximum reuse of access rights. Roles define system-level access for business or administrative functions and users can belong to multiple roles. This helps make it easy to define very specific user roles, such as complete authoring of product data, lightweight searching-only usage or advanced solution administration.

Objects (Catalogs, Hierarchies, etc.) that require different access for different user groups are divided into Access Control Groups (ACGs). The intersection of the ACG and the role defines the access privileges for that role. These are permissions such as the ability to view products, search products and perform an import of data. Because a user can belong to multiple roles, it is possible for a single user to derive view access to a set of products from a "view only" role, but gain access to initiate business processes, such as New Product Introduction, on another set of products.

Integration

Data aggregation and syndication

A master data repository's value lies in its ability to integrate with other enterprise systems. InfoSphere MDM Server for PIM is architected to be easy to deploy in heterogeneous environments. It supports commonly used communication protocols, including IBM WebSphere MQ, Java™ Message Service (JMS), HTTP, FTP and SOAP, as well as multiple data formats including XML, CSV and Microsoft® Excel®. While supporting future requirements, its flexibility also helps ensure that InfoSphere MDM Server for PIM has minimal impact on existing systems and, in most cases, will work with files already available.

In addition to integrating point-to-point with inbound and outbound source systems, InfoSphere MDM Server for PIM can integrate with middleware technologies from IBM and a variety of providers, such as Microsoft BizTalk®, SAP Exchange Infrastructure (SAP XI), TIBCO and Software AG webMethods.

InfoSphere MDM Server for PIM natively supports deltas for aggregation as well as syndication. It supports inbound and outbound deltas for items and categories, both at an entity level (i.e., receiving or sending data for only products that have changed) and at an attribute level (i.e., receiving or sending data for only the field that has changed within a product).

Many organizations require aggregations to initiate or perform part of a business process, and InfoSphere MDM Server for PIM accomplishes this for full or delta incoming data. It can also syndicate data as part of the business process to interact with target systems.

As with the other administration functionality, data aggregations and syndications can be configured via the administration UI. The consoles give an at-a-glance view of current activity, while wizards help to configure a new aggregation or syndication by guiding the administrator through tasks ranging from file transfer and field mappings to setting up a schedule.

Scheduler

Administrators can use the InfoSphere MDM Server for PIM platform's built-in scheduler to easily schedule recurring jobs. InfoSphere MDM Server for PIM also works with external schedulers that manage enterprise-wide job choreography. The scheduler console provides information on both ongoing and past activity, and allows users to inspect performance characteristics and logs.

SOA

InfoSphere MDM Server for PIM supports an SOA environment via inbound and outbound Web services. Different business functions can be offered as services to accept and respond to requests across a network or via the Web. These Web services can be written in the InfoSphere MDM Server for PIM scripting language or in Java.

IBM WebSphere Portal Server Integration

In addition to the native UI, InfoSphere MDM Server for PIM also integrates with IBM WebSphere Portal Server. Sample portlets are available to include processes and data from InfoSphere MDM Server for PIM as part of a larger portal experience.

Programming logic

InfoSphere MDM Server for PIM can be extensively configured through programming, from business rules and validation rules to import, export or completely create new screens and business features. Administrators can also present InfoSphere MDM Server for PIM functionality as Web services, making it easy to integrate the solution as part of an enterprise-wide SOA.

Scripting language

The InfoSphere MDM Server for PIM scripting language is very similar to JavaScript, making it quick to configure the solution. With a comprehensive library of more than 900 operations that provides access to all InfoSphere MDM Server for PIM objects, the scripting language is ideally suited for fast implementations.

Java API

InfoSphere MDM Server for PIM offers a comprehensive library of Java API that exceed the capabilities available via scripting. The Java APIs are composed of more than 1,000 operations and over 230 interfaces in 30 components or modules. Developers can access all underlying objects via Java APIs, so business logic can be implemented in Java and any standard Java integrated development environment can be used for its development and testing. Additionally, this allows for reuse of any existing Java business logic.

New features developed with scripting or java programming are setup as extensions of the solution and do not affect the core code of the product. This means the product extensions can usually be re-deployed 'as is' when a new version of the product is available.

Performance and scalability

Key features that power the high performance, scalability and reliability of InfoSphere MDM Server for PIM include:

- Standards-based application composed of Java Platform, Java Enterprise Edition (Java EE) and Java Platform, Standard Edition (Java SE) components
- Support for application server clustering
- High user concurrency
- Large data and batch processing capacity
- Graphical user interface (GUI) optimized for the power user

InfoSphere MDM Server for PIM supports both vertical and horizontal clustering. Because it is standards-based, it also enables deployment of various database optimizations and technologies.

Conclusion

Collaboration between enterprise departments, systems and employees has never been more important in this age of real-time, always-on communications and commerce. Without a single source of trusted data about products, services and customers, decision makers cannot be sure that the information they are using is the most up-to-date, accurate version.

InfoSphere MDM Server for PIM Version 9.0 offers several features that help organizations manage ever-changing enterprise data. Its comprehensive workflow capability helps accelerate the process of creating a new data model and business process, linking the two and mapping users to their roles in the process. InfoSphere MDM Server for PIM provides users with a 360-degree view of products, services and hierarchies, and supports enterprise-wide collaboration on them. The security model provides role-based, granular access with multiple dimensions of control. The user experience and all other managed information can be configured for both the user type and the target market—an especially valuable feature for companies operating in global markets.

Together, these capabilities help make InfoSphere MDM Server for PIM Version 9.0 a highly scalable and reliable product information management platform. It can be quickly adapted to the business, allowing organizations to represent, organize and manage business objects and deliver trusted information to all systems.

For more information

For more information about InfoSphere MDM Server for PIM Version 9.0, please contact your IBM representative or visit **ibm.com/**software/data/infosphere/mdm_server_pim

Additionally, IBM Global Financing can tailor financing solutions to your specific IT needs. For more information on great rates, flexible payment plans and loans and asset buyback and disposal, visit **ibm.com/**financing

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