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An Introduction to epitomy PIM data hub

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The Vital Importance of Product Information Management

In recent years, the need for efficient and wide-reaching product information management has become increasingly apparent to manufacturers across a wide range of sectors. As more companies implement solutions to meet this need this is leading to a sea change in the way product information is managed within the business environment.

Product information management – also commonly known as product data management, engineering data management, or master data management – is the process of managing and maintaining product information to ensure that the right data is available to the right person at the right time.

What is described as 'Product Data' or 'Product Information' encompasses the basic descriptive qualities of the product as a physical artefact – its weight, dimensions, bills of materials and so forth – as well as a wider range of commercial and business process data such as marketing materials, manuals, work instructions and images. Product data has increasingly been recognised as a vital strategic asset just as important to a business as their customer, financial and competitor information data.

The effective management of product information has historically been tricky to implement. The distribution of product information throughout a particular supply chain has always been a challenge due to an over-reliance on ERP and PLM systems, and the need to accommodate data of widely varying quality and content. To address these and other factors, innovative software solutions have been created by a number of service providers in order to make the task of managing product data as simple and painless as possible.

These solutions, such as Epitomy's Data Manager, typically address five key areas of functionality required for an effective product information management system. They provide an extensible and flexible data structure, validation rules and quality assurance policies, automation, synchronization and reporting or business intelligence functions. Together, these features enable users to radically improve their product data management processes and achieve major operational benefits.

A Changing Landscape of Product Information Management

However new requirements for product information management are changing previously implemented systems as different companies begin to implement a wider range of different product data management policies.

Contemporary product information management solutions need to provide for a wide range of different data types and formats – both as inputs and as outputs. They also need to account for an increasingly complex environment of user types, platforms, and business relationships.

Ideally, product data is homogenous, storing the same information in the same format for each product. In the real world however this ideal is very rarely achieved. Data produced by a company's manufacturing and supply chain partners is outside of its control, and even internal information may take widely different forms according to temporal or geographical policy differences.

In the traditional manufacturer, distributor, and dealer distribution model a manufacturer may produce multiple brands with different distributors for each, and a distributor may represent multiple manufacturers, and a dealer may only retail a fraction of their principle's product range. This creates a complex web of product data requirements that need to be managed carefully lest information becomes lost or unavailable and small retailers are overwhelmed with a vast amount of data they have no real use for.

An effective product information management solution needs to be able to overcome these challenges and consolidate disparate data from different sources to truly provide the benefits of large scale and scope product information in support of a range of different products.

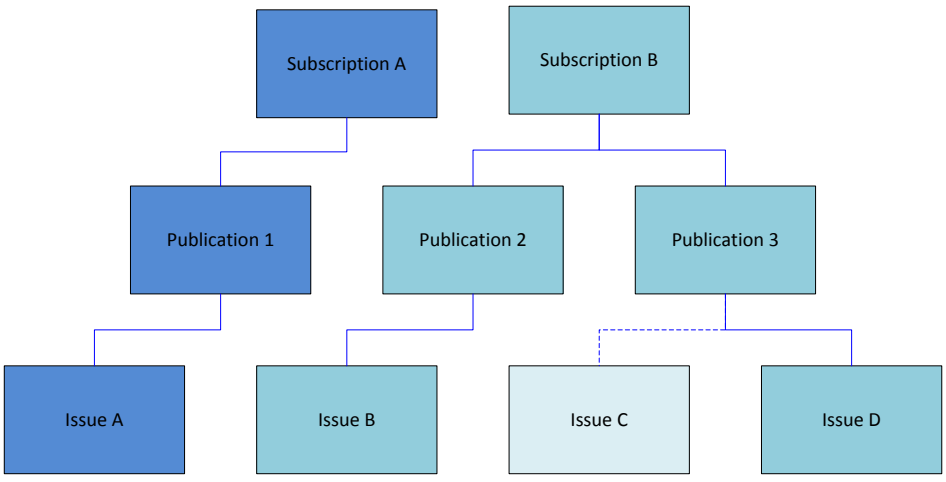
Epitomy Product Information Management (PIM) Data Hub

Epitomy's solution to the changing requirements for PIM in today's business environment is the company's new PIM Data Hub. Epitomy PIM Data Hub represents a paradigm shift in the company's approach to data management and publishing. It provides the core of a truly modular solution that empowers users to manage and publish data using solutions that meet their needs while still benefitting from a centralized data management system.

PIM Data Hub enhances the capabilities of the company's Data Manager and Publisher applications to create a scalable solution that addresses the challenges posed by the complex relations between data suppliers and consumers, between manufacturers and distributors. It allows the benefits of efficient product data management to extend beyond engineering and catalogue data to encompass transactional, analytical and commercial information, providing stakeholders in multiple areas of a business with access to the appropriate data.

By providing a service focused on empowering customer decision-making and enhancing the data publishing capabilities of existing applications – both Epitomy's own and those of third parties – Epitomy is able to address the increasingly complex customer requirements. Epitomy PIM Data Hub addresses the challenges posed by the interconnected and globalized world of today's equipment manufacturers.

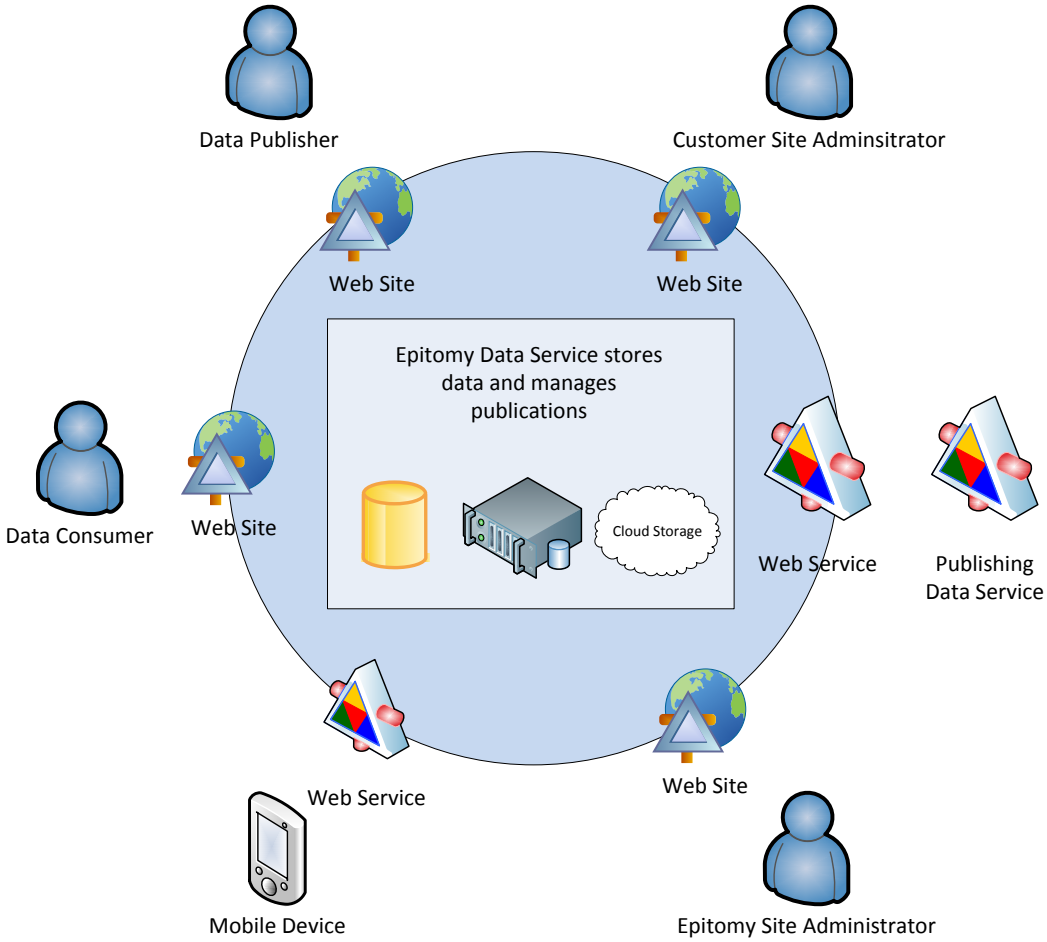
The ability to provide multiple disparate datasets to client applications is fundamental to meeting these requirements, and this functionality is at the heart of Epitomy's PIM Data Hub. By providing separate catalogues and combinations thereof with a 'subscription' based service, Epitomy is able to offer its customers the right data for use within an organisation and by the supply chain partners.



PIM Data Hub Architecture

Epitomy PIM Data Hub is built from the ground up to be scalable, secure and flexible to deploy. It incorporates a Service-Oriented architecture, an approach that separates functionality into logical divisions. This separation of presentation, business logic, and data management making it easy to change one area without affecting the others.

Users – whether human actors or services, such as websites, consuming data – access the PIM Data Hub through a data client module positioned within another system, such as a CMS website or mobile app. The data client module manages requests and responses over HTTP to the core data service hub, where interactions are made with client data stores.



The same modular components are used by all client systems, providing customers with multiple routes to a single source of product data that supports instantaneous updates and deployments of new product support data – a huge time saving compared to traditional solutions. Building around a modular framework of standalone components creates a robust system that is resilient against changes in any one area.

Underlying Technology

To provide the best possible performance, especially in key functional areas such as search and analytics, Epitomy PIM Data Hub is built on a framework optimised for working with large amounts of data in different formats. As described above, scalability, flexibility, and security are the core tenets of the company's PIM Data Hub, and the technological foundations of the system reflect this.

At the core of Epitomy's PIM Data Hub is a NoSQL database for storing consolidated product information. This is a new breed of database structures that do not use the traditional SQL relational database model. NoSQL systems only contain the core functions of a database, improving speed, and provide a document-based data store optimised for scalability and suitability to large datasets and user bases.

Similar technology is already used by service providers for whom speed and scalability is a priority, including major players in financial services, online gaming, news and media as well as technical services from Mozilla, Github, StumbleUpon and Etsy. It provides distributed and multi-tenanted real time search and analytics that's easily scaled through the addition of further server nodes.

Epitomy PIM Data Hub client modules make use of a RESTful web interface to publish data to client websites. Representational State Transfer (REST) is a protocol and architecture for transmitting data online. It uses simple interfaces and immediate processing of self-contained commands. By reducing complexity and separating client and server components it offers scalability, reliability, and the potential for real time modification of displayed data – a core requirement of any that is required to provide 24/7 support.

The structure of the PIM Data Hub modules also makes them ideally suited to acting as the basis of a cloud deployed Product Information Management and ecommerce system. Epitomy's existing services could then be scaled into the cloud, allowing them to be offered as on-demand services without potential customers having to deal with hosting and support issues.

PIM Data Hub in Practice

How does this benefit Epitomy's customers? By using PIM Data Hub to augment existing implementations of Epitomy Publisher and Data Manager, or adding its functionality to existing third-party data management and ecommerce solutions, users see major improvements in the performance of their supply chain business processes. For example:

> **A Highly Resilient Publishing Platform**
> *Updates can be applied without causing any downtime for users, improving their experience with customer sites.*
>
> **Platform-Agnostic Architecture**
> *A modular architecture that supports connections to a range of devices and platforms, broadening the range of potential users and use-cases that can be supported*
>
> **Mix and Match Publications**
> *View a customised catalogue based on user attributes – e.g. a US user will only see products available in the US.*
>
> **More Effective Search Capabilities**
> *Product Data or other structured information can be more efficiently and easily searched and navigated, using filtering and full-text searches.*
>
> **Commercial Augmentations**
> *Display related or recommended products based on the current catalogue page – i.e. "people who bought x also bought y" – providing better up- and cross-selling capabilities.*

Epitomy PIM Data Hub's technological framework provides powerful and intelligent search functions, making it quicker and easier for users to find the data they are looking for – no matter what form it takes or what client system they're using.

Interactions with a range of different data sources and client systems vastly simplify the process of data management, making it easier to set up and maintain a single central repository for all product information which enhances the benefits already derived from existing product information management systems.

The system architecture allows for a range of client applications to access customer data, creating the possibility of user experiences tailored for specific devices and platforms. Providing a world-class user experience increases customer satisfaction and raises the likelihood of return visits to online parts catalogues and ecommerce platforms.

Epitomy's PIM Data Hub also offers far-reaching support for analytics and business intelligence, offering customers the ability to easily create and run custom reports against their specific data. Whether its ecommerce sales figures, online warranty submissions or site visits, customers are able to examine the data that matters to them.

Development Roadmap

Development of the Epitomy PIM Data Hub has been planned as a multi-phase project, allowing Epitomy to provide customers with the additional benefits of PIM Data Hub components as they become available with minimum disruption. Projected future development phases are as follows.

Phase One

The first phase of development encompasses the creation of the core data service and data client components of the PIM Data Hub. Existing data clients such as Epitomy Publisher have been adapted to work with the PIM Data Hub and to support all existing use cases, additional data clients can be supplemented as necessary.

Phase Two

The second phase will be the creation of a Next Generation Product Information Catalogue (NGPIC), the working project name for a system that will replace Epitomy Publisher with a new solution for publishing product information to a wider range of potential stakeholders. This major new project is in the initial stages of development at present, and more details will be released soon.

Phase Three

Following the completion of Phases 1 & 2, Epitomy will concentrate on improving integration with the commercial and business data side of product information management, extending the benefits already experienced in the company's management of catalogue data to a broader range of product and company information.

Alongside the development of advanced integration capabilities, Epitomy will also continue to provide increasingly detailed and far-reaching analytics capabilities. As more customers begin to make use of the PIM Data Hub, their requirements for additional reporting will become clear, allowing the initial analytics offering to be broadened into a wider suite.

Future Developments

In the future Epitomy will continue to enhance the capabilities of Epitomy PIM Data Hub and its related services/products, developing solutions in response to requests from new and existing customers and to changes in the manufacturing and business environment. In other words maintaining a constant process of evaluation, reflection new developments, and thereby providing truly next-generation services.

About Epitomy Solutions

Founded in 2000, Epitomy Solutions is dedicated to providing manufacturers and distributors of complex goods with solutions to their product information management (PIM) and data publishing requirements.

Epitomy aims to provide its clients with a full range of aftersales solutions and services to increase the efficiency and profitability of their customer's route to market and supply chain. These solutions are built on a flexible framework of interlinked modules, supported by bespoke development and consultancy, enabling an exact match with individual client needs.

Epitomy's clients include manufacturers of grounds-care and garden machinery, marine products, automotive components and commercial vehicles and the company works with companies throughout the supply chain - logistics providers, first tier distributors, manufacturers and dealers.

To learn more about Epitomy, the solutions and services Epitomy provides, and how they could help achieve the best returns from heterogeneous product data please visit www.epitomy.com or get in touch by emailing enquiries@epitomy.com or calling on 0114 258 0404.