



Rational software

Using a definitive software library as part of your asset management strategy.

*Carlos Ferreira, senior product manager,
IBM Rational Asset Manager software,
IBM Software Group*

Contents

- 2 *Introduction***
- 8 *Improving your asset management strategy***
- 11 *Tips for successfully implementing a definitive software library***
- 13 *IBM Rational Asset Manager software***
- 14 *Reduce costs and deliver more consistent solutions faster***
- 14 *Gain additional functionality through integrations with other IBM offerings***

Introduction

These days, everyone is talking about the need to do more with less. Challenging economic conditions have led to smaller development teams and intense pressure to shorten time to market and reduce costs. Pressure to meet legal, regulatory, internal and technical compliance requirements continues to grow and it's difficult to keep up using only manual reviews.

However, these challenges can drive companies to take shortcuts that may ultimately increase costs and result in the creation of software that's difficult and costly to maintain, enhance or change to meet changing business needs. Companies often have trouble finding or even defining the high-value core competency assets that are driving business value in the organization. In situations like these, it's essential to get control of and understand your assets to reduce your solution delivery costs.

Development teams sometimes turn to open source or third-party components to expedite development, but these components may not be supported in the long run or support contracts for maintenance may not be available, which means that troubleshooting problems in the future becomes next to impossible. Or, teams attempt to reduce development costs by outsourcing to a lower-cost provider. However, if the team has failed to properly store and document its assets, it can take providers weeks of initial work to search through thousands of work products scattered throughout a variety of domain-specific repositories before they find the assets they need, increasing the cost of the engagement.

Highlights

When companies don't understand what components are used in each application, they may have difficulty locating assets and maintaining compliance with regulations.

One of the reasons maintenance costs are such a large portion of so many company's budgets is because software is difficult to maintain and enhance. In fact, reports have shown that the majority of IT budgets are spent on maintenance rather than on new development and innovation. So how can you reduce your maintenance costs?

It's essential to know how each asset is being used within your organization. When companies don't have a thorough understanding of what components are being used in each application, a number of issues arise:

- *Difficulty locating assets, which results in the costly duplication of assets that provide similar capabilities.*
- *Difficulty keeping up compliance with evolving regulations.*
- *Outages that occur when unexpected changes are made to components.*
- *Wasted time as team members struggle to determine who owns an asset and how it's related to other assets.*

If you're not able to understand how software is related to other assets, such as development tools, hardware and architectures, you may not be able to quickly address operational issues or fix software defects later. To avoid these problems, you need an effective asset management strategy.

Highlights

An asset management strategy delivers a number of benefits, including reduced costs, fewer unexpected outages and fewer defects.

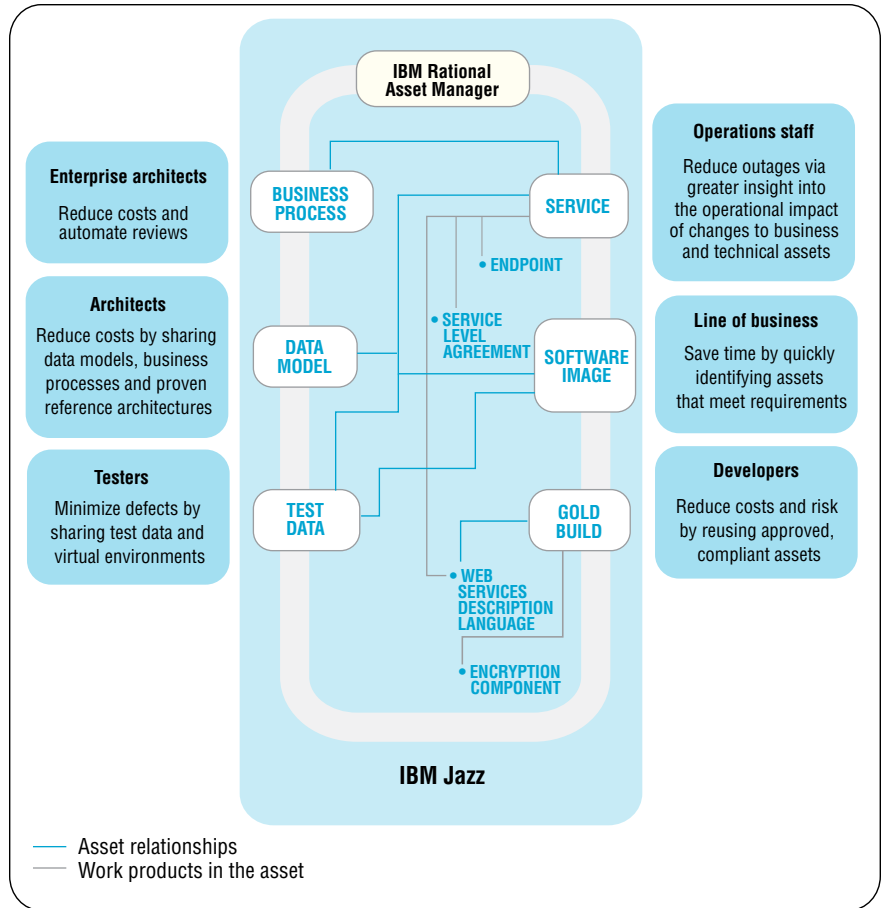


Figure 1: Just about everyone in your organization can benefit from an effective asset management strategy.

Highlights

Asset management includes a set of core competencies, such as organizing and maintaining assets, automating reviews, reporting, and integrating tools and processes from development, business and operations.

Reducing your software maintenance costs and improving development efficiency
Asset management is the process of managing the released, published versions of your business and software assets. When your assets are properly managed, your software delivery team can become more efficient at creating, maintaining and enhancing solutions. Asset management involves a core set of competencies including:

- *Cataloging, organizing and maintaining assets.*
- *Automating asset reviews and compliance.*
- *Understanding the impact of asset changes.*
- *Reporting to help with planning solutions, quantifying ROI and compliance.*
- *Integrating with your development, business and operational tools and processes.*

Govern your asset lifecycle with a scalable, flexible asset management solution

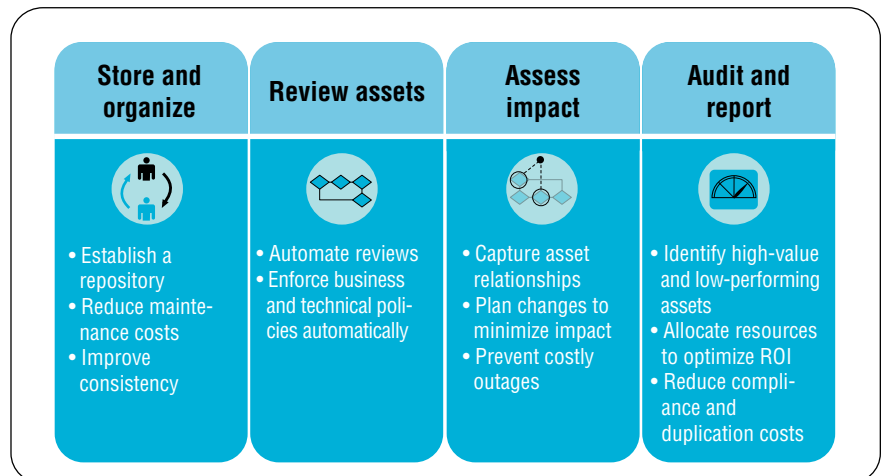


Figure 2: Creating a definitive software library is one of the first steps in establishing an effective asset management strategy.

Highlights

A definitive software library is one of the most important tools for asset management, enabling you to gain an understanding of the software and related assets you currently have.

Acting as the definitive catalog for controlling access and usage of all software versions, releases and related assets, a definitive software library can also help you keep track of development tools and vendor support contracts.

Using a definitive software library as part of your asset management strategy

A definitive software library is an important tool for asset management. It can help you gain an understanding of what software you have, along with the related assets that were used to create and maintain that software. It can also help you:

- *Determine who developed the asset and who is using it at design time and run time.*
- *Locate related assets, such as applications, business processes and services, as well as related design documents, business plans and service level agreements.*
- *Properly catalogue and document application assets so vendors and third-party providers can quickly gain an understanding of your applications by being able to quickly locate relevant components and supporting documentation.*

The term definitive software library comes from the IT Infrastructure Library® (ITIL®) approach, a set of standard operational management procedures and practices for managing IT development, operations and the associated infrastructure. Per ITIL best practices, effective software control and distribution requires a definitive software library for storing master copies of all software and related assets. The library is the definitive catalog for controlling access and usage of all software versions, releases and related assets, such as business processes, data models, designs, open source components and third-party license libraries. A definitive software library can help you keep track of which development tools were used to model, develop, build and deploy assets, along with vendor support contracts and licenses. It can also provide the following benefits.

Highlights

By identifying the most commonly used components, tools and assets, you can promote reuse and reduce development, maintenance and operational costs.

Reducing duplicate and redundant assets can help cut procurement and maintenance costs.

Identify trends

By cataloging your company's asset information in a definitive software library, you can identify trends that might not be apparent otherwise. You can see how some components, tools and assets — the ones that are more effective at solving the business problems your teams face — are used more often than others. Being able to measure and promote these common patterns and assets throughout your business and development organization allows you to be more consistent. Becoming more consistent in turn helps you to reduce your development, maintenance and operational costs. For example, if your operations team only has to administer one security encryption technology, they can be more efficient than if they have to administer twelve security encryption technologies. Plus, if multiple teams are using the same asset, they can work together to enhance the quality of the asset and assist one another if issues arise. For example, one company was able to improve its user experience by using the same user interface controls across all of its product lines. This reduced the amount of time customers needed to learn each product's user interface and simplified development and maintenance for the company's development team.

Discover duplication

Another benefit from cataloging your assets in a definitive software library is that it helps you understand where you have duplication in your organization. Once all of your assets are in the same place, you can quickly see if you have multiple tools for defect tracking or multiple workflow engines, and you can then take steps to reduce these redundancies. By reducing duplication, you can potentially reduce your procurement and maintenance costs. Plus, once you eliminate redundancies, you can move all of your staff to the same tools, which can help reduce training costs as you minimize the number of tools your staff uses.

Highlights

Staying on top of compliance issues can be challenging. A definitive software library can help you identify all of the components affected by new regulations so you can take appropriate action quickly.

If you're managing your company's assets using an ad hoc solution, such as spreadsheets, you may want to consider moving to a commercial application to create a definitive software library.

Manage governance and licenses from a single location

Most companies are now dealing with the challenges around complying with a growing number of regulations. So for example, if one of your components needs to be updated to stay in compliance with new privacy regulations, are you able to quickly determine which of your applications are affected? Using a definitive software library, you can tell in seconds where each component is being used. So when updates are required, you can make sure all of the applications that are affected receive the updated component. Using a definitive software library can also help you keep track of your software licenses. So when your packaged application vendor license goes out of maintenance or needs to be upgraded, you can identify and report on the affected applications and notify the teams involved, so they can migrate to the next supported version or find an alternative.

Improving your asset management strategy

You likely already have processes in place for managing your organization's assets. So how can you improve these processes and where do you start? If you have an ad hoc asset management solution, such as a homegrown repository, spreadsheets or wikis, you may want to consider a commercial solution to create a definitive software library. Commercial solutions can help automate your asset management processes and therefore reduce the associated development and maintenance costs. Following the steps below can help you get started creating a definitive software library.

Highlights

The first step in creating a definitive software library is to identify your high-value assets, such as the software components, documentation and scripts that power your mission-critical applications.

Identify your high-value assets

Do you know what your high-value assets are? High-value assets include not just software components but also the documentation and scripts required to keep your mission-critical applications running. A definitive software library provides a central location for all of your high-value assets and also enables you to catalog them and apply the right governance so that they can be quickly found and used. Figure 3 shows examples of high-value published assets that are related to a software release and are often shared by multiple teams or need to be managed from release to release. Notice that the roles and tools are considered assets as well.

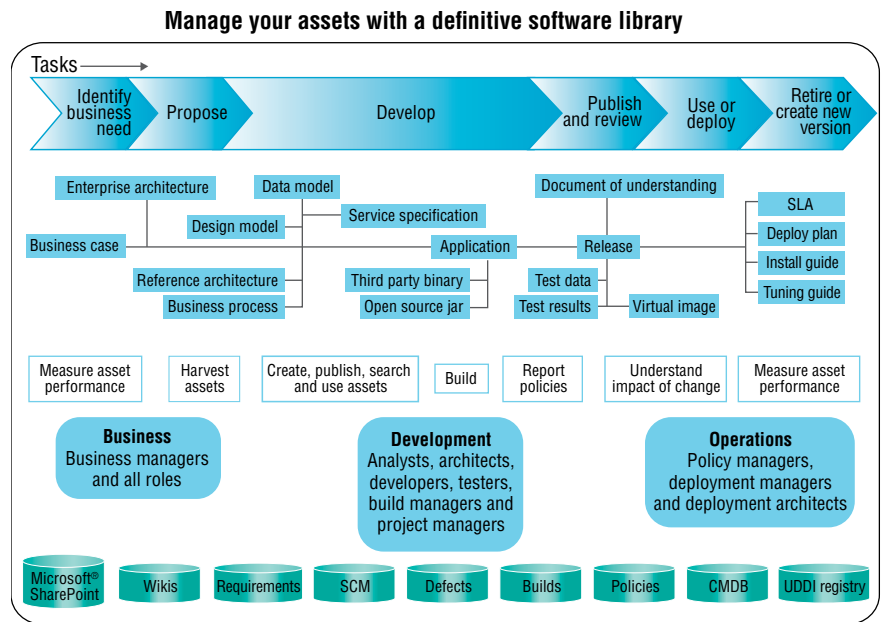


Figure 3: Using Rational Asset Manager software, you can manage assets, such as business cases, design models, releases and install guides, as part of your definitive software library.

Highlights

It's essential to gain consensus from all of your stakeholders about how to define an asset and how assets should be governed.

Establishing a center of excellence can help you establish the requirements for your company's definitive software library and encourage adoption of the library.

Agree on the definition of an asset

Assets are made up of zero, one or more business or software “work products.” A work product is any object produced by a user that can be shared, reused or referenced to meet a recurring business or technical need. Before you begin loading assets into a definitive software library, you must come to a shared understanding of what an asset is and how it should be governed. Stakeholders involved in the creation of your definitive software library should consider the following questions:

- *What type of assets does your organization need and how are they related?*
- *What group of work products makes up each asset?*
- *What metadata is required for each asset?*
- *How do you define the version of each asset?*
- *How are you setting asset visibility and permissions?*
- *Who needs to review this asset?*
- *What set of policies must be met or have been met?*
- *How will you harvest assets?*
- *How will you organize your assets so they are easy to find?*
- *Which assets do you maintain and how?*

Create a center of excellence

To answer the questions above, many organizations establish a center of excellence, enterprise architecture team or asset architecture board involving key members from each of the business units that could benefit from the definitive software library. This group can establish the requirements for defining asset discovery and governance. The asset governance needs to reflect the needs of the organization using the assets. This kind of structure can help encourage users to submit assets. If you provide a way for teams to suggest asset types, categories, attributes and asset governance suggestions right from the repository tool, then they will be more apt to contribute to the library.

Highlights

To make the definitive software library as useful as possible, you'll need to define how to organize assets, govern them and report on their usage.

Educating employees about the benefits of a definitive software library can help encourage its use.

Establish asset organization, governance and metrics

For each type of asset within your organization you will want to define how to:

- ***Organize them so that they can be found.*** *What categories are your teams likely to need to search for assets? And what categories will be needed to run the reports your organization requires?*
- ***Govern assets so that they are usable.*** *Select the appropriate level of governance for each type of asset you want to manage. In some cases, it may be appropriate to begin with a minimal amount of governance. Keep in mind that it's important to balance the amount of time it takes to submit an asset with the added benefit of the governance. If it takes 30 minutes to submit all of the required metadata, users may be discouraged from using the library.*
- ***Report on asset usage.*** *Define how you will be able to quantify the business value that assets are providing or not providing.*

Tips for successfully implementing a definitive software library

Change isn't always easy. The following tips can help you successfully implement a definitive software library within your organization.

Educate and encourage your employees

Introducing any new tool requires your employees to change their day-to-day processes. To help make the transition smoother and easier, it can be helpful to educate your staff on the benefits of a definitive software library. One company created an educational video that described the strategic importance of a definitive software library along with the benefits that staff could expect to get from using it and contributing to it. Another company encouraged staff to use the library by recognizing and rewarding individuals that contributed assets that were used by others.

Highlights

When choosing a tool to support your definitive software library, pick a tool that will be able to scale to support all of your assets within a single repository. Using multiple repositories makes searching significantly more difficult.

Automated governance processes help prevent irrelevant or invalid assets from getting into the library.

Choose a scalable tool that can integrate with your existing processes

When choosing a tool to support your definitive software library, it's essential to choose a tool that will be able to scale to support all of your assets within a single repository. Using multiple repositories creates a number of problems. When assets are spread out through multiple repositories, it can be difficult for users to find what they need. And simply adding a search mechanism to those repositories doesn't clearly illustrate the difference between an asset, a Web page or a work product. Searches across multiple repositories also fail to show how assets are interrelated, which can cause problems when the assets are used. It's also important to choose a tool that will enable users to access the definitive software library using their existing tools. This integration will help encourage users to begin using the library and minimize the amount of training required.

Automate asset governance and maintenance processes to help ensure that assets in the library are relevant

Implementing a definitive software library isn't just about dumping assets in a central location. It's about making sure the assets are organized so that others in your organization can find them, use them and provide feedback on them. The assets in the library need to be relevant—because assets that don't align with user expectations are worthless. Putting automated governance processes in place can prevent irrelevant assets from getting into your library and help ensure that assets continue to be relevant. Automated asset metadata updates, applied when your company's organization, product structures, employees or processes change, can also help keep your library up to date and ensure that users can find the correct assets to meet their needs. Plus, by applying policies such as expiration dates, you can help ensure that your library contains only valid assets. Automated asset reviews can also help you determine if published assets are in compliance with your enterprise architecture, legal, technical and regulatory policies so you can address any deficiencies or remove noncompliant assets.

Highlights

Rational Asset Manager software provides a definitive software library that can help you organize, govern and report on assets.

Automation capabilities in Rational Asset Manager software can help simplify the initial bulk loading of your definitive software library.

IBM Rational Asset Manager software

IBM Rational® Asset Manager software provides a definitive software library for cataloging, maintaining and governing business and software assets for your entire organization. The application is based on IBM Jazz™ technology, a new platform designed to transform how people work together to build software, making software delivery more collaborative, productive and transparent. Rational Asset Manager software provides Web-based and rich clients based on the Eclipse platform that enable you to locate and review assets. It also provides programmatic access via Java™ and Apache Ant application programming interfaces (APIs) so you can integrate it with your processes and other federated repositories.

Rational Asset Manager software allows you to organize, govern and report on your assets. It enables you to:

- *Find and understand what assets you have, how these assets are related and whether or not they are delivering business value.*
- *Reduce the overall cost of governing, planning, implementing and maintaining solutions.*
- *Deliver solutions faster and decrease time to market.*
- *Reduce delivery risk by improving consistency and using proven assets, resulting in more reliable and high-quality solutions.*

Rational Asset Manager software provides automation that simplifies the initial bulk loading of your definitive software library. It can also help you keep the library up to date with integrations with other repositories and third-party libraries. These integrations make it possible to reduce errors in metadata as users submit assets, improving the reliability of searches. Rational Asset Manager

Highlights

More than 167,000 users at IBM are using Rational Asset Manager software as a definitive software library to manage 41,000 assets, resulting in significant savings.

software can also automatically introspect asset artifacts, looking into each one to identify the appropriate attributes and categories for it, and set attribute values and asset categories, reducing the amount of time required to catalog an asset. Finally, Rational Asset Manager software provides process guidance based on the IBM Rational Unified Process, which can help avoid cultural challenges and implement the right governance model to make your definitive software library as useful as possible.

Reduce costs and deliver more consistent solutions faster

Rational Asset Manager software provides the capabilities you need to implement the right set of governance and processes, and successfully implement a definitive software library. IBM itself is achieving significant business results by using Rational Asset Manager software as a definitive software library and applying the techniques described in this paper. Over 167,000 IBM users are using Rational Asset Manager software to manage more than 41,000 business and technical assets, minimizing duplication and saving the company millions of dollars. By using a definitive software library to manage your assets, your organization can reduce its costs and deliver more consistent solutions faster. A definitive software library is the definitive source of software assets.

Gain additional functionality through integrations with other IBM offerings

Rational Asset Manager software integrates with a variety of other IBM offerings, giving you access to a broad range of capabilities.

- ***IBM Rational Build Forge[®] software delivers an adaptive process execution framework that automates, orchestrates, manages and tracks all the processes between each handoff within the assembly line of software development.***
- ***IBM Rational ClearCase[®] software provides sophisticated version control, workspace management, parallel development support and build auditing to help improve productivity.***

Highlights

- **IBM Rational Insight software** delivers measurement best practices to help organizations reduce time to market, improve quality and take greater control of software and systems development and delivery.
- **IBM Rational Software Architect software** provides comprehensive tools that facilitate communication and collaboration and help you innovate and accelerate delivery of your software development projects.
- **IBM Rational Team Concert™ software** drives software innovation through collaboration, helping transform how project teams work together to develop and deliver software in an increasingly agile manner.
- **IBM Tivoli® Change and Configuration Management Database software** is a platform for storing deep, standardized enterprise data.
- **IBM WebSphere® Business Modeler software** helps you to visualize, document and model business processes for understanding and process execution.
- **IBM WebSphere Service Registry and Repository software** enables you to easily and quickly publish, find, enrich, manage and govern services and policies in your service-oriented architecture (SOA).

For more information

Resources to help you get started include a discussion forum, the IBM developerWorks community, and the Rational Asset Manager Exchange.

To learn more about how you can use Rational Asset Manager software to help create an effective definitive software library for your organization, talk to your IBM representative or IBM Business Partner, or visit the following sites.

Rational Asset Manager product page:

ibm.com/software/awdtools/ram

Rational Asset Manager Insider Blog, which features best practices, Webcast tutorials and new demonstrations about definitive software libraries:

rationalassetmanager.wordpress.com



Rational Asset Manager discussion forum:

ibm.com/developerworks/forums/forum.jspa?forumID=1122

IBM developerWorks® community, which includes other published works on definitive software libraries using Rational Asset Manager software:

ibm.com/developerworks/rational/products/ram

Rational Asset Manager Exchange, which includes asset libraries and governance policies published by IBM clients:

ibm.com/developerworks/rational/exchange/ram_exchange/index.html?S_TACT=105AGX15&S_CMP=LP

© Copyright IBM Corporation 2009

IBM Corporation
Software Group
Route 100
Somers, NY 10589
U.S.A.

Produced in the United States of America
August 2009
All Rights Reserved

IBM, the IBM logo, ibm.com, and Rational are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at ibm.com/legal/copytrade.shtml

IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency, which is now part of the Office of Government Commerce.

ITIL is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office.

Java and all Java-based trademarks and logos are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.

References in this publication to IBM products or services do not imply that IBM intends to make them available in all countries in which IBM operates. The information contained in this documentation is provided for informational purposes only. While efforts were made to verify the completeness and accuracy of the information contained in this documentation, it is provided "as is" without warranty of any kind, express or implied. In addition, this information is based on IBM's current product plans and strategy, which are subject to change by IBM without notice. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, this documentation or any other documentation. Nothing contained in this documentation is intended to, nor shall have the effect of, creating any warranties or representations from IBM (or its suppliers or licensors), or altering the terms and conditions of the applicable license agreement governing the use of IBM software.

Each IBM customer is responsible for ensuring its own compliance with legal requirements. It is the customer's sole responsibility to obtain advice of competent legal counsel as to the identification and interpretation of any relevant laws and regulatory requirements that may affect the customer's business and any actions the customer may need to take to comply with such laws. IBM does not provide legal advice or represent or warrant that its services or products will ensure that the customer is in compliance with any law.