

# Collaborative design management solutions from IBM



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## Highlights

- Easily search and retrieve past designs and design data
  - Extend web-based team collaboration for non-modelers
  - Enable faster, more automated design reviews
  - Easily create documents and reports across disciplines
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*Enhance cross-team collaboration on systems and software application design*

Today's software design tools focus on the needs of the practitioner, which often leads to design being done in silos. Even with the best design tools, significant team challenges can still exist, such as:

1. Poor collaboration, incomplete deliverables and inferior design quality, as design team members often work in isolation from each other and key project stakeholders.
2. Design elements that are disjointed from other artifacts in the life cycle—including project plans, requirements, change requests, test plans and deployment plans—making it difficult to determine the overall impact of changes.
3. Designs that are difficult to access by stakeholders, reviews that are manual and time consuming and designs that are seldom maintained after development begins, resulting in a significant disconnect between the initial design and the delivered product—reducing the usefulness of the design after the initial investment.
4. Uncertain predictability and effectiveness of the design process, leading to schedule delays and inefficient use of development resources.
5. Failure to reuse designs and ideas from one project to the next, resulting in time-consuming inefficiencies, as organizations continually “reinvent the wheel.”
6. Difficulty showing compliance to standards and regulations, leading to audit failures.

Integrating design with the rest of the software and systems development life cycle, from requirements through test, and engaging all relevant stakeholders in the design process are two critical ways to address these challenges. Built on the IBM® Jazz™ platform for collaborative software



and systems delivery, IBM's collaborative design management solutions enhance architecture and design solutions from IBM Rational® to help deliver on the goals of integrating design into the life cycle, collaborating with stakeholders and optimizing the design process.

Rational software provides a rich set of design and development solutions, which can help organizations to design, build and deliver software-intensive systems and products. Teams large and small create, extend and collaborate on designs, leveraging solutions built around Rational Software Architect or Rational Rhapsody® software. These teams can realize significant results in their drive to:

- Simplify application and systems complexity.
- Improve quality and reduce costs by identifying issues early in the life cycle.
- Communicate to stakeholders what they intend to build.

## Collaborative design management at a glance

### Addressing the challenges

*Members of design teams often work in isolation from each other and key project stakeholders, leading to poor collaboration, incomplete deliverables and reduced design quality.*

Collaborative design management solutions from IBM automate the ability of the extended team—including requirements analysts, developers, quality professionals, operations personnel, clients, suppliers and partners—to participate in the design process, share their expertise and help improve the design. With IBM's collaborative design management solutions, design teams no longer work in isolation but have continuous, constructive feedback from stakeholders throughout the design and development process.

Contributors outside the design team can use the web client to search, review, comment on and mark up designs, improving team communication and design quality. With traceability links between designs and IBM Rational Team Concert™ software

work items, stakeholders can more easily determine how their task and area of concern relates to design tasks and related designs.

*Design elements are disjointed from other artifacts in the life cycle, including project plans, requirements, change requests, test plans and deployment plans, making it difficult to determine the overall impact of changes.*

With IBM's collaborative design management solutions, designs are linked to requirements, work items and test artifacts by way of Open Services for Lifecycle Collaboration (OSLC) linking. This enables life-cycle design traceability, helping tame process complexity issues. These artifact links are more easily accessible to stakeholders and designers, directly, in the context of the designs and through discovery on graphical relationship diagrams, enabling immediate impact assessment of design changes to all linked artifacts. This design traceability further facilitates the creation of comprehensive reports and documents to help manage regulatory standards and audits.

*Designs are difficult to access by stakeholders, reviews are manual and time consuming and designs are seldom maintained after development begins. This results in a significant disconnect between the initial design and the delivered product, reducing the usefulness of the design after the initial investment.*

Using IBM's collaborative design management solutions, stakeholders anywhere can use the intuitive web or rich client to access the central design hub to search, analyze and review designs, enabling them to explore and understand the relevant aspects of the design. Designers can initiate automated reviews, specifying which designs to review and which stakeholders need to participate. Stakeholders can more easily view the design and attach comments and mark up. Design reviews can be linked to Rational Team Concert software work items for planning and tracking. This automated review process simplifies the design and development process and helps address design complexity issues by involving the right subject matter experts at the right point in the process.

*Predictability and effectiveness of the design process is uncertain, leading to schedule delays and inefficient use of the development resources.*

With IBM's collaborative design management solutions, teams begin to collaborate and work toward the implementation of the solution the moment requirements are elicited and elaborated. The design process becomes a team activity in which frequent changes, constant validation and feedback help solidify the direction of the development effort.

Because of greater visibility, stakeholders, especially management, can get a better idea of the team's work at an earlier stage and are informed of the team's progress and output even before any "executables" are delivered. Most important, designs are treated the same as other life-cycle artifacts with the ability to associate and track activities against them throughout the entire development process. Automated dashboards can make it easy for team members to follow ongoing activities, such as changes and design reviews. When used with planning capabilities in Rational Team Concert software, automated dashboards can enable teams to more accurately monitor progress, and they can be used to predict workload and schedule resources.

*Organizations are constantly "reinventing the wheel," failing to migrate innovative design elements and ideas from one project to the next.*

Reuse is crucial to delivering more innovative capability and consistent quality with fewer resources, all in shrinking market windows. The collaborative design management solutions' advanced search, analysis and review capabilities, by way of the central design hub, help teams to mine existing designs throughout the organization for already-conceived innovation to apply to new or updated design efforts. Comments and marked-up diagrams within the designs can help teams identify reusable design elements, while the ability to link design elements to artifacts and activities that span the life cycle assists the extended team in exploring relationships of reused design elements in a variety of contexts.

*Creating design documents is labor intensive and error prone, leading to audit failures and difficulty showing compliance to standards and regulations.*

IBM's collaborative design management solutions enable the team to collaborate directly on the live designs stored on the server, instead of passing around static documents that take time to create and become stale. However, teams still need to generate design documents for external purposes, like auditing and compliance. IBM's collaborative design management solutions can make it easier to create these reports, using IBM Rational Publishing Engine software, by not only including information on the designs, but also by leveraging the design review and OSLC-linked data to integrate information from different sources such as designs, requirements, change requests and test artifacts.

IBM is taking design and development to the next level. Leveraging designs created with IBM products—Rational Software Architect and Rational Rhapsody software—IBM's collaborative design management solutions help enable organizations to address the challenges of team-based systems and software delivery. Collaborative design management solutions from IBM unite a broad set of interested stakeholders, including requirements analysts, developers, quality professionals, operations personnel, partners, clients and others from different disciplines and organizations. All participants can easily collaborate with the design team—contributing to and influencing the design of complex applications, helping to drive improved quality and increase the likelihood of achieving desired business outcomes. IBM's collaborative design management solutions can also improve team productivity by empowering the discovery and reuse of existing designs in new projects.

Based on the Jazz platform, IBM's collaborative design management solutions bring stakeholders together around the design process through an intuitive, web-based user experience that can help them achieve the following three critical objectives:

1. **Optimize productivity and lower costs** by providing a central location for designs, enabling stakeholders to search, view, analyze, review and identify reuse opportunities that encompass multiple designs from a variety of sources.
2. **Improve solution quality** through collaboration on design reviews that involves all stakeholders.
3. **Accelerate project delivery** through continually changing, dynamic designs and a design process that fosters continuous stakeholder involvement, decreases iteration times and improves responsiveness to change.

### For more information

To learn more about collaborative design management solutions from IBM, please contact your IBM marketing representative or IBM Business Partner, or visit the following websites:

- [ibm.com/software/rational/products/rhapsody/designmanager/](http://ibm.com/software/rational/products/rhapsody/designmanager/)
- [ibm.com/software/rational/products/swarchitect/designmanager/](http://ibm.com/software/rational/products/swarchitect/designmanager/)
- [https://jazz.net/projects/design-management/?ref\\_content=splashlink](https://jazz.net/projects/design-management/?ref_content=splashlink)

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