



# PowerRAD<sup>TM</sup>

## Powering Business Solutions

A Business White Paper





## Business Manager's Dilemma

Organizations worldwide strive to harness the benefits from the IT explosion to increase the level of Automation and operational quality, and reduce costs. However, customized technology doesn't come cheap and with a limited budget in hand; many projects /organizations are faced with the dilemma of determining the direction and extent of investment.

Today, process of application system development starts with business owners zero in on idea followed by marathon meeting with IT specialists end result being business owners/managers are left grappling with some incomprehensible technical documentation and not with a tangible solution. Therefore IT specialists across the globe are looking for developing "intelligent and dynamic" enterprise solutions that is more visible and understandable by business owners/managers.

Some of the fallouts identified in this process are:

- Inability to present a working model that can provide early visibility of the system.
- Inability of the IT solution providers to provide a client-compliant dynamic solution, Thereby leading to client dissatisfaction.
- Inability to map the requirements with the actual solution- resulting in increased Complexity, out-of-focus solution, and loss of time.
- Inability of the solution provider to provide lucid and up to date documentation of the application.
- Inability to curb the rising costs of development, deployment and maintenance cycle Of the desired solution.
- Inability to lower an organization's total cost of ownership (TCO) and provide Significant positive return on investment (ROI).

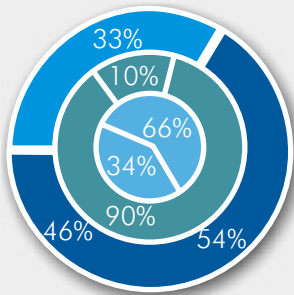
All these issues and shortcomings can be resolved if solution providers have an approach that can capture the requirements and at the same time create a user-friendly solution.

Outline systems's PowerRAD offers exactly such a alternative. PowerRAD is a rapid application development approach, used to create and develop Web based Enterprise solutions. This approach helps in bridging the communication gap between business and IT architects, providing a comprehensible tangible solution.

*Change is **the** only  
**constant** in today's  
dynamic business  
environment.*



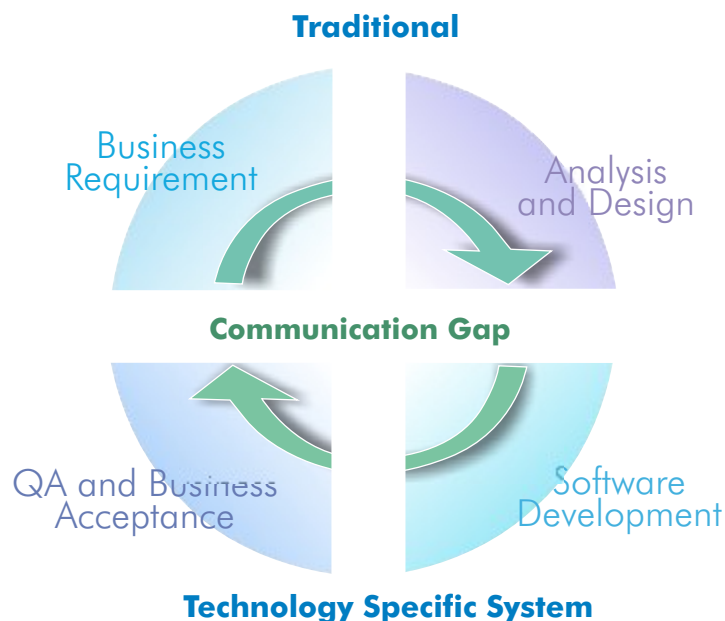
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*"Nearly one-third of all software projects are canceled prior to completion. Of those projects that are completed, more than half (54%) exceed budget, 90% are delivered late, and two-third are considered unsuccessful, even though they met the functional business requirement."*

-The Standish Group about the inefficiency of current software delivery processes

In a traditional environment, the requirement-gathering approach would be tedious with several rounds of meetings between the client and the solution provider. The business and functional needs would be captured and worked upon, on white board, Word documents and Excel sheets, object and data models. Also, these processes do not guarantee whether the prepared requirements would match and align with client specifications. Then, the documents would go through a series of feedback rounds between business managers and the solution provider, before it is transitioned to the next phase of software development life cycle (SDLC). This stretched out approach of finalizing, based on a legacy system, would be painful for the client as well as the solution provider or the developer.



Traditional SDLC model

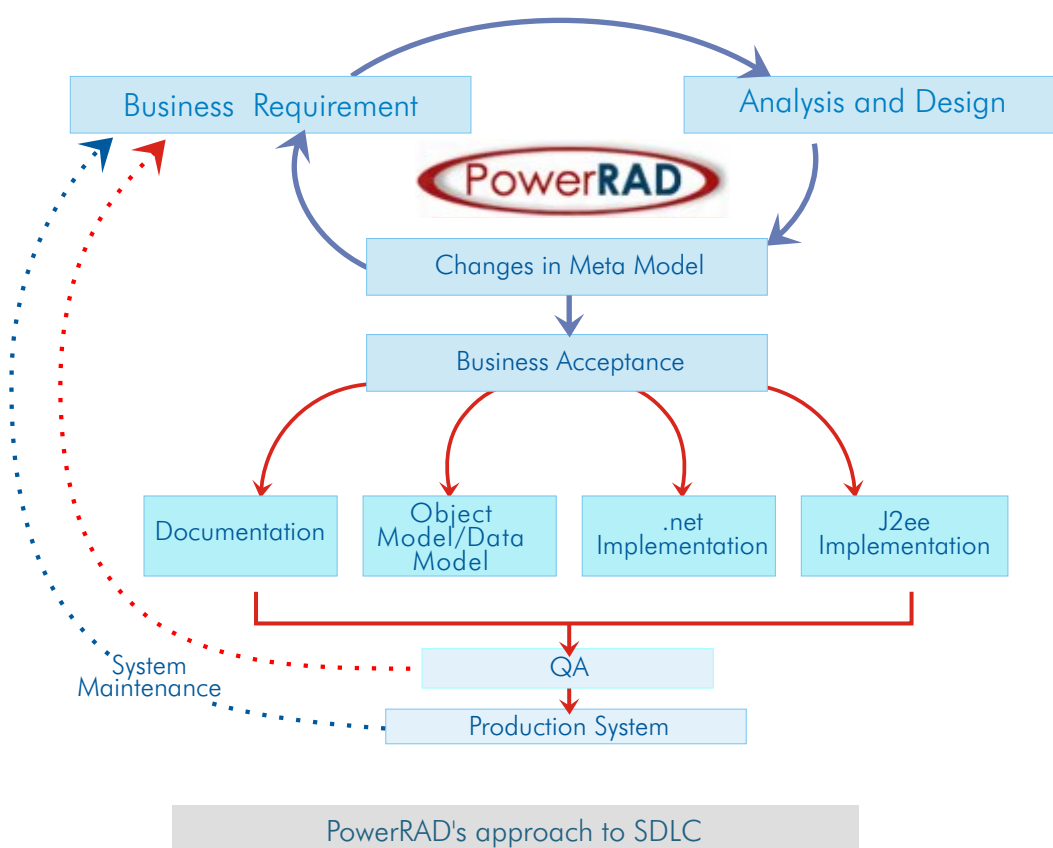
Imagine the same steps being repeated with a software, where the joint application development (JAD) session is based on live working system and is iteratively being done by system architects based on the business users input. In such scenarios, the application could be modeled before it is built. The business representatives, can quickly see a running system and at the same time document their thoughts in the model to derive artifacts like object model, data model, and various other soluble documentations that can be used later during the development stage.

Further, in case the business manager wants to modify certain aspects of this executable model, it can be reworked and remodeled dynamically until the exact specifications are captured. This iterative quick view into the application enables business users to see how the application would be shaping up.

## Solution

PowerRAD is Outline systems' answer to simplifying development effort. It meets the challenges of the ever-dynamic world of IT, driving solutions successfully and effectively through its completion and maintenance cycle. Using PowerRAD, business organizations can empower IT to exceed their business expectations, such as:

- Low development costs
- Less time to market the product
- Low maintenance costs
- Better IP protection.



PowerRAD is not a mere simulation tool and it goes far beyond merely generating a prototype model of the business solution. PowerRAD offers an effective agile solution to help organizations to rapidly design, build, test, and retest Web applications till all requirements are met.



Once the development is complete PowerRAD takes care of the maintenance cycle of the solution till the business clients are completely satisfied with the end result.

PowerRAD enables business managers to “visualize” business solution/model's components and UI (User Interface) prior to the development phase. Once the executable business model is agreed upon, the desired Web-based solution can be created.

*PowerRAD helps in synchronizing business and IT by narrowing gaps between the two. Its rapid visualization of an executable model enables managers to take fast decisions, thereby, reducing total project completion time.*

With PowerRAD, the entire SDLC and business process is revolutionized. It helps in:

- Performing a completeness check for the desired solution and finalizing the flow of application during the early stages of the SDLC
- Documenting and specifying the business rules for the end solution
- Building a healthy and symbiotic relationship between business managers and solution providers
- Bridging communication gaps between client and IT personnel
- Reducing costs
- Reducing risks
- Developing solutions rapidly
- Creating scalable/flexible solutions
- Reducing the total time spent in the development cycle, saving time and facilitating business people to focus on other core areas.

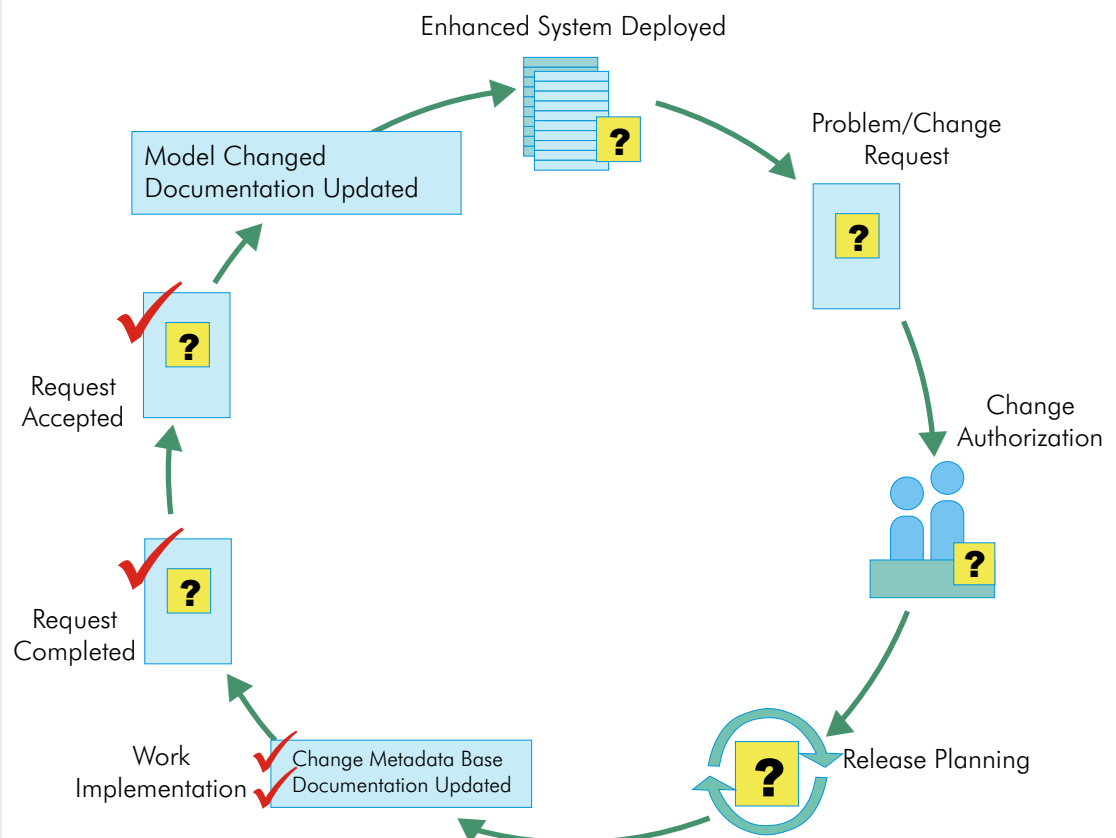


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## Changing Seamlessly

All IT solutions are developed in evolutionary stages to accommodate the client's request for changes, enhancements, and problem fixes. Further, to reduce risks of compliance issues and audit failures, PowerRAD has comprehensive enterprise change management with built-in process control feature that offers a single point of control for all changes

Any change requests or fixes are proactively taken care of simultaneously in all versions, maintaining the uniformity throughout. The required problem or enhancement is identified and a tracking number, for rectification, is tagged to it. Simultaneously, all artifacts are automatically updated in every release. The solution can be realigned, remodeled as per the client's satisfaction till the final feedback and sign-off from the client is attained. This feature helps organizations in reducing costs during the maintenance phase and offers greater compliance with processes and procedures.



PowerRAD's approach to System Maintenance



## Competitive Edge

Business organizations can leverage many fold benefits of PowerRAD:

- It offers consistent and rapid development, reducing the complete SDLC by 60%. Majority of the development time is concentrated on the collection of metadata.
- It offers a Meta model repository in the form Meta-Object Facility (MOF) an industry standard for storing Meta data. MOF is model driven framework used for defining, manipulating, and integrating metadata and data in platform independent manner.
- It offers a controlled environment. Since the whole project is implemented based on metadata and very little involvement of the programmer, the defect rate is very low.
- It enables the business client to get an early visibility into the system.
- It helps in estimating projects more accurately. The specifications and requirements of the desired application are broken down to objects, and implementation using MDA techniques helps to estimate the cost and time of the project development more accurately. This also makes the JAD meetings more productive
- It preserves the intellectual as well as architectural design and model in the form of PIM storing the application's business functionality. Since PIM is created as per MDA specifications, organizations can use any MDA compliant tool to generate code based upon the latest technology. PIM makes the application platform-independent and scalable.
- It significantly reduces the maintenance phase of the SDLC cycle in the application software. All the system documentation is stored in a model, enabling efficient management of changes, thereby making maintenance more effective and accurate.

In a nutshell, the main advantages of PowerRAD are:

- Rapid development
  - Improved visibility
  - Quick defect realization and correction
- Accurate project estimation
  - Productive JAD (Joint Application Development) meetings
- Reduced communication gap between business managers and IT personnel
- Executable meta model
- Interoperability with other specifications and services
- Alignment of business requirements with IT systems
- Reduced risk of offshore development
- Reduced cost of development.

*Business people can review multiple "what-if" scenarios and a version to determine which one best fits their needs.*



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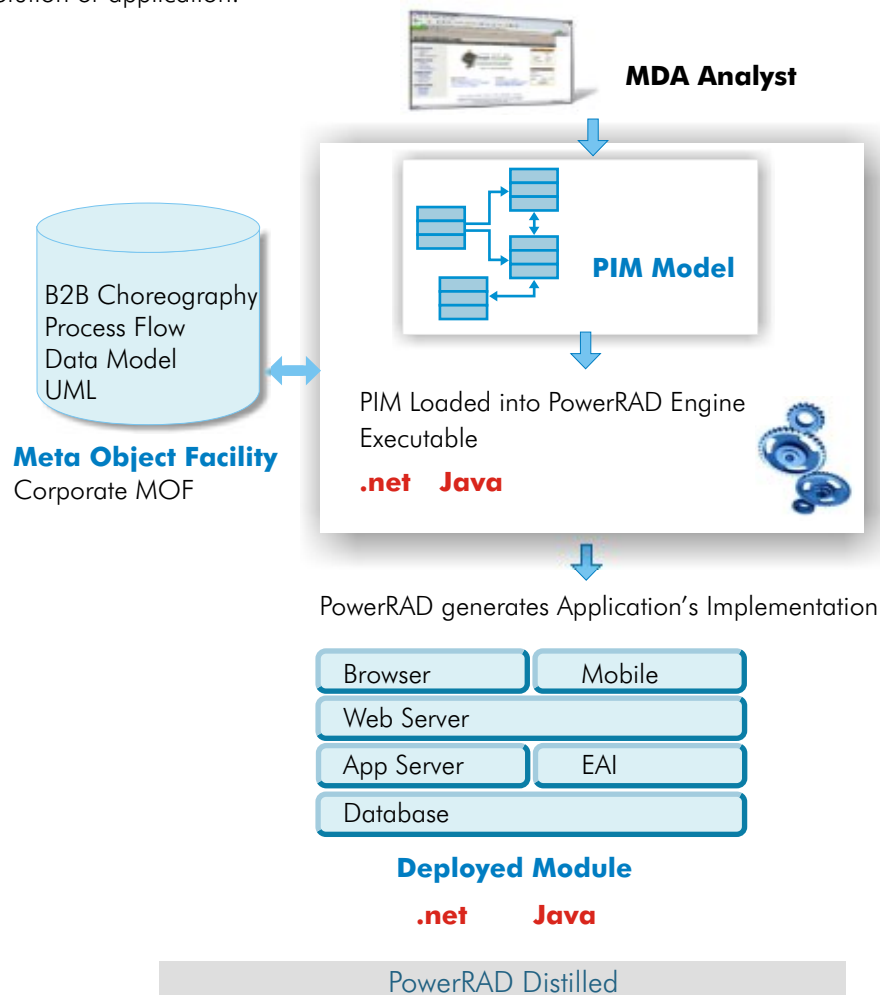
## PowerRAD in Action

The OA (Outline MDA analysts) and the client would brainstorm to consolidate all the requirements and details of the Web application that is to be created. Further, a CIM (Computational Implementation Model) is created.

Based on the requirements and existing models, the analysts and the Technical Architect from client side will prepare the PIM (Platform Independent Model) in PowerRAD. The OA will feed business rules to PowerRAD's BRE (Business Requirement Engine).

The OA will present a working model of the system wherein the business manager can perform data modifications and see the Web application as per the requirements provided to the PowerRAD Model Application Engine. The system code is then generated in any of the industry standard framework or the desired platform such as .Net, J2EE, followed by the QA round. This process continues iteratively until the business managers are satisfied with the solution or application.

*PowerRAD is an approach to build robust, scalable Web-Based enterprise solutions.*







## Bottom Line

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PowerRAD tool makes transitioning from business processes to a working software Web application smooth and error-free. The process starts with an executable model of the solution and ends with a satisfied client's end product. The entire SDLC lifecycle is transformed into a simplified, standardized, and inter-operable business application or solution.

## About Outline Systems Inc.

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Outline Systems Inc. is an Enterprise Software Development and Services Company, located in Princeton Jct., NJ USA. The organization has partnered with OMG and Microsoft and is committed to designing innovative solutions to narrow the critical gap between people who understand business and those who apply technology. The organization has diverse geographical presence with development centers in NJ USA and New Delhi, India.

## References

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- [OMG's Model Driven Architecture](#)



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