

New Efficiencies in Application Development

Using MKS Portfolios to Reduce IT
Costs and Increase AD Effectiveness

Portfolio *port·fo·li·o* (*pôrt·fô'lē·ô', pôrt-*)
n., pl. -os.

A group of investments held by an investor, investment company, or financial institution

Facts:

Enterprises that implement a disciplined application portfolio management strategy can reduce IT expenses by at least 20 percent and future application transformation costs by 30% - **Gartner**¹

Application portfolio management initiatives will support IT governance and investment in 40% of the Global 2000 enterprises and large government IT shops within the next two years – **Gartner**²

On average, 76% of firms' IT budgets go to ongoing operations and maintenance as opposed to new investments – **Forrester Research**³

Integrated IT management (IIM) dashboards will enable IT management to reduce IT budgets by as much as 30% while realizing value increases of 10% to 15% in the first year – **Forrester Research**⁴

Realities:

- IT budgets are under much closer scrutiny than ever before, and the business is holding IT accountable for their financial expenditures.
- Business requirements for IT continue to rapidly change and expand – controlling change churn is a major priority for IT organizations.
- IT organizations are being required to formalize process on new projects, and around ongoing application maintenance to meet compliance demands.
- Current Project Portfolio management tools focus primarily on new software projects providing information and metrics on only 1/3 of the total AD expenditure. Additionally, the information provided through management dashboards is subject to bias and may not be timely due to manual data entry and a disconnect from the day to day activities and processes of the AD organization.
- Application maintenance and development budgets are not clearly understood in terms of where expenditures are being made. CIOs are challenged to justify increased AD funding because they cannot easily account and show returns on existing AD spending.

Conclusion:

- To be accountable to the business and improve IT efficiency, CIOs need improved visibility and trustworthy information over 100% of their AD expenditures.

The Answer – MKS Portfolios

Defining & Understanding Portfolios

Project Portfolio Management

Most CIOs today are familiar with Project Portfolio Management (PPM), a class of tools that has naturally grown out of the project management market. PPM refers to a [software](#) package that enables corporate and [business users](#) to organize a series of IT related projects into a single portfolio that will provide views and reports based on the various project objectives, costs, resources, risks and other pertinent associations. PPM tools allow the user, usually management or executives within the company, to review the portfolio in order to make financial and [business decisions](#) for the projects as it aides them in identifying project status, high cost or high risk initiatives, at a glance get a feel for resource capacity and align new projects with strategic objectives. Project Portfolio tools are typically limited to new projects, which according to 2005 Forrester research constitute only 24 percent of the total Application Development budget in most IT organizations.

Whereas an application is a discrete software asset -- source code or routine -- a project is more abstract. Projects are not assets per se, and do not contribute business value in and of themselves. Instead, they implement or support other "things" like new business processes or even applications that, in turn, generate business value. It is true that projects and applications can overlap (a project's primary purpose may be to create a new application) but they differ more often than not. For example, a project to consolidate a company's pool of suppliers may indirectly affect a corporate application, but it is driven by a larger business purpose.⁵

Application Portfolio Management

Analysts have more recently put forward a new term, or class of tools, called **Application Portfolio Management (APM)**, which is defined by Gartner to be a technology "critical to understanding and managing the 40 percent to 80 percent of IT budgets devoted to maintaining and enhancing software. According to Gartner APM allows for "explicit management of established applications complements the existent architecture and project planning initiatives by highlighting where progress is being made, by realizing the architectural vision and by foreshadowing the demands of established applications on the resources of the development and support organizations. Gartner predicts that "spending on application portfolio management tools and processes is estimated to be about 1 percent of overall spending on project management and other governance initiatives. This should grow to 5 percent by 2010 and represent as much as one-third of the spending on the annual budget and project planning cycle."⁶

Application Portfolio Management can provide the visibility, and decision making support necessary to aid an organization in reducing AD expenditures and costs; better align IT to line of business (LOB) requirements; better understand the funding and resource burden across the application portfolio, and make more fully informed decisions about future investments.

The success of early application portfolio management (APM) implementations, most home grown offerings in large enterprise firms, has encouraged project portfolio management (PPM) vendors to claim to offer APM functionality. Forrester, however, issues a strong caveat emptor on this point: None of the PPM vendors actually have a bona fide APM solution. PPM tools do not automatically collect data at the source code level, which is necessary to enable certain critical APM functionality and ensure subsequent data integrity – thereby engendering trust in the application knowledge base.

IT Portfolio Management

Anticipating this convergence, analyst firms are also in the initial stages of defining a market that aggregates the functionality of PPM and APM as well as IT operations – a set of capabilities aimed at providing a portfolio view into the entire IT organization. Forrester defines this space as Integrated IT Management, and IDC Research is defining the category as IT Lifecycle Management.



Introducing MKS Portfolios

MKS Portfolios is a best of both worlds solution, blending the core capabilities found in the PPM and APM disciplines and tying in appropriate IT operations data, built on the foundation of a process-centric software application lifecycle management system, aimed at delivering IT executives with a holistic view of their AD operations and investments.

MKS Portfolios is not a separate product but rather a concise set of features built in to the overall MKS Integrity solution. Unlike other portfolio solutions that are loosely integrated with the development lifecycle and rely on manual data entry or data feeds from various sources, MKS Portfolios captures and displays information as it happens – mining information from the daily transactions and processes associated with application development.

MKS Portfolios provides a superset view of development activities across an IT organization and does not discern between new projects and ongoing application maintenance activities. Rather, MKS Portfolios provides CIOs with a holistic view of AD effort and costs across development and IT operations groups more accurate measurement answering the following questions:

- Which applications cost the most and why?
- What purpose does the application serve – is it of strategic business value? Used for competitive advantage? Does it fall under to Sarbanes-Oxley, FDA 21 CFR Part 11, HIPPA or some other regulation
- Which applications are dormant or active?
- Which applications have the highest frequency/volume of change and why?
- Which applications have the highest/lowest customer satisfaction?
- And most importantly, how do all of these align to both spending and strategic direction?

MKS Portfolios is a window built into the lifecycle process and an extension of MKS's application lifecycle management system. You gain broad benefit and real time visibility across the lifecycle, yet there is only one solution to install and administer, reducing complexity and offering a low total cost of ownership.

Functional Overview

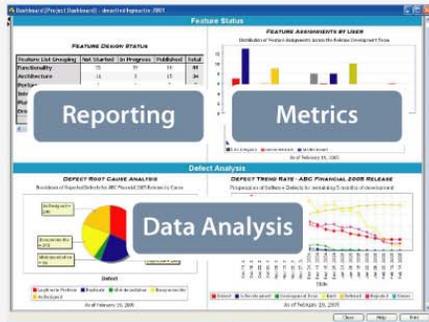
Application and Project Inventory – The MKS solution collects a complete and accurate representation of ongoing development activities related to new development projects and ongoing application maintenance including an inventory of all relevant artifacts, from project definition records, related business and technical requirements, documentation, source code, test document, deployment records to ongoing help tickets.

Artifact and Task Relationships – Not only does the MKS solution collect information related to business requirements, development activity, testing tasks and subsequent deployment artifacts, it maintains a clear and immutable relationship between these elements at all times. These activities to artifact relationships enable complete tracking, traceability and alignment of effort to projects and applications, which in turn, can map directly to business needs.

Application and Project Level Metrics – With the MKS solution metrics that are relevant to the strategic direction of the business, at all levels of AD and IT operations, can be defined and exposed providing a high level view of the enterprise application and project landscape. Manual data entry or scheduled data import is eliminated thereby automating metrics generation by using the underlying MKS Integrity solution which manages the application lifecycle while reports and dashboards enable a “manage by exception” environment allowing timely decisions for both new and maintenance level activities.

Trending and Cost Analysis – Powerful reporting, charting and dashboard capabilities along with data drill down and roll up from initial requirement through to source code change and application deployment allow accurate actual project costing and refinement of the application development and delivery process with each iteration.

Visibility on Many Levels – The MKS solution is configurable and can supply information to a broad audience of IT professionals from programmers and business analysts to IT managers, directors, VP's and CIO's, as well as IT auditors, risk managers, and compliance officers.



Consolidated dashboard view enables IT executives to visualize progress and measure organizational efficiency



Integrated lifecycle management empowers teams and breaks down development and operations silos



Single centralized repository enables complete control and visibility across the enterprise

MKS Portfolios delivers a complete and accurate representation of ongoing AD activities increasing IT efficiency and effectiveness.

Rx For Success – Establishing the Right Metrics for Your IT Organization

Metrics, properly defined, can deliver tremendous value to IT organizations, aiding them in increasing efficiency and effectiveness. The challenge is in the definition, and in selecting a handful of metrics that can deliver maximum payback. The risk with metrics is that organizations will spiral into analysis paralysis – capturing information on everything and gaining nothing. Base on discussions with customers and a review of research from various sources, MKS has provided a framework and prescriptive advice for metrics effectiveness.

The following five-point framework for analysis allows an organization to examine its IT operations from people, process, quality and value perspectives.

1. **Team Efficiency** – Essentially this is a measure for productivity (output/time), which is most valuable when, trended across projects and over a reasonable time period but also useful within the phases of a project.
2. **Process Efficiency** – Continual improvement being the goal here, measures track and report on the health of your internal processes. Are you spending too much time doing rework? Are too many bugs being found during initial QA, perhaps pointing to inefficient design and code reviews? How often did the scope of the project change? How did project milestones map to ideals (in terms of % of total project)?
3. **Project Efficiency** – How well did the project satisfy its objectives? This category takes into account project variances (schedule, budget, effort) as well as customer satisfaction metrics. Overlapping with Process Efficiency and Quality as well, Project Efficiency can also track metrics after the project is complete (i.e. defects found during first 30-90 days after implementation).
4. **Quality** – This can be a pure measure of defects / unit of output (function, LOC, etc.), by project or by phase, but can also include QA and testing metrics. Additionally, metrics can be generated to measure individual or team re-work (i.e. how many iterations of development, testing or deployments have occurred).

5. **Value and Effectiveness** – A measure of how the project and the output from the project align to the strategic objectives. These measures are important when prioritizing projects and tracking the success of a project back to the core business objectives. Concrete metrics may be difficult to define for these categories but often educated assigned measures will be good enough.

The MKS approach to Portfolio Management provides CIOs with a holistic view for improved decision-making. Below is a list of metrics that are easily implemented using the MKS solution.

Application Level Metrics:

- Inventory metrics (total # of applications/with scheduled work/with no work in X months)
- Investment metrics (effort/size/cost to date)
- Source metrics (measures of size like # SI Projects, Members, Revisions, LOC or Function Points)
- Project metrics (measures of activity like # Projects/Activities (active/historical/planned, on schedule/on budget/at risk), total budget, total effort)
- Average variance on Budget, Effort, Schedule across all completed Projects
- Average Earned Value, Cost Performance Index, Schedule Performance Index across all completed Projects
- Customer Satisfaction metrics (# incidents, avg. time to close, user/business owner satisfaction)
- Categorization metrics (Risk, Complexity, Value, Quality, Priority)
- IT Operations metrics (# of help tickets open/closed/leading to defects or features)

Project Metrics:

- Project metrics (measures of activity like # Projects/Activities (active/complete/proposed, on schedule/on budget/at risk), total budget, total effort)
- Average variance on Budget, Effort, Schedule across all completed Projects
- Average Earned Value, Cost Performance Index, Schedule Performance Index across all completed Projects
- Estimated/Actual Cost, Effort
- Source metrics (measures of size like # of CPs, # changed members, LOC diffs (how much code was changed for this project))
- Scope metrics (# of requirements, features, tasks), trend against other historical projects
- Feasibility (calc of size over effort)
- Feature burn metrics (% requirements, features, tasks in state/phase, % of tests written/passing); trend over time
- Process metrics (churn of Requirements, time in rework, defects during burn-in, time / feature); trend over time

In Summary

MKS Portfolios provides a unique approach to IT measurement. It offers a superset view of application development activities across an IT organization that does not discern between new projects and ongoing application maintenance activities. Built as an extension of the application lifecycle, *MKS Portfolios is not a separate product*. Unlike other portfolio solutions that are loosely integrated with the development lifecycle and rely on manual data entry or data feeds from various sources, MKS Portfolios captures and displays information as it happens – mining information from the daily transactions and processes associated with application development. The goal of this solution is to provide answers to vital questions outside the scope of project portfolio solutions



today. And by avoiding manual data entry and through its one-ness with the ALM repository, MKS Portfolios delivers timely, trustworthy and actionable data to benefit all levels of the IT organization from project and team leads through to vice presidents of application development and IT operations, to the CIO.

Footnotes:

1. Gartner AD Summit 2005 presentation by Jim Duggan – Application Portfolio Management and Enterprise Architecture – Agility through Understanding, September 12-14, 2005, Page 13
2. Gartner Predicts 2006: Reacting to Application Development Challenges With Management and Automation – Jim Duggan, Michael Blechar, Joseph Feinman, Dale Vecchio, Partha Iyengur, November 15, 2005
3. Data Overview: [2005 Enterprise IT Outlook: Business Technographics North America](#) – Tom Pohlmann, Forrester Research, December 15, 2004
4. Integrated IT Management Drives Efficiency: Role-Based Dashboard Views Will Make It Happen — Get Ready, by [Margo Visitacion](#), [Phil Murphy](#), [Thomas Mendel, Ph.D.](#), Forrester Research, February 2, 1005
5. Managing the Project Portfolio, Ian S. Hayes, Clarity Consulting
6. Gartner Predicts 2006: Reacting to Application Development Challenges With Management and Automation – Jim Duggan, Michael Blechar, Joseph Feinman, Dale Vecchio, Partha Iyengur, November 15, 2005

Other Sources:

1. Stop Treating Maintenance as a Chore, Philip Murphy, Forrester Research
2. Trends 2005 – Application Portfolio Management, Philip Murphy, Forrester Research
3. Application Portfolio Management and Enterprise Architecture – Agility Through Understanding, Jim Duggan, Gartner, September 12-14, 2005
4. Findings from the ‘All Software’ Research Meeting: Application Portfolio Management, Matt Hotle, Gartner, August 22, 2005