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The Application Portfolio Management Landscape — Combine Process And Tools To Tame The Beast

by Phil Murphy
for Application Development & Delivery Professionals

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by Phil Murphy
with John R. Rymer and Alissa Anderson

EXECUTIVE SUMMARY

Business leaders demand that IT leaders "do more with less" to free resources for innovation and growth. Applications professionals are turning to application portfolio management (APM) to meet those challenges, but the path to APM is convoluted, with conflicting definitions and a fragmented tools market. Forrester interviewed more than 30 customers and vendors to find their paths to APM success. The result? A clear picture of the landscape that will help you harness the power of your application portfolio to achieve business growth goals.

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NOTES & RESOURCES

Forrester interviewed more than 30 companies, including alfabet, Ateras, B+B Unternehmensberatung, BMC Software, CA Technologies, Cast, EZ Legacy, HP, IBM, In-Com Data Systems, Information Balance, Innotas, ITP-Panorama, looksoftware, Mapador, Micro Focus, Software AG, Troux Technologies, and client organizations in banking and financial services, pharmaceuticals, government, and manufacturing.

Related Research Documents

"Application Retirement — It's Time To Put The Elephant In The Room On A Diet"
February 3, 2011

"What Comes Next After Application Assessment?"
January 26, 2011

WHY FIRMS ARE TURNING TO APPLICATION PORTFOLIO MANAGEMENT NOW

As the economy begins to recover, application development and delivery (AD&D) professionals must develop new applications to support strategic business growth. However, new applications exacerbate the biggest growing problem: The application portfolio has become a voracious beast that devours all available resources and leaves little for new initiatives. Firms that manage to tame the beast will thrive; firms that don't will be consumed. The beast is at your door — heed the warning signs:

- **The beast costs too much and is the largest opportunity for cost reduction.** We simply can't "do more" if we're tied down by keep-the-lights-on (KTLO) activities. Forrester's research shows that the average amount spent on ongoing operations and maintenance exceeds 65% of the IT budget, but many firms report much higher percentages. A large UK bank initiated its application portfolio management (APM) effort to take a 90:10 ratio for run-the-bank/grow-the-bank down to a more reasonable 40:60 ratio. Dell shifted its maintenance-to-innovation ratio from 80:20 to 50:50.

- **IT resource consumption isn't transparent.** IT resources are finite, so any wasteful, parochial behavior by one group reduces the available resources for other groups — and parochial behavior is rampant. The resources that KTLO activities consume are hidden in a huge bucket that tends to grow uncontrollably until some crisis brings the untenable conditions to light. For example, a US energy company consolidated several redundant enterprise resource planning (ERP) applications after it discovered the loss of key data that the CFO needed to fulfill audit requirements.[1]

- **Bloated application portfolios are a drag on time-to-market.** Making fast changes in a lean application portfolio is daunting enough; bloated portfolios are exponentially more complex to change, test, and redeploy. Technical environmental change that brings no business value eats away at resources, time, and money.

- **IT organizations that fail to deliver will be relegated to the engine room or outsourced.** Traditional approaches to application development and modernization are technology-centric, reactive, and, ultimately, too slow. AD&D pros must adopt new techniques to change applications at the speed of business change or face the consequences. This is where it becomes personal: Continuing to use the old methods will actually limit your career advancement.

Firms are turning to APM to help them tame the beast, but they don't fully appreciate that APM isn't a silver bullet in the hands of a big-game hunter. Rather, APM is a series of techniques that must be applied as a body of knowledge, adjusted, continually reinforced, and augmented by tools.

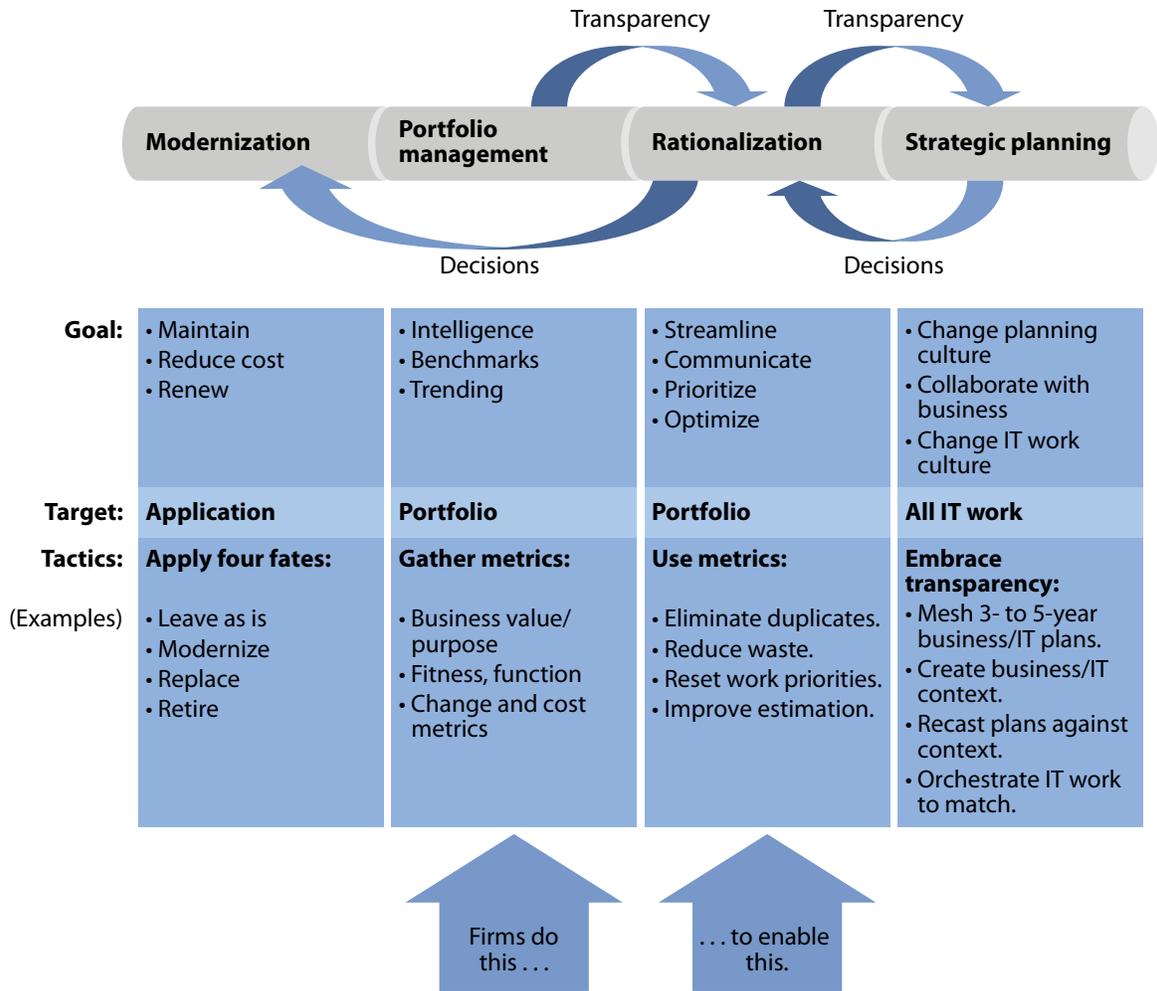## TECHNIQUES TO TAME YOUR APPLICATION PORTFOLIO

APM means different things to different people — there are several paths to get there, but the paths have roughly similar steps:

- **Create an inventory of the applications in the portfolio.** One of the first steps is to create an inventory of applications in the portfolio. Some firms focus only on their top 50 "core" applications, while others insist that the inventory include all applications for a full picture of lights-on IT costs.[2] Questions to ponder: What applications do you consider in scope? Business-facing only? Are desktop applications in or out? What is your definition of an application?[3]

- **Gather descriptive metrics about the applications.** Some metrics are fairly intuitive, such as costs, ownership, and business purpose. Others vary widely based on the path of the APM effort: Some focus more on increasing developer productivity (do more); some focus on a subset of applications; and others focus on transformation of the entire portfolio. Questions to ponder: What will you collect? How will you use it? What can you collect that is useful and available?

- **Update the metrics periodically.** Metrics begin to grow stale as soon as they are collected, but they change at different times — some metrics change a few times a year; others change daily or weekly. Often, the metrics that change most frequently are the most interesting to track and analyze, but they may also be the most challenging to collect. Questions to ponder: How often will you update the metrics? How will you do it: All at once? As they change? Will you know when they change? How will you know?

- **Drive portfolio-level change using insight gleaned from the metrics.** The whole point of APM is to build transparency that can guide more strategic transformation and modernization activities. Transparency into resource consumption patterns, business value, health, and cost of applications shows how well or how poorly work aligns to business goals. Questions to ponder: Who will wield the decision-making power about applications and investments? Who else will use the information? How? What views will they find compelling?

Where APM Fits In Relation To Modernization, Rationalization, And Other Terms

People use the term APM to cover a multitude of activities, but if you aren't clear on the work you intend to include, you will fail. Previous Forrester research has defined APM's terminology (see Figure 1).

Figure 1 The Application Management Continuum Puts APM Terminology In Context

			Transparency	Transparency	
Modernization	**Portfolio management**	**Rationalization**	**Strategic planning**		

Decisions   Decisions

	Modernization	Portfolio management	Rationalization	Strategic planning
Goal:	• Maintain • Reduce cost • Renew	• Intelligence • Benchmarks • Trending	• Streamline • Communicate • Prioritize • Optimize	• Change planning culture • Collaborate with business • Change IT work culture
Target:	**Application**	**Portfolio**	**Portfolio**	**All IT work**
Tactics: (Examples)	**Apply four fates:** • Leave as is • Modernize • Replace • Retire	**Gather metrics:** • Business value/purpose • Fitness, function • Change and cost metrics	**Use metrics:** • Eliminate duplicates. • Reduce waste. • Reset work priorities. • Improve estimation.	**Embrace transparency:** • Mesh 3- to 5-year business/IT plans. • Create business/IT context. • Recast plans against context. • Orchestrate IT work to match.

Firms do this . . .   . . . to enable this.

Source: Forrester Research, Inc.

FACTORS THAT AFFECT YOUR PATH TO APM AND TOOL CHOICE

Disappointment with initial APM efforts is common for a variety of preventable reasons. Too little forethought breeds accurate-but-unusable results; efforts get bogged down in the tool and ignore the processes. Even successful initial efforts often outgrow their initial tool choice when the choice was a spreadsheet, Microsoft SharePoint, or similar tool.

Choose Your Path To APM Tools Based On Your Goals, Resources, And Maturity

Forrester's interviews with APM practitioners and vendors revealed that their paths to APM varied considerably by the goals set for the program, the resources the effort had at its disposal, and the maturity of the application management effort. Knowing what you want to accomplish will set you on the right path to success and help you decide on the tools to consider, including:

- **Snapshots.** These provide a quick assessment of one or a few applications.

- **Stakeholder surveys.** These collect opinions and other readily available data.

- **Application mining tools.** These parse source code for metrics to drive modernization choices.

- **Product portfolio management (PPM) tools.** These can have application features bolted on.

- **Enterprise architecture (EA) tools.** These are centralized repositories with links to process, architecture, and planning functions.

- **Business service management (BSM) tools.** These are more tangential to APM but with strong synergy and potential.

As we'll see, each has their strengths, weaknesses, and uses depending on your needs.

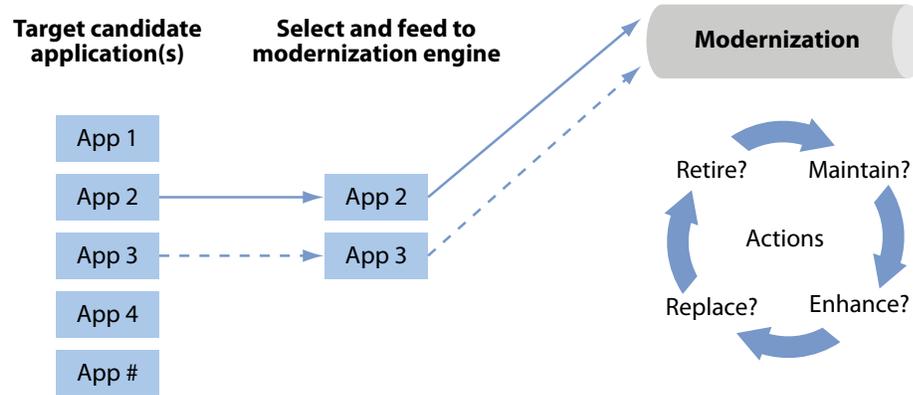## Snapshots Are Point-In-Time Pictures Of Applications

Snapshots are often technically driven efforts with tactical goals — modernizing one or a few applications, eliminating obsolete technology, or re-engineering an application that no longer meets business needs (see Figure 2).

Firms taking snapshots often know in advance which application(s) to target — it is a known problem for whatever reason. Metrics collection is limited in breadth and depth; it may be done manually or with the aid of commercial or proprietary mining assessment tools. Snapshots are a common component of service offerings from consulting firms. While this type of effort does improve one or more applications, it is rarely sustained beyond the duration of the modernization project — it is a transaction against the portfolio, not continuous management of it.

Figure 2 Snapshots Assess One Or A Few Applications For Modernization

Snapshots
- The assessment is a single, point-in-time snapshot of application information.
- Actions may be preordained — migrate platform, language, or DBMS; re-engineer.
- The action is a one-time activity — it's over when completed.
- They tend to be technology-centric.
- They drive modernization decisions in a tactical manner.

Target candidate application(s)	Select and feed to modernization engine	Modernization
App 1		
App 2	App 2	Retire? Maintain?
App 3	App 3	Actions
App 4		Replace? Enhance?
App #		

58633   Source: Forrester Research, Inc.

Stakeholder Surveys Are A Common Starting Point For APM

Virtually every APM effort will begin with a survey of application stakeholders to gather metrics about all the applications in the portfolio or a significant subset of applications. For example, a large US bank with several hundred applications limits its APM effort to 50 of the bank's "core" applications. Stakeholders may include application owners (business *and* IT), application users, support staff, and enterprise architects, and the results are typically stored in a spreadsheet or in SharePoint for future analysis (see Figure 3).

Some of our interviewees have been collecting application information for years. An APM process owner from a large manufacturing company said, "We actually spent close to $100,000 to build a base of application information for our Y2K program, and we leveraged that investment a few years later to create a base for our APM effort."

Spreadsheets often record the questions, answer scales, and weighting factors for each question; these act as a multiplier to create a weighted answer.[4] Some firms have created elaborate SharePoint applications to act as the single source of truth for application information sources that were once spread out all over the company. In one case, the APM tool was melded with the firm's IT governance, including:

- **Information collection.** Using SharePoint rather than a spreadsheet allowed application owners in the business and in IT to maintain their respective domains of information.

- **Production migration.** Applications could not be introduced to production until the application owners completed the required base of information in APM.

- **Disaster recovery.** In a company where the disaster recovery process (DRP) is taken very seriously, application owners did not receive credit for having a DRP program in place without completing the required base of information in APM.

Perhaps the largest and most common mistake that people make with stakeholder surveys is rushing to field a survey or collect data before thinking through how they will use the information. The rushed process yields incomplete or unremarkable information, which quickly loses value.[5]

Figure 3 Stakeholder Surveys Take A Broader Aim And A "Top-Down" Approach

Stakeholder surveys
- They target a portfolio of applications — all apps, all core apps, or a significant subset of apps.
- The assessment is a point-in-time snapshot, repeated periodically.
- The goal is portfolio-level analysis for ongoing improvement.
- They are intended to be a continuous program; however, some fail to sustain.
- Actions are not preordained, but drivers (reduction of cost, size, complexity) may be.
- They collect subjective opinions and available factual information.
- Depending on content, they may drive modernization decisions in a more strategic manner.
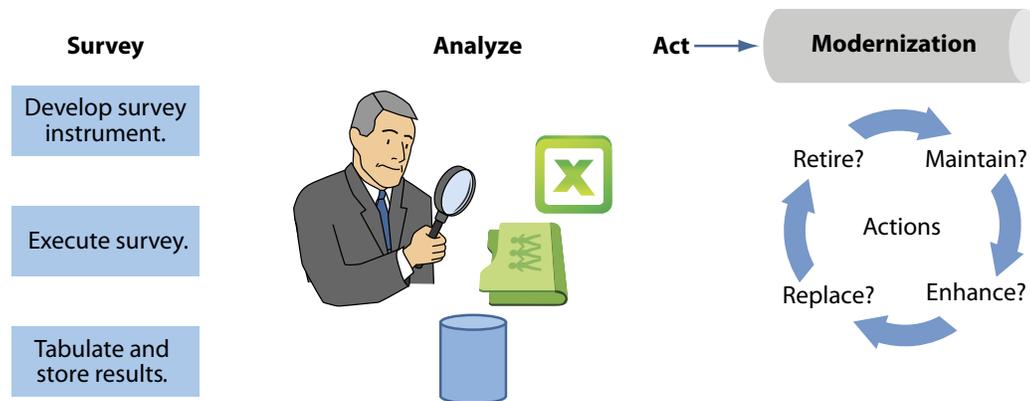
58633   Source: Forrester Research, Inc.

Application Mining Tools Create Technical Metrics In A "Bottom-Up" Approach

Vendors tend to categorize the stakeholder surveys as a "top-down" approach, and they distinguish application mining tools as the "bottom-up" approach. Both approaches create useful information and are complementary — surveys collect subjective opinions about business value as well as technical and functional health, while mining tools collect objective technical facts that aid technical modernization decisions by parsing application source code (see Figure 4).

Mining tools come in two basic forms:

- **Application analysis.** Developers use these tools to assess the health or impact of change on individual applications and generate metrics about code structure, adherence to coding-quality standards, standard measures such as Halstead or McCabe cyclomatic complexity, function points, etc. The tools analyze applications to enable modernization decisions at an application level rather than at a portfolio level, although the distinction generates philosophical and semantic debate. It is fair to say that continuous tactical modernization efforts improve the application portfolio.

- **Portfolio analysis.** Other mining tools have repositories that are built to assess many applications at once, and they may depict benchmarking and trending analyses. Portfolio analysis features are often priced differently than application analysis developer-seat licenses. The idea is that once the application information exists, expensive per-seat license models should not restrict access to it.

How should you evaluate the tools?

- **For application analysis, consider technology coverage.** Verify that the tool covers the technology you use — programming languages, database management systems (DBMS), and programming frameworks such as Struts. Ask about combinations of technology and DBMS access languages, such as CA-ADSO for CA-IDMS, PL/SQL for Oracle, Natural for Adabas, etc. Some tools parse job control language (JCL) and job schedulers, while others do not.

- **For portfolio analysis, look for a richer data model and flexible reporting mechanisms.** Portfolio-focused tools must adapt dynamically as your information needs mature. Make sure you can expand the data model to include information from external sources, such as source code management tools (change activity); stakeholder surveys (opinions); organizational hierarchy charts (ownership); the help desk (incidents); dependency mapping (runtime dependencies); the configuration management database (CMDB) (software version dependencies); and so on.
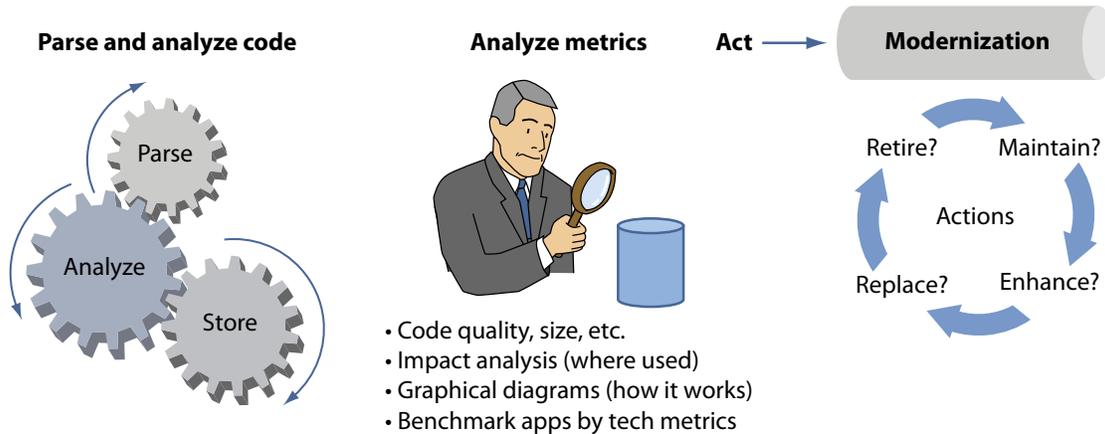
How are the tools used?

- **In application assessment service engagements.** Mining tools are popular with services vendors that perform application assessments. The vendors blend application analysis results with the customized survey mechanism that is their value-add/intellectual property.

- **In large-scale portfolio management programs.** Application mining tools are most valuable to firms with large numbers of bespoke/custom-built applications.[6] These firms create a repository of some or all of their applications to address many of the end goals of an APM program — to change applications faster and with more accuracy, to increase their capacity to "do more," or to replace lost "tribal" application knowledge.[7]

Application mining tools are available from vendors such as Ateras, BluePhoenix Solutions, Cast, EZ Legacy, IBM Rational, In-Com Data Systems, Information Balance, ITP-Panorama, Mapador, and Micro Focus.

Figure 4 Application Mining Tools Take A "Bottom-Up" Approach To APM

Mining application source code
• Some tools only analyze one or two apps at a time; others take a portfolio approach.
• The assessment may be a point-in-time snapshot or be repeated periodically.
• They may be hooked to an SCM process via APIs or manual processes to make collection continuous.
• The goal is technical analysis for ongoing improvement.
• They collect factual technical application information.
• They can replace lost "tribal knowledge" and improve productivity (analysis, bug fix, changes, etc.).
• They can drive technically based portfolio decisions.
• They can feed metrics to higher-level portfolio management activities.

Parse and analyze code   Parse   Analyze   Store

Analyze metrics
• Code quality, size, etc.
• Impact analysis (where used)
• Graphical diagrams (how it works)
• Benchmark apps by tech metrics

Act → **Modernization**
Retire?   Maintain?
Actions
Replace?   Enhance?

58633   Source: Forrester Research, Inc.

## PPM Tools Complement, May Overlap With, And Have Much Synergy With APM

As with APM tools, the goal of using PPM tools is to bring transparency to chaos — but instead of focusing on information about existing applications, they focus on information about proposed projects and programs. Programs are large, complex groups of codependent projects, such as engineering programs to build an aircraft or naval vessel or civil engineering projects to build a highway or bridge. Most PPM tools contain project management functionality and have the option of linking to external project management tools. PPM tools have features that are crucial for running multiple large-scale projects but that may be less crucial for APM purposes, such as methodology, workflow, and, to a lesser degree, financial management.[8] Other PPM features dovetail nicely with APM goals, in particular demand management and resource management.

PPM implementation steps are similar to the steps for APM: Begin with an inventory of projects and proposals; collect various metrics and facts about costs, benefits, resources, and ownership; and analyze them for actionable insight.[9] Over time, new proposals are entered into the tool, evaluated for approval, initiated or discarded, and then executed and monitored (see Figure 5).

Figure 5 PPM Tools Have Synergy With And Offer Some Support For APM

Project portfolio management tools
• They focus primarily on initiatives, proposals, and project work.
• They may incorporate or link to project management tools.
• Many offer rich resource management, skills management, and financial management functions.
• They offer portfolio analysis — "what-iffing" of various project combination scenarios.
• They populate data via manual entry and data-import functions.
• Data import assumes that apps data already exists via surveys or other forms of discovery.
• Reports and graphs are mostly project-focused views and workflows.
• Data model and reporting must be adapted to apps information.
• They have the potential to bring project and lights-on work together — which is unique thus far.
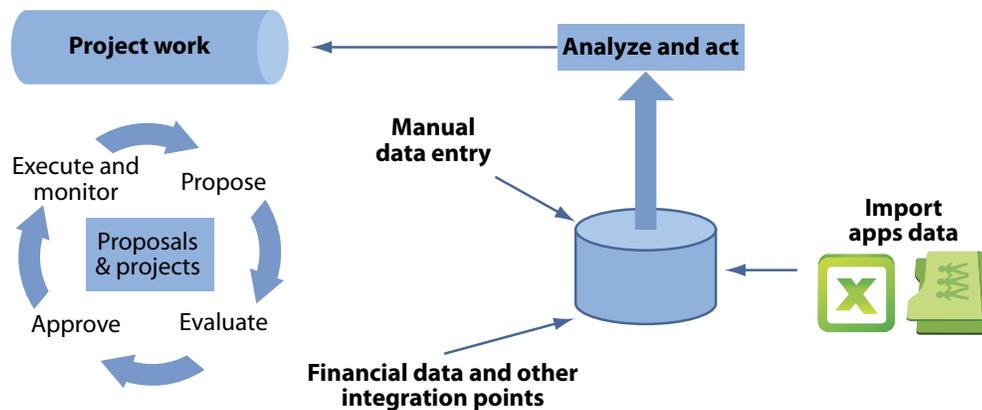
58633   Source: Forrester Research, Inc.

Some PPM tools have a data model that supports — and can be embellished to support — application information. In these cases, PPM and application data can be entered manually or via data-import mechanisms in cases where the data exists in an importable form. Firms that already use a PPM tool and are interested in APM should consider developing application stakeholder surveys to augment PPM with application data; the combined views of projects and applications from the perspectives of demand management, resource management, and financial figures will greatly increase management insight and aid IT prioritization. However, firms that do not have a PPM tool are unlikely to begin their APM efforts with a PPM tool.[10]

What should you look for? Look at the level of support for application information. Conceptually, proposals and projects are transactional — they have a finite beginning and end — whereas the goal of APM is to record application metrics continuously for much longer periods, perhaps decades. Does the tool really support the more permanent concept of an application, or has the vendor

simply masked existing project and task functionality? Match the functionality to your goals with the eye of a realist, not a perfectionist: The value of bringing project and application demand and consumption information together in portfolio analysis functions at less-than-perfect levels may be completely acceptable for your purposes.

PPM tools are available from AtTask, CA Technologies, Compuware, Daptiv, GenSight, HP, IBM, Innotas, Métier, Microsoft, Oracle, Planisware, Planview, PowerSteering, SAP, Serena Software, and others; however, only some — such as CA Technologies, Compuware, HP, and Innotas — claim to offer APM functionality.

EA Tools Have Synergy With APM From Architectural And Business Process Perspectives

As with the PPM tools, the APM features in EA tools are only a small part of the total functionality.[11] EA tools record, maintain, and enforce technology standards; model and design future-state architectures; may use various transparency mechanisms, such as heat maps, capability maps, and application road maps; and may offer advanced IT planning features (see Figure 6).

Like PPM tools, EA tools offer import features for data that already exists, but they also rely heavily on manual data entry. Depending on how they are implemented, the tools may draw technical data via import functions and application programming interfaces (APIs) from the CMDB, financial data from budget and general ledger sources, and project and financial data from PPM tools.

The EA-oriented APM efforts at firms we interviewed tended to fall into one of two camps:

- **Software rationalization internal to IT.** Some of the EA-oriented efforts actually focused on system-software rationalization — inventories of system-level software and tools that are internal to IT, such as middleware, database, and integrated development environments (IDEs). These programs are similar to APM in that they seek to reduce redundancy and identify shelfware, but they tend to use simpler methods (snapshots) and tooling, such as spreadsheets and SharePoint.

- **Business-facing applications.** The more typical EA-oriented APM efforts focused on bringing transparency to business-facing applications. We commonly saw EA-led APM efforts look across the inventory of business applications to evaluate where they had exposure to obsolete technical components (DBMS, language, etc.); however, that is only one view of the information, whereas in software rationalization it was the primary view.

Most EA tools are based on flexible metadata repositories and have a robust set of features — the programs tend to be well-staffed and well-funded. Consequently, the APM efforts based on EA tools tend to be more robust. For example, they may include infrastructure and architecture views, link business processes to applications, contain future-state designs, and contain road maps and robust IT planning features.

What should you look for? Look for a tool that matches your process maturity and funding — richness is good to the extent that it doesn't require small, modest programs to "boil the ocean" before being useful. Look for a modular approach that you can adapt over time as your APM program matures. Look for a rich application data model and role-based views and reporting. Just because you can create whatever data model and reporting you want doesn't mean that you can maintain it. Custom-built functionality has a way of taking on a life of its own; that's OK if you are capable of supporting it, but small programs may not be able to keep up. Second-generation APM efforts — those that have outgrown some of the more modest approaches — may be excellent candidates for an EA tool.

EA tools are available from alfabet, Casewise, IBM (Rational/Telelogic), Mega, Metastorm (OpenText), Software AG (IDS Scheer), Troux Technologies, and others.

Figure 6 Enterprise Architecture Tools Take A Broad Perspective On APM

Enterprise architecture tools
• They are functionally rich and complex.
• They focus primarily on architecture and processes — especially future-state models.
• The metadata repository core provides a rich data model, which is expandable for apps information.
• They populate data via manual entry and data-import functions; some use APIs.
• Data import assumes that apps data already exists via surveys/discovery.
• They have the potential to bring architecture, process, project, and lights-on work together — which
  is unique thus far.

58633   Source: Forrester Research, Inc.
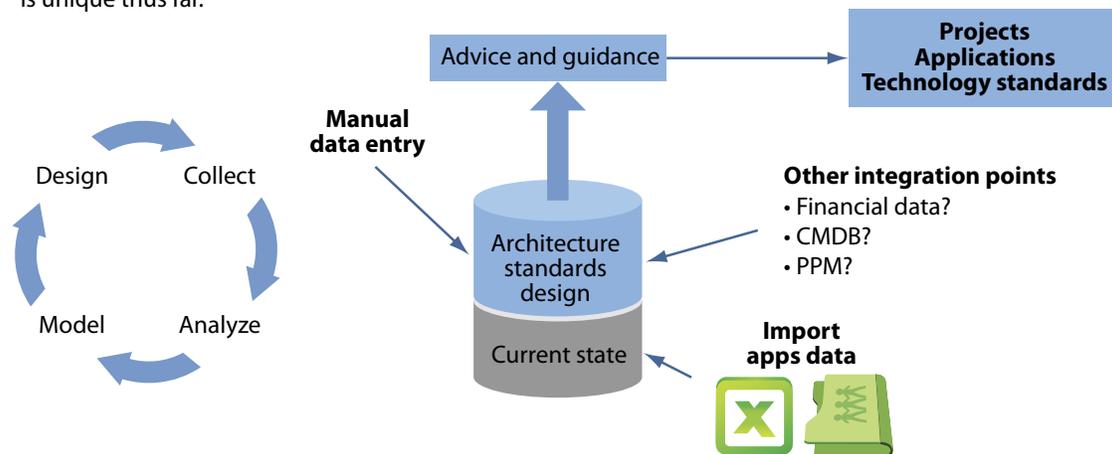
## Joining ITSM/BSM With APM And Other Sources Shows Interesting Potential

IT service management (ITSM) is increasingly popular in infrastructure and operations circles to reduce complexity and increase manageability.[12] Business service management (BSM) recasts operational services in forms that are more aligned to and recognizable by its (business) consumers and exposes key metrics for analysis and insight. Metrics may include information about hardware and software dependencies; service levels; runtime performance; resource consumption statistics; incident reports; and information from other data sources (see Figure 7).

What is interesting about ITSM/BSM in the context of APM? The potential value to strategic planning of joining summary ITSM/BSM information — operational statistics, performance, and capacity indicators that keep the business running at peak operating efficiency — with application, project, and architectural views is intriguing.

Figure 7 Business Service Management Tools Can Be Complementary To APM

Business service management tools
• They are driven from operations views of systems performance and service-level agreements (SLAs).
• They regroup hardware, software, network, and other component costs into "service" views.
• They populate data via discovery, manual entry, and data-import functions; some use APIs.
• Data import assumes that apps data already exists via surveys/discovery.
• They may import/further break down IT budget into component costs.
• Chargeback/cost-presentment schemes are based on aggregated costs.
• They may contain direct links to PPM.
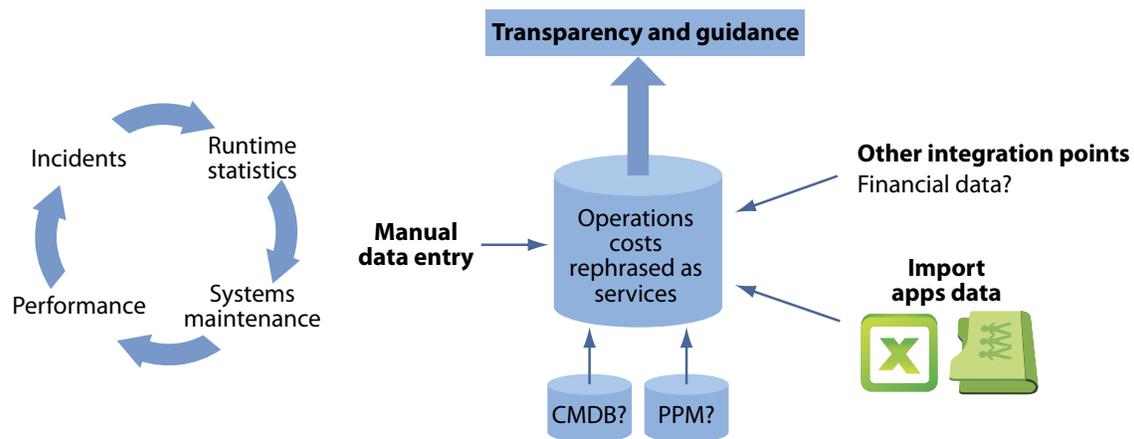
58633   Source: Forrester Research, Inc.

TO DECIDE WHERE TO BEGIN, DECIDE WHAT YOU WANT TO MANAGE

All forms of portfolio management seek to efficiently manage their domains — applications, projects, operations, business processes, architectures, etc. Management in each of the domains is battling the mounting complexity within and across their areas of responsibility; they can't visualize collectively what is happening. Lack of transparency virtually guarantees missed opportunities, misaligned resources, and waste. The process steps are simple conceptually:
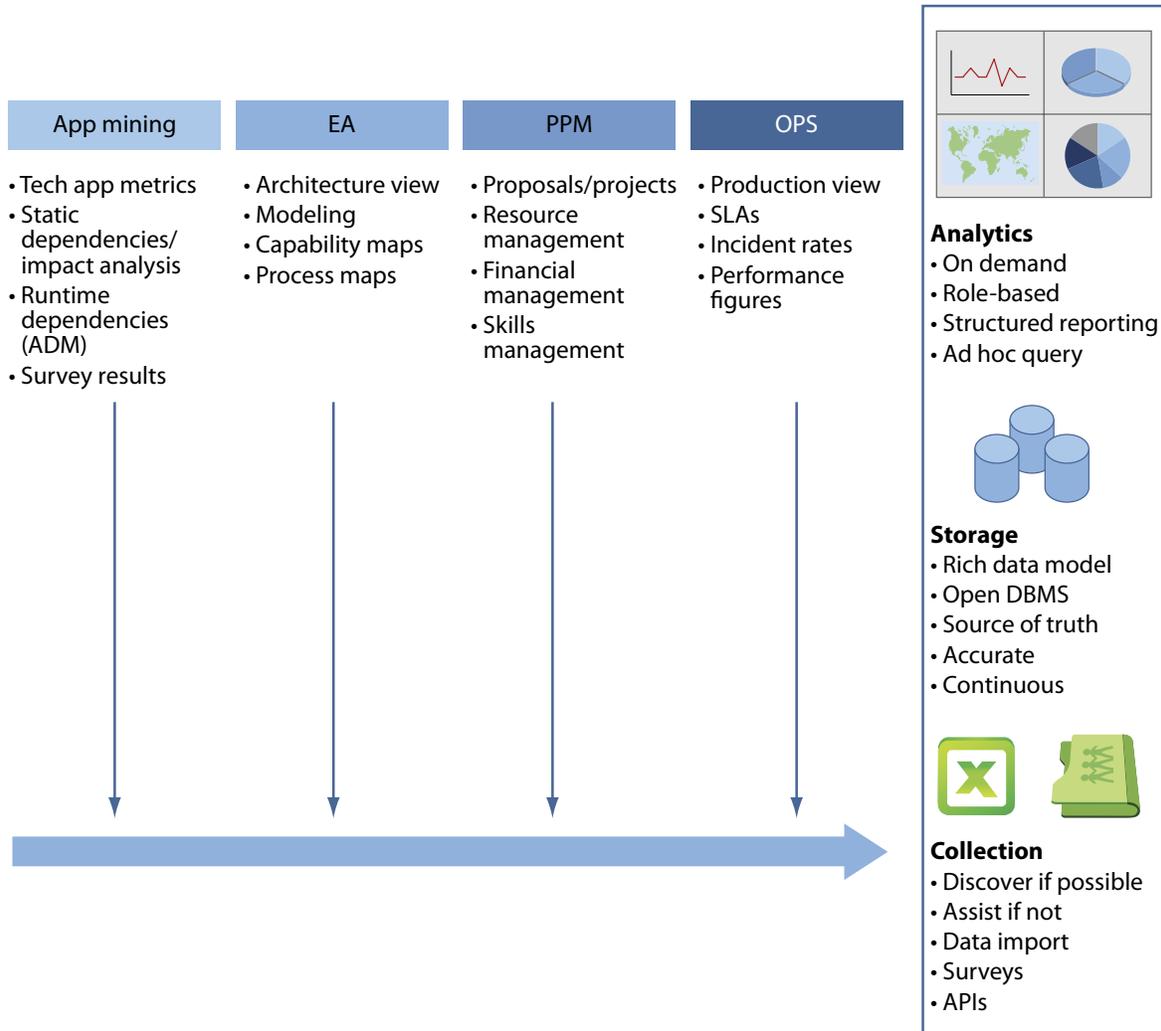
- **Collect information from multiple, disparate sources.** Depending on your role, goals, funding, and available resources, collect information, metrics, and key performance indicators.

- **Store data for benchmarking, trending, and analysis.** As firms that collect everything in a spreadsheet soon find out, you may not be able to get the data out in ways that are useful if it isn't stored in a rich, flexible data model.

- **Analyze data to create transparency and insight.** Portfolio management is a means to an end; it is not the end. Use it to expose the status quo in terms that make sense to business and IT stakeholders, and use that insight to optimize for business results.

Where you begin to address transparency will depend in large part on where you want transparency and manageability first (see Figure 8).

Even if you begin with a modest effort, plan for growth: APM won't stand on its own for long, so you'll need to blend it with other portfolio information. Why? Managing the existing portfolio isn't enough; we must manage *and* transform the portfolio. To do that, we need consolidated views that show the cumulative and related impact of decisions about change. Projects become applications; applications operate on infrastructure; and infrastructure must keep pace with business volumes and strategic change. Seizing strategic business opportunities creates change everywhere, all at once. It is a complex, cyclical ecosystem, and all work, no matter where it originates, must be evaluated, analyzed, estimated, prioritized, and staffed from a finite pool of resources (see Figure 9).

The trend toward Agile development and continuous release cycles, and their impact on operations, will only accelerate the need for consolidated informational views across these silos — it's not a question of "if" but "when."
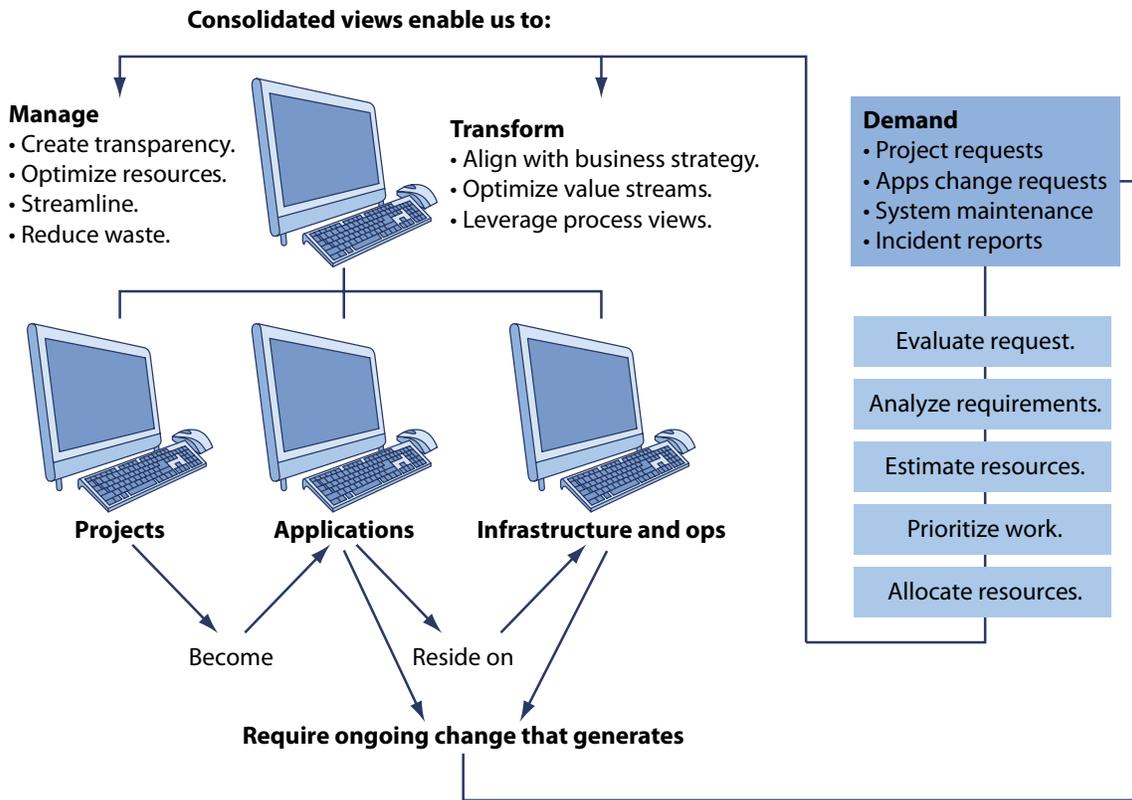
Figure 8 Potential Hybrid Scenarios Abound — What Do You Want To See?

App mining	EA	PPM	OPS
• Tech app metrics • Static dependencies/ impact analysis • Runtime dependencies (ADM) • Survey results	• Architecture view • Modeling • Capability maps • Process maps	• Proposals/projects • Resource management • Financial management • Skills management	• Production view • SLAs • Incident rates • Performance figures

Analytics
• On demand
• Role-based
• Structured reporting
• Ad hoc query

Storage
• Rich data model
• Open DBMS
• Source of truth
• Accurate
• Continuous

Collection
• Discover if possible
• Assist if not
• Data import
• Surveys
• APIs

58633   Source: Forrester Research, Inc.

Figure 9 Single-Purpose Silos Will Give Way To Consolidated Views

Consolidated views enable us to:

Manage
• Create transparency.
• Optimize resources.
• Streamline.
• Reduce waste.

Transform
• Align with business strategy.
• Optimize value streams.
• Leverage process views.

Demand
• Project requests
• Apps change requests
• System maintenance
• Incident reports

Evaluate request.

Analyze requirements.

Estimate resources.

Prioritize work.

Allocate resources.

Projects   **Applications**   **Infrastructure and ops**

Become   Reside on

Require ongoing change that generates

58633   Source: Forrester Research, Inc.

TAKE CHARGE OF YOUR APPLICATIONS PORTFOLIO, OR SOMEONE ELSE WILL

Now is the time to adopt new techniques to tame the beastly complexity of your application portfolio — choose to do it or watch as your career stagnates and business leaders give the job to someone who will. Keep the following in mind:

• **Start with a clear definition of your goals.** APM means many things to many people, so forget the acronym for a minute and consider your goals, staffing levels, funding levels, commitment levels, and management backing. If you have thousands of applications, spreadsheets and SharePoint won't suffice. If you're primarily concerned about modernization, favor snapshots and mining tools. If your apps are primarily packaged, look to stakeholder surveys. If you are a one-person program with no appreciable funding, don't waste your time looking at tools with $200,000 entry price points.

- **The smaller your firm, the simpler it is.** Firms with only tens of applications can probably make do with spreadsheets and SharePoint applications — automation may be convenient but isn't strictly necessary. But they still need to carefully craft stakeholder surveys, get the right level of management backing, and think about a robust (enough) data model or reporting vehicle.

- **The larger your company, the more you should favor automation.** Companies with hundreds or thousands of applications will have difficulty sustaining any comprehensive APM effort without automation of some kind. Depending on the data you decide to collect, it can take time, and most firms will want to see some value from your program in the first year. Delivering that value early on will be key to sustained management backing.

- **Act now, but act with care and forethought.** Pick your favorite analogy — "Look before you leap," "Act in haste, repent in leisure," "Fools rush in where angels fear to tread"; even in simple APM efforts, undue haste is expensive. Before you compose a stakeholder survey, take the time to think about the informational views you want to create, determine the data needed to form those informational views, and then work your way back to the appropriate set of survey questions. Don't rush to buy a tool before you understand your current and likely future scope. Firms that rush ahead to purchase a tool or field a hastily developed survey will spend much more time recovering from a less-than-successful first attempt.

WHAT IT MEANS

THE TOOLS MARKET WILL CONVERGE TO MEET THE NEED FOR CONSOLIDATED VIEWS

As in the example of the bank with a 90:10 run-the-bank/grow-the-bank ratio, applications professionals must optimize the existing portfolio (manage it better) to free resources for innovative change (transform it). To do that, they'll need transparency across the current and future states of apps, ops, and projects. This means that the silos of portfolio management — APM, PPM, and BSM — will converge — perhaps not into a single tool, but into a single cohesive ecosystem of tools with role-based views to suit many constituencies. Likely scenarios include:

- **Application mining tools exposing their data model.** Application tool informational views are aimed primarily at developers, business analysts, and project managers, so they are more suitable for modernizing applications than they are for rationalizing an entire portfolio. However, exposing a data model of technical application metrics opens the door to new partnerships with BSM, EA, and PPM vendors and opens co-marketing opportunities for application mining vendors.[13]

- **Application life-cycle management (ALM) meeting APM and PPM.** ALM tool sets bring threads of traceability to the software development life cycle, but the information is discarded during the move to production. Retaining it in a centralized application repository is an opportunity for firms like HP, IBM Rational, Micro Focus, and Serena Software to become the central repository for applications information. It also mirrors some of the tighter integration between ALM and PPM.[14]

- **Vendors pulling it all together.** While no vendor has pulled it all together quite yet, there is activity at HP, IBM, Micro Focus, and others to pull the apps, projects, ops, and EA views together — not in a single product but in a suite of products. Other vendors, such as alfabet, BMC Software, Software AG, and Troux Technologies, are assembling pieces of what promises to be an interesting puzzle going forward.

SUPPLEMENTAL MATERIAL

Companies Interviewed For This Document

alfabet	In-Com Data Systems
Ateras	Information Balance
B+B Unternehmensberatung	Innotas
BMC Software	ITP-Panorama
CA Technologies	looksoftware
Cast	Mapador
EZ Legacy	Micro Focus
HP	Software AG
IBM	Troux Technologies

ENDNOTES

[1] Often, projects that create new applications fail to include the budget and staff to decommission and retire the application it replaces, creating several redundant applications. Those applications left running, ostensibly to enable data inquiry, are ticking time-bombs. See the March 8, 2010, "Loss Of Historical Financial Data Triggered This Application Consolidation Program" report.

[2] Avoid a common pitfall as you begin an inventory by creating the definition of an application for the purposes of APM — it tends to be a more fluid and abstract definition than a technical one. See the January 26, 2011, "Define 'Application' Based On Your Context To Avoid False Starts In Your Rationalization Efforts" report.

[3] Some firms get stuck for months arguing about the proper definition of an "application." See the January 26, 2011, "Define 'Application' Based On Your Context To Avoid False Starts In Your Rationalization Efforts" report.

[4] Forrester offers a starting point for stakeholder surveys in the form of a spreadsheet that includes sample questions that assess business, support, EA, and vendor metrics. See the July 20, 2010, "Forrester's Application Scoring Workbook" report.

[5] Take the time upfront to think about the informational views you want to construct, the information you'll need to fill the views, and the formulae that can help you deduce the information before you field a survey. See the June 29, 2010, "Assessing Your Applications — Metrics That Matter Drive Better Rationalization Decisions" report.

[6] While some application mining tools can parse packaged applications (SAP's ABAP, Siebel, etc.), mining is less valuable for packaged applications because the source code is often not provided to or not changed by the customer. Also, we didn't include mining tools that analyze source code for security exposures in this research, given the narrower focus of those tools and lack of commonality with the goals of an APM program.

[7] Application mining tools can speed up many activities during application modernization, such as removing dead code, graphically depicting application structure, and using impact analysis to accurately scope change. See the April 24, 2009, "Strategies To Cut Application Costs And Increase Productivity Using Application Mining Tools" report.

[8] Portfolio management tools have many features that are complementary to APM, as well as some unique functions for projects and programs. See the December 21, 2009, "The Forrester Wave™: Project Portfolio Management, Q4 2009" report.

[9] Certain process steps and management needs apply equally to projects and to applications — the distinctions are artificial to a degree. See the January 14, 2009, "Four Steps To Optimize Your Application And Project Portfolios In Volatile Economic Times" report.

[10] PPM investments can solve some immediate pains, such as the need for demand management, but their potential remains largely unrealized. See the February 4, 2011, "Successful PPM Implementations Require Commitment" report.

[11] The scope of EA tools is far broader than APM and may include business process analysis and robust IT planning features. See the January 7, 2009, "The Forrester Wave™: Business Process Analysis, EA Tools, And IT Planning, Q1 2009" report.

[12] Overwhelming complexity in operations is driving change in the tools and processes to manage change. See the June 30, 2010, "The Writing On IT's Complexity Wall" report.

[13] To read more about the trend of integrated tools, see the March 15, 2011, "What's Ahead For PPM?" report.

[14] Whatever levels of complexity we have today, increased adoption of Agile programming techniques will increase the velocity of change and put more pressure on the application mining ALM relationship. See the October 19, 2010, "The Time Is Right For ALM 2.0+" report.

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