



[Session M1]
**KEY BUSINESS DRIVERS FOR PROCESS IMPROVEMENT
AND THE EVOLUTION OF THE APPLICATION LIFE-CYCLE
MANAGEMENT TOOLS MARKET**

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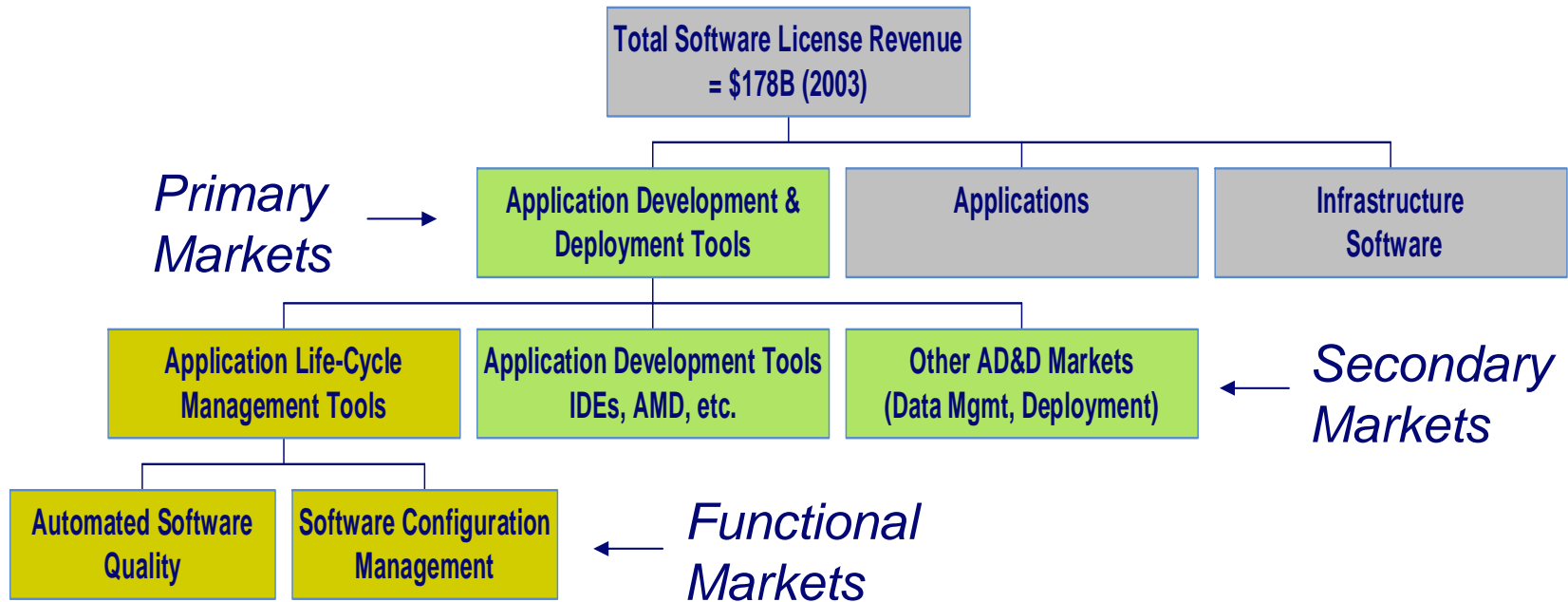
Key Business Drivers for Process Improvement and the Evolution of the Application Life-Cycle Management Tools Market

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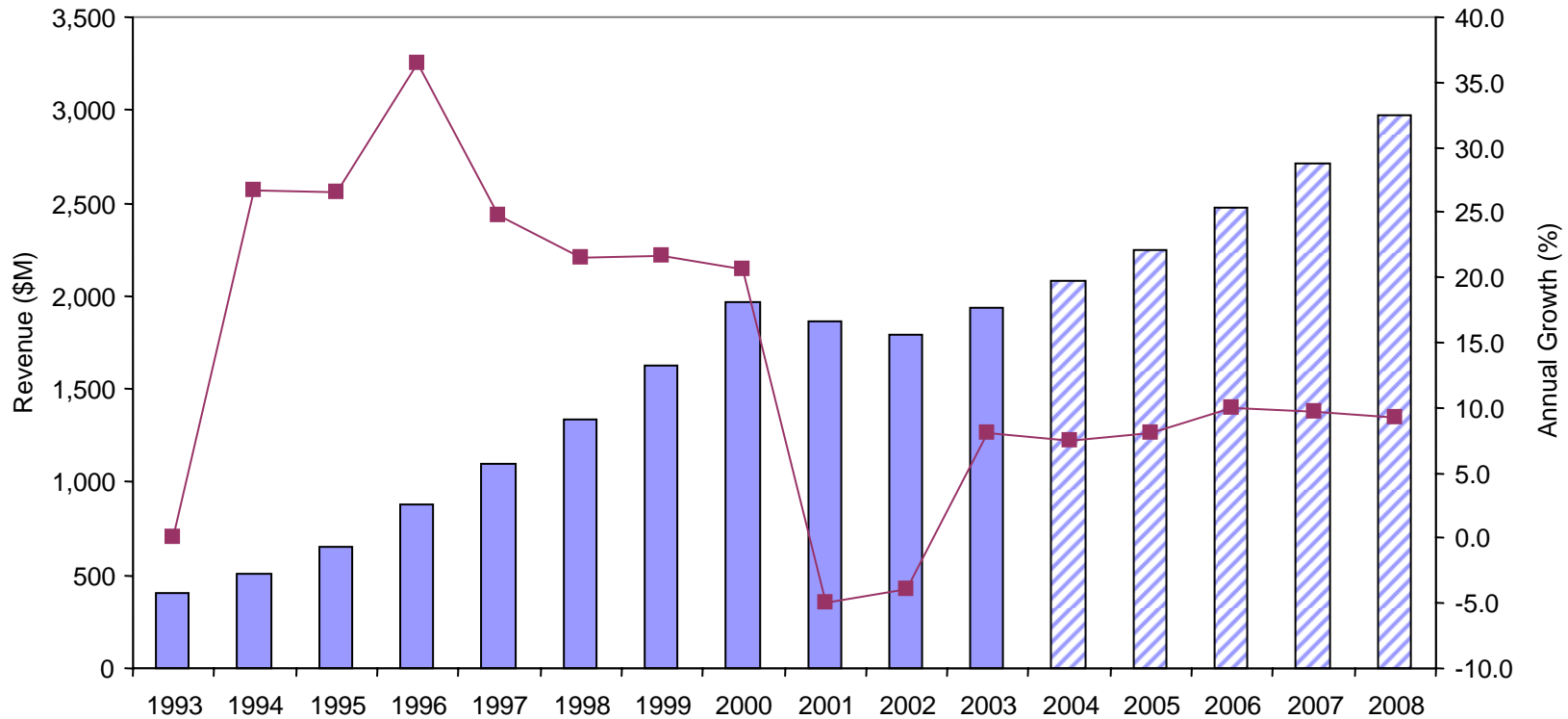
Application Life-Cycle Management Defined

IDC's Software Taxonomy: 86 Functional Markets



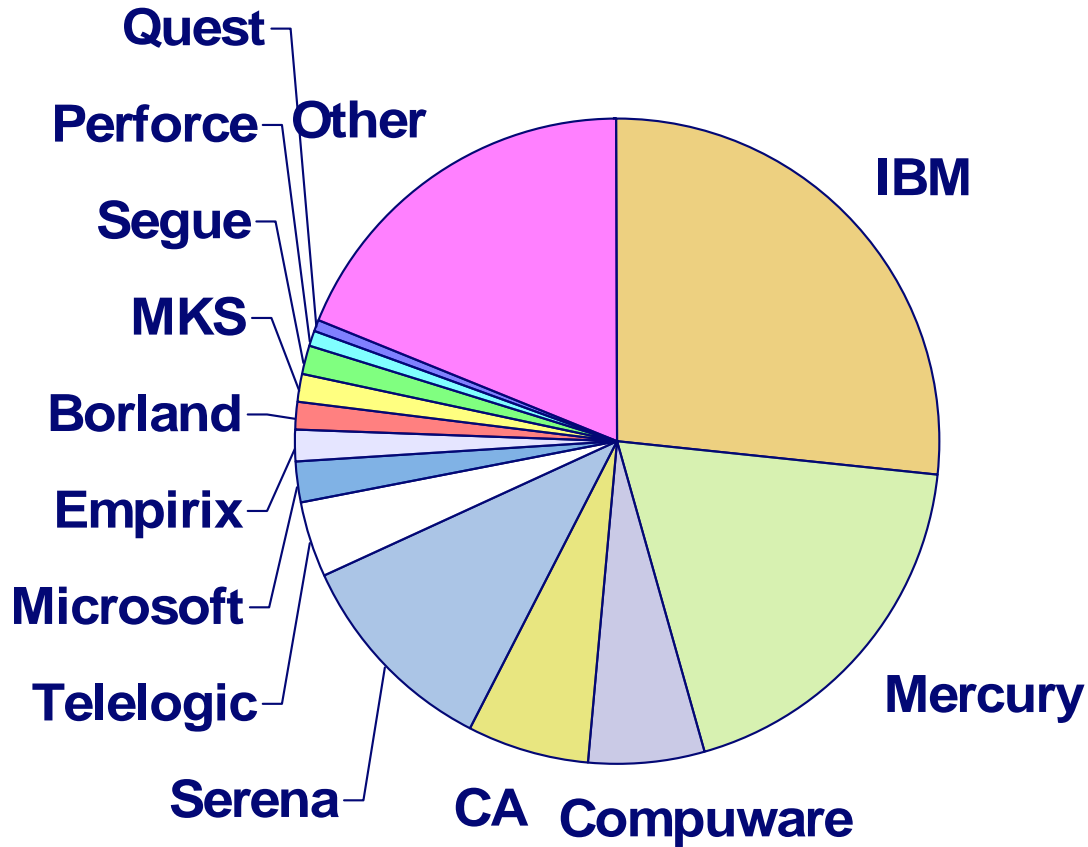
ALM = \$2B (2003) growing to \$3B (2008)

History & Forecast - Growth of ALM Market



Source: IDC, 2004

ALM Vendor Shares 2003



Source: IDC, 2004

ALM Market Trends

- ❑ Consolidation (acquisitions) as vendors seek to offer broad ALM platforms
- ❑ Integration (partner products, point solutions/acquisitions)
- ❑ Dichotomy in SCM market between enterprise-focused (process-centric) vs developer-centric solutions
- ❑ Opportunities for emerging vendors that provide “missing pieces”

Agenda

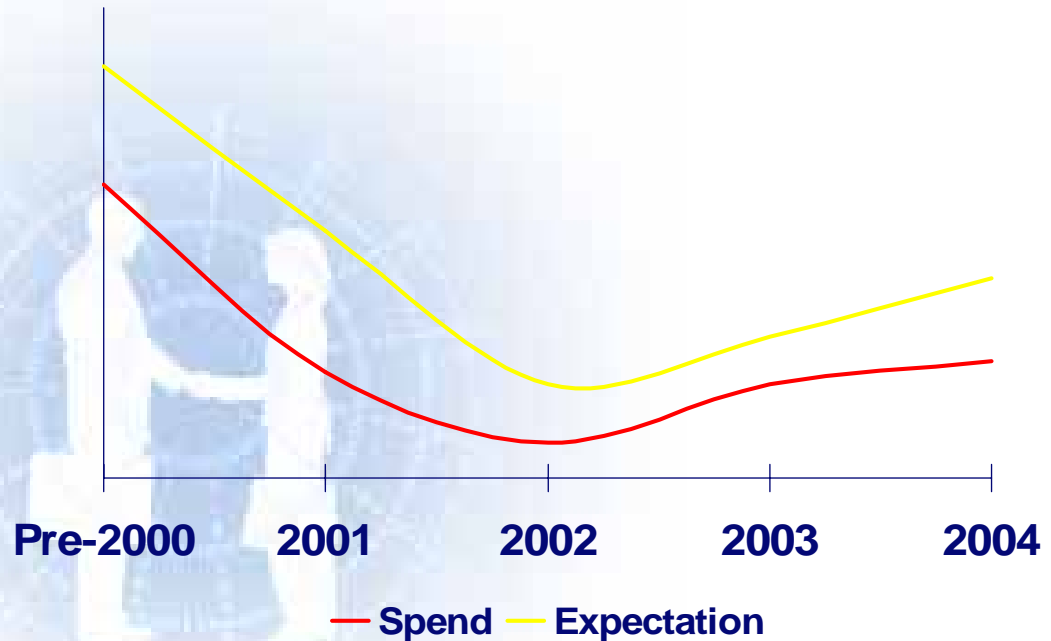
- Business Drivers for Process Improvement
 - IT's Strategic Role
 - Key Challenges for IT
- Evolution of ALM Market
 - Application Development Challenges
 - ALM Needs & Opportunities
- Q&A

IT's Mission Redefined

From “technology as strategic advantage”...

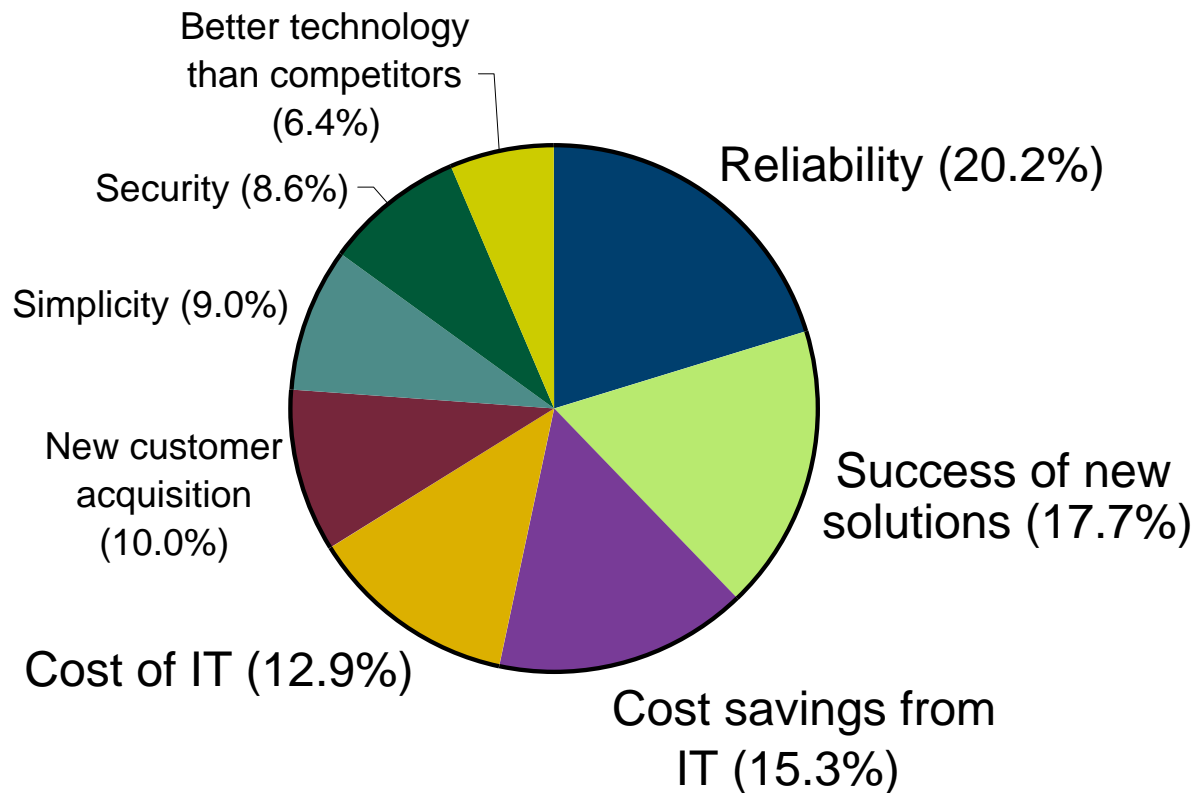
to “IT Doesn't Matter”...

to “technology as critical business enabler”



Strategic Value of IT from CxO Perspective

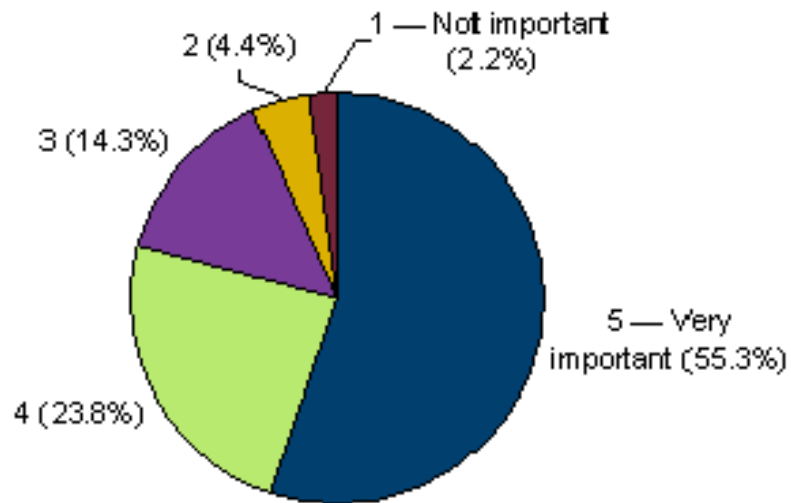
Q. Which of these IT-related factors will have the biggest impact on your organization's success?



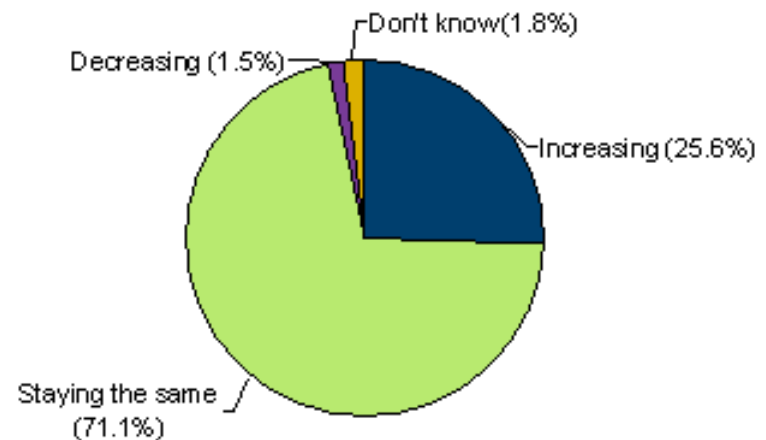
Source: IDC 2004, n=414

IT Matters – To Line-of-Business Execs

How important is IT to the business?

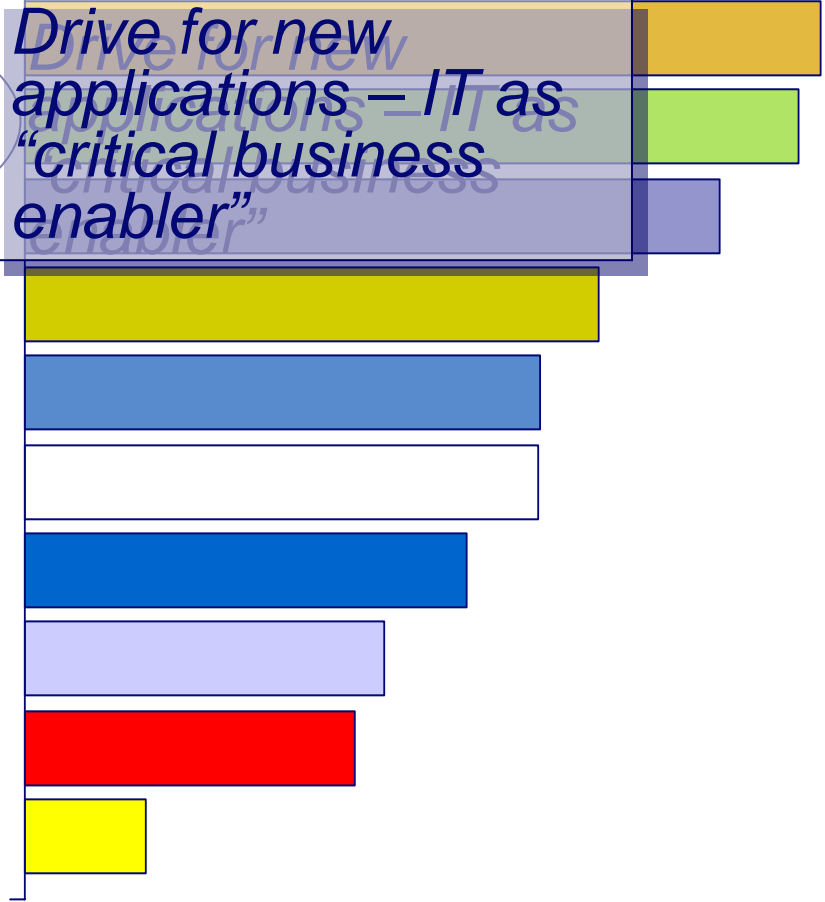


Going forward, will you spend more or less time working with IT?



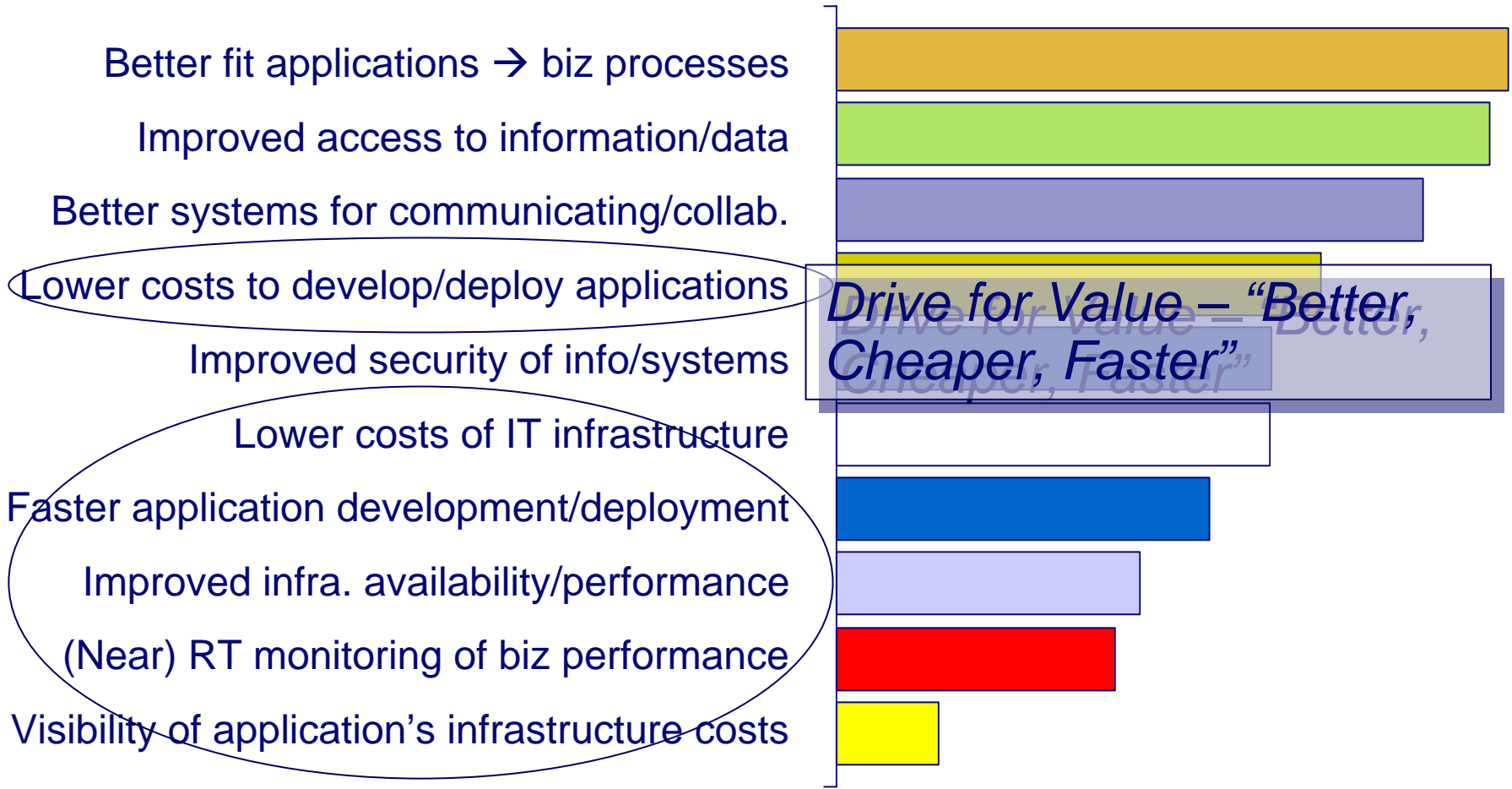
What Does the Business Want from IT?

- Better fit of applications to biz processes
- Improved access to information/data
- Better systems for communicating/collab.
- Lower costs to develop/deploy applications
- Improved security of info/systems
- Lower costs of IT infrastructure
- Faster application development/deployment
- Improved infra. availability/performance
- (Near) RT monitoring of biz performance
- Visibility of application's infrastructure costs



Source: IDC, 2004

What the Business Wants from IT



Source: IDC, 2004

Key Challenges for IT

IT must deliver new applications that have greater business value and higher quality, while managing costs ... in the face of flat or only slightly increased budgets....

Key Challenges for IT

... and accomplish these things in the face of 3 key challenges:

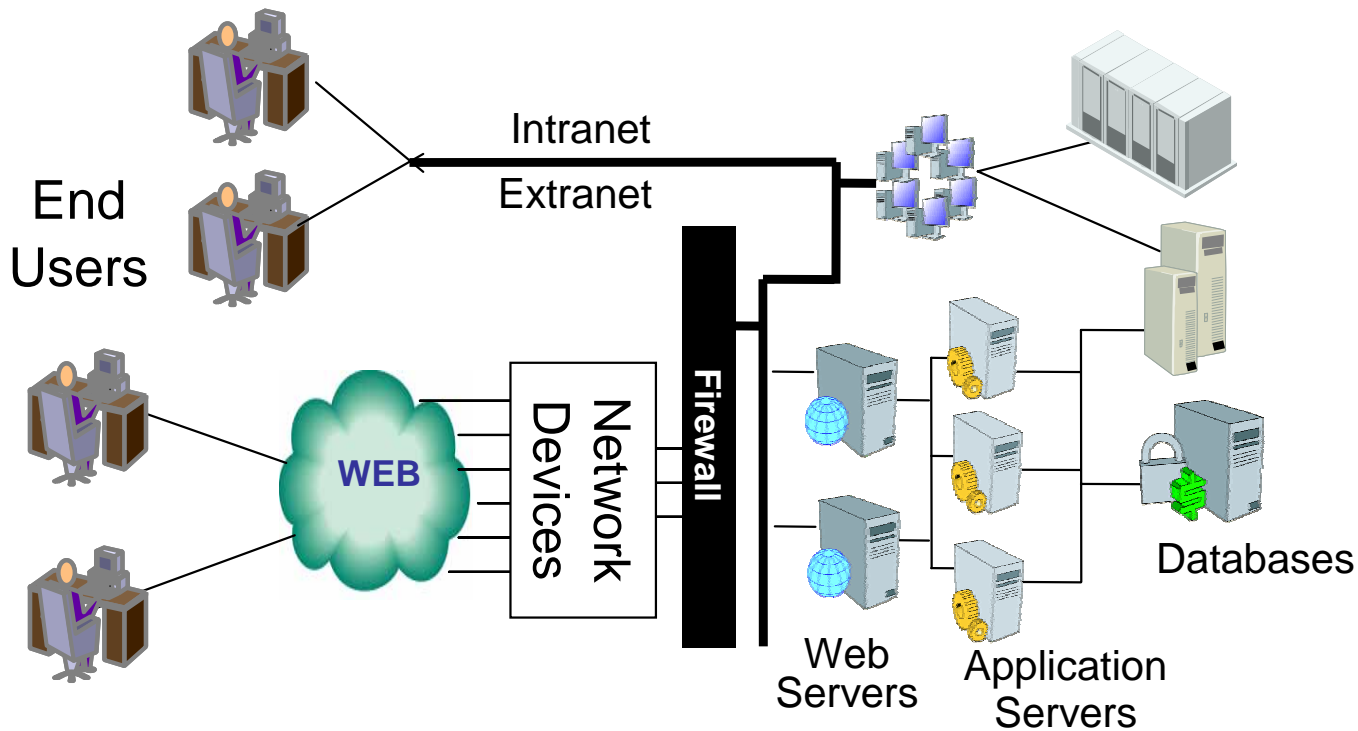
- Increasing criticality and **complexity** of software systems and applications
- Increasing **compliance** requirements
- Increasingly **distributed teams**

Key IT Challenges: Criticality & Complexity

- Today's applications are high-visibility, and carry a high cost-of-failure:
 - Customer “self-serve”
 - Supplier/channel integration
 - Internal applications that automate critical business processes
- “Network effect”: failure in one application can mean loss of service in others.

IT Challenges: “Complexity Crisis”

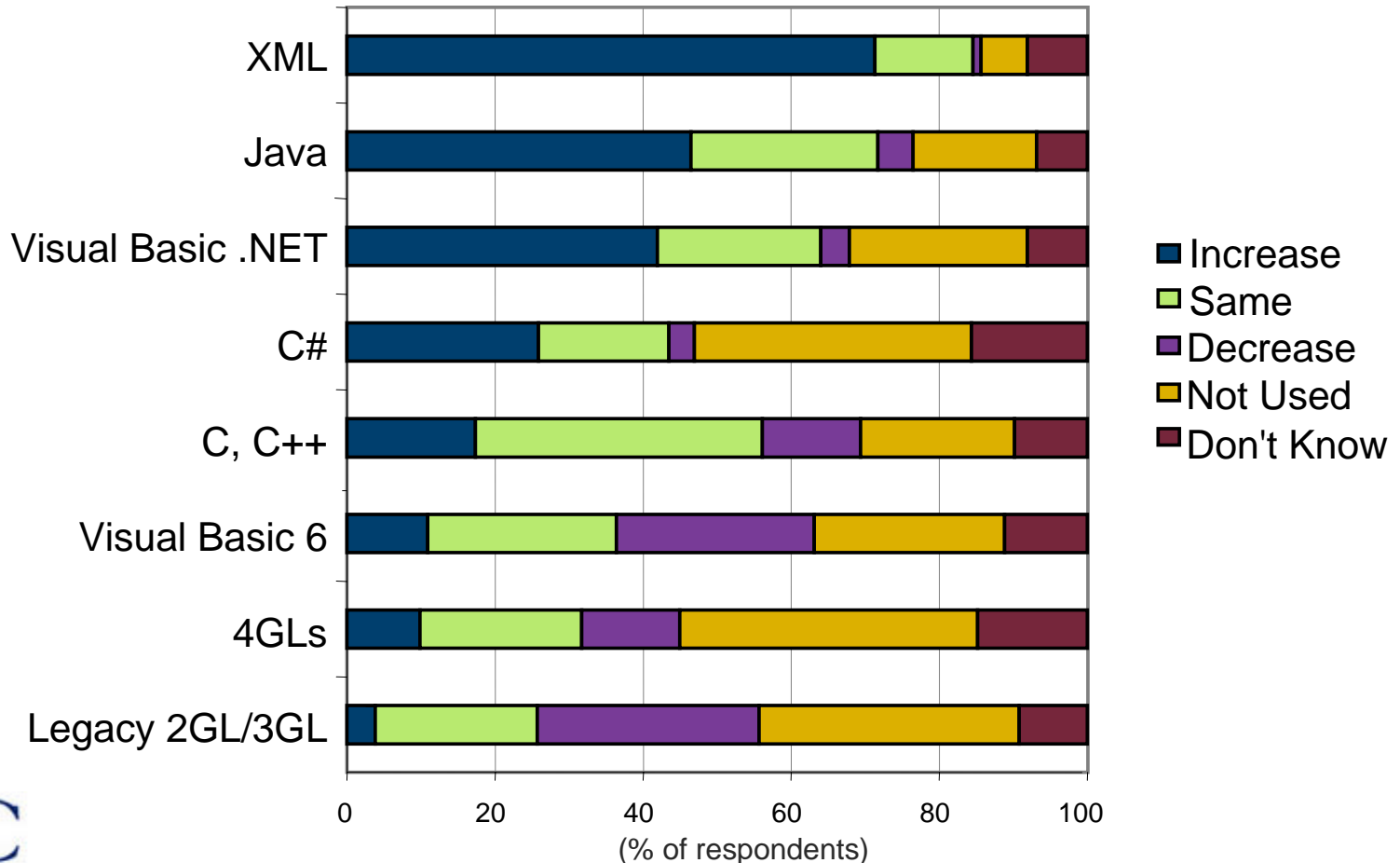
- Heterogeneous systems – mainframe, distributed and internet architectures



IT Challenges: "Complexity Crisis"

■ Shift to Java, .NET, Web Services, SOA

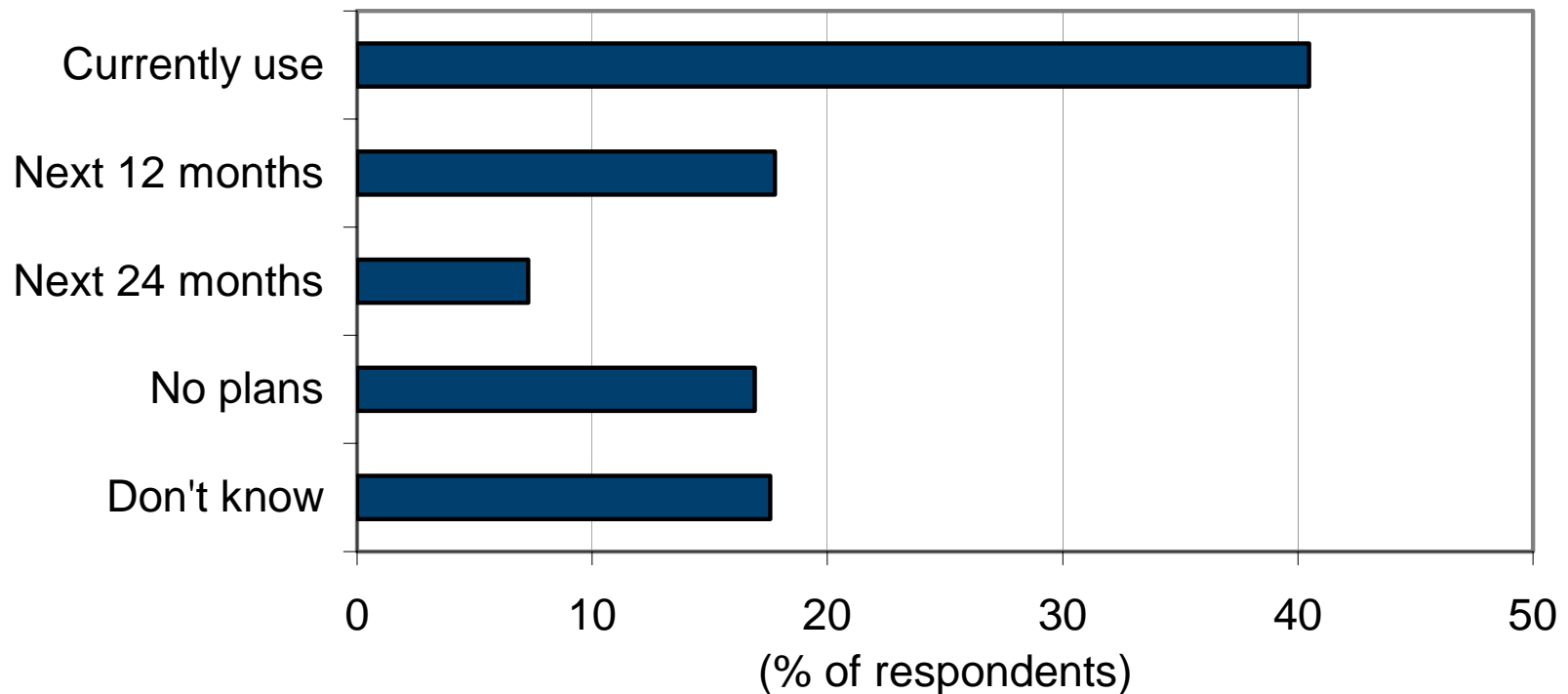
Q. To what extent will you use these technologies in the next 12 months?



IT Challenges: “Complexity Crisis”

■ Web Services adoption

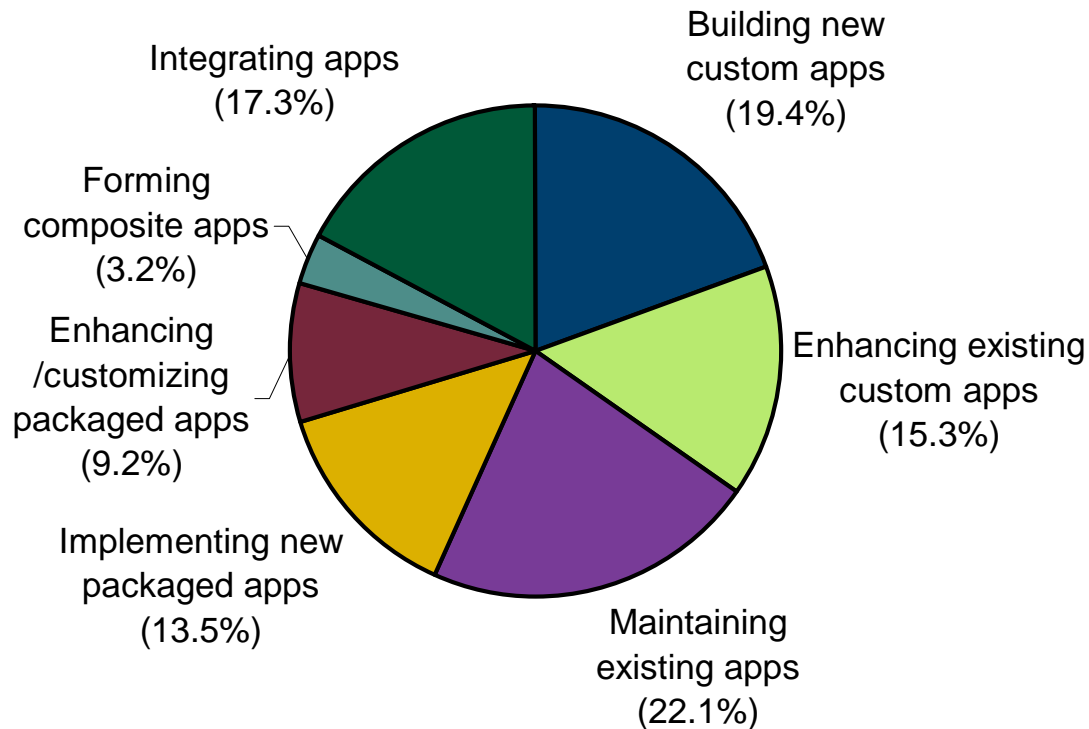
Q. Which are/will be used in your organization's development initiatives?
Web Services (SOAP, WSDL, UDDI, WSS, etc.)



IT Challenges: “Complexity Crisis”

- Heterogeneous applications – new applications, packaged/customized apps, complex integrations

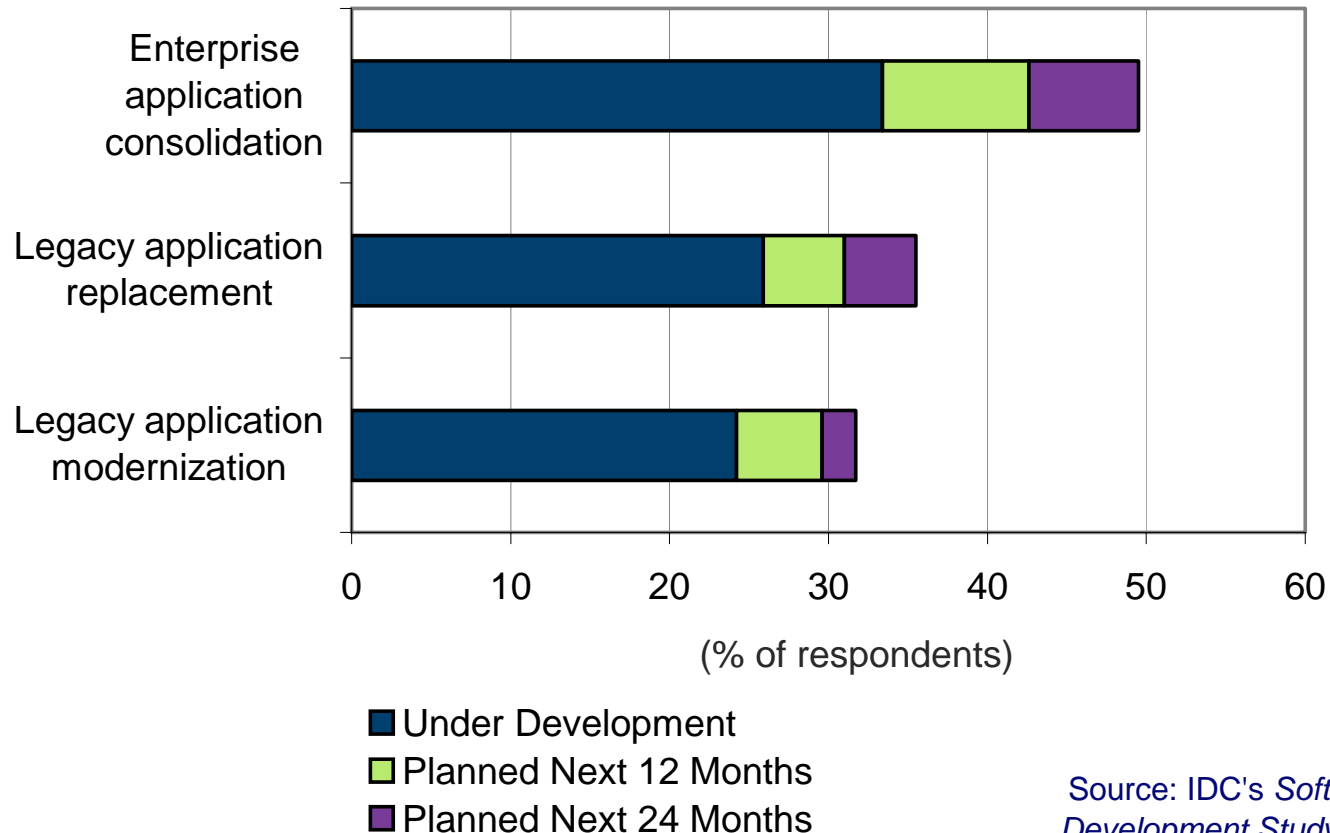
Q. What percentage of your current application development is focused on...?



IT Challenges: “Complexity Crisis”

- Consolidation – move to “on demand” computing & application rationalization introduce more change

Q. Which of these application development initiatives do you have underway/planned?



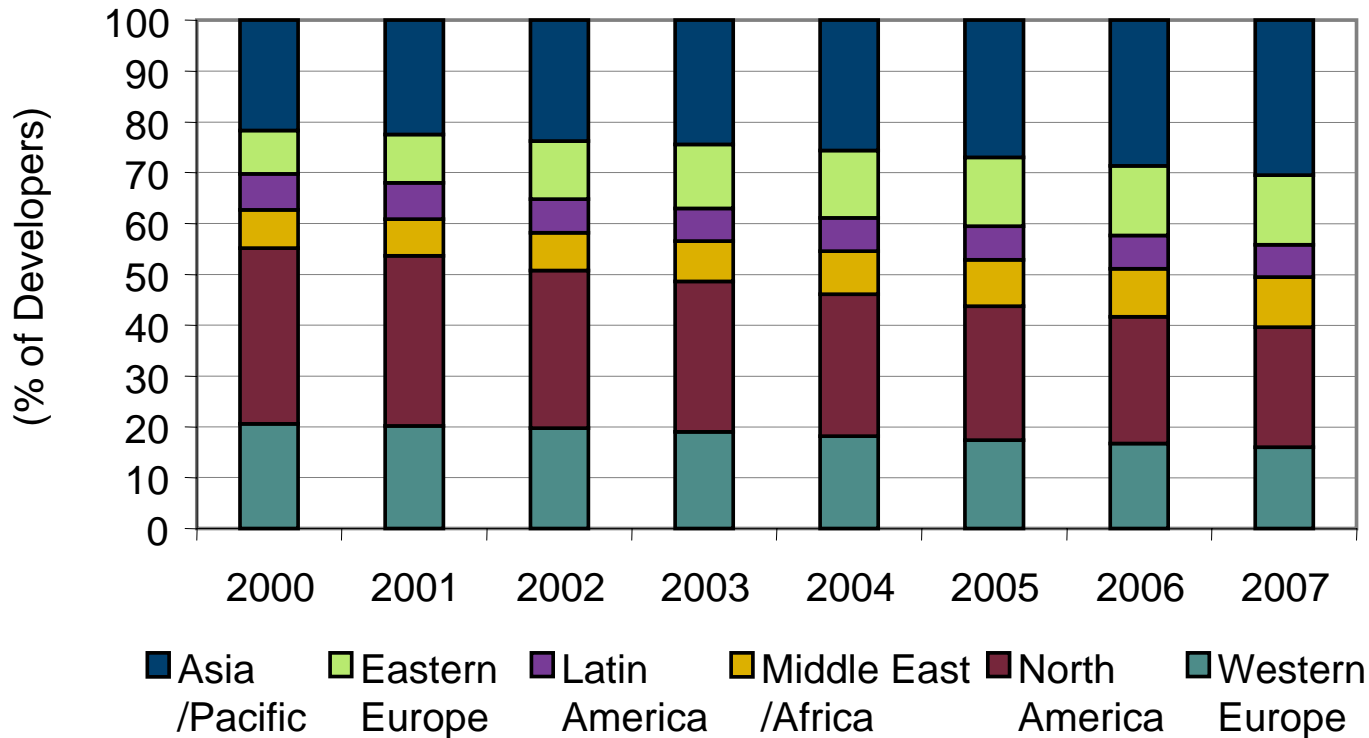
IT Challenges: Distributed Teams

- Team members from outsourcers, integrators, consultants, vendors, partners...
- Working in different countries, time zones, languages with different business “lingo” and domain expertise...
- Creates new challenges around IP, security, privacy, compliance...
- Creates significant new challenges to communication, collaboration, visibility, accountability and project/process management



IT Challenges: Distributed Teams

Worldwide Professional Developers by Region, 2000-2007 (%)

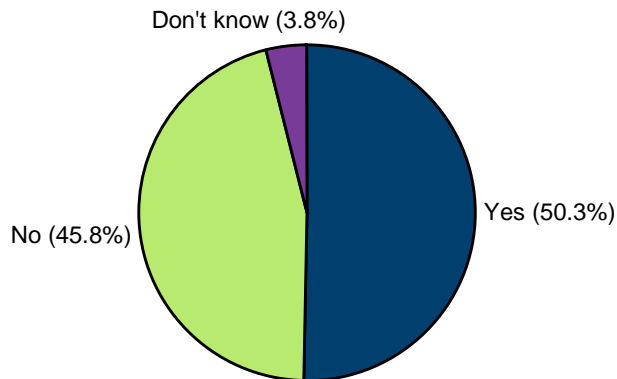


IT Challenges: Distributed Teams and Offshoring

US-based companies plan to increase IT offshore spend by 25% in the next 12-24 months...

Degree of Enterprise Offshore Outsourcing

Q. Over calendar year 2004, will you procure IT or business services from offshore or nearshore locations?

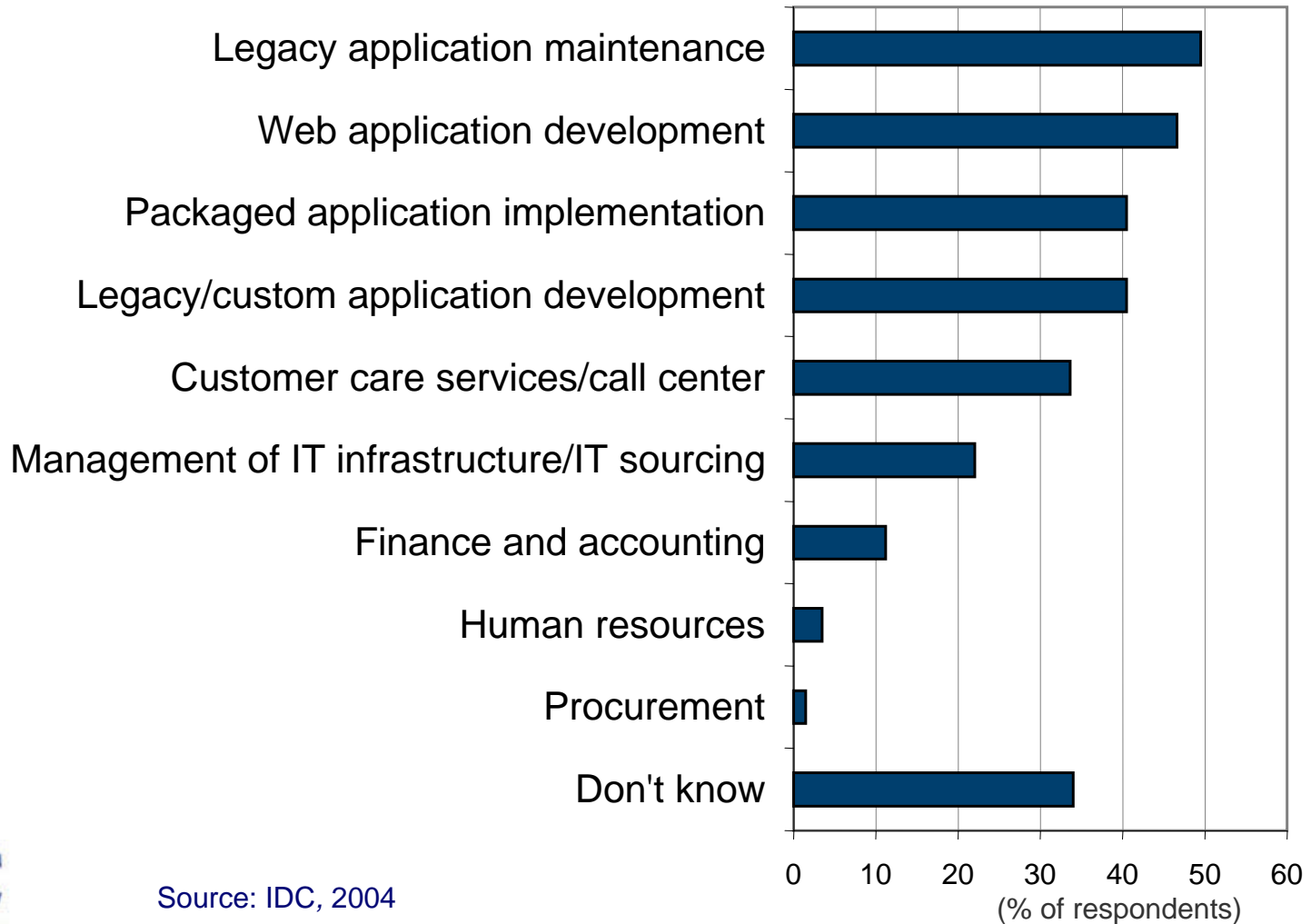


Source: IDC, 2004; N=100

- Offshorers acquiring US, European, EMEA operations
- Highly dynamic, moving up the value chain
- Creates new project/process management and software quality risks

IT Challenges: Distributed Teams & Offshoring

Q. Of the services your company plans to procure from offshore, please choose the top 3.



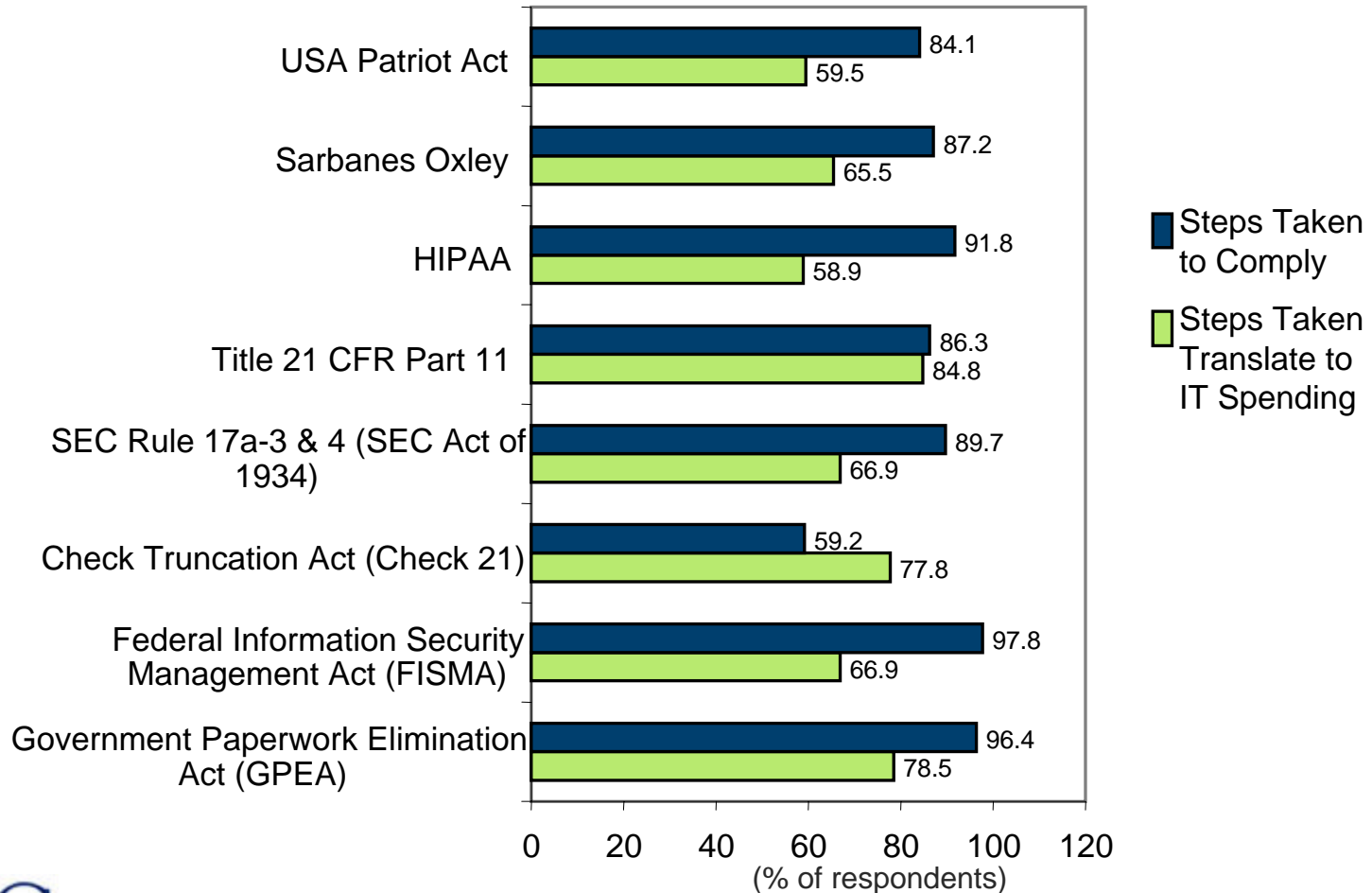
Source: IDC, 2004

Impact of Compliance on IT

- ❑ New Policies → New Procedures → Changes to Automated Procedures (Applications) – “Every compliance project is an IT project (almost!)”
- ❑ Laws mandate IT controls → Change Management!
- ❑ Companies must comply with an increasing number of regulations; laws will continue to evolve
- ❑ Challenge and opportunity

IT Challenges: Impact of Compliance

Q. Have you taken steps to comply, and if so have enforcement or compliance activities translated into IT spending?

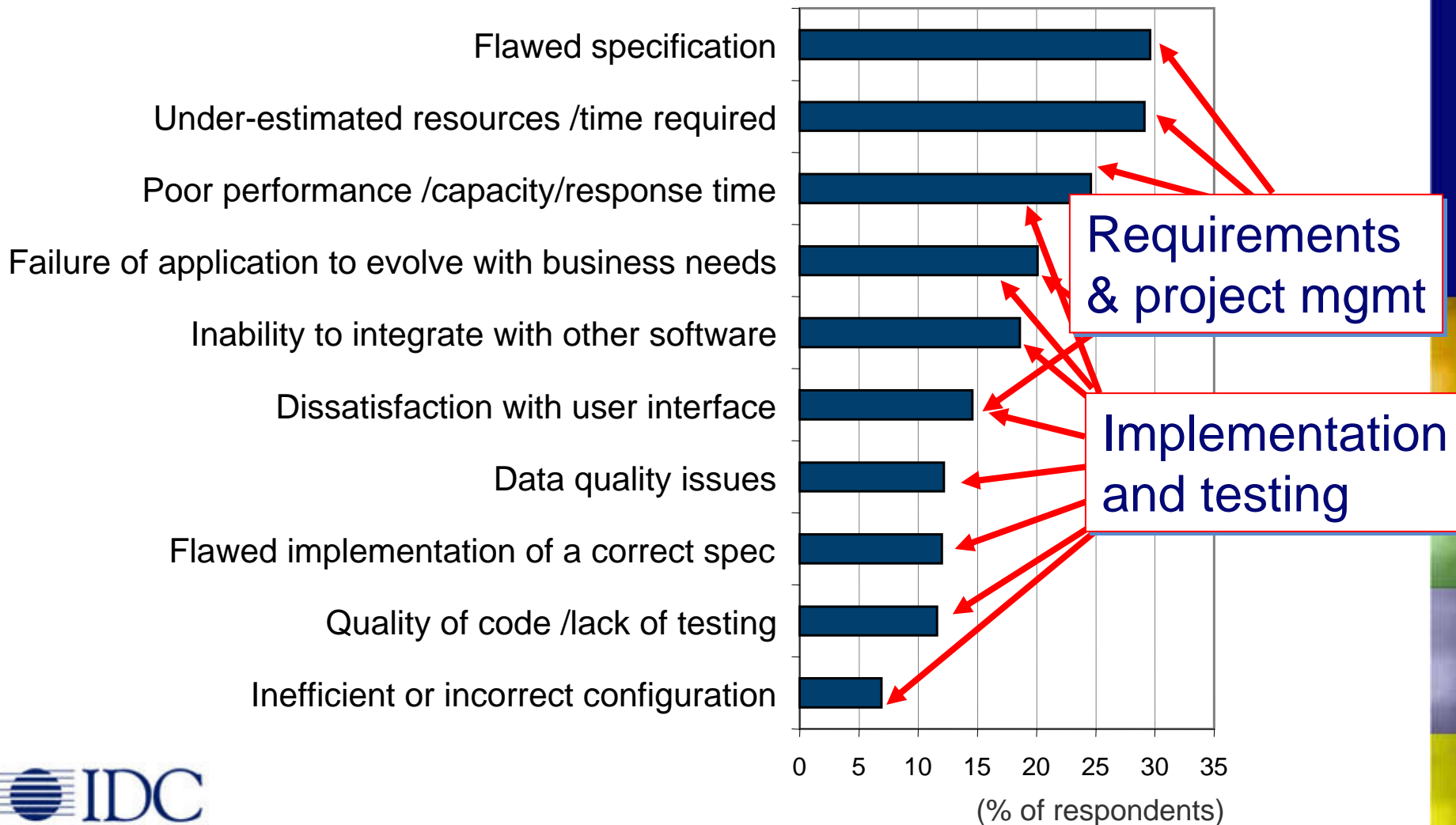


Business Drivers for ALM

- ❑ Need to better align IT with the business
- ❑ Need to improve application delivery and quality
- ❑ Need to manage costs (increase productivity)
- ❑ Need to reduce business risk (especially in regard to distributed teams and compliance issues)

Application Life-cycle Problems: Top Reasons Why Applications Fail

Q. When your software fails to satisfy users, the top 2 reasons are:

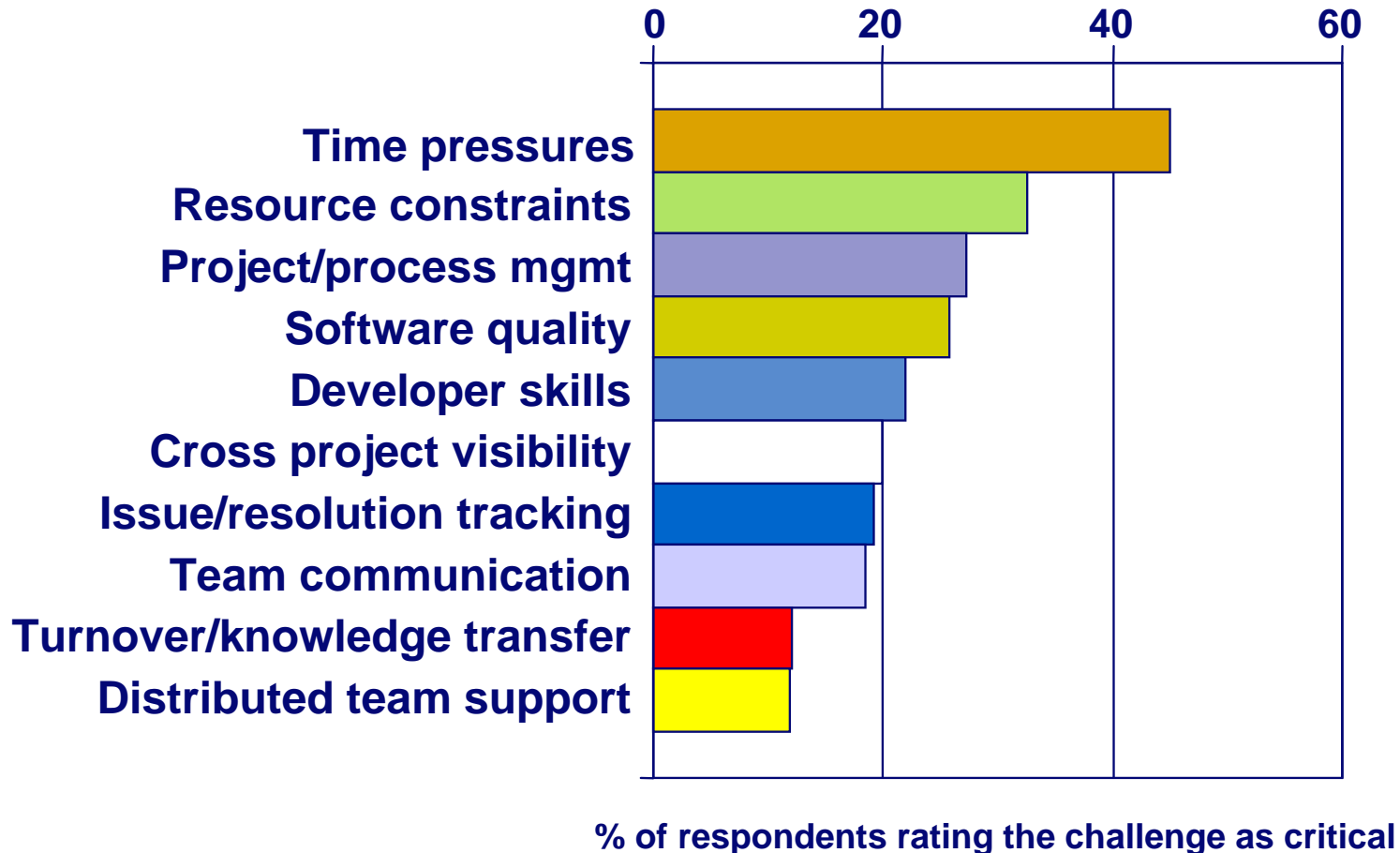


Application Failures Highlight ALM Needs:

- ❑ Stronger portfolio/project management capabilities
- ❑ Better integration across the life-cycle to ensure visibility into project status and quality for all stakeholders – “one version of the truth”
- ❑ Better collaboration capabilities to facilitate communication (particularly for distributed teams)
- ❑ More automation and metrics to help stakeholders meet quality and delivery standards and provide feedback loops critical to process improvement
- ❑ Better process management/workflow to “orchestrate” software development process, “enact” methodology, ensure compliance with IT controls

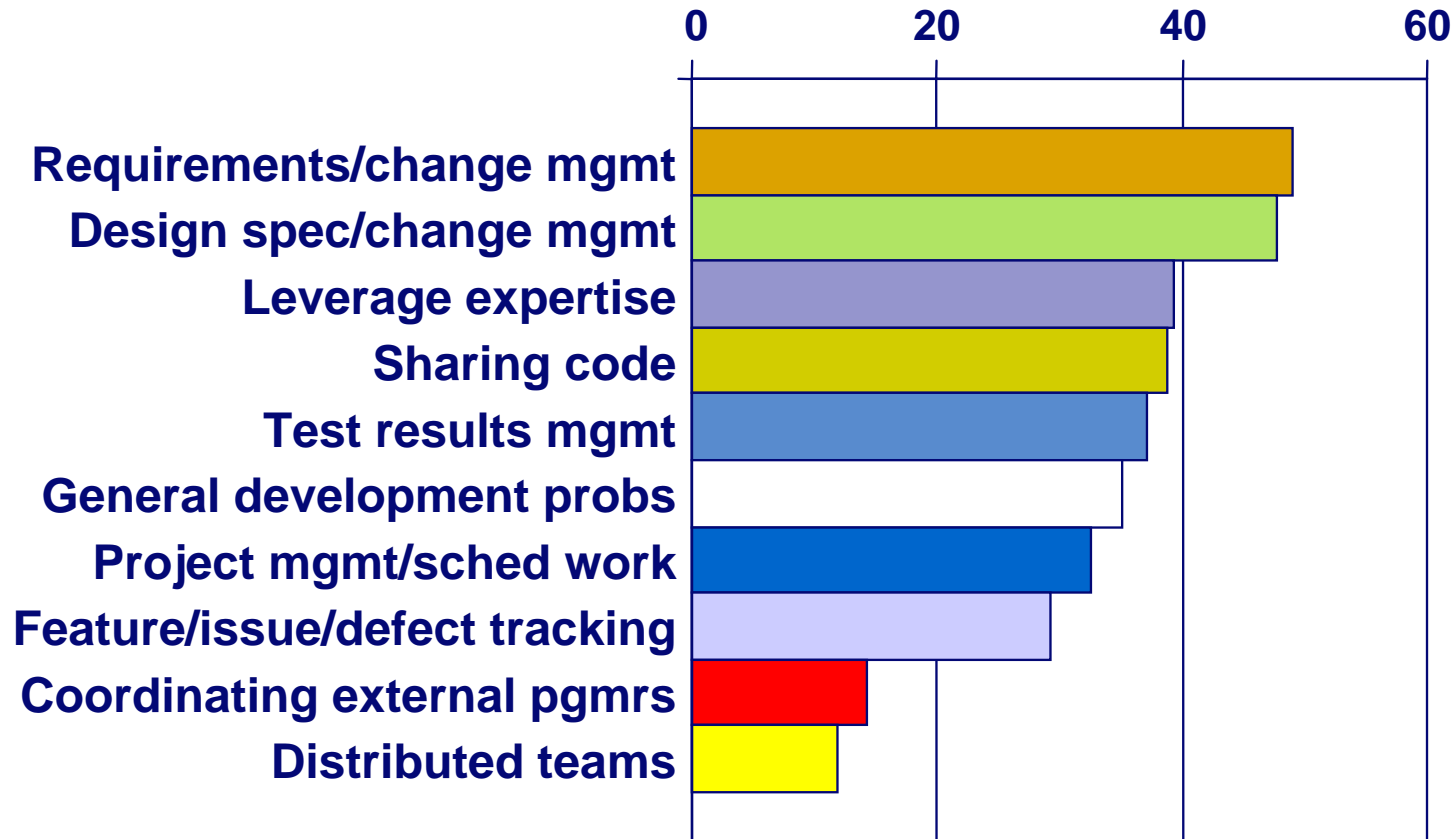
Application Development Team Challenges

Q. On a scale from 1-7, rate these challenges for your development organization.



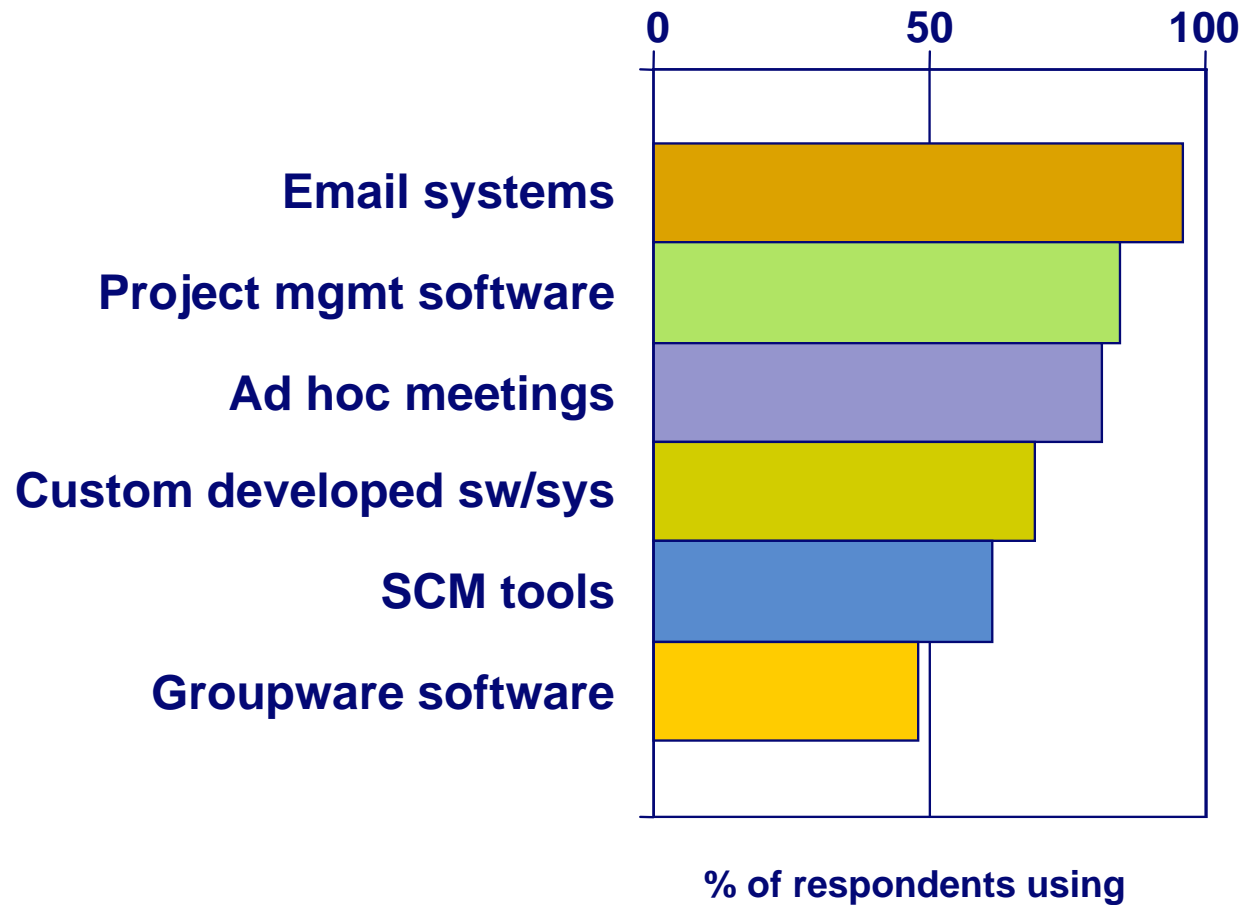
Development Team Collaboration Needs

Q. On a scale from 1-7, rate the importance of these attributes of team collaboration?



% of respondents rating the challenge as critical

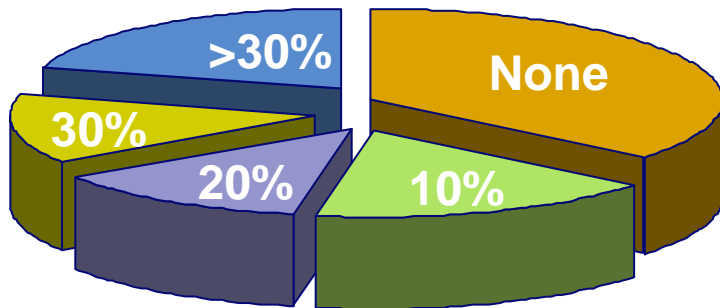
Tools Used Today to Manage Development Team Collaboration



Software Quality Tools Usage

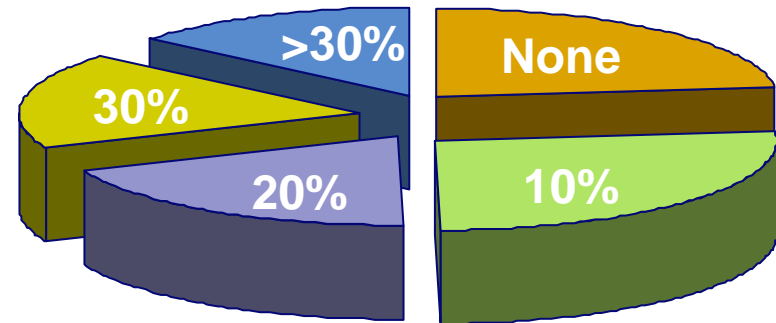
Software Testing is Largely Un-Automated

Q. How much of your unit testing is automated?



Median: 10%

Q. How much of your functional testing is automated?

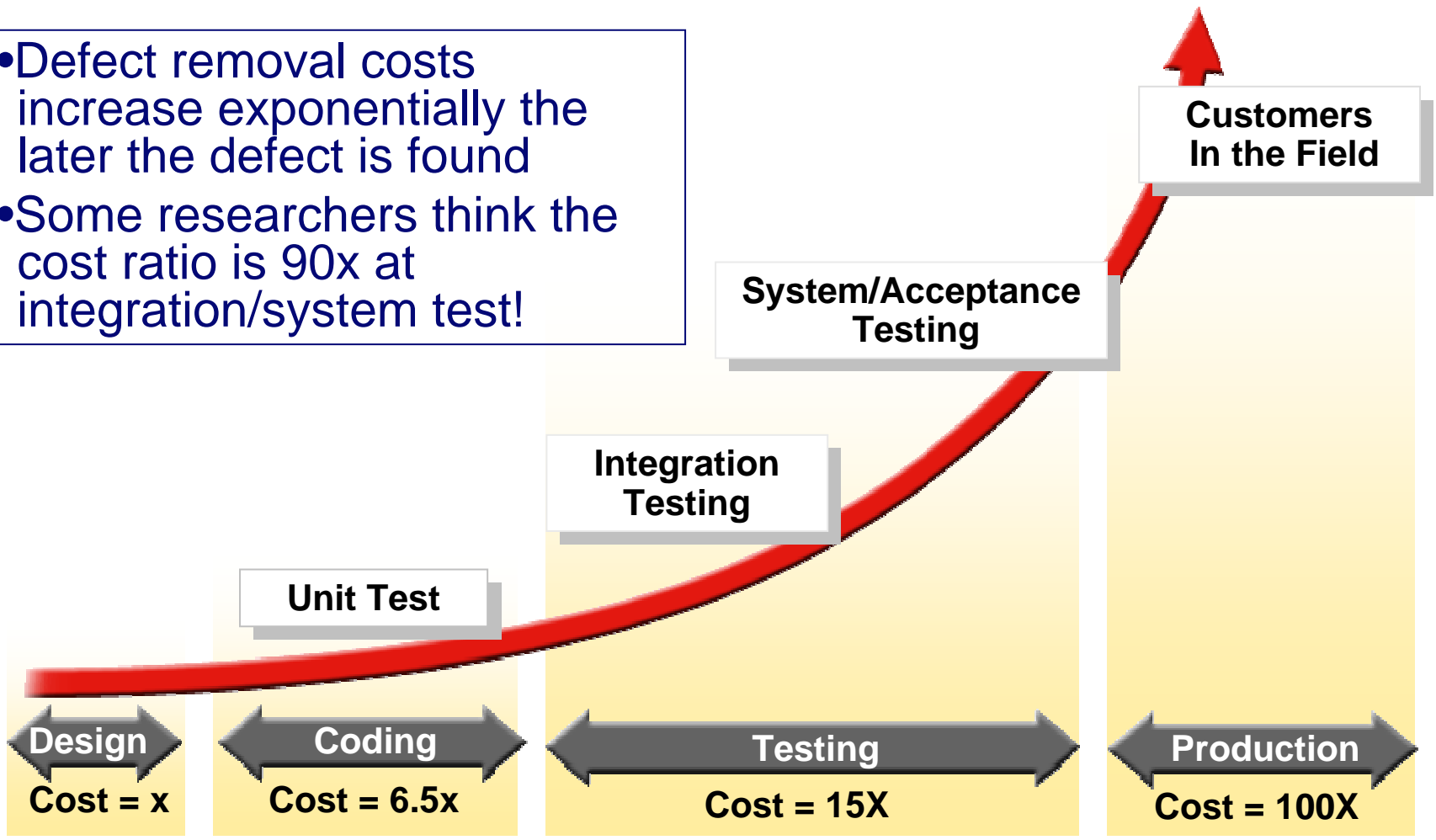


Median: 20%

**(Similar statistics for load/
stress testing)**

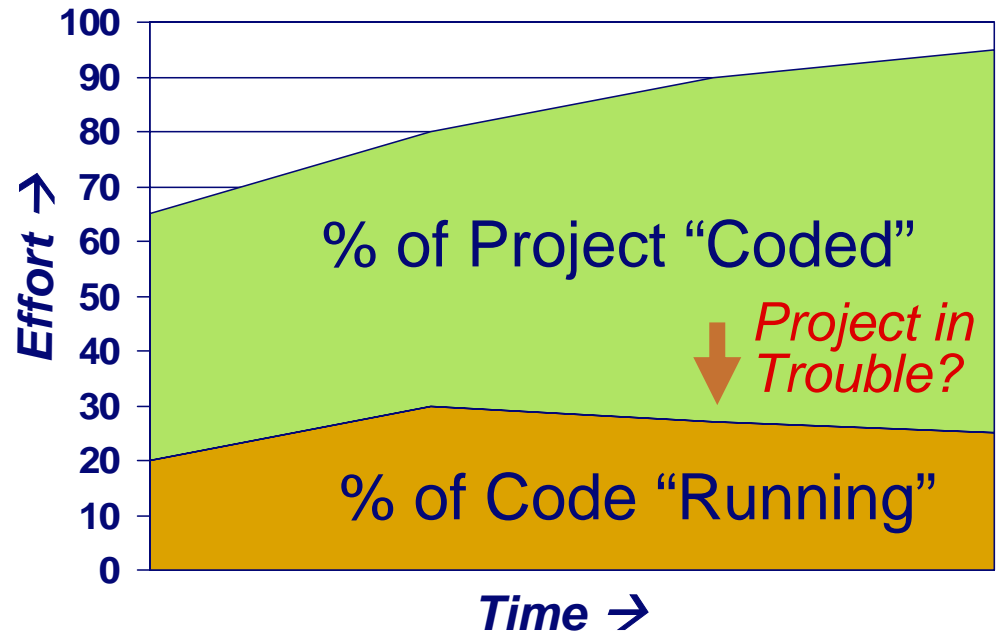
Impact (\$\$\$) of Finding Defects Late in Life-Cycle

- Defect removal costs increase exponentially the later the defect is found
- Some researchers think the cost ratio is 90x at integration/system test!



Better Metrics are Key for Process Improvement

How good is our code?
How much of it runs? How much of it has been tested?
Can we stop testing now? How do we know?
How stable is our code? Is stability improving? degrading?
Are we on schedule?
How have we done on this project compared with our last one?
Where can we improve our processes, skill sets?



Software Dev. Life-Cycle

Business Demands
IT Infra Projects

Manage IT Portfolio

Portfolio Mgmt Systems
IT Planning & Resource Mgmt

Establish PMO or Project

Define Project Tasks

Project Mgmt Systems
Tasks, Resources, Milestones

Requirements Mgmt. Systems
or informal system
(e.g. "issues" in SCM or tracker)

Gather Requirements

Manage Defects, Enhancements

Design/Refactor SW

Develop SW (Model/Code)

Debug/Test/Tune

Build

System/Integration/Regress Test

User Acceptance Test

Software Configuration Mgmt Systems
Code, Other SDLC Artifacts

IDEs, UDEs, AMD, ASQ Dev Tools, Build Tools

Create SW

Design Test Plan

Develop Automated Functional & Load Scripts, Manual Scripts

System/Integration/Regress Test

User Acceptance Test

ASQ QA Tools

Create Test Asset

Define Op. Rqts

Define SLAs
Provision
Create Perf. Mgmt/
Mon. Scripts

Support/Manage CRs

Deploy

Change Mgmt. Tools

Manage Process

Software Configuration Mgmt Systems
Code, Other SDLC Artifacts

Create SW

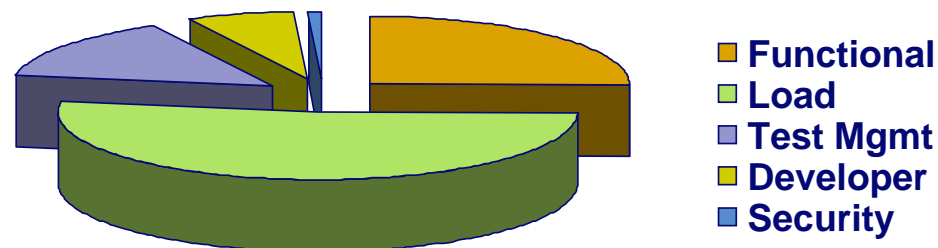
Create Test Asset

Process Mgmt. Tools
Roles, Authorization, Workflows

How Will the ALM Market Evolve?

- Automation Throughout the Life-Cycle, Metrics
- Developer Test Tools
- Security & Vulnerability Testing
- Web Services & SOA Testing
- Business Analyst Testing

Est. Share of 2003 ASQ Market Revenue by Tool Type



Source: IDC 2004

How Will the ALM Market Evolve?

IT Portfolio Management (aka IT Governance): Better alignment of IT/Business

- Optimize priorities
- Align budget to maximize business value (tradeoff analysis)
- Ensure resources/costs are managed to priorities

Large vendors acquiring pure plays (Mercury, IBM, Compuware)

How Will the ALM Market Evolve?

Process Management, Life-Cycle Integration

- Metrics, KPIs, dashboards, data integration
- Feedback loop – management, team reinforcement, process improvement
- Process/methodology enactment/enforcement, best practices

Solutions Need to Be:

- Process-centric, but flexible and “customizable”
- Highly collaborative
- Easy to use – integrated into team member’s “desktop” and as “invisible” as possible – “role-based”
- Full life-cycle solutions, that meet the needs of: development, QA, business analysts, other stakeholders

Summary

Business imperative for greater value from IT, coupled with the IT challenges of software complexity, distributed development teams, and the need to manage risk will continue to raise importance of ALM.

Vendors that provide integrated ALM solutions (of their own and/or through partnerships) are best positioned for success.

Questions?

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