# The Future of Application Development Tools: From SOA to SODA and Beyond

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### Solving The Application Development Dilemma



### Why Do We Use Development Tools?

- Tools Provide <u>Automation</u> and <u>Abstraction</u>
   That Drive....
  - Productivity
  - Quality
  - Consistency
  - Predictability
  - Repeatability
  - Efficiency



### **How Did We Get Here: Balancing the "Formality" Seesaw**

#### Formal (Explicit) Process

The Engineering Archetype: CASE, Systems Engineering, Waterfall

**Just Enough Process: Model-Driven Development, Agile Methodologies** 

**Prescriptive:** Requirements **Are Static** 

Adaptive: **Demands Evolve** 

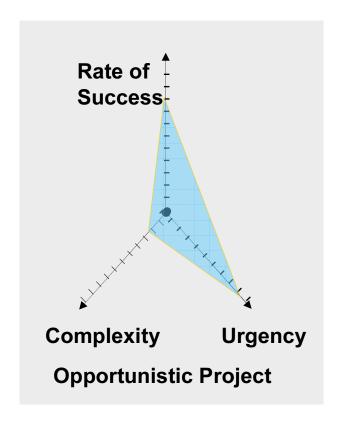
Code and Fix: Chaotic

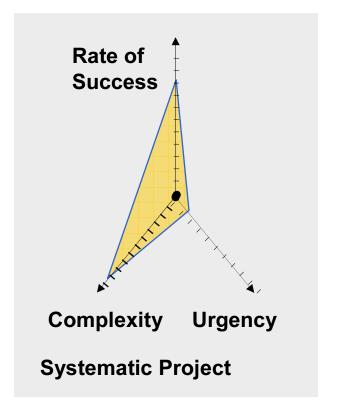
The Craftsman Archetype: Rapid **Application Development** (80's Style)

**Informal (Implicit) Process** 

### The Right Tool For the Right Job

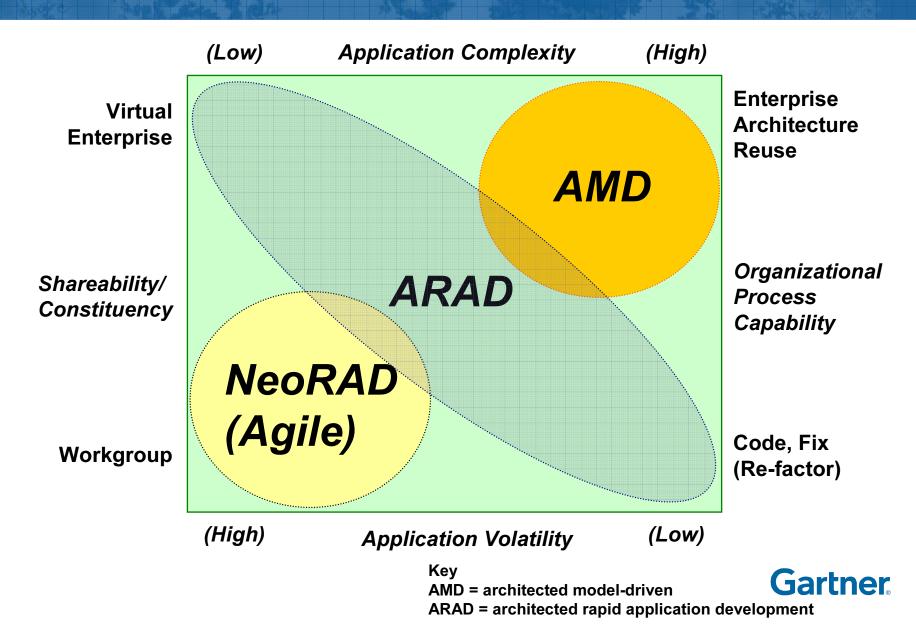
# Opportunist AD Tools Focus on Time To Market and Productivity





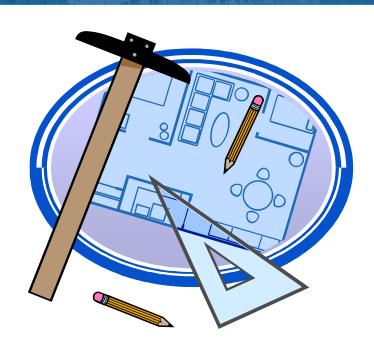
Systematic AD Tools Focus on Stability and Flexibility

### Three Classes of AD Tools In the SOA Generation



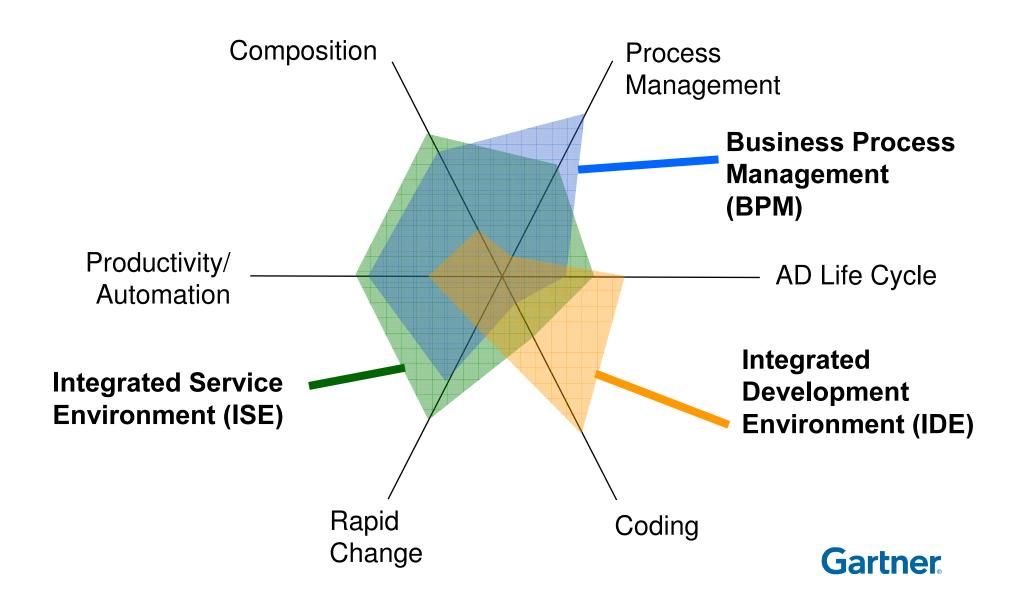
### **Expanding Application Access Channels Will Stretch AD Bandwidth Even Further**

- Mobile Clients
- SOA Services
- Rich Clients
- Web Clients
- Composite Applications
- Emerging Cloud Platforms





# ISE versus BPM versus IDE: Which Is Right for You?



# ALM Is One Step Toward Holistic IT Planning and Control

Quality Management (test case, data, reviews, approvals)

Requirements
Definition and
Management

**ALM** Bus

(integrate/collaborate across AD mgt tools and w/non-AD workflows Software Change, Configuration and Release

Productivity Integrations

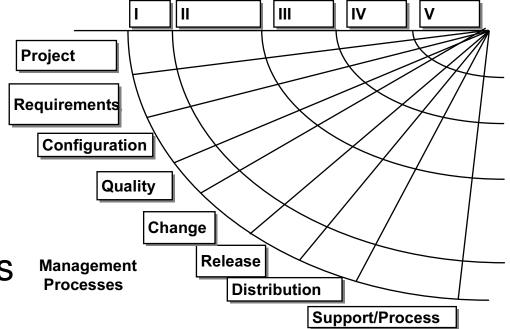
Multiple AD execution tools

Process Frameworks/
Methodology (plan,
manage, measure and
report)
Gartner

### ALM is a Team's Memory From Ad Hoc to Coordinated Processes

Implementation Phases

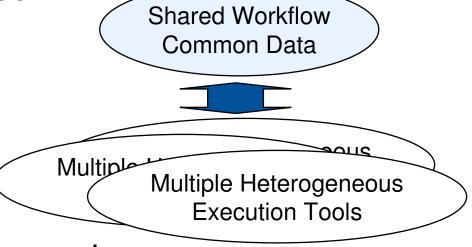
- Unstructured Collaboration
- Traceability
- Methods Support
- Accountability and Separation of Concerns



Overcome: Interruptions of flow, physical separation, staff turnover, long projects, multiple teams, differing methodologies and time scales

# Application Life Cycle Management (ALM) Aligns With PPM and With Operations

- Management transparency and visibility
  - Plan, measure, control and report
- Effective execution of challenging processes
  - Geographic distribution
  - Multienterprise
  - Multi-life cycle
  - Heterogeneous architectures and toolsets



- Faster delivery of larger releases
- 3. Delivering better results to the business
  - Satisfied needs, on time, on budget

### **Quality Issues Permeate the Life Cycle**

#### **Project/Planning**

- •Business
  Drivers
- Iterations
- •Sign-off
- Contract
- Risk Assess
- •User Involvement

#### Requirements

- Use Cases
- Nonfunctional
- •Sign-off
- Contract
- Risk Assess
- Threat Model
- •Test Requirements

#### **Development**

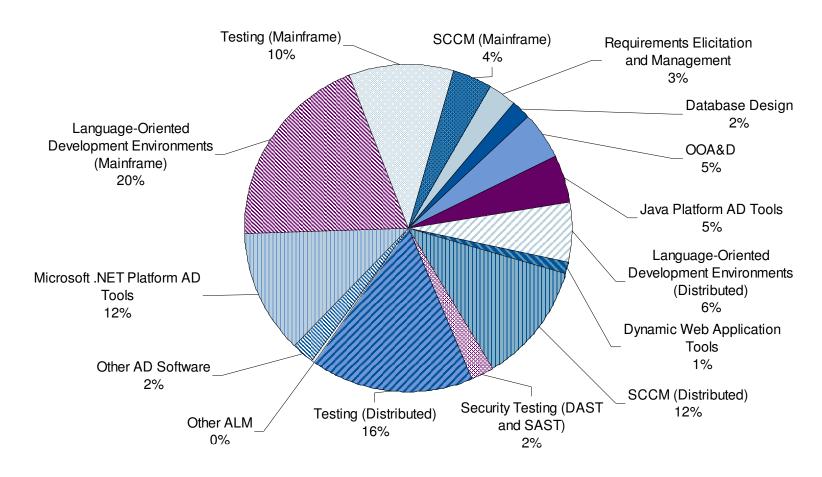
- •TDD
- •Build Management
- StaticAnalysis
- •BVT
- •Source Management
- •Pair Programming/ Code Review

#### **Testing**

- Scenario-DrivenAutomation
- Fill Cracks
- •User Involvement
- ContractValidation

**Continuous Learning and Feedback** 

#### **AD Tools SubSector Revenue**



Global AD Revenue – 4990 Million Euros



### **AD Tools Revenue and Forecast**

AD Tools		Revenue 2007 \$m			Growth for 2007		CAGR thru 2012
Sector	Worldwide	EMEA	Italy	Worldwide	EMEA	Italy	EMEA
Requirements Elicitation and Management	182	74	4	11.0%	18.6%	12.7%	10.2%
Database Design	147	50	4	1.0%	8.6%	6.6%	1.8%
OOA&D	311	119	9	9.4%	15.2%	11.2%	0.5%
Java Platform AD Tools	329	122	10	-9.5%	-4.9%	-8.3%	-0.2%
Language-Oriented Development Environments (Distributed)	397	144	13	10.4%	15.5%	14.7%	4.2%
Dynamic Web Application Tools	79	26	2	15.9%	14.6%	12.6%	11.5%
SCCM (Distributed)	810	281	22	10.0%	14.6%	15.2%	9.5%
Security Testing (DAST and SAST)	169	26	2	40.5%	140.7%	576.0%	38.5%
Testing (Distributed)	1104	402	33	31.6%	45.2%	46.2%	11.7%
Other ALM	4	2	>1	21.3%	31.2%	29.6%	12.9%
Other AD Software	161	57	3	11.5%	17.7%	0.3%	5.1%
Microsoft .NET Platform AD Tools	841	267	28	18.5%	21.3%	19.8%	12.8%
Language-Oriented Development Environments (Mainframe)	1344	505	49	1.0%	2.8%	1.9%	-3.8%
Testing (Mainframe)	702	251	11	-0.8%	15.8%	9.6%	-0.5%
SCCM (Mainframe)	267	81	6	14.9%	18.2%	19.6%	7.5%
AD Software	6848	2406	199	10.30%	16.5%	14.7%	6.2%

### MarketScope for Application Quality Management Solutions, 1Q08

		RATING							
	Strong Negative	Caution	Promising	Positive	Strong Positive				
AutomatedQA			х						
Borland				Х					
Compuware				X					
Empirix				X					
HP					х				
IBM					х				
Original Software			х						
Seapine Software			Х						

As of 25 March 2008



### **Magic Quadrant Analysis**

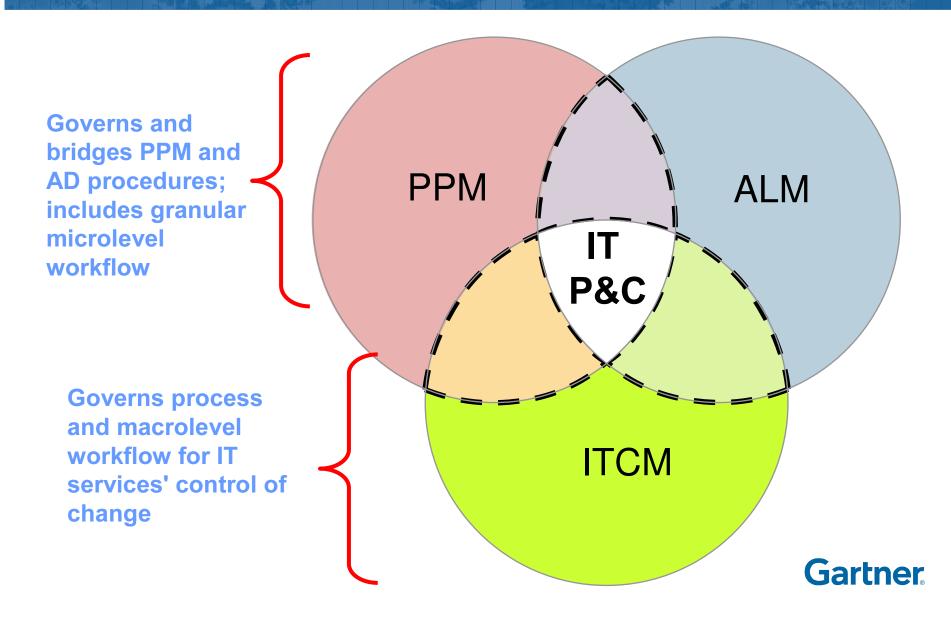


As of January 2008

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# IT Planning and Control Will Require Significant New Integrations



#### Recommendations

- Expect runtime code from third parties to play an increasing role in IT deployments.
- Expect non-IT contributions (i.e. business analyst, endusers) to play an increasing role in IT deployments.
- Typical IT solutions will grow more complex and reach a wider audience through a myriad of channels — including the "cloud."
- Governance best practices and methodologies must evolve to address the increasing role that "business process" has in modern IT solutions.
- Java and .NET will continue to dominate mainstream AD efforts but open-source technologies will play an increasing role in both areas.
- Dynamic programming languages will continue to emerge and play a stronger role in many IT solutions.

