

# Transforming a Development Organization

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## Agenda

- ➔ Introduction
  - Best Practices
  - Case Study
  - Summary

## The Target of Transformation – a Development Environment

Solution Context (functionality, qualities, constraints)	
<b>Method</b>	Roles, work products, tasks, processes Standards, guidelines, checklists etc. Method deployment topology
<b>Tools</b>	Development tools and integrations Development tool configurations and install scripts Development tool deployment topology
<b>Enablement</b>	Training curriculum and courses Mentoring materials Enablement deployment topology
<b>Organization</b>	Organizational roles and units Organization deployment topology
<b>Infrastructure</b>	Locations, nodes and connectivity Supporting software (such as operating systems)
<b>Adoption</b>	Adoption plan Techniques for driving organizational change Environment metrics

# Hot off the Press!

- <http://www.ibm.com/developerworks/rational/library/define-scope-development-environment/index.html>

The screenshot shows the IBM DeveloperWorks website interface. At the top, there's a navigation bar with 'developerWorks' logo and menu items: 'Technical topics', 'Evaluation software', 'Community', and 'Events'. A search box is on the right. Below the navigation, a breadcrumb trail reads 'developerWorks > Technical topics > Rational > Technical library >'. The main article title is 'Define the scope of your development environment' with a subtitle 'Ensure comprehensive consideration of all elements'. The author is Peter Eeles, Executive IT Architect and Chief Architect for IT, Rational Services, IBM. The article includes a summary, tags, and activity statistics (2215 views, 1 comment). A 'Table of contents' sidebar is visible on the right, listing sections like 'Why a definition matters', 'Elements of a development environment', 'Define, deploy, manage', 'Interdependencies', 'Summary', 'Resources', 'About the author', and 'Comments'. The main content area starts with the section 'Why a definition matters'.

## Agenda

- Introduction
- ➔ Best Practices
- Case Study
- Summary

## Summary of Best Practices

### Rational

- Consider all elements of a development environment
- Implement a center of excellence
- Plan improvements around capabilities
- Adopt capabilities incrementally
- Embrace principles of organizational change

### Kotter

- Establish a sense of urgency
- Create the guiding coalition
- Develop a vision and strategy
- Communicate the change vision
- Empower employees for broad-based action
- Generate short-term wins
- Consolidate gains and produce more change
- Anchor new approaches in the culture

## Consider all Elements of a Development Environment

	Solution Definition	Solution Deployment	Solution Management
Method	Roles, work products, tasks, processes Standards, guidelines, checklists etc. Method deployment topology	Define local configuration Deploy method	Gather feedback on method
Tools	Development tools and integrations Development tool config., install scripts Development tool deployment topology	Perform local configuration Install tools Migrate local data	Backup / archive / restore data Gather feedback on tools
Enablement	Training curriculum and courses Mentoring materials Enablement deployment topology	Perform local configuration Deploy enablement materials Train practitioners	Mentor practitioners Gather feedback on enablement
Organization	Organizational roles and units Organization deployment topology	Define local configuration Reorganize	Gather feedback on organization
Infrastructure	Locations, nodes and connectivity Supporting software (such as OS)	Define local infrastructure Provision locations, nodes, connectivity Provision supporting software	Onboard / retire infra. as required Gather feedback on infrastructure
Adoption	Adoption plan Techniques for driving org. change Environment metrics	Define local adoption plan Validate the environment	Measure environment effectiveness Gather feedback on adoption

# Summary of Best Practices

## Rational

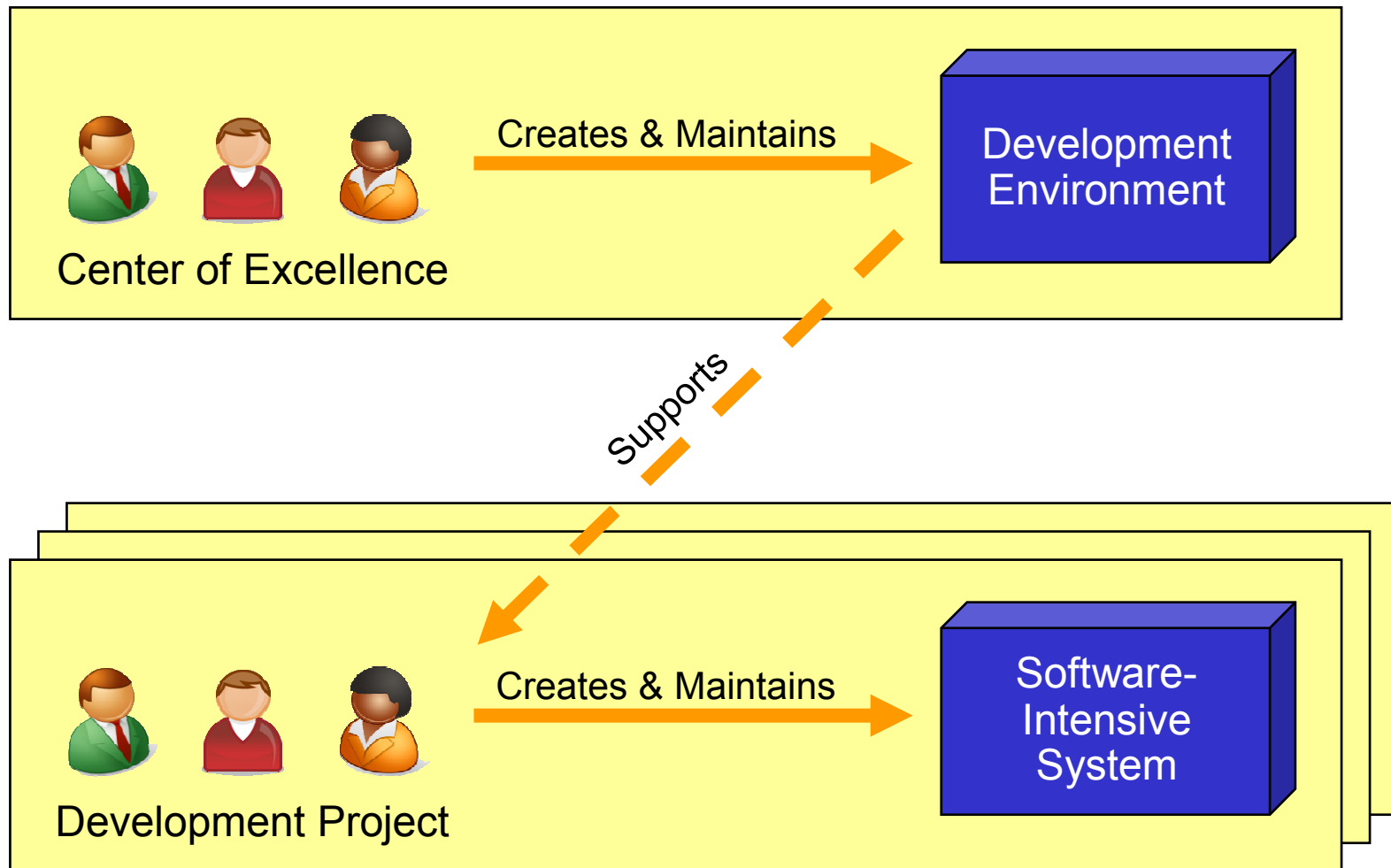
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# Implement a Center of Excellence



# Summary of Best Practices

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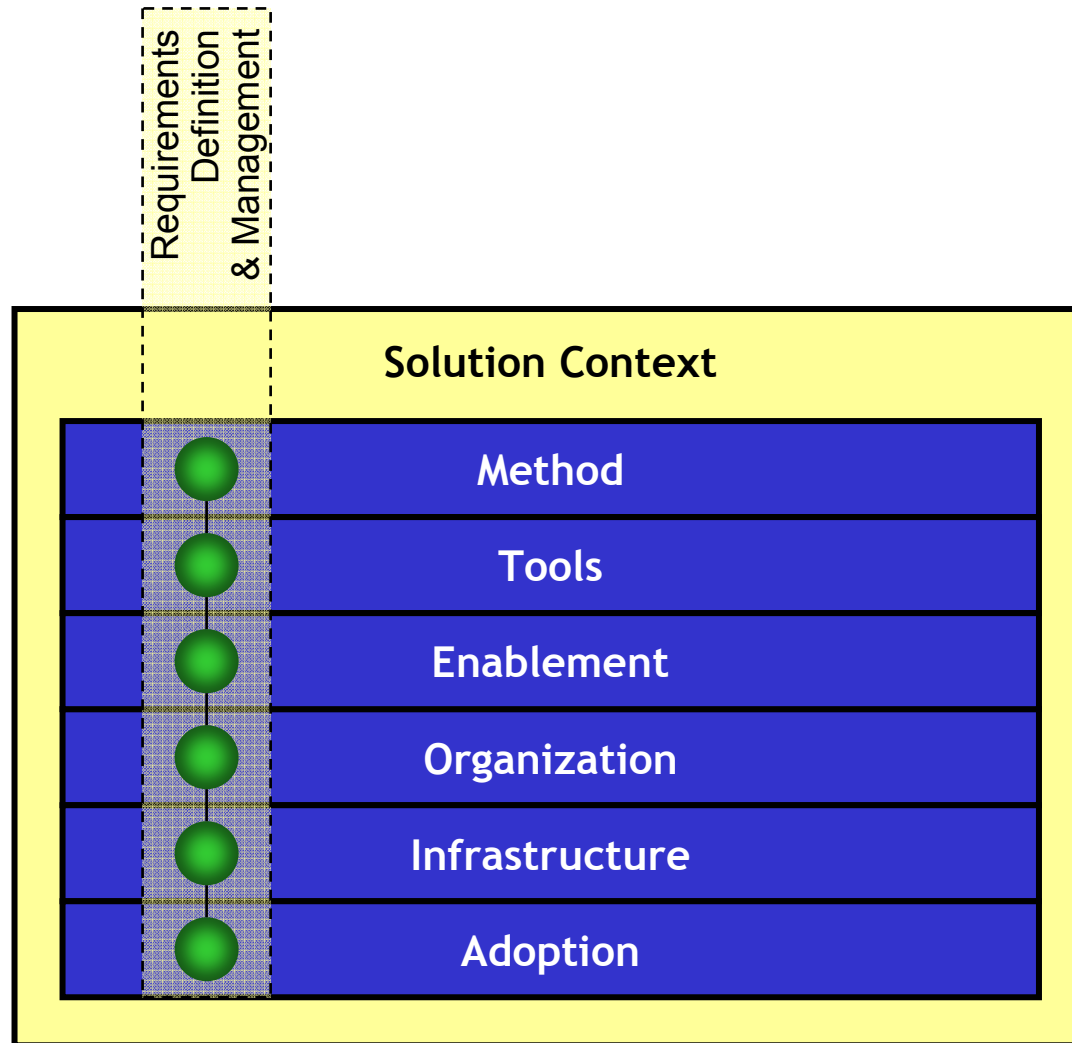
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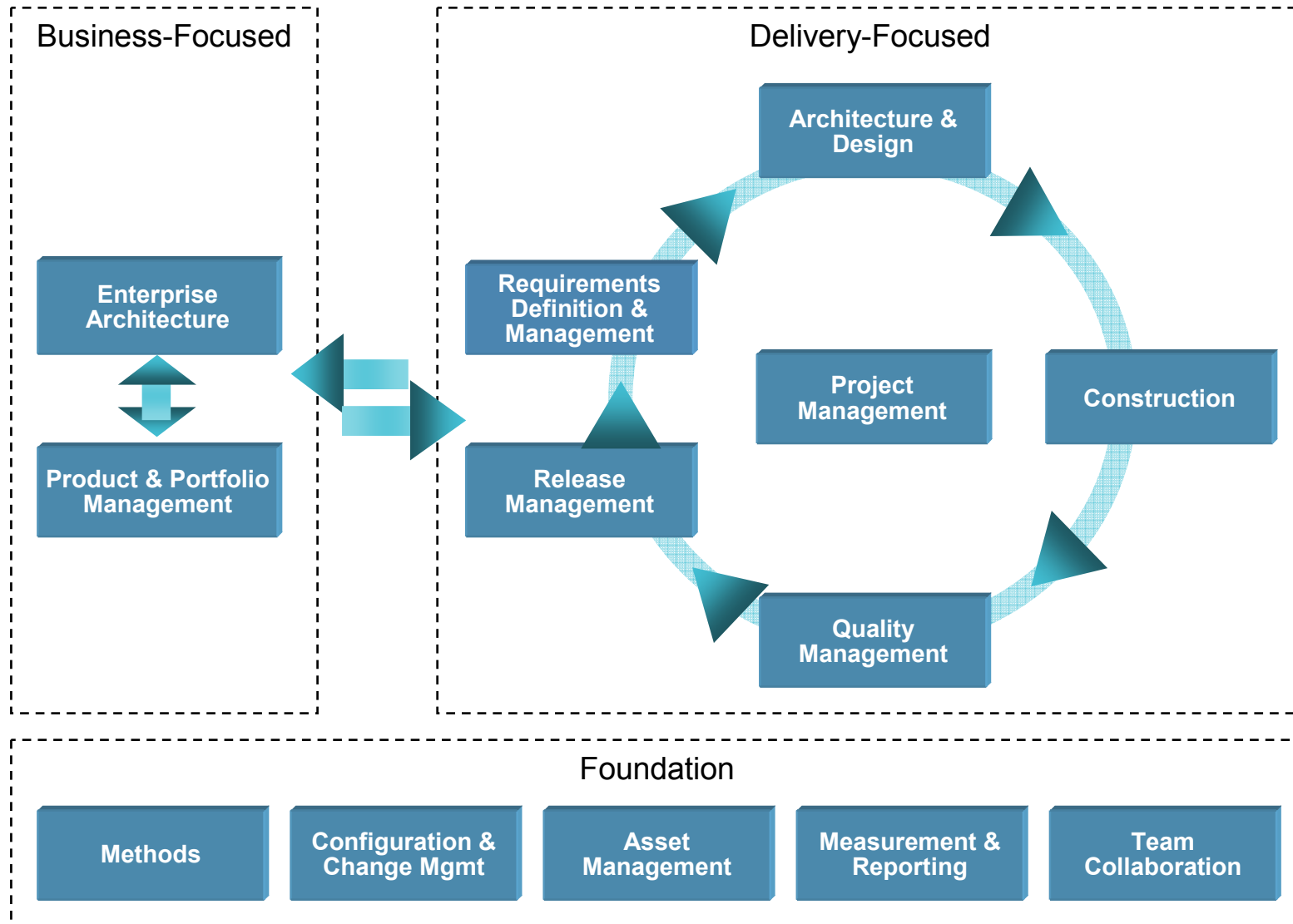
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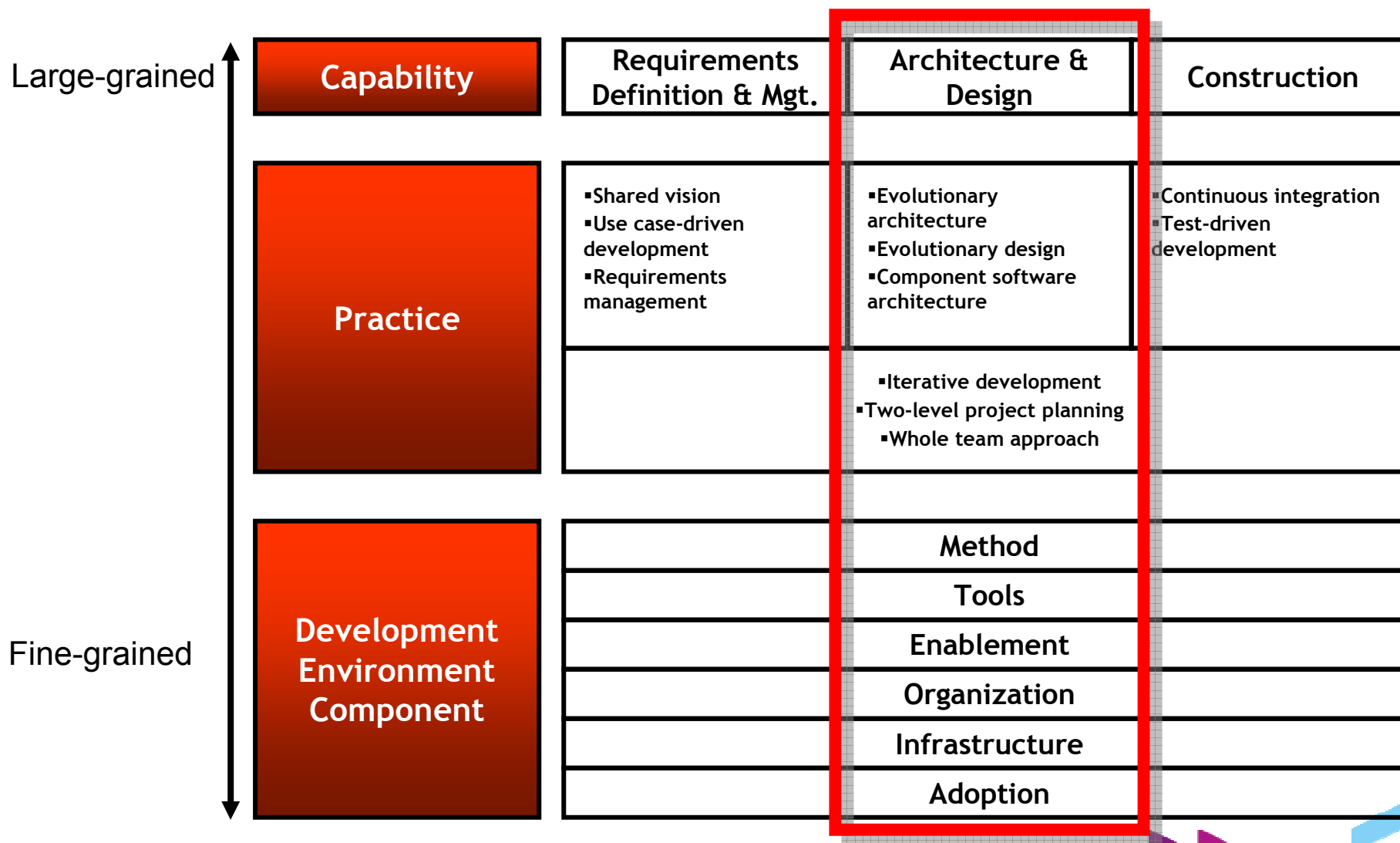
# Plan Improvements around Capabilities



# A Summary of Potential Capabilities



## Capabilities may be too Large-Grained to Plan Against



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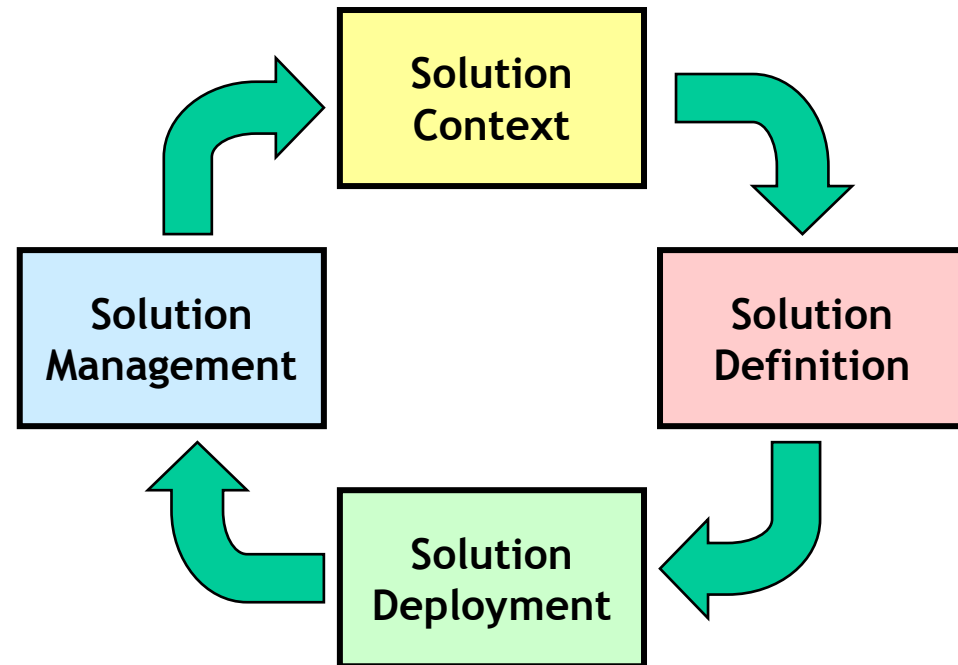
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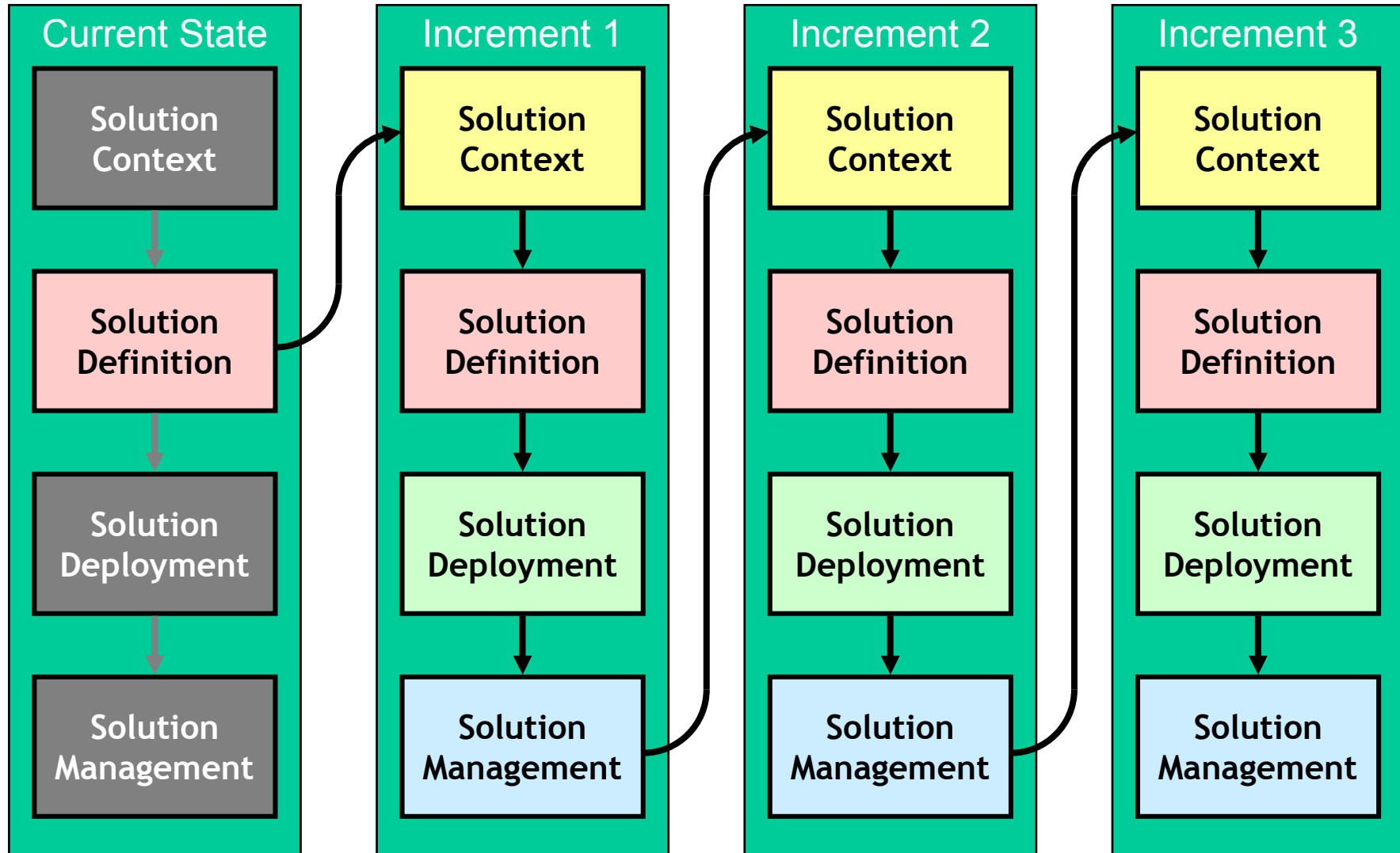
## Key Considerations

- Solution Context
  - ▶ The requirements on the development environment
- Solution Definition
  - ▶ The solution elements that comprise the development environment
- Solution Deployment
  - ▶ Concerns when deploying the environment (e.g. on projects)
- Solution Management
  - ▶ Concerns when supporting the operational environment



*Each increment changes the context for the next increment*

# Adopt Capabilities Incrementally



## Adopt Capabilities Incrementally

- Themes provide a high-level perspective of incremental adoption
- Each increment represents capability available in the Center of Excellence

Year 1					Year 2				
Inc 0	Increment 1	Increment 2	Increment 3	Increment 4					
Startup	Foundation	Enterprise Planning	Agile Core	Strategic Reuse					
	Methods	Enterprise Architecture	Requirements Definition & Management	Architecture & Design					
	Team Collaboration	Product & Portfolio Management	Construction	Asset Management					
	Configuration & Change Mgmt		Release Management						
	Project Management		Quality Management						
	Measurement & Reporting								

## Content of Increments

- What business drivers will each increment contribute to?
- What is the potential to deliver short-term wins?
  - ▶ Some capabilities will take longer to deploy than others
- What is a sensible sequence?
  - ▶ Are there dependencies between capabilities?
- Will projects be available to pilot the new capability?
- Do capabilities need to be subdivided?
  - ▶ E.g. requirements definition and requirements management
  - ▶ E.g. into practices such as Shared Vision, Whole Team

# Summary of Best Practices

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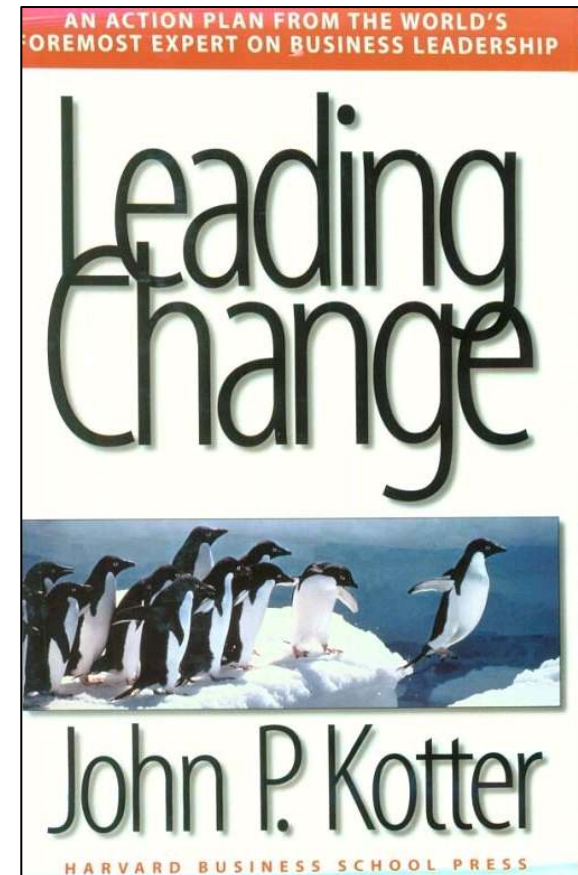
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## Embrace Principles of Organizational Change

- Kotter 8-step framework
  1. Establish a Sense of Urgency
  2. Creating the Guiding Coalition
  3. Developing a Vision and Strategy
  4. Communicating the Change Vision
  5. Empowering Employees for Broad-Based Action
  6. Generating Short-Term Wins
  7. Consolidating Gains and Producing More Change
  8. Anchoring New Approaches on the Culture



## Kotter

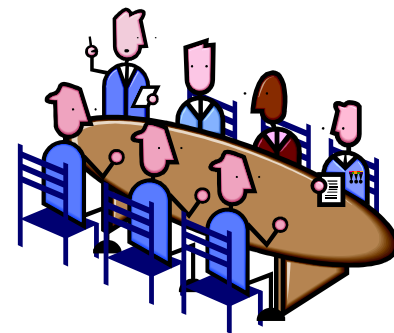
### 1. Establish a Sense of Urgency

- ▶ Individuals must have a good reason for doing something different
- ▶ The sense of urgency often comes about as the result of a crisis, potential crisis or significant opportunity
- ▶ Business drivers are a good source of inspiration – such as a need to deliver faster, cheaper, better
- ▶ Most change initiatives fail at this step



### 2. Create the Guiding Coalition

- ▶ Change initiatives require sufficient sponsorship
- ▶ Must have enough influence to ensure that the change will be successful, even in the face of opposition



## Kotter

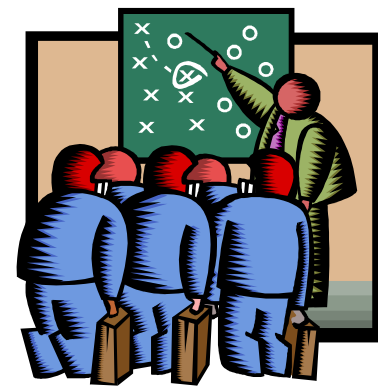
### 3. Develop a Vision and Strategy

- ▶ Contributors need to know where they are headed
- ▶ Without this guiding “north star”, a series of change initiatives will be uncoordinated and, at worst, conflicting
- ▶ The change vision should be concise and easily understood – something that can be communicated in five minutes or less
- ▶ A Return-on-Investment for the change is typically required



### 4. Communicate the Change Vision

- ▶ The change vision should be communicated to everyone and reinforced where necessary
- ▶ It should also be demonstrable through the actions of the leadership team
- ▶ If the leadership team says one thing and does another, then the change will fail



## Kotter

### 5. Empower Employees for Broad-based Action

- ▶ The vision can only be realised if everyone is able to make decisions, at all levels in the organisation
- ▶ Decisions must be in line with the vision
- ▶ The leadership team must remove obstacles from their reports so that new approaches are developed and new ideas suggested



### 6. Generate Short-term Wins

- ▶ Belief in a vision will not last forever
- ▶ Evidence that the vision is delivering tangible results will keep people on-board
- ▶ Rewarding those directly responsible for any success is important, since this encourages others to follow their lead



## Kotter

### 7. Consolidate Gains and Produce More Change

- ▶ Considering a change to be on track based on short-term wins can be fatal, since people naturally fall back to their old ways of working
- ▶ Any gains need to be seen as stepping stones to the greater goal articulated in the vision
- ▶ The effect of change should be objectively measured



### 8. Anchor New Approaches in the Culture

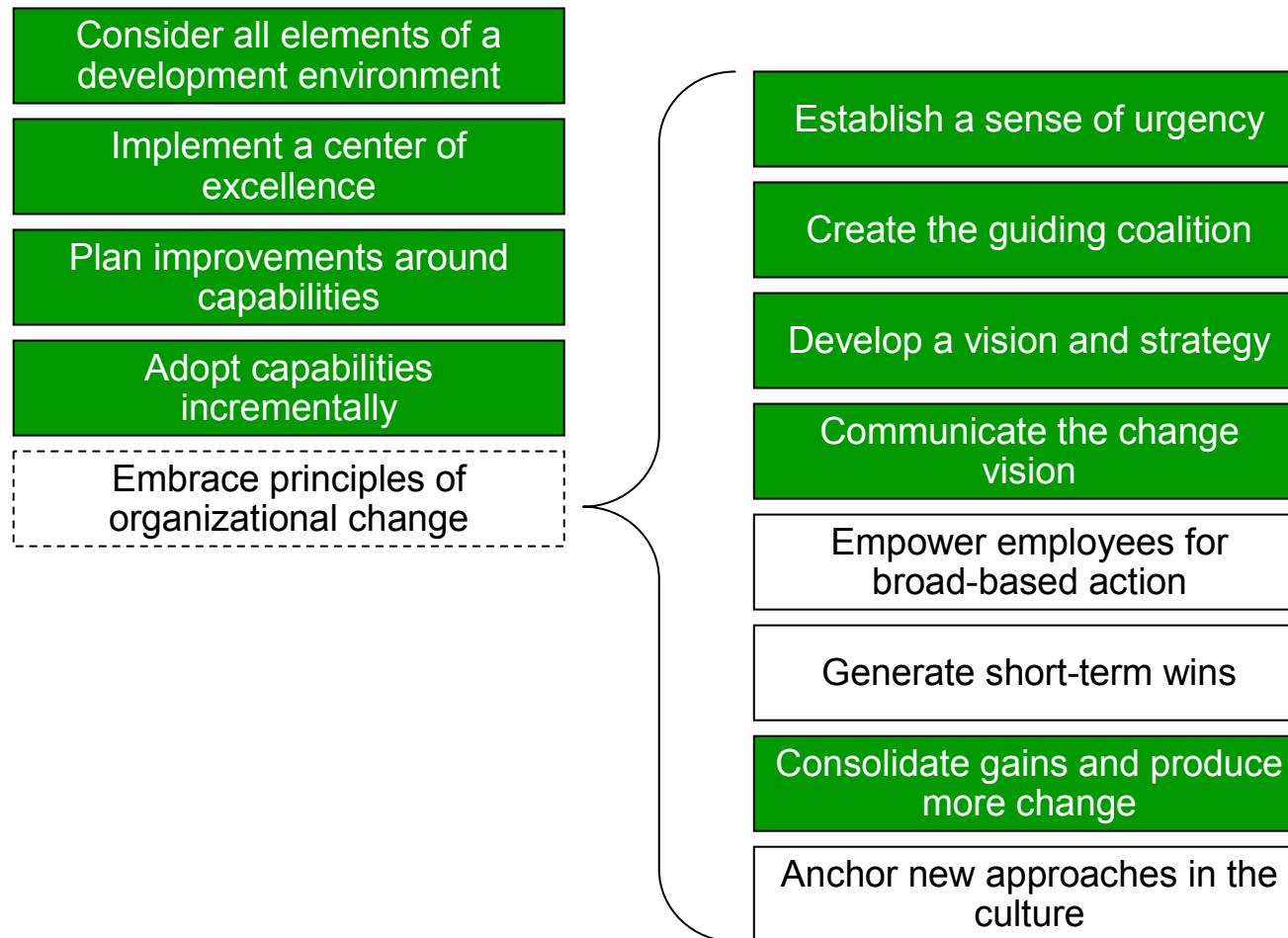
- ▶ Valuable changes need to become “the norm”, where the old ways of working are considered “legacy”
- ▶ The leadership team needs to promote the continued use of the new ways of working
- ▶ Implement appropriate governance to ensure conformance



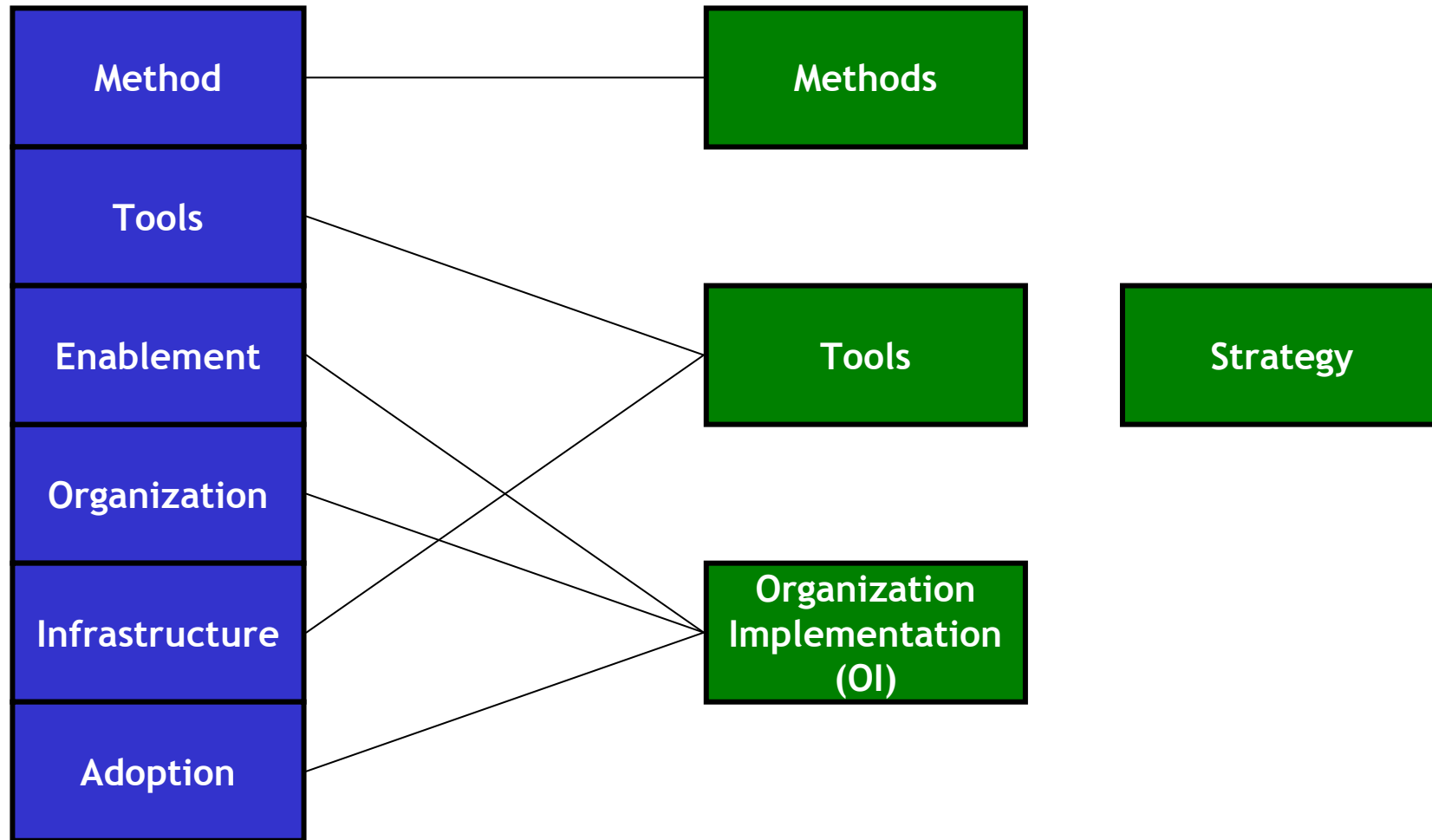
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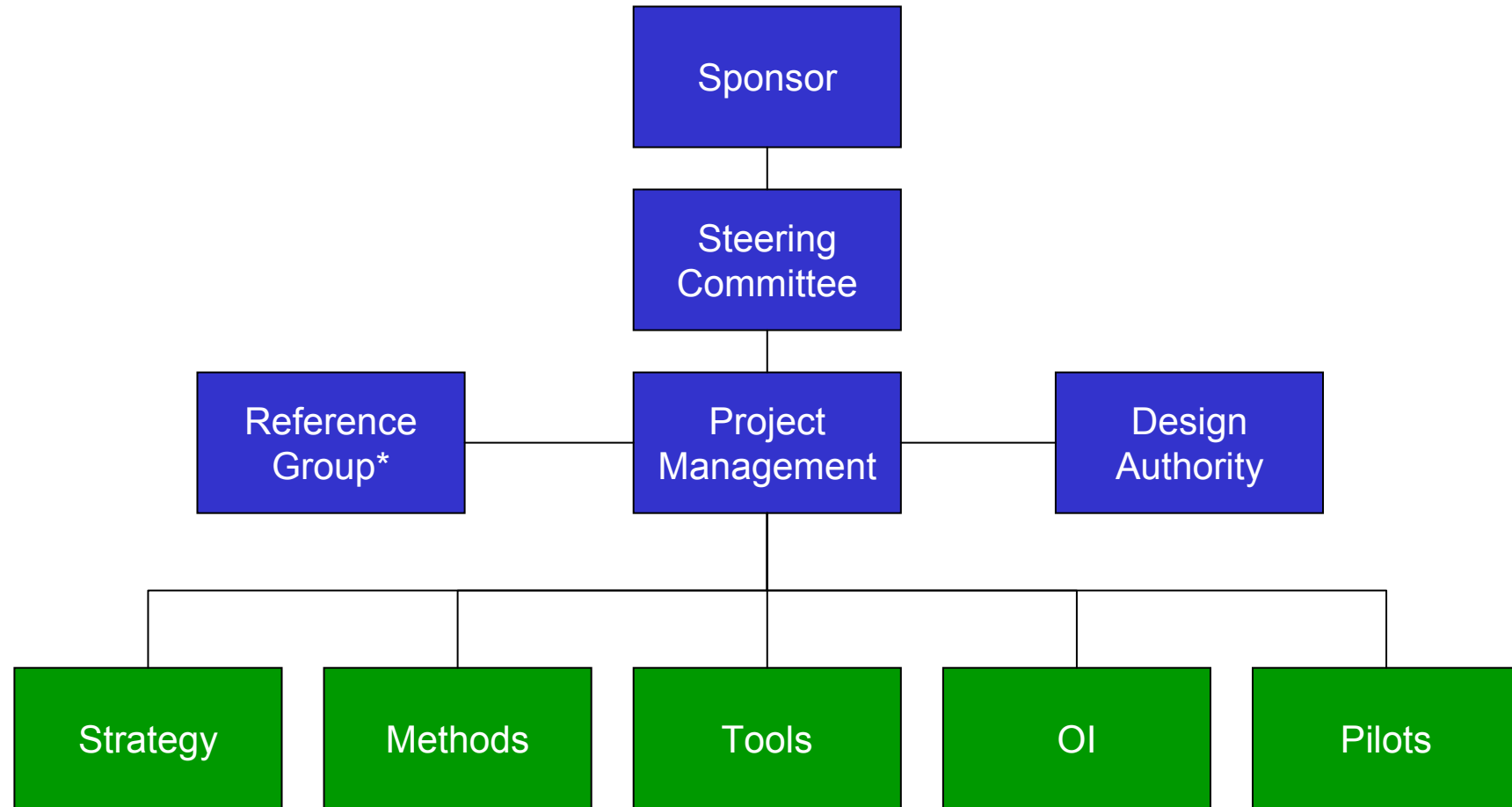
## Best Practices Applied



# Best Practices Applied: Consider all Elements of a Development Environment



# Best Practices Applied: Implement a Center of Excellence Create the Guiding Coalition



\* "Network of agile practitioners"

# Best Practices Applied: Plan Improvements around Capabilities

Start here!



## Best Practices Applied: Adopt Capabilities Incrementally

- Foundation
  - ▶ Iterative Development
  - ▶ Two-Level Planning
  - ▶ Team Change Management
  - ▶ Shared Vision
  - ▶ Continuous Integration
  - ▶ Whole Team
- High
  - ▶ Risk-Value Lifecycle
  - ▶ Test-driven development
  - ▶ Use case-driven development
- Medium
  - ▶ Evolutionary Architecture
  - ▶ Concurrent Testing
- Low
  - ▶ Business Process Sketching
  - ▶ Evolutionary Design
- Ultra Low
  - ▶ Process authoring and Tailoring
  - ▶ Requirements Management
  - ▶ Formal Change Management
  - ▶ Component Based Software Architecture
  - ▶ Design Driven Implementation
  - ▶ Test Management
  - ▶ Independent Testing
  - ▶ Application Vulnerability Assessment
  - ▶ Performance Testing

## Best Practices Applied:

### Establish a Sense of Urgency

### Develop a Vision and Strategy

Name	Description	Goals
Time to market	Projects deliver faster than today	<ul style="list-style-type: none"> <li>Complete small projects within 7 months (average time to market is currently 14 months)</li> <li>Deliver a first increment (demo) on projects within 8 weeks from project initiation followed by subsequent increments (demos) at regular intervals of 2-4 weeks</li> </ul>
Cost efficiency	Projects deliver with lower overall cost than today	<ul style="list-style-type: none"> <li>Increase the efficiency baseline (function points per FTE) by 10%</li> </ul>
Quality	Systems exhibit the agreed level of quality	<ul style="list-style-type: none"> <li>Decrease the error baseline by 10%</li> </ul>
Continuous optimisation	The development organisation is a learning organisation using common processes that are continuously updated	<ul style="list-style-type: none"> <li>Knowledge and experience is used to improve processes</li> <li>Processes are performed in a mature and professional way (i.e. consistently) in order to harvest the benefits of this</li> </ul>

## Best Practices Applied: Communicate the Change Vision

- 3 training sessions will be delivered for each pilot
  - ▶ Management training (½ day)
  - ▶ Project team training (2 days)
  - ▶ Role specific workshops (1 day)
- Train the trainer
  - ▶ Trained local resources to deliver these courses
- Coach the coach
  - ▶ Trained local resources enabled to do coaching in-house
- Support framework
  - ▶ Experienced agile coach from IBM allocated to each pilot for 1-2 days per week
  - ▶ Support teams will be in place to provide advice, guidance and support for both method content and tools

## Best Practices Applied: Consolidate Gains and Produce More Change

	<b>Business-related</b>	<b>Agile-related</b>
<b>Cycle time reduction</b>	<ul style="list-style-type: none"> <li>▪ Time spent from project initiation to delivery of first increment</li> <li>▪ Time spent from project initiation to project closure</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sprint velocity</li> <li>▪ Blocking work items</li> </ul>
<b>Quality</b>	<ul style="list-style-type: none"> <li>▪ Defects (severity 1 and 2) in production per 100 FPs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Defect trend</li> </ul>
<b>Continuous optimisation</b>	<ul style="list-style-type: none"> <li>▪ Process maturity level</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adoption of agile practices</li> </ul>
<b>Productivity</b>	<ul style="list-style-type: none"> <li>▪ Function points per man year</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sprint burndown chart</li> <li>▪ Release burndown chart</li> </ul>

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## Summary

- Transforming a Development Organization considers
  - ▶ Method
  - ▶ Tools
  - ▶ Enablement
  - ▶ Organization
  - ▶ Infrastructure
  - ▶ Adoption
- Well-understood principles of organizational change apply
- Apply best practices to ensure success!

# QUESTIONS



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