Disciplined Agile Delivery (DAD) and CLM: The Foundation for Agility@Scale

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IBM Software

Innovate2011
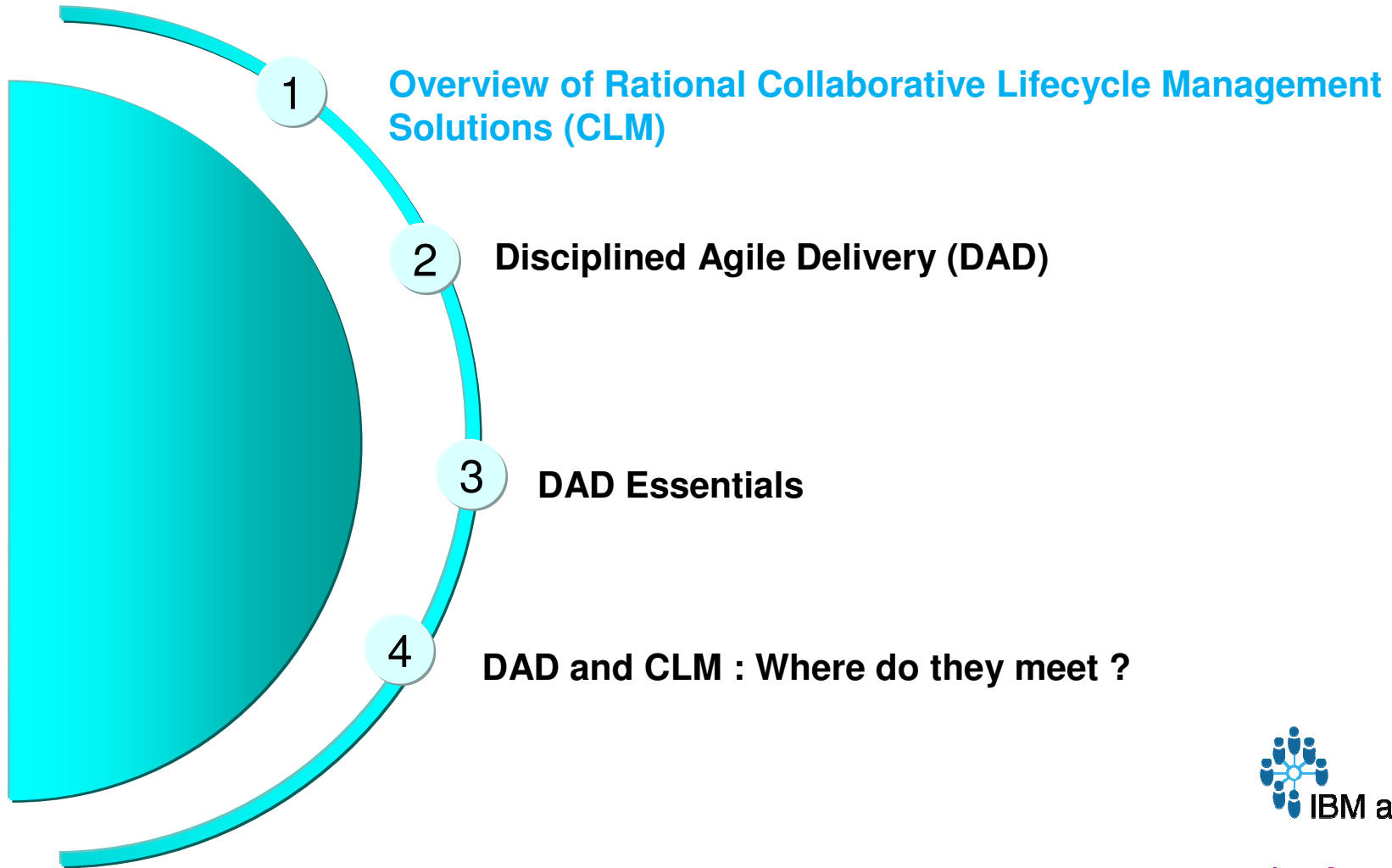
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Agenda

1 **Overview of Rational Collaborative Lifecycle Management Solutions (CLM)**

2 **Disciplined Agile Delivery (DAD)**

3 **DAD Essentials**

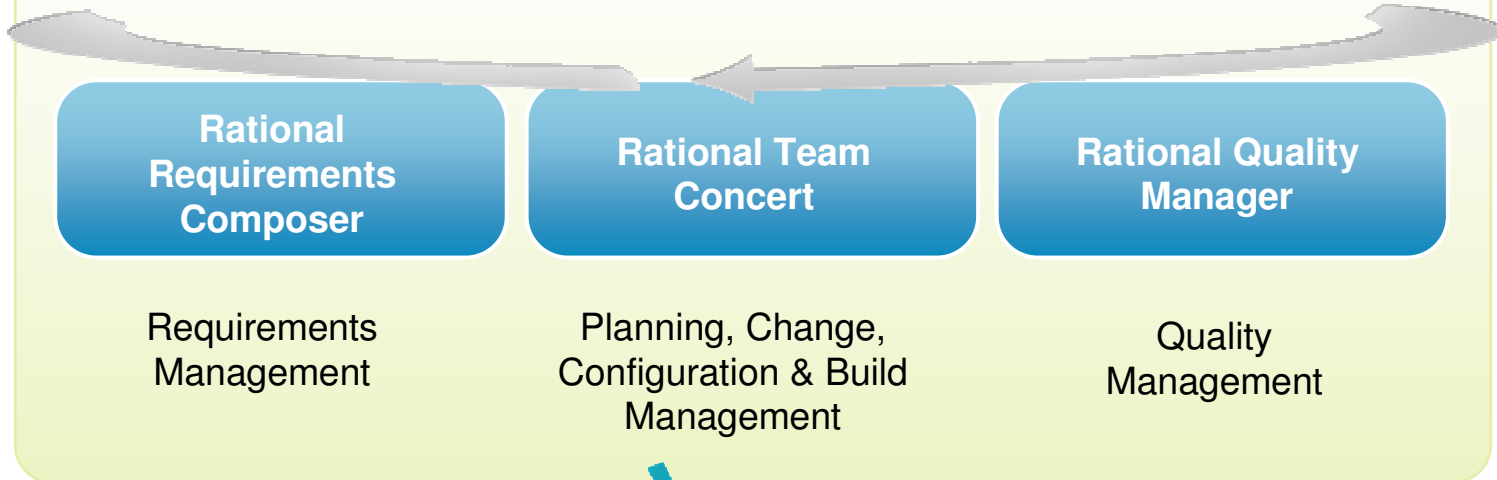**4** **DAD and CLM : Where do they meet ?**

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An ALM solution powered by Jazz

Rational solution for Collaborative Lifecycle Management

CREATE SOFTWARE

Real-time Planning, Lifecycle Traceability, Team Collaboration, Development Intelligence, Continuous Process Improvement

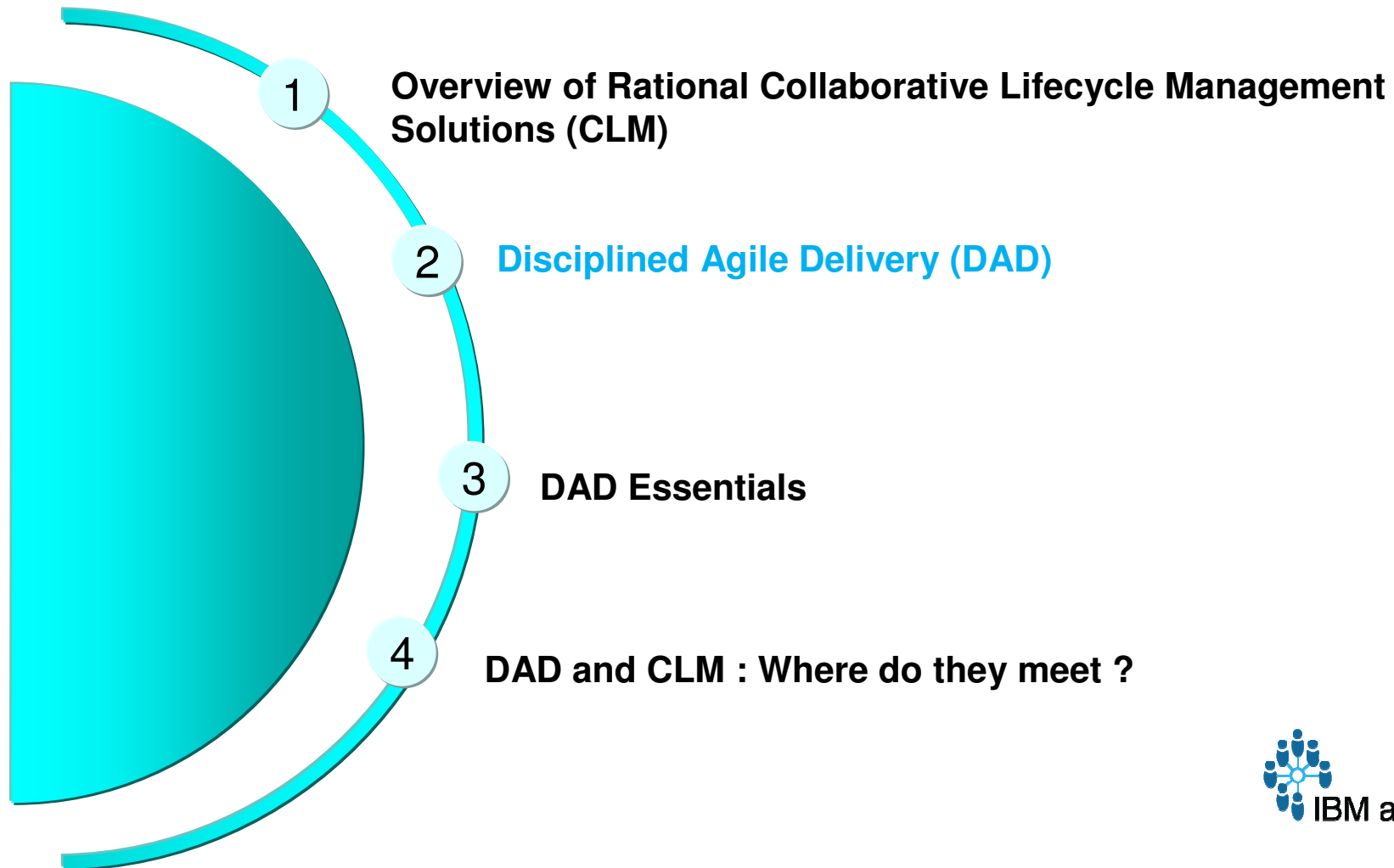| Rational Requirements Composer	Rational Team Concert	Rational Quality Manager
Requirements Management	Planning, Change, Configuration & Build Management	Quality Management

*extensions

Criteria for effective lifecycle management: ALM imperatives

1. Realtime planning

2. Lifecycle traceability

3. In-Context collaboration

4. Development intelligence

5. Continuous process improvement

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What is Disciplined Agile Deliver (DAD)?

- The Disciplined Agile Delivery (DAD) process framework is a people-first, learning-oriented hybrid agile approach to IT solution delivery. It has a risk-val lifecycle, is goal-driven, is scalable, and is enterprise aware.
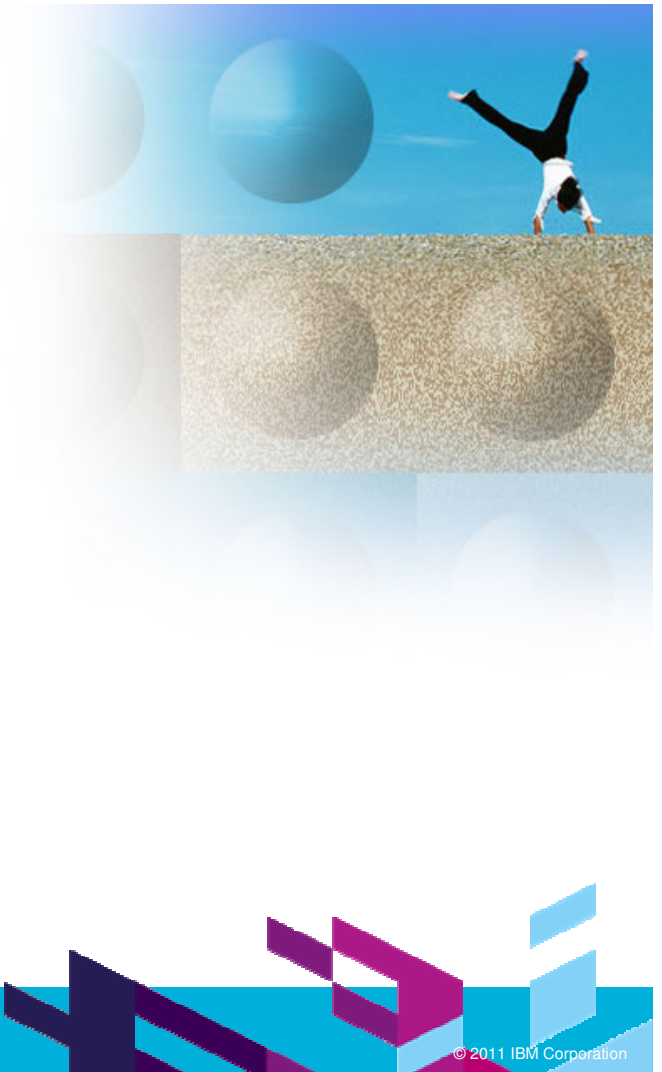
What does it mean to be agile?
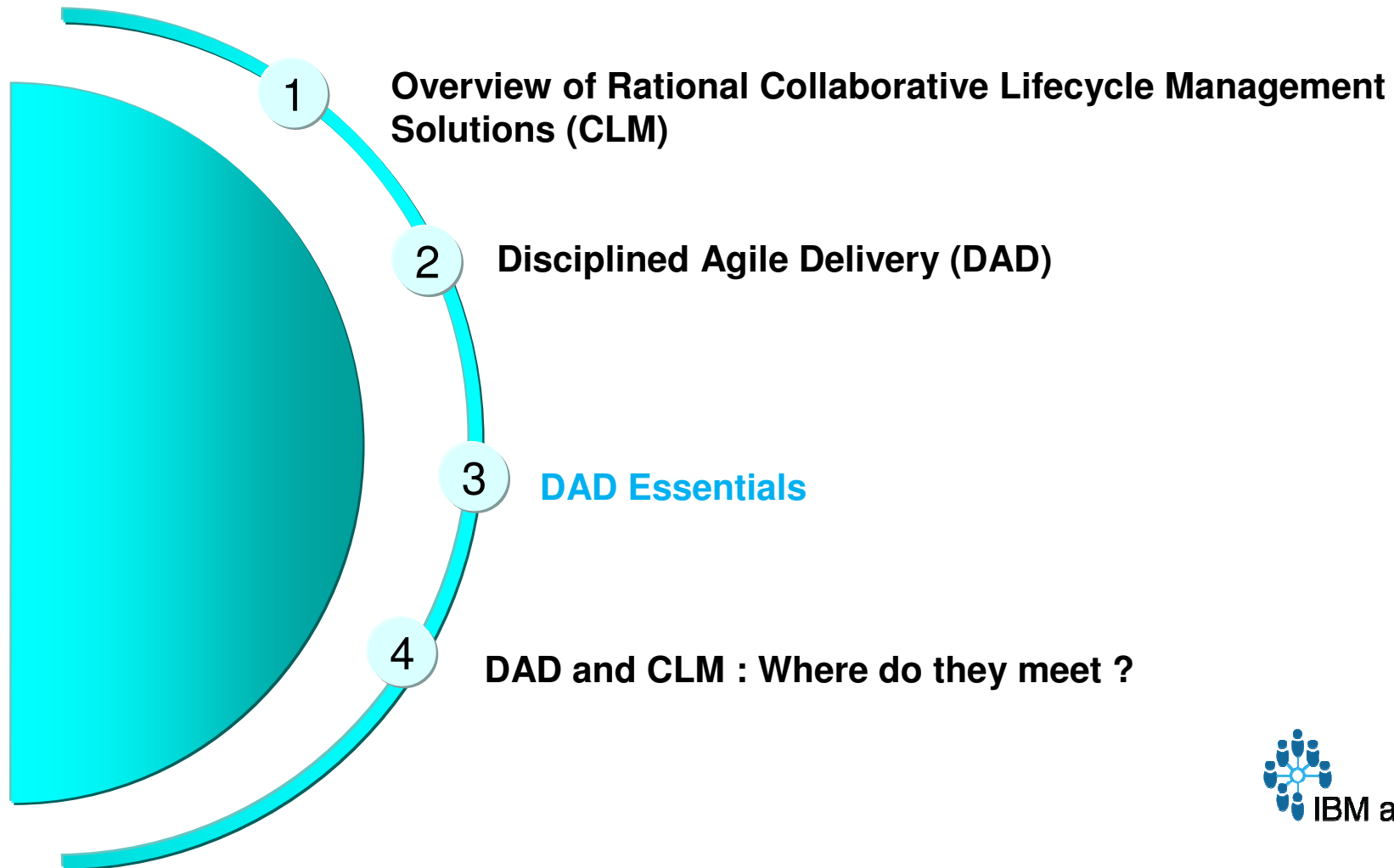
Disciplined agile teams:

1. Value: Produce a consumable solution on a <u>regular basis</u> which provides value to stakeholders.

2. Validation: Do <u>continuous</u> regression testing, and better yet take a Test-Driven Development (TDD) approach.

3. Stakeholders: Work <u>closely</u> with their stakeholders, or a stakeholder proxy, ideally on a daily basis.

4. Self organization: Are self organizing and work within an <u>appropriate</u> governance framework.

5. Improvement: <u>Regularly</u> reflect on, and <u>measure</u>, how they work together and then act to improve on their findings in a <u>timely</u> manner.
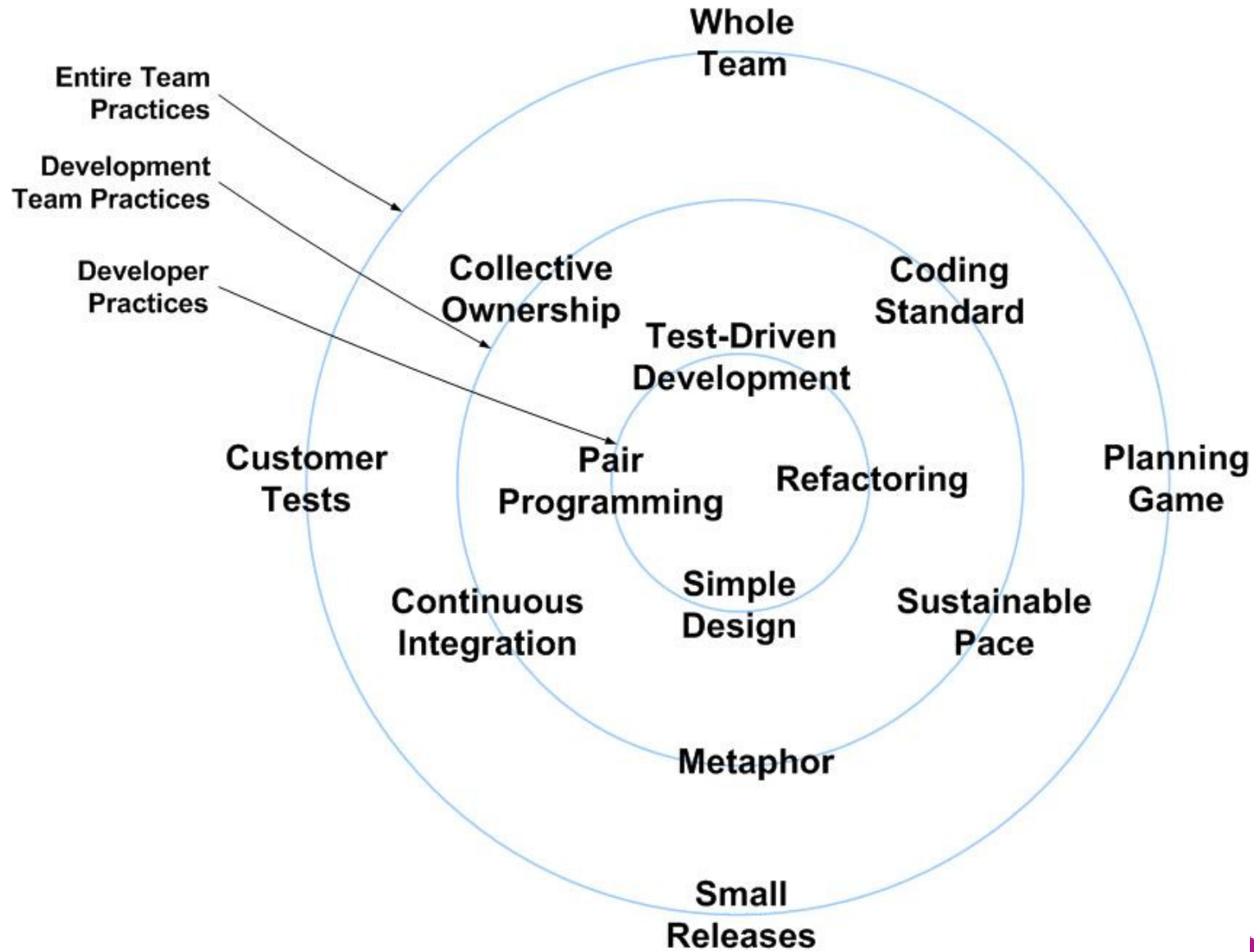
Survey says:

- Value: 94%

- Validation: 87%

- Stakeholders: 95%

- Self organization: 56%

- Improvement: 88%

- All 5: 53%

- Everything but self organization: 72%

Source: 2010 How Agile Are You Survey, www.ambysoft.com/surveys/

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Agenda

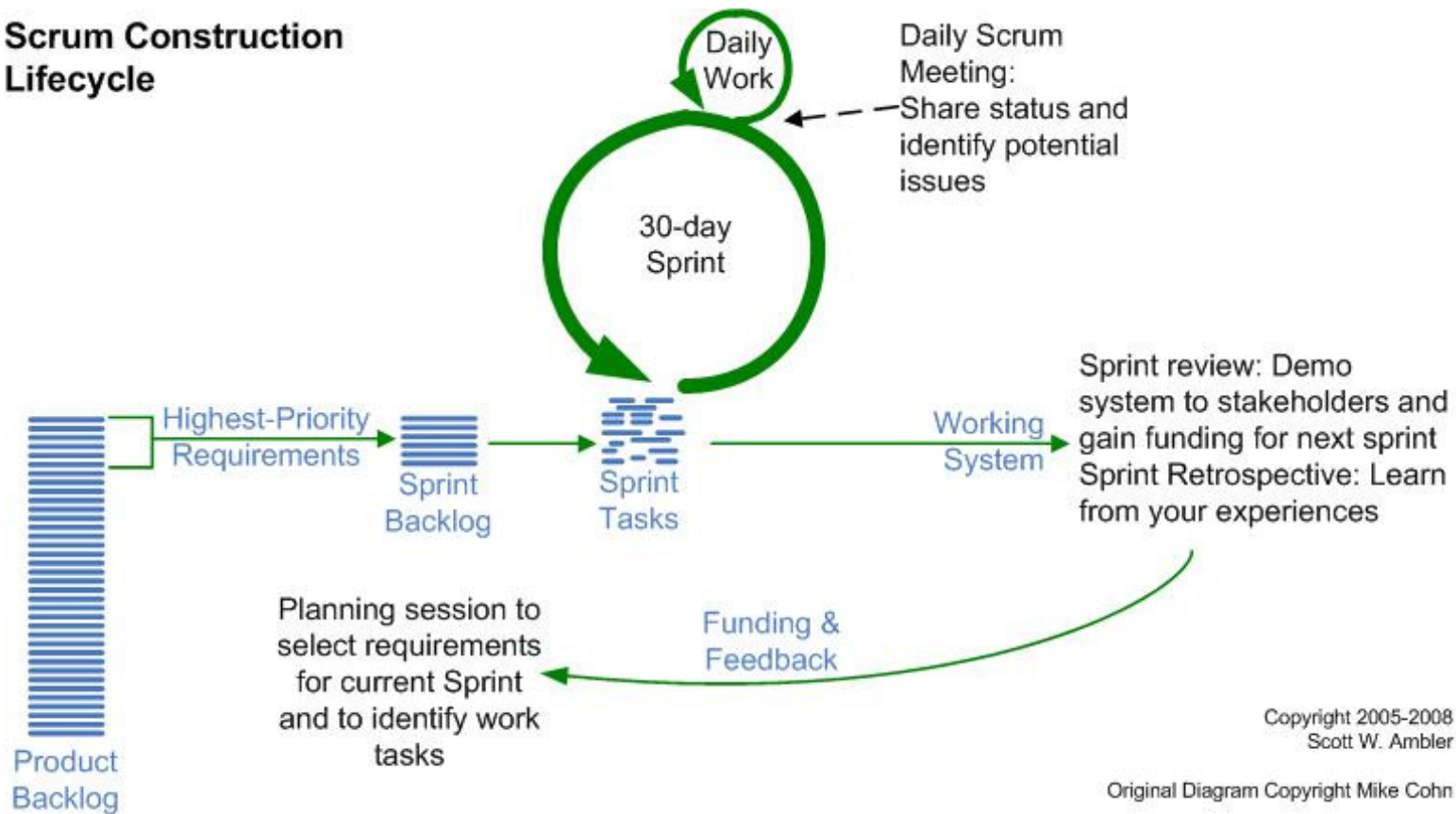**1** **Overview of Rational Collaborative Lifecycle Management Solutions (CLM)**

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Extreme Programming (XP)

The Scrum construction lifecycle: A good start

Scrum Construction Lifecycle

Daily Work

Daily Scrum Meeting: Share status and identify potential issues

30-day Sprint

Sprint review: Demo system to stakeholders and gain funding for next sprint
Sprint Retrospective: Learn from your experiences

Product Backlog

Highest-Priority Requirements

Sprint Backlog

Sprint Tasks

Working System

Planning session to select requirements for current Sprint and to identify work tasks

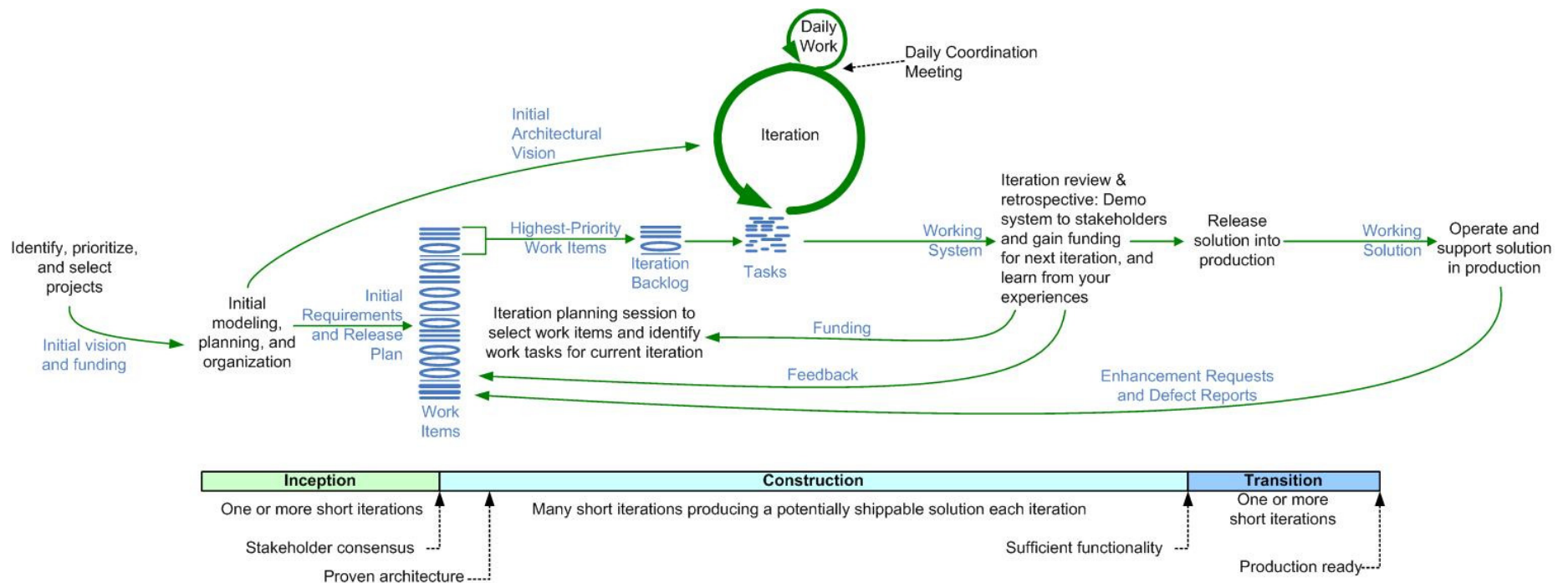Funding & Feedback

Copyright 2005-2008
Scott W. Ambler

Original Diagram Copyright Mike Cohn

The Disciplined Agile Delivery (DAD) life cycle

The Disciplined Agile Delivery (DAD) process framework is a people-first, learning-oriented hybrid agile approach to IT solution delivery. It has a risk-value lifecycle, is goal-driven, is scaleable, and is enterprise aware.

Disciplined Agile Delivery (DAD): A Hybrid Framework

Unified Process (UP)

Extreme Programming (XP)

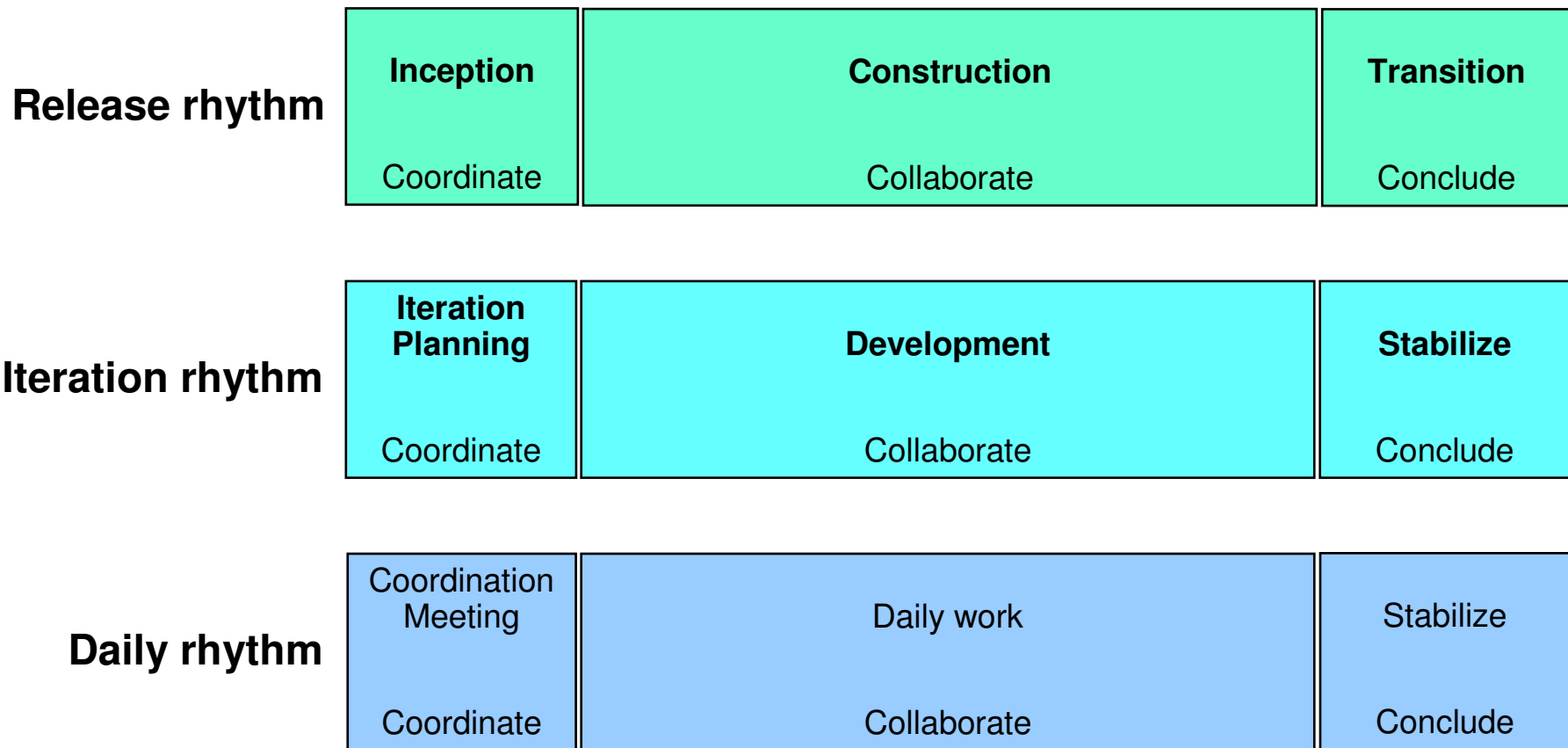Disciplined Agile Delivery (DAD)

Scrum

Agile Modeling
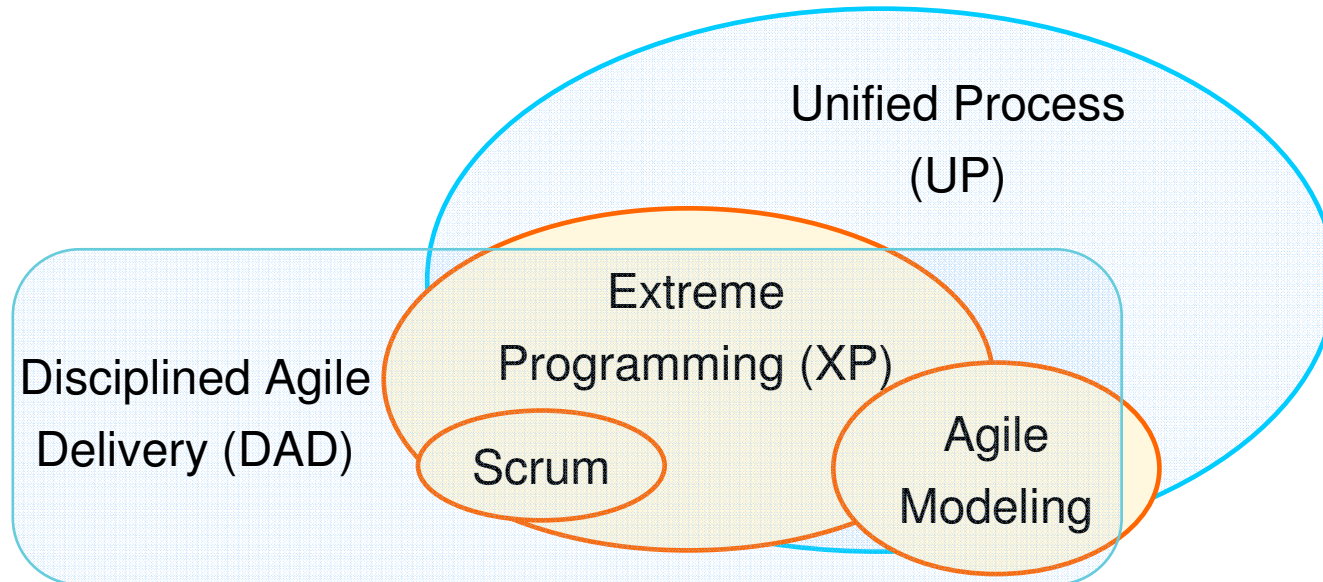
DAD is a hybrid process framework.

DAD adopt best practices and philosophies from several methodologies.

The Agile 3C rhythm

- The coordinate-collaborate-conclude rhythm occurs at several scales on a disciplined agile delivery (DAD) project:

Release rhythm	**Inception** Coordinate	**Construction** Collaborate	**Transition** Conclude

Iteration rhythm	**Iteration Planning** Coordinate	**Development** Collaborate	**Stabilize** Conclude

Daily rhythm	Coordination Meeting Coordinate	Daily work Collaborate	Stabilize Conclude

Goals Throughout the DAD Lifecycle

Goals for the Inception Phase	Goals for Construction Phase Iterations	Goals for the Transition Phase
- Identify the vision for the project - Bring stakeholders to agreement around the vision - Align with enterprise direction - Identify initial technical strategy, initial requirements, and project plan - Form initial team - Secure funding - Identify risks	- Produce a potentially consumable solution - Address changing stakeholder needs - Move closer to deployable release - Maintain or improve upon existing levels of quality - Address highest risk(s)	- Ensure the solution is production ready - Ensure the stakeholders are prepared to receive the solution - Deploy the solution into production

Ongoing Goals

- Fulfill the project mission
- Grow team members skills
- Enhance existing infrastructure

- Improve team process and environment
- Leverage existing infrastructure

# People First: Potential roles on disciplined agile teams

- **Primary roles:**
  - Stakeholder
  - Team Lead
  - Product Owner
  - Agile Team Member
  - Architecture Owner
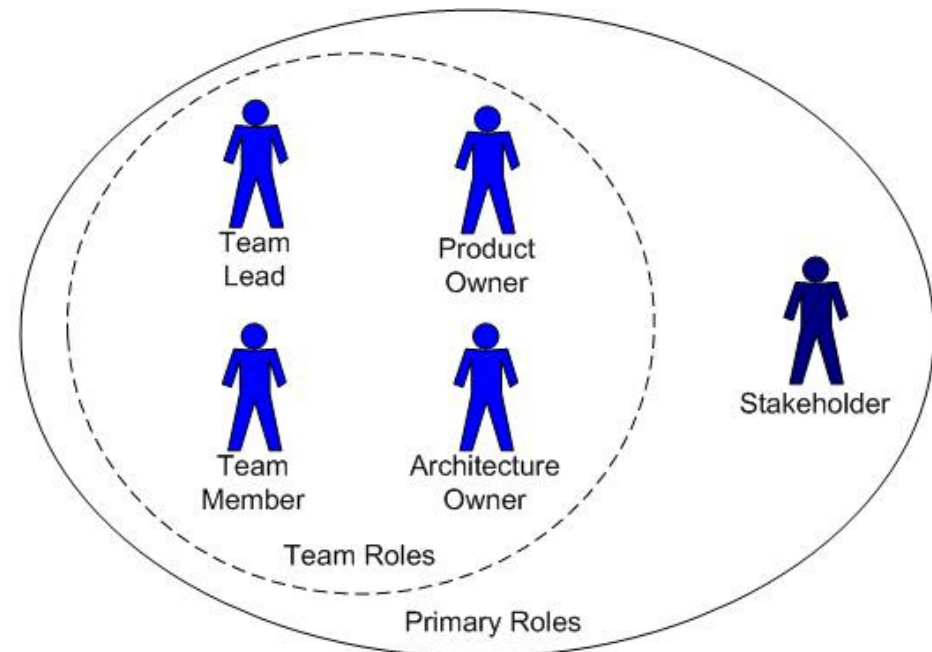
- **Secondary/optional roles:**
  - Domain Expert
  - Technical Expert
  - Independent Tester
  - Integrator
  - Specialist

Team Lead Product Owner

Team Member Architecture Owner

Team Roles

Stakeholder

Primary Roles

Specialist Independent Tester Domain Expert Technical Expert Integrator

Secondary Roles
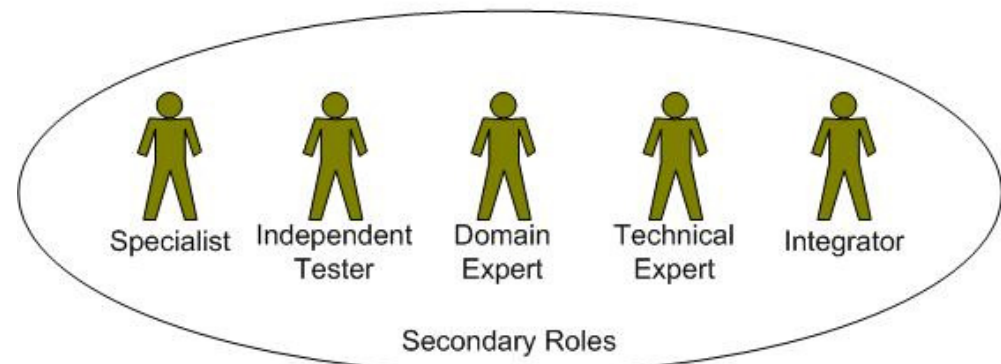
People's rights and responsibilities

Everyone's right

- Be treated with respect

- Receive and create quality work products

- Estimate your own activities

- Contribute to continuous improvement of your organization's software processes

Everyone's responsibility

- Meet stakeholder needs within the resources that they are willing to invest.

- Be transparent by sharing all information, including "work in progress"

- Attend coordination meetings in person or remotely, if not co-located

- Proactively improve individual and team's performance

- Avoid accepting work currently outside the current iteration

Build Quality In
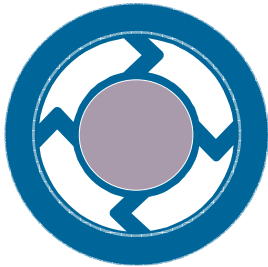
Respect People

Focus on Learning

Eliminate Waste

Scaling Agile is to deliver end-to-end visibility across teams, tools and projects?

Complex projects

Teams are larger

?

Teams are distributed

Agile Scaling Model (ASM)

Core Agile Development

- Focus is on construction

- Goal is to develop a high-quality system in an evolutionary, collaborative, and self-organizing manner

- Value-driven lifecycle with regular production of working software

- Small, co-located team developing straightforward software
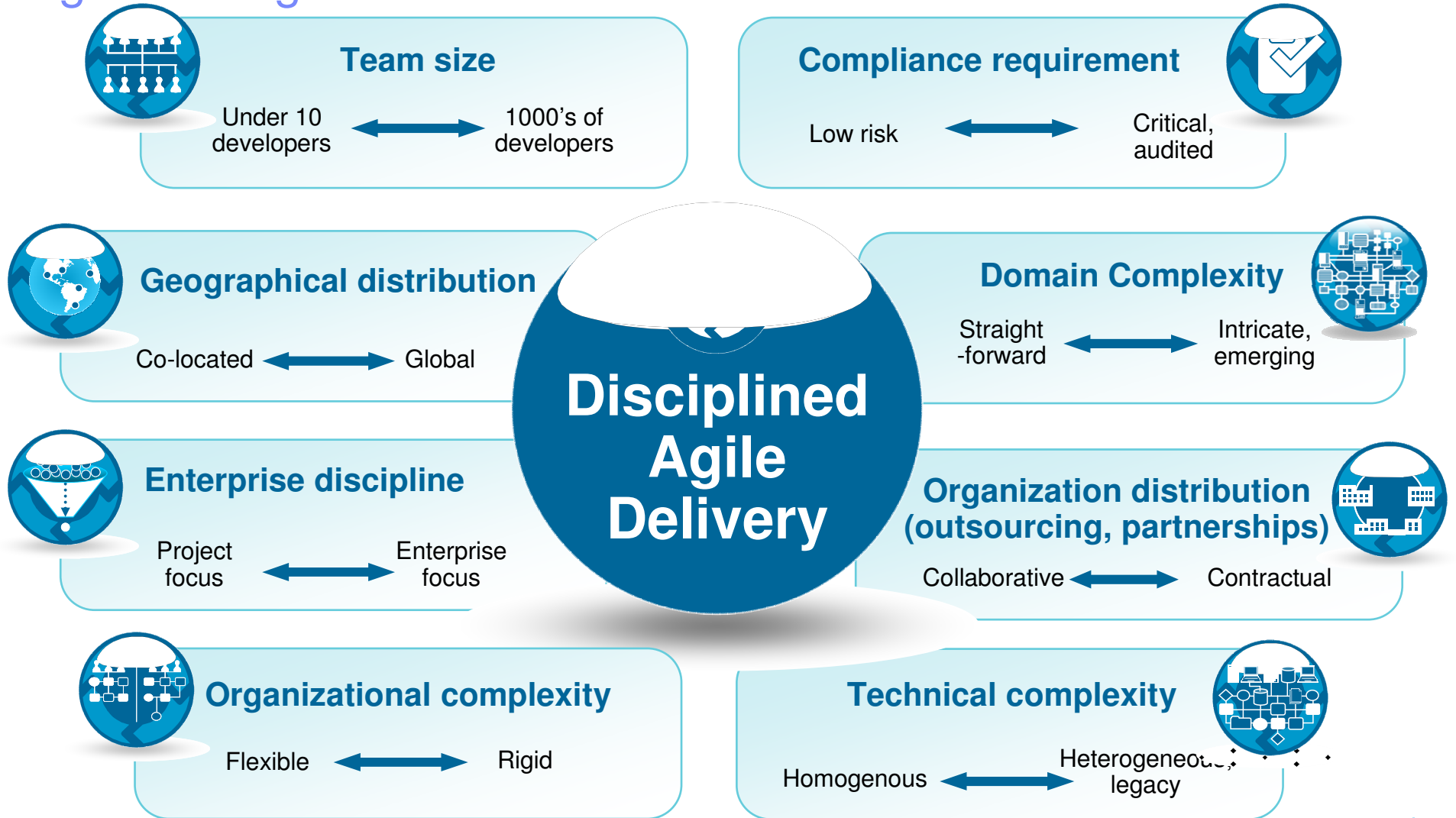
Disciplined Agile Delivery

- Extends agile development to address full system lifecycle

- Risk and value-driven lifecycle

- Self organization within an appropriate governance framework

- Small, co-located team delivering a straightforward solution

Agility at Scale

- Disciplined agile delivery and one or more scaling factors applies

Agile scaling factors

Team size

Under 10 developers ⟷ 1000's of developers

Compliance requirement

Low risk ⟷ Critical, audited

Geographical distribution

Co-located ⟷ Global

Disciplined Agile Delivery

Domain Complexity

Straight-forward ⟷ Intricate, emerging

Enterprise discipline

Project focus ⟷ Enterprise focus

Organization distribution (outsourcing, partnerships)

Collaborative ⟷ Contractual

Organizational complexity

Flexible ⟷ Rigid

Technical complexity

Homogenous ⟷ Heterogeneous, legacy

Disciplined Agile Delivery (DAD) teams are enterprise aware

- DAD teams recognize teams work in an organizational ecosystem

- They try to leverage and enhance that ecosystem as much as possible

- DAD teams:
  - ▶ Work closely with enterprise professionals
  - ▶ Leverage existing assets
  - ▶ Evolve existing assets
  - ▶ Follow enterprise conventions, such as coding guidelines, data guidelines, and user interface standards

- Teams must be enterprise aware if they're to follow lean's advice of optimizing the whole

Work closely with enterprise groups

- **General**
  - ▸ Work collaboratively and iteratively
  - ▸ Trust and respect crucial
  - ▸ Command and control strategies are ineffective

- **Enterprise architects (EA)**
  - ▸ Should provide technical guidance
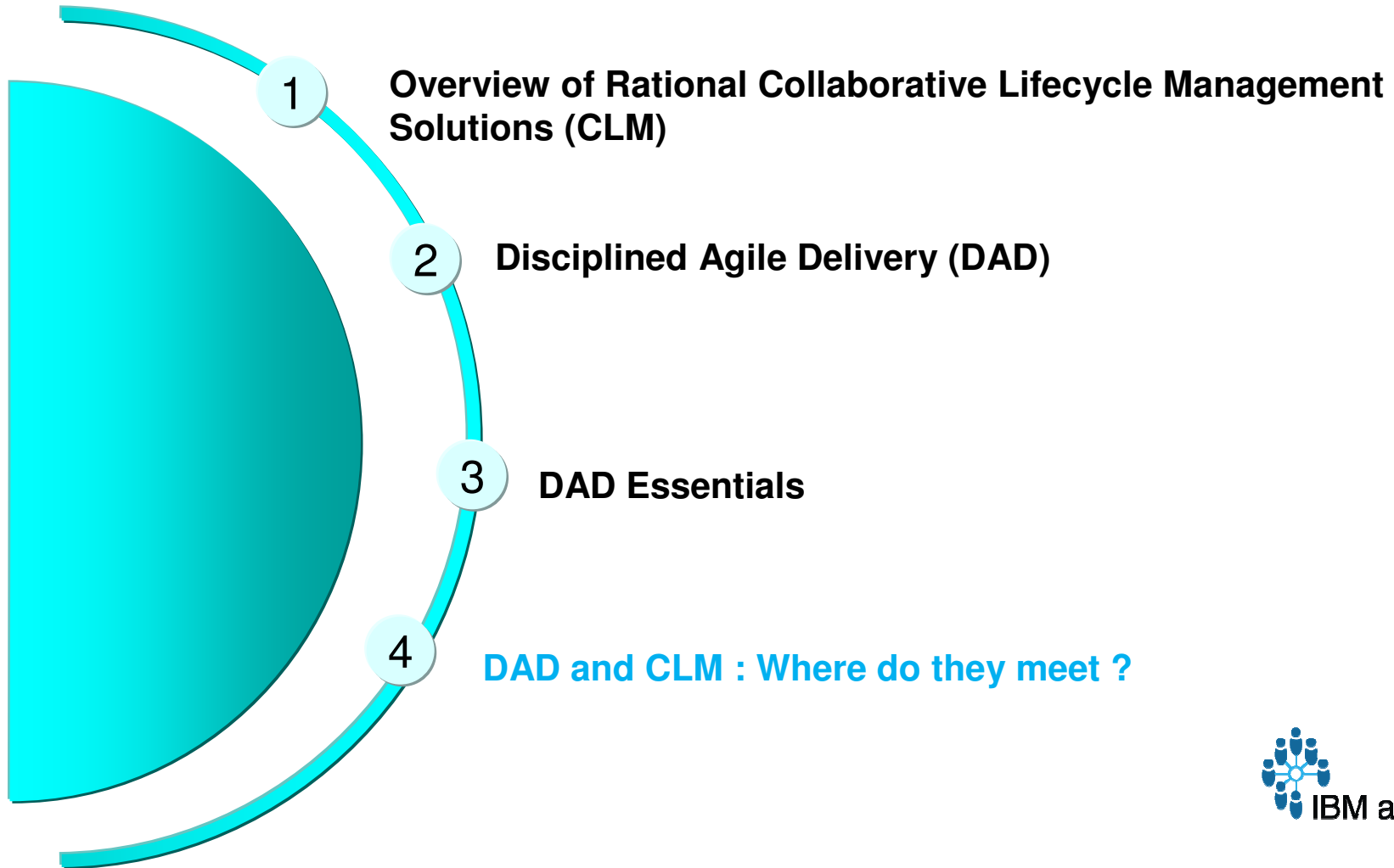 - ▸ An EA may act in the role of your architecture owner for critical projects

- **Data management**
  - ▸ Data professionals can and should work in an agile manner
  - ▸ Too many data professionals still cling to outmoded, traditional strategies
  - ▸ See www.agiledata.org

- **Process group**
  - ▸ Agile teams improve their process throughout the project
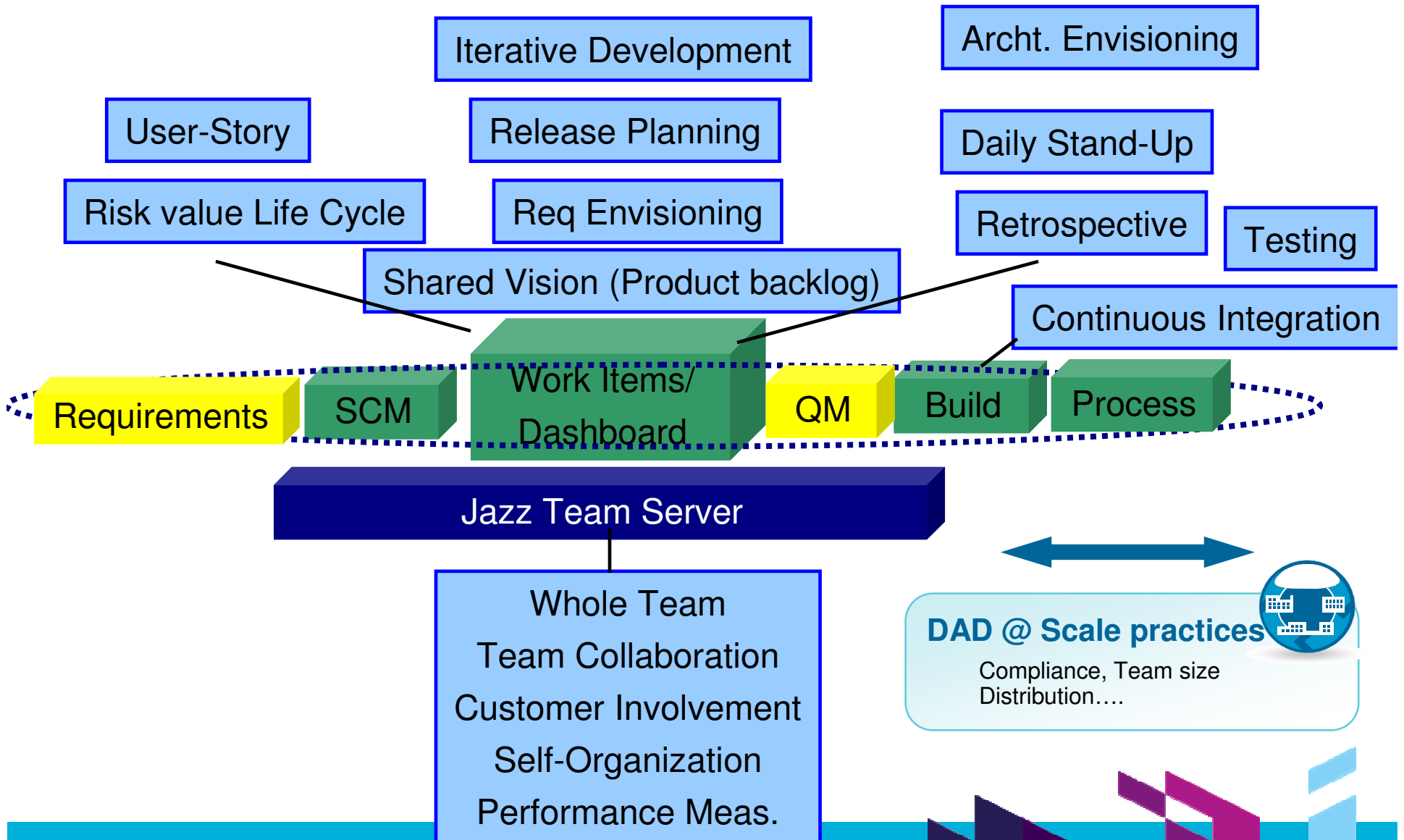 - ▸ Agile teams should work with process groups to share their learning

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Scaling Agile is to deliver end-to-end visibility across teams, tools and projects?

Complex projects

Teams are larger

Teams are distributed

Mapping practices to CLM components

Iterative Development

Archt. Envisioning

User-Story

Release Planning

Daily Stand-Up

Risk value Life Cycle

Req Envisioning

Retrospective

Testing

Shared Vision (Product backlog)

Continuous Integration

Requirements

SCM

Work Items/ Dashboard

QM

Build

Process

Jazz Team Server

Whole Team
Team Collaboration
Customer Involvement
Self-Organization
Performance Meas.

DAD @ Scale practices
Compliance, Team size Distribution….

DAD directly maps to imperatives of ALM

ALM Imperatives

Real-time Planning

Lifecycle Traceability

In-Context Collaboration

Development Intelligence

Continuous Improvement

DAD Essentials

Agile

Goal Driven

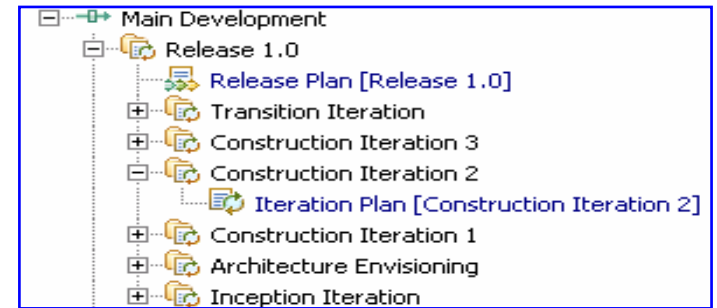Team / People First

Enterprise Aware

Scalable
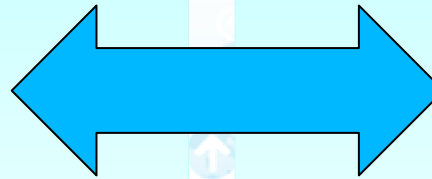
How CLM helps a DAD Team be Agile

- **Automation supports DAD process and agile practices.**
- **Measurement/continual improvement is facilitated by a good automation**

- **Producing a working solution on a regular basis which provides value to stakeholders.**
- **Support self-organization and the whole team collaboration**
- **Producing high quality solution**

How CLM helps a DAD Team be Goal driven : CLM supports agile 3C rhythm

Main Development
  Release 1.0
    Release Plan [Release 1.0]
    Transition Iteration
    Construction Iteration 3
    Construction Iteration 2
      Iteration Plan [Construction Iteration 2]
    Construction Iteration 1
    Architecture Envisioning
    Inception Iteration

Release rhythm

Inception	Construction	Transition
Coordinate	Collaborate	Conclude

Iteration rhythm

Iteration Planning	Development	Stabilize
Coordinate	Collaborate	Conclude

Daily rhythm

Coordination Meeting	Daily work	Stabilize
Coordinate	Collaborate	Conclude

How CLM helps a DAD Team be Goal driven : The Inception Phase

RTC	RRC/RTC	RTC
• Initiate team • Schedule stakeholders for envisioning sessions	• Requirements envisioning • Architecture envisioning • Consider feasibility • Align with enterprise strategy • Build team • Release planning (initial) • Develop shared vision • Setup environment	• Light-weight milestone review • Communicate vision to stakeholders
Coordinate	Collaborate	Conclude

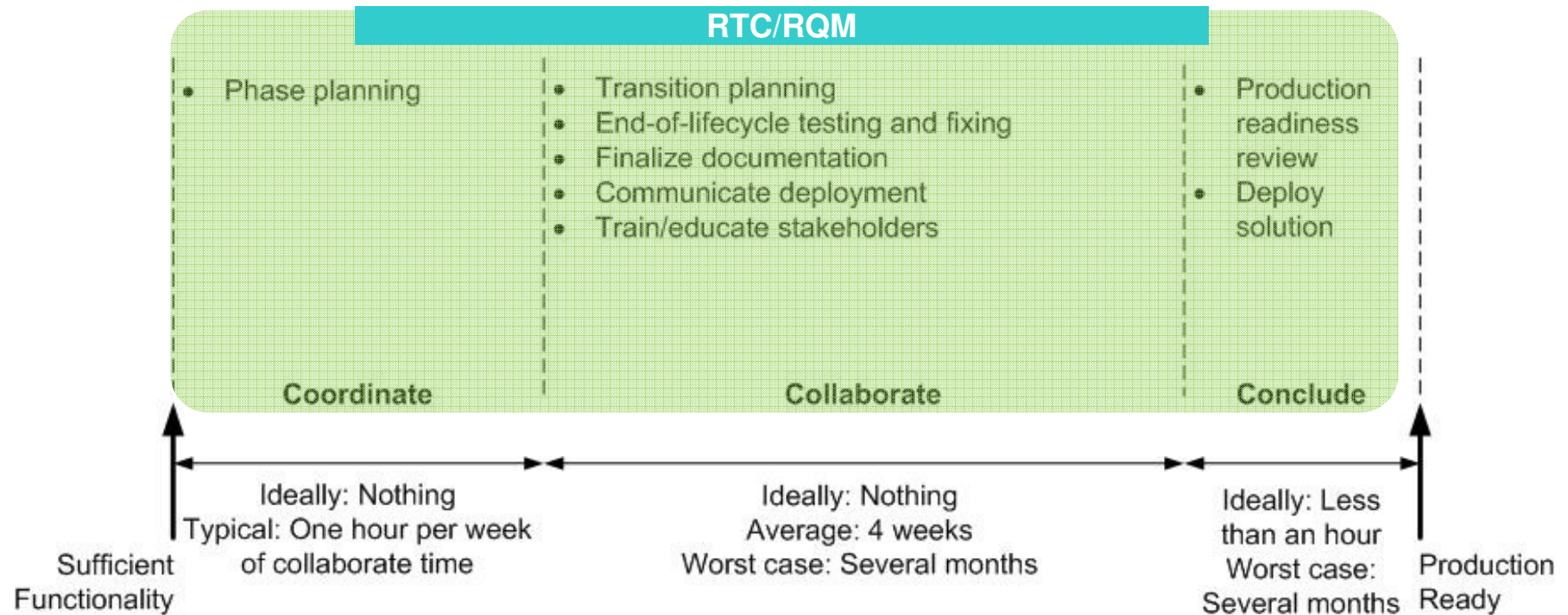| Up to a few hours	Ideally: Up to a few weeks Average: 4 weeks Worst case: Several months	Up to a few hours
Project Selected		Stakeholder consensus

Support a Milestone Driven framework,
Regularly reflect on, and measure, how they work together
and then act to improve on their findings in a timely manner.

How CLM helps a DAD Team be Goal driven : The Construction Phase

RRC/RTC/RQM

- Prove the architecture works via end-to-end working slice of the solution

- Incrementally produce a consumable solution
- Share project status with stakeholders
- Align with organizational goals
- Align with other project teams
- Improve individual and team performance

- Determine sufficiency
- Harden the solution

Coordinate

Collaborate

Conclude

Typical: 1 iteration
Worst case: Many iterations

Several iterations

Ideally: Several hours

Stakeholder Consensus

Proven Architecture

Sufficient Functionality

<u>Regularly</u> reflect on, and <u>measure</u>, how they work together
and then act to improve on their findings in a <u>timely</u> manner
(on a daily basis and during each iteration)

How CLM helps a DAD Team be Goal driven : The Transition phase

RTC/RQM		
• Phase planning	• Transition planning • End-of-lifecycle testing and fixing • Finalize documentation • Communicate deployment • Train/educate stakeholders	• Production readiness review • Deploy solution
Coordinate	**Collaborate**	**Conclude**

Sufficient Functionality — Ideally: Nothing / Typical: One hour per week of collaborate time — Ideally: Nothing / Average: 4 weeks / Worst case: Several months — Ideally: Less than an hour / Worst case: Several months — Production Ready

Support a Milestone Driven framework,
Regularly reflect on, and measure, how they work together
and then act to improve on their findings in a timely manner.

How CLM helps a DAD Team to Collaborate

- **Team Organization**
  - ▸ RTC represents your projects and teams as Project Areas optionally containing a hierarchy of Team Areas.

- **Process and Team Awareness**
  - ▸ Each Project Area defines its own process, which the teams within the project can customize to fit their needs

- **Who is who**
  - ▸ With CLM project administration, You can define the set of roles, permissions that are available within a project or team area and all across the three tools

- **How you organize your work**
  - ▸ Each project area contains a hierarchy of iterations that define the heartbeat of your project, these distinct iteration schedules can be represented as multiple timelines.
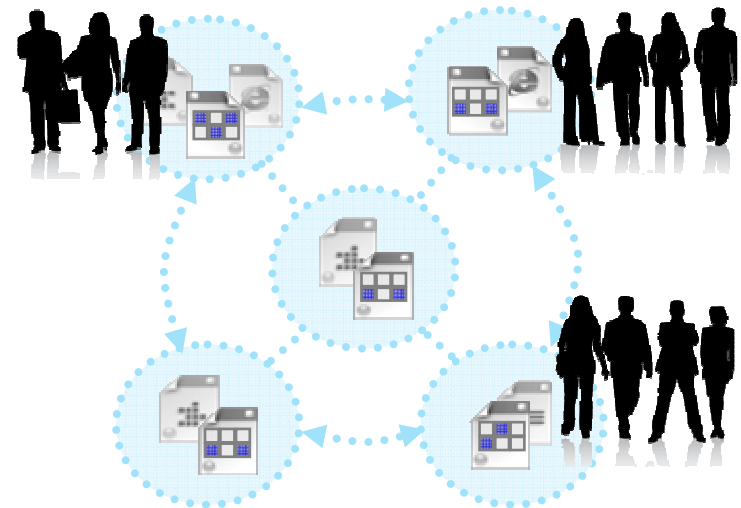
How CLM helps a DAD Team be Scalable and Enterprise Aware

✓ Is deployed for distributed and larger teams
✓ Support other Scaling Factors

➢ Allows Enterprise Deployment
➢ Support Enterprise Assets reuse
➢ Allows access to enterprise stakeholders

Team size

Under 10 developers ⟷ 1000's of developers

Enterprise discipline

Project focus ⟷ Enterprise focus

Geographical distribution

Co-located ⟷ Global

Organization distribution (outsourcing, partnerships)

Collaborative ⟷ Contractual

Disciplined Agile Delivery (DAD) offerings

DAD training (PMI approved, registered under provider number 1107)

- Introduction to disciplined agile delivery: Self-paced virtual class (16 PDUs)

- Advanced disciplined agile delivery: 3 days (21 PDUs)

Related Training

- Applying DAD with User Stories (RV037)

- Applying DAD with Use Cases (RV036)

- For more info, visit the Rational Agile Training Page at www.ibm.com/jct03001c/services/learning/ites.wss/us/en?pageType=page&c=Z340950B41583X73

DAD Services

- DAD with RTC quick start

- IBM Rational Rapid Deployment for Agile Delivery

- Collaborative Lifecycle Management (CLM) for IT

DAD Products

- The DAD process template for Rational Team Concert (RTC)

Thank You

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www.ibm.com/developerworks/mydeveloperworks/blogs/ambler/

www.ibm.com/rational/agile/, **www.ibm.com/software/rational**

www.jazz.net

Backup slides

Tower of Babel: Agile terminology

Disciplined Agile	XP	Scrum	Other
Team lead	Coach	Scrum master	Project manager
Iteration	Iteration	Sprint	Timebox
Daily stand up meeting	Daily stand up	Scrum Meeting	Coordination meeting
Retrospective	Retrospective	Sprint retrospective	Reflection meeting
Product owner	Customer	Product owner	Stakeholder representative
Team Member	Extreme programmer	Team member	Developer
Iteration review	-	Sprint review	-

Important: Each agile method has its own terminology. It is highly unlikely that the industry will ever standardize the terminology.
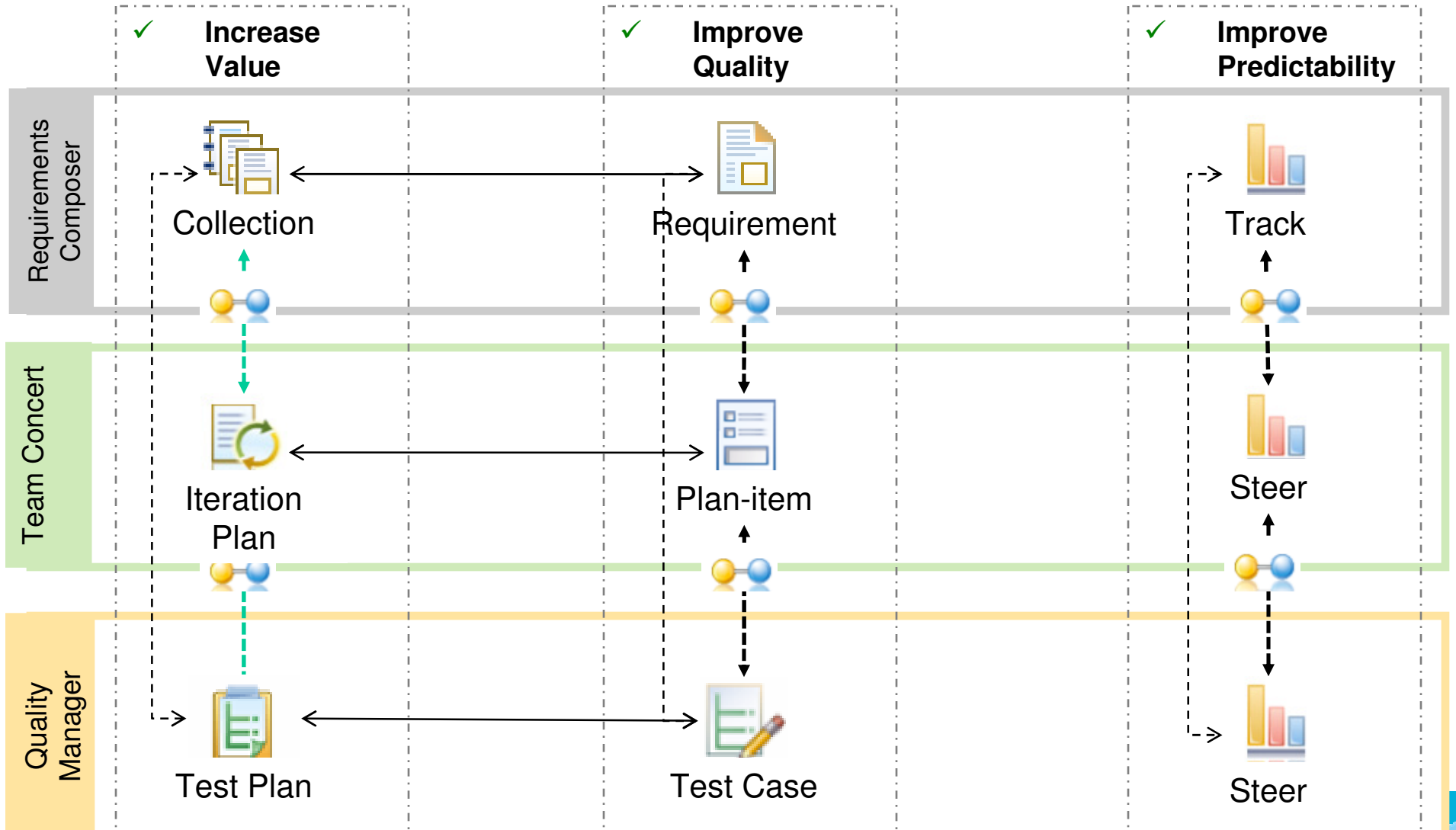
With CLM, DAD Team Collaborate to detail User Stories with Rational Requirements Composer

- Increase average on time performance by 161%*
- Reduce time overruns by 87% *

- Improve the percentage of projects that deliver the functionality needed by the business by about 75%*
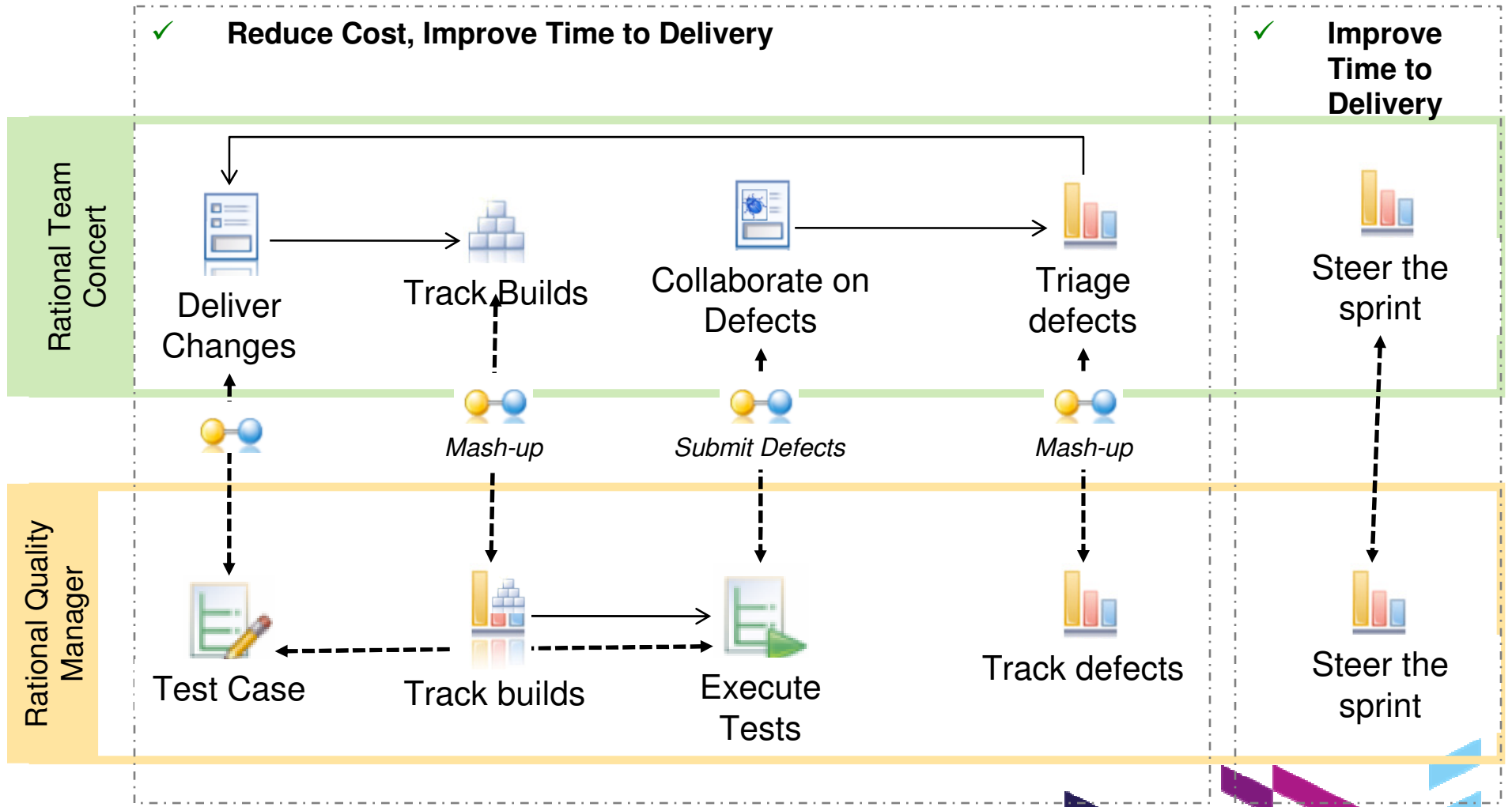
Elaborate
User Stories
with Sketches,
Storyboards,
Diagrams
based on
stakeholder
feedback

Collect
Comments,
Request
Reviews

Organize into
Collections

Integrates with
OSLC Quality
Management
Systems
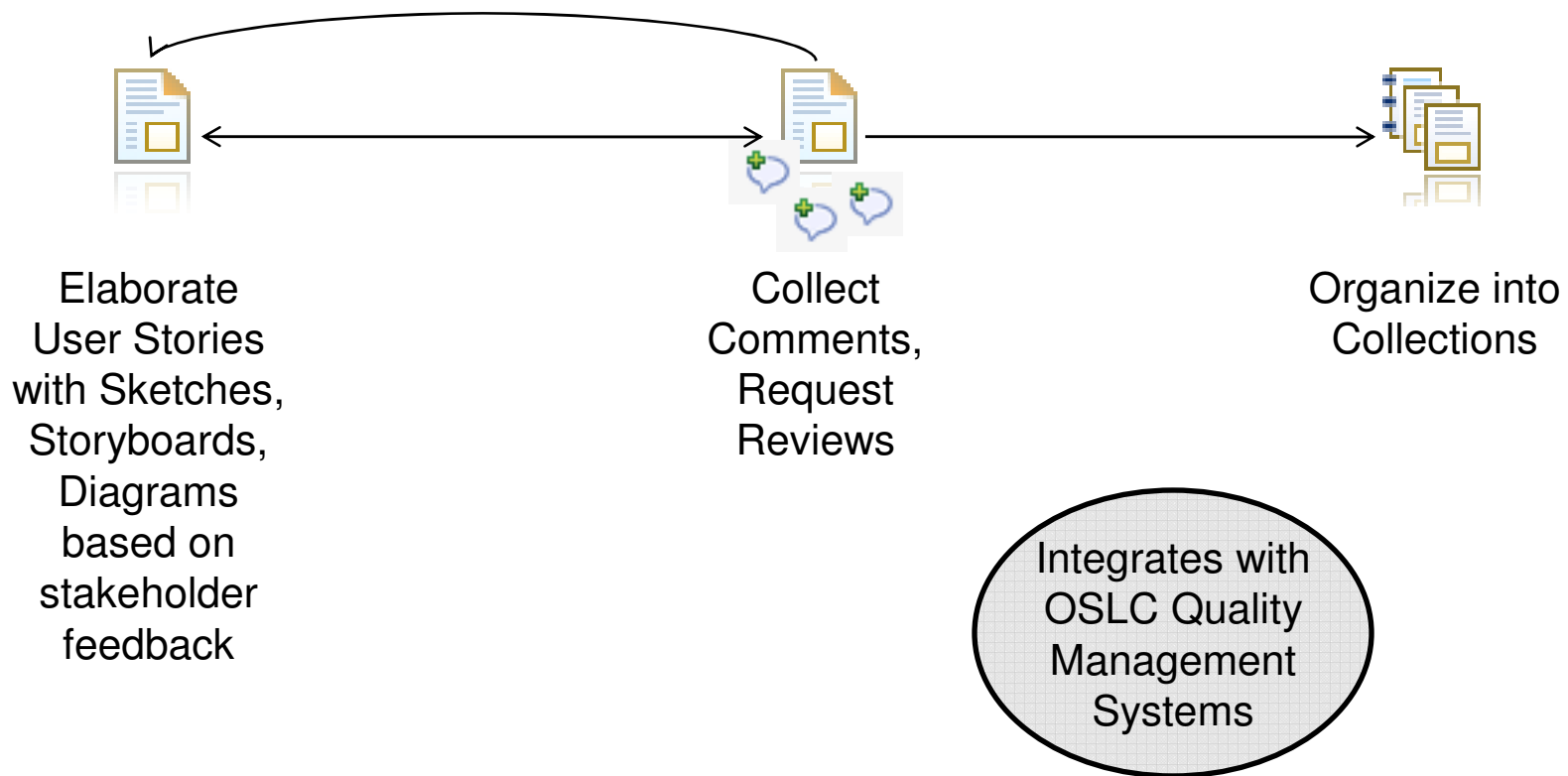
Source: IAG Consulting, September 2009, Business Analysis Benchmark measuring Requirements Maturity levels
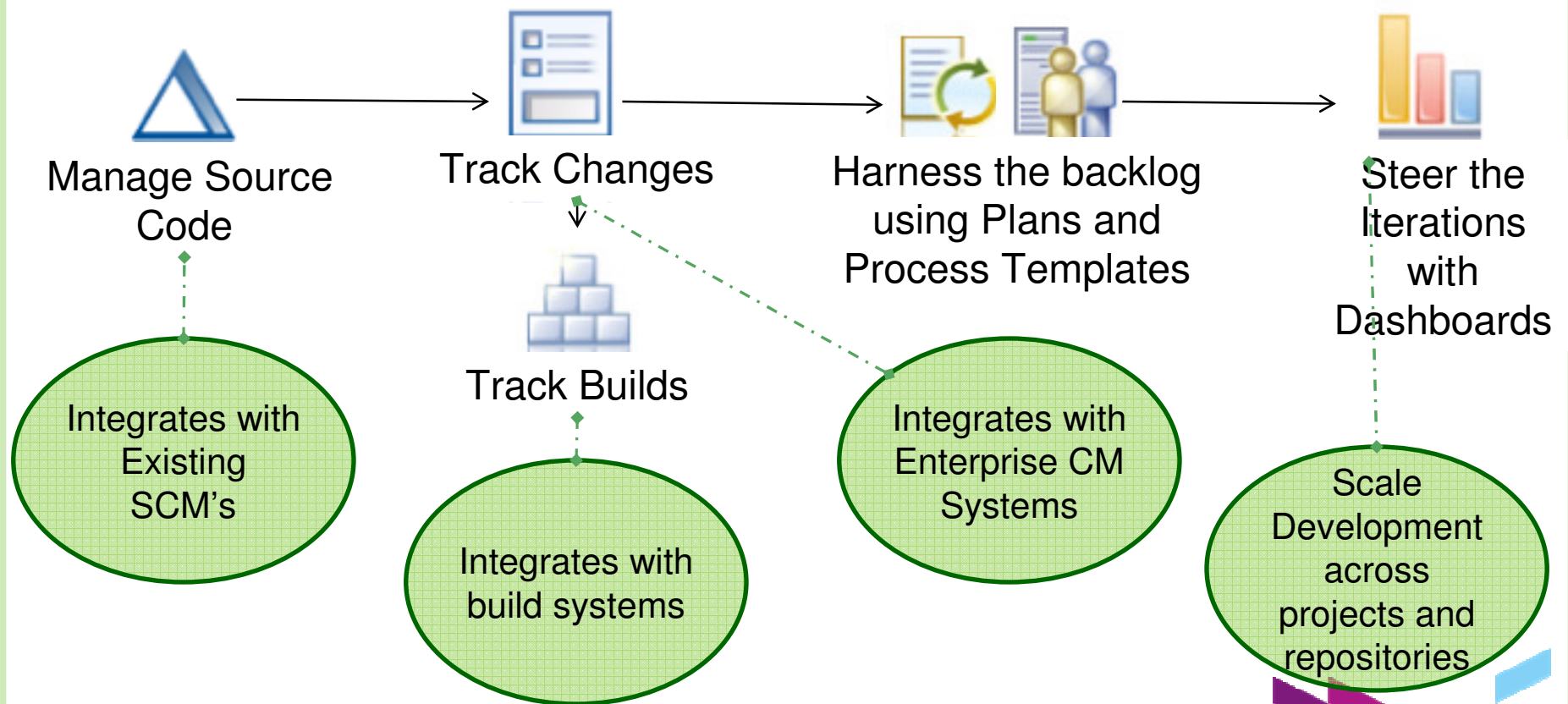
With CLM DAD Team Collaborate throughout an Iteration

DAD Team Adopt Agile Development with Rational Team Concert

— **Quality of releases improves 12%***   — **Team productivity increases of up to 50%**

— **Project governance improvements of 12%**   — **Team collaboration performance up 25%***

Manage Source Code

Track Changes

Harness the backlog using Plans and Process Templates

Steer the Iterations with Dashboards

Track Builds

Integrates with Existing SCM's

Integrates with build systems

Integrates with Enterprise CM Systems

Scale Development across projects and repositories

With CLM, DAD Team Build Quality in

- Average cost of a defect found in production $241,000/defect

- Save average of 696 hours by reusing scripts*
- Save an average of 1755 hours by preventing and blocking duplicate defects*

Organize Test Plans → Design Test Cases → Develop Test Scripts → Execute Tests → Steer the test effort using Dashboards

Capture Test Requirements

Submit Defects

Integrates with Requirements Management Systems

Integrates with Test Automation tools

Integrates with Enterprise CM Systems