A nighttime photograph of a city skyline with several tall skyscrapers illuminated. In the foreground, a highway shows long-exposure light trails from cars, creating streaks of white and red light. The scene is set against a dark night sky.

Agile Architecture + Outsourcing = Agile Outsourcing

Ashok Gurumurthy

Client Executive

Marc Palmaffy

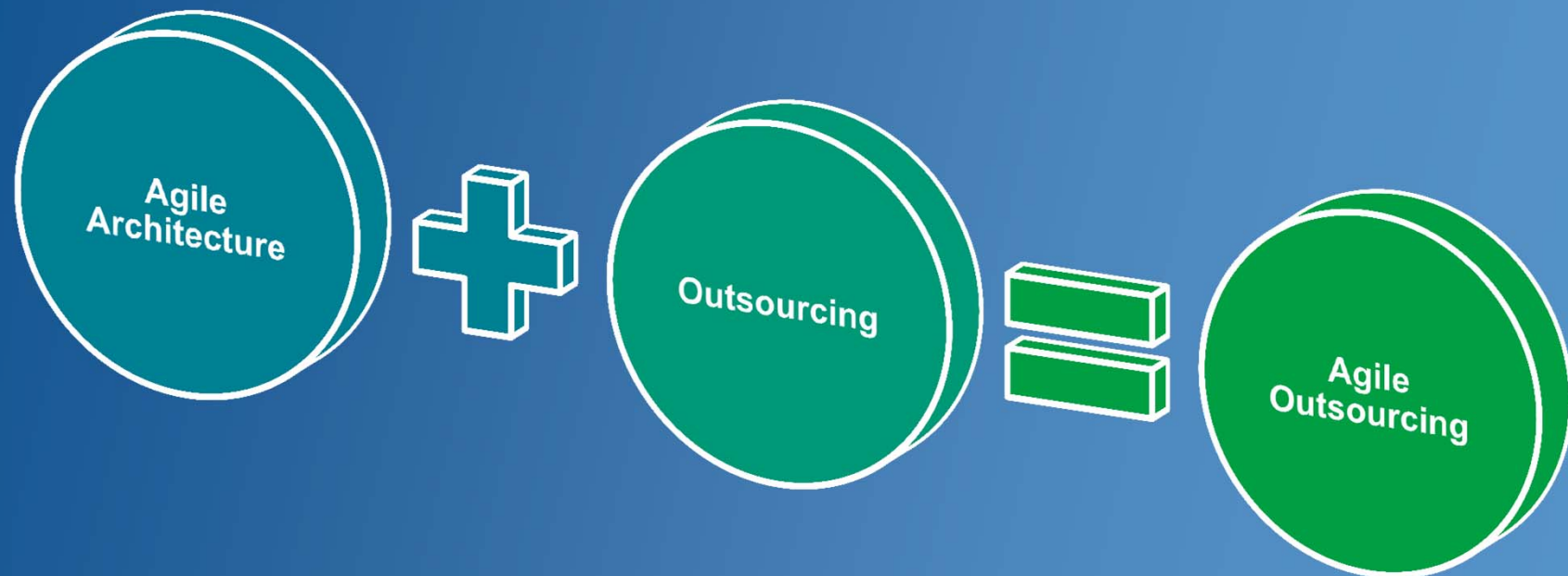
*Technology Consultant,
Enterprise Architect*

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“**Agility** is the ability to both create and respond to change in order to profit in a turbulent business environment.” - *Jim Highsmith*

“**Architecture** is the fundamental organization of a system embodied in its components, their relationships to each other, and to the environment, and the principles guiding its design and evolution.” - *IEEE 1471*



Agile Architecture is the practice of making architecture and design decisions incrementally and iteratively with an emphasis on balancing the costs and risks of adaptability versus predictability.



THIS WAS OUTSOURCED TO MULTI SUPPLIER.....

Which supplier is right, and does it matter at this time.



Requirements

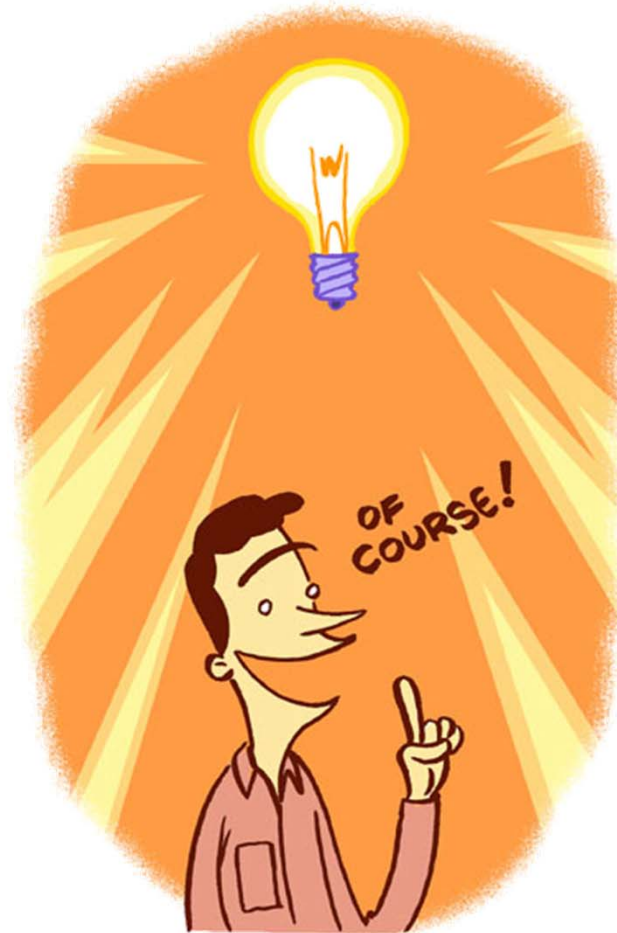


Delivery

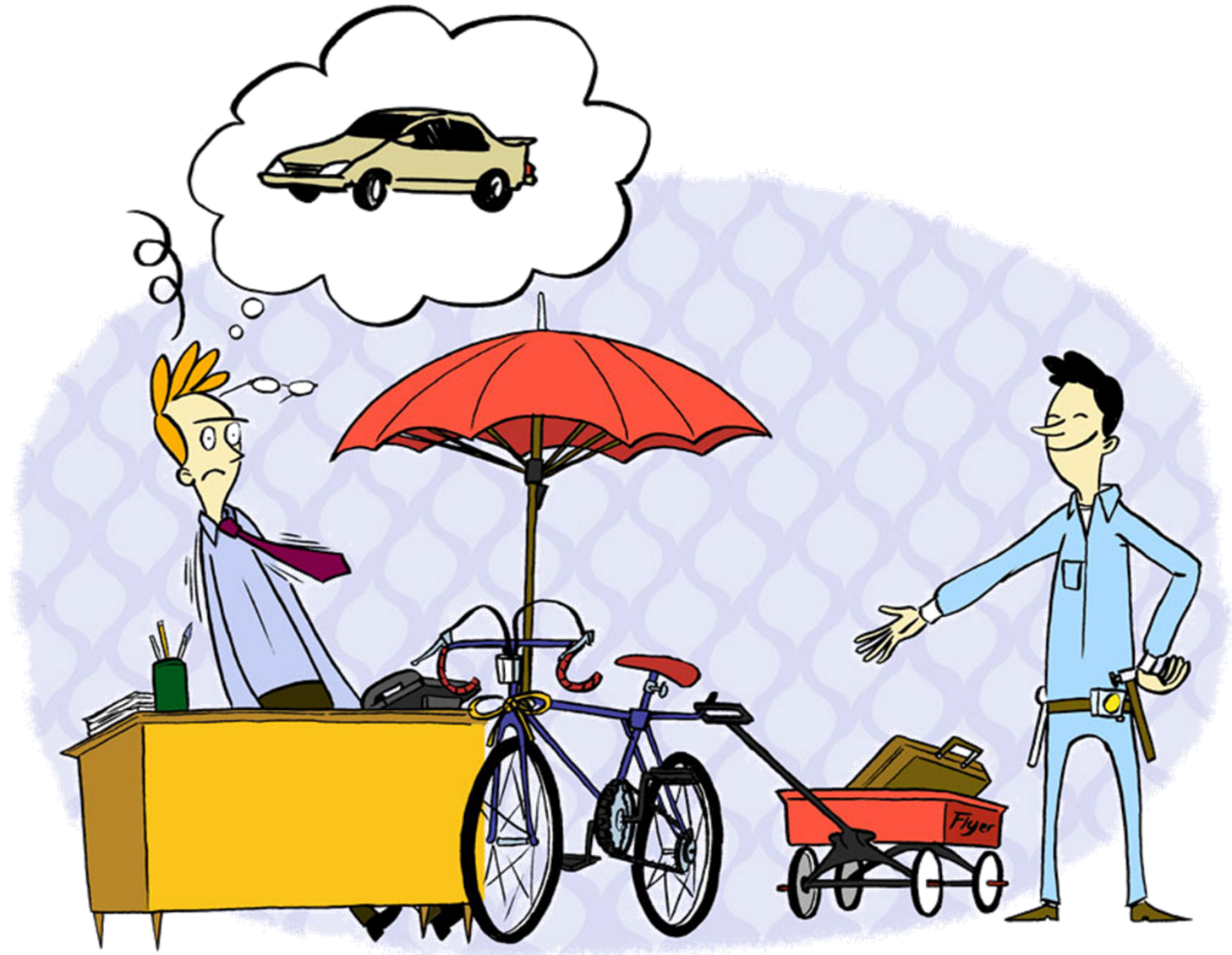


**BUT I DON'T WANT TO GET WET!
AND HOW AM I GOING TO CARRY MY BRIEFCASE?**

Refactoring and change orders



Fixes



Abstract

Agile Architecture + Outsourcing = Agile Outsourcing

The trends of Outsourcing software development and introducing Agile practices are not new. However, there is a growing emphasis on combining Outsourcing with Agile to achieve total greater combined benefits. This fusion of benefits has the potential for major productivity gains in both commercial and government enterprises, however, the compound risks can also overwhelm the benefits if the acquisition model is not also transformed to be “Agile”.

Agile Software Architecture practices are the pivotal element in transforming traditional acquisition into holistic Agile Outsourcing.

Architecture Frameworks, Reference Models, and Abstract Release Plans provide the necessary input to Agile Contracting activities to define a clear vision, goals, and release cadence while allowing the flexibility in scope to realize the benefits of Agile and maintain an acceptable balance of risk.

The resulting Collaboration Interface between client and supplier drives Agile practices. Iterative architecture refinement, prioritizing design progression, and emergent design reviews are used to manage risk and keep development value-driven. Frequent releases of intermediate stable forms and transparent metrics to product owners provide the means to measure progress and provide Agile assurance.

This paper will draw on current Agile Enterprise transformation efforts underway at various Hewlett-Packard clients in the commercial and government sectors to illustrate Agile Outsourcing scenarios and degrees of Agility introduced into an Outsourcing enterprise.



Outsourcing is inevitable...

Outsourcing

Outsourcing
– Common
Term

Matured over
a period of
time,
becomes
more
complex

Most cases
there are
multiple
suppliers

Objective is
to reduce
cost

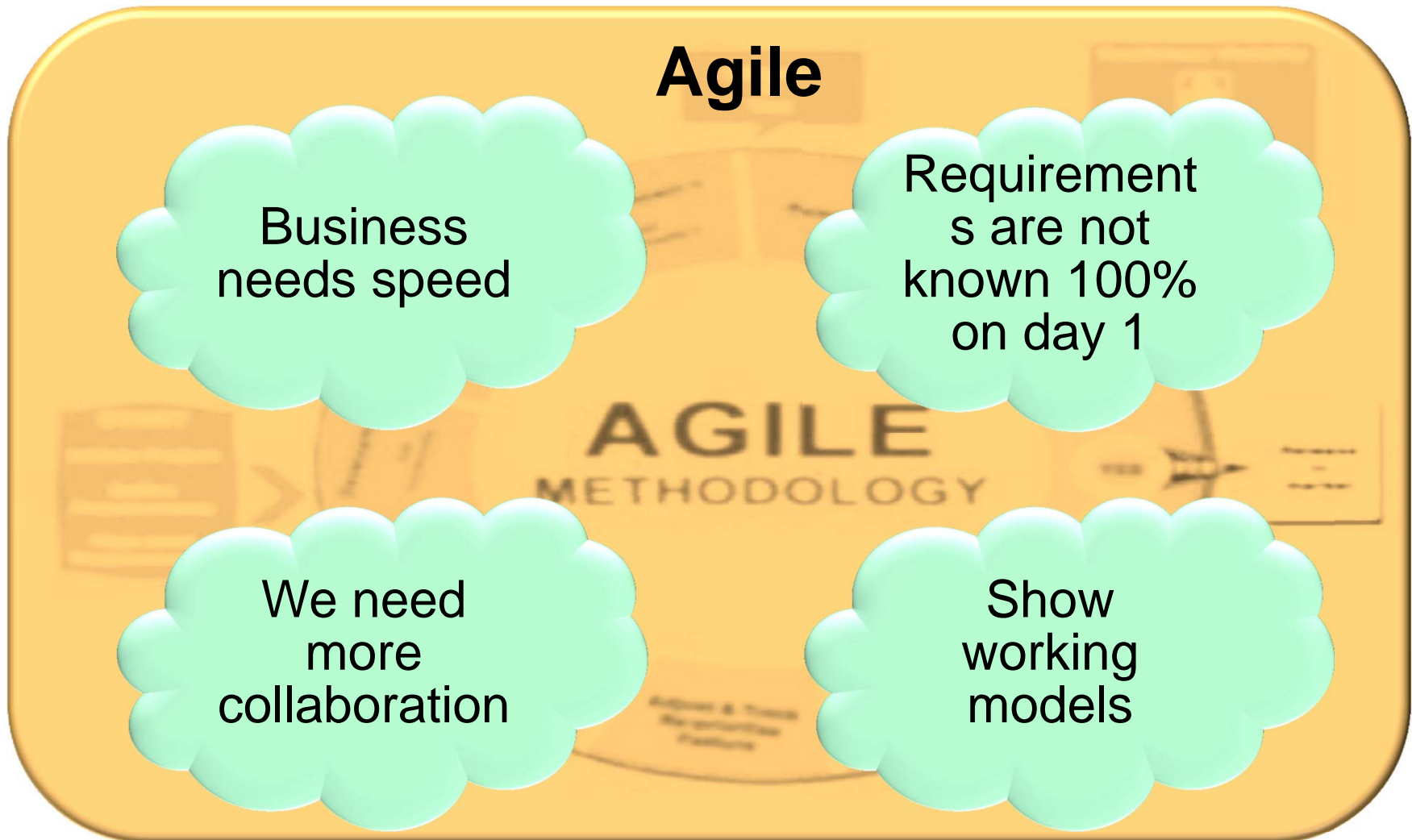
Does outsourcing deliver its promise?

Top reasons why CIOs Outsource

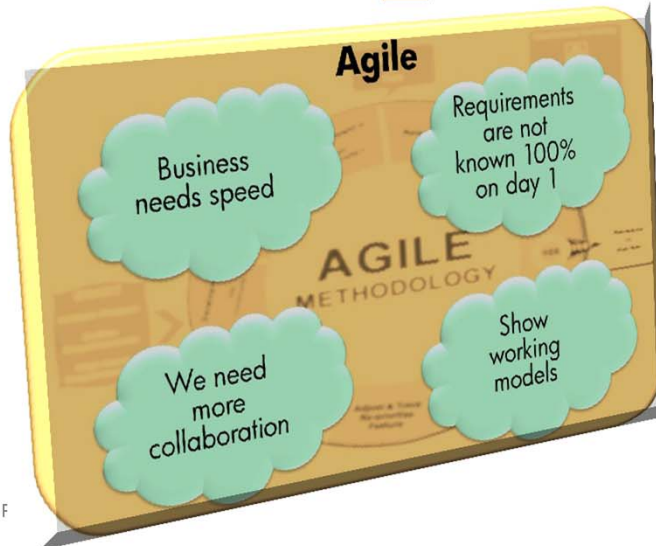
In Real World, Outsourcing
Frequently Fails to deliver its
promise



But we also need speed...



What happens if you marry both ???



More Benefits??

OR

More Risks ??

Benefits Vs Risks

	Outsourcing	Agile	Outsourcing	Agile	
Benefits	<p>Cheaper</p> <p>Faster</p> <p>Access to Global Talent pool</p>	<p>Responsive to changes</p> <p>Incremental delivery of business value</p> <p>Quality built into each release</p>	<p>Cheaper and faster</p> <p>Access to expertise</p> <p>Responsive to change</p> <p>Streaming business value</p> <p>Higher Quality</p>		Agile Outsourcing
Risks	<p>Loss of project control</p> <p>Limited visibility into progress</p> <p>Technical debt built into solution</p> <p>Increased oversight overwhelm savings</p>	<p>No Architecture Up Front (“hurry up and fail”)</p> <p>Ad hoc design (“coding in circles”)</p> <p>Lack of experienced disciplined developers</p> <p>Lack of Product Owner collaboration</p>	<p>Risk of overwhelming Technical Debt</p> <p>Risk of building wrong thing (without product owner Coll)</p> <p>Quick Releases of poor quality that can’t be fixed or changed quickly</p>		Outsourcing Agile



Outsourcing Agile vs. Agile Outsourcing

- **Outsourcing Agile**

- Annual portfolio management funding decisions
- Fixed-price, fixed-scope contracts with long development cycles before release
- Comprehensive tollgates based on complete fixed requirements
- But hires an “Agile” software development supplier



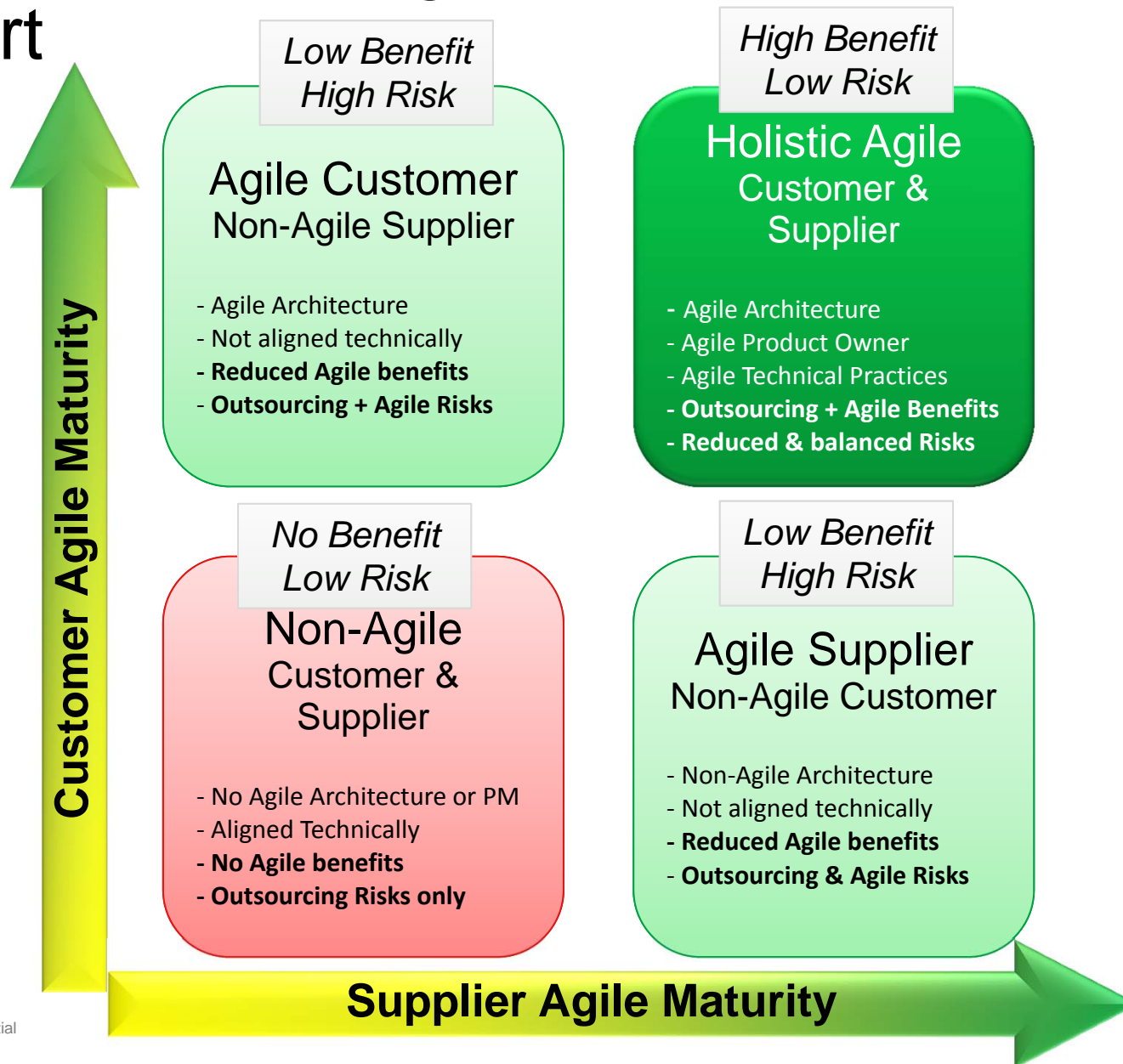
- **Agile Outsourcing**

- Portfolio strategy updated quarterly or after every release
- Variable scope contracts with multiple regular releases
- Incremental and Iterative Requirements, Architecture and Design collaboration
- Then, hires a software development supplier willing to work toward a product vision with incomplete information



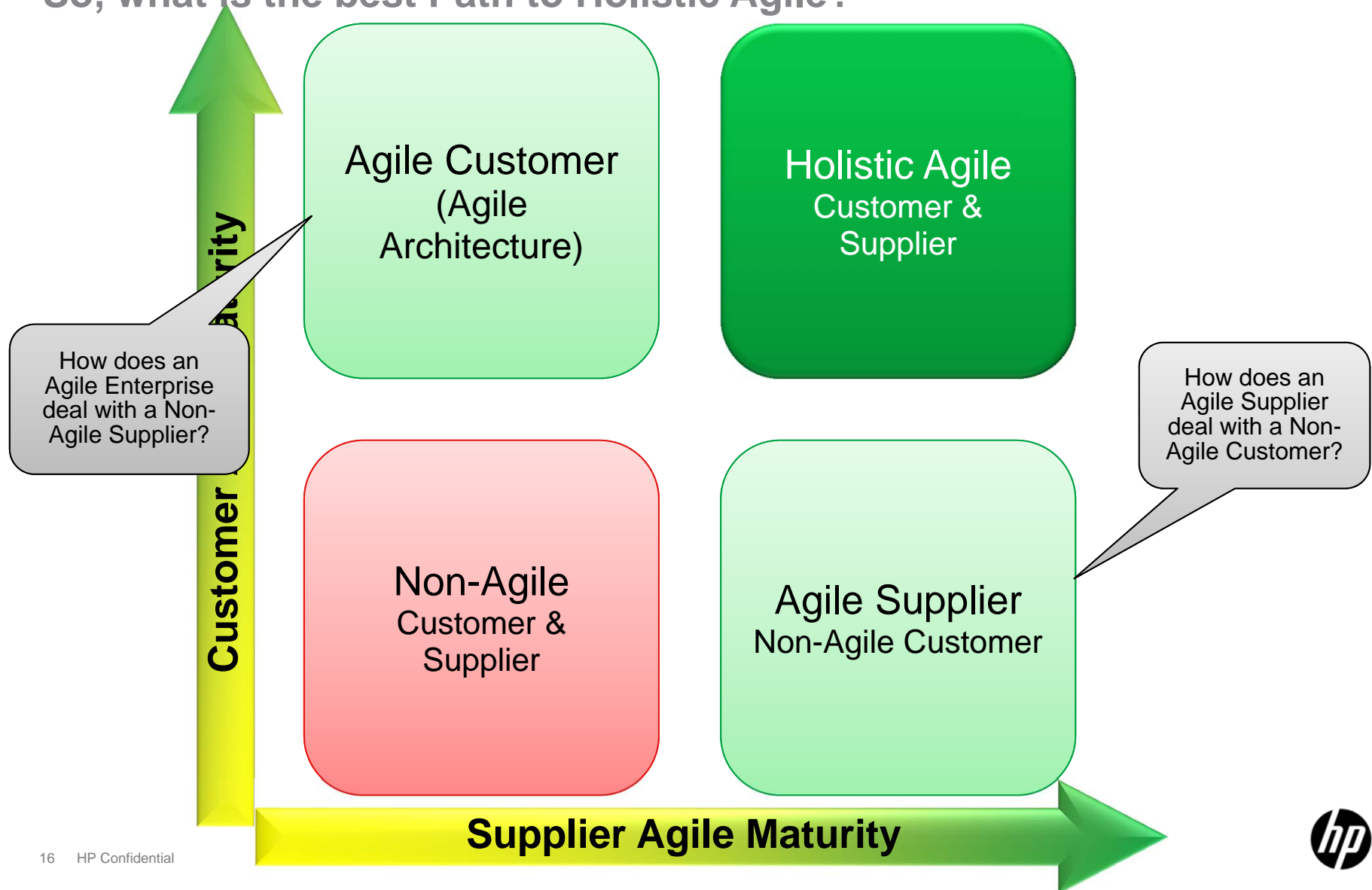
Agile Architecture is necessary to mitigate the combined Risks of Agile and Outsourcing and enhance the combined benefits

Agile Outsourcing Benefits-Risks Quad Chart



Agile Outsourcing Assessment

So, what is the best Path to Holistic Agile?

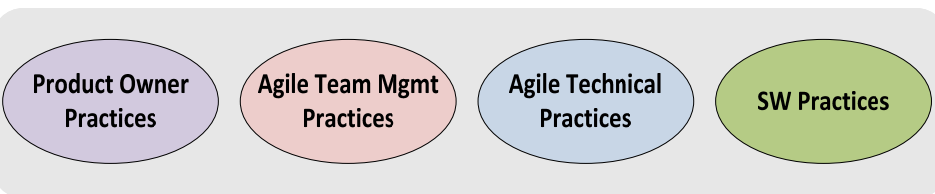
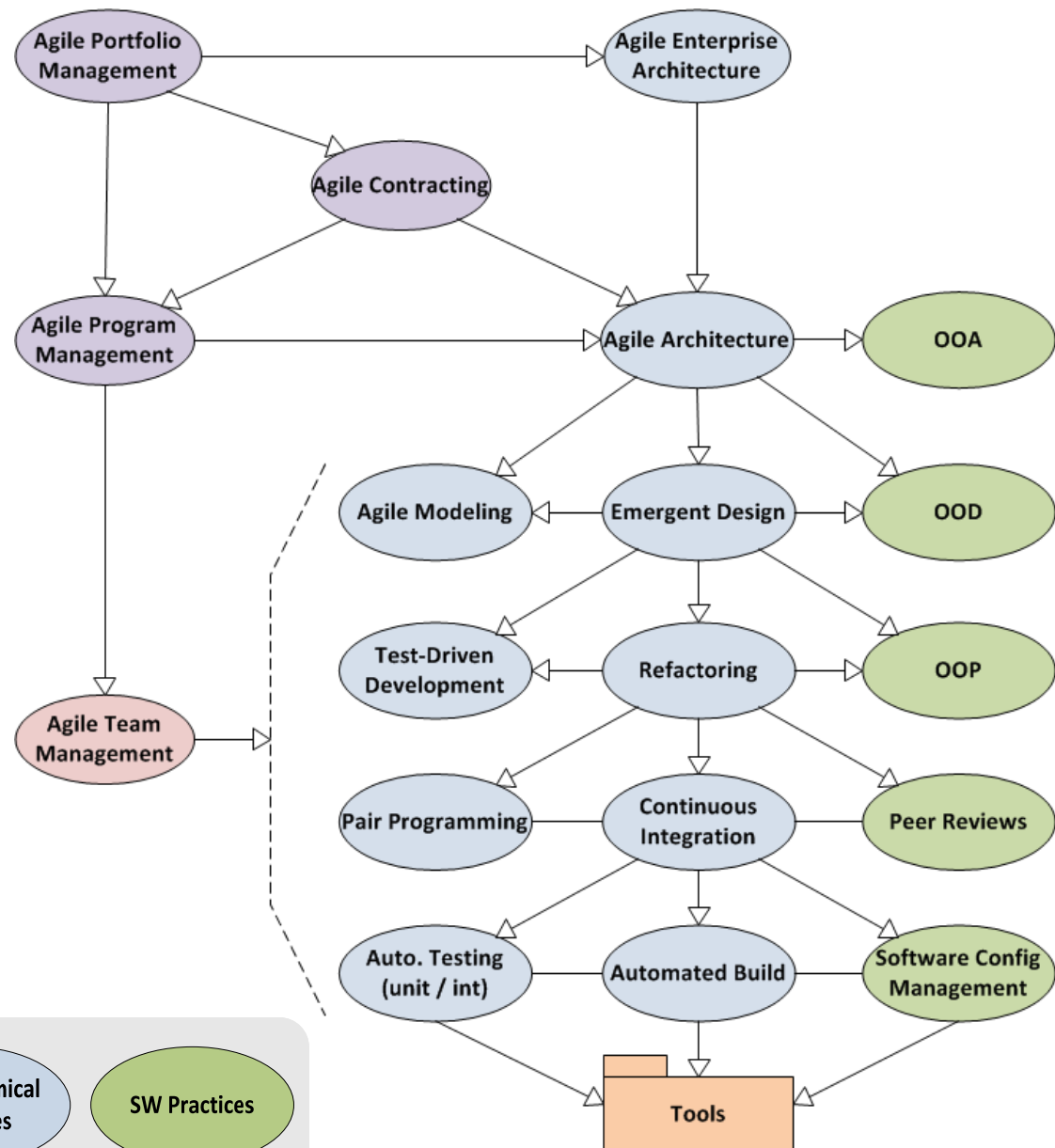


Agile Practices Modeling

Agile Practices

Dependencies

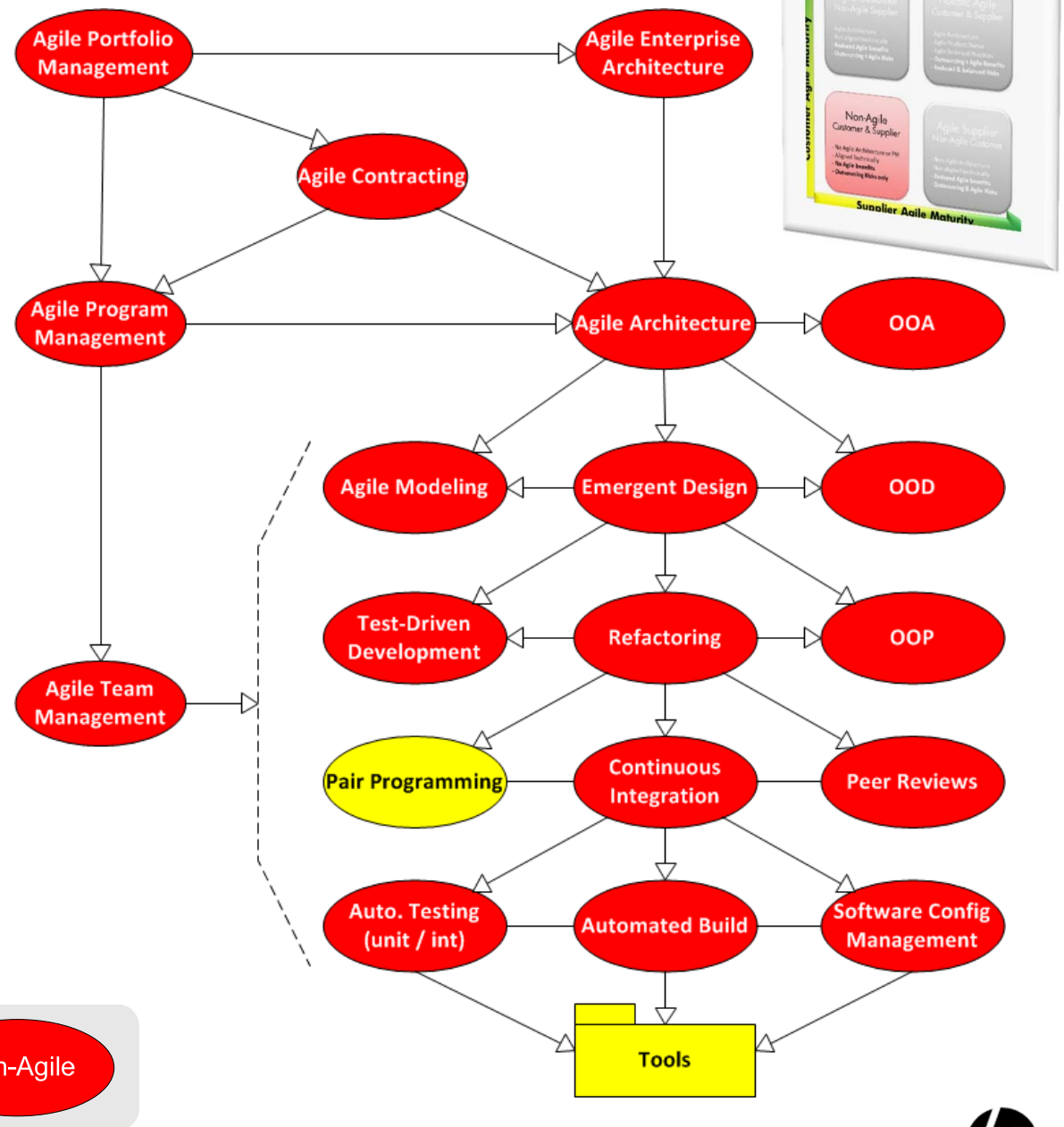
- Agile practices dependency diagram (one variant)
- We need a model to evaluate and explain how Agile practices build-up an Agile Enterprise
- For example, effective CI depends on Testing, Automated Builds, SCM, and the required Tools.



Agility Ranges

Non-Agile Extreme

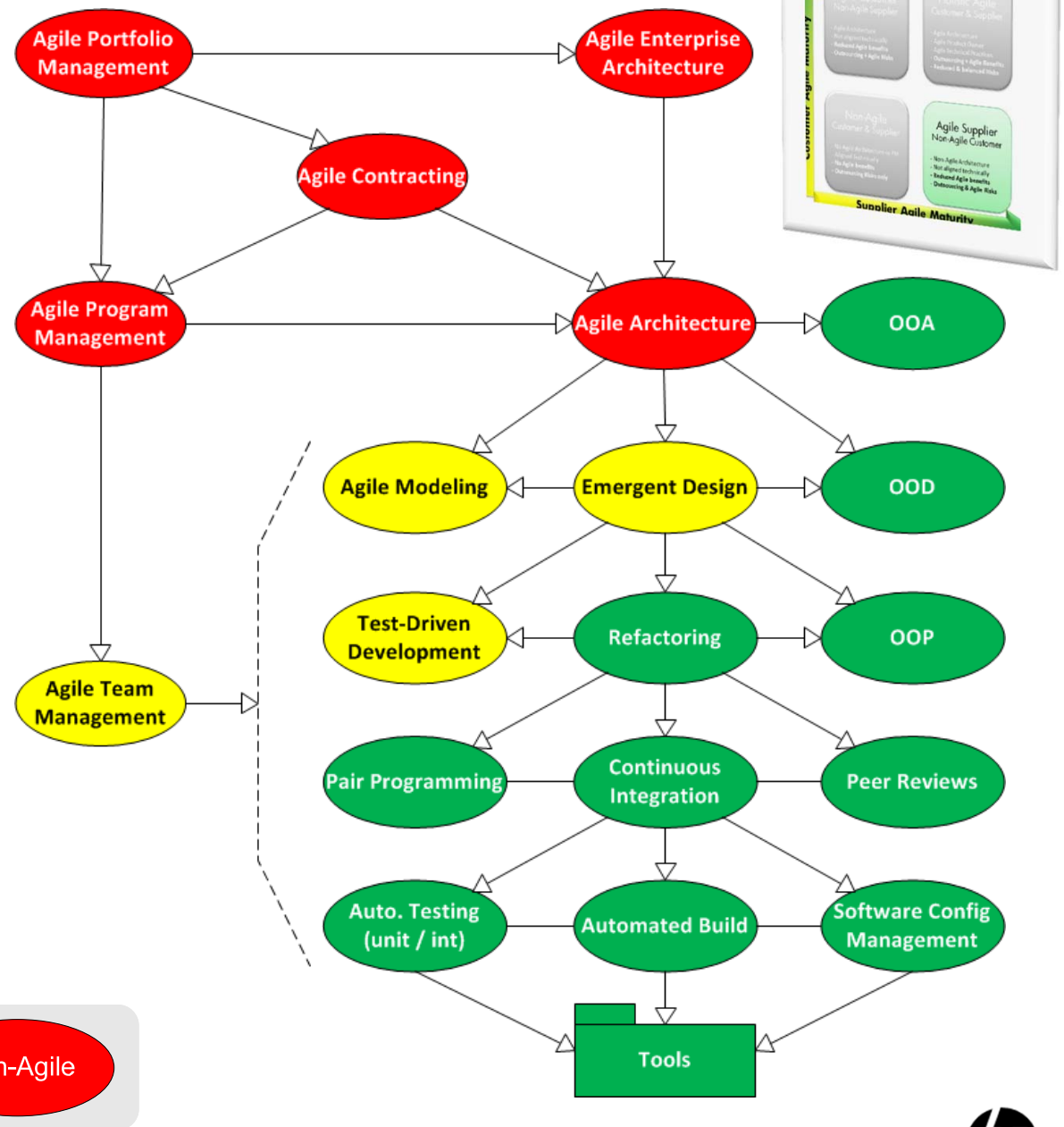
- Example of extremely non-Agile project assessment
- Red Practices indicate non-Agile or poor software practice assessment



Agility Ranges

Agile Team-level Only

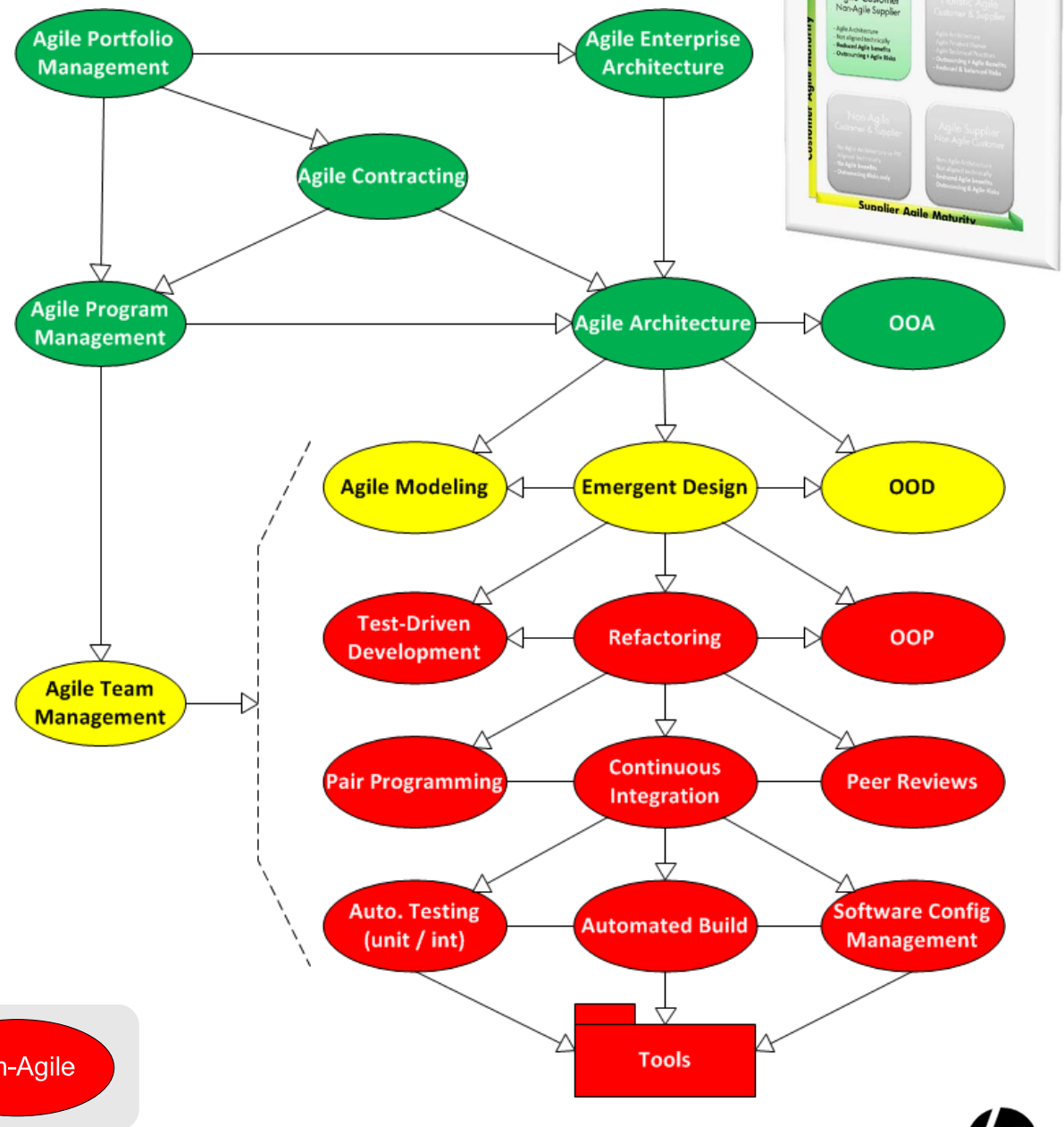
- Example of partial Agile practices at Team-level
- aka “Water-Scrum-Fall”
- Common Scenario



Agility Ranges

Agile Enterprise-level

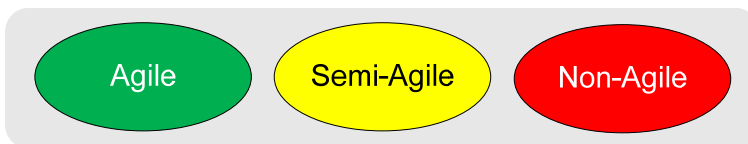
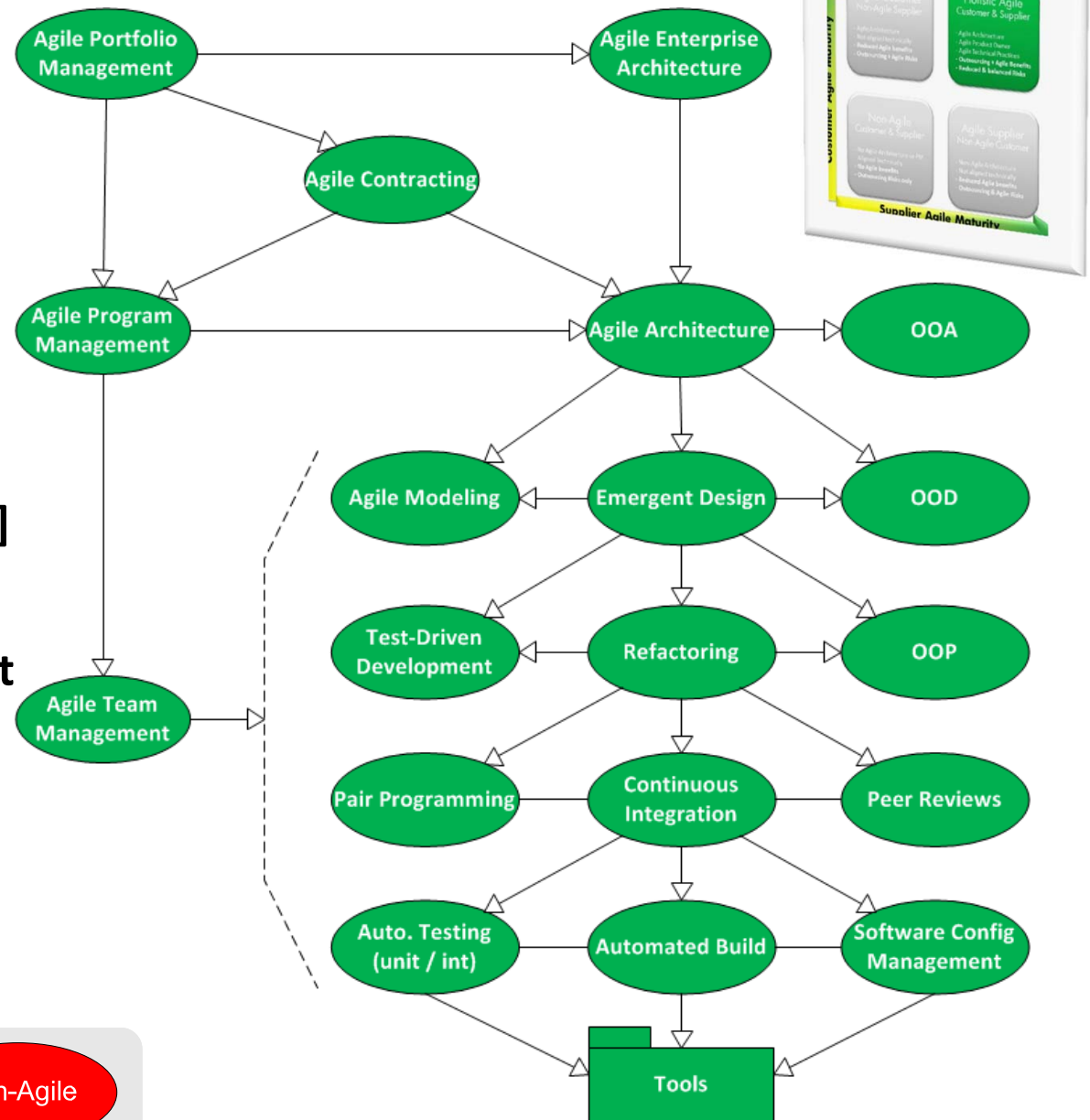
- This is RARE – Why?
- Is it rare because it doesn't work?
- Or is it rare because it drives Agile behaviors?
- Hint: if the Agile Architecture practice was turned red, this project would fail early



Agility Ranges

Agile Enterprise

- Agile Portfolio Management and Architecture practices
- Enterprise practices aligned with [outsourced] Agile Team Practices
- Outsourcing development makes this alignment critical



Outsourcing Agile

Zone of Tension

- Plan-Driven Management, Big-Design Up Front, Fixed-Scope Contracts create tension with a supplier trying to execute Agile development practices
- Supplier must adapt to client interface which creates friction and mitigates benefits of Agile

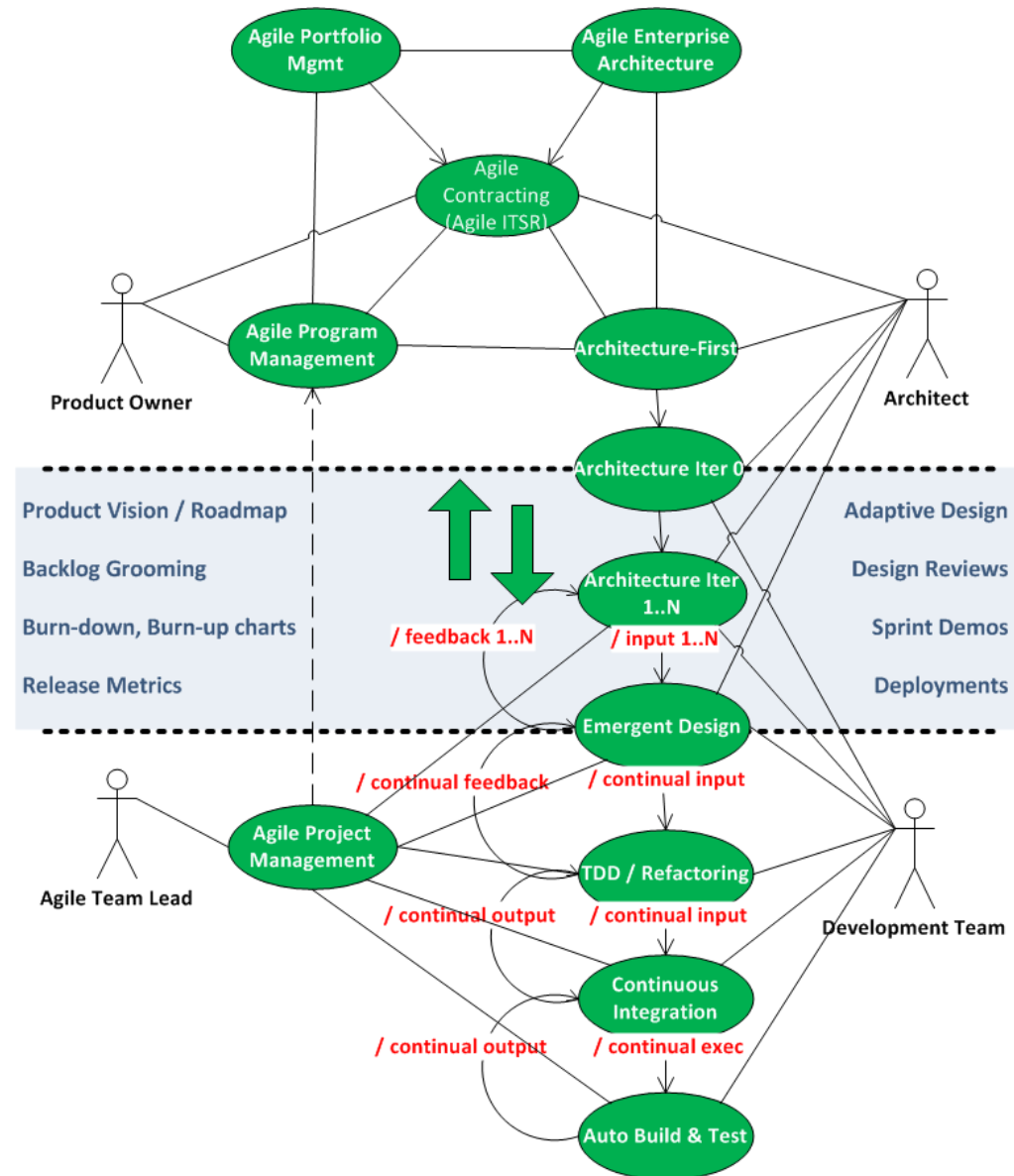


Agile Outsourcing

Zone of Collaboration

“ZOC”

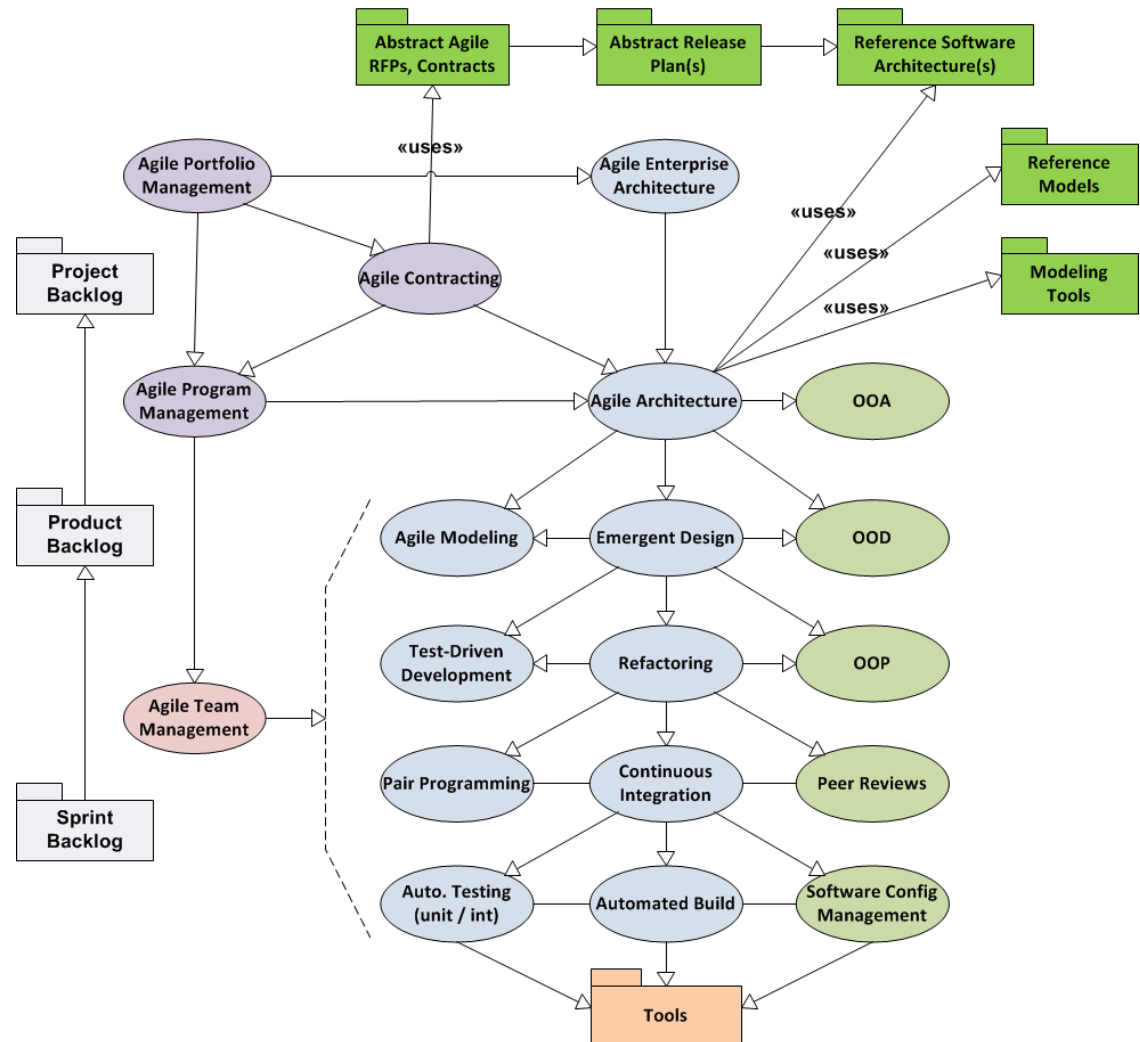
- Agile Architecture aligns Portfolio Management & Contracting with technical practices
- Agile Contracts provide response to change, frequent releases, and variable scope
- Agile Architecture drives technical practices and cadence



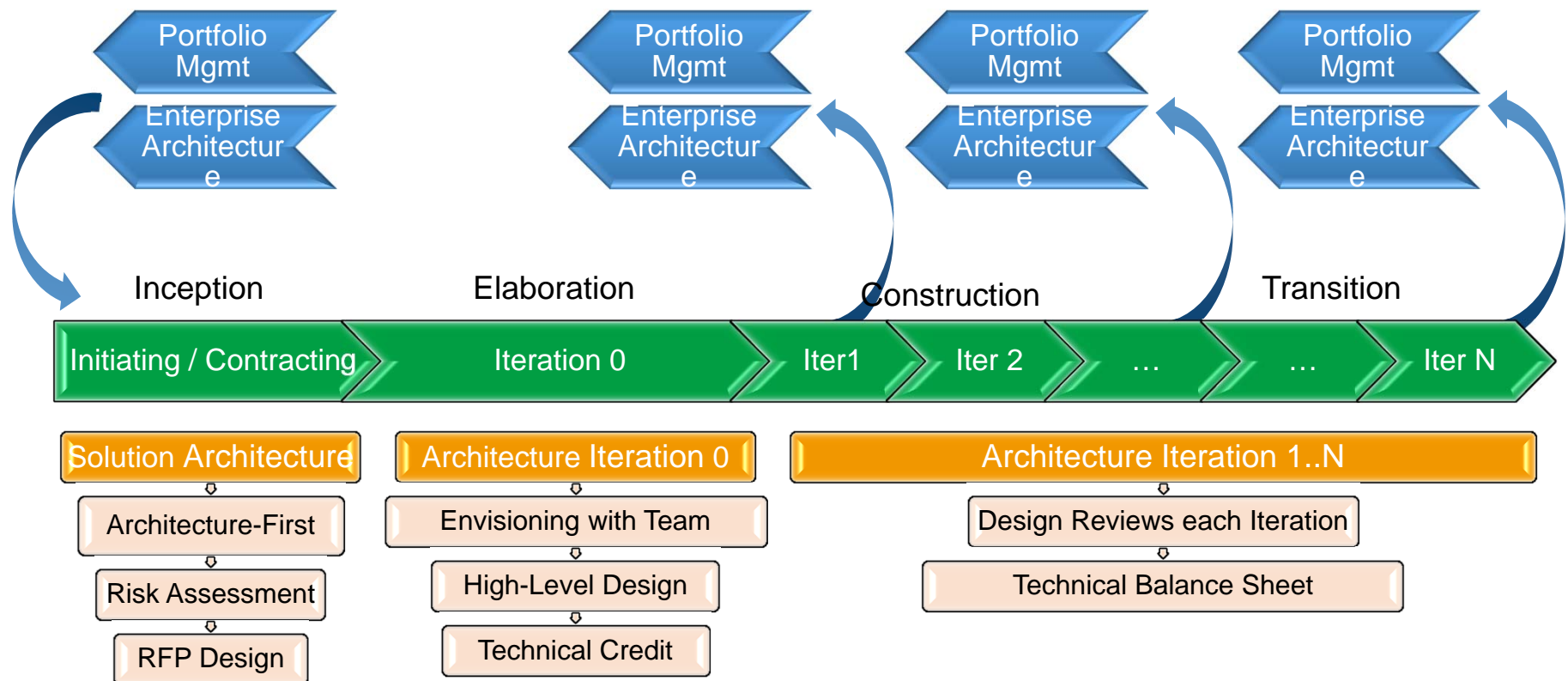
Architecture Inputs to Agile Outsourcing

Enabling the Zone of Collaboration

- *Reference Software Architecture & Models* support orderly incremental & iterative development with acceptable risk.
- *Abstract Release Plans* with target release cadence and Non-Functional Requirement goals support variable scope RFPs and Contracts that balance risk.



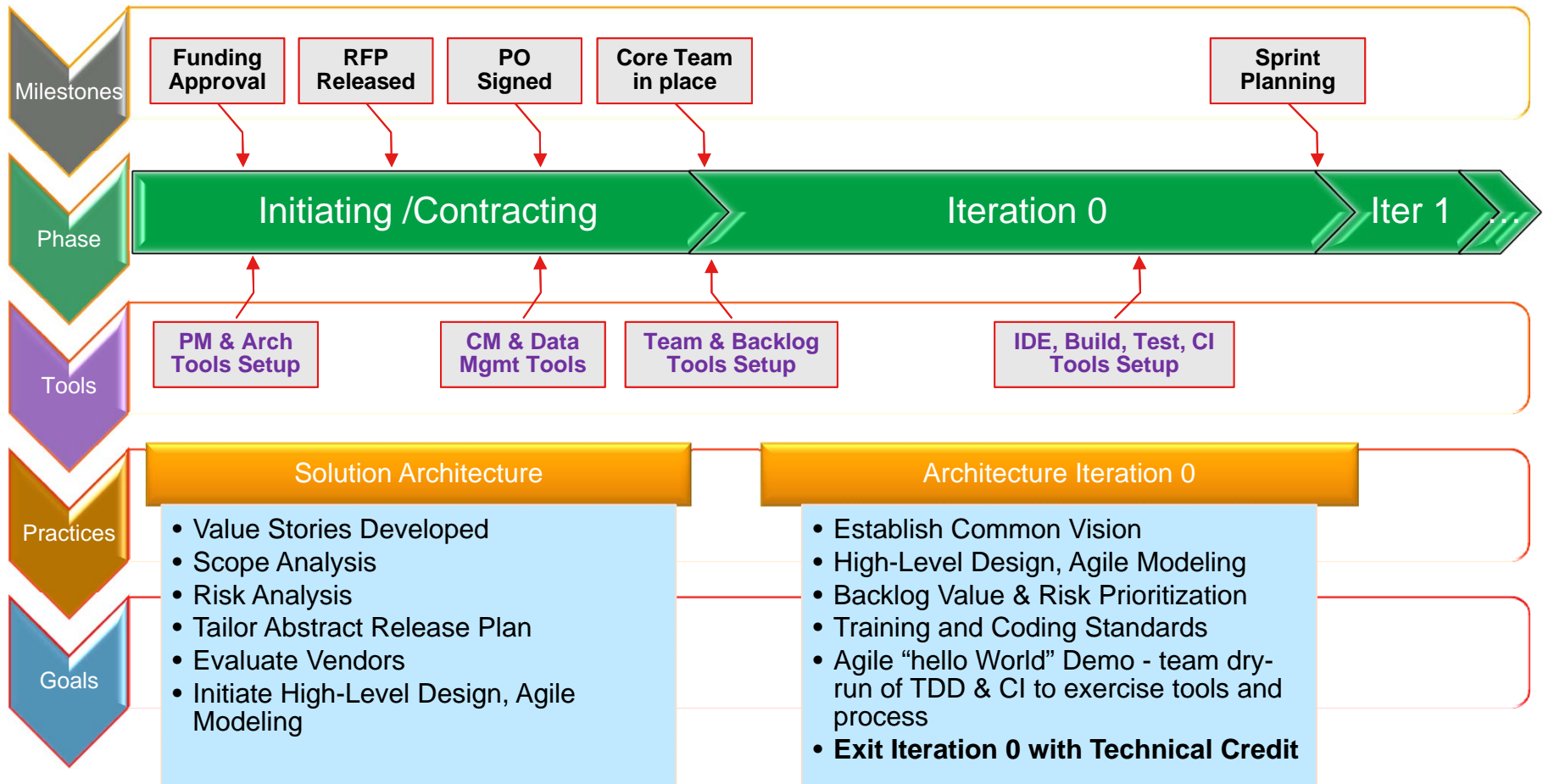
Agile Outsourcing Reference Timeline



- Reference Agile Project Lifecycle showing Architecture phases
- In-flight feedback to Enterprise Architecture and Portfolio Management

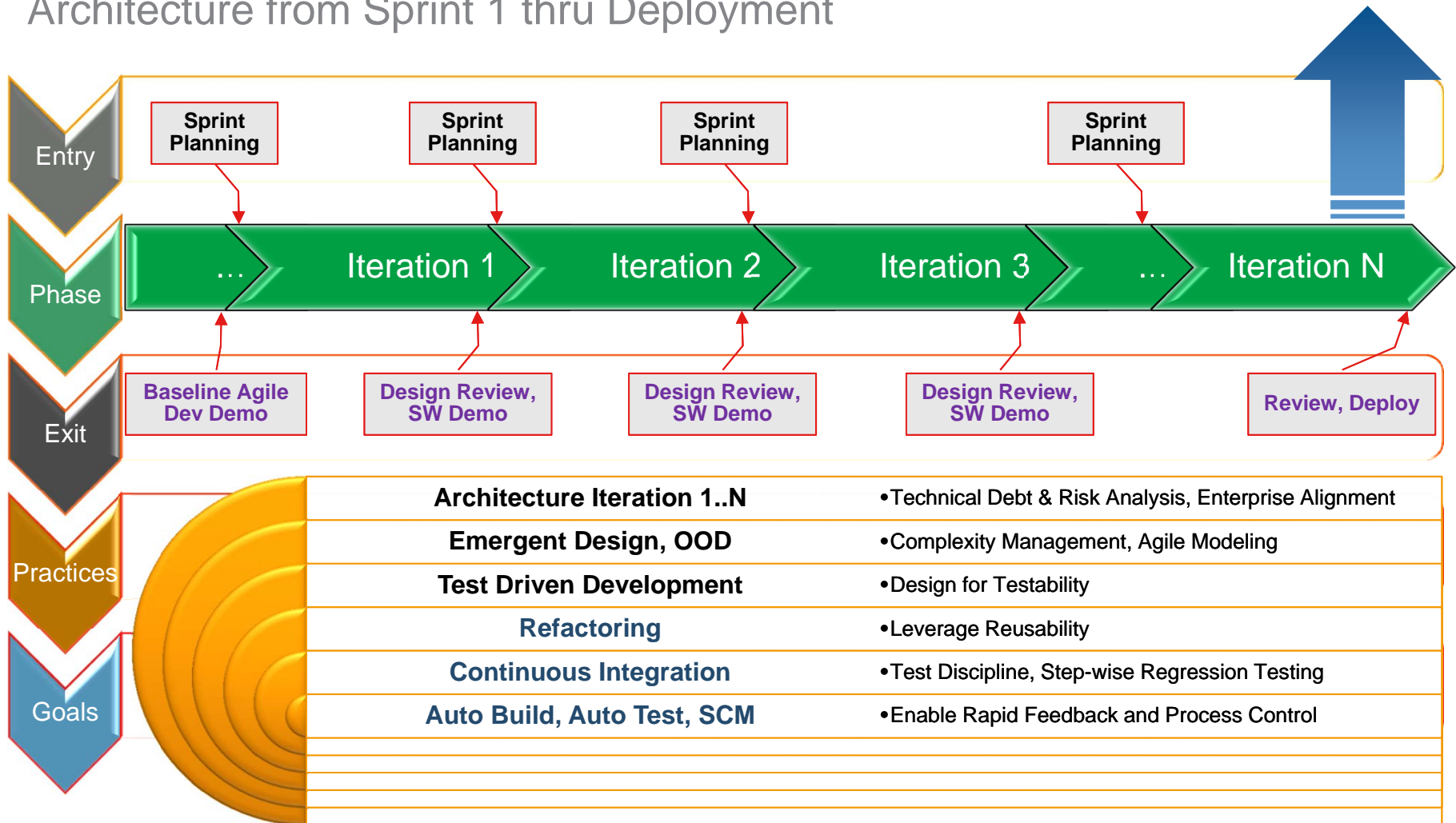
Agile Outsourcing Timeline

Architecture Goals from Project Initiation thru Iteration 0



Agile Outsourcing Timeline

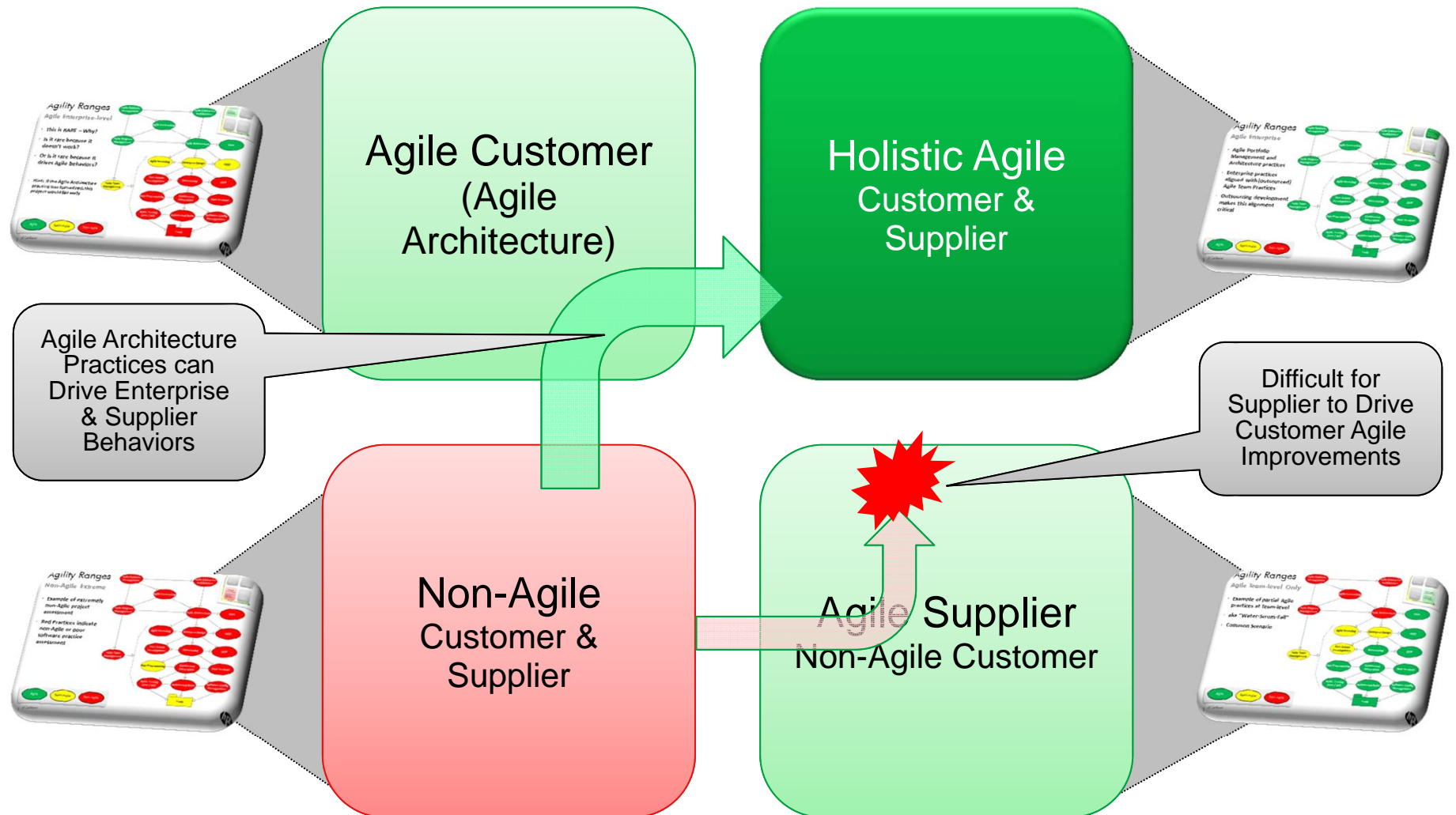
Architecture from Sprint 1 thru Deployment



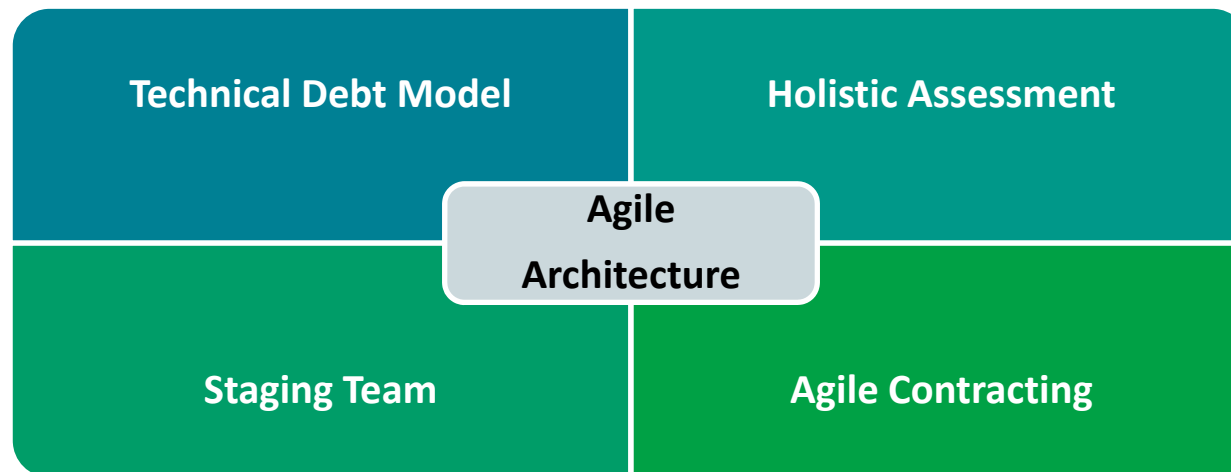
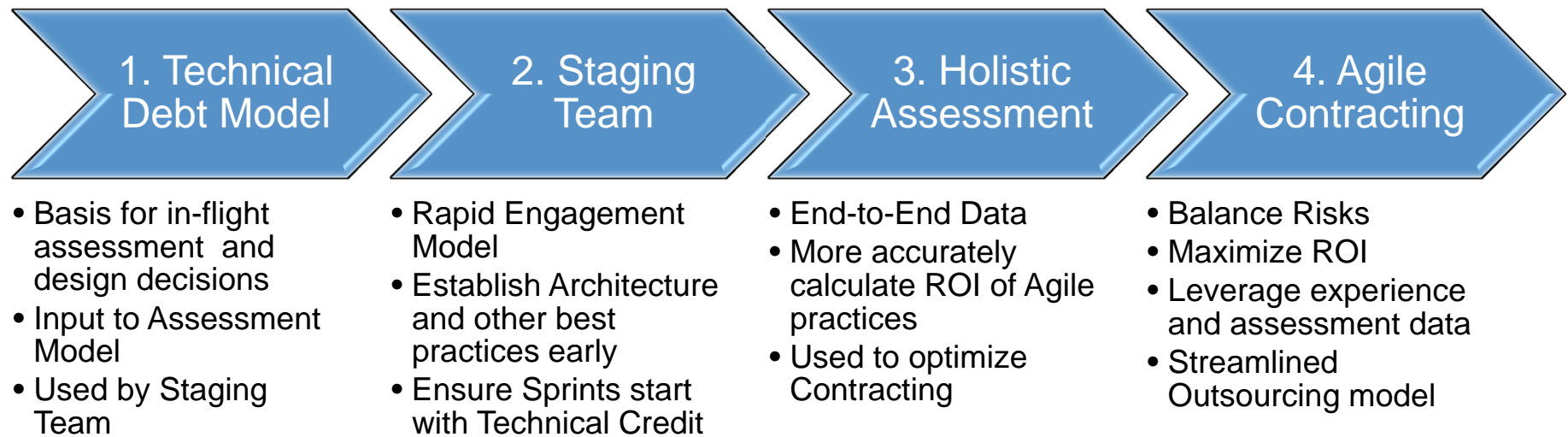
Best Path to Enterprise Agile Transformation

Summary – Best Path to Holistic Agile

Architecture-enabled Path to Improvement



Future Research and Development ...



Authors

Marc Palmaffy is currently an Enterprise Architect and Technology Consultant at Hewlett Packard serving in the Strategic Enterprise Systems Agile Capability Group providing Enterprise-level Agile Transformation services and assessments.

His prior experience includes developing product-line architectures, component frameworks, and model-based systems & software engineering techniques and integrating them into Agile delivery models at companies such as Xerox, Raytheon, and Eastman Kodak.

He has a Masters in Software Engineering from Arizona State University and is a certified Scrum Master and PMP. Feel free to email him with questions or comments at Marc.palmaffy@hp.com

- **Ashok Gurumurthy** is currently the Client Executive at Hewlett-Packard for one of HP's largest clients. He has 15 years of experience in IT governance, Outsourcing, Program management & process improvements in the area of CMMI, 6 Sigma & ITIL. He was one of the reviewers of the initial CMMI-ACQ model. He managed the first CMMI-ACQ Pilot in one of HP's client in 2006. He was also invited by the Software Engineering Institute to be in the CMMI-ACQ Pilot Panel in SEPG 2007 Conference in Texas and CMMI-ACQ rollout panel in SEPG 2008 conference in Florida. He presented various papers in SEI Conferences in topics around contract Management, Application Outsourcing Management and Multi Supplier governance. Feel free to email him with questions or comments at ashok.gurumurthy@hp.com



THANK YOU



Agile Architecture Activity Diagram (Iteration 1..N)

- Depicts Agile Architecture activities during Sprint 1..N
- Ideally, tight collaboration loop with Emergent Design and TDD Activities (at least 1 cycle per iteration)
- Architecture/Design document repository can be more formal and persistent or lightweight and temporary, depending on criticality, scope, team size, distribution, etc.

