Infrastructure for Agile:
# On Premises or in the Clouds

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Welcome!

- **I am Mario Moreira, Sr Director and IT Program Mgr at CA**
- **Columnist for the "CM Journal" and writer for the "Agile Journal",**
- **Working in the CM and Infrastructure fields since 1986. Implemented CM systems on over 100 products (local and distributed)**
- **Working in the Agile field since 1998.   Am a certified ScrumMaster and implemented Scrum and XP practices.**
- **Years of Project Management, SQA, Requirement Engineering, Architecture, and IT Governance experience.**
- **Author of "Software Configuration Management Implementation Roadmap."**
- **In the process of writing a new book entitled "Adapting Configuration Management for Agile Teams," another Wiley project that is tentatively due out in the Fall of 2009.**
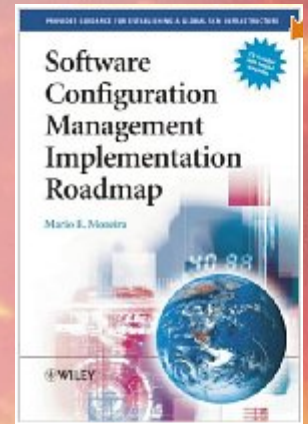
Challenge

- **A decade ago (1998)**
  - Experience with infrastructure for Agile team
- **This year (2009)**
  - Anecdotal discussions with companies

Agile brings immediate demands on infrastructure

What We'll Cover Today

- **Approaching Infrastructure for Agile**
- **Considering Options**
  - Co-location as a service in the Clouds
  - Renting Infrastructure in the Clouds
  - Owning On-premises
- **Infrastructure Refactoring**
- **Summary**

Approaching Infrastructure for Agile
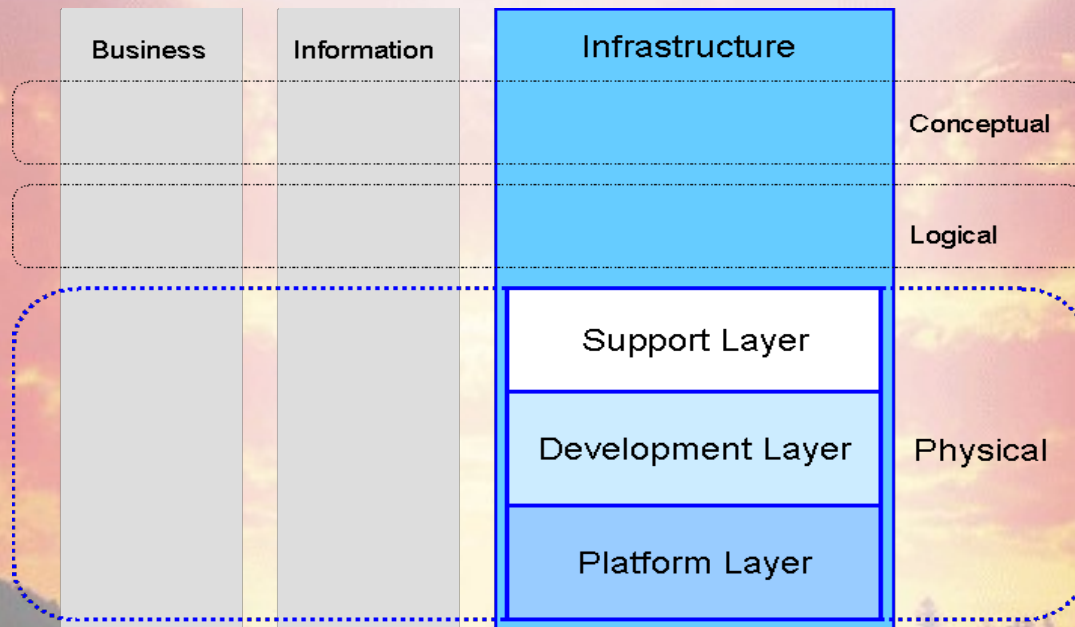
- **Agile has immediate demands on infrastructure**
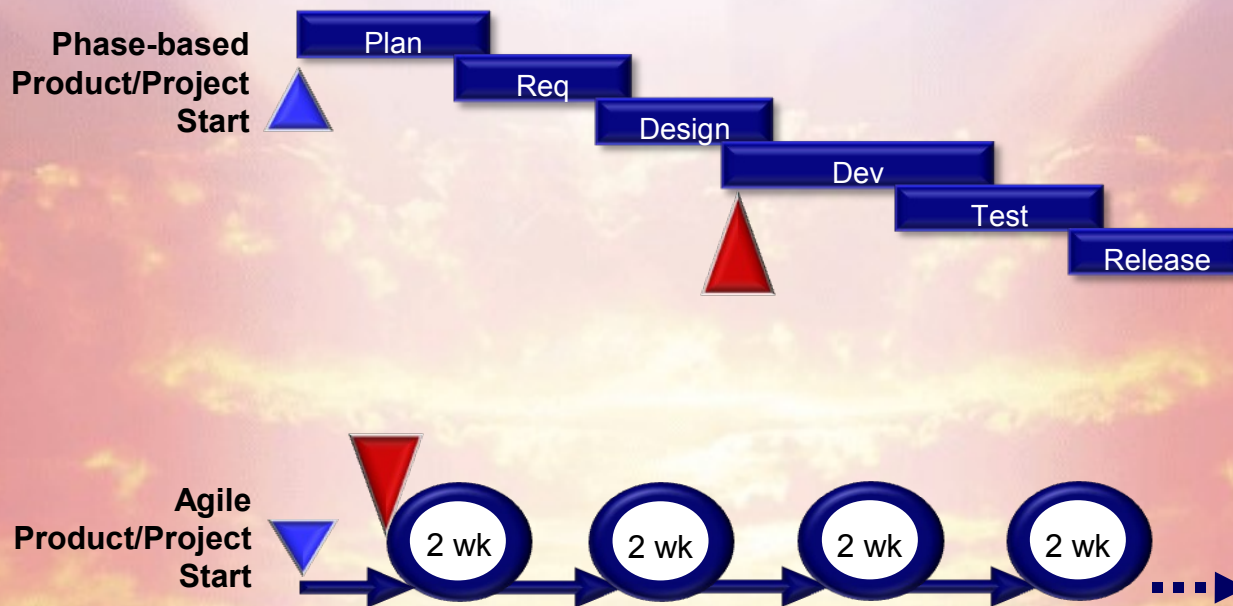
Infrastructure Envisioning

- Often times there is time spent on product visioning
- Use a similar timeframe to introduce an iteration 0 for architecture and infrastructure

Iteration 0 → **2 wk** → **2 wk** → **2 wk** → **2 wk** ⇢

Approaching Infrastructure for Agile

- Input to Infrastructure is Architecture
  - Technology Stack

Infrastructure Envisioning

- Envisioning sets the high-level direction and begins the build-out

- Apply parallel iterations based on priority to continue build-out
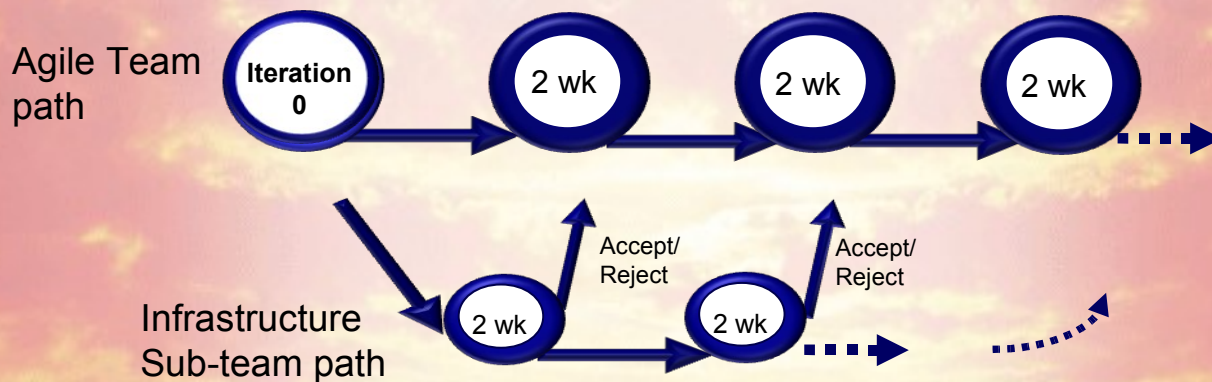
Considering Infrastructure Options

- Your Infrastructure approach may depend on several factors
  - Capital
  - Space
  - Staff
  - Control
  - Immediate access
  - Formality
  - Sensitivity

Co-location Service Provider

- Own server and rent space
- Renting space in the clouds by a service provider in order to physically host your server or servers.
- Some companies that provide co-location services include ColoSpace, I/O Data Centers, Colocation.com and Peer1 amongst others.
- They all provide either strictly collocation services or co-location as part of their set of services. Since co-location is most advantageous when the service is within your location, it is best to perform a search on "co-location" and possibly your city or state.

Co-location Service Provider

- **Pros**
  - Do not have to establish physical datacenter on premises therefore minimizing expenses.
  - Own and control the box and content therein
  - Do not have to hire and manage datacenter staff to support this facility
  - Good for Small company or start-up organization
  - Typically scalable bandwidth, generator backup, and remote console access

Owning Server and Renting space...

- **Cons**
  - Rely on the co-located service provider to select experienced administrators and support personnel.
  - Reliance on network connectivity and bandwidth needs.
  - Sensitivity to security, control, and privacy.
  - Can go out of business.

Renting Infrastructure in the Clouds

- Renting or leasing infrastructure (servers, software, etc.) in the internet cloud.
- Known as Software as a service (SaaS), application service provider (ASP) model, platform as a service (PaaS), application infrastructure provider (AIP).
- "Use what you need" approach minimizes infrastructure debt and allows the product team to adjust and scale to their need in a just-in-time manner
  - ◆ Very much part of lean thinking.

Renting Infrastructure in the Clouds

- **Pros**
  - ◆ Minimize capital expenses and upfront costs
    - • Operating cost instead of a capital expenditure
  - ◆ Not buying hardware, software, and other components
  - ◆ Not having to establish physical datacenter on premises therefore minimizing expenses.
  - ◆ Not having to hire infrastructure staff
    - • But do need technology staff
  - ◆ Good for small company or start-up organization. Also good for an environment to prototype an idea.
  - ◆ Typically scalable bandwidth, generator backup, and remote console access

Renting Infrastructure in the Clouds

- **Cons**
  - Less ability to customize the infrastructure and software therein. Most offer a few standard models with minimal configuration abilities.
  - Rely on the service to select experienced administrators and support personnel.
    - Note: they do not replace the expertise needed on your team to use the toolset within the cloud
  - Reliance on network connectivity and bandwidth needs.
  - Sensitivity to security, control, and privacy.
  - Can go out of business.

Owning On-premises

- Traditional approach and is still the prevalent method of infrastructure for a product.

- A company owes the data center and all hardware, software, etc. therein.

- Means you have the capital to purchase the hardware, software, databases, network, and other components needed to host product development.

- Infrastructure can be placed on one site when local and near-shore people have access or placed feasibly in multiple sites when local and off-shore people need access

Owning On-premises

- Pros
  - Full ownership and control of physical resources
  - Own security access and infrastructure
  - Can customize as and when needed
  - Can implement a Platform as a Service (PaaS) model locally within the company to receive economies of scale (e.g., Agile Platform by Outsystems).
  - Can implement ASP or central tool services models (CM, defect tracking, test tools, etc.)

Owning On-premises

- Cons
  - Must have the revenue to purchase capital
  - Must establish and maintain datacenters
  - Must establish and maintain the hardware and software.
  - Must hire staff to maintain the resources

Summary

- Evaluate the infrastructure model that is best for your needs.

- Consider Infrastructure Envisioning and Iteration 0 to ensure you know your technology stack and more.

- Look at the amount of your budget, need for control, and even the development methodology you are considering.

- Good to know that while there are choices that keep you on the ground (on-premises infrastructure), you can also reach for the sky (cloud infrastructure)!

Resources

- The article in which this presentation was based can be found at:
  - http://www.agilejournal.com/articles/col

- Infrastructure Envisioning and more on Adapting CM for Agile can be found in the upcoming book "**Adapting Configuration Management for Agile Teams**", due out in the Fall of 2009.
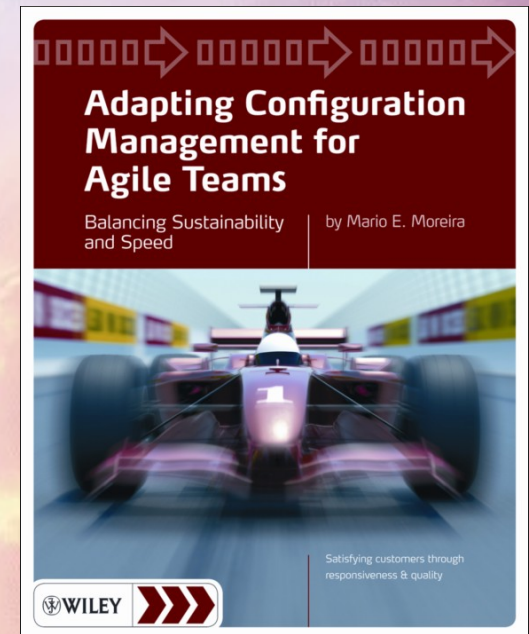
Questions and Answers

Thank You!