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

Phase-based Product/Project Start

Plan

Req

Design

Dev

Test

Release

Agile Product/Project Start

2 wk 2 wk 2 wk 2 wk ...

Agile Infrastructure: On Premises or in the Clouds
Infrastructure Envisioning

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

Agile Infrastructure: On Premises or in the Clouds
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:

• 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!