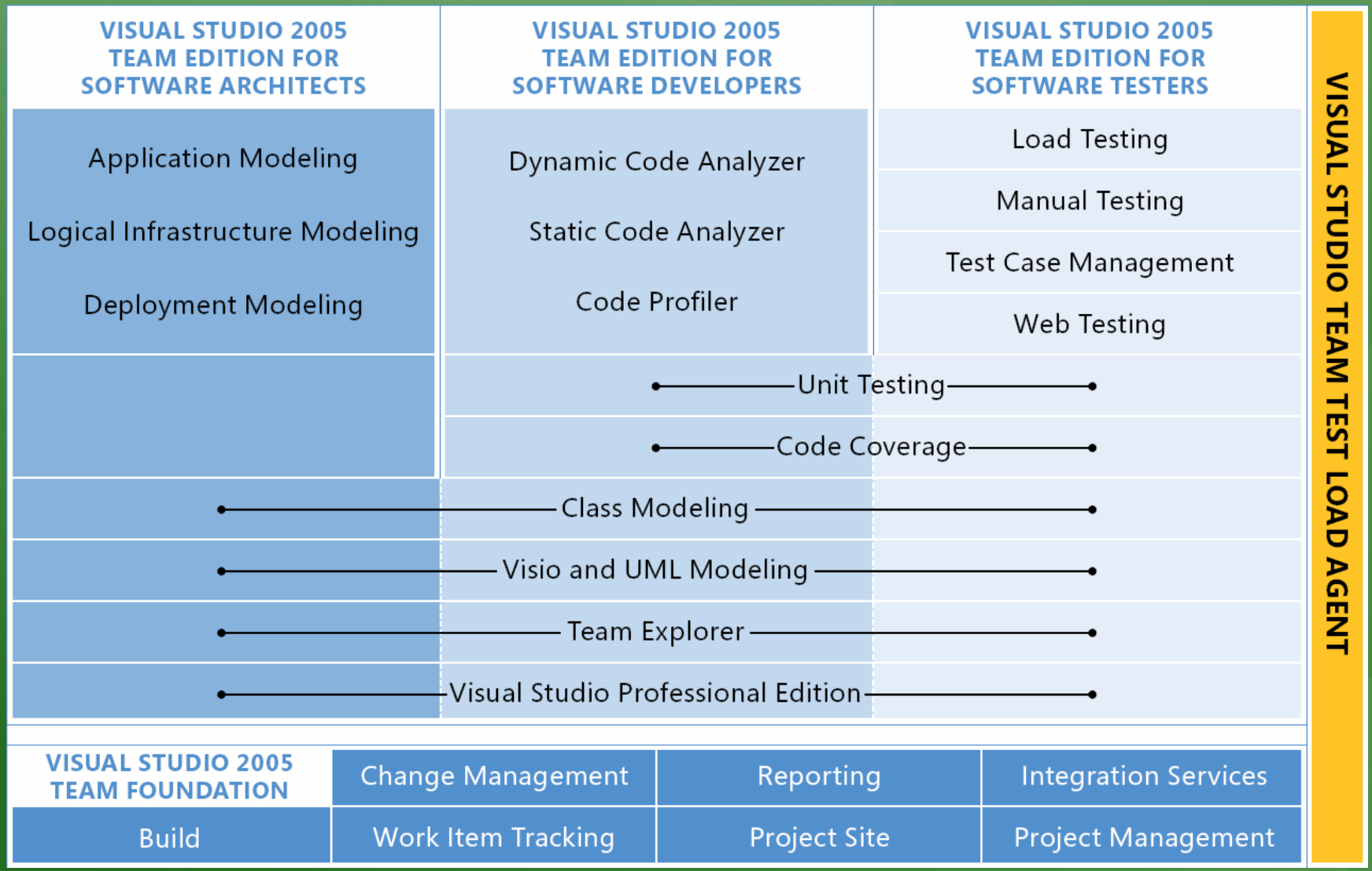
Source Control with Team Foundation Server

Martin Woodward

Teamprise

Visual Studio Team System



Team Foundation Server

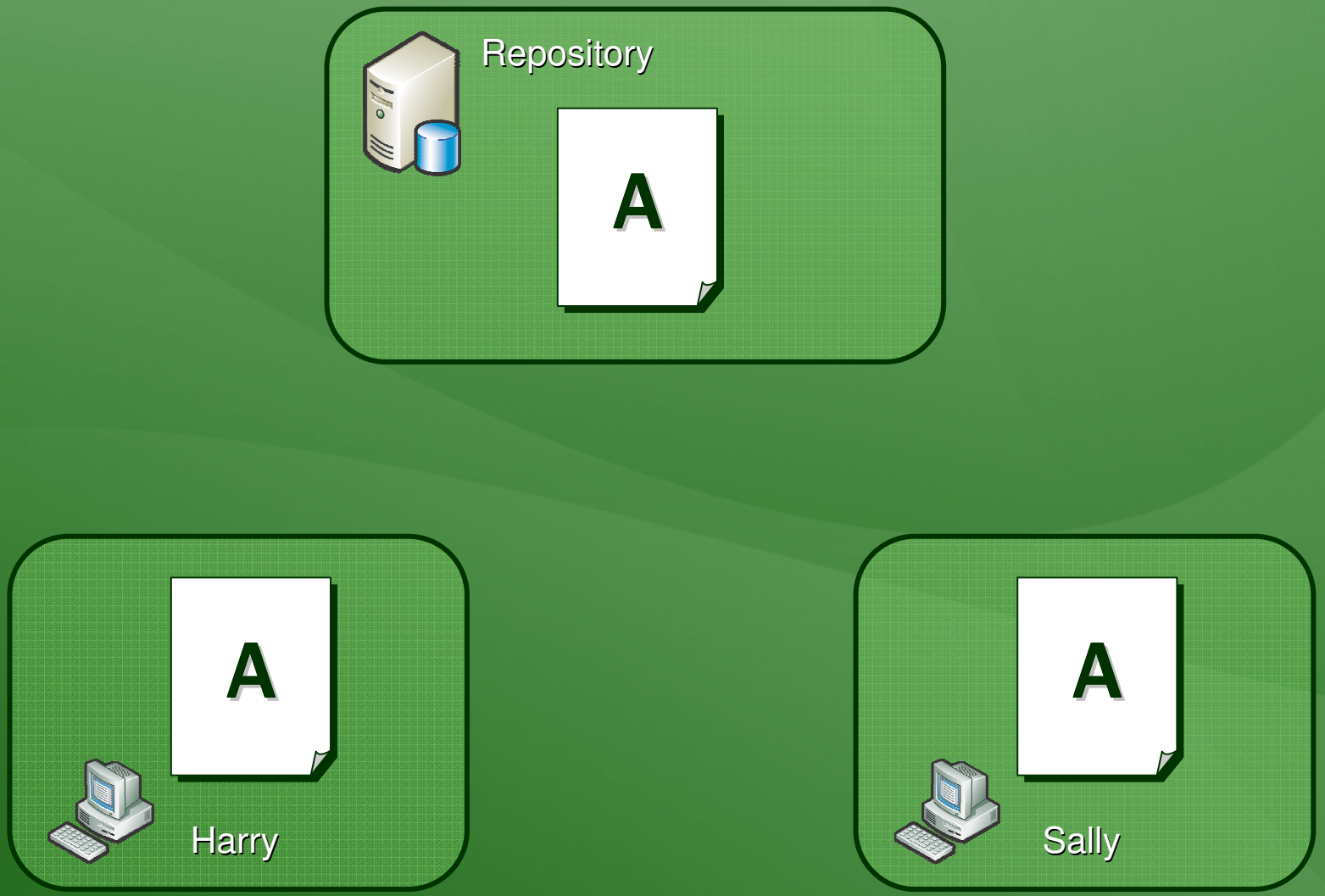
VISUAL STUDIO 2005 TEAM FOUNDATION	Source Control	Reporting	Integration Services
Build	Work Item Tracking	Project Site	Project Management

What is Source Control

- A place to store stuff
- Historical record of changes over time
- Allows developers to work in parallel

Source Control Basics

The Problem of File-Sharing



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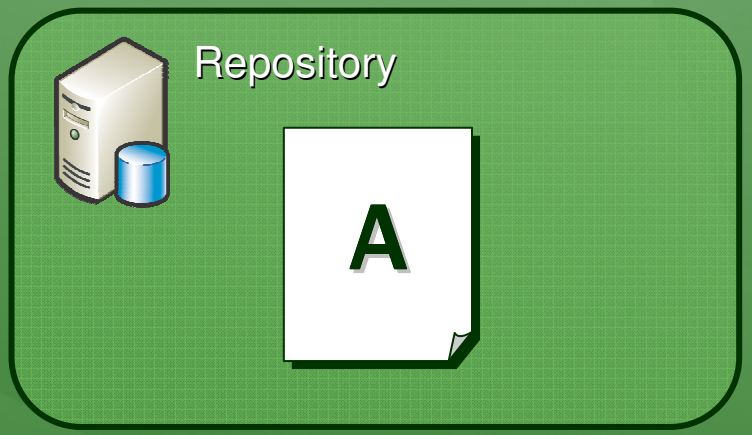

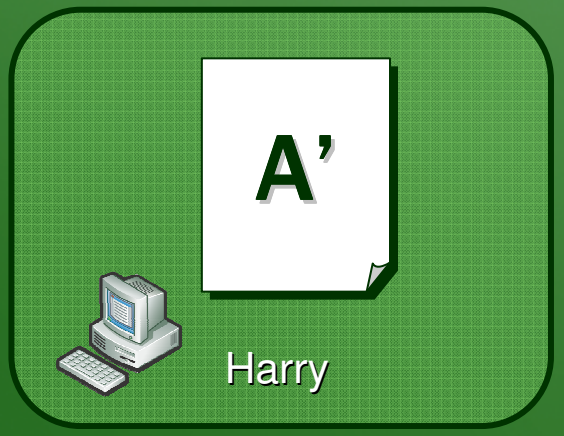

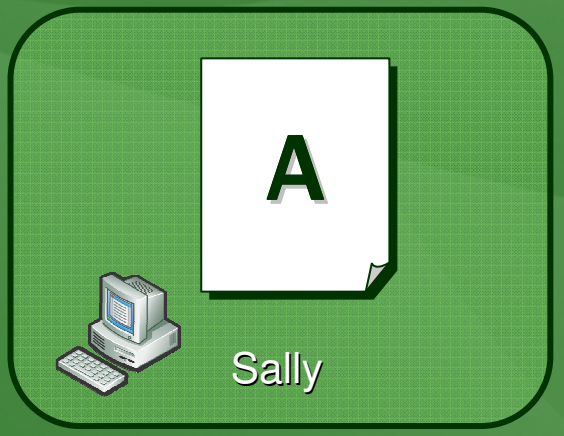

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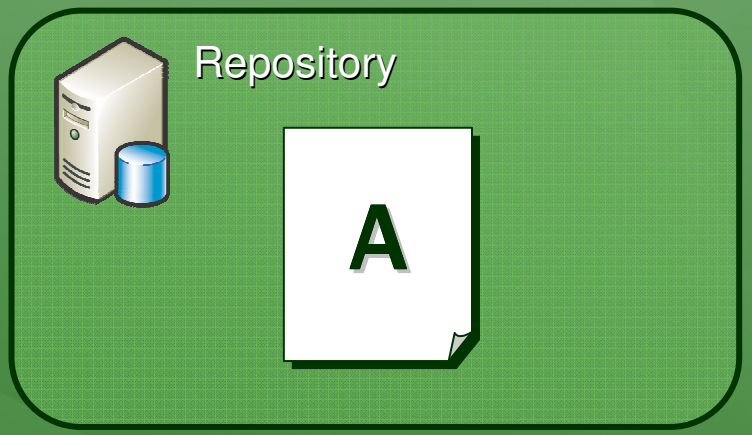

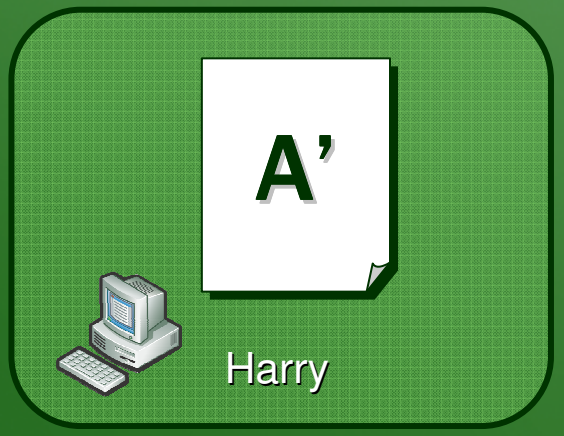

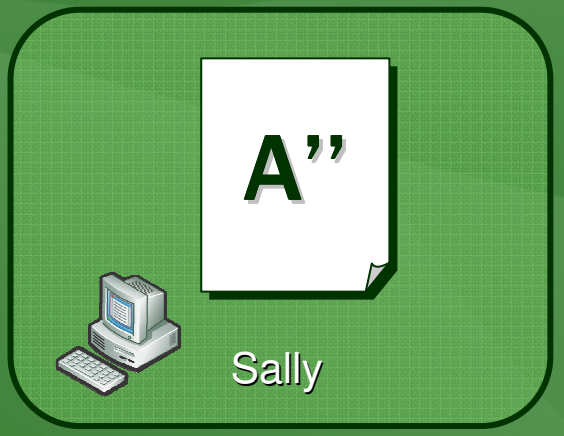

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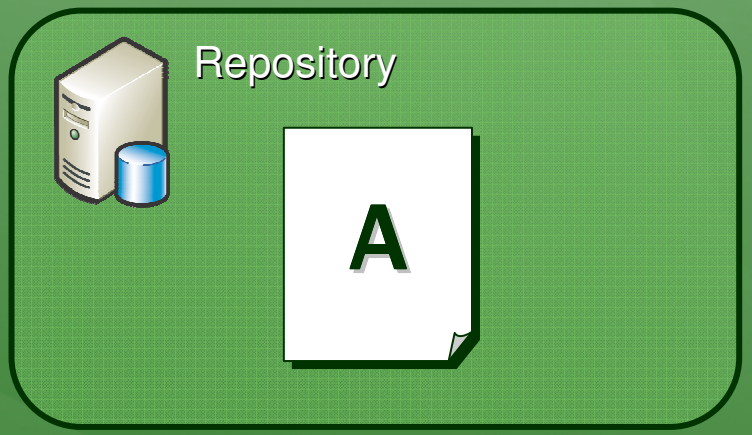

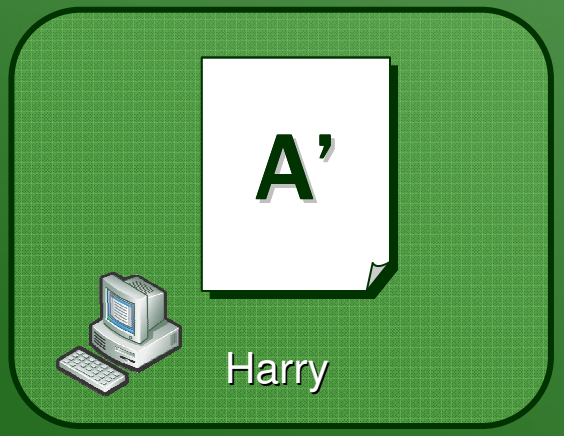

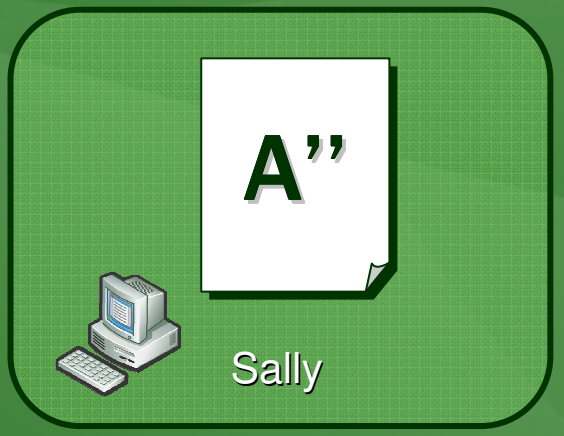

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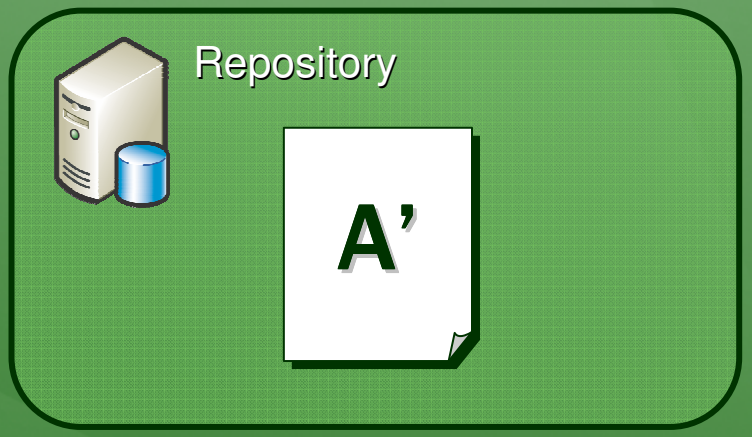

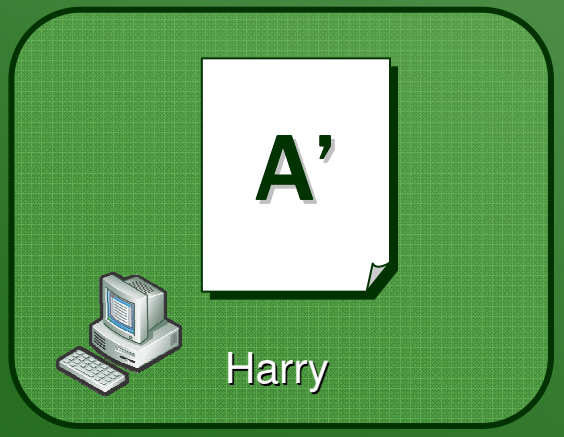

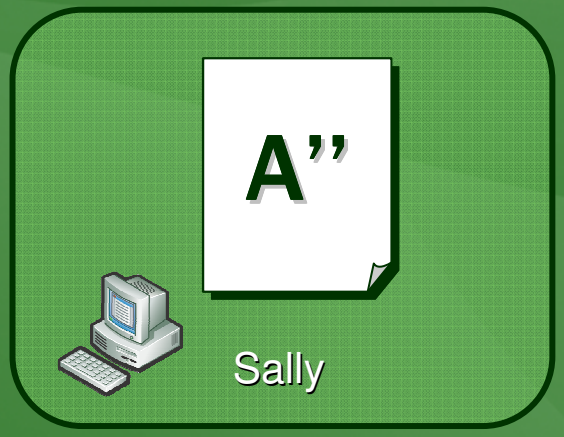

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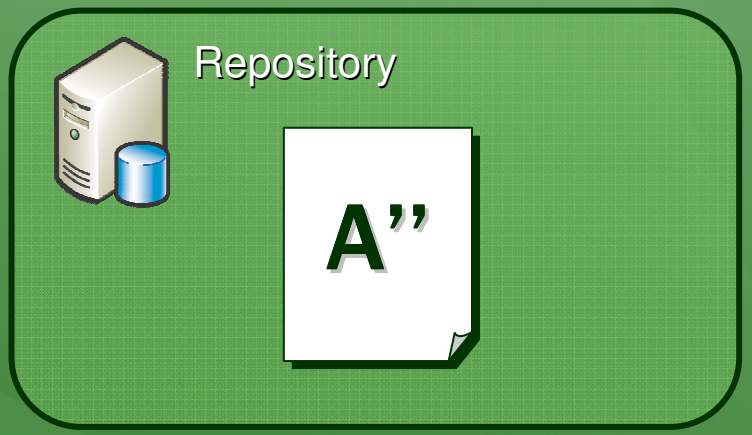
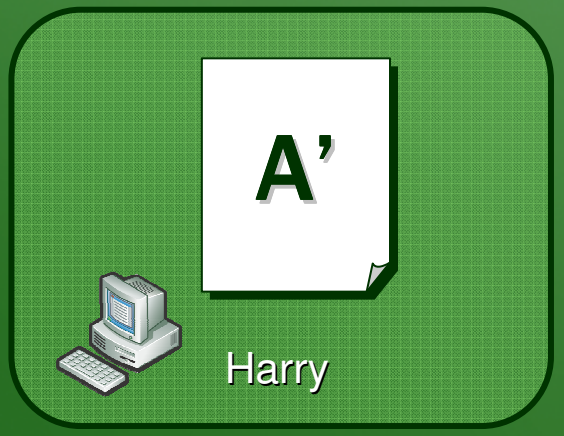
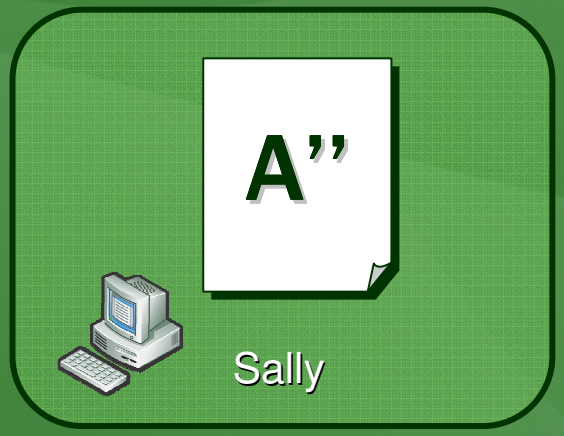
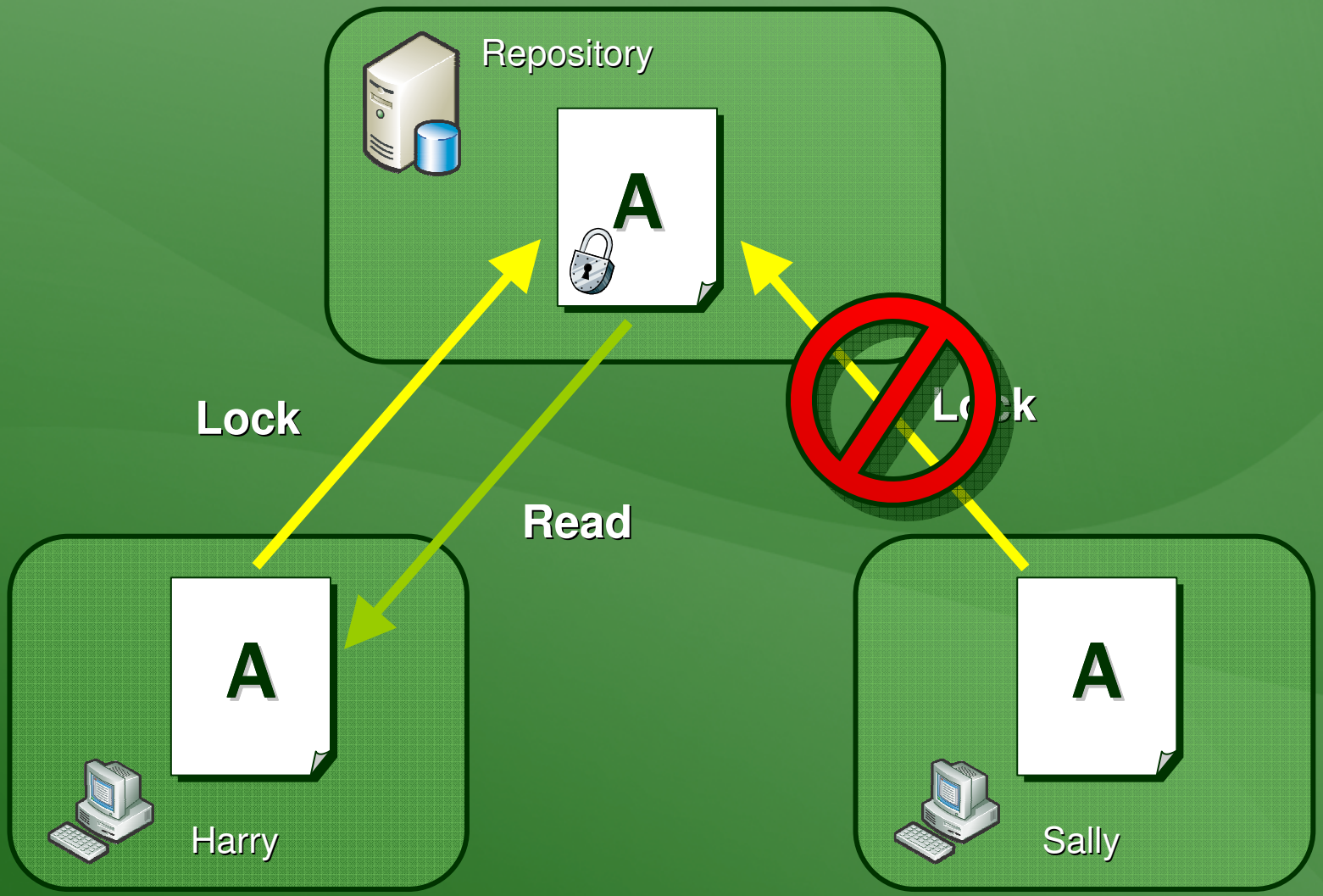






Lock, Modify, Unlock Model



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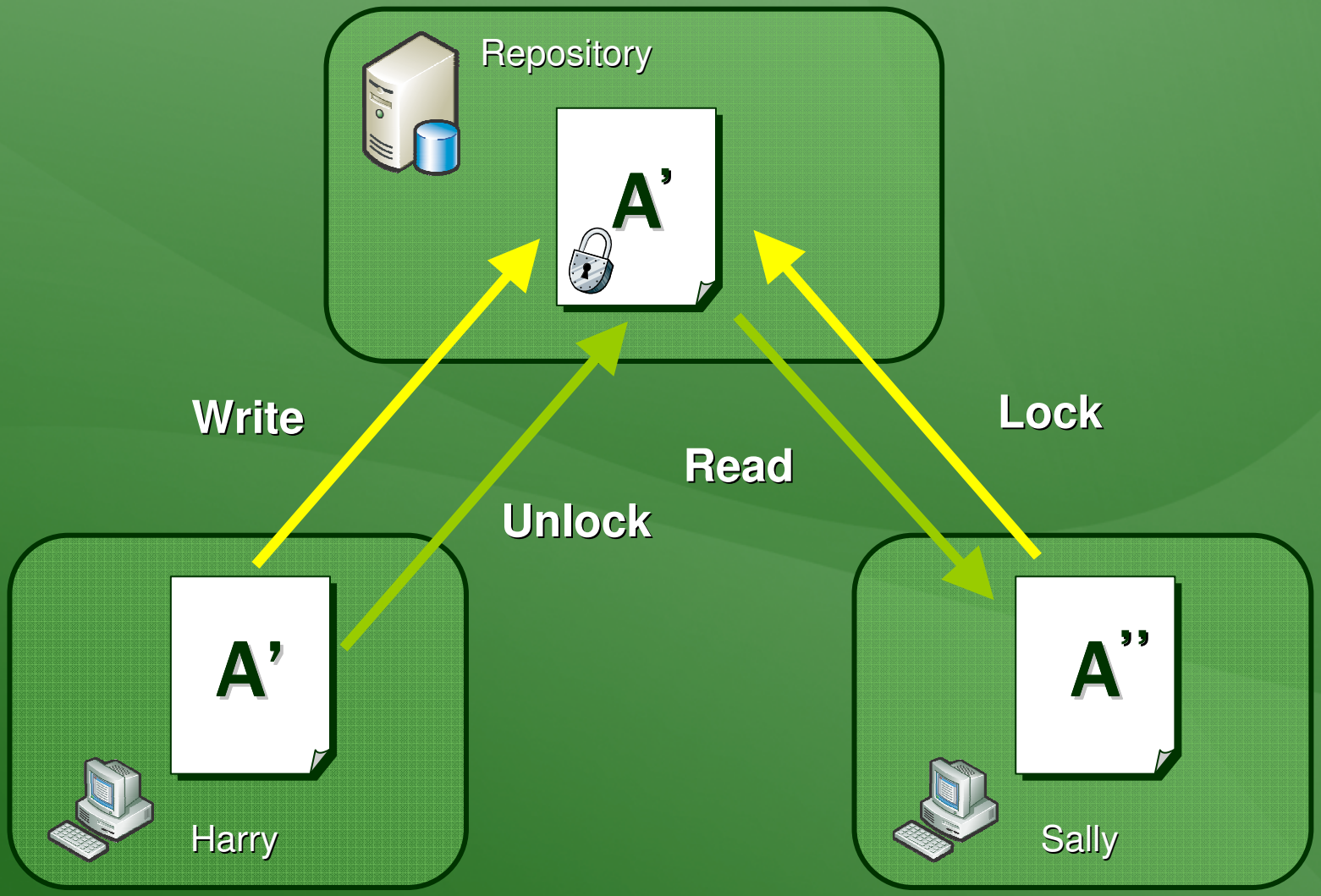
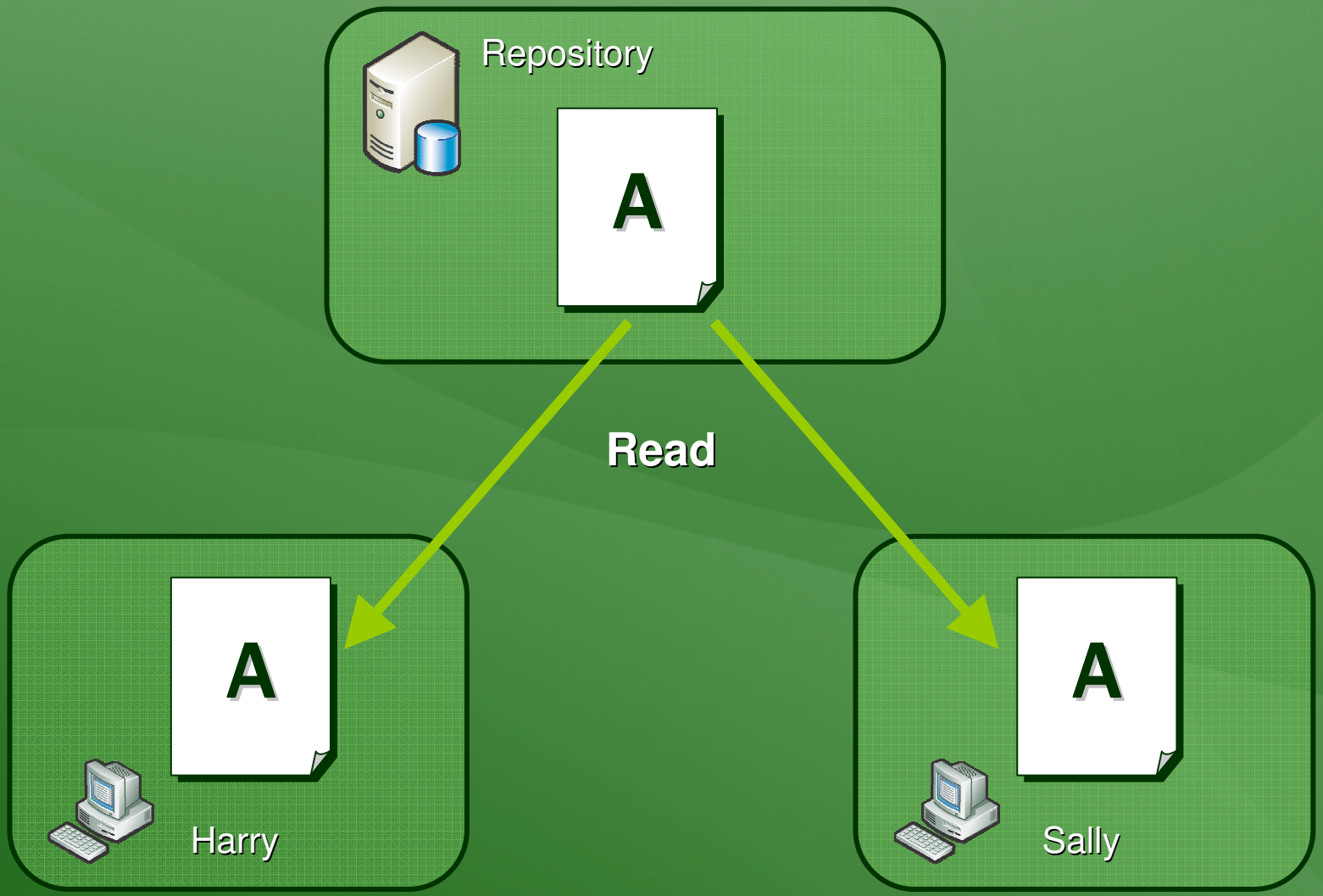


Best Practice

- Small frequent check-ins
- Do get latest between check-ins
- Communicate with the team
- Consider continuous integration
- Consider branching techniques

Copy, Modify, Merge Model



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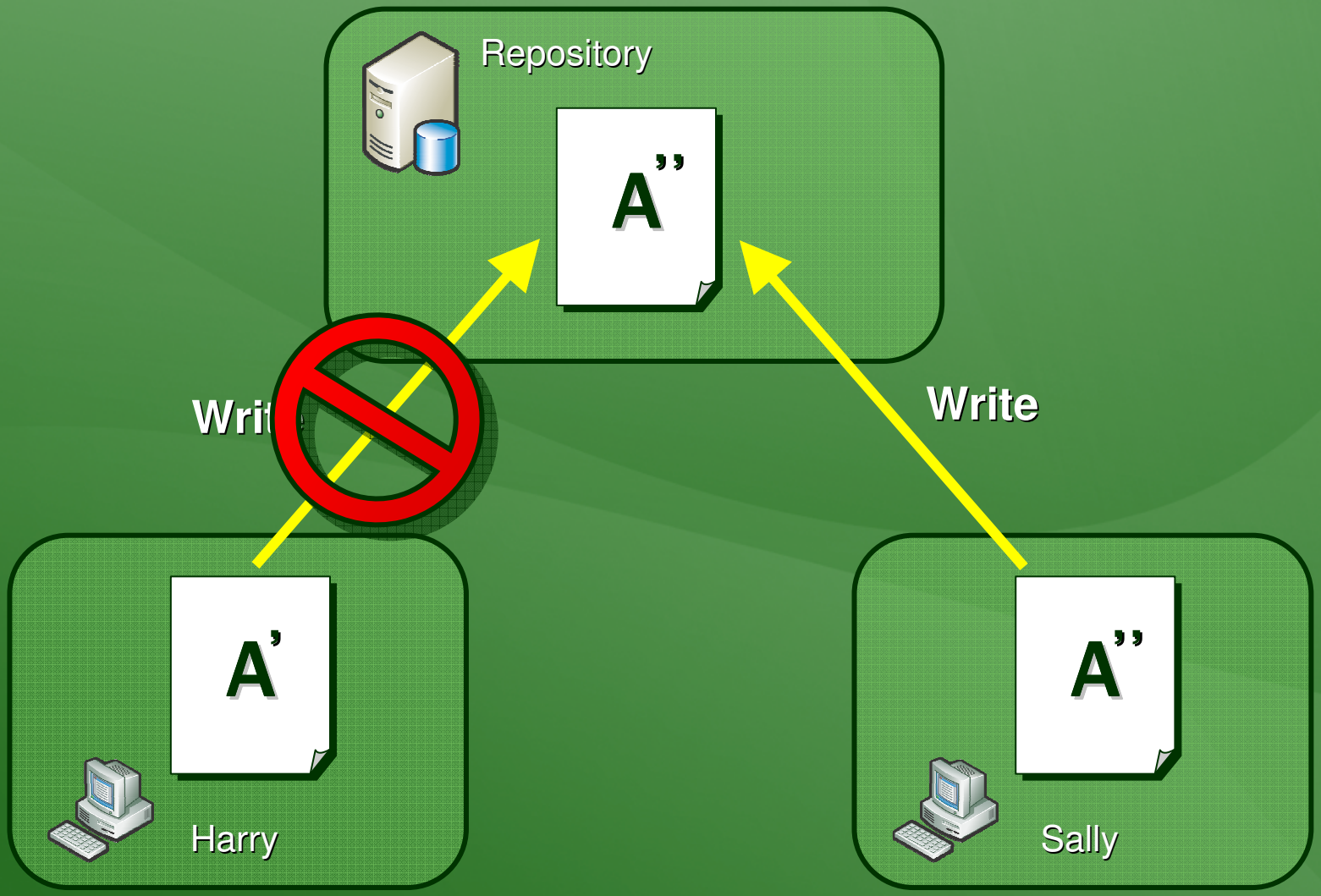

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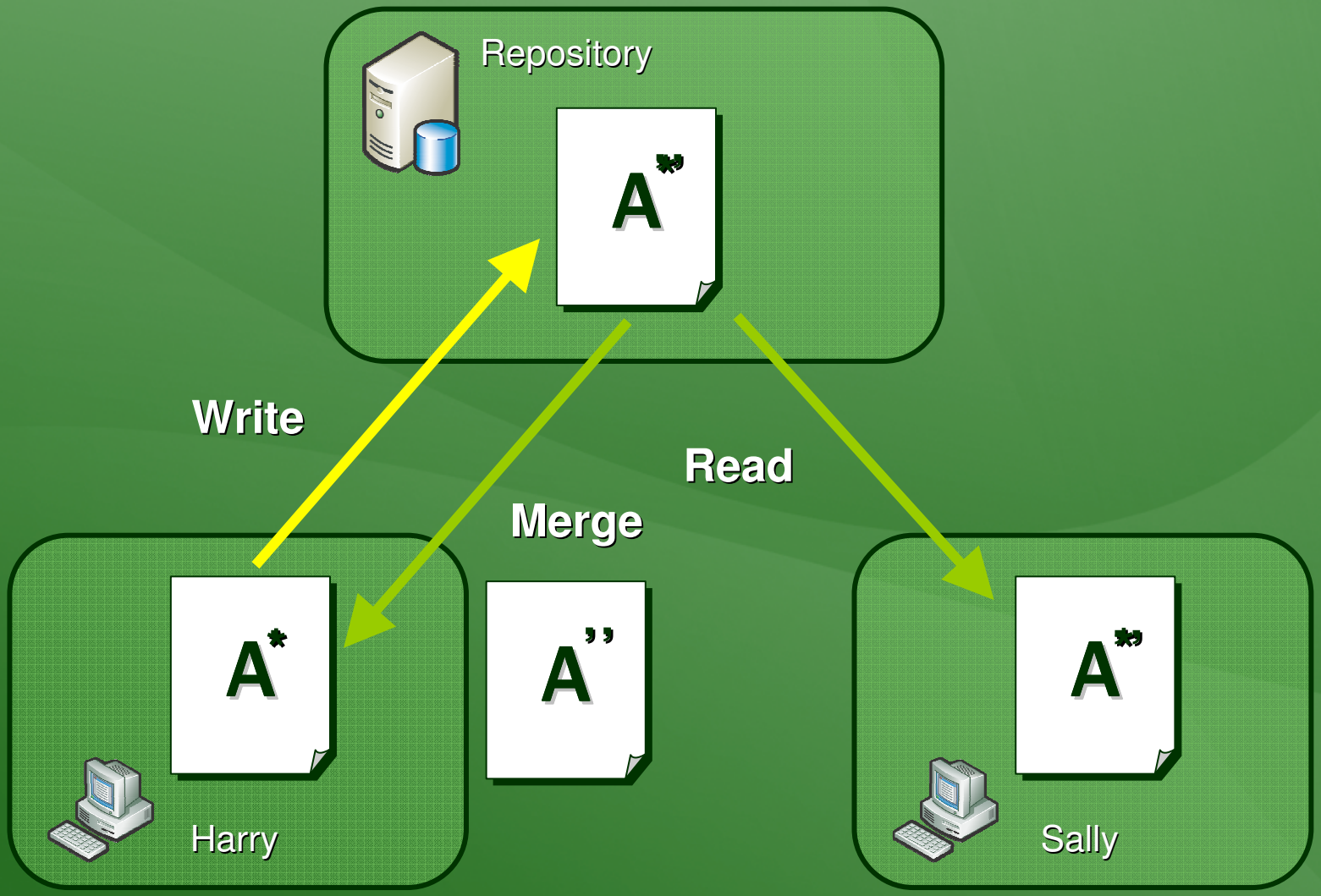


Team Foundation Server Model

- Lock types:-
  - None
  - Check – out
  - Check – in

TFS Concepts: Workspace

"Your client-side copy of the files and folders on the source control server."

TFS Concepts: Changeset

"A logical container in which Team Foundation stores everything related to a single check-in operation"

demo

Basic source control with Team Foundation Server

Key Features

- Atomic Check in
- Integrated with Visual Studio
- Eclipse and Cross-platform support
  (via partner)
- Work Item Integration
- Customizable Check in Behavior
- WAN Support
- Large File Support (>4GB)
- Shelving

Team System VC vs VSS

	VSS	Team System
Full Get	1.5 hours	7.5 minutes
Get Latest	15 minutes	3 seconds
Right Click	3.5 seconds	0 Seconds
Navigate	4.5 Seconds	0 Seconds

Proxy

X 28

Microsoft "Dogfooding" Version Control

Version Control Users:	864
Number of Files/Folders:	1,507,247/178,953
Compressed File Size:	95.2 GB
Workspaces:	1,770
Workspace File Versions:	48.9 Million
Changesets:	32,573
Pending Changes:	57,278
Shelvesets:	2,458

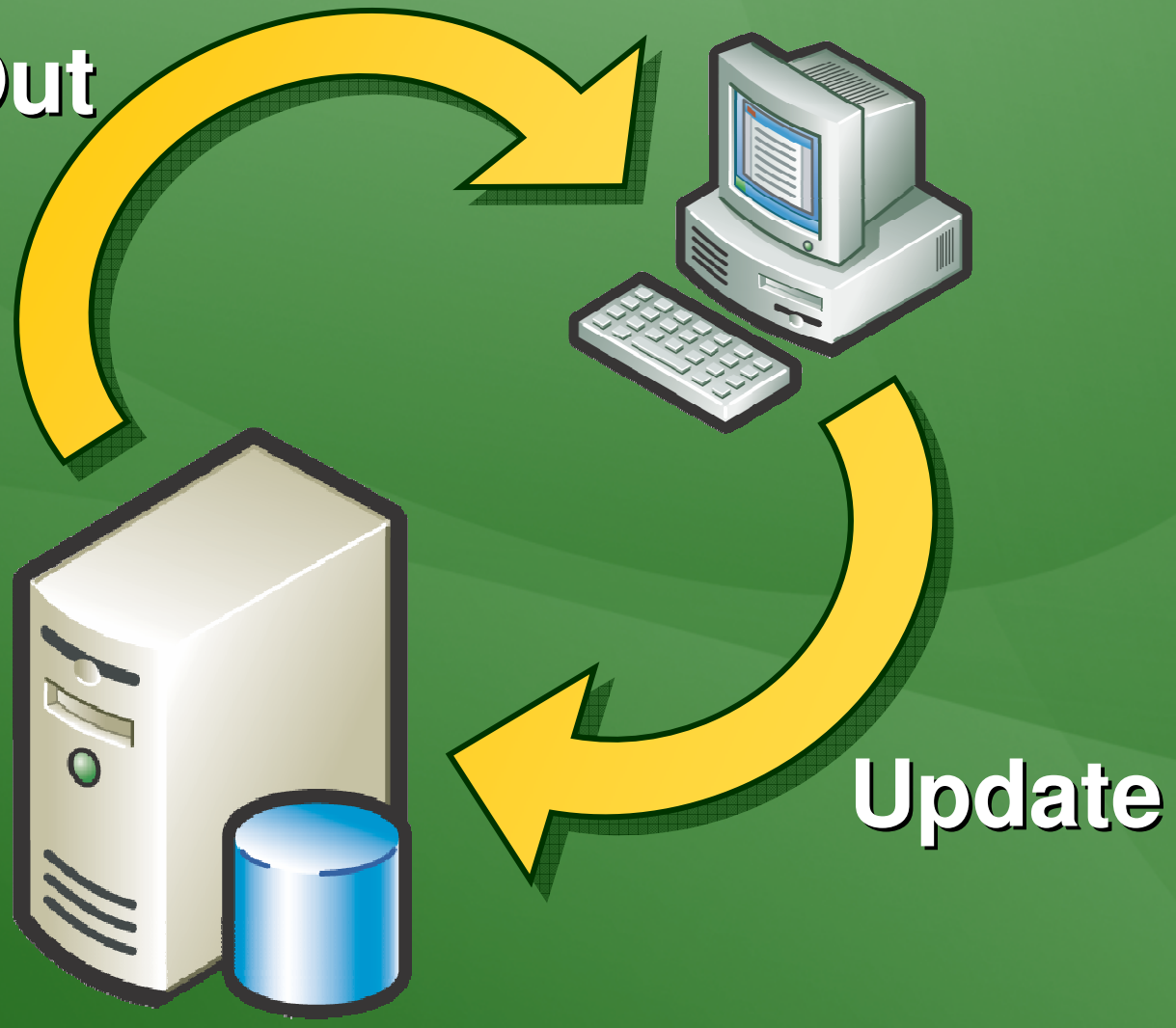
Source: http://blogs.msdn.com/buckh/archive/2006/03/22/brownbag.aspx

Capacity Planning

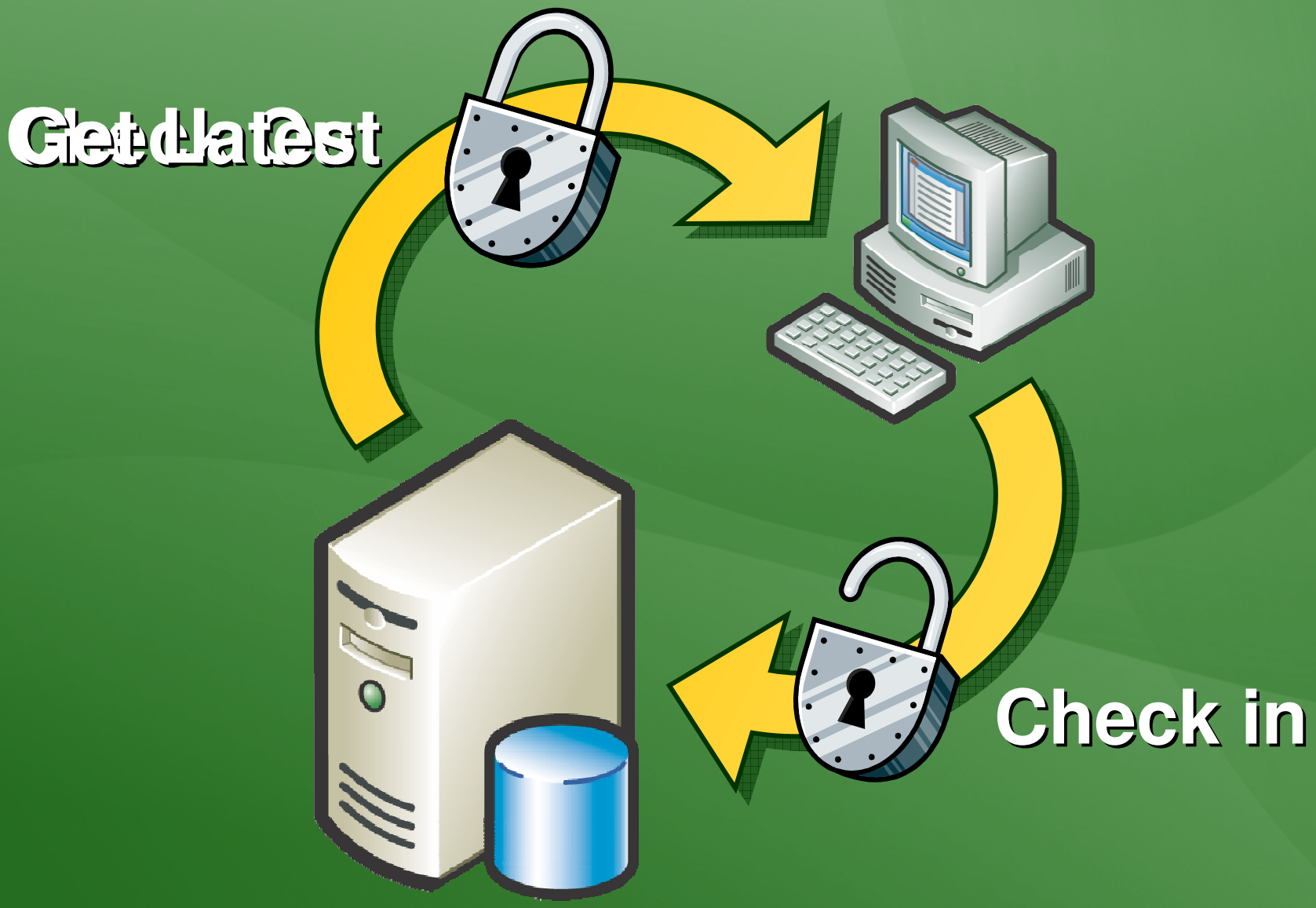
Team Size	TFS Config	Model	CPU	Memory	Disk
100	Single Server	Dell PowerEdge 1850	1 x 3.4Ghz	1GB	1 x 10k rpm SCSI
200	Single Server	Dell PowerEdge 1850	1 x 3.4Ghz	2GB	1 x 10k rpm SCSI
400	Single Server	Dell PowerEdge 1850	2 x 3.4Ghz	2GB	1 x 10k rpm SCSI
800	Dual Server	HP Proliant DL580 G2	AT: 1 x 2.8Ghz DT: 2 x 2.7Ghz	AT: 1GB DT: 4GB	12 x 15k SCSI Raid 0
2000	Dual Server	HP Proliant DL580 G2	AT: 1 x 2.8Ghz DT: 4 x 2.7Ghz	AT: 1GB DT: 16GB	12 x 15k SCSI Raid 0
3500	Dual Server	Dell PowerEdge 1850 Unisys ES7000/600	AT: 2 x 2.8Ghz DT: 8 x 2.8Ghz	AT: 4GB DT: 32GB	XIOTech SAN (2TB, RAID 10)

Source: http://blogs.msdn.com/bharry/archive/2006/01/04/509314.aspx

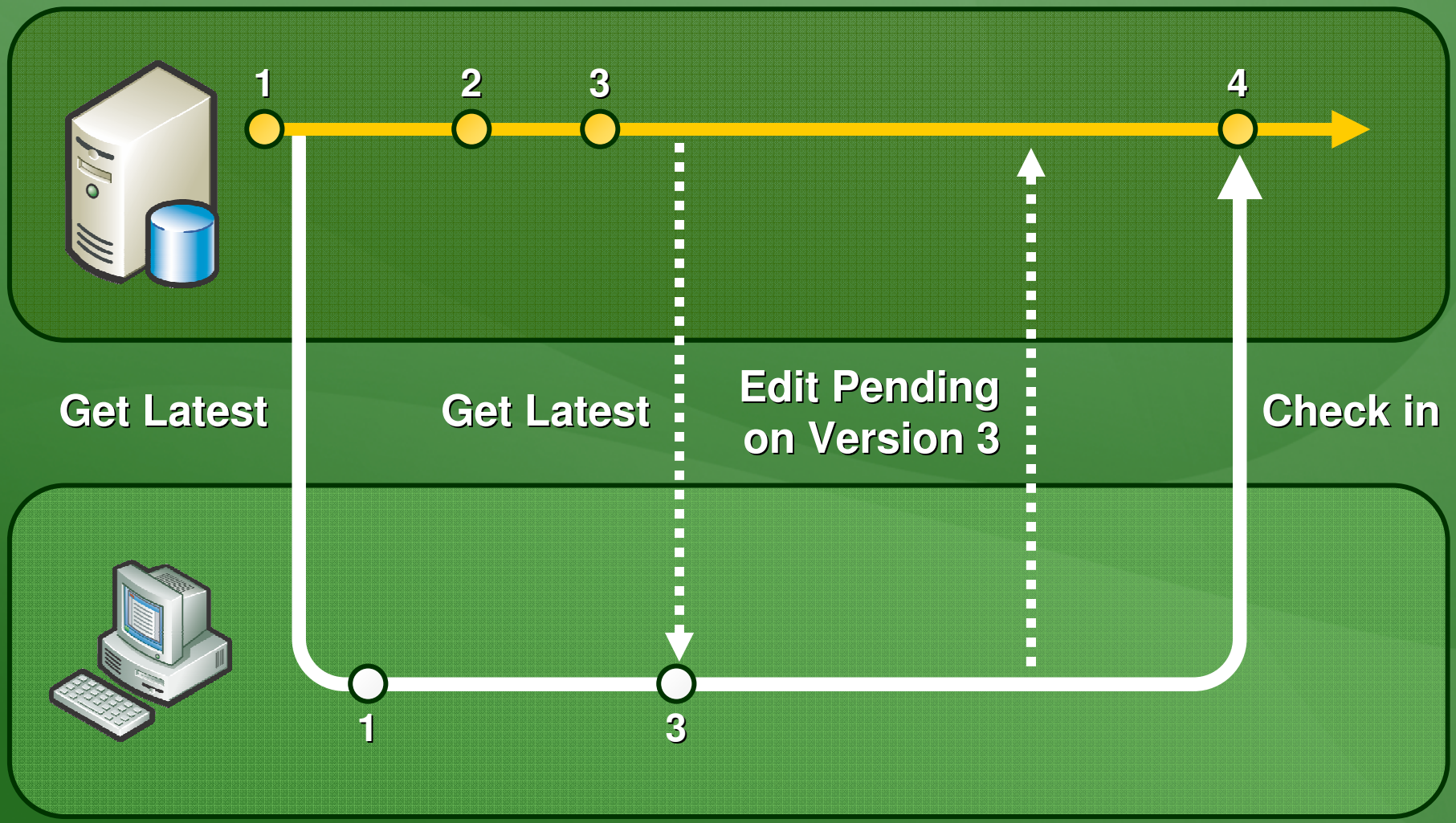
Terminology – CVS / Subversion



Terminology – VSS / TFS



Check out != Get Latest



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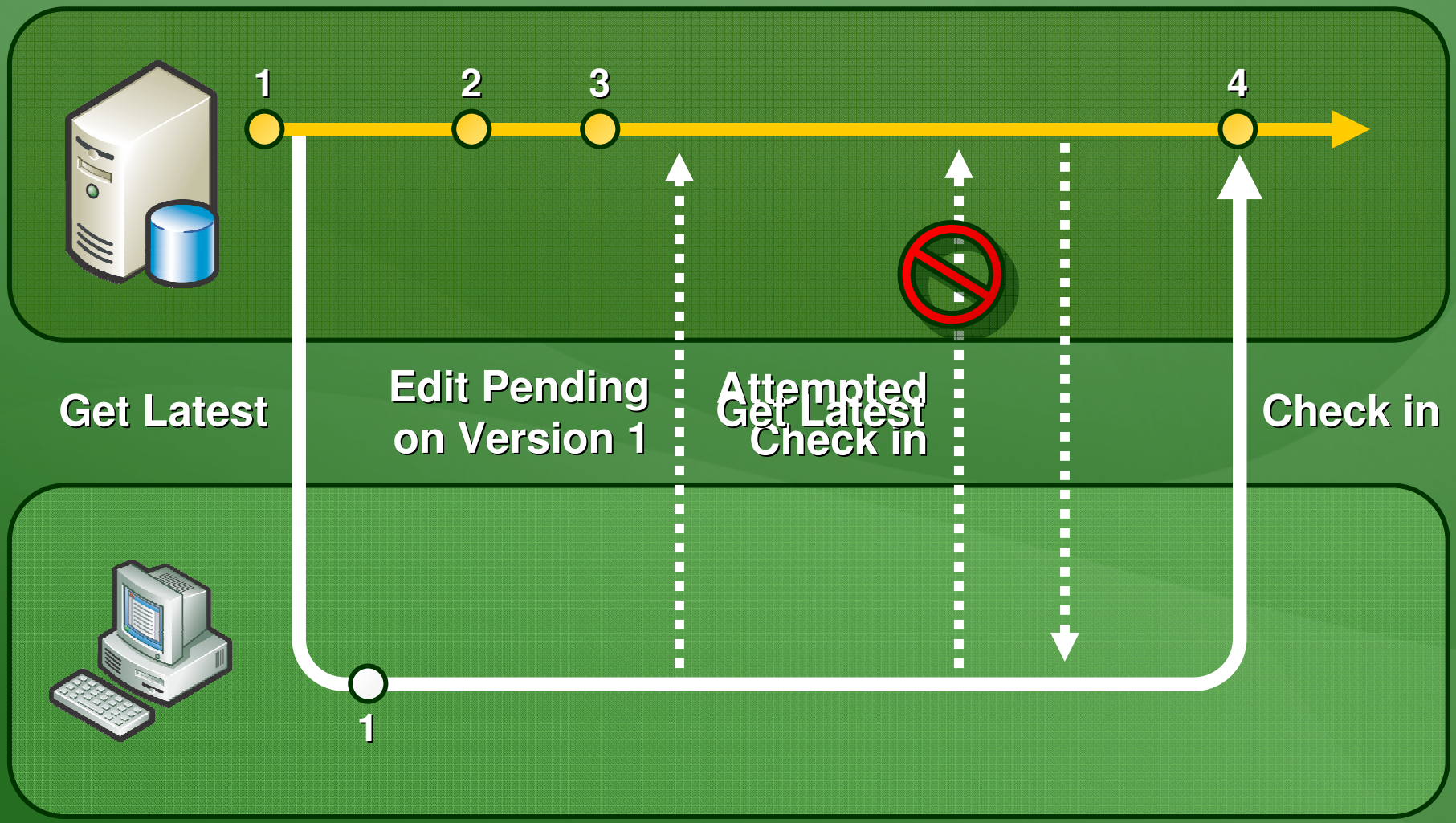
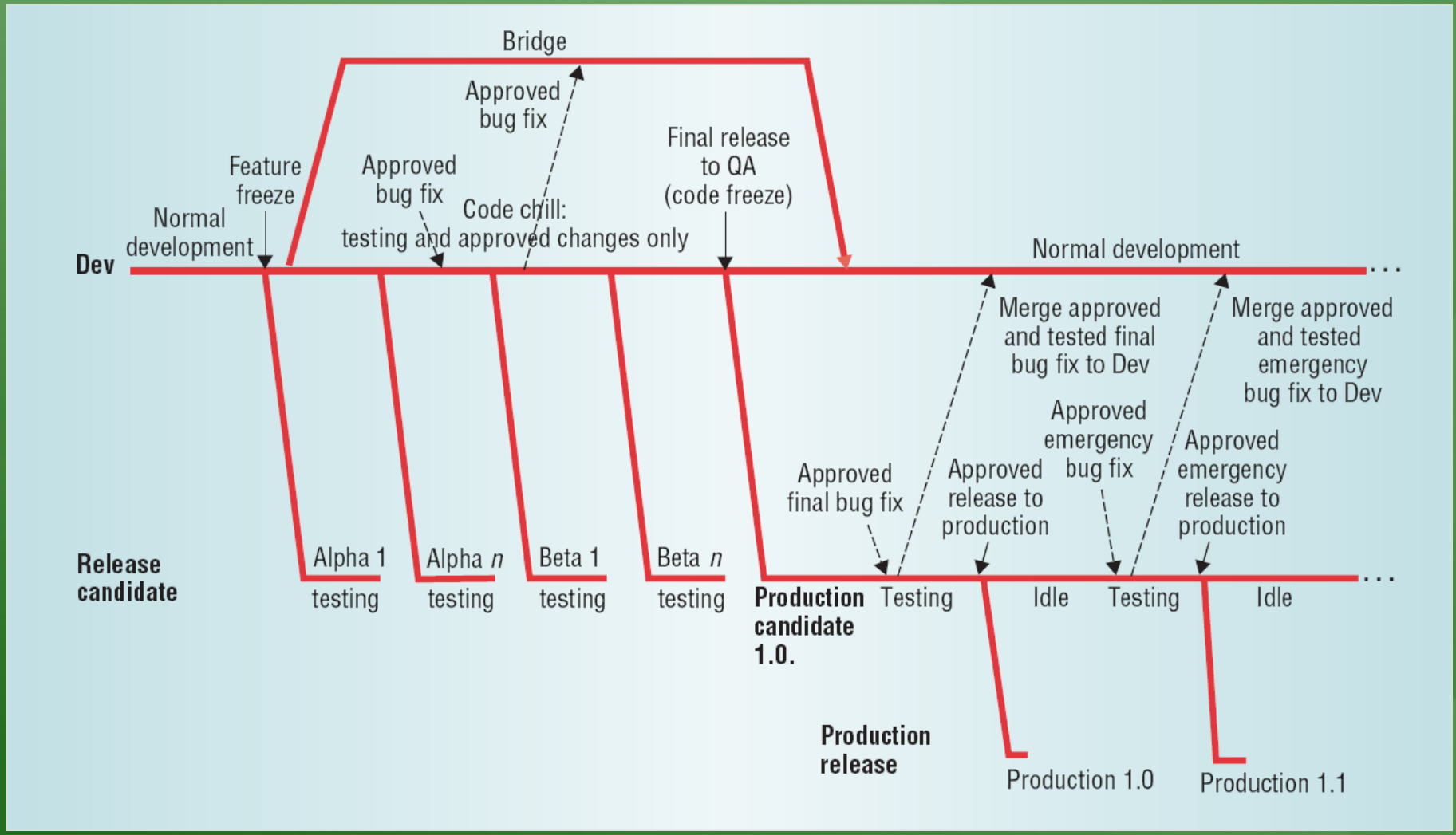


Branching and Merging



Source: http://downloads.seapine.com/pub/papers/SCMBranchingModels.pdf

TFS Branching Features

- Path-space branching
- Support for merging changes
- Branch from any point in history
- Cherry Pick Changesets

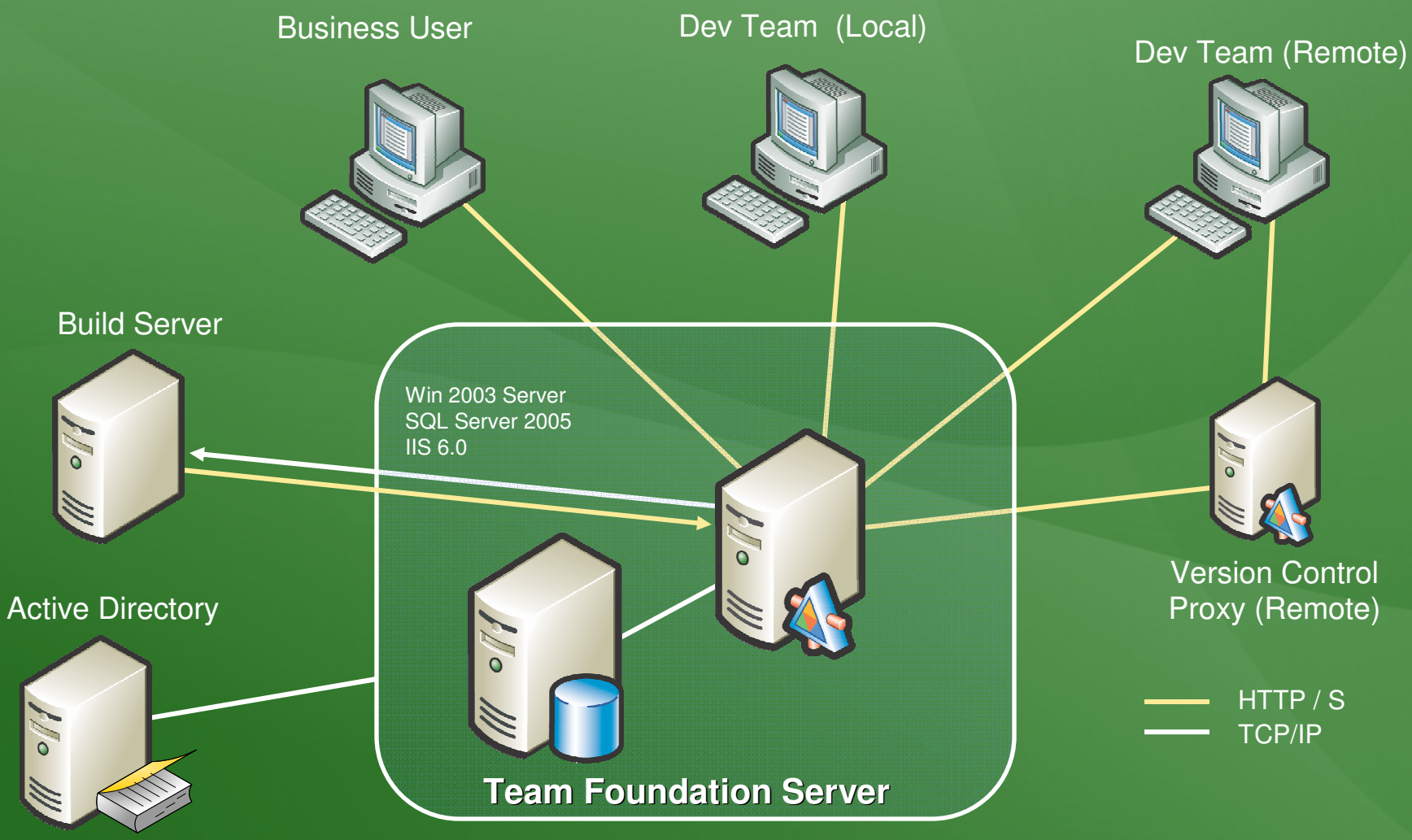
Shelving

- Put work on hold
- Can be thought of as temporary developer branch.

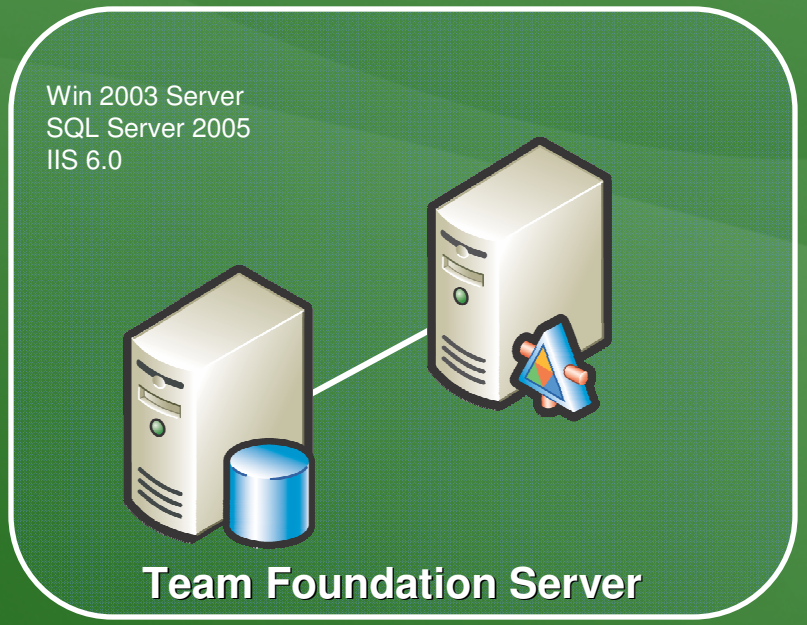
demo

Branching and Shelving with Team Foundation Server

Team System Deployment



Team Foundation Server Clients



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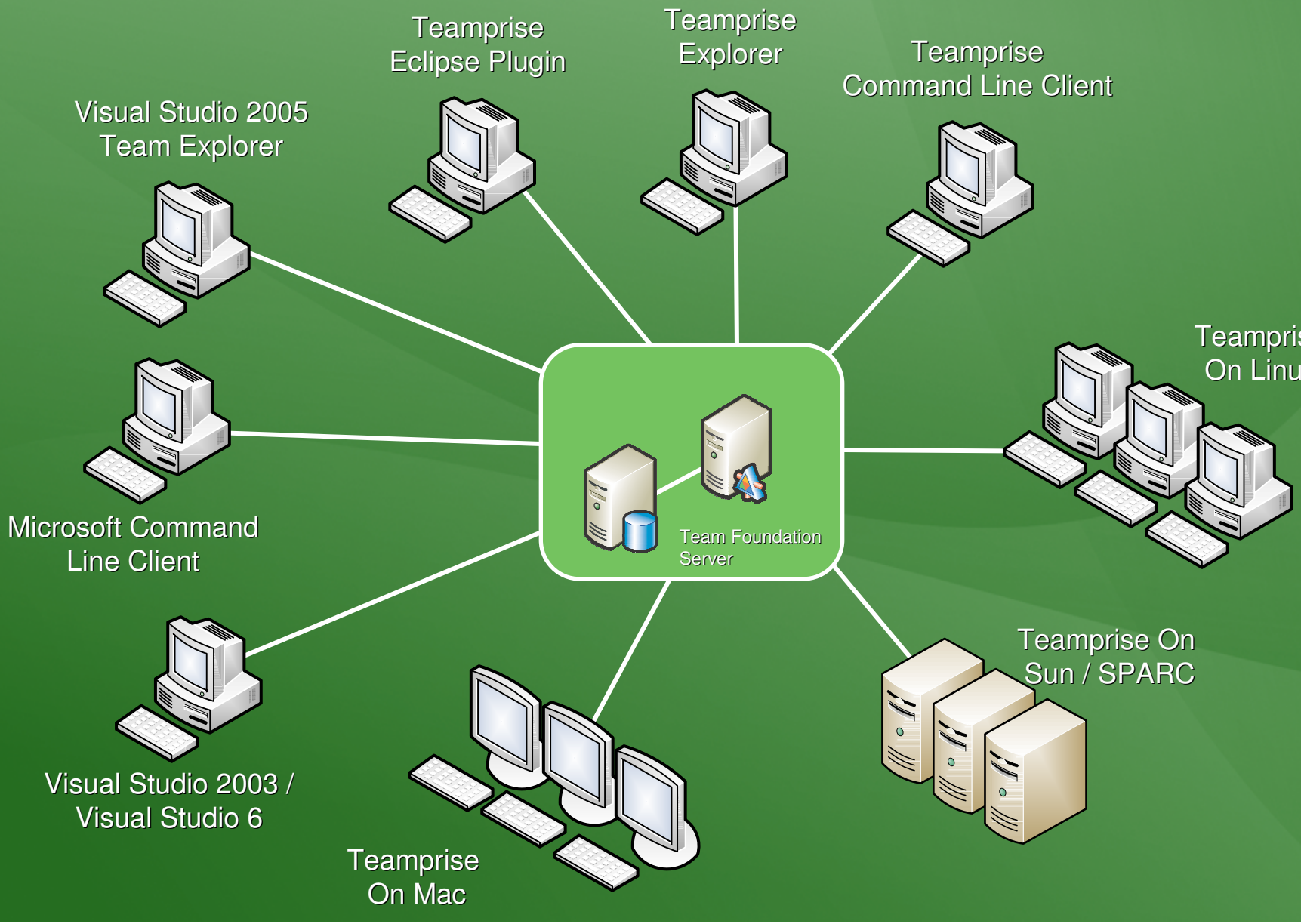

Learning More

- Eric Sink's Source Control HOWTO
  http://software.ericsink.com/scm/
- Subversion Book
  http://svnbook.red-bean.com
- Rob Caron's Blog:
  http://blogs.msdn.com/robcaron
- Team System Rocks:
  http://www.teamsystemrocks.com
- Microsoft
  http://www.microsoft.com/teamsystem
- CruiseControl.NET
  http://ccnet.thoughtworks.com

Question and Answer

Martin Woodward
Senior Software Engineer
Teamprise

martin@teamprise.com
www.teamprise.com

Blog: http://www.woodwardweb.com