

CONTINUOUS DELIVERY: TALES FROM WINDOWS LAND

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ThoughtWorks



LEEDS

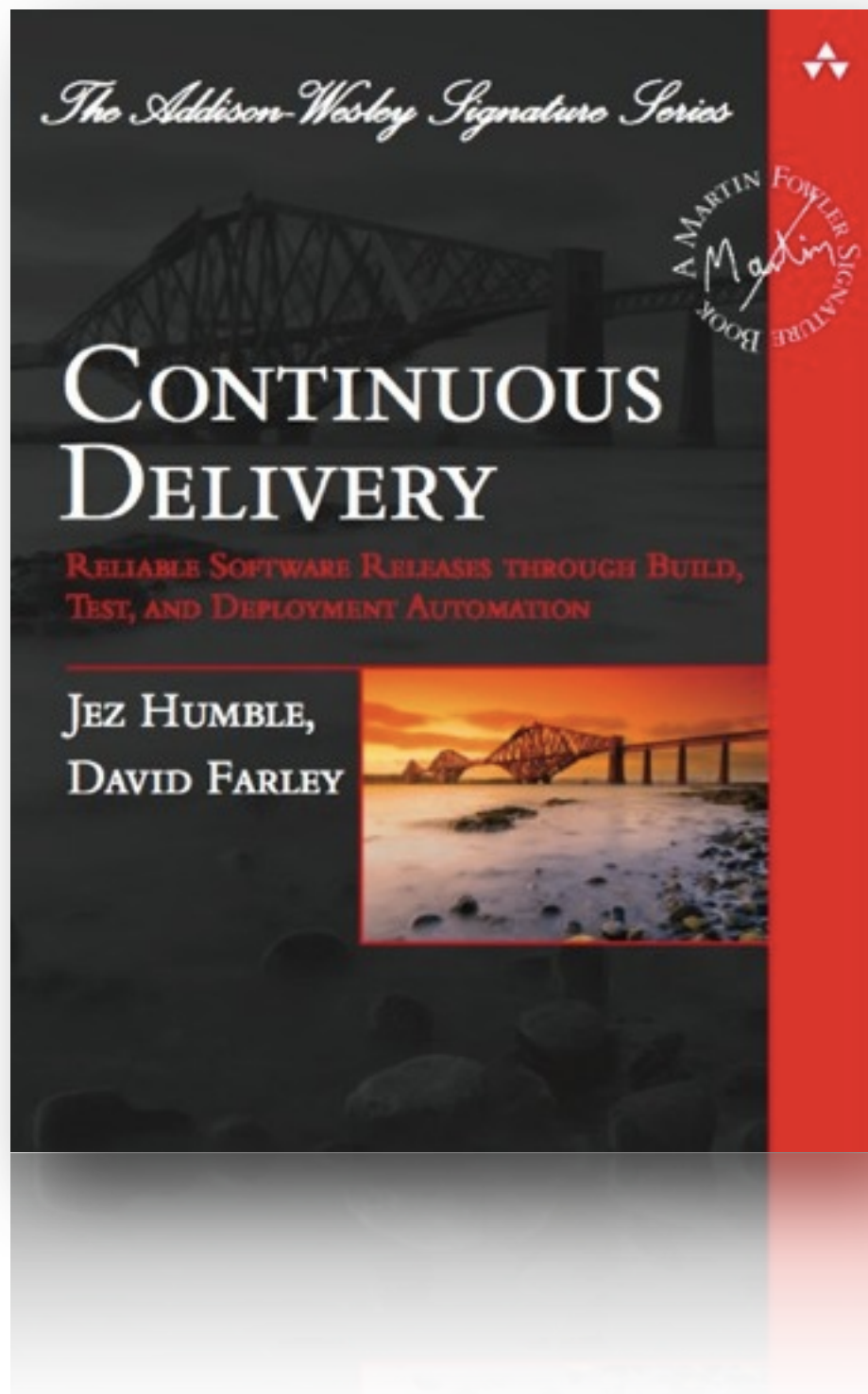
JOHANNESBURG

Mercator



Just use linux...

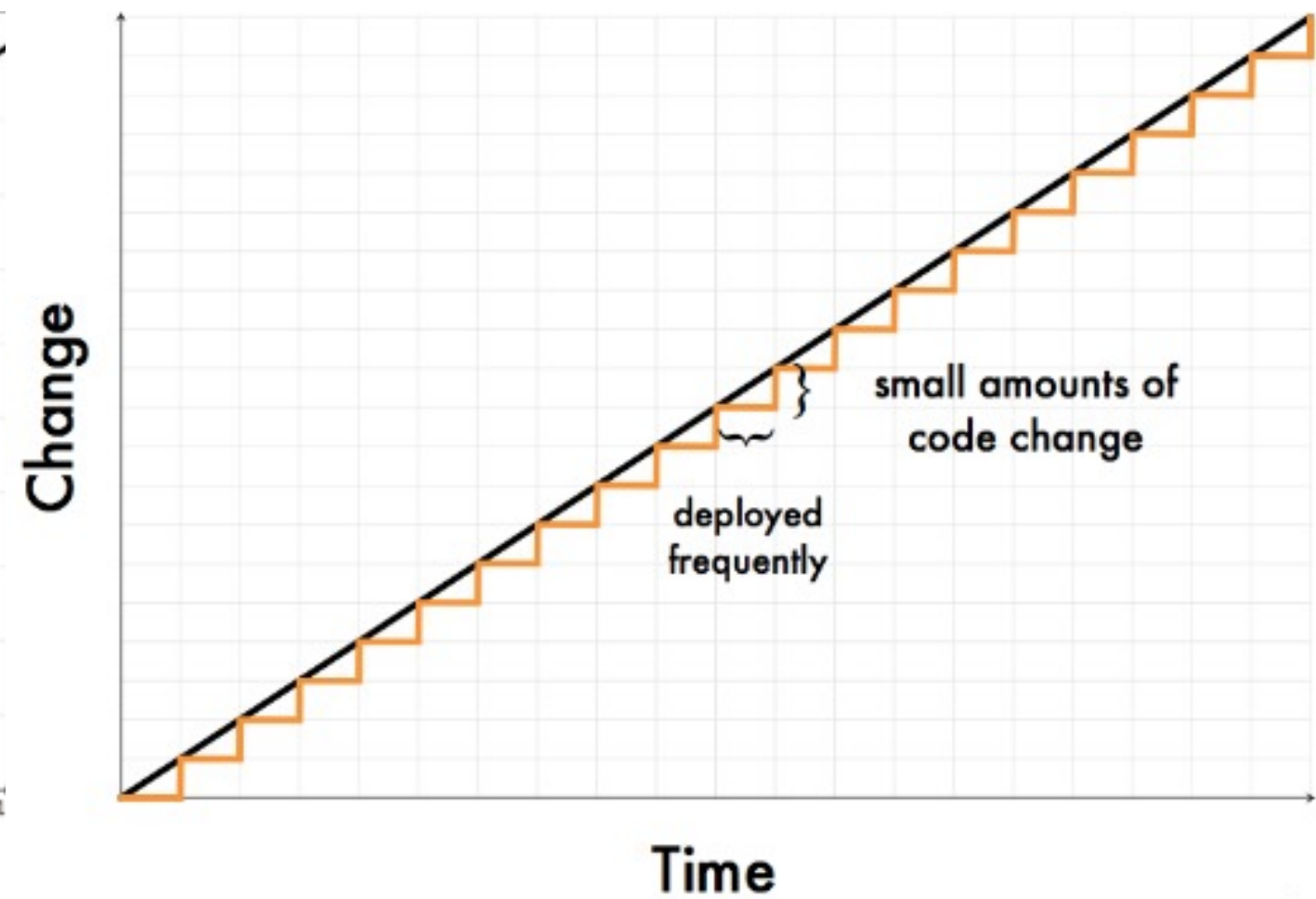
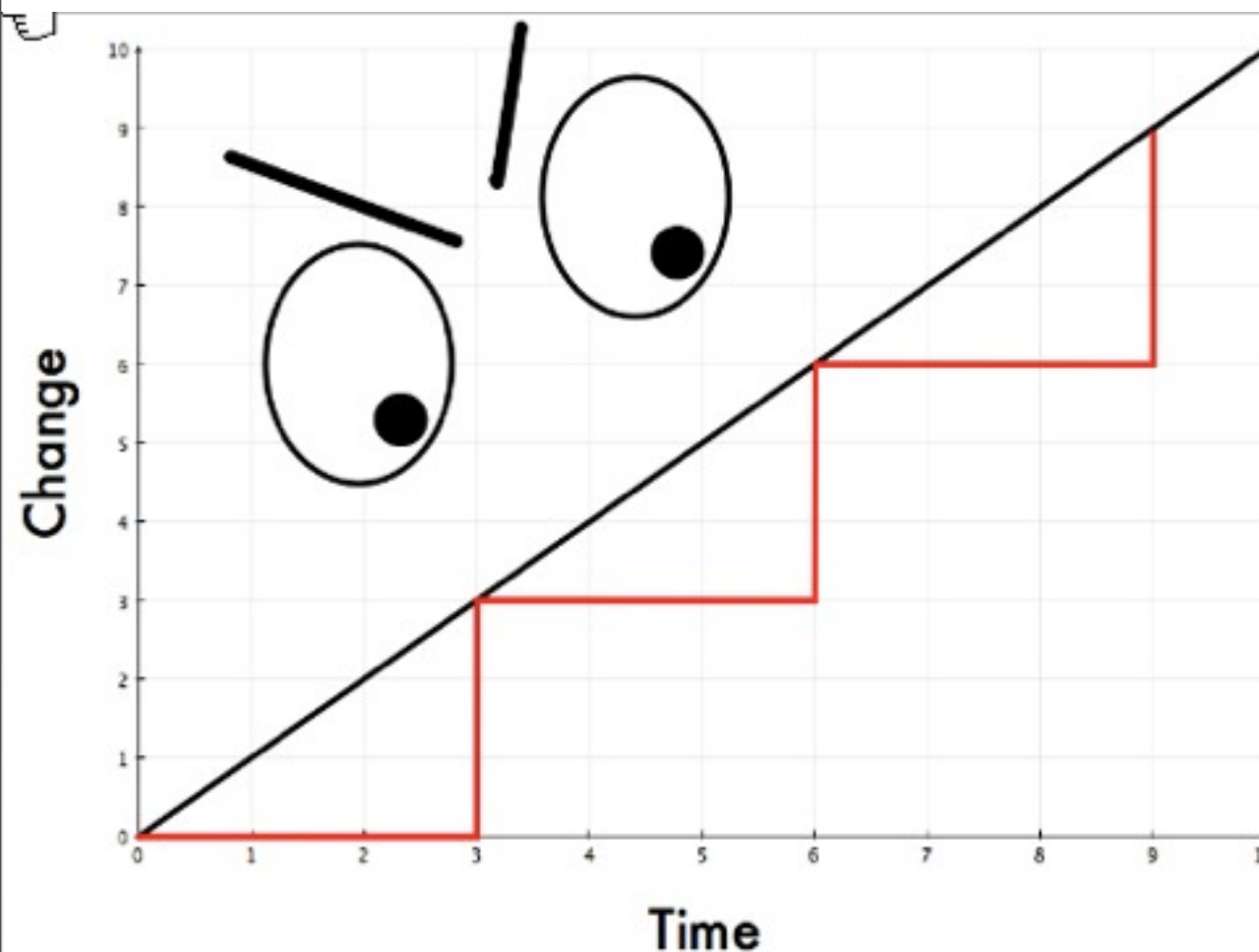
Continuous Delivery



Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

releasing frequently

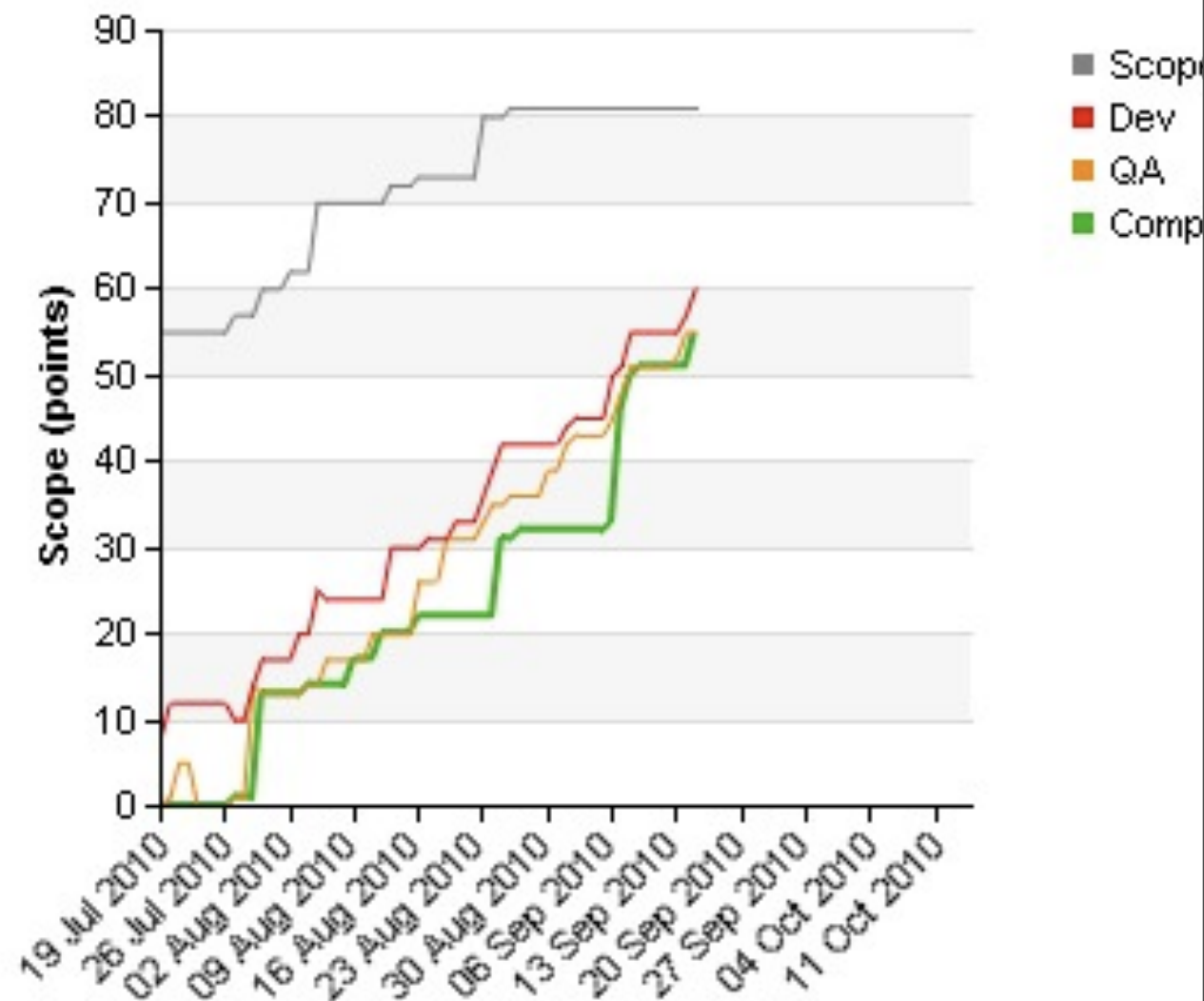
feedback from users
reduce risk of release



John Allspaw: "Ops Metametrics" <http://slidesha.re/dsSZlr>

releasing frequently

feedback from users
reduce risk of release
real project progress



CD is BIG!

Organisational Alignment

Release Management

Architecture

**Quality
Assurance**

**Continuous
Integration**

**Configuration
Management**

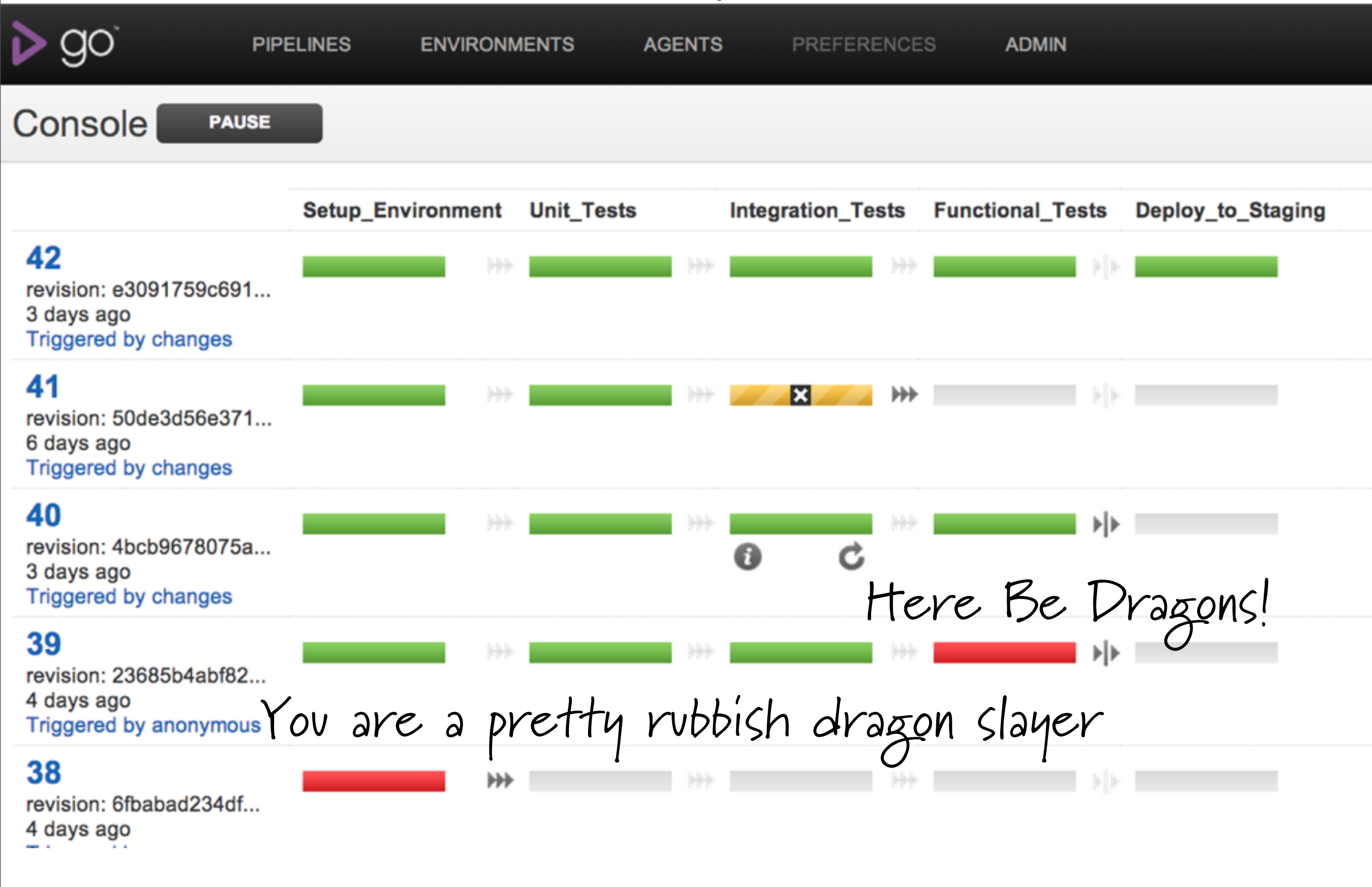
**Data
Management**

**Environments
& Deployment**

We will talk about...

- Build
- Deploy
- Provisioning Environments


Build and Deployment Pipeline



Here Be Dragons!

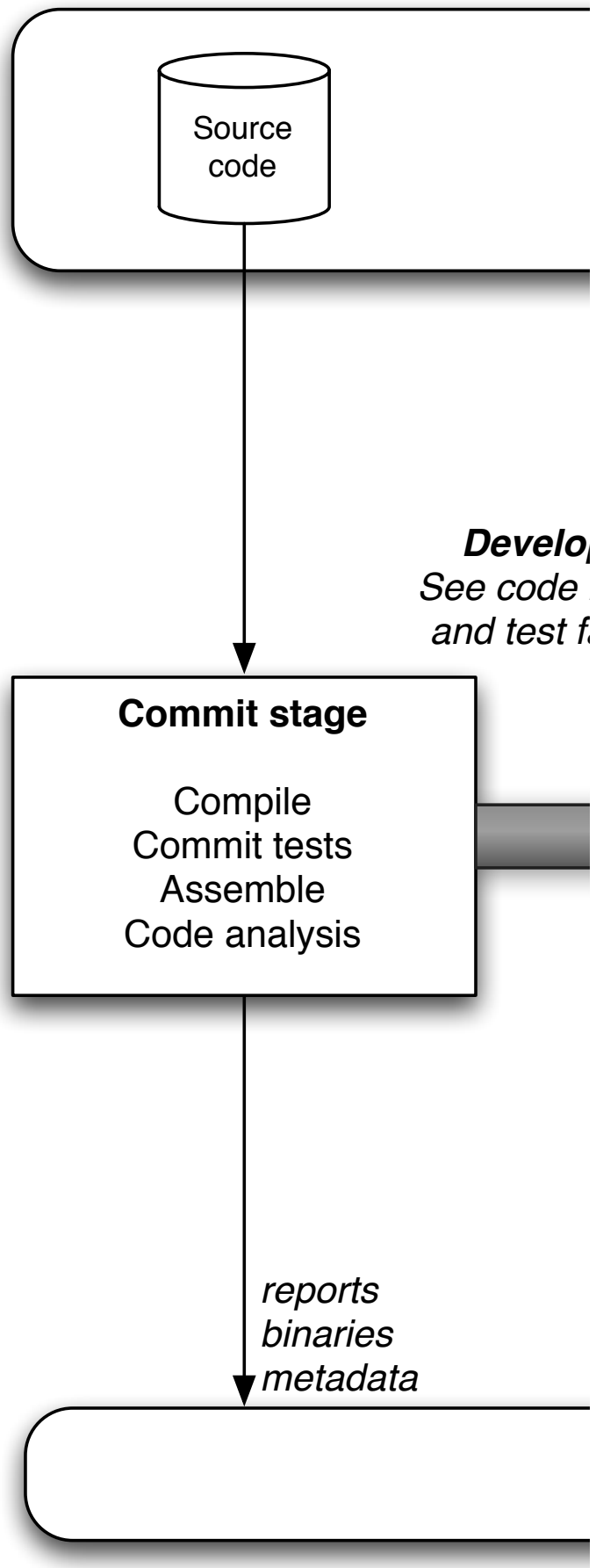
You are a pretty rubbish dragon slayer

Build

 PIPELINES ENVIRONMENTS AGENTS PREFERENCES ADMIN

Console PAUSE

	Setup_Environment	Unit_Tests	Integration_Tests	Functional_Tests	Deploy_to_Staging
42 revision: e3091759c691... 3 days ago Triggered by changes	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
41 revision: 50de3d56e371... 6 days ago Triggered by changes	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
40 revision: 4bcb9678075a... 3 days ago Triggered by changes	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
39 revision: 23685b4abf82... 4 days ago Triggered by anonymous	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
38 revision: 6fbabad234df... 4 days ago	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>



Commit

Story time

A little story about TFS...

SCM:

Server side merging & no local commits

Team Build:

no pipeline support

difficult to adjust build step definitions

Compile and unit test

```
<Variable x:typeArguments="scg:IEnumerable(x:String)" Name="symbolFiles" />
</mtbwa:InvokeForReason.Variables>
<mtbwa:FindMatchingFiles DisplayName="Find Symbol Files" sap:VirtualizedContainerService.HintSize="543,22"
<If Condition="[SourceAndSymbolServerSettings.IndexSources]" DisplayName="If SourceAndSymbolServerSettings.
<If.Then>
  <TryCatch DisplayName="Try Index Sources" sap:VirtualizedContainerService.HintSize="418,468" mtbwt:Buil
    <TryCatch.Try>
      <mtbwa:IndexSources DisplayName="Index Sources" FileList="[symbolFiles]" sap:VirtualizedContainerSe
    </TryCatch.Try>
    <TryCatch.Catches>
      <Catch x:typeArguments="s:Exception" sap:VirtualizedContainerService.HintSize="404,106">
        <sap:WorkflowViewStateService.ViewState>
          <scg:Dictionary x:typeArguments="x:String, x:Object">
            <x:Boolean x:Key="IsExpanded">False</x:Boolean>
          </scg:Dictionary>
        </sap:WorkflowViewStateService.ViewState>
        <ActivityAction x:typeArguments="s:Exception">
          <ActivityAction.Argument>
            <DelegateInArgument x:typeArguments="s:Exception" Name="exception" />
          </ActivityAction.Argument>
          <mtbwa:WriteBuildError sap:VirtualizedContainerService.HintSize="398,75" Message="[exception.Me
        </ActivityAction>
      </Catch>
    </TryCatch.Catches>
  </TryCatch>
</If.Then>
</If>
<If Condition="[SourceAndSymbolServerSettings.HasSymbolStorePath]" DisplayName="If SourceAndSymbolServerSet
  <If.Then>
    <TryCatch DisplayName="Try Publish Symbols" sap:VirtualizedContainerService.HintSize="418,514" mtbwt:Bu
      <TryCatch.Try>
        <mtbwa:SharedResourceScope DisplayName="Synchronize Access to Symbol Store" sap:VirtualizedContaine
          <mtbwa:PublishSymbols DisplayName="Publish Symbols" FileList="[symbolFiles]" sap:VirtualizedConta
        </mtbwa:SharedResourceScope>
      </TryCatch.Try>
      <TryCatch.Catches>
        <Catch x:typeArguments="s:Exception" sap:VirtualizedContainerService.HintSize="404,106">
          <sap:WorkflowViewStateService.ViewState>
            <scg:Dictionary x:typeArguments="x:String, x:Object">
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            </scg:Dictionary>
          </sap:WorkflowViewStateService.ViewState>
        </Catch>
      </TryCatch.Catches>
    </TryCatch>
  </If.Then>
</If>
```

XML == YUK!

Compile and unit test

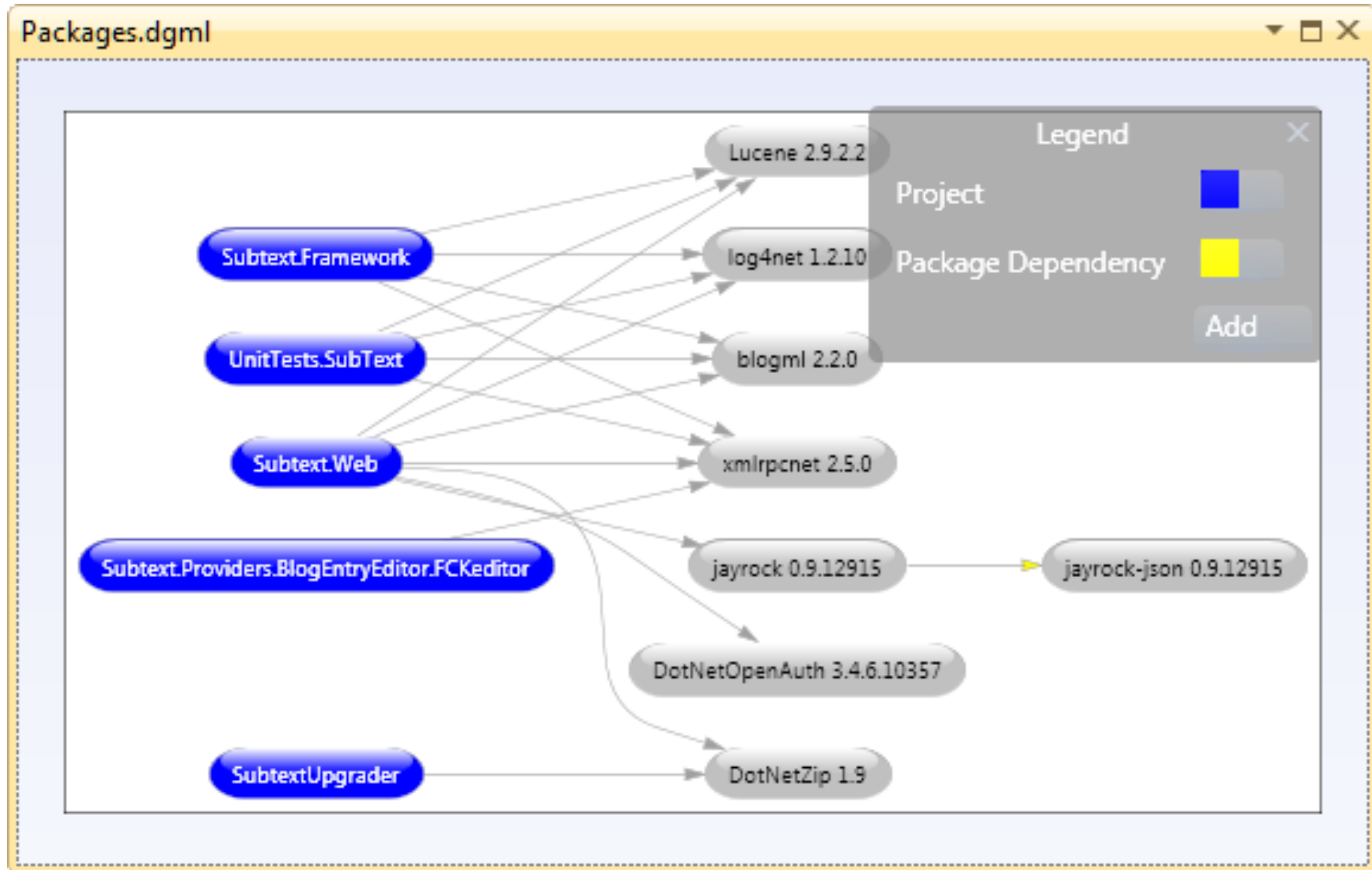
PowerShell

PSake

```
task default -depends Full
task Full -depends Backup, ListFiles, Commit
task Backup {
    Write-Host Backup
    gci d:\temp\code | ? { !$_.PsIsContainer } | copy-Item -destination d:\temp\codebak
}
task ListFiles {
    Write-Host Files list
    gci d:\temp\codebak | Select -exp FullName | sc d:\temp\codebak\files.txt
}
task Commit {
    Write-Host Commit
    Start-Process GitExtensions.exe -ArgumentList commit, d:\temp\codebak
}
```

Code === yay!

Package



Deployment




Provisioning boxes



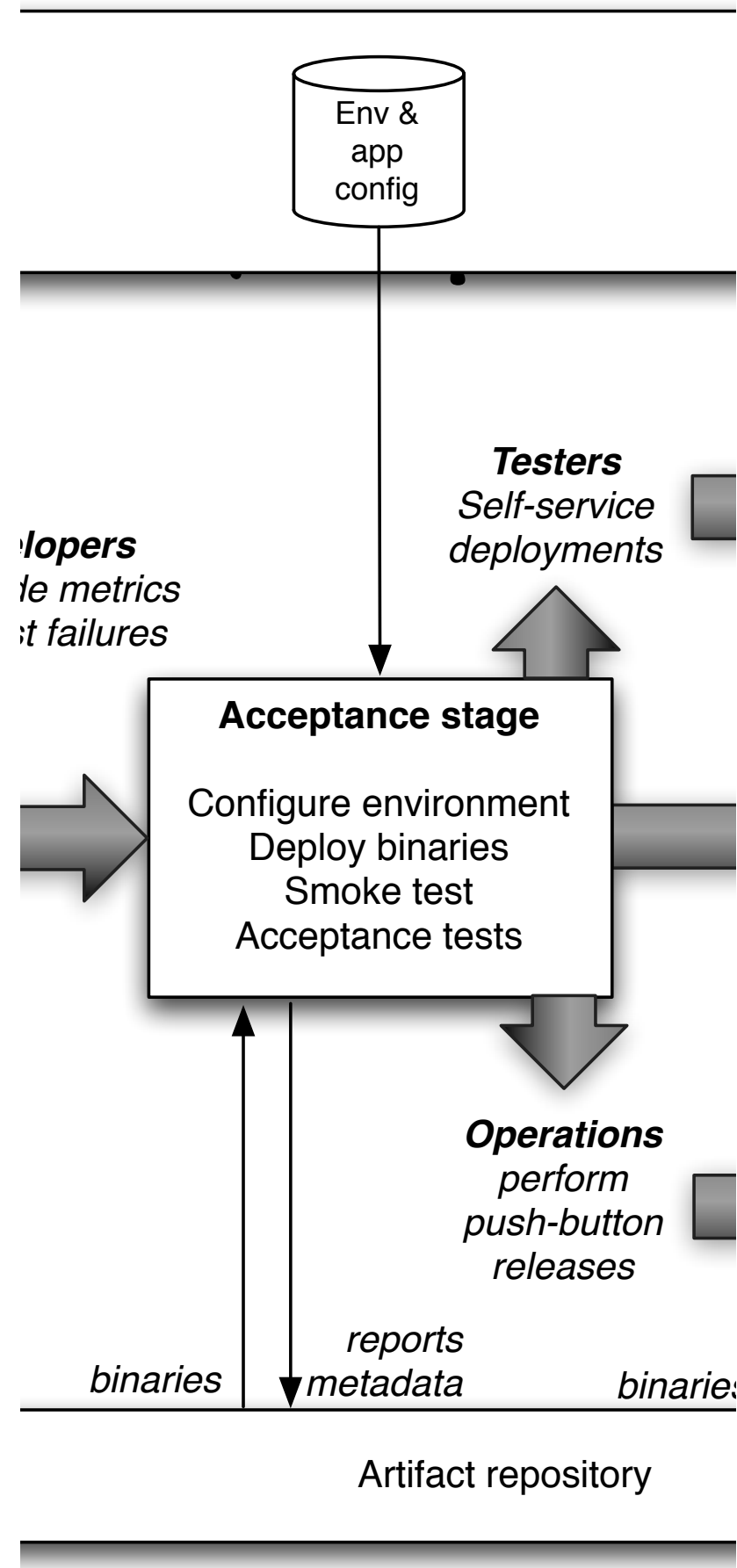
deployments

Build and Deployment Pipeline

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Deploy

Deployment

- MSDeploy

XML == YUK!

- PowerShell

```
# Get Yesterdays Date In Month, Day, Year format
$yesterday = ( Get-Date ( Get-Date ).AddDays(-1) -uformat %m%d%Y )

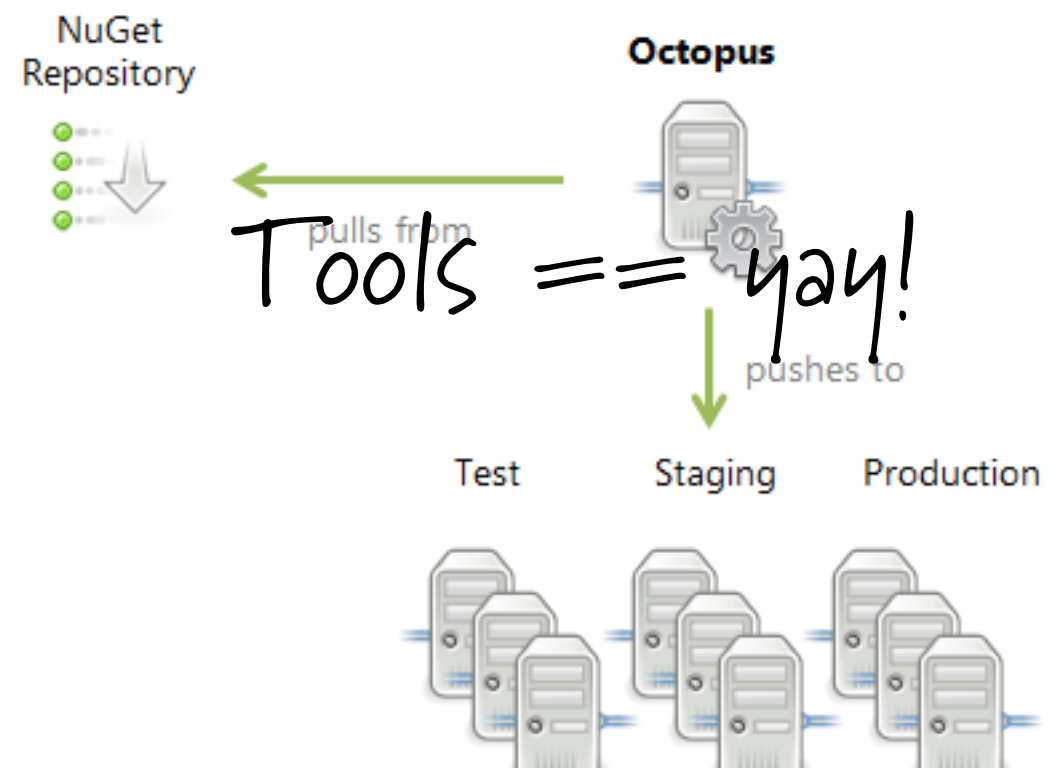
# Get the first 3 letters of the day name from yesterday
$logdate=[string](( Get-Date ).AddDays(-1).DayOfWeek ).Substring(0,3)

# Change path to DHCP log folder, copy yesterdays log file to backup location
Set-Location "C:\WINDOWS\System32\dhcp"
Copy-Item "DhcpSrvLog-$logdate.log" "D:\DHCPBACKUP"

# Rename log file with y
Set-Location "D:\DHCPBACKUP"
Rename-Item "DhcpSrvLog-$logdate.log" "DhcpSrvLog-$logdate-$y.log"
```

Code == yay!

- New Kids on the Block!



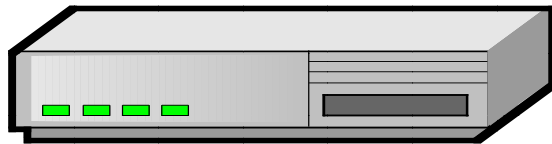
Tools == yay!

Deployment Pain

- One way to package to rule them all!
- So I have to install and configure this through the GUI?
- cmd line - c'mon!
- Package installs - where are you?

MOAR PAIN

- SQL Server & logic in your stored procedures



Provisioning boxes



deployments



Provision Environments



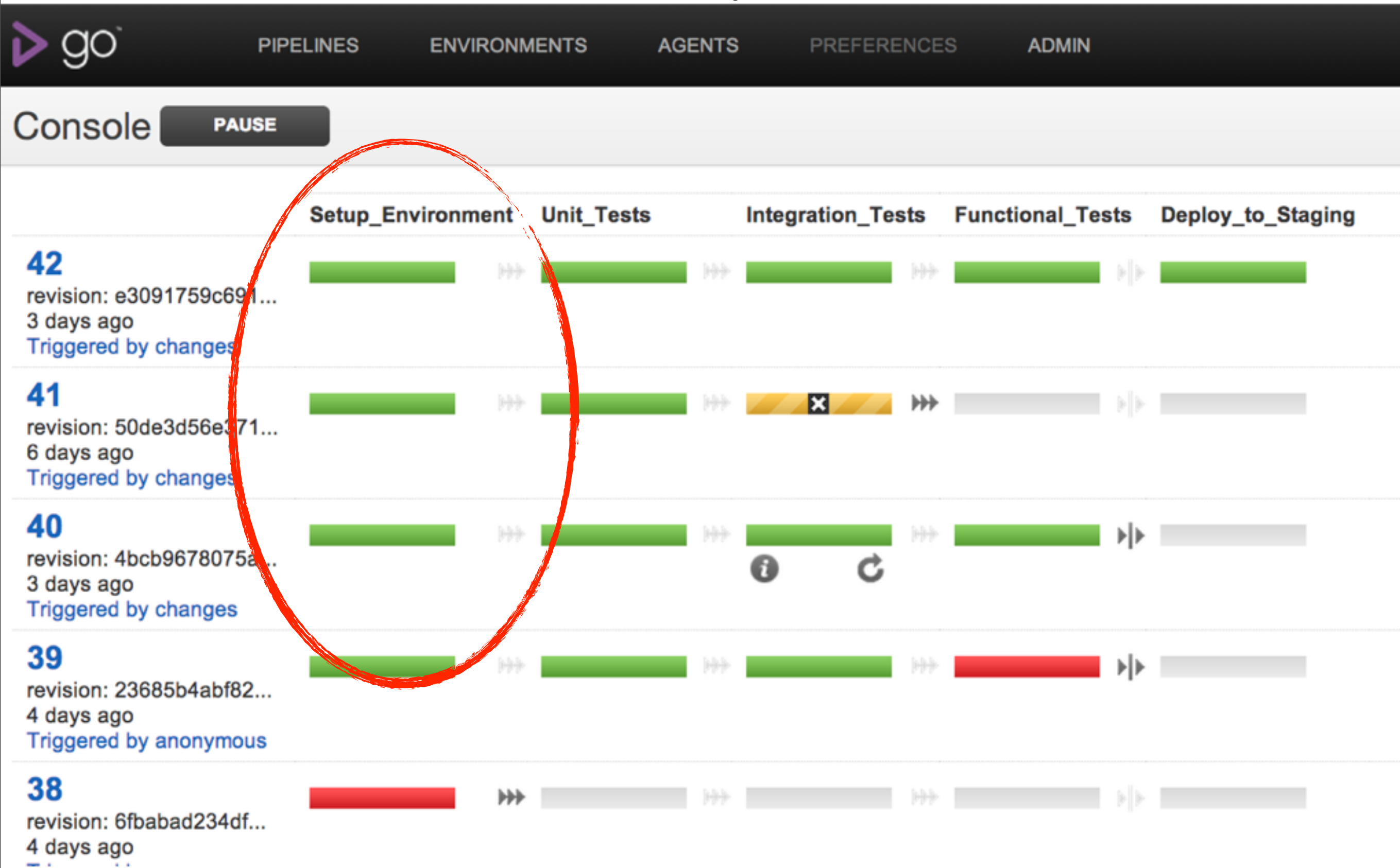
Provisioning boxes



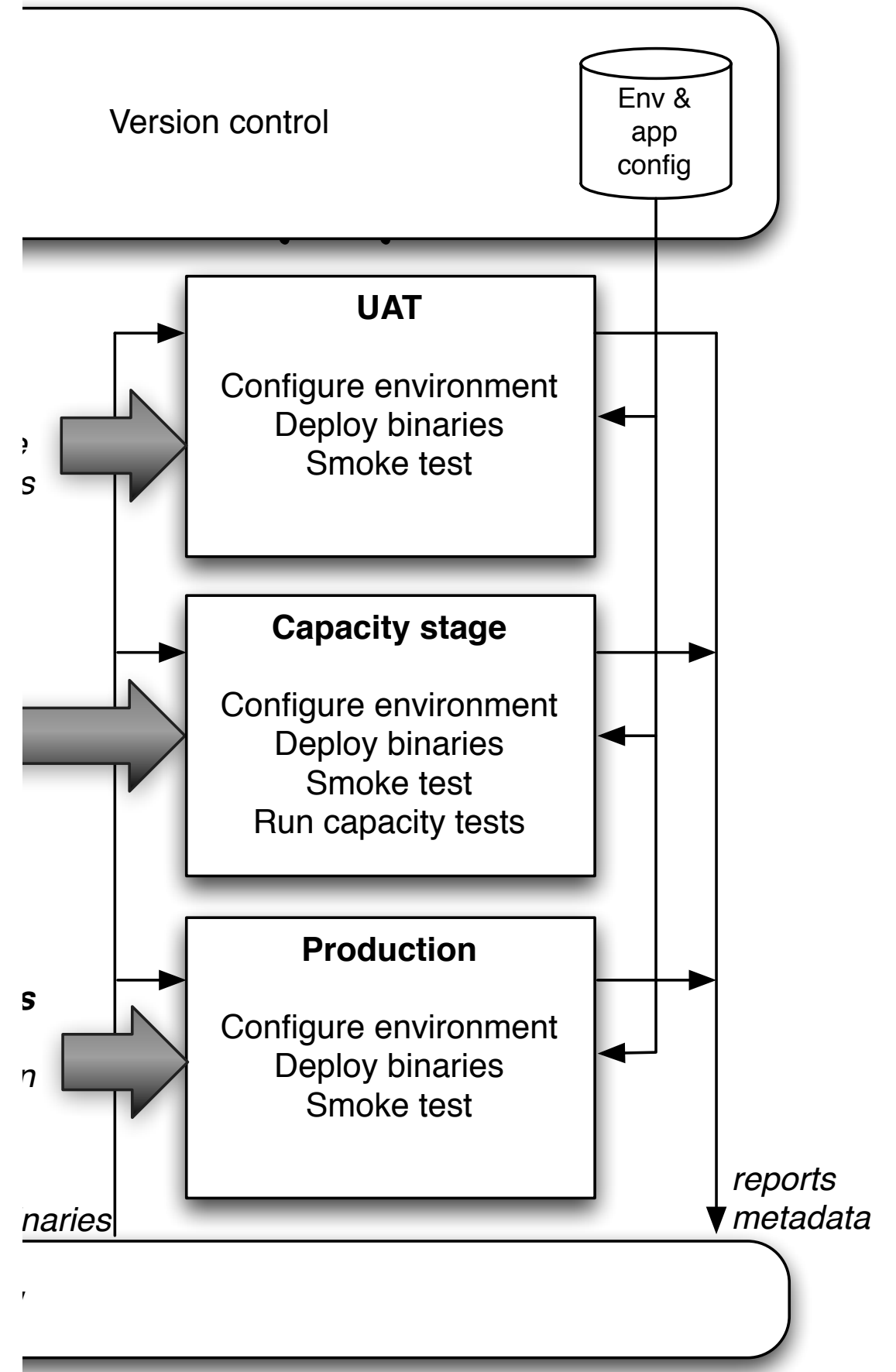
Snowflake server

Story time

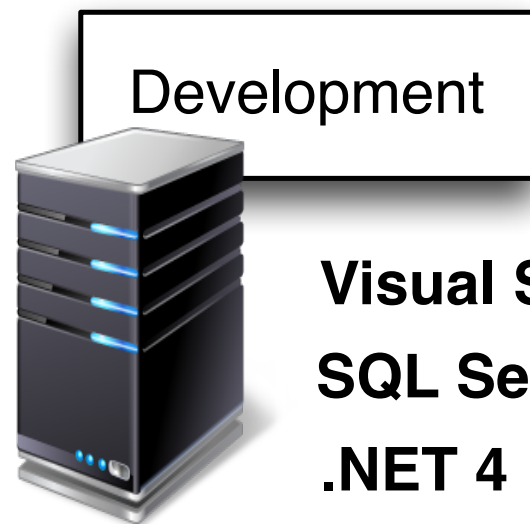
Build and Deployment Pipeline



Provision Environment

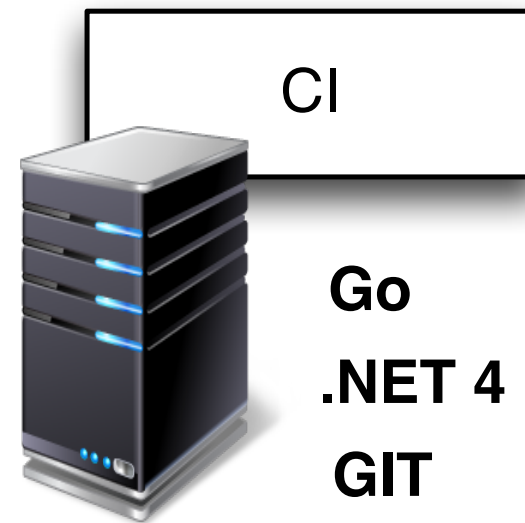


Virtual Machine Images



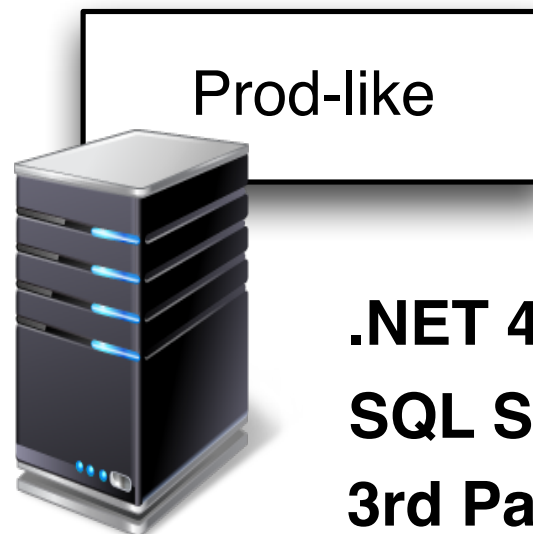
Development

Visual Studio
SQL Server
.NET 4
GIT



CI

Go
.NET 4
GIT



Prod-like

.NET 4
SQL Server
3rd Party software

virtualization

great for creating production-like test envs, highly parallel testing

cloud is great for utility computing and scaling on demand

most real systems will be heterogeneous

use virtualization with Puppet, Chef & PowerShell

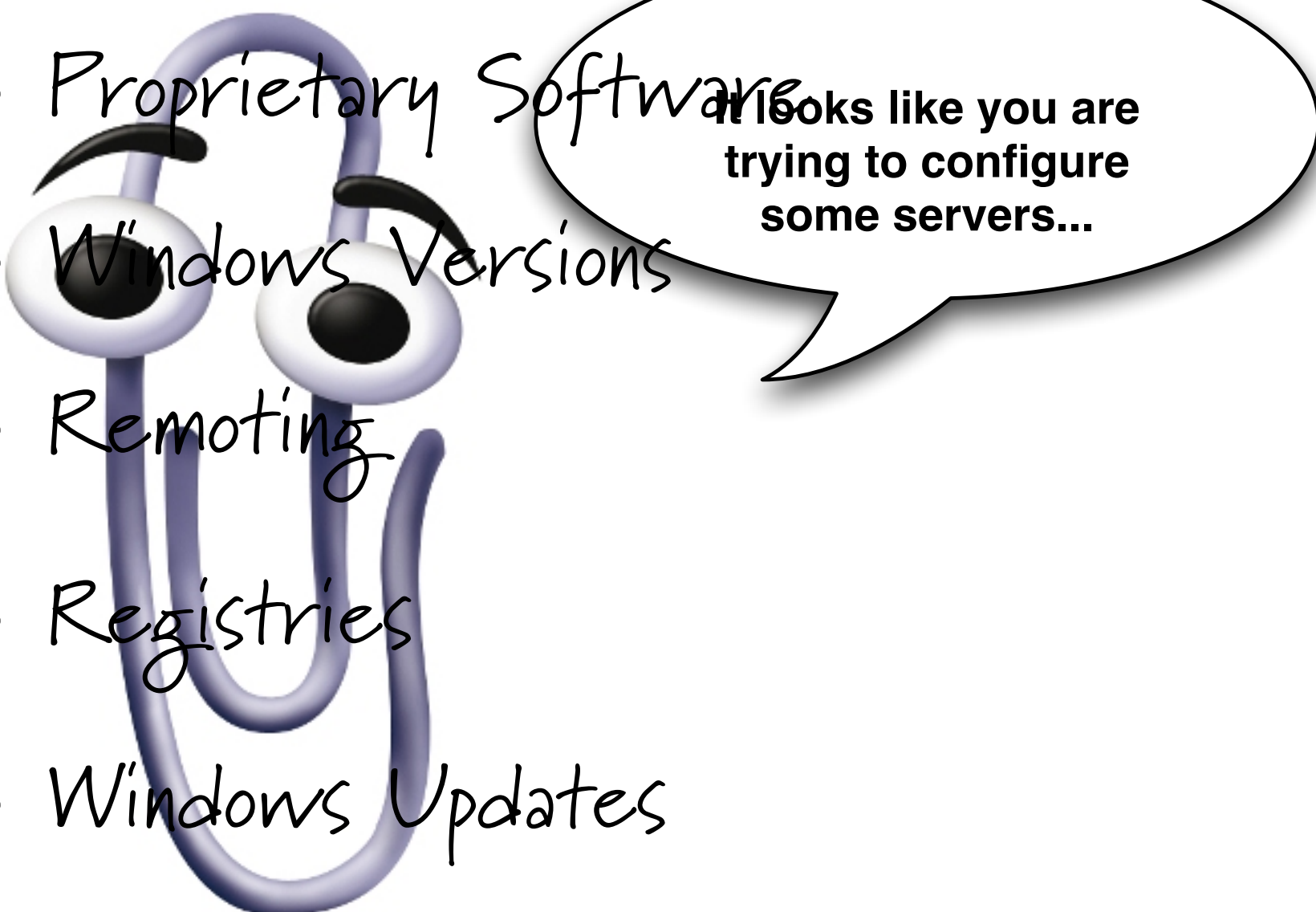
Infrastructure as Code



chef

Infrastructure Pain

- Proprietary Software
- Windows Versions
- Remoting
- Registries
- Windows Updates
- ISO's
- Cost



It looks like you are trying to configure some servers...

Now it's your turn...

- Don't be afraid of non-ms tools
- Leverage existing languages
- Contribute to OpenSource ALT.NET projects
- Just do it!

Happy endings?

- It can only get better...
- New tools all the time
- Maybe we can self select away from proprietary software...
- Figuring out a problem is the first step to fixing it

Questions?

Resources

- Continuous Delivery, Dave Farley & Jez Humble
- Continuous Integration, Paul Duvall
- Beautiful Builds, Roy Oshero
- Release IT, Michael Nygard