

puppetconf



2015

Chocolatey and Puppet: Managing Your Windows Software Since 2011

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@ferventcoder

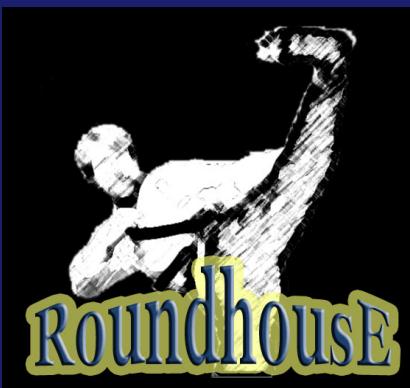




Agenda

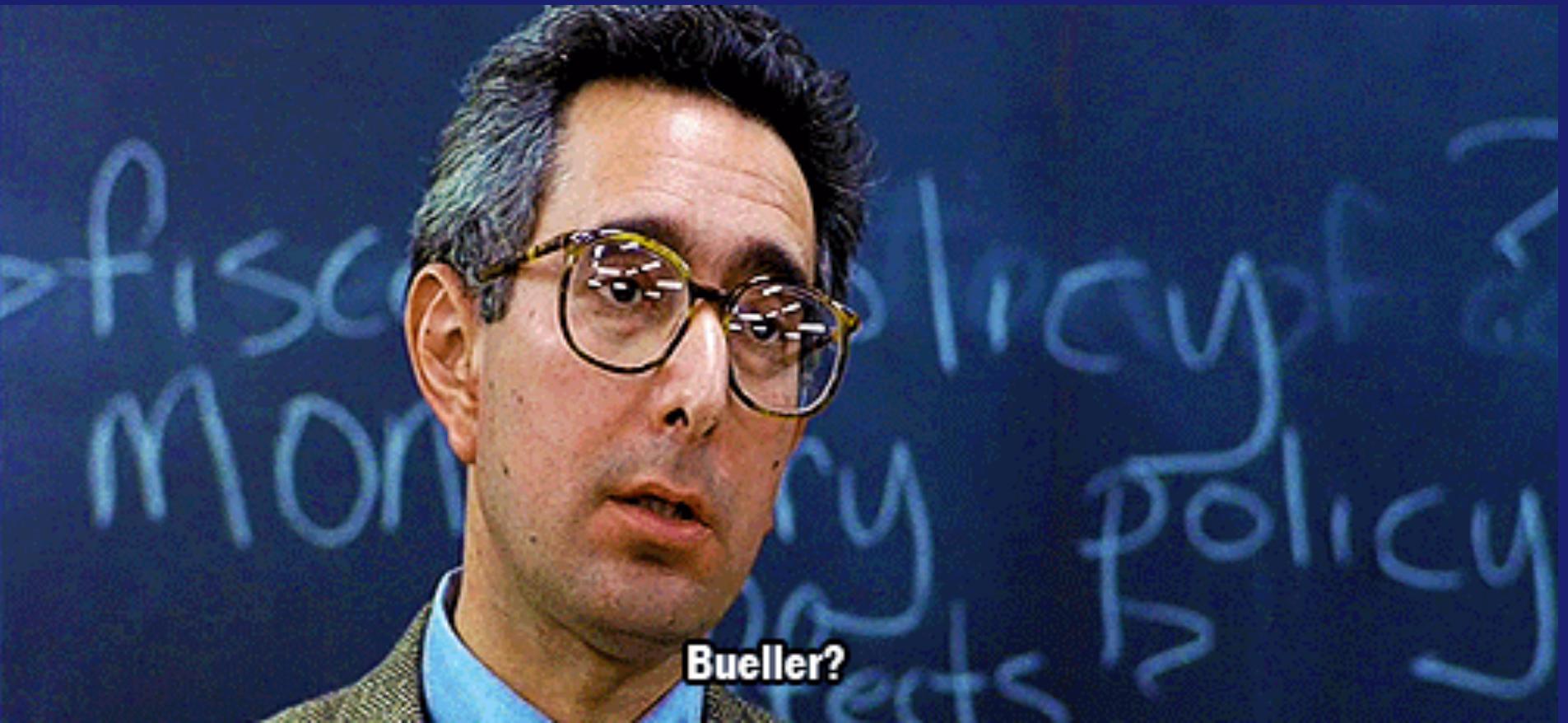
- Chocolatey?
- Chocolatey Provider
- Creating Packages
- Internal Package Repository Server
- Demo

Rob Reynolds

- Creator of Chocolatey 
- Background in .NET development ([ASP.NET](#) MVC, JavaScript, C#, Windows services, MSMQ)
- Co-wrote and maintained infrastructure framework known as the Chuck Norris Framework  
- Doing the hard work in Puppet on Windows so you don't have to



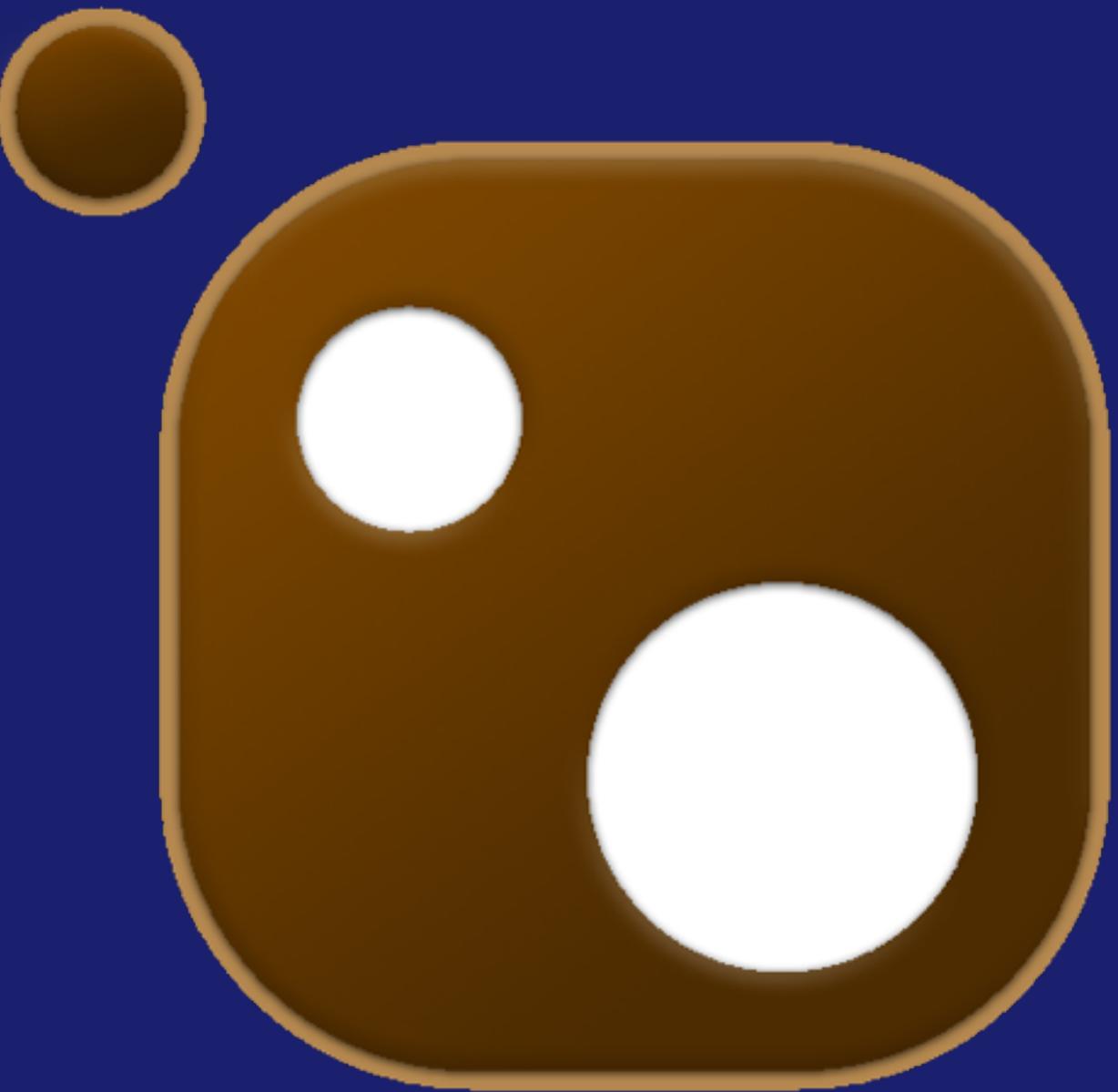
**Is there anyone in the
room that doesn't know
what Chocolatey is?**



Anyone? Bueller? Bueller?

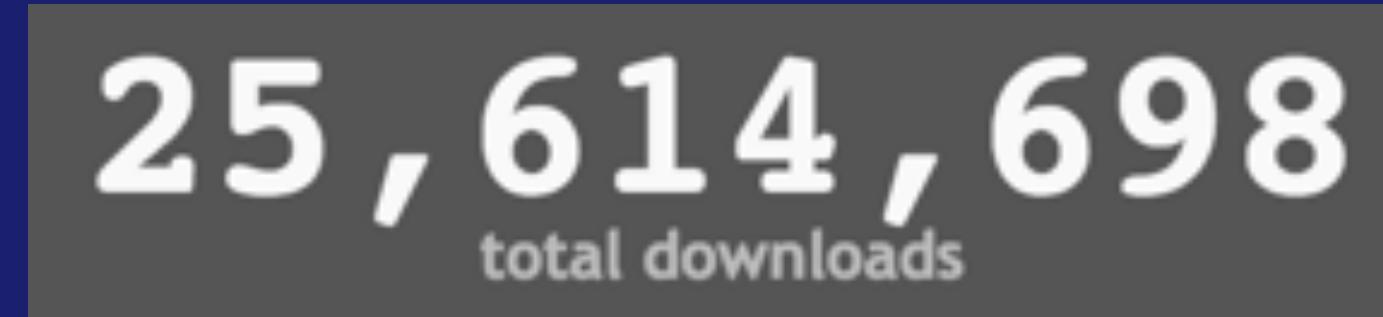
Package Manager for Windows

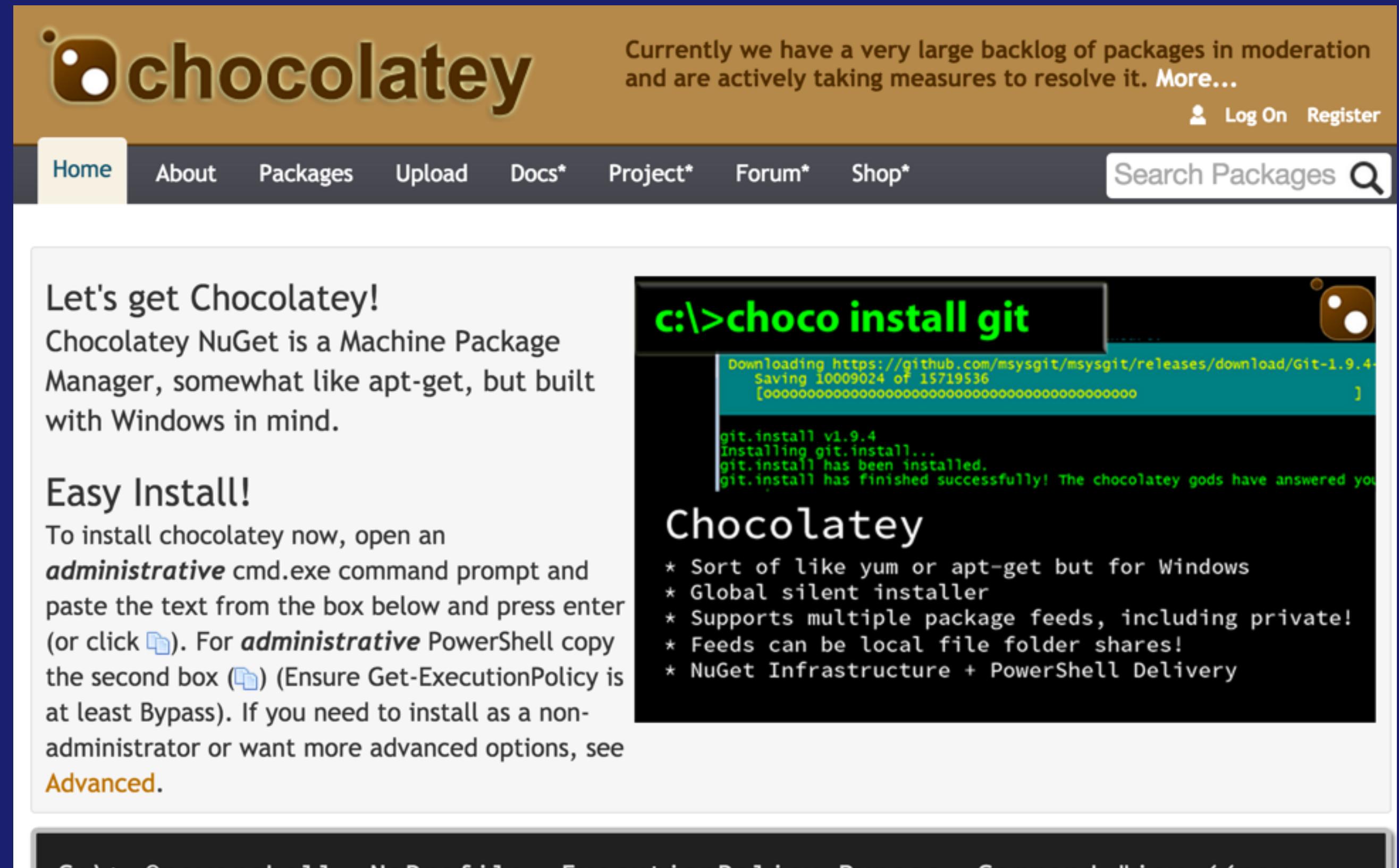
- Behaves much like Yum
- Uses NuGet packaging framework + PowerShell for automation scripts
- CLI tool - choco.exe
- GUI - ChocolateyGUI
- Allows non-centralized/private repositories
- Microsoft validated - there will be a OneGet provider



**What's the oldest
version of Chocolatey
you've used/supported?**

chocolatey.org (Community Repo)

- Community Feed / Community Maintained
- Moderated as of October 2014
- A couple people have downloaded packages (1 yr ago at 5 Million)

- Organizations should not depend on community b/c trust and control



Currently we have a very large backlog of packages in moderation and are actively taking measures to resolve it. [More...](#)

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Let's get Chocolatey!
Chocolatey NuGet is a Machine Package Manager, somewhat like apt-get, but built with Windows in mind.

Easy Install!

To install chocolatey now, open an **administrative** cmd.exe command prompt and paste the text from the box below and press enter (or click [copy](#)). For **administrative** PowerShell copy the second box ([copy](#)) (Ensure Get-ExecutionPolicy is at least Bypass). If you need to install as a non-administrator or want more advanced options, see [Advanced](#).

```
c:\>choco install git
```

Downloading https://github.com/msysgit/msysgit/releases/download/Git-1.9.4-64-bit/Git-1.9.4-64-bit.exe
Saving 10009024 of 15719536
[oooooooooooooooooooooooooooooooooooo]

git.install v1.9.4
Installing git.install...
git.install has been installed.
git.install has finished successfully! The chocolatey gods have answered you

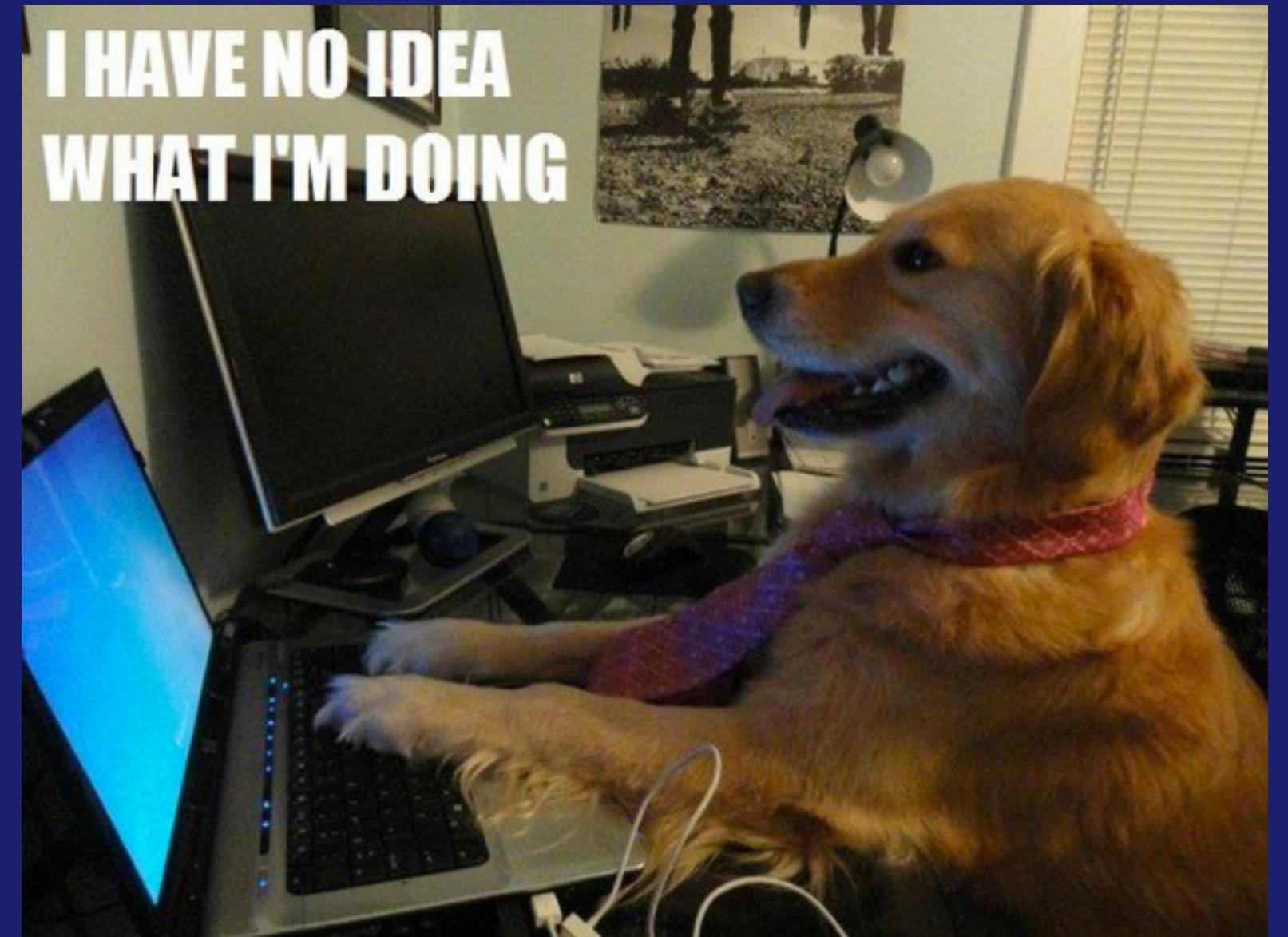
Chocolatey

- * Sort of like yum or apt-get but for Windows
- * Global silent installer
- * Supports multiple package feeds, including private!
- * Feeds can be local file folder shares!
- * NuGet Infrastructure + PowerShell Delivery

Chocolatey: Past Present and Future

Thought Experiment - 2011

- Built in PowerShell. But treated as a programming language?!
- Always felt like I was relearning PowerShell
- KISS packaging
- Building on existing ecosystem
- Focus on UX



All Good Things. All Good Things

- We determined how mocking should look and added that to Pester (a PowerShell testing framework)
- I learned PowerShell for real this time. Maybe.
- Somewhere along the line came community
 - Design? Sheer luck?
 - Passable documentation?

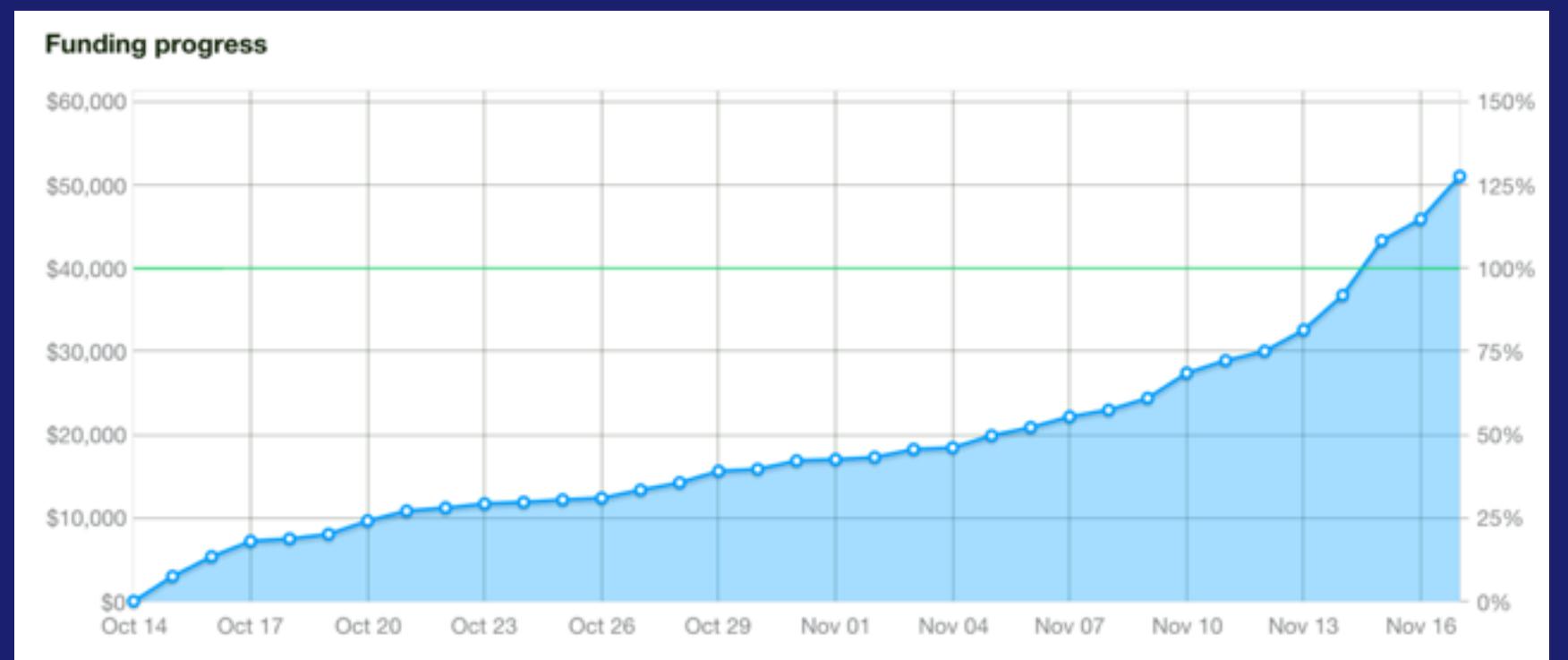
The Rewrite - 2014

- Started March 2014, first release in 0.9.9 in March 2015.
- C# - b/c already wrote production code while learning language
- Why?
 - Maintainability
 - Speed
 - Because reasons



Kickstarter - October 2014

- Started planning in June
- Introduces the ideas of Chocolatey for Business
- Pro/Business Version to offer additional features
- Longevity of Chocolatey itself



Chocolatey: The Alternative Windows Store - Like Yum/Apt-Get

The world needs an alternative Windows Store. Chocolatey is thriving as that store. Help us make The Chocolatey Experience a reality!

Created by

Rob Reynolds

1,044 backers pledged \$51,071 to help bring this project to life.

2015

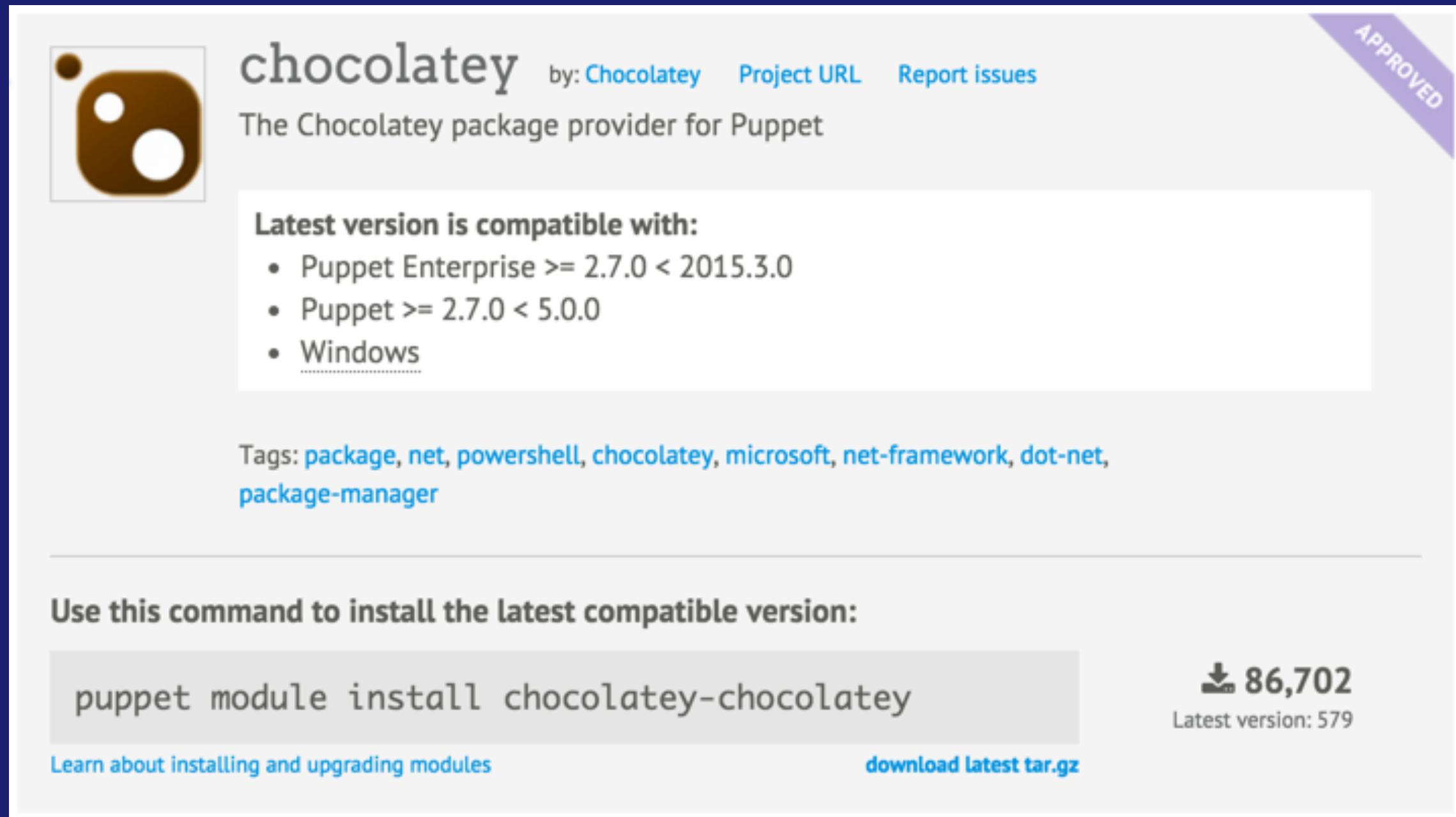
- Started to enhance packaging
- Working on delivery of Kickstarter
- Moderation

Future

- Enhancing packaging - NVRA
- Try to maintain good balance of KISS while introducing necessary complexity
- Package signing (PGP) / Security Enhancements
- Chocolatey for Business / Enterprise General Availability

Chocolatey Puppet Provider

Puppet Provider



- puppet module install chocolatey/chocolatey
- Approved module, supported module coming
- Manages install of Chocolatey Packages
- Soon manages full configuration of Chocolatey

Install Chocolatey

```
include chocolatey

# OR

class {'chocolatey':
  chocolatey_download_url => 'http://url/to/chocolatey.nupkg',
  use_7zip                => false,
}
```

- Install and initial configuration
- Point to internal resources

Package Resource

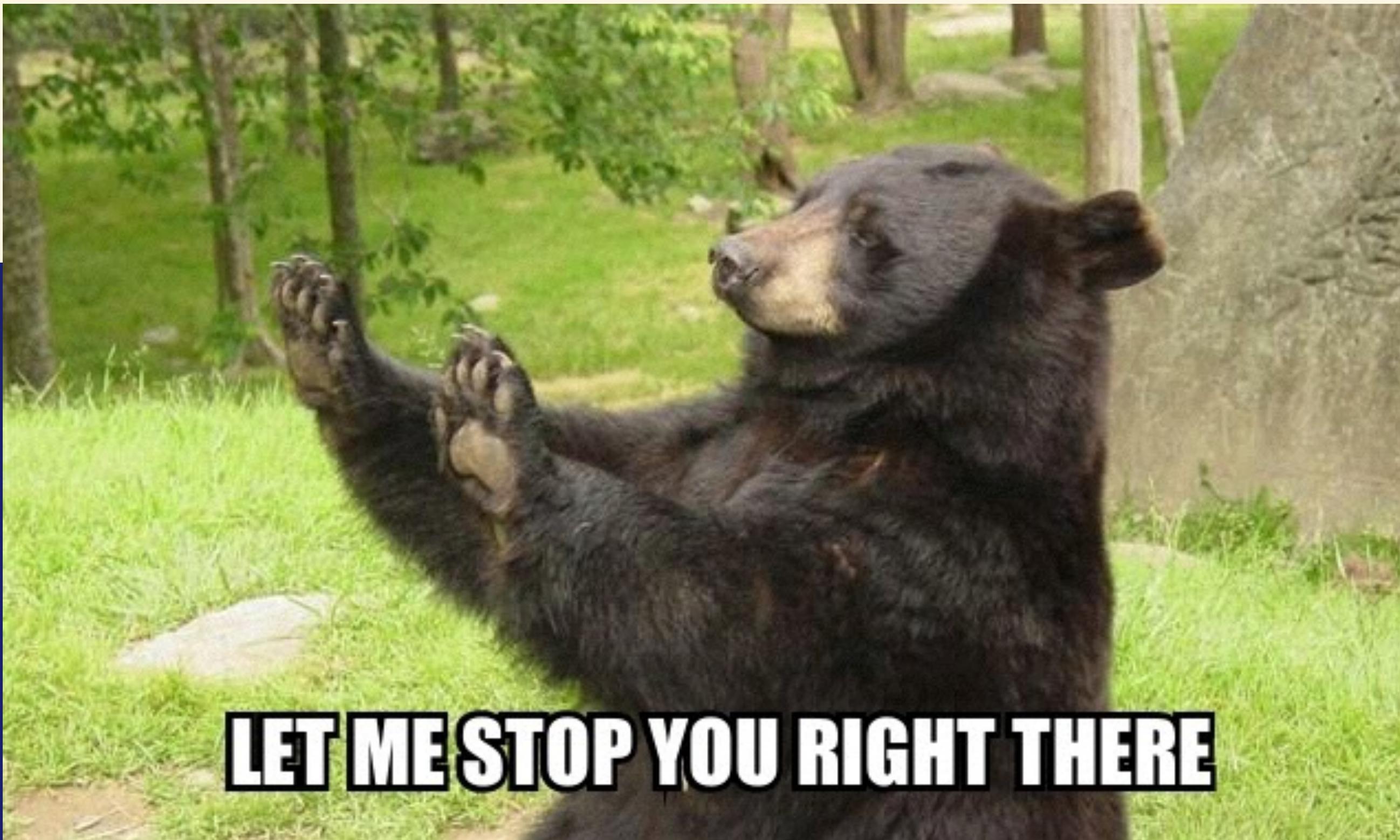
```
package {'name_of_package':  
  provider => chocolatey,  
  ensure   => absent, installed, latest, '1.0.0', held  
  source    => 'https://some_odata_feed/;c:\\local;\\some\\network\\share',  
  install_options => ['-installArgs', "'", 'addtl', 'args', "'"],  
  uninstall_options => ['-uninstallargs', "'", 'addtl', 'args', "'"],  
}
```

- installable, uninstallable, upgradeable, versionable, holdable, install_options, uninstall_options
- Still later: virtual_packages

Why Chocolatey Provider?

Why Chocolatey Provider?

```
package { "Git version 2.6.1":  
    ensure      => installed,  
    source      => 'C:\temp\Git-2.6.1-32-bit.exe',  
    install_options => ['/VERYSILENT']  
}
```



- This is the built-in provider
- Note the following:
 - Name of package
 - Source
 - Manifest maintenance

Why Chocolatey Provider?

```
package { "Git version 2.6.1":  
    ensure      => installed,  
    source      => 'C:\temp\Git-2.6.1-32-bit.exe',  
    install_options => ['/VERYSILENT']  
}  
  
package { 'git':  
    ensure      => latest,  
}
```

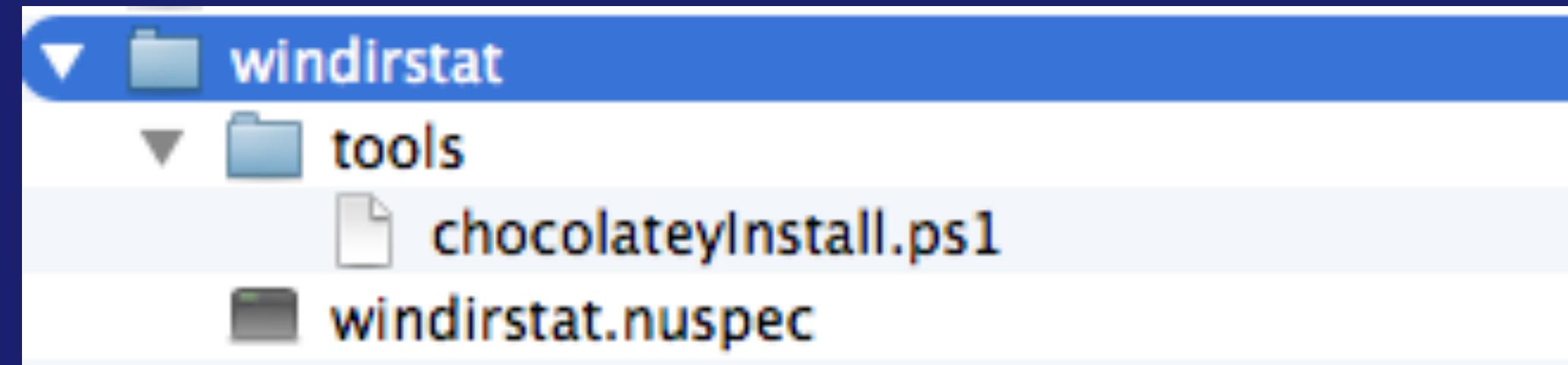
- Package resource default to provider => chocolatey for Windows.
- Platform agnostic packaging



Creating Packages

Creating Packages

- choco new -h
- Create organizational templates!
- *.nuspec
- chocolateyInstall.ps1
- Other resources like binaries / config files, etc
- Getting started / reference at <http://bit.ly/choco-create>



packagename.nuspec

```
windirstat.nuspec
1 <?xml version="1.0"?>
2 <package xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:
  xsd="http://www.w3.org/2001/XMLSchema">
3   <metadata>
4     <id>windirstat</id>
5     <title>WinDirStat</title>
6     <version>1.1.2.20140318</version>
7     <authors>Oliver Schneider</authors>
8     <owners>Rob Reynolds</owners> ← Owners == package maintainers
9     <summary>WinDirStat – Windows Directory Statistics</summary>
0     <description>WinDirStat is a disk usage statistics viewer and
    cleanup tool for Microsoft Windows.</description>
1     <projectUrl>http://windirstat.info</projectUrl>
2     <iconUrl>https://raw.githubusercontent.com/ferventcoder/chocolatey-
      -packages/master/icons/windirstat.png</iconUrl>
3     <tags>windirstat disk usage admin</tags>
4     <licenseUrl>http://www.gnu.org/licenses/gpl-2.0.html</licenseUrl>
5     <requireLicenseAcceptance>false</requireLicenseAcceptance>
6   </metadata>
7   <files>
8     <file src="tools/**" target="tools" />
9   </files>
0 </package>
1
```

- This is a nuget packaging specification
- Enhanced with provides, conflicts, replaces (although choco doesn't know what to do with them yet)
- Will be enhancing further: architecture, os versions, etc

chocolateyInstall.ps1

- Helpers / Functions
- Reduce work
- PowerShell, you can do anything
- Function reference
<https://bit.ly/choco-functions>

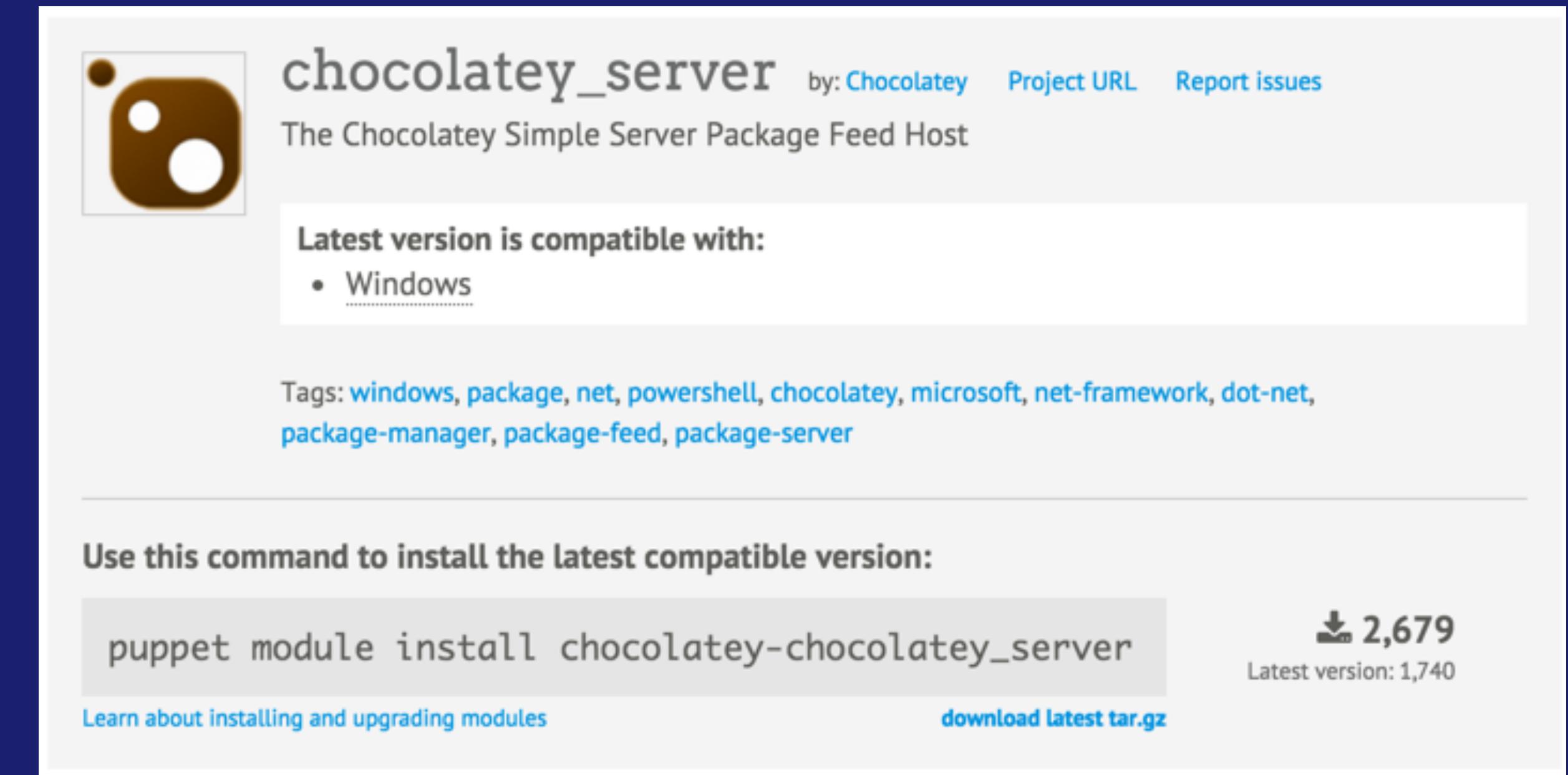
```
chocolateyInstall.ps1 *
```

```
1 $packageName = 'windirstat'
2 $fileType = 'exe'
3 $url = 'http://prdownloads.sourceforge.
    net/windirstat/windirstat1_1_2_setup.exe'
4 $silentArgs = '/S'
5
6 Install-ChocolateyPackage $packageName $fileType "$
    silentArgs" "$url"
7
```

Custom Package Repository

Hosting Your Own Packages

- chocolatey/chocolatey_server module
- Non-Windows Hosting
 - Artifactory
 - Sonatype Nexus
- NuGet Gallery proper
- ProGet / MyGet
- <https://bit.ly/choco-package-server>



Demo

Other Interesting Windows Talks

- You missed two
- Better Together: Managing Windows with Puppet, PowerShell, and DSC - Bruce Payette & Ethan Brown
 - Friday 11:15 AM, Oregon Ballroom 202
- Azure for the Non-Microsoft Person, Scott Hanselman
 - Friday 2:30 PM, Oregon Ballroom 203

Questions?

- Join the newsletter for announcements - <https://chocolatey.org/#newsletter>
- ferventcoder { twitter, github, gmail}