



# Chocolatey

The package manager for Windows

## Modern Software Management w/ Chocolatey



Rob Reynolds

Founder

Chocolatey Software

@ferventcoder





# Rob Reynolds

- Creator and Founder of Chocolatey 
- Enjoys long walks on the beach and designing solutions that make hard things easy
- Co-wrote infrastructure framework known as the Chuck Norris Framework
- Over 10 years experience in infrastructure automation
- Obsesses over user experience
- Microsoft MVP for whatever they are calling .NET area now



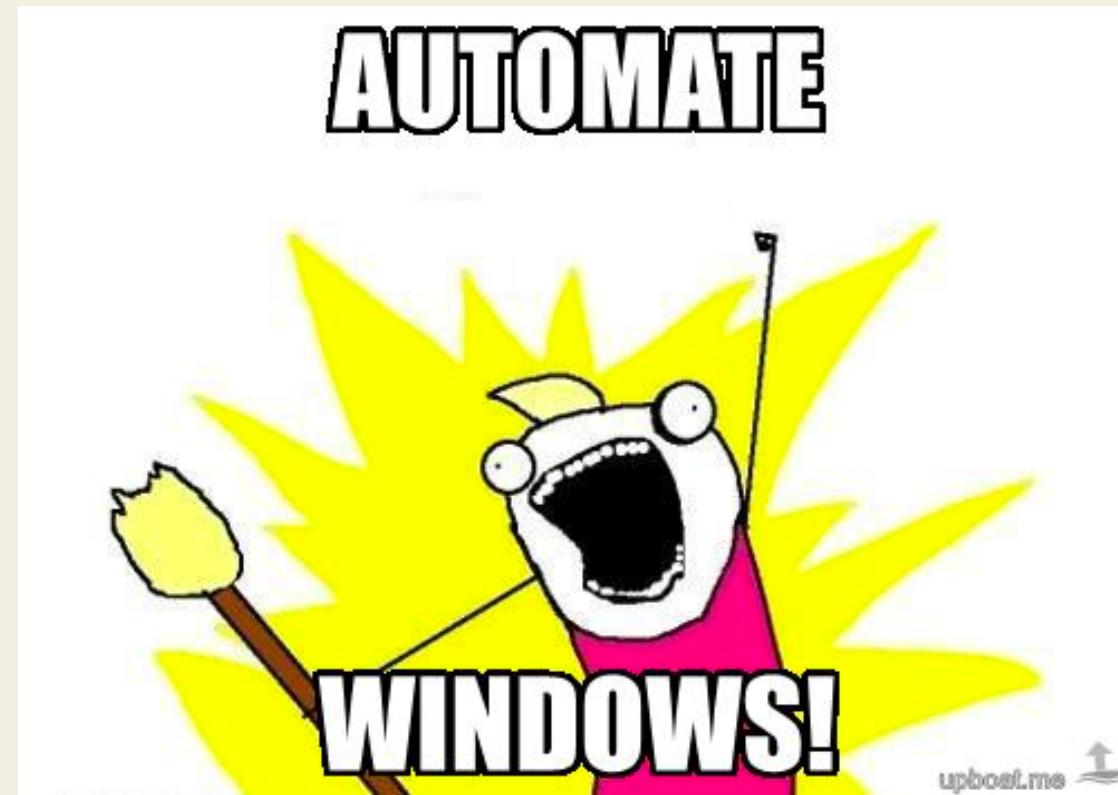


# Agenda

- Chocolatey
  - Why
  - What
  - Features
- Demo
- Questions









# Why Chocolatey?





**Software management may  
account for 50-90% of your  
automation**



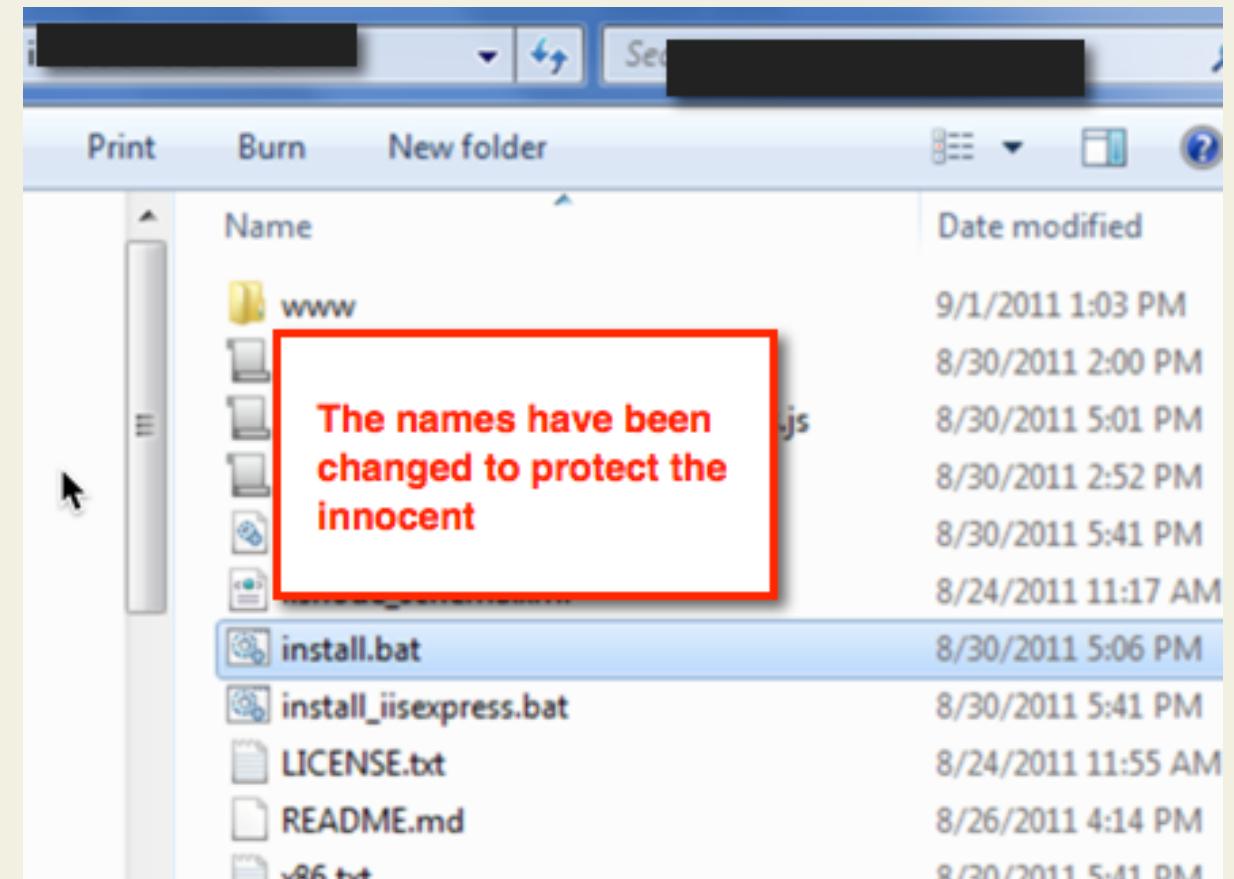
# Windows Software Ecosystem

- Over 20 installer formats and thousands of installers in the wild
- Zips and other archive formats
- Software installers are messy
- Deploy internal/3rd party software using same approach?
- It's like the Wild West

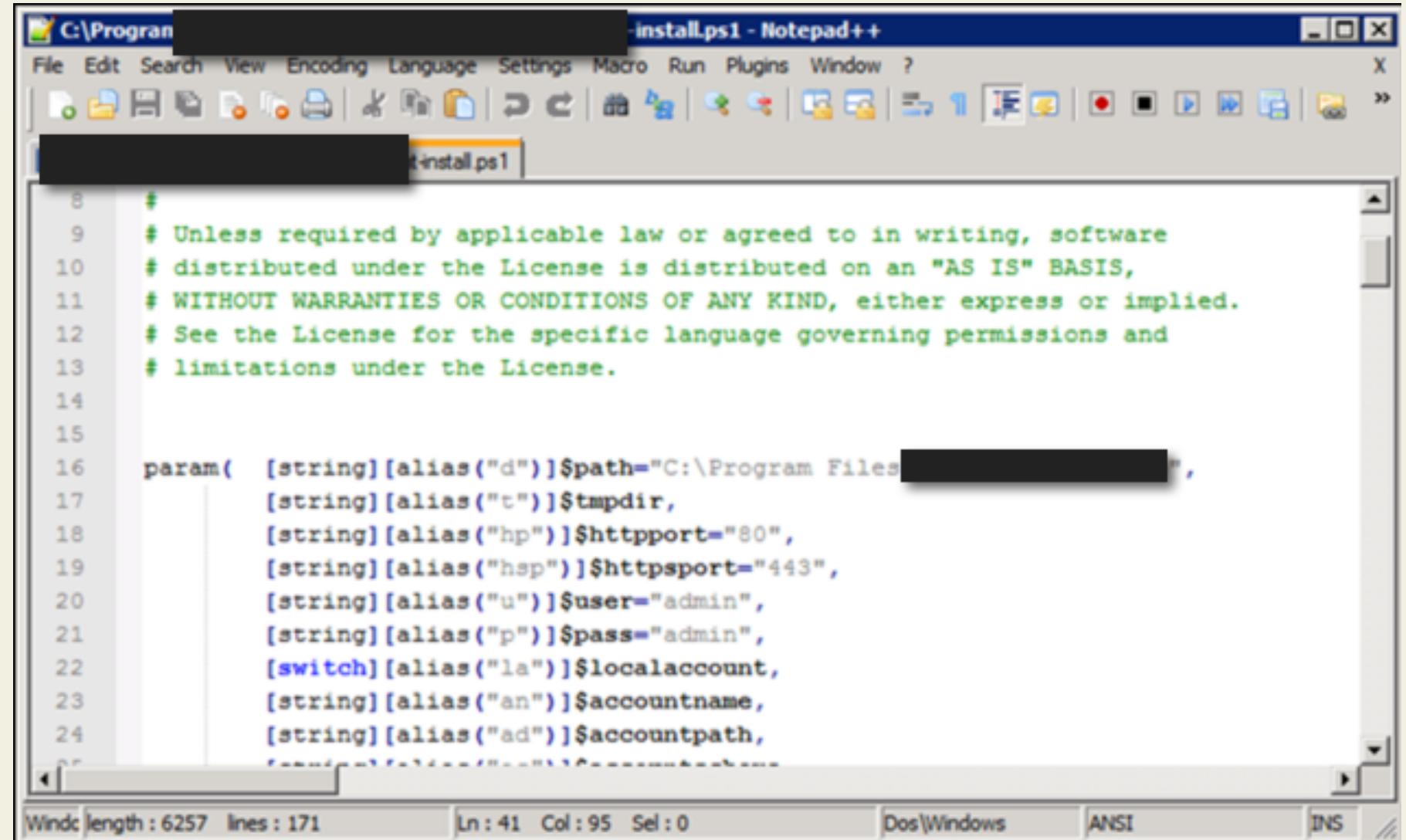


# Why?

- You already deploy software
- Likely already use deployment scripts
- Delivery mechanisms
- Internal Software



# Why?



The screenshot shows a Notepad++ window with the file `install.ps1` open. The code is a PowerShell script with the following content:

```
8  #
9  # Unless required by applicable law or agreed to in writing, software
10 # distributed under the License is distributed on an "AS IS" BASIS,
11 # WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
12 # See the License for the specific language governing permissions and
13 # limitations under the License.
14
15
16 param( [string][alias("d")]$path="C:\Program Files\Install\",
17       [string][alias("t")]$tmpdir,
18       [string][alias("hp")]$httpport="80",
19       [string][alias("hsp")]$httpsport="443",
20       [string][alias("u")]$user="admin",
21       [string][alias("p")]$pass="admin",
22       [switch][alias("la")]$localaccount,
23       [string][alias("an")]$accountname,
24       [string][alias("ad")]$accountpath,
```

The file path is listed in the status bar as `C:\Program Files\Install\install.ps1`. The status bar also shows the file length as 6257, 171 lines, and current position at line 41, column 95.



# Why?

Create Application Wizard

General Information

General Import Information General Information Summary Progress Completion

Specify information about this application

Name: Microsoft Office Professional Plus 2010

Administrator comments:

Manufacturer:

Software version:

Optional reference:

Administrative categories:

---

Specify the installation program for this application and the required installation rights.

Installation program: msieexec /i "ProPlusWW.msi" /q

Run installation program as 32-bit process on 64-bit clients.

Install behavior:

< Previous Next > Summary Cancel



**Manfred Wallner**

@schusterfredl

Following



when you replace a coworker's multi-100-line  
batch 'installer' with a single line of 'choco install'  
@chocolateynuget 😂 #greattool

RETWEETS

5

LIKES

13



4:04 AM - 16 Mar 2017



5

13



# But Seriously, Why Chocolatey?

- Reporting
- Features
- Offline
- Secure
- Flexibility
- Beyond Programs and Features
- Beyond just running installers
- Integrates with everything





# But Seriously, Why Chocolatey?

- Focused solution - does 1 thing very well for over 6+ years
- Uses PowerShell - not learning new or proprietary technologies
- One approach for all software management - 3rd party and internal
- Reinventing Chocolatey could cost over \$1 million
- Hundreds of other companies are using it, there must be a reason





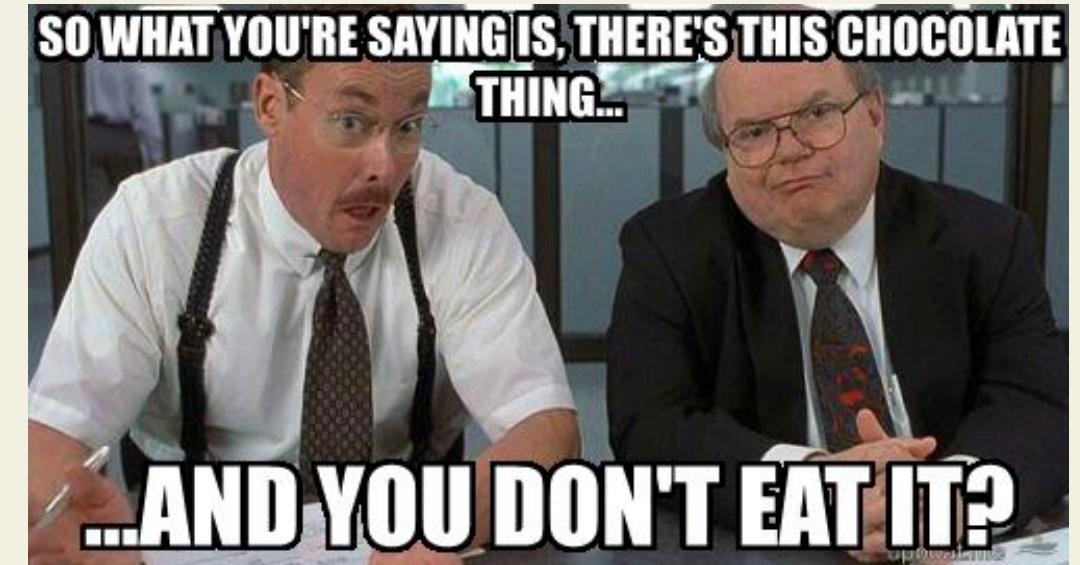
# What is Chocolatey?





# What is Chocolatey?

- Software Management
- PowerShell
- Fancy zip files = “packages”
- Packages are independent software deployment artifacts
- Takes your deployment scripts to the next level





# Chocolatey - Sane Software Management

- Easily manage the software lifecycle
- Native installers, zips, binaries
- PowerShell module simplifies work
- Packages are independent building blocks
- Integrates with configuration management and RMM tools
- Business friendly features





# Chocolatey - The Approach

6+ years - proven technology

- Single, unifying interface - control the chaos
- Decentralized - multiple places to get packages, including internal
- PowerShell
- Flexible
- Secure
- Reliable





# Organizational / Internal Use



## Understanding Chocolatey and Packaging

### Community Package Repository

- Public domain
- Distribution rights
- Has Internet dependencies - failure point
- Possible trust issues for organizations

### Organizational Use

- Internal / Offline
- Many thousands of packages larger
- Reliability

Do not cross this line to external / internet

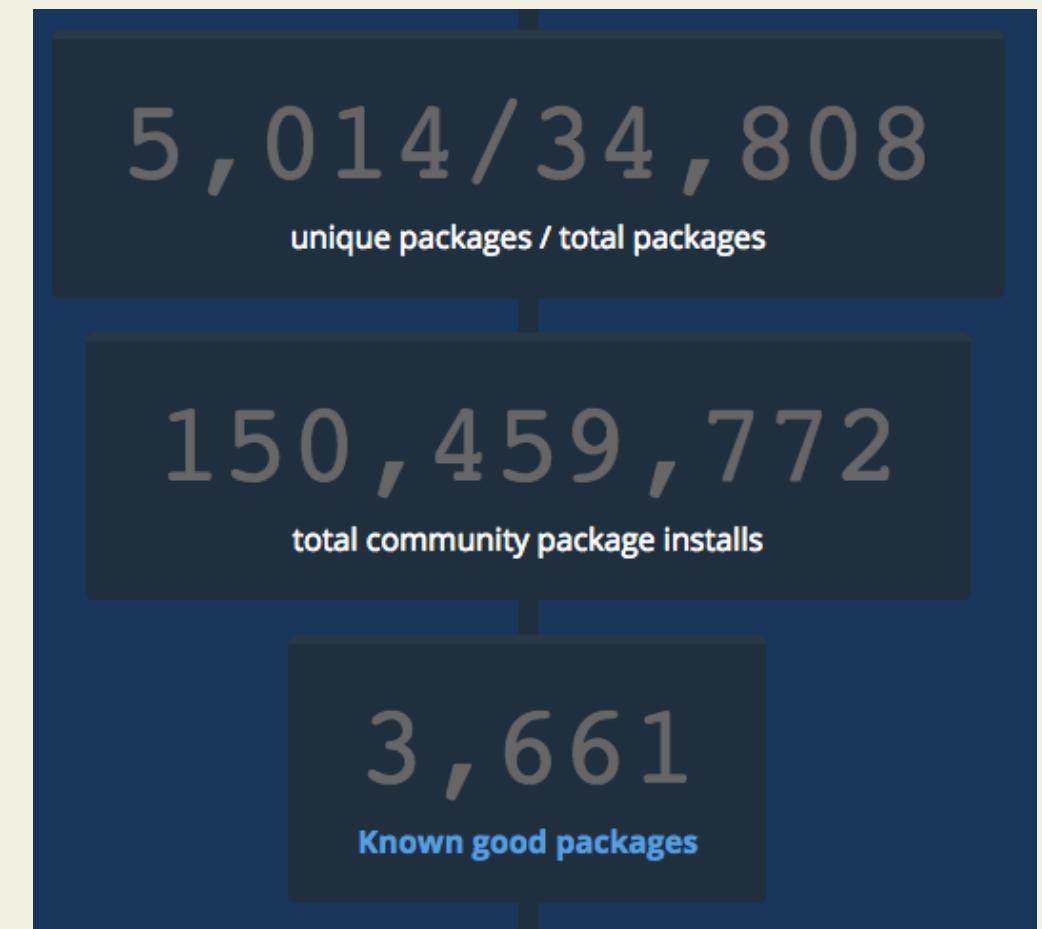
WARNING: Objects in mirror may be larger than they appear





# Community Package Repository

- <https://chocolatey.org/packages>
- Community Feed / Community Maintained
- Moderated as of October 2014
- Everything goes through VirusTotal
- **Organizations Should Avoid**
  - **Not Fully Reliable - public repo means subject to distribution rights (download CDN cache feature helps)**
  - **Trust and Control**





# Sweet Features





# FOSS vs Chocolatey for Business (C4B)



- **Chocolatey open source (FOSS) == package management**
  - Works well in organizational use
- **C4B == complete software management**
  - Smoother experience
  - Builds on top of FOSS
  - Better system integration, endpoint management, etc
  - Better visual interfaces (GUIs)
  - Features geared specifically towards organizational use



# Smart Installs / Smarter Upgrades

```
Administrator: Windows PowerShell
PS C:\packages> choco install git.install --source . -y
Chocolatey v0.9.10-beta1-426-g3c8b16e Business
Installing the following packages:
git.install
By installing you accept licenses for the packages.

git.install v2.8.4
Loading 'chocolatey.licensed' extension.
Copying git.install
  from 'C:\ProgramData\chocolatey\lib\git.install\tools\files\Git-2.8.4-64-bit.exe'
Virus checking skipped/turned off. Not verifying 'Git-2.8.4-64-bit.exe'
Installing Git-2.8.4-64-bit.exe...

Git-2.8.4-64-bit.exe has been installed.
WARNING: Git installed - You may need to close and reopen your shell for PATH changes to take effect.
Environment Vars (like PATH) have changed. Close/reopen your shell to see the changes (or in powershell/cmd.exe just type `refreshenv`).
The install of git.install was successful.
Software installed to 'C:\Program Files\Git\' ←

Chocolatey installed 1/1 package(s). 0 package(s) failed.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).
PS C:\packages> git
git : The term 'git' is not recognized as the name of a cmdlet, function, script file, or operable program. Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
At line:1 char:1
+ git
+ ~~~
  + CategoryInfo          : ObjectNotFound: (git:String) [], CommandNotFoundException
  + FullyQualifiedErrorId : CommandNotFoundException

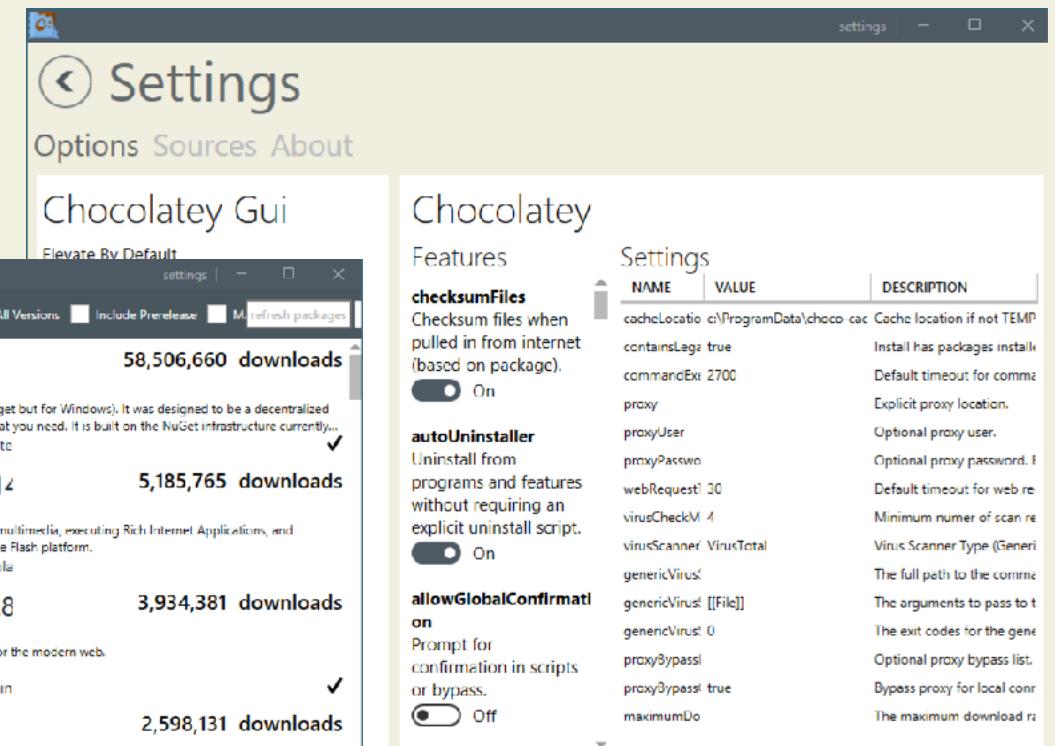
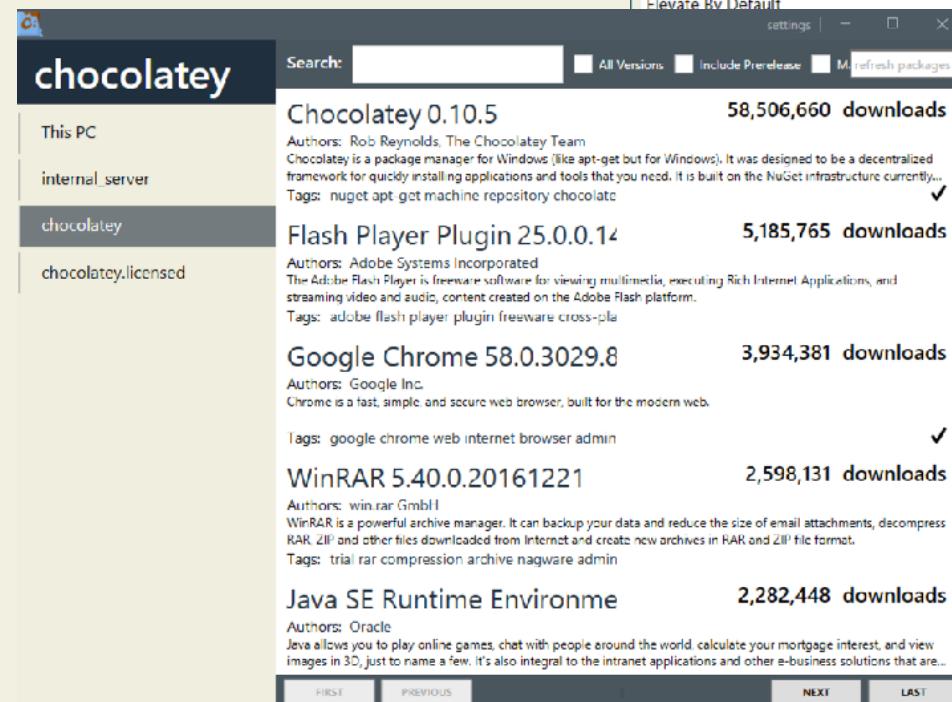
PS C:\packages> refreshenv ←
Refreshing environment variables from the registry...
Finished
PS C:\packages> git
usage: git [--version] [--help] [-c <path>] [-c name=value]
  [--exec-path=<path>] [--html-path] [--man-path] [--info-path]
```

- Track software installation in Programs & Features to map packages to system installs
- Track environment variable changes
- Leave out guesswork by reporting on software installation location
- Upgrades - Use XML Document Transform (XDT) for .NET configuration file changes
- Exclusive to Chocolatey - Use new tools / commands without closing / re-opening your shell for environment changes to take effect



# Graphical Interface - Chocolatey GUI

- Configure Chocolatey
- Manage software installations





# Automatic Uninstallation

```
PS C:\packages> choco uninstall 1password -y
Chocolatey v0.9.10-beta1-422-g335bc01 Business
Uninstalling the following packages:
1password

1password v4.6.0.598
Running auto uninstaller...
Auto uninstaller has successfully uninstalled 1password.
1password has been successfully uninstalled.

Chocolatey uninstalled 1/1 packages. 0 packages failed.
See the log for details (C:\ProgramData\chocolatey\logs\choco.log)
```

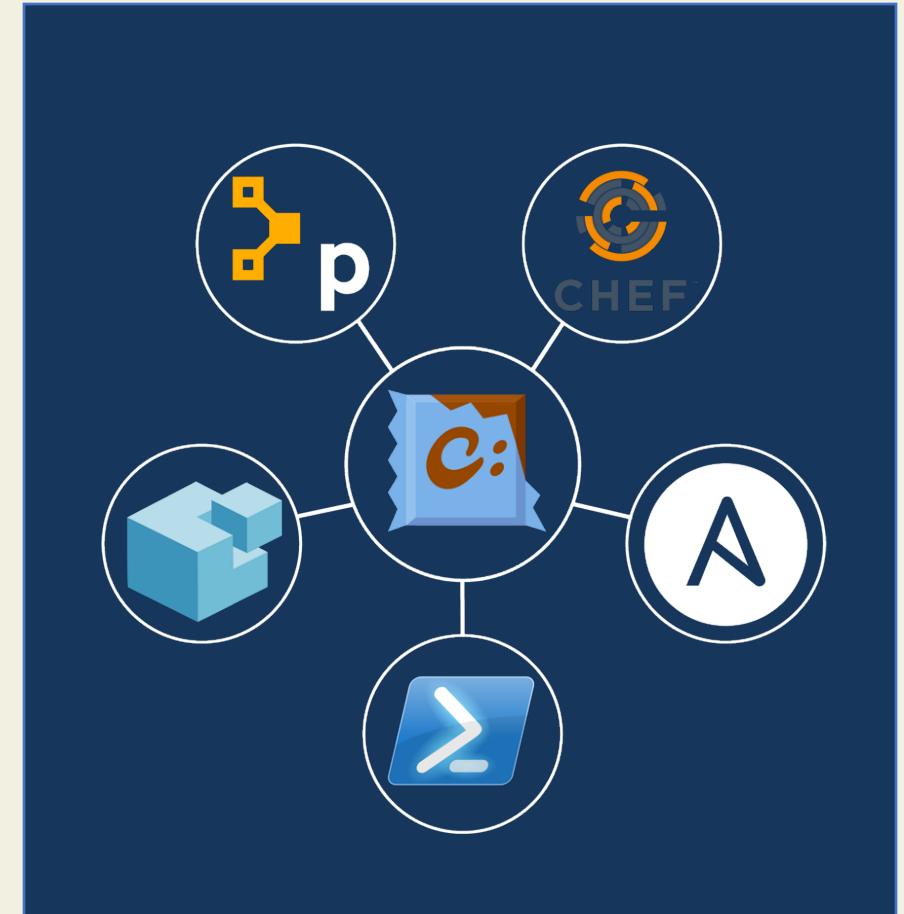
- Exclusive to Chocolatey - Automatically uninstall over 90% of installations without uninstall script
- AutoUninstaller reduces time by not developing and managing uninstall scripts





# Integrates with Everything

- <https://chocolatey.org/docs/features-infrastructure-automation>
- Puppet
- Chef (built-in), cookbook
- PowerShell DSC
- Ansible
- Saltstack
- Octopus Deploy
- Boxstarter
- SCCM
- RMM, or really anything that can run scripts





# Reporting / Auditing





# Inventory - Comprehensive Software Audit

```
PS C:\> choco list -lo --include-programs
1password 4.6.0.603
chocolatey 0.9.10.3
chocolatey.extension 1.4.0
chocolatey.server 0.1.1
DotNet4.0 4.0.30319.20141222
git 2.7.0.0
Googlechrome 51.0.2704.106
roundhouse 0.8.5.0
8 packages installed.

7-zip 9.22 (x64 edition)|9.22.00.0
Bitvise SSH Server 5.60 (remove only)|
ChocolateyGUI 0.13.2.0|0.13.2.0
Launchy 2.5|
Notepad++|6.4.2
Oracle VM VirtualBox Guest Additions 4.3.12|4.3.12.0
Puppet (64-bit)|3.8.3
7 applications not managed with chocolatey.
```

- Exclusive to Chocolatey - Visibility beyond just the software 'installed' in Programs & Features
- Track versions of zip archives & own internal software that is not visible in system installation.
- Get a complete view of your systems. Chocolatey reports applications in systems not directly under its management.
- Package Audit (C4B) adds who and when

```
PS C:\packages\createpackages> choco list -lo --audit -r
1password|4.6.0.598|User:vagrant|Domain:WIN2012R2X64|Original User:vagrant|Install Date:2017-07-09 16:53:17Z
7zip|16.02.0.20160811
baretail|3.50.0.20120226
```





# Logging - Detailed Reporting

```
Open Highlighting Follow Tail ANSI C:\ProgramData\chocolatey\logs\chocolatey.log (5.9 MB)
0 2017-06-09 21:55:52,794 2236 [DEBUG] - Configured chocolatey.infrastructure.logging.log4net.config.xml from assembly choco, Version=0.10.7.0, Culture=neutral, PublicKeyToken=b03f5f7f1133d5f4
0 2017-06-09 21:55:52,849 2236 [DEBUG] - XmlConfiguration is now operational
0 2017-06-09 21:55:52,857 2236 [DEBUG] - Evaluating license file found at 'C:\ProgramData\chocolatey\license\chocolatey.license'.
0 2017-06-09 21:55:53,044 2236 [DEBUG] - Loading Licensed Extensions and Commands
0 2017-06-09 21:55:53,083 2236 [INFO ] - =====
0 2017-06-09 21:55:53,411 2236 [INFO ] - Chocolatey v0.10.7 Business
0 2017-06-09 21:55:53,427 2236 [DEBUG] - Chocolatey is running on Windows v 6.3.9600.0
0 2017-06-09 21:55:53,427 2236 [DEBUG] - Attempting to delete file "C:\ProgramData\chocolatey\choco.exe.old".
0 2017-06-09 21:55:53,435 2236 [DEBUG] - Attempting to delete file "C:\ProgramData\chocolatey\choco.exe.old".
0 2017-06-09 21:55:53,443 2236 [DEBUG] - Command line: "C:\ProgramData\chocolatey\choco.exe" upgrade chocolatey.extension -s C:\vagrant\resources\packages -y -f
0 2017-06-09 21:55:53,443 2236 [DEBUG] - Received arguments: upgrade chocolatey.extension -s C:\vagrant\resources\packages -y -f
0 2017-06-09 21:55:53,536 2236 [DEBUG] - RemovePendingPackagesTask is now ready and waiting for PreRunMessage.
0 2017-06-09 21:55:53,544 2236 [DEBUG] - CountdownTask is now ready and waiting for PostRunMessage.
0 2017-06-09 21:55:53,544 2236 [DEBUG] - Terminal services setup not necessary for this session.
0 2017-06-09 21:55:53,552 2236 [DEBUG] - SynchronizeTask is now ready and waiting for PreRunMessage.
0 2017-06-09 21:55:53,552 2236 [DEBUG] - PackagesInProgramsAndFeaturesTask is now ready and waiting for PostRunMessage.
0 2017-06-09 21:55:53,560 2236 [DEBUG] - Sending message 'PreRunMessage' out if there are subscribers...
0 2017-06-09 21:55:53,575 2236 [DEBUG] - [Pending] Removing all pending packages that should not be considered installed...
0 2017-06-09 21:55:53,599 2236 [DEBUG] - [Synchronize] Updating packages with Programs and Features
0 2017-06-09 21:55:53,599 2236 [DEBUG] - [Synchronize] Currently only supports removals. Soon will handle updates.
0 2017-06-09 21:55:53,872 2236 [DEBUG] - 7zip 16.02.0.20160811
0 2017-06-09 21:55:53,880 2236 [DEBUG] - baretail 3.50.0.20120226
0 2017-06-09 21:55:53,950 2236 [DEBUG] - Charles 3.11.5
0 2017-06-09 21:55:53,950 2236 [DEBUG] - chocolatey 0.10.7
0 2017-06-09 21:55:53,950 2236 [DEBUG] - chocolatey-agent 0.6.0
0 2017-06-09 21:55:53,950 2236 [DEBUG] - chocolatey-core.extension 1.0.4
0 2017-06-09 21:55:53,950 2236 [DEBUG] - chocolatey.extension 1.10.0
0 2017-06-09 21:55:53,958 2236 [DEBUG] - chocolatey.server 0.1.2
0 2017-06-09 21:55:53,958 2236 [DEBUG] - ChocolateyGUI 0.14.0-unstable0165
0 2017-06-09 21:55:53,958 2236 [DEBUG] - DotNet4.0 4.0.30319.20141222
0 2017-06-09 21:55:53,958 2236 [DEBUG] - DotNet4.5.2 4.5.2.20140902
0 2017-06-09 21:55:53,958 2236 [DEBUG] - git 2.7.0.0
0 2017-06-09 21:55:53,958 2236 [DEBUG] - gitextensions 2.49
0 2017-06-09 21:55:53,958 2236 [DEBUG] - GoogleChrome 55.0.2883.87
0 2017-06-09 21:55:53,966 2236 [DEBUG] - grepwin 1.6.16
0 2017-06-09 21:55:53,966 2236 [DEBUG] - InkScape 0.92.0
0 2017-06-09 21:55:53,966 2236 [DEBUG] - l10n-en-US 0.5.0.20140901
```

- Log file captures very detailed information - environment and state
- Reduces rollback / recreation necessity





# Compliance – Audit Out of Date Software

- choco outdated
- Comprehensive reporting on available upgrades
- See what will upgrade on next maintenance window

```
PS C:\packages> choco outdated
Chocolatey v0.9.10-beta1-426-g3c8b16e Business
Outdated Packages
  Output is package name | current version | available version | status

nodejs|4.4.5|6.2.1|false
nodejs.install|4.4.5|6.2.1|false
notepadplusplus|6.8.1|6.9.2|false
notepadplusplus.install|6.8.1|6.9.2|false
roundhouse|0.8.5.0|0.8.6|false

Chocolatey has determined 5 package(s) are outdated.
PS C:\packages>
```





# Package Repository





# Hosting Your Own Package Server

- <https://chocolatey.org/docs/how-to-host-feed>
- Non-Windows Hosting
  - Artifactory 
  - Sonatype Nexus 
- NuGet Gallery proper 
- ProGet / MyGet 
- NuGet.Server / Chocolatey.Server
- Puppet - chocolatey/chocolatey\_server module
- Visual Studio Team Services



The screenshot shows a Puppet module page for the 'chocolatey/chocolatey\_server' module. The page includes the module icon (a blue 'C:' drive), the module name, a brief description ('The Chocolatey Simple Server Package Feed Host'), compatibility information ('Latest version is compatible with: Windows'), tags ('package-server, package-feed, package-manager, package, chocolatey, dotnet, net, net-framework, powershell, microsoft'), installation instructions ('Use this command to install the latest compatible version: puppet module install chocolatey-chocolatey\_server'), and download statistics ('5,800 downloads').





# Creating Software Deployment “Packages”





# Chocolatey Packages

- Terminology: "Package" is nupkg file, "Software" is binaries or installers
- Zip files + Versioning, Dependencies & PowerShell
- Metadata - Software Information / Package Information
- PowerShell - <https://chocolatey.org/docs/helpers-reference>
  - 30+ Built-in functions - complex tasks become 1 liners
  - Handle additional missing installer logic (like add to PATH)
  - Add options missing from installer arguments
- Files - drop in binaries, native installers

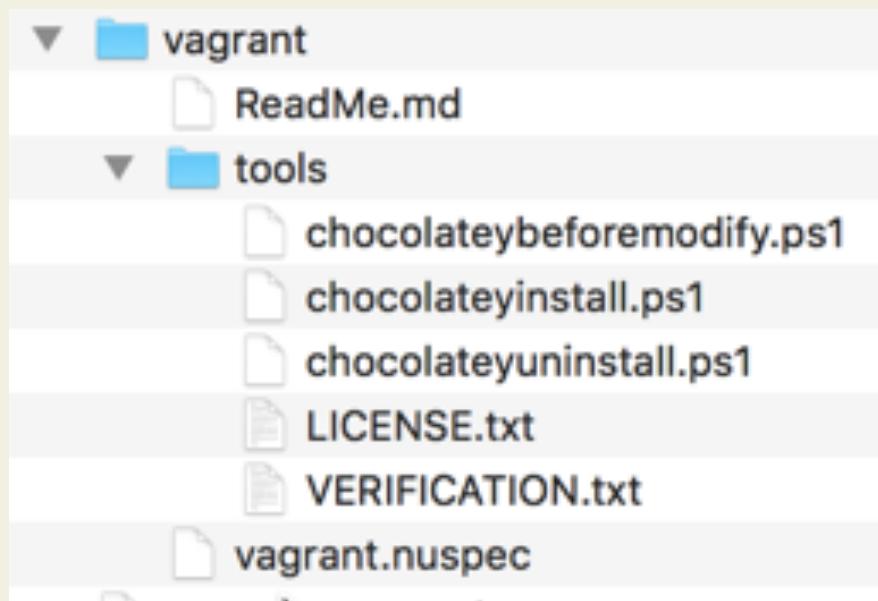




# Creating Packages

- <https://chocolatey.org/docs/create-packages>
- choco new
  - Generates package files with most of the work done
  - Create your own packaging templates!



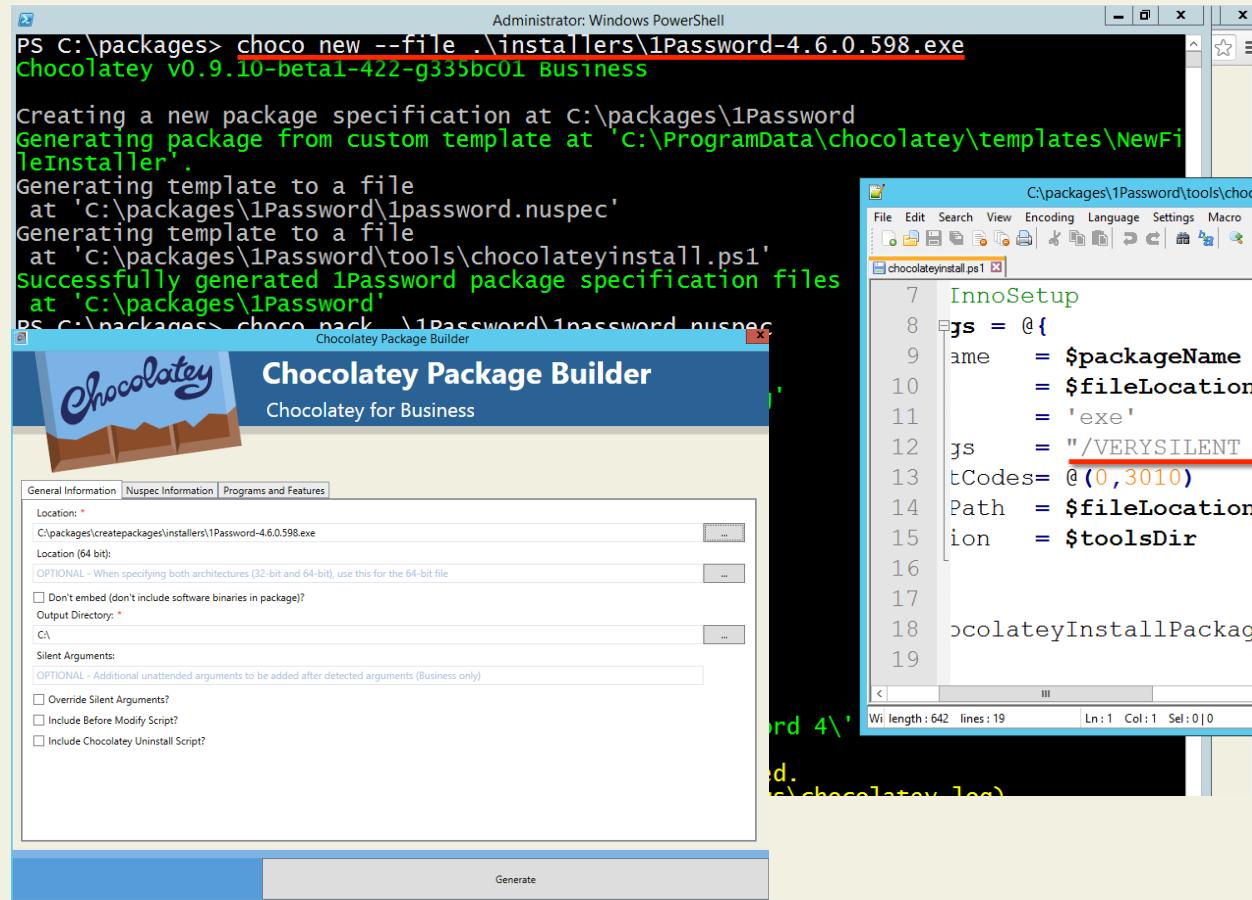


```
<?xml version="1.0" encoding="utf-8"?>
<!-- Do not remove this test for UTF-8: if "Ω" doesn't appear as greek uppercase omega letter enclosed in quotation not this one. -->
[<package xmlns="http://schemas.microsoft.com/packaging/2015/06/nuspec.xsd">
] <metadata>
    <!-- == PACKAGE SPECIFIC SECTION == -->
    <id>vagrant</id>
    <version>1.9.2</version>
    <packageSourceUrl>https://github.com/chocolatey/chocolatey-coreteampackages/tree/master/automatic/vagrant</packageSourceUrl>
    <owners>Chocolatey Core Community Team</owners>
    <!-- ===== -->
    <!-- == SOFTWARE SPECIFIC SECTION == -->
    <title>Vagrant (Install)</title>
    <authors>Mitchell Hashimoto, John Bender, HashiCorp</authors>
    <projectUrl>https://www.vagrantup.com</projectUrl>
    <iconUrl>https://cdn.rawgit.com/chocolatey/chocolatey-coreteampackages/62469751380dc5a9f2620f4b34c08fd7c741e5a5</iconUrl>
    <copyright>2015 - 2017 HashiCorp</copyright>
    <licenseUrl>https://github.com/mitchellh/vagrant/blob/master/LICENSE</licenseUrl>
    <requireLicenseAcceptance>true</requireLicenseAcceptance>
    <projectSourceUrl>https://github.com/mitchellh/vagrant</projectSourceUrl>
    <docsUrl>https://docs.vagrantup.com/docs</docsUrl>
    <mailingListUrl>https://groups.google.com/forum/#!forum/vagrant-up</mailingListUrl>
    <bugTrackerUrl>https://github.com/mitchellh/vagrant/issues</bugTrackerUrl>
    <tags>vagrant admin sandbox virtual machine testing VM VirtualBox VMware cross-platform foss cli</tags>
    <summary>Vagrant - Development environments made easy.</summary>
] <description>
Vagrant provides easy to configure, reproducible, and portable work environments built on top of industry-standard workflow to help maximize the productivity and flexibility of you and your team.
</description>
To achieve its magic, Vagrant stands on the shoulders of giants. Machines are provisioned on top of VirtualBox, VMw
industry-standard provisioning tools such as shell scripts, Chef, or Puppet, can be used to automatically install a
-</description>
    <releaseNotes>[CHANGELOG] (https://github.com/mitchellh/vagrant/blob/master/CHANGELOG.md)</releaseNotes>
    <!-- ===== -->
- </metadata>
] <files>
    <file src="tools\**" target="tools" />
- </files>
-</package>
```





# Package Builder (C4B) - “Generate software deployment packages in seconds”



- Package Builder automatically creates high quality packaging from an installer/zip in 5-10 seconds
- Determines everything necessary for silently installing software
- Supports passing urls (and checksums) - downloads files first
- Allows customization
- Supports exe, msi, 7z, zip, msu, and msp files





# Package Internalizer (C4B) - “Convert existing packages to 100% offline and reliable”

- Take advantage of existing packages without dependency on the internet
- Downloads existing package and all remote resources
- Recompiles package to use those internal resources
- Option to download and point to other locations
- Ability to host packages on private internal repositories
- Visual Interface coming

```
PS C:\packages> choco download --recompile git.install
Chocolatey v0.9.10-beta1-426-g3c8b16e Business
Downloading an existing package to C:\packages\download

git.install v2.8.4 [Approved]
Found Install-ChocolateyPackage. Inspecting values for remote resources.
Found 'https://github.com/git-for-windows/git/releases/download/v2.8.4.windows-2.8.4-32-bit.exe' for replacement.
Found 'https://github.com/git-for-windows/git/releases/download/v2.8.4.windows-2.8.4-64-bit.exe' for replacement.

Download of 'Git-2.8.4-32-bit.exe' completed.
Replacing 'https://github.com/git-for-windows/git/releases/download/v2.8.4.windows-2.8.4-32-bit.exe' with '$(Split-Path -parent $MyInvocation.MyCommand.Definition.Path)\Git-2.8.4-32-bit.exe'

Download of 'Git-2.8.4-64-bit.exe' completed.
Replacing 'https://github.com/git-for-windows/git/releases/download/v2.8.4.windows-2.8.4-64-bit.exe' with '$(Split-Path -parent $MyInvocation.MyCommand.Definition.Path)\Git-2.8.4-64-bit.exe'
Updating chocolateyInstall.ps1 with local resources.
Recompiling package.

Recompiled package files available at 'C:\packages\download\git.install'
Recompiled nupkg available in 'C:\packages'
```





# How does it work?







# Package Synchronizer (C4B)

- stay in sync w/system





# Package Synchronizer (Licensed) - Auto Sync

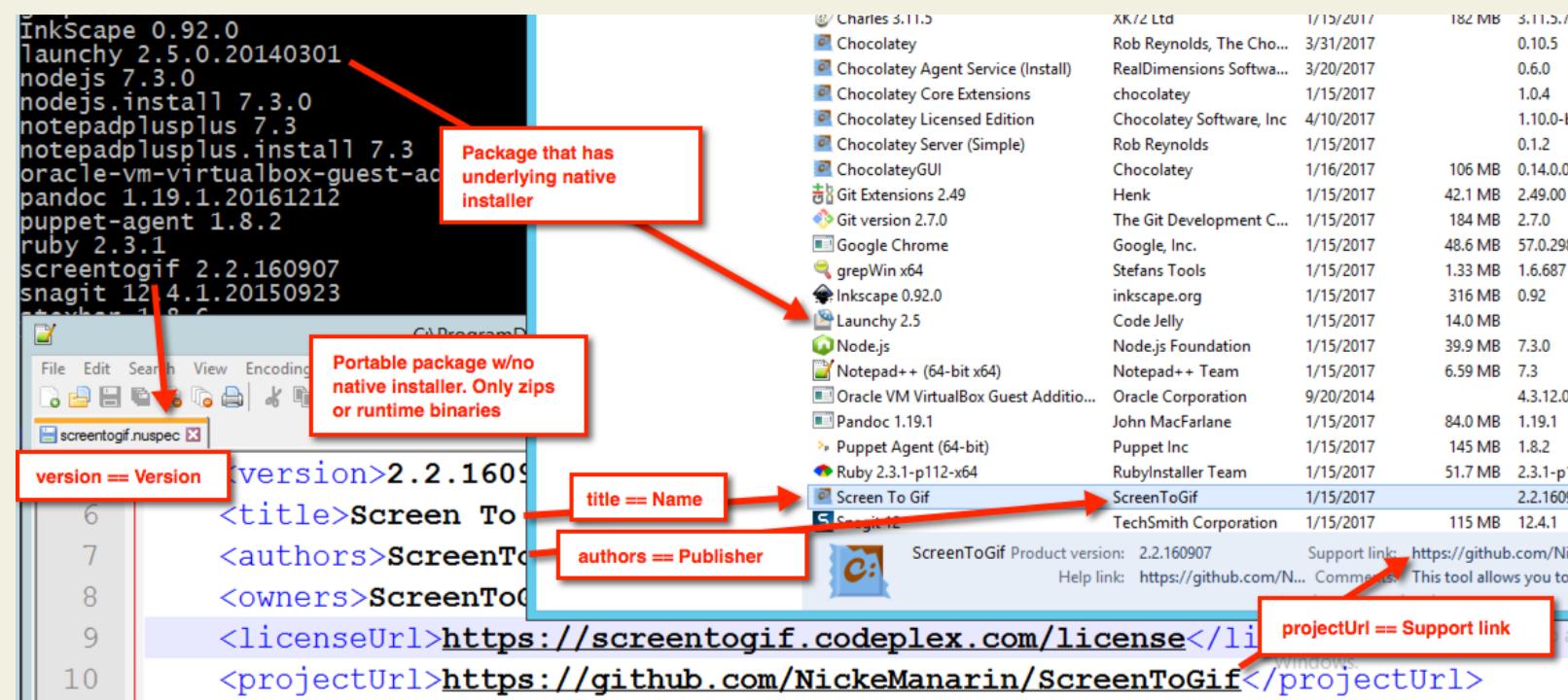
```
PS C:\> choco list -lo
Chocolatey v0.9.10-beta1-422-g335bc01 Bu
[Synchronize] Removing 1password package
tey.
chocolatey 0.9.10-beta-20160609
chocolatey.extension 1.4.0
chocolatey.server 0.1.1
DotNet4.0 4.0.30319.20141222
git 2.7.0.0
git.install 2.8.4
GoogleChrome 51.0.2704.84
Launchy 2.5.0.20140301
roundhouse 0.8.5.0
9 packages installed.
PS C:\>
```

- Chocolatey maintains state based on packages. System state can be manipulated outside of Chocolatey
- Any Chocolatey command will trigger synchronization in licensed editions of Chocolatey
- Package Synchronizer syncs with manual software removal
- Syncs w/software that automatically upgrades, such as Chrome



# Package Synchronizer (C4B) - All Packages in Programs and Features

- Programs and Features represents only 50-80% of the software on a machine
- Chocolatey brings managed entries for non-installer packages
- Supporting legacy inventory reporting systems is now a snap
- Do not need to build MSIs / Installers for internal use just to support legacy reporting





# Package Synchronizer (C4B) - Choco Sync Command

```
PS C:\> choco sync -r
Package Id|Display Name|Version|New Package
7zip|7-Zip 16.02 (x64)|16.2|False
oracle-vm-virtualbox-guest-additions|Oracle V
12.0|True
bitvise-ssh-server|Bitvise SSH Server 5.60 (r
PS C:\>
```

- Brings all software in Programs and Features under Chocolatey management
- Generates packaging and baselines to Chocolatey install
- Provides packaging code to take back to source control





# **Self-Service (C4B) - “Non-administrative desktop users can install/upgrade software!”**





# Self-Service Installer / Background Mode (C4B)

The screenshot illustrates the Chocolatey self-service installer in two environments:

- Windows PowerShell:** A command-line interface showing the execution of `choco install adobereader`. The output indicates "Running in background mode" and "Running from background service". A red arrow points from the "Running in background mode" text to a callout box.
- Google Chrome:** A web-based package manager interface for Chocolatey. It shows details for the "Google Chrome" package, version 56.0.2924.87. The "Downloads" section shows 346,220 total downloads and 3,168,471 total package downloads. The "Description" section includes notes about the package using Chrome's administrative MSI installer and always installing the latest version of Google Chrome.

A red callout box on the right side of the PowerShell window contains the following text:

**Background Mode / Self-Service Installer**

- Non-admin can install only from approved, configured sources
- Chocolatey Agent Service validates commands prior to running
- Output streams as it happens
- Attempted abuses are logged for further review
- Background mode only for install / upgrade (configuring commands allowed on roadmap)
- GUI on roadmap



# Package Reducer (Licensed)

- Reduce Chocolatey space usage down automatically
- Reduction on install/upgrade
- choco optimize to clean existing

```
Space reduced for 'snagit': 87.33 MB.  
Optimizing 'stexbar'  
Reducing package size for 'stexbar'...  
Reducing nupkg file size ('stexbar').  
Reducing extracted archives and installers ('stexbar')  
Reducing any cached archives / installers ('stexbar')  
Removing 'c:\ProgramData\choco-cache\stexbar\1.8.6\St  
  
Space reduced for 'stexbar': 376.09 KB.  
Optimizing 'virustotaluploader'  
Reducing package size for 'virustotaluploader'...  
Reducing nupkg file size ('virustotaluploader').  
Reducing extracted archives and installers ('virustota  
Reducing any cached archives / installers ('virustota  
Removing 'c:\ProgramData\choco-cache\virustotaluploade  
xe' ('virustotaluploader')).  
Space reduced for 'virustotaluploader': 139.92 KB.  
Optimizing 'visualstudiocode'  
Reducing package size for 'visualstudiocode'...  
Reducing nupkg file size ('visualstudiocode').  
Reducing extracted archives and installers ('visualstu  
Reducing any cached archives / installers ('visualstu  
Removing 'c:\ProgramData\choco-cache\visualstudiocode  
('visualstudiocode')).  
Space reduced for 'visualstudiocode': 33.75 MB.  
  
Chocolatey optimized 34 packages.  
Total space reduced overall: 626.48 MB.
```





# Other Features

- <https://chocolatey.org/docs/release-notes>
- Internal sources (like ProGet)
- *choco upgrade all* - Windows update for your 3rd party and internal software
- Shimming - like symlinks but better
- Pass install arguments directly through to installer (append or override package args)
- Package Parameters to adjust logic in packages
- Handles locking on upgrades in package folders
- Great reference docs - [& https://chocolatey.org/docs/commands-reference](https://chocolatey.org/docs/commands-reference) & <https://chocolatey.org/docs/helpers-reference>
- Excellent open source support community
- 30+ built-in PowerShell Functions
- Extend functionality with your own PowerShell Modules
- Custom Package Templates
- Can manage anything on Windows





# Other Features (C4B)

- <https://chocolatey.org/docs/release-notes-licensed>
- Auto-uninstaller more effective - uninstaller detection / Package Synchronizer
- Install/upgrade keeping secrets out of logs
- Ubiquitous Install Directory Option
- More built-in PowerShell functions
- Uninstall non-Chocolatey managed software
- Direct Installer - install directly from exe/msi
- Package Throttle
- Runtime malware protection
- CDN Cache
- Professional Packaging Services
- Amazing expert support team - <https://chocolatey.org/support>





# Chocolatey Roadmap

- <https://chocolatey.org/docs/roadmap>
- Central Management UI (C4B)
- Choco Deploy CLI (C4B)
- WSA / Windows Nano Support
- PowerShell  
PackageManagement Official Provider
- Package Enhancements
- Pack Validation
- Virtual packages
- GPG Signing
- Package Grid (C4B)
- Deferred Installer (C4B)
- Possible support on other platforms





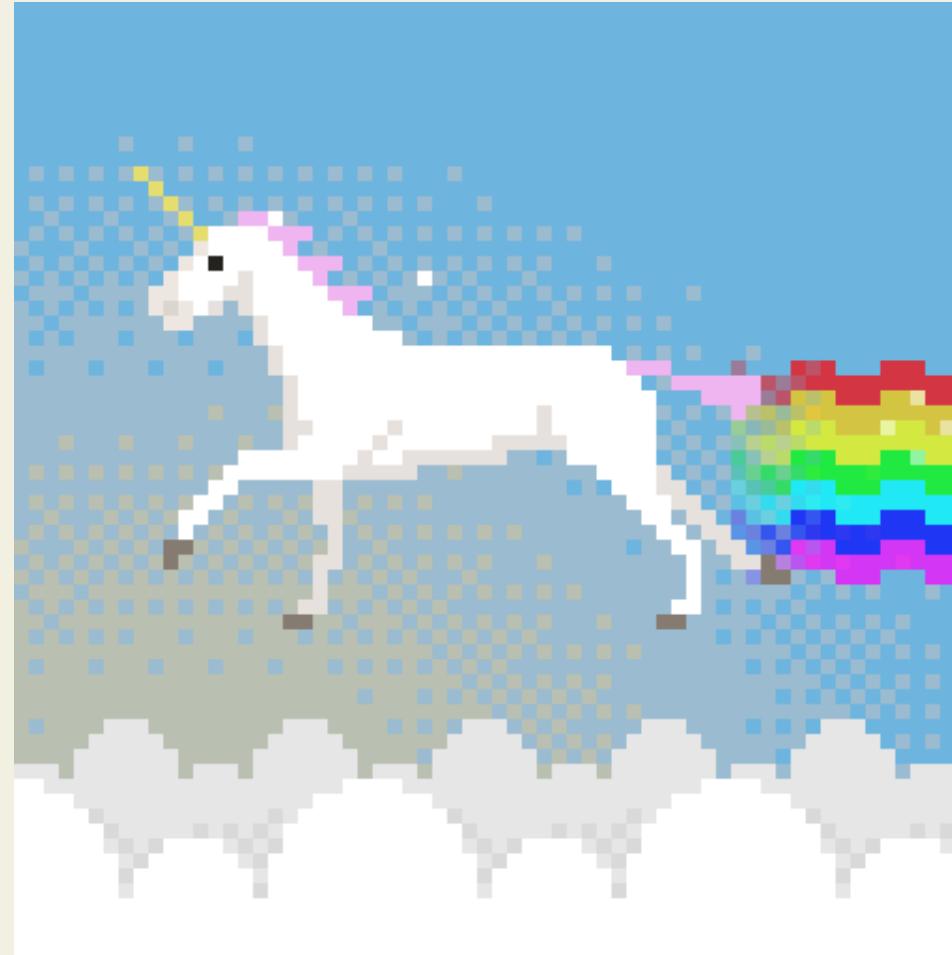
# Demo





# This is you







# This is you on Chocolatey







# Any Questions?





# Questions?

[https://  
chocolatey.org/  
contact](https://chocolatey.org/contact)

- ferventcoder -  
twitter, gmail, etc

