



RubyGems on Steroids



Fred Simon
JFrog

www.jfrog.com

@jenkinsconf

WHO'S TALKING?

github.com/freddy33
@freddy33



 **Fred Simon** 1st
Co-Founder and Chief Architect at JFrog Ltd
Israel · Information Technology and Services
298 connections · 2 recommendations

Current: Co-Founder and Chief Architect at JFrog Ltd [less](#)
Past: Founder and Consultant at AlphaCSP, Developer at Bouygues, Developer at SGT [less](#)



WHAT FROG?



WHAT FROG?



WHAT FROG?



WHAT FROG?





JFrog Ltd

Home

Products & Services

Insights

Analytics

Artifactory Repository Manager

Product Overview

The First Binary Repository Manager

Artifactory, JFrog's flagship product. It is an enterprise-grade **Binary Repository Manager** that centralizes all aspects of managing software binaries. It is deployed per server serving teams of developers.

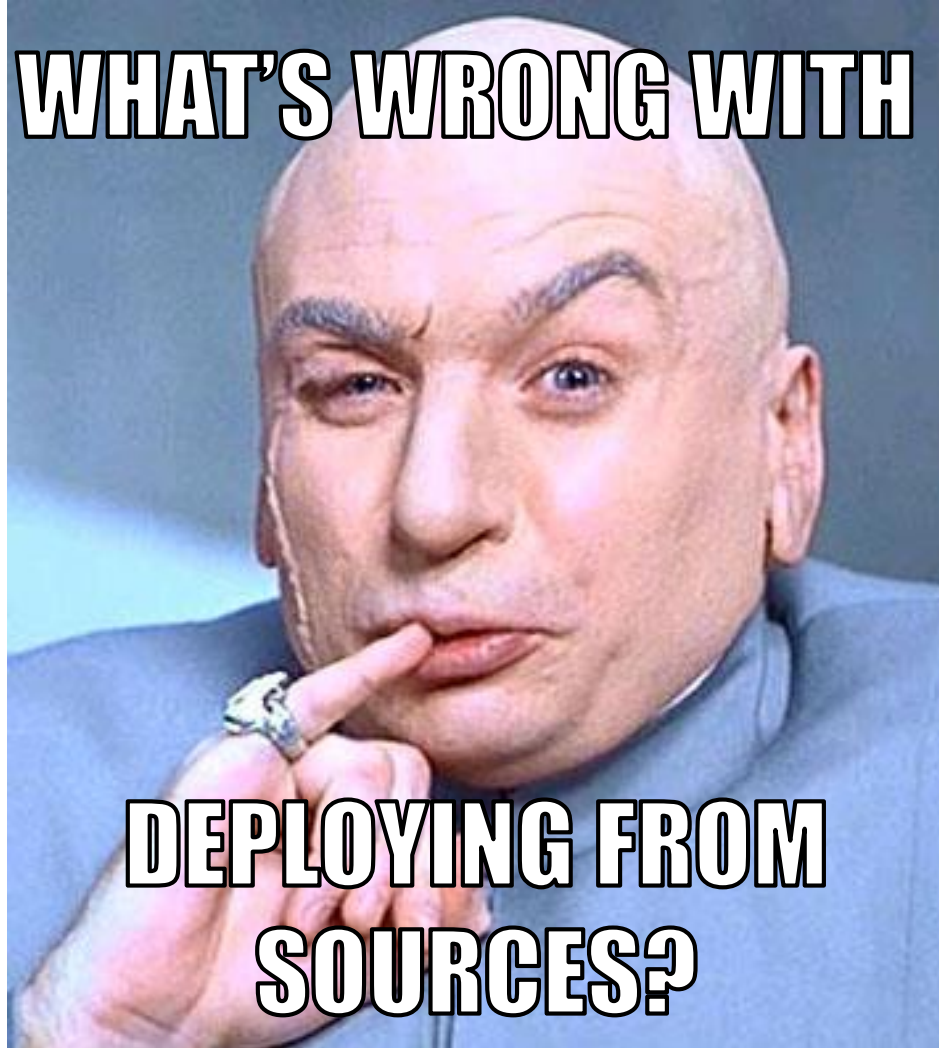
artifactory



BINARY?!

WHO NEEDS BINARIES?!?

WHAT'S WRONG WITH



**DEPLOYING FROM
SOURCES?**

Subject: [ruby-talk:00247] Ruby Application Arvhive

From: Manpreet Singh <manpreet.singh@sun.com>

Date: Wed, 10 Mar 1999 14:07:15 -0800

Hi,

Does anybody know if there is a plan to create a CPAN (perl) like archive for ruby modules and having a

perl -MCPAN -e shell

like facility?

Thanks

Manpreet

RubyConf 2001 - Conference Notes

Disclaimer: Please excuse my horrid pictures. Hopefully, someone else took some decent ones and can send them in for inclusion.

Thursday, Oct. 11, 2001

The conference hadn't officially begun, but a notable amount of people arrived by Thursday evening. We met in the hotel lounge for some light conversation. Firstly, [Brian Marick](#) started handing out [cow magnets](#), which dominated conversation for the rest of the evening (and then some), and also managed to do ~~Other than cow magnets, the main topics of conversation were:~~

RubyGems - Ryan Leavengood



Just when we thought the fun was winding down, Ryan Leavengood (who, incidentally helped out with the fabulous t-shirts) stole the show with a demo of [something very similar to Java's jar files](#).

Currently, RubyGems can [package pure Ruby libraries so that they will be loaded from a single file](#). Ryan has overridden "require" and "load" to pull code "done". He was able to demonstrate the creation of a RubyGem archive--demoing with NOXML--and the usage of that archive from another program.

RubyConf 2001

RubyGems

Something similar to Java Jars:

Ability to pack Ruby libraries so that they will be loaded from a single file

LET'S BUILD SOME GEMS!

RECIPE

1. Take sources

RECIPE

1. Take sources – OK

RECIPE

1. Take sources – OK
2. Bring dependencies

RECIPE

1. Take sources – OK
2. Bring dependencies – where from?

RECIPE

1. Take sources – OK
2. Bring dependencies – where from?
3. Build binaries

RECIPE

1. Take sources – OK
2. Bring dependencies – where from?
3. Build binaries – OK

RECIPE

1. Take sources – OK
2. Bring dependencies – where from?
3. Build binaries – OK
4. ...

RECIPE

1. Take sources – OK
2. Bring dependencies – where from?
3. Build binaries – OK
4. ... - now what?

**HERE COMES THE BINARY
REPOSITORY**

WHAT IS BINARY REPOSITORY



BINARY REPOSITORY AS MODULES SOURCE

RECIPE

1. Take sources – OK

2. Bring dependencies – where from?

Remember?

About what this is

Welcome to RubyGems.org, the Ruby community's gem hosting service. The purpose of this project is three-fold:

1. Provide a better API for dealing with gems
2. Create more transparent and accessible project pages
3. Enable the community to improve and enhance the site



ISSUES? WHAT ISSUES?!

heroku status

current status and incident report

Ruby deploys temporarily degraded

Development **14h**

Issue

Security Notice

Rubygems.org has been affected by a recent YAML parsing vulnerability. Ruby deploys have been temporarily disabled to protect our users from malicious gems. We will have more information available shortly, including a workaround for those who wish to deploy anyway.

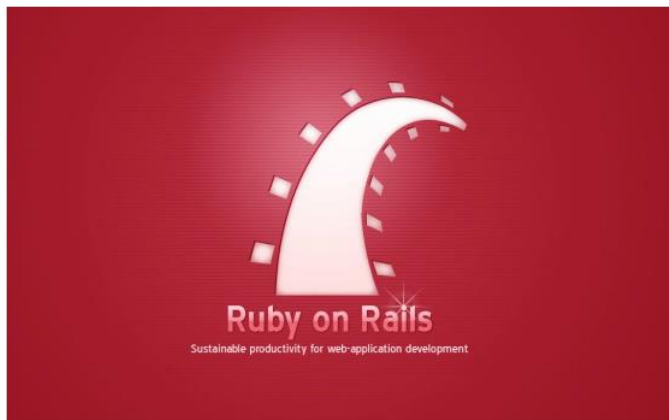
Thus far, there is nothing to suggest that any widely used gems have been altered.

We're working to audit Rubygems changes and will have updates throughout the day.

Posted 8 months ago, Jan 30, 2013 18:50 UTC

/NEWS

RubyGems.org hacked, interrupting Heroku services and putting sites using Rails at risk



January 30, 2013 8:49 PM

[John Koetsier](#)[6 Comments](#)

Ruby package distributor [RubyGems.org](#) was hacked today, disrupting web developers globally and causing service shutdowns at popular hosting service Heroku.

Ruby deploys tempor

Issue

Security Notice

Rubygems.org has been a
protect our users from mal
wish to deploy anyway.

Thus far, there is nothing t

We're working to audit Ru

Posted 8 months ago, Jan 30, 2

Development **14h**

temporarily disabled to
workaround for those who

Ruby deploys tempor

Issue

Security Notice

Rubygems.org has been a
protect our users from mal
wish to deploy anyway.

Thus far, there is nothing t

We're working to audit Ru

Posted 8 months ago, Jan 30, 2

what's hot? GRAND THEFT AUTO V · IPHONE 5S · GOOGLE

org hacked, interrupting Heroku cutting sites using Rails at risk



January 30, 2013 8:49 PM

[John Koetsier](#)



Ruby package distributor [RubyGems.org](#) was hacked today, dis-
developers globally and causing service shutdowns at popular host,
Heroku.

Development 14h

temporarily disabled to
workaround for those who



Where can I install gems from when rubygems.org is down?



13



4

Currently Rubygems.org is down - the website reports an error, and a few gem install tasks are returning 500 errors.

Is there a mirror / backup source of gem files, or is rubygems.org essentially a single point of failure within the ruby gem installation process ?

ruby

gem

share | edit | flag

asked Jan 1 '12 at 13:30



Phantomwhale

511 ● 4 ● 17

Wouldn't mind knowing this myself. It looks like the whole of rubygems.org in down - what a pain. – Dom ☺

Jan 1 '12 at 13:37



stackoverflow

Questions

Tags

Users

Badges

Unanswered

What to do when rubygems.org is down?



2



I have to setup a rails project and rubygems.org is seemed to be down. That's really horrible. Can't believe it the whole ruby community have only one single not-so-reliable gems source. What should I do in such case?

ruby-on-rails

rubygems

bundler

share | edit | flag

add comment

start a bounty

asked Feb 18 '12 at 1:03



Phuong Nguyễn

2,492 ● 5 ● 23 ● 51

**YOU GOT THE IDEA,
YOU CAN'T RELY ON RUBYGEMS.ORG**

LET'S TRY IT AGAIN...

RECIPE

1. Take sources – OK

2. Bring dependencies – where from?

Remember?

BINARY REPOSITORY AS MODULES SOURCE

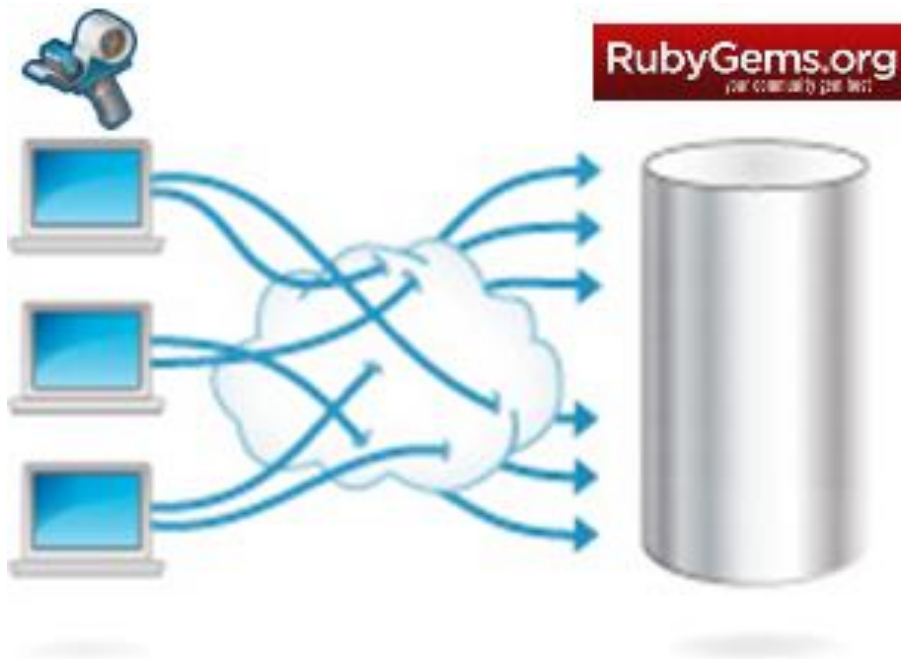


Hint!

BINARY REPOSITORY AS MODULES SOURCE



BEFORE



AFTER



BINARY REPOSITORY AS DEPLOYMENT TARGET

RECIPE

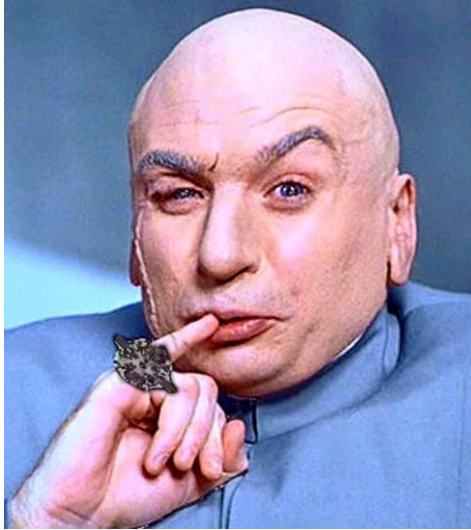
1. Take sources – OK
2. Bring dependencies – where from?
3. Build binaries – OK
4. ... - now what?

Remember?

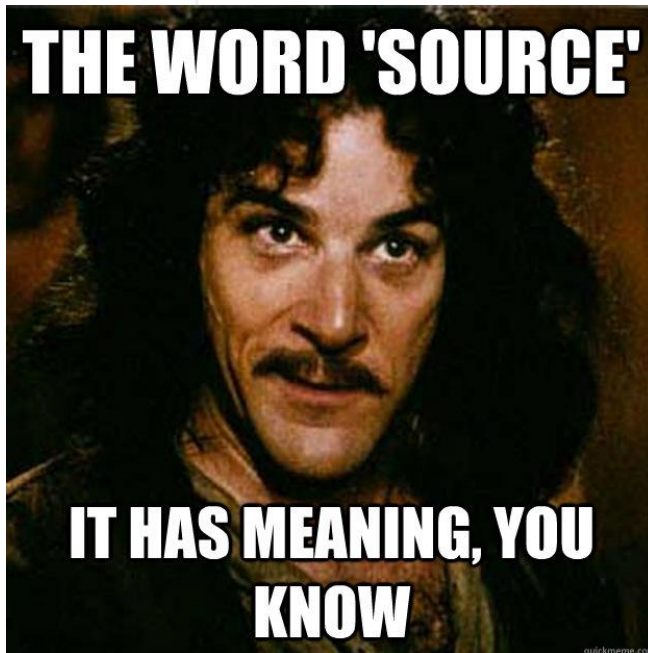
BINARY REPOSITORY AS DEPLOYMENT TARGET



**WAIT A MINUTE,
WHAT'S WRONG WITH MY
SOURCE CONTROL SYSTEM?!**



WAIT A MINUTE,
WHAT'S WRONG WITH MY
SOURCE CONTROL SYSTEM?!



SOURCES VS. BINARIES

Sources

Binaries

SOURCES VS. BINARIES

Sources	Binaries
Text	Blob

SOURCES VS. BINARIES

Sources	Binaries
Text	Blob
Diffable	Not diffable

SOURCES VS. BINARIES

Sources	Binaries
Text	Blob
Diffable	Not diffable
Versioned by content	Versioned by name

SOURCES VS. BINARIES

Sources	Binaries
Text	Blob
Diffable	Not diffable
Versioned by content	Versioned by name
Stored by override	Should never override

VERSIONING BY CONTENT



MyPoem.txt
(rev. 01)

VERSIONING BY CONTENT



MyPoem.txt
(rev. 02)

VERSIONING BY CONTENT



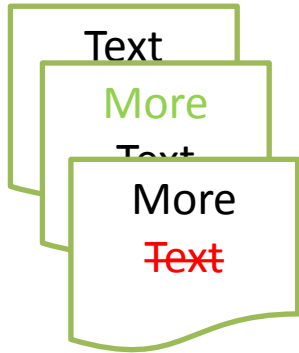
MyPoem.txt
(rev. 03)

VERSIONING BY CONTENT



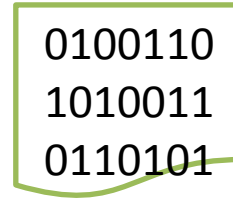
MyPoem.txt
(HEAD)

MISMATCH

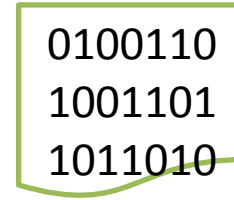


MyPoem.txt

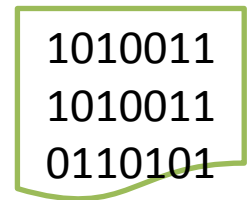
VS.



MyBook-1.0.zip



MyBook-1.1.zip



MyBook-2.0.zip



SOMEONE WILL STAND UP...



SOMEONE WILL STAND UP...



**AND SAY THAT GIT
DOESN'T STORE DIFFS!**



GIT IS A DISTRIBUTED SYSTEM



The screenshot shows a Stack Overflow page for the question "Is there any way to clone a git repository's sub-directory only?". The question has 122 votes and 40 bookmarks. It was asked by Nick Sergeant on Mar 1 '09 at 16:46 and edited by Steven Penny on Feb 5 at 5:52. The question includes tags for "git", "github", and "checkout". Below the question, there are 5 answers. The top answer, by Steven Penny, is highlighted in yellow and has 119 votes. A red circle with a green checkmark is drawn around the top-left corner of this answer, indicating it is the accepted solution.

stackoverflow Questions Tags Users Badges Unanswered

Is there any way to clone a git repository's sub-directory only?

122

40

git github checkout

share | improve this question

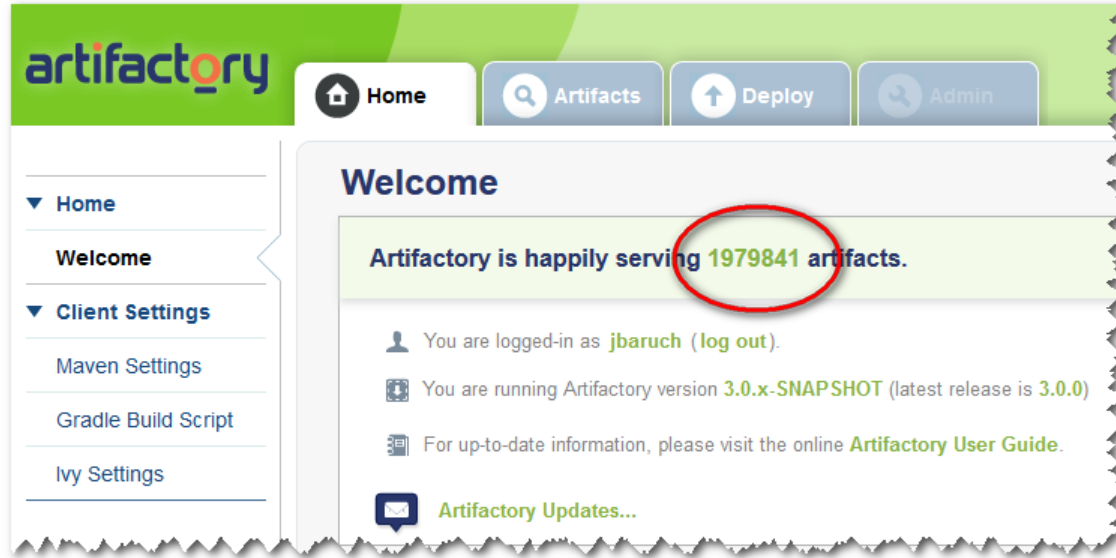
edited Feb 5 at 5:52 Steven Penny 4,000 ● 5 ● 13 ● 43

asked Mar 1 '09 at 16:46 Nick Sergeant 2,474 ● 6 ● 14 ● 35

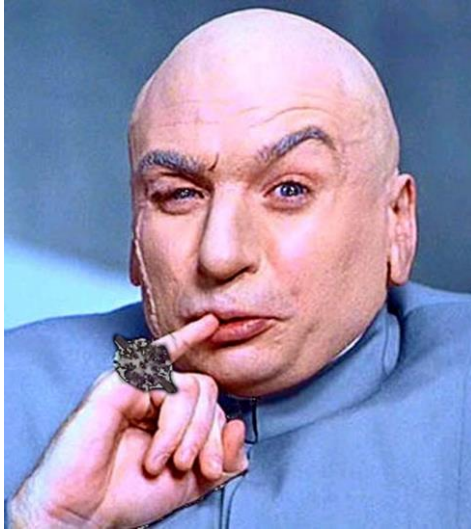
5 Answers active oldest votes


119 **No, that's not possible in Git.**

R U SURE U WANT 2 CLONE IT ALL?



**OK THEN, BUT
WHAT'S WRONG WITH MY
FILE SERVER?!**





RubyGems Guides

[← PREVIOUS](#)

[NEXT →](#)

Run your own gem server

There are times you would like to run your own gem server. You may want to share gems with colleagues when you are both without internet connectivity. You may have private code, internal to your organization, that you'd like to distribute and manage as gems without making the source publicly available.

There are a few options to set up a server to host gems from within your organization. This guide covers the `gem server`

IT'S FINE IF IT KNOWS HOW TO:

IT'S FINE IF IT KNOWS HOW TO:

Optimize storage size

IT'S FINE IF IT KNOWS HOW TO:

Proxy other repositories

Optimize storage size

IT'S FINE IF IT KNOWS HOW TO:

Proxy other repositories

Expose REST API

Optimize storage size

IT'S FINE IF IT KNOWS HOW TO:

Proxy other repositories

Expose REST API

Optimize storage size

Enforce Module Security

IT'S FINE IF IT KNOWS HOW TO:

Proxy other repositories

Expose REST API

Manage artifact lifecycle

Optimize storage size

Enforce Module Security

IT'S FINE IF IT KNOWS HOW TO:

Proxy other repositories

Expose REST API

Manage artifact lifecycle

Optimize storage size

Cleanup SNAPSHOTS

Enforce Module Security

IT'S FINE IF IT KNOWS HOW TO:

Proxy other repositories

Expose REST API

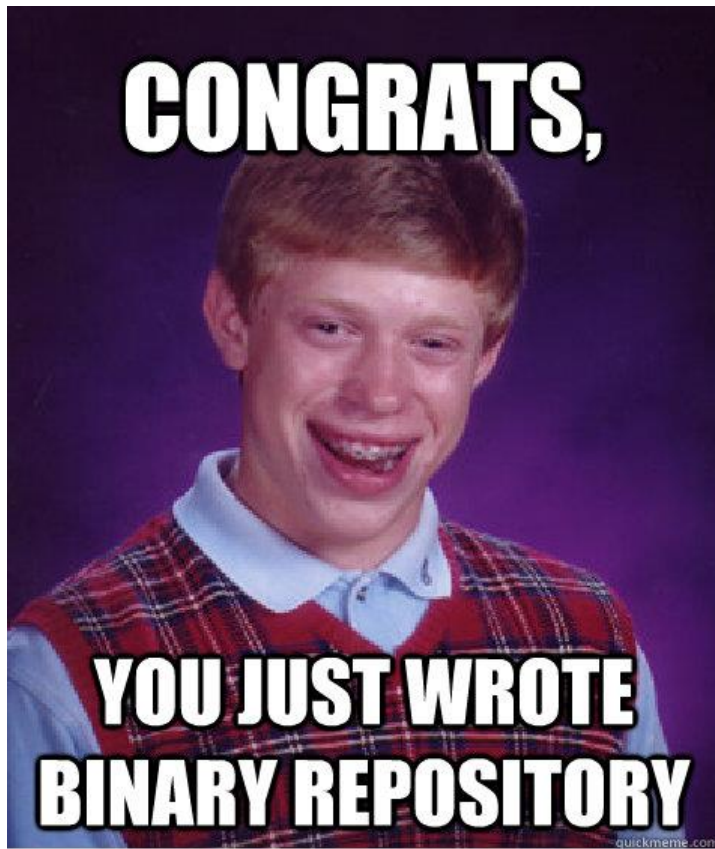
Manage artifact lifecycle

Optimize storage size

Cleanup SNAPSHOTS

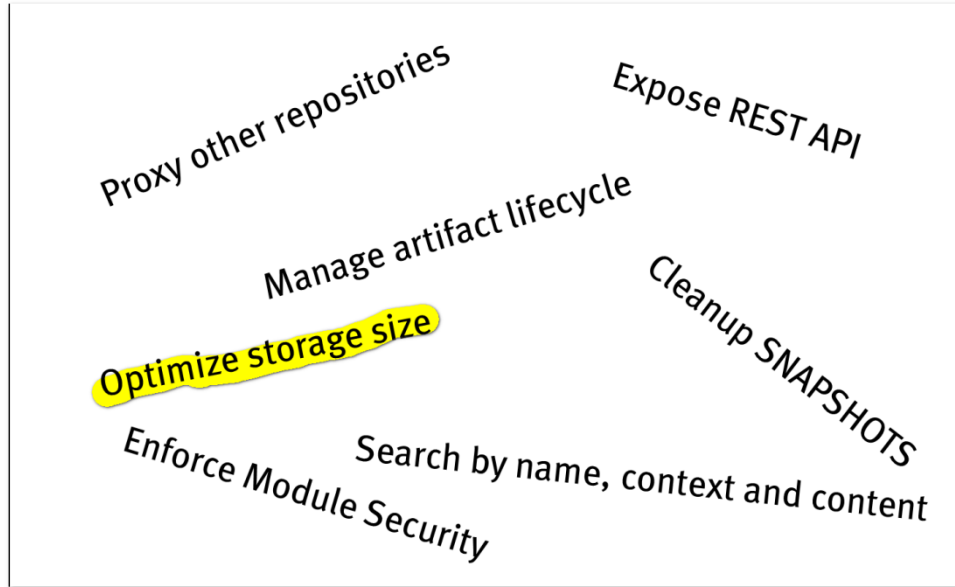
Enforce Module Security

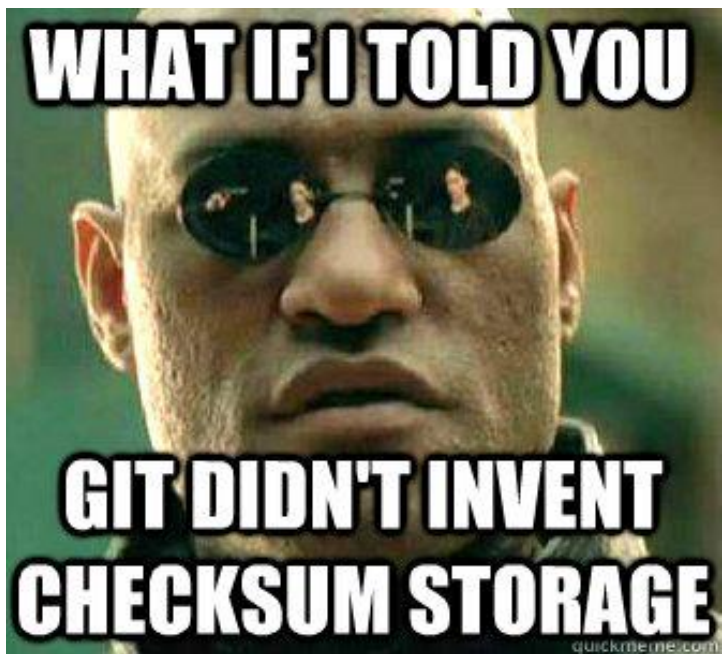
Search by name, context and content



BTW, HOW MANY YEARS IT TOOK?

OPTIMIZING STORAGE SIZE





WHAT IF I TOLD YOU

**GIT DIDN'T INVENT
CHECKSUM STORAGE**

quickmeme.com

MEET ARTIFACTORY

Artifactory Online :: Welcc x
repo.spring.io/webapp/home.html?0

spring

Home Artifacts Deploy

Home

Welcome

Artifactory is happily serving **567164** artifacts.

You are currently not logged-in.
You may [browse](#) Artifactory anonymously.
Please [log in](#) for more options.

Client Settings

Maven Settings

Gradle Build Script

Artifactory Online :: Welcc x
repo.jenkins-ci.org/webapp/home.html?0

Jenkins

Home Artifacts Deploy

Home

Welcome

Artifactory is happily serving **328595** artifacts.

You are currently not logged-in.
You may [browse](#) Artifactory anonymously.
Please [log in](#) for more options.

Client Settings

Maven Settings

Gradle Build Script

Artifactory Online :: Welcc x
repo.grails.org/grails/webapp/home.html?0

artifactory

Home Artifacts Deploy

Home

Welcome

Artifactory is happily serving **1073952** artifacts.

You are currently not logged-in.
You may [browse](#) Artifactory anonymously.
Please [log in](#) for more options.

Client Settings

Maven Settings

Gradle Build Script

Artifactory Online :: Welcc x
repo.gradle.org/gradle/webapp/home.html?0

gradle

Home Artifacts Deploy

Home

Welcome

Artifactory is happily serving **1625764** artifacts.

You are currently not logged-in.
You may [browse](#) Artifactory anonymously.
Please [log in](#) for more options.

Client Settings

Maven Settings

Gradle Build Script

MEET ARTIFACTORY

Ohloh by BLACK DUCK

Follow @Ohloh

Ohloh Meta

Sign In

Join Now

Projects

People

Organizations ^{Beta}

Tools

Code

Projects Search...



Artifactory

Settings | Report Duplicate

Analyzed about 18 hours ago based on code collected about 18 hours ago.

Project Summary

Artifactory is a Maven 2 compatible repository. It offers advanced searching and security features to provide a robust, scalable and centralized code management solution using Maven. Artifactory is being used by many large enterprises and other teams to streamline code management, accelerate development. This improves the development experience for lots of thousands of developers. Artifactory supports a robust artifact management solution using both Maven 2 and can be set up either with a simple "copy and paste" or "drag the war".

Tags

maven2 ajax development maven nexus server build_tools manager apache ivy repository component ant deployment java build artifact components repository_browser archiva automation

Quick Reference

Project Links: [Homepage](#)
[Download](#)

Code Locations: <http://subversion.frog.org/arti...>

Licenses: Apache-2.0

Similar Projects: Apache Ant Apache Archiva

Apache Conti... EBuild

Managers: freddy33 and yoavl

[Browse Code](#)

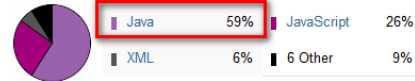
In a Nutshell, Artifactory...

...has had 11 commits made by 5 contributors representing 237,817 lines of code

...is mostly written in Java

with an average number of source code comments

Languages



Lines of Code

JAVA? YUCK!

Ohloh BY BLACK D

Projects People



Artifact

Settings | R

Project Summary

Artifact Hub is a Maven 2 artifact repository and security scanner. It provides a central location for storing and retrieving artifacts, and offers a range of features for managing your artifacts, including: automatic updates, security scanning, and more. For more information, see the documentation at [artifacthub.io](#).

Tags

maven2 ajax development
manager apache ivy
build artifact component

In a Nutshell, Artifact

...has had 11 commits
representing 237,811

...is mostly written in Java
with an average number

Lines of Code



Sign In [Join Now](#)

collected about 18 hours ago.

org/arti...

Apache Archiva

EBuild

cript 26%

er 9%

- FAST!

- ON MODERN HOTSPOT

- FAST!

- ON MODERN HOTSPOT

- COMPLICATED?

- FAST!

- ON MODERN HOTSPOT

- SOPHISTICATED!

- DEPENDENCY

MANAGEMENT DONE

RIGHT SINCE 2007

- SOPHISTICATED!

- DEPENDENCY

MANAGEMENT DONE

RIGHT SINCE 2007

- ENTERPRISY?

- YOUNG AND KICKING!







Ruby



Groovy



Ruby

Ruby On Rails

Groovy

Grails



Ruby

Ruby On Rails

Sinatra

Groovy

Grails

RatPack





Gems



Jars



Gems

RubyGems.org



Jars

Maven Central



Gems

RubyGems.org

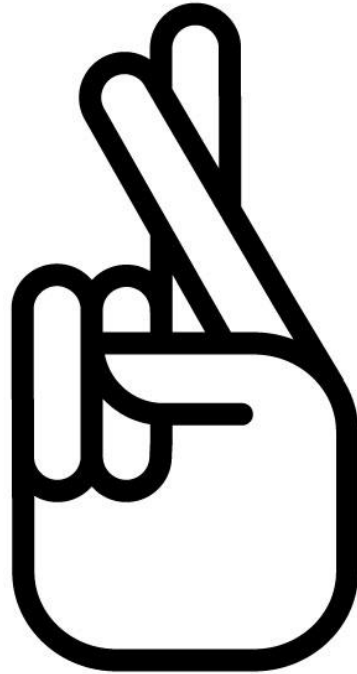
Artifactory

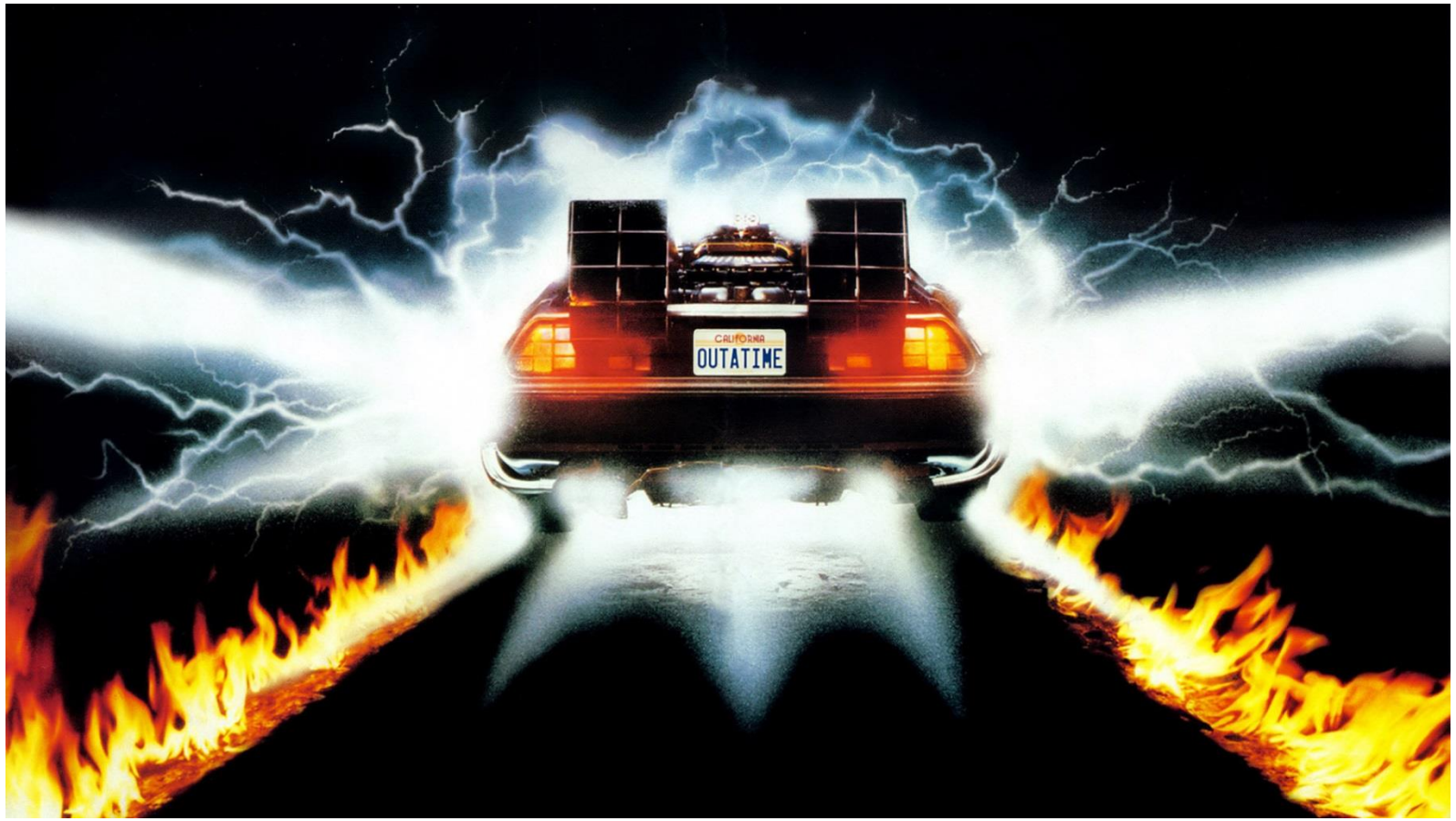
Jars

Maven Central

Artifactory

DEMO TIME!

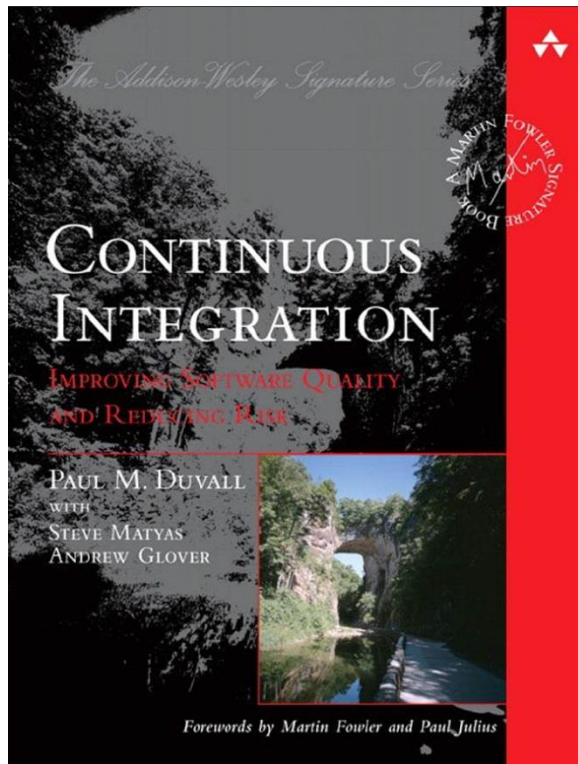




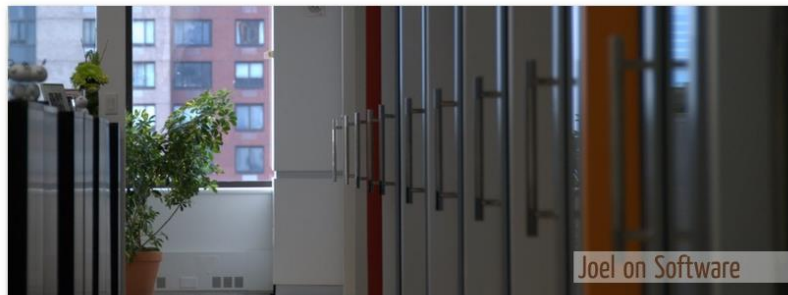
CIA



CONTINUOUS INTEGRATION AUTOMATION



CI SERVERS CHECK OUT CODE , RUN BUILD TOOLS...



Joel on Software

Daily Builds Are Your Friend

by Joel Spolsky

Saturday, January 27, 2001

In 1982, my family took delivery of the very first IBM-PC in Israel. We actually went down to the warehouse and waited while our PC was

Here's how to do them. You need a daily **build server**, which will probably be the fastest computer you can get your hands on. Write a script which **checks out a complete copy of the current source code** from the repository (you *are* using source control, aren't you?) and then **builds, from scratch, every version of the code that you ship**. If you have an installer or setup program, build that too. Everything you ship to customers should be produced by the daily build process. Put each build in its own directory, coded by date. Run your script at a

...AND SHOW CHUCK NORRIS QUOTES.

 **Build #15 (Sep 10, 2009** Started 18 min ago
Took [10 sec](#)
12:02:44 AM)

[add description](#)

 No changes.

 Started by user [anonymous](#)

 Chuck Norris's beard can type 140 wpm.

Permalinks

- [Build number](#)



[Hudson ver. 1.317](#)



MOST IMPORTANT



WHY DO I CARE?



REASON #1

TRACEABILITY

THE TIME MACHINE



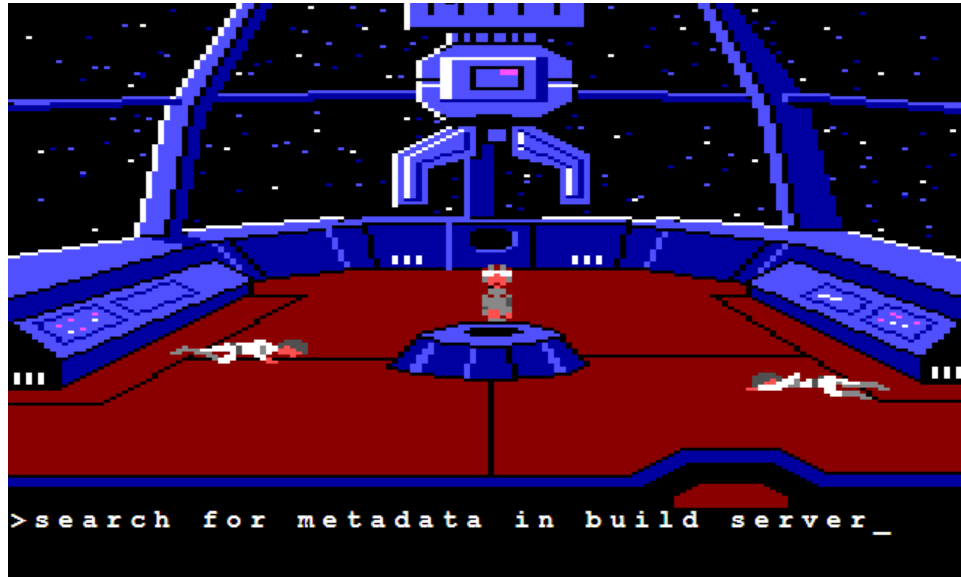
QUEST FOR TRACEABILITY



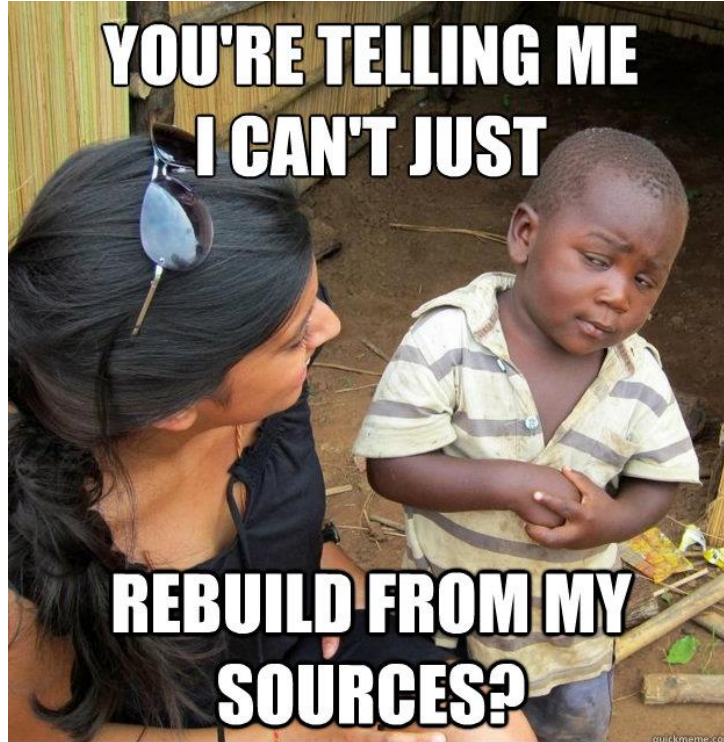
QUEST FOR TRACEABILITY



QUEST FOR TRACEABILITY



WHAT'S THE PROBLEM?



- CHECKOUT

BRANCH/TAG/REVISION

- CHECKOUT

BRANCH/TAG/REVISION

- BUILD

- CHECKOUT
BRANCH/TAG/REVISION

- BUILD

- DONE

- CHECKOUT

BRANCH/TAG/REVISION

WON'T WORK!

- BUILD

- DONE

- CHECKOUT

BRANCH/TAG/REVISION

WON'T WORK!

- BUILD

- TIME CONSUMING

- DONE

- CHECKOUT

BRANCH/TAG/REVISION

WON'T WORK!

- BUILD

- TIME CONSUMING

- DONE

- UNSTABLE

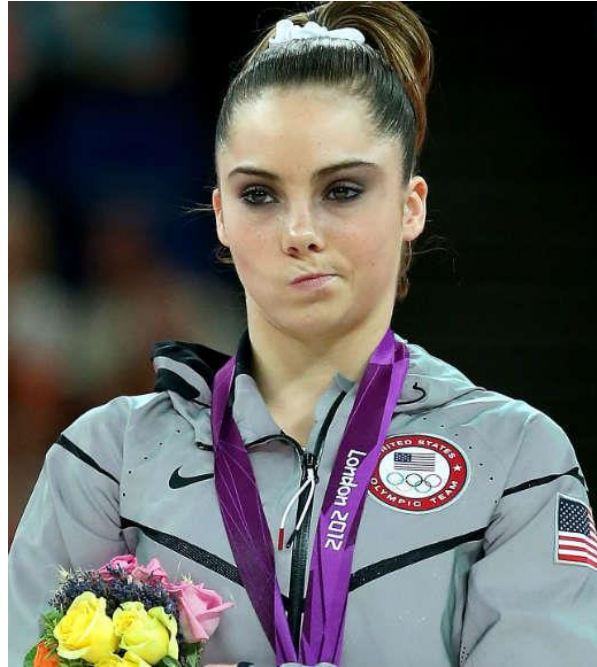
DEPENDENCIES LIE



EVIL DEPENDENCIES RESOLUTION



WE CAN DO BETTER!



REMEMBER? BUILD SERVER:



IT KNOWS IT ALL!



The image shows a screenshot of a Wikipedia article page. The page title is "Single Source of Truth", which is highlighted in a yellow box. A red callout box with a red arrow points to the title, containing the text "Actual term!". The article content begins with "From Wikipedia, the free encyclopedia" and a warning box stating: "This article **does not cite any references or sources**. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. (December 2009)". The main text of the article starts with "In [Information Systems](#) design and theory, as instantiated at the *Enterprise Level*, **Single Source Of Truth** (SSOT) refers to the practice of structuring information models and associated schemata such that every data element is stored exactly once (e.g., in no more than a single row of a single table). Any possible linkages to this data element (possibly in other areas of the relational schema or even in distant [federated databases](#)) are by reference only. Thus, when any such data element is updated, this

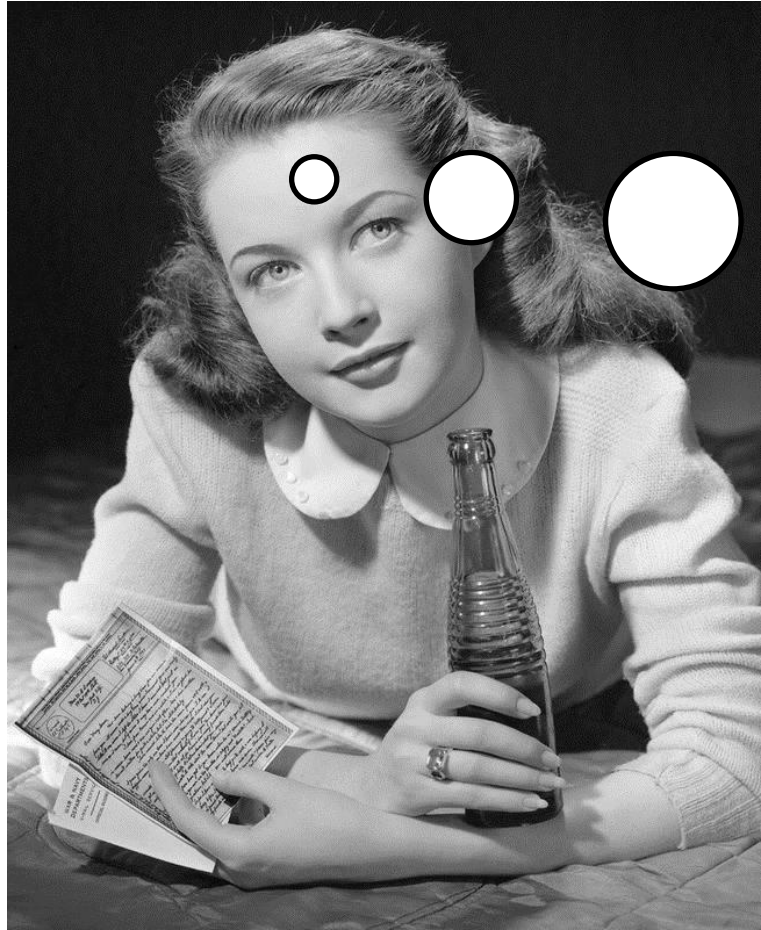
WIKIPEDIA
The Free Encyclopedia

Article [Talk](#) [Read](#) [Edit](#) [View history](#)

Create account [Log in](#)

Main page
Contents
Featured content
Current events
Random article
Donate to Wikipedia

Interaction
Help
About Wikipedia
Community portal



Wouldn't it be
dreamy if
there was a
way to capture
this truth?

BINARY REPOSITORY AND CI/CD



CI SERVER IS THE SINGLE SOURCE OF TRUTH

IT KNOWS IT ALL!



Remember?

BINARY REPOSITORY IS THE SINGLE TARGET OF TRUTH



The image shows a screenshot of a Wikipedia article page. The page title is "Single Target of Truth", which is highlighted in yellow. Below the title, the text reads "From Wikipedia, the free encyclopedia". A red callout box with a yellow background and a red border points to the title, containing the text "Faked, but should be real". The page includes the Wikipedia logo, navigation links (Main page, Contents, Featured content, Current events, Random article, Donate to Wikipedia), and a search bar. The article content is partially visible but mostly blurred.

WIKIPEDIA
The Free Encyclopedia

Article Talk Read Edit View history Search

Single Target of Truth

From Wikipedia, the free encyclopedia

Faked, but should be real

SAVE THE TRUTH!



WITH BINARIES!

MAKE STRANGE BINARY LOVE

Binaries + Build Info

=

2gEttler 4eVA!!11

STANDARD OF TRUTH

Bill of Material for INTERIM WATER SYSTEM REINDEER STATION (CANTONMENT AREA) SHIP APRIL 1972

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	PRICE	TOTAL
SH 69	30		40877903		7904
BF 2422					7905
BF 144					7906
BF 1173					7907
2			2x4 WOOD, 3x4x18, BB EXTERIOR LUMBER, SUGGESTED VENDOR: THOMPSON LUMBER CO.	12.00	24.00
3			STANDARD CONSTRUCTION GRADE 2 OR BETTER LUMBER, SUGGESTED VENDOR: THOMPSON LUMBER CO.	.18	5.40
4			LUMBER, SOFTWOOD, 2"x4"x16', STANDARD CONSTRUCTION GRADE 2 OR BETTER, SUGGESTED VENDOR: THOMPSON LUMBER CO.	2.8678	11.4712
5			LUMBER, SOFTWOOD, 2"x4"x16', STANDARD CONSTRUCTION GRADE 2 OR BETTER, SUGGESTED VENDOR: THOMPSON LUMBER CO.	26.4032	105.6128
			LUMBER, SOFTWOOD, 4"x4"x16', STANDARD CONSTRUCTION GRADE 2 OR BETTER, SUGGESTED VENDOR: THOMPSON LUMBER CO.	35	138708
			TOTAL		172897

SHIP APRIL 1972

HOW EVERYTHING FITS TOGETHER

HOW EVERYTHING FITS TOGETHER



HOW EVERYTHING FITS TOGETHER



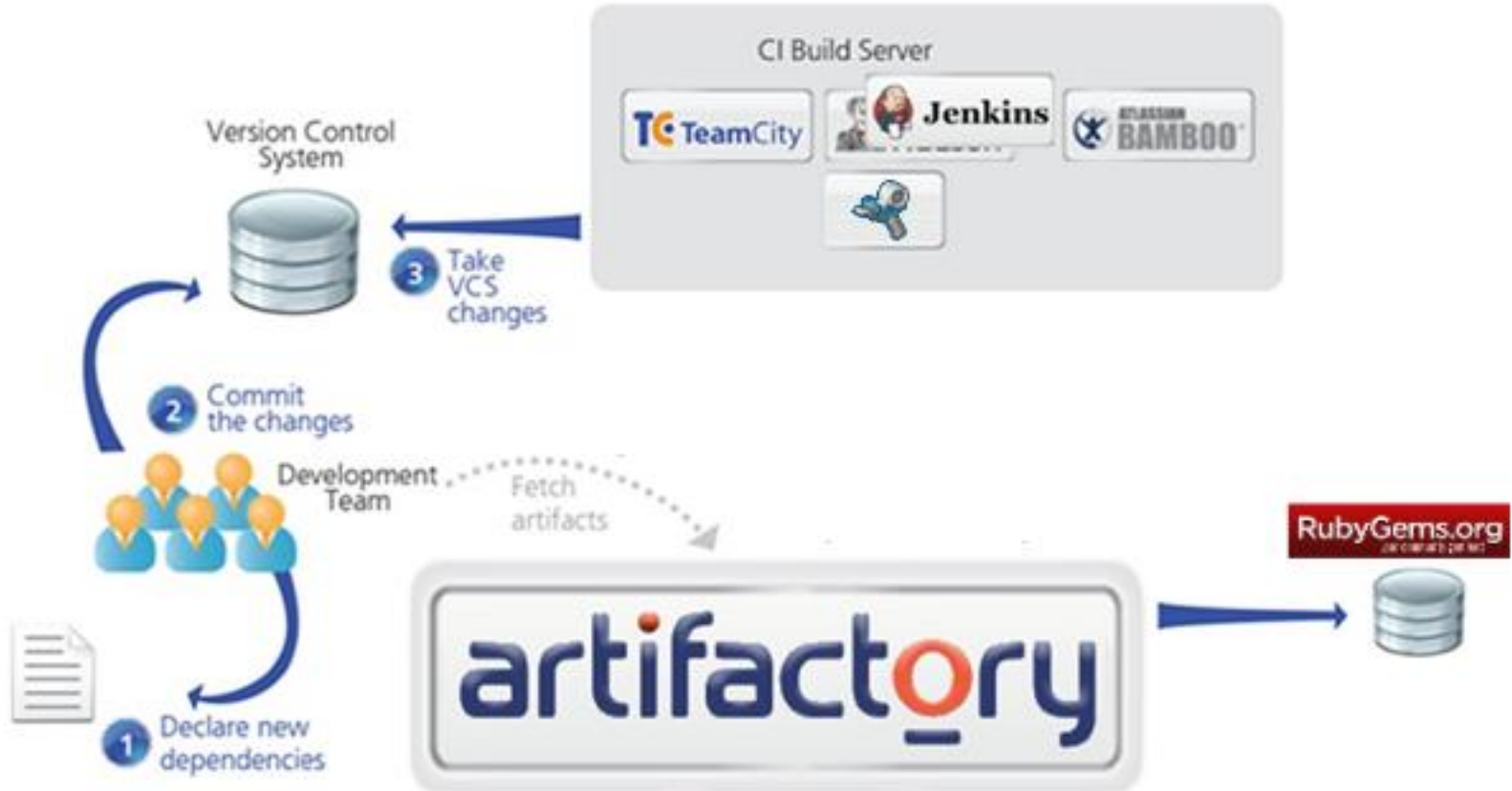
HOW EVERYTHING FITS TOGETHER



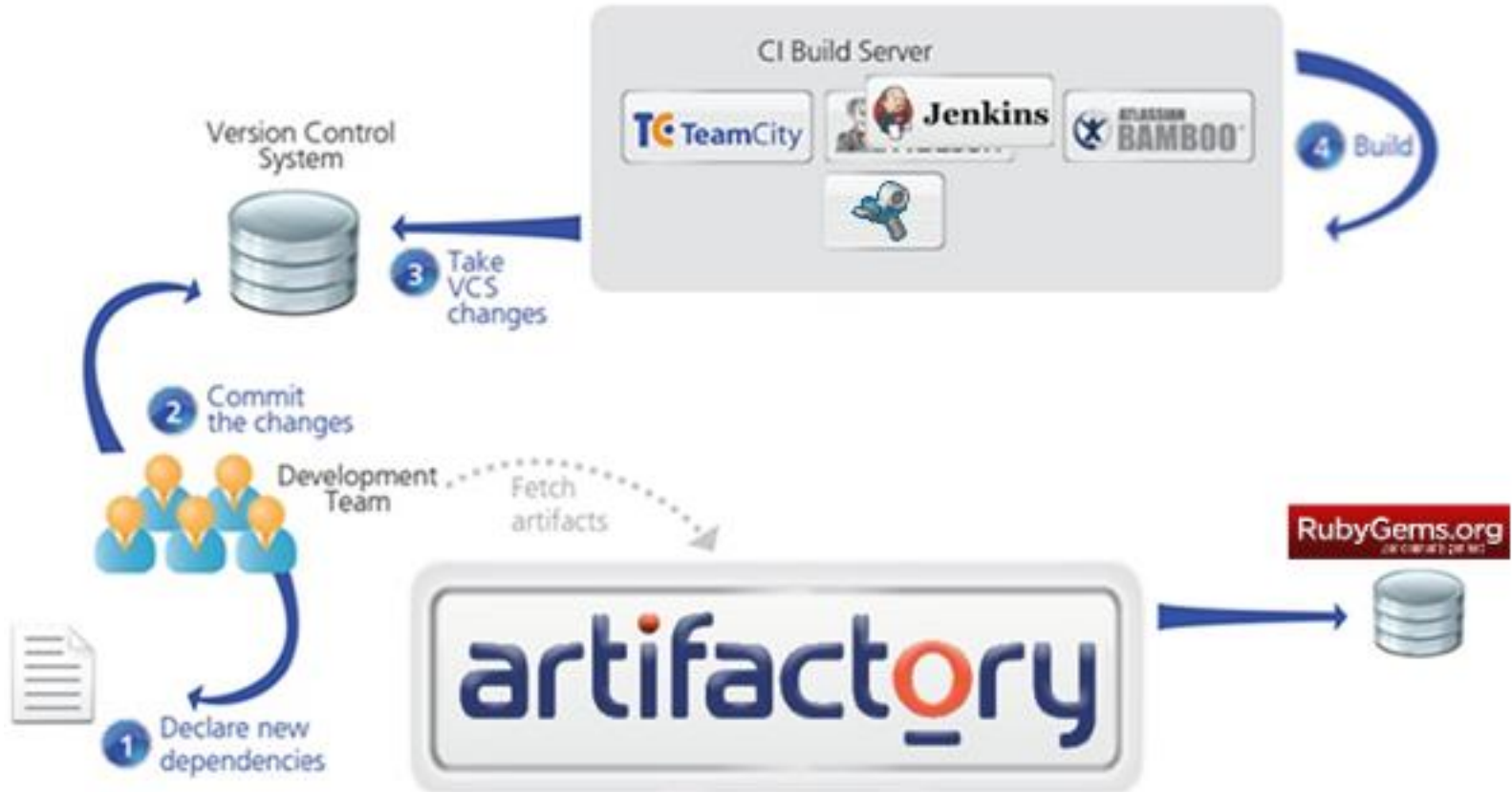
HOW EVERYTHING FITS TOGETHER



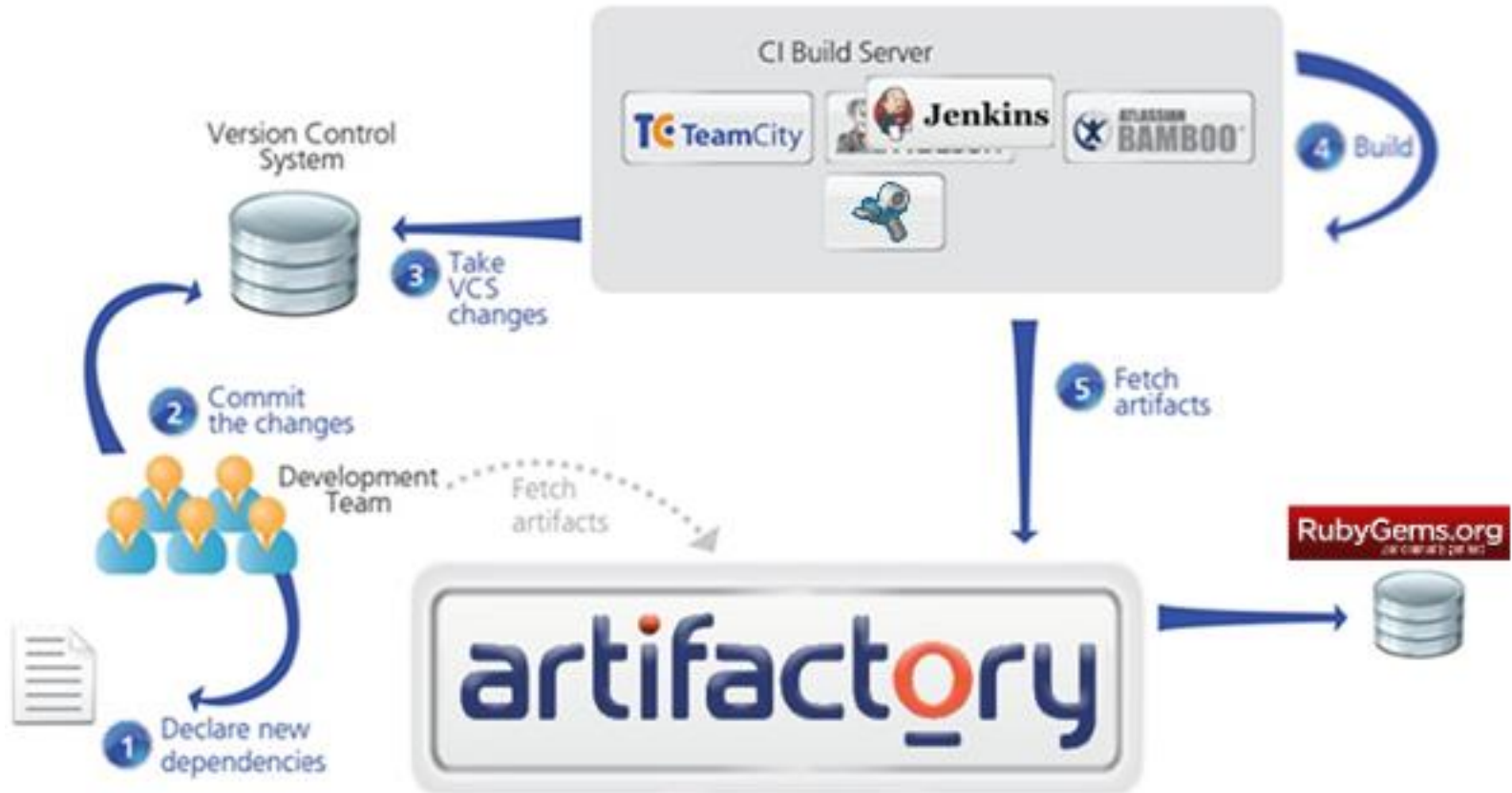
HOW EVERYTHING FITS TOGETHER



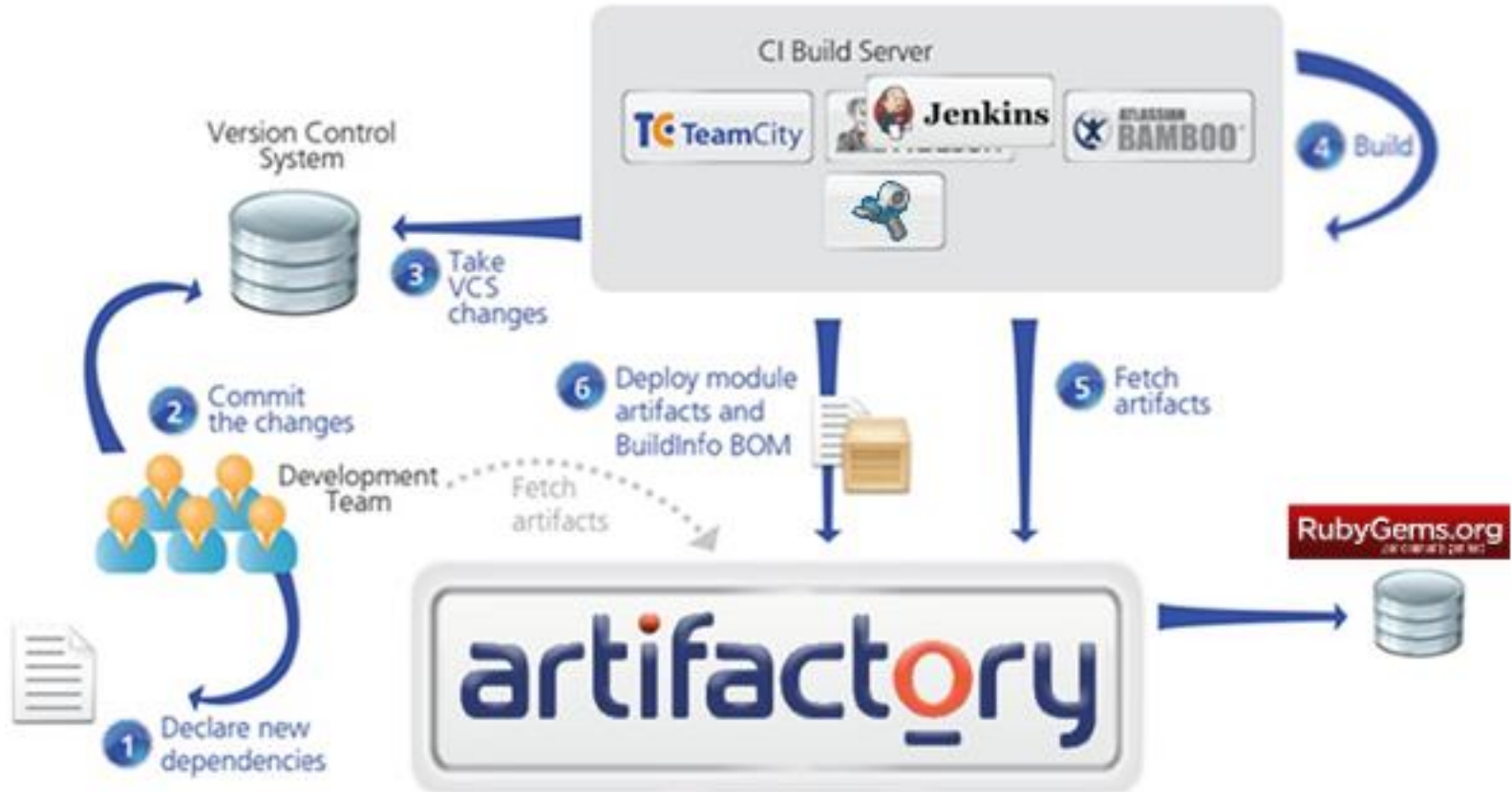
HOW EVERYTHING FITS TOGETHER



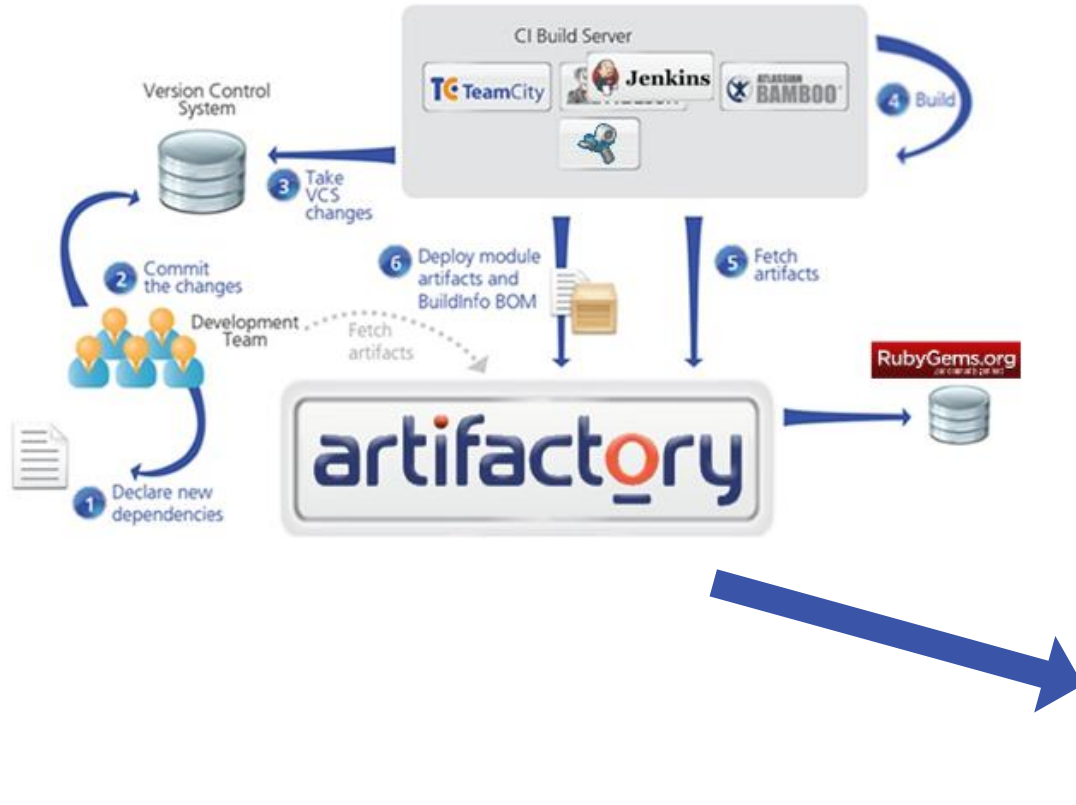
HOW EVERYTHING FITS TOGETHER



HOW EVERYTHING FITS TOGETHER



HOW EVERYTHING FITS TOGETHER





Thank You To Our Sponsors

Platinum



Gold



Silver

