



2017 Open Source Support Report

Trends, issues, and
surprises in OSS



Open source software (OSS) is common across all industries and organizations, enabling **innovation** and **agility**. Despite the continued use of OSS, there are still many misconceptions around how enterprises support their open source deployments in production.

This report takes real support data of **the top OSS** packages to analyze the statistics and realities of open source use, enabling organizations to get the most out of their OSS.



Rod Cope, CTO
Rogue Wave Software

THE AGE OF OPEN SOURCE

Back when I started my journey with open source software, things were much different. Not only was the community significantly smaller, but you didn't really think much about open source support and all the issues that come along with using open source code in the enterprise. It was simply free. And that was perfect. Flash forward some years (not too many – no need to feel old) and the open source world is drastically different. There are so many open source packages it can often seem overwhelming. We found that 98 percent of organizations have open source in their code.

We've reached the age of open source in the enterprise, and I couldn't be happier about it.

The old story of needing to understand **if** your organization uses open sources has shifted to **how** and **how much** open source is in your applications. It's no longer worthwhile for management to discourage open source. We've reached a point of acceptance. But with this open source comes issues that aren't necessarily familiar to the enterprise

world. After providing support for open source packages to enterprise companies for some time now, we've come to realize that issues within open source aren't generally tied to one package. 2016 emphasized for us that many open source issues actually reside in the glue that holds all the open source packages together – and that's where things get sticky.

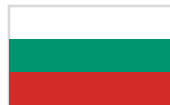
I'm proud to share the 2017 Open Source Support Report and let you in on our insider information. We deal with hundreds of customers and have insights that can't be found anywhere else. This year we've expanded our report by adding more use cases, focusing on current trends, and tossing in some statistics around OSS audits.

I encourage you to skim through what matters most to you, examine the numbers, or read everything in detail. There's a lot to learn and a lot to be excited about in 2017. I can't wait to see where the OSS journey continues to take us.

Rod Cope, February 2017

TIPPING POINT: GOVERNMENTS RAMP UP OSS INITIATIVES

Just like commercial organizations, governments around the world are embracing OSS. With this expanded adoption comes challenges, resulting in regulations. These trending topics of 2016 show just how invested governments are in the open source ecosystem. Government interest in OSS is a testament to the value, ease, and popularity of open source. The steps governments are taking to make OSS successful exemplifies what we've known for years: There is value in OSS. It's here to stay.



Bulgaria leads the way with OSS

Software written for the government is open source and developed in a public repository »



The United States embraces OSS

US government now has an official open source software policy »
US government creates open source software hub »



China tackles OSS

China is starting to adopt and contribute to open source projects »

ENTERPRISE RISING: LARGE COMPANIES EMBRACE OSS

There's no better testament to enterprise-OSS than large organizations throwing in their hat and shouting "open all the things." In 2016, several large organizations joined or expanded the OSS ecosystem. Like governments, this embrace of OSS is one giant leap for the community – proving yet again that open source has the strength and the power to keep the largest organizations ahead of the curve.



Microsoft

Microsoft code isn't just for Windows anymore »
Bing components open-sourced for fast code compilation »
Microsoft joins Linux Foundation »



HPE

HPE Wants Open Source »



Walmart

Walmart redesigning their technology stack & culture around an open source first policy »



Google

Google releases open source 'Cartographer' »

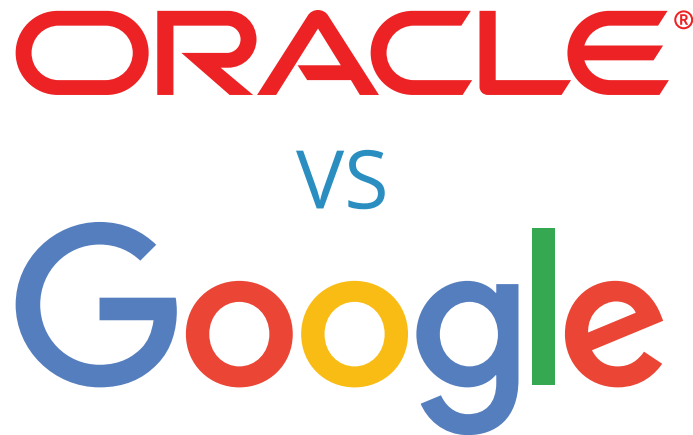


AT&T

ECOMP launches into the open source community »

ORACLE AND GOOGLE FINALLY MET IN COURT »

2016 was the year that Oracle and Google finally met in court. What started in 2014, and has undoubtedly included several motions, filings, and countless legal fees, came to a head in April when the trial started.



The cornerstone of this case ended up being APIs, and the court's decision stating APIs are copyrighted. When investing in building systems it's important to not only manage your open source licenses, but to manage your APIs as well.
Learn more.

PACKAGE POPULARITY

3,183 PACKAGES

ROGUE WAVE SOFTWARE SUPPORT DATA, 2016

71,202 REQUESTS

TOO MUCH COPYLEFT

Last year our audit team **scanned millions of files**, searching source code for open source packages, open source licenses, and commercial and legacy code uses. On average, we saw 63 OSS packages and 16 OSS licenses per audit, with **45 percent of all scanned files containing OSS**.

Top 10 licenses found

- Apache License 2.0/Apache 1.1
- MIT License
- BSD 3-clause New or Revised License/BSD 2-clause simplified
- GNU Lesser General Public License v2.1
- GNU General Public License v2.0
- Common Development and Distribution License 1.0
- Microsoft Public License (Ms-PL)
- Eclipse Public License 1.0
- Mozilla Public License 1.1
- GNU General Public License v3.0



60%

of audits contained **strong copyleft** licenses, which requires organizations to provide source for modification or derivative work.

Copyleft licenses were found in

82%

of audits, making organizations required to provide access to the source code if its distributed.



20%

contained "free" licenses which restricts use for commercial purposes, i.e. **non-commercial use only**.

OSS was found in

98%

of audits

THE PROBLEM WITH OPEN SOURCE

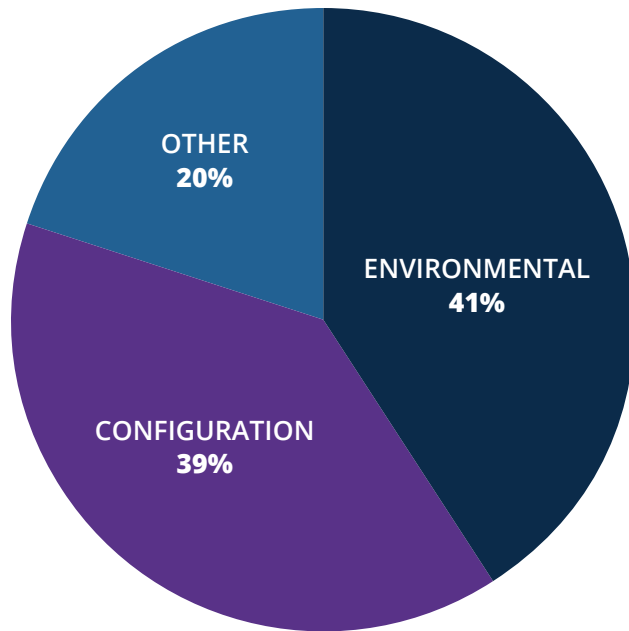
Development teams aren't equipped to support the open source they're using

After analyzing a sample of our support tickets, we narrowed down the reasons behind needing OSS support:

80%

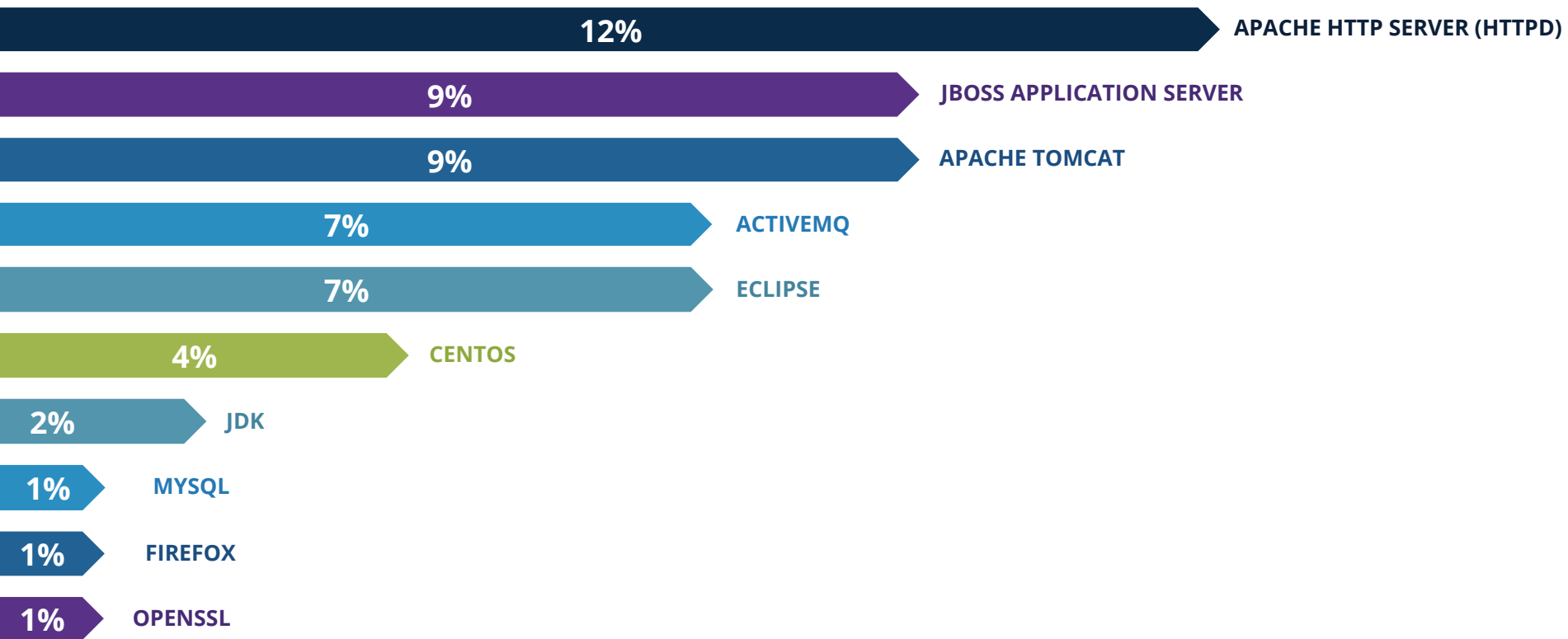
of all the issues were either a **lack of product knowledge**, or something in the environment outside of the package.

Developers may know the package they're using, and may even know how to fix an issue within the package. But the problem doesn't usually lie in the package itself. And developers don't often know how to fix the way different packages interact.



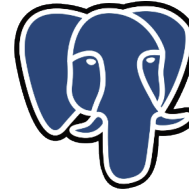
ISSUE CATEGORIES

TOP SUPPORT REQUESTS



Source: Rogue Wave Software Support data, 2016

OTHER SUPPORT PACKAGE REQUESTS



maven



CHANGES IN OSS SUPPORT REQUESTS

1

We're supporting more packages. Last year we supported around 350 packages, this year we offered support for almost 375. Our increased commitment to supporting OSS packages mirrors the increase in development teams using OSS.

2

People are using a broader set of OSS packages. The number of support tickets we've received has increased, but the support requests are spread among more OSS packages than we've seen in the past.

3

As the OSS landscape changes, the packages we see change. Expect a steady decline for HTTPD because it's a mature package. Eclipse, on the other hand, has had recent releases so ticket numbers have increased.

USE CASE: TONS OF APACHE TOMCAT TRAFFIC



CUSTOMER

"I recently setup a new application on Tomcat. Help us direct all traffic to the Tomcat server and a "Root" application running there. We've setup our network to point traffic directly at the Tomcat server."

"This is not good practice. You need to implement a proxy in front of the Tomcat server, restrict access to the Tomcat server, and serve static resources from the proxy. I'll also go through your proxy configuration (Apache Web Server using mod_proxy_ajp)."

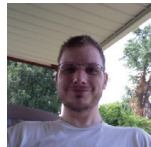


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CUSTOMER

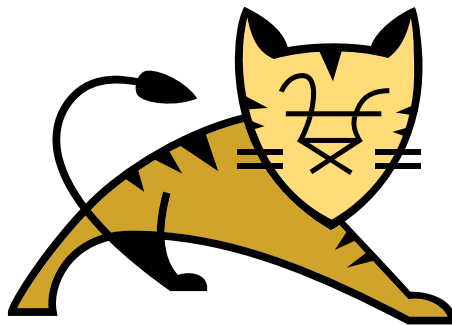
"Wow! Now only the proxy server connection has privileges, you've mitigated a number of security vulnerabilities, tightened security overall, and ensured all requests are handled efficiently."



Our Experts

Want to meet one of the experts we have working on Apache Tomcat?

[Get to know Andrew C »](#)



USE CASE: HORNETQ AND JBOSS INTERCONNECTIVITY



CUSTOMER

"I need help. Our HornetQ socket connections from our JBoss application server are prematurely closing."

"You're not alone. This is similar to other issues we've seen with HornetQ. After investigation I found that a Lossy network was causing intermittent time to live (TTL) timeouts because the default TTL settings for HornetQ are not tolerant enough."



ROGUE WAVE



CUSTOMER

"Great, thanks! By increasing the TTL, you've eliminated the premature socket closures."



Our Experts

Want to meet some of the experts we have working on JBoss?

[Get to know Bill »](#)



[Get to know Joe »](#)



USE CASE: VULNERABILITY IN APACHE HTTP SERVER



CUSTOMER

"We have a long-standing vulnerability in our Apache web server build."

"First, let's do a scan."



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"It appears the web server is running publicly on port 80, indicating that SSL hasn't been enabled on the server. Worse, when you try to build OpenSSL into Apache to enable SSL, the process was segfaulting on run."



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"Our application team was trying to build Apache against the uncompiled source code of OpenSSL."

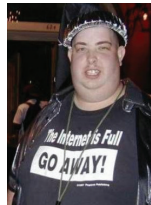


CUSTOMER

"You must always build OpenSSL, and then build Apache against the compiled code. Let me walk you through the process and enable SSL so we can close the vulnerability."



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Our Experts

Want to meet one of the experts we have working on Apache Tomcat?

[Get to know Andrew P »](#)



TM

APACHE
HTTP SERVER

OUR EXPERTS ARE TOP-TIER



CUSTOMER

"The interaction was helpful, Andrew was a really good guy to work with and solved the problem on his first try. Turnaround time was very prompt. I'm really happy with the results."

"The CentOS images on Azure have been rock solid for us."



CUSTOMER



ROGUE WAVE

"The customer resolved a problem involving multiple components within a sophisticated setup with just one call to Rogue Wave Open Source Support."



Richard Sherrard
Director, product
management
Rogue Wave Software

OSS LEADING THE WAY

2016 was the year of open source acceptance across governments and very large organizations. This shift from hesitation to embrace has made it more important to understand vulnerabilities and security issues in open source. We expect to see more of this in 2017, ultimately leading to even more adoption of OSS across all industries and countries.

I encourage you to challenge the idea of what OSS looks like within your organizations. Do you really know all the open source used within your applications? Perhaps an Open Source Audit should be in your 2017 plan. Consider how knowledgeable your team is about not only the OSS packages, but

also how those packages work together. Where do the knowledge gaps exist on your team? It's a good idea to have an open source support plan in place now so you don't have to scramble when something goes wrong.

Keep an eye on what open source packages are gaining traction, and which are being regularly updated. Make sure you don't fall behind on version numbers or you may become vulnerable. There's so much to consider when building and maintaining an OSS strategy, but you aren't alone. Reach out to the Rogue Wave open source team now to help navigate the complex and dynamic open source world.

Richard Sherrard, February 2017

Want to test our OSS expertise before jumping in?

Send us your question to see if we have the right answer. If you stump us, you get one free Open Source Support ticket.

Can you stump our experts?



www.roguewave.com