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Top software development trends in 2016



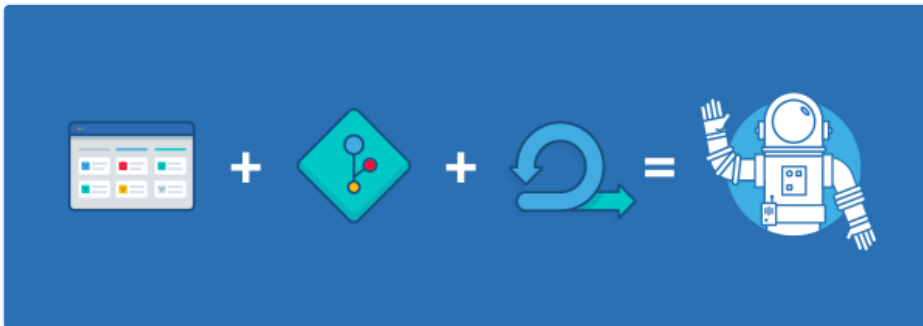
By Aileen Horgan, Product Marketing Manager
JIRA, Bamboo, HipChat, News, Bitbucket
On March 29, 2016

This post begins our series on software development trends we're seeing from our customer base. Stay tuned for more!

You've probably heard Marc Andreessen's adage that "software is eating the world", becoming the differentiator for industries that were previously thought to be more manual. Tesla is a great example – they've helped transform the automotive industry by essentially creating drivable computers. We wanted to dig deeper into this notion of software leading the way for nearly every industry, and understand the trends driving software development forward.

With over 50,000 customers, Atlassian is in a unique position to spot software development trends by tapping into our best resource: our customers. We surveyed more 1,300 customers and turned our findings into an [interactive resource](#), but want to share some of what we discovered here.

Top development teams use agile, Git, and continuous delivery



We found that of software organizations across all industries:

- 80% practice [agile](#) development.
- 85% use a DVCS, such as [Git](#).
- 65% practice [Continuous Delivery \(CD\)](#).

These processes have clearly become the norm with software teams. Yet only 49% said they practice all three together. Teams that do, however, ship changes faster and with greater confidence.

Agile, Git, and continuous delivery are the norm – yet only 49% of software

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teams use all 3.

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How? Agile's iterative approach makes it easier for teams to pivot or change priorities based on customer and market feedback. Interestingly, 50% of agile teams reported using a mix of agile and non-agile techniques indicating that teams are even adapting the process to meet their needs. Git's support for branch-and-merge workflows takes the pain out of collaborating on code. And with a continuous delivery pipeline in place, shipping is a no-drama event, which encourages smaller, more frequent (and therefore less risky) releases.

Development teams are increasingly distributed

Regardless of industry, 72% of respondents said some portion of their team works remotely. What makes remote team collaboration and productivity possible? A few ideas:

Git

As we noted, 85% of respondents said their team had migrated to a DVCS, like Git. Git allows team members to work from any location. As a distributed version control system, each developer gets their own local repository, complete with a full history of commits. Having a full local history means you don't need a network connection to create commits, inspect previous versions of a file, or perform diffs between commits.

Distributed development also makes for a more reliable development environment. With each developer working in a local repo, their changes – and, more importantly, their missteps – are isolated. Combined with basic development best practices like peer review and testing changes locally before pushing them to the team's shared repository, Git is a powerful tool. Atlassian continues to support this movement to Git with new features for distributed teams, like [smart mirroring](#).

Built-in collaboration

Staying in sync as a team can be especially challenging when your team isn't co-located. Collaboration tools like [HipChat](#) are essential for distributed teams. But group chat isn't the only place you need to discuss the work at hand. Most issue trackers let teammates comment on issues so they can keep each other up to date. Same with development tools: the ability to have an in-context discussion about a code change or a broken build is now commonplace.

```
15 15    */
16 16    public static final String PRODUCT_RULE_LOG_ENABLED = "automation.rulelog.enable";
17 17
18 18    + /**
19 19    +   * Enables/disables synchronous event handling
20 20    +   */
21 21    + public static final String SYNC_EVENT_HANDLING_ENABLED = "automation.execution.enabled";
22 22    +
```

Melinda Banks
I like the name, but I might suggest changing it slightly so that it is clear that it controls how we should process events. One idea would be SYNC_EVENT_HANDLING_ENABLED
Reply • Create task • 2015-01-22

Norman Webb AUTHOR
Thanks Melinda! I'll rename the variable to give it more clarity.
Reply • Create task • 2015-01-22

Automation and visibility

Tools are becoming increasingly integrated, whether from the same vendor or different vendors, to help with automatic sharing and syncing of content. In fact, 82% of survey respondents reported that their source code management tool was integrated with a build system, issue tracker, or both.

Take, for example, the [integrations between JIRA Software and Bitbucket](#). When a developer creates a pull request in [Bitbucket](#), the corresponding issue in [JIRA Software](#) automatically advances to the next stage in the workflow. Anyone on the team can see what state the work is in simply by looking at the issue, and trust that it's a true reflection of what's really happening. And when HipChat is added to the mix, the team gets real-time notifications on build status, pull requests, and other issue updates.

The screenshot displays the JIRA Software interface. On the left, a sidebar shows a list of issues under the heading '5 of 8 Done'. The issues are:

- TIS-27**: Add Phobos and Deimos Tours as a Preferred Travel Partner (Space Travel Partners, 5 votes)
- TIS-24**: Sign Contract for SunSpot Tours (Space Travel Partners, 2 votes)
- TIS-67**: Developer Toolbox does not display by default (Large Team Support, 0 votes)
- TIS-26**: Engage Jupiter Express for outer solar system travel (Space Travel Partners, 5 votes)
- TIS-28**: Research options to travel to Pluto (Space Travel Partners, 7 votes)

On the right, the detailed view for issue **TIS-67** is shown. It includes a 'Developer Toolbox' section with a 'Create Sub-Task' button and a message 'There are no sub-tasks'. Below this is a 'Development' section with the following statistics:

- 4 branches** (Updated 3 days ago)
- 9 commits** (Latest 6 hours ago)
- 3 pull requests** (Updated 6 hours ago, one is **MERGED**)
- 5 builds** (Latest 6 hours ago, one is **✓**)

At the bottom of the right panel, there is a 'Deployed to Staging and Production' section with a 'Create branch' button.

Teams are leaner and faster

80% of respondents said the average development team in their company has 10 or fewer members. This is a pretty significant number so we decided to dig deeper into this. Stay tuned for follow-up post next week dedicated to this emerging software development trend.

Containers – the hottest software development trend

56% of our customers reported using containers to spin up test, staging, or production environments. With a container, you can define everything needed to run an application or service and use that blueprint (called an “image”) to make new copies whenever you need to scale, or simply share it with others. The ease and speed of using containers not only makes development more efficient, but reduces IT overhead compared to maintaining traditional bare-metal hardware.

The popularity of our Docker integrations for both Bitbucket and [Bamboo](#) testify to how hot containers are right now. With Bitbucket, you can see source code stats along side your Docker repo. And for Bamboo, you can spin up more build agents using Docker. Judging by what's trending on Twitter and the session schedule of every development conference on the planet, containers (and Docker in particular) will be software's “it” technology for years to come.

Overview

SSH: git@bitbucket.org:smith/docker-multi

Last updated: just now	1 Branch	0 Tags
Language: —	1 Fork	1 Watcher
Access level: Admin		

Docker Repository Information

tarkastev/multi Public

Hub Builder: Up to date | Last Result: Pending | Pulls: 3

Multi-Python Docker Image

Current Python versions are:

- 2.7.10
- 3.3.6
- 3.4.3
- PyPy2 2.6.0
- PyPy3 2.4.0

The image also includes the Tox test system.

Recent activity

- 1 commit: Pushed to smith/docker-multi by d218392 Clean up readme (Steve Smith - a minute ago)
- 1 commit: Pushed to smith/docker-multi by f1b4419 Add basic readme (Steve Smith - 16 hours ago)
- 1 commit: Pushed to smith/docker-multi by @c48e8 Add docker-repository YAML file (Steve Smith - 2015-09-01)
- 1 commit: Pushed to smith/docker-multi by 39f5a8d Add default python version and s... (Steve Smith - 2015-09-01)

What about *your* team?

Data in the aggregate is all well and good. But what you really want to know is how your team compares to your peers, right? We built a comparison tool that lets you see shows you how your team stacks up to others in your industry.

Stay tuned for more insights from our customer study. We'll be back soon with a post dedicated to the emerging trend of smaller, leaner software teams, and another on Git insights specifically. In the meantime, have fun with the comparison tool!

See how your team stacks up

Did you find this post helpful? Share it on your social network of choice so your fellow software makers can learn about 2016's trends, too!



About Aileen Horgan

I'm on the Product Marketing team here at Atlassian and when I'm not busy bragging about how much I love this company, you can probably find me out running trails, listening to live music (I live in the live music capital) practicing yoga, or eating Mexican food.

[View all posts by Aileen Horgan »](#)

Tags: Agile, containers, continuous delivery, docker, git, software development trends

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You are right and I believe the fact of increasing GIT usage made Atlassian to separate GIT from FishEye and incorporate in Atlassian Stash (Bitbucket).

Very nice article.

By [Sanjay Krishnan](#) on March 30, 2016 / [Reply](#)



Great article! Another hottest trend in terms of visibility is Slack, as a tool to inform to the team about events around the organization, team, code, for example, continuous integration, events on the git repo, errors, logs, etc...

By Isra San José on March 30, 2016 / [Reply](#)

Great article! FYI There's an inaccessible link in the see how your team stacks up page:

<https://extranet.atlassian.com/display/DT/Why+Git+--+for+the+whole+organization>By Will on March 30, 2016 / [Reply](#)Hi Will, glad you found this informative! Sorry about the link – here's the correct one: <https://www.atlassian.com/git/tutorials/why-git>By Aileen Horgan on March 31, 2016 / [Reply](#)Pingback: [2016 年ソフトウェア開発の動向 - Atlassian Japan](#)Pingback: [What We're Reading This Week: April 4th 2016 | Kanoah](#)

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