At Red Hat we’re constantly speaking and working with a large and diverse set of customers on their IT challenges. As a result, we hear about their priorities, their issues, and their view of the world on a daily basis. However, we also periodically ask them questions more systematically through a survey. This year, we thought it would be useful to share some of our findings more broadly. The results are based on 876 qualified responses from Red Hat customers. Data was collected in August and September 2019. We conducted a similar survey last year so we can also share some interesting trends.

Here’s what we learned about five key areas.
Hybrid was the most common (31%) term they used to describe their cloud strategy.

The reasons they gave for having a hybrid cloud strategy were diverse but overall data security, cost benefits, and data integration led the pack. However, given all the talk around hybrid cloud in the market, you might think 31% seems low. Is everyone rushing to turn to a public cloud instead?

That turns out not to be the case. In fact, only 12% described themselves as having either a “public cloud first” strategy or a strategy to standardize on a single public cloud. (6% more described their strategy as multicloud based on multiple public clouds.)

Many of the rest (21%) have a private cloud first strategy. In fact, in EMEA, more respondents described themselves as having a private cloud strategy than a hybrid one.

And many of those who answered the survey don’t know yet. 17% are working on it but a full 12% have no plans. This is a useful reminder that many organizations around the world have yet to adopt tech trends and technologies that may seem dated to others.
Digital transformation projects continue to ramp up.

Over the past 2 years, we've seen our customers move from having no digital transformation plans (32% in 2018, 14% in 2019, 9% for the current 2020 survey) to implementing new tech and processes (31% in 2018, 50% in 2019, 59% for 2020). That’s an 18% increase relative to last year.
The drivers for these projects vary. And the drivers also vary by the role of the respondent. System administrators care most about simplicity. IT architects focus on user experience and innovation. For managers, simplicity, user experience, and innovation are all tied for top priority. Developers prioritize innovation—which, overall, was cited as the most important reason to do digital transformation projects.

If you were to characterize your absolute top priority for your company’s digital transformation in a single term, which of the following would best fit?

- **Innovation**
  - We need to deliver innovative solutions
  - 22%

- **Simplicity**
  - We need to make IT easier
  - 20%

- **User experience**
  - We need to deliver greater user
  - 19%

- **Cost**
  - We need to reduce costs
  - 17%

- **Speed**
  - We need to move faster
  - 12%

- **Skill set**
  - We need different skills or trained IT staff
  - 10%
At first glance, the digital transformation push would seem to run counter to the relative conservatism around cloud infrastructure adoption. But it’s useful to put digital transformation in context. Yes, companies are pushing (and being pushed) hard to innovate. But our customers are still working to optimize their existing IT; it’s difficult to innovate without getting one’s existing IT in order first. In fact, the survey found that optimizing existing IT was the top (18%) single technology funding priority.

Over the next 12 months, what are your company’s top IT technology funding priorities?

- Optimizing existing IT: 18%
- Cloud infrastructure: 13%
- IT security: 12%
- IT operations automation: 11%
- Enterprise integration: 10%
- Application development: 9%
- IT/cloud management: 7%
- Analytics/big data: 6%
- Automating business processes: 6%
- Storage: 6%
- Other: 2%

But technical skills are a challenge.

11% of our customers said they are facing skillset and talent gaps when it comes to transforming their businesses. At first glance, that may not sound so bad. But consider that another 17% cited challenges around technical debt and still another 11% said that they didn’t have enough automation in place—much of which comes down to not having enough of the right skills to deal with these barriers.
The shortage of appropriate skills is only exacerbated by the number of new technologies coming on board. Container use continues to increase. 62% of respondents say they have minimal (less than 10%) container use today but only 20% say that will still be the case in 24 months. Meanwhile, the percentage with more than half their workloads containerized is expected to almost triple—to 28%—over the same period. Increases in the number of different public cloud providers used can also put a strain on staff resources.
Companies do recognize the importance of building up technical skills. When asked to choose their top non-IT funding priorities, customers chose both technical skills training (16%) and a digital transformation strategy (16%).

Over the next 12 months, what are your company’s top funding priorities outside of IT technology products or solutions?

- Technical/technology skills training: 16%
- Digital transformation strategy: 16%
- People and process skills training: 15%
- Change management/change culture: 13%

Four

Artificial intelligence/machine learning (AI/ML) is a priority.

This year, AI/ML has leaped to the front of the line when our customers choose to implement emerging tech workloads. 30% plan to be using AI/ML over the next 12 months if they aren’t already doing so. This is a fairly dramatic departure from last year when blockchain was at the top of the list and AI/ML wasn’t even in the top three. (12% still plan to adopt blockchain but that puts it quite a way below both serverless at 21% and a combination of Internet of Things and fog/edge computing at 25%.)
### What emerging technology workloads are you most likely to consider using in the next 12 months (or are currently planning on using)?

<table>
<thead>
<tr>
<th>Technology Workload</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artificial intelligence/machine learning (AI/ML)</td>
<td>30%</td>
</tr>
<tr>
<td>Serverless or Function-as-a-Service (FaaS) computing</td>
<td>21%</td>
</tr>
<tr>
<td>Internet of Things (IoT)</td>
<td>19%</td>
</tr>
<tr>
<td>Blockchain</td>
<td>12%</td>
</tr>
<tr>
<td>Augmented reality/virtual reality</td>
<td>8%</td>
</tr>
<tr>
<td>Edge or fog computing</td>
<td>6%</td>
</tr>
<tr>
<td>Other</td>
<td>5%</td>
</tr>
</tbody>
</table>

But adopting AI/ML isn’t without its challenges. Managing compatibility and complexity as technology was the biggest barrier cited (29%). But getting access to relevant data, provisioning infrastructure, and optimizing models for performance were all cited by 22%. The data aspect in particular is something that we often see overlooked; obtaining relevant data and cleansing or transforming it in ways that it’s a useful input for models can be one of the most challenging aspects of an AI project.

### What are your top challenges to get an artificial intelligence/machine learning project up and running?

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing compatibility/complexities of evolving software stack</td>
<td>29%</td>
</tr>
<tr>
<td>Getting access to relevant data</td>
<td>22%</td>
</tr>
<tr>
<td>Getting IT to provision infrastructure for dev and test</td>
<td>22%</td>
</tr>
<tr>
<td>Iterating on and optimizing models for performance</td>
<td>22%</td>
</tr>
</tbody>
</table>
It’s not just about the technology.

As we’ve seen, more and more organizations are pursuing digital transformation projects. But fewer have reached the same stage when it comes to organizational changes to improve collaboration and transparency. In fact, only 5% describe themselves as leaders who are well into the process and 29% have no plans to evolve to an open organizational culture at all.

How would you characterize your company’s status in evolving to an open organization culture?

- **Leading**
  - We are well into the transformation process and have seen success
  - 5%

- **Transforming**
  - We are using new processes to innovate and transform how we work
  - 17%

- **Emerging**
  - We are starting to adopt new processes
  - 20%

- **Not yet started or just beginning**
  - We are doing some initial investigation
  - 17%

- **No plans to evolve**
  - 29%

- **Unsure**
  - 12%

At the same time, there are signs of change. 37% say that their culture evolution is either emerging or in the process of transforming. Furthermore, 55% recognize that DevOps requires a culture change to, among other things, enable collaboration between developers and operations teams. Only 16% thought that this kind of collaboration doesn’t require culture change.
According to Gartner, DevOps is defined as seeking to improve collaboration between operations and development teams and emphasizes people (and culture). What does DevOps mean at your company?

We also see the attitude of many customers to openness reflected in other ways in this and other surveys. For example, as you would expect, desirable enterprise software attributes as security/reliability and customer support are among the leading reasons (#2 and #3 respectively) given as the top value of working with Red Hat as a technology provider. But commitment to open source is the top reason at 22% and related answers such as Red Hat open source investments and community-driven innovation also rank highly.

What do you value most in partnering with Red Hat?

- Commitment to open source: 22%
- Secure and reliable: 15%
- Customer support: 12%
- Investment in open source: 12%
- Community-driven innovation: 8%
- No vendor lock-in: 8%
- Cost: 6%
- Hybrid cloud innovation: 6%
- Organizational culture: 6%
- Independence: 4%
Conclusion

Digital transformation isn’t just a buzzword. It’s a change that many organizations are serious about tackling. But the Red Hat Global Customer Tech Outlook 2020 also highlights some of the realities that face many organizations. For many, getting their existing IT infrastructure in order will be a prerequisite to larger digital transformation initiatives. While this is happening, a majority of these organizations are continuing to pursue hybrid cloud, and a lesser but still strong number of organizations are pursuing private cloud-first over those exclusively using public clouds. And you can’t forget the people, whether it’s upleveling skills or transforming the organization itself.