Oracle Java Usage, Pricing & Migration

The Java community's response to ongoing pricing changes and preference for open source

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Introduction

In January 2023, Oracle changed its Java pricing and/or licensing model for the fourth time in four years. Under the latest rules, businesses pay based on the number of employees – including part-time workers and contractors – rather than for the amount of Java they use, where they use it, or the number of named users in their organization. Questions about the impact of this decision exploded inside board meetings, financial planning discussions, IT/engineering stand-ups, analyst calls, and news reports.

In the Azul State of Java Survey and Report 2023, more than 80% of businesses were concerned about the new Oracle Java SE pricing and licensing changes. This first annual Oracle Java Usage, Pricing & Migration Survey and Report provides insights into how organizations have reacted to Oracle Java pricing and ongoing pricing changes, and their plans to migrate to alternatives based on OpenJDK.

A global survey, the Oracle Java Usage, Pricing & Migration Survey and Report includes responses from 663 qualified participants from companies of all sizes, across six continents.

All participants are versed in Java, with 75% saying a substantial part of their jobs involve Java, 10% saying it's a minor part of their job, and another 16% managing teams that have responsibility for Java application development or operations. Participants also ranged in seniority from individual contributors (16%) to director and above (45%). Any participant who did not meet the criteria for company size or use of Java was disqualified from completing the survey.

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KEY FINDINGS

38%
ARE MIGRATING DUE TO UNCERTAINTY CREATED BY ONGOING PRICE AND POLICY CHANGES

53%
ORACLE JAVA USERS ARE MIGRATING BECAUSE OF ORACLE LICENSE COST

66%
ORACLE JAVA USERS PLAN TO BEGIN MIGRATING WITHIN 2 YEARS

MIGRATION TO ORACLE JAVA ALTERNATIVES

86%
RESPONDENTS ARE MIGRATING OFF ORACLE JAVA

14%
ORACLE JAVA USERS PLAN TO STAY WITH ORACLE JAVA

MIGRATION PROCESS

75%
COMPLETED MIGRATIONS OFF ORACLE JAVA WITHIN 1 YEAR

23%
COMPLETED THEIR MIGRATIONS IN LESS THAN 3 MONTHS

83%
REQUIRE COMMERCIALLY SUPPORTED JAVA

84%
COMPANIES THAT HAVE MIGRATED SAID THEIR MIGRATIONS WENT AS EXPECTED OR WERE EASIER THAN EXPECTED

PRICING & SUPPORT

66%
SAY ORACLE JAVA LICENSING AND SUPPORT ARE MORE EXPENSIVE THAN ALTERNATIVES

36%
ORACLE JAVA CUSTOMERS HAVE MOVED TO EMPLOYEE-BASED PRICING

Oracle Java customers are moving because of cost and uncertainty:

60% of survey participants have moved completely off Oracle Java or plan to, and only 14% intend to stay on Oracle Java. When asked why they decided to migrate off Oracle Java, participants' top three answers were cost, preference for open source, and uncertainty over Oracle's ongoing pricing changes.

Java users value support & expertise:

Participants who are choosing to stay with Oracle Java said migrating is too risky, they lack the resources to migrate successfully, or they are concerned they won't be able to migrate completely off Oracle Java and will still have to pay Oracle. Despite this trepidation, 84% of participants said their migration went as expected or easier, and 75% of companies who have already migrated off Oracle Java completed their migrations within one year, including 23% which finished in three months or less.

Migration to OpenJDK is easier than expected:

Participants who are choosing to stay with Oracle Java said migrating is too risky, they lack the resources to migrate successfully, or they are concerned they won't be able to migrate completely off Oracle Java and will still have to pay Oracle. Despite this trepidation, 84% of participants said their migration went as expected or easier, and 75% of companies who have already migrated off Oracle Java completed their migrations within one year, including 23% which finished in three months or less.

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ORACLE JAVA MIGRATION TO OPENJDK

Oracle's share of Java users has been declining for years. Oracle held about 75% of the market for Java Development Kit (JDK) distributions in 2020 (New Relic 2020), but only 42% in the Azul State of Java Survey and Report 2023. This survey shows that trend continues, as 86% of respondents who are using Oracle Java SE are currently moving or plan to move all or some of their Java applications off Oracle.

Only 14% of Oracle Java subscribers plan to stay on Oracle. In addition, 60% of Oracle Java subscribers have already moved completely off Oracle (25%), are currently doing so (20%), or plan to (15%) [Figure 1].

WHICH STATEMENT BEST DESCRIBES YOUR COMPANY'S USE OF ORACLE JAVA TO RUN JAVA APPLICATIONS IN PRODUCTION?

14%
We use Oracle Java and plan to stay on Oracle Java

9%
We use Oracle Java, but we plan to move some of our Java production applications to an alternative (OpenJDK, etc.) in the future

25%
We have previously used Oracle Java but now we use something else (OpenJDK, etc.)

18%
We use Oracle Java, but we are currently moving some of our Java production applications to an alternative (OpenJDK, etc.)

15%
We use Oracle Java, but we plan to move all our Java production applications to an alternative (OpenJDK, etc.) in the future

20%
We use Oracle Java, but we are currently moving all our Java production applications to an alternative (OpenJDK, etc.)

Figure 1.

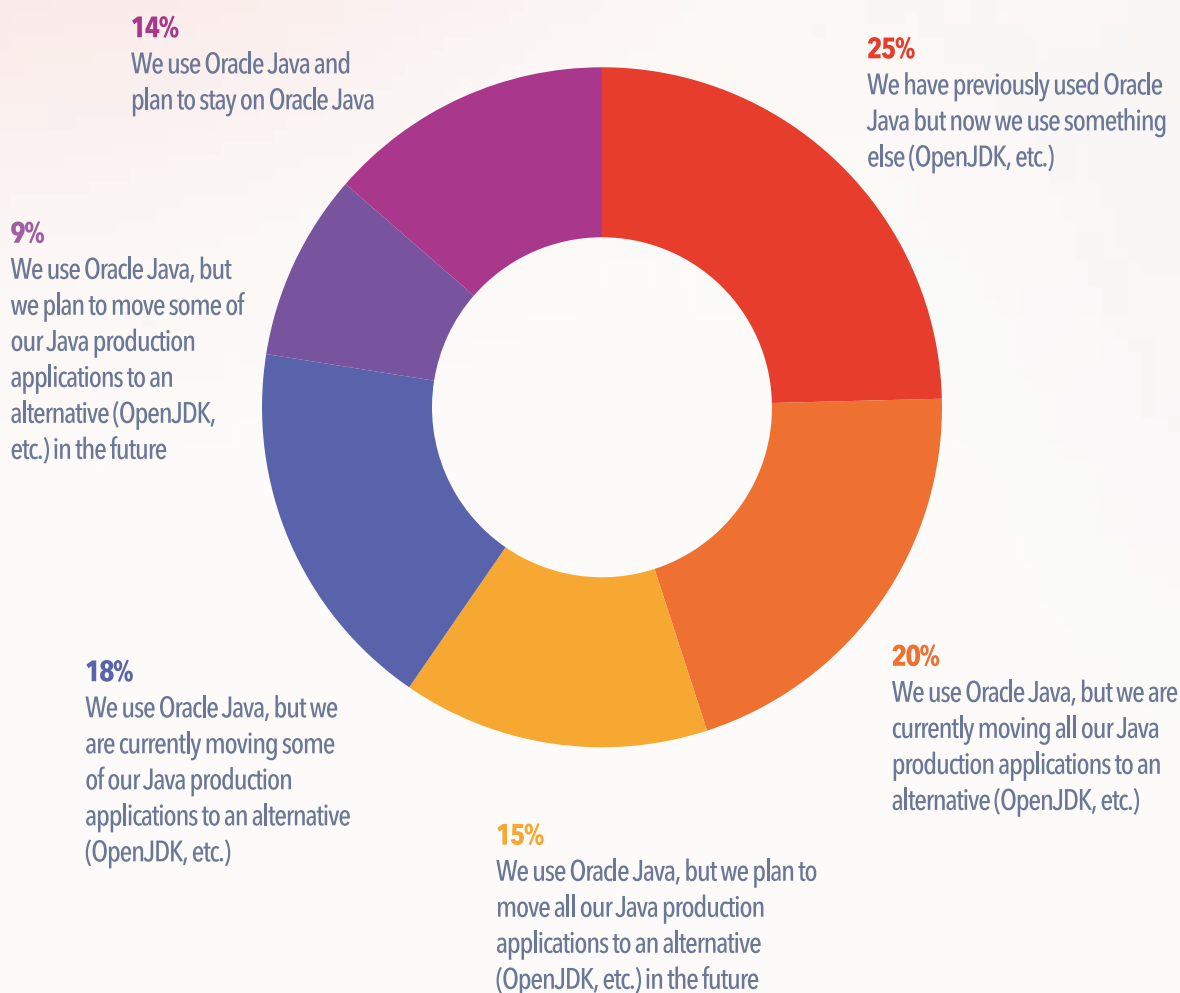All enquiries online@scc.com
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Price Produces Frustration For Oracle Java Users

Survey participants cited the number one reason they are leaving Oracle is cost (53%). Other top reasons that companies decided to migrate their Java off Oracle are a preference for open source (47%) and uncertainty over Oracle's ongoing pricing changes (38%). The threat of a Java audit also scored high among respondents (25%) [Figure 2].

WHY DID YOUR COMPANY DECIDE TO MIGRATE OFF ORACLE JAVA? SELECT ALL THAT APPLY.

Reason	Percentage
Cost (Oracle Java is too expensive)	53%
Preference for open source (e.g., OpenJDK)	47%
Uncertainty created by ongoing changes (pricing, licensing, support, etc.)	38%
Oracle sales tactics	27%
Oracle doesn't support all the versions of Java or configurations we require (e.g. Java 6 & 7)	27%
Oracle policies	25%
Oracle audit risk	25%
Oracle support is not meeting expectations	24%

Figure 2. *Data is from research conducted by Dimensional Research

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Oracle Java migration is happening now

Roughly two-thirds of survey participants who plan to migrate off Oracle Java (but haven't started yet) plan to start their migration within two years [Figure 3].

HOW SOON IS YOUR COMPANY PLANNING TO BEGIN ITS MIGRATION FROM ORACLE JAVA TO AN OPENJDK DISTRIBUTION TO RUN JAVA APPLICATIONS IN PRODUCTION?

11%
More than 4 years

14%
Less than a year

23%
3-4 years

52%
1-2 years

Figure 3.

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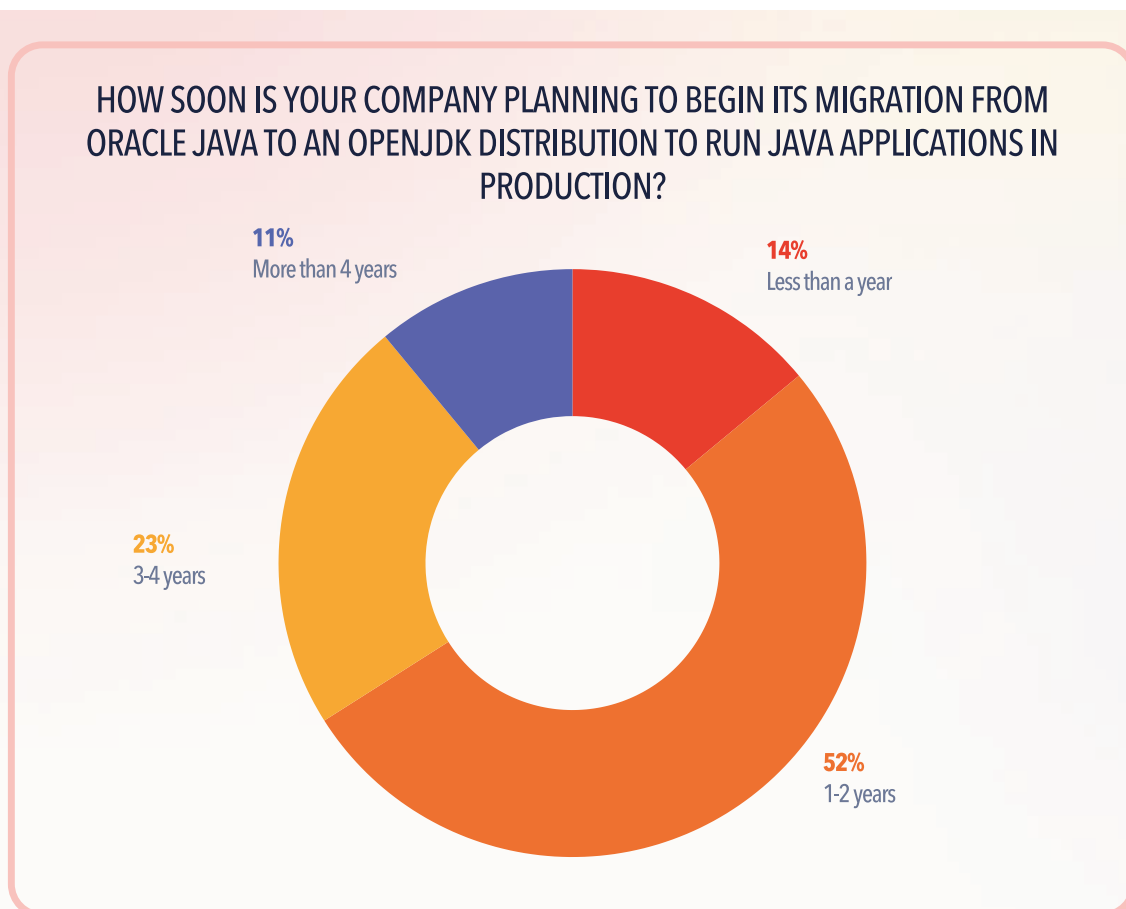Contact our team 0121 766 7000
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Java users are looking for something better

Oracle Java SE customers are weighing business priorities before selecting an alternative. When asked what features and qualities they are looking for in an OpenJDK distribution, the top five selections included reducing licensing costs, technical expertise, customer support, timely releases and fixes, and stabilized security-only updates.

The 14% of participants who plan to stay with Oracle indicated several reasons for their decision, with about a third saying they are satisfied with Oracle's pricing and policies.

12% of participants cited they tried to migrate but were unsuccessful. The survey did not ask for specifics about why their migration failed [Figure 4].

WHY IS YOUR COMPANY PLANNING TO CONTINUE USING ORACLE JAVA FOR RUNNING JAVA APPLICATIONS IN PRODUCTION? SELECT ALL THAT APPLY.

Reason	%
We are satisfied with Oracle Java service and pricing	36%
The third-party application(s) my company runs only supports Oracle Java	33%
We feel it is too risky to migrate	31%
We are afraid we won't be able to migrate completely off Oracle Java and will still have to pay them	28%
We believe only Oracle can satisfy our JDK support needs	27%
We don't have the resources to migrate to an OpenJDK distribution successfully	22%
We have not investigated alternatives to Oracle Java	17%
We tried to migrate to an OpenJDK distribution, but were unsuccessful	12%

Figure 4

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MIGRATION PROCESS, TIMING, AND LIFE AFTER ORACLE JAVA

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57% of participants expect to complete their migrations from Oracle Java to an OpenJDK distribution within two years [Figure 5].

Of those, 62% have already started their migrations, while the other 38% are planning future migrations.

WHEN DO YOU EXPECT YOUR COMPANY TO COMPLETE ITS MIGRATION FROM ORACLE JAVA TO AN OPENJDK DISTRIBUTION TO RUN JAVA APPLICATIONS IN PRODUCTION?
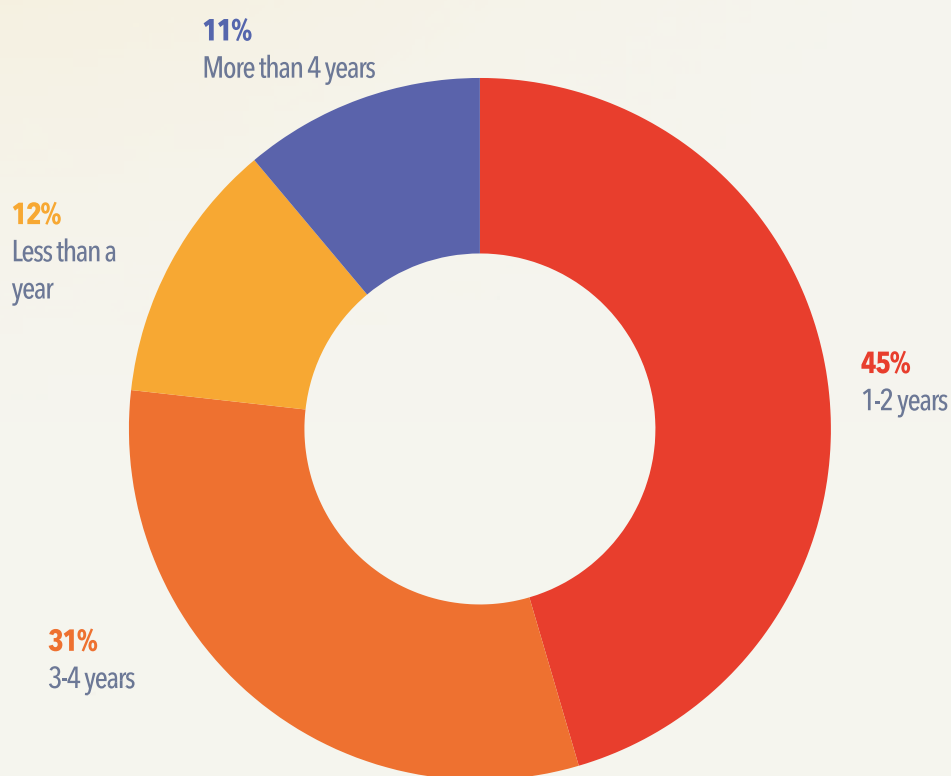

11%
More than 4 years

12%
Less than a year

45%
1-2 years

31%
3-4 years

Figure 5.

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Migration to OpenJDK is easier than expected

Despite trepidation among Oracle Java users to move to an OpenJDK distribution, most organizations that have undertaken a migration have been pleased with the process and result.

90% of respondents who completed their migrations to OpenJDK did so within two years, 75% within 12 months, and 23% in less than three months [Figure 6].
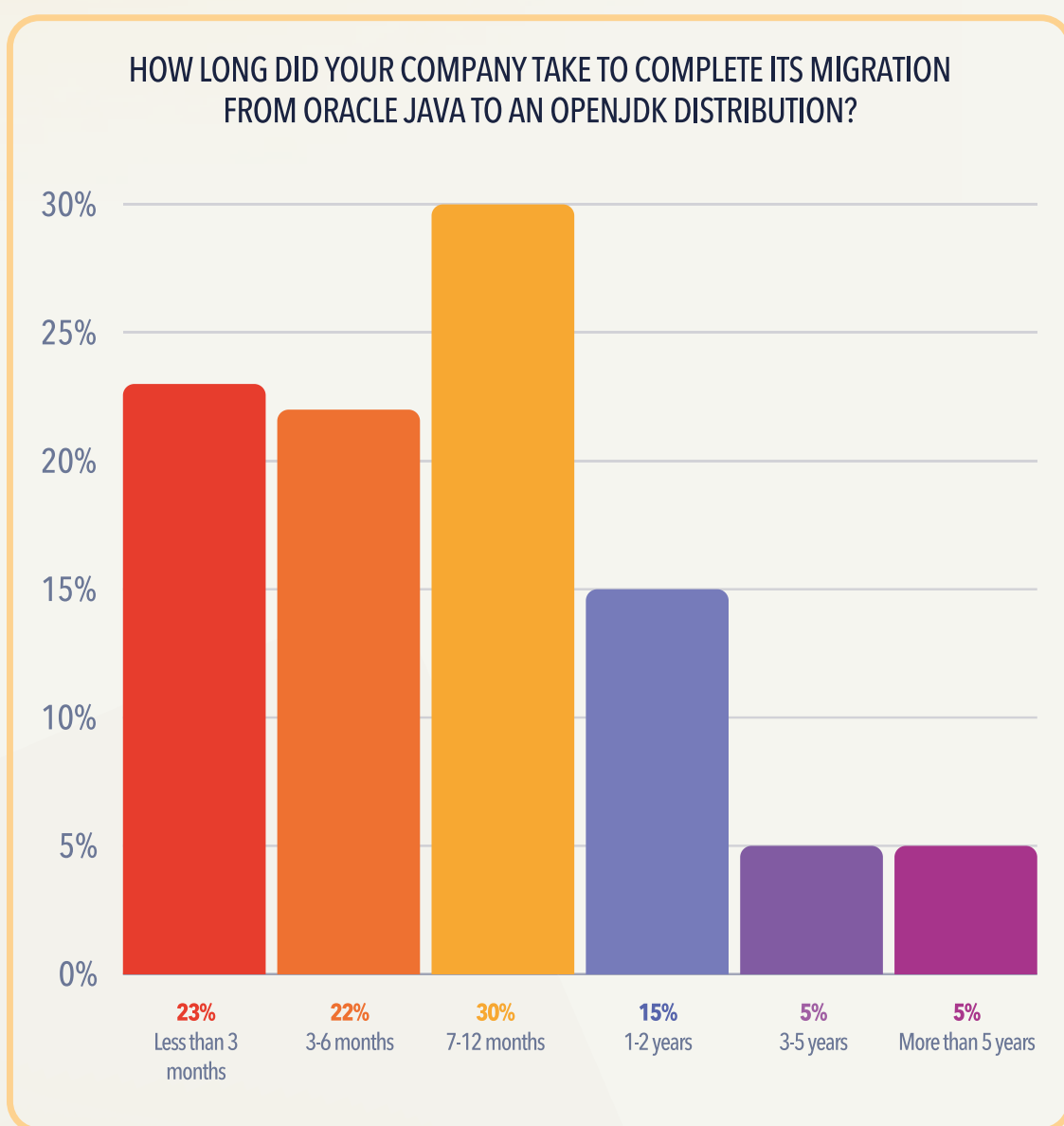
HOW LONG DID YOUR COMPANY TAKE TO COMPLETE ITS MIGRATION FROM ORACLE JAVA TO AN OPENJDK DISTRIBUTION?

| **23%** | **22%** | **30%** | **15%** | **5%** | **5%** |
| Less than 3 months | 3-6 months | 7-12 months | 1-2 years | 3-5 years | More than 5 years |

Figure 6.

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Migrations to an OpenJDK distribution also fell within expectations for 84% of respondents. 41% indicated that the migration was easier than they expected, and the remaining 43% said it went as planned [Figure 7].

WHAT WOULD YOU SAY ABOUT YOUR COMPANY'S MIGRATION PROCESS FROM ORACLE JAVA TO OPENJDK?
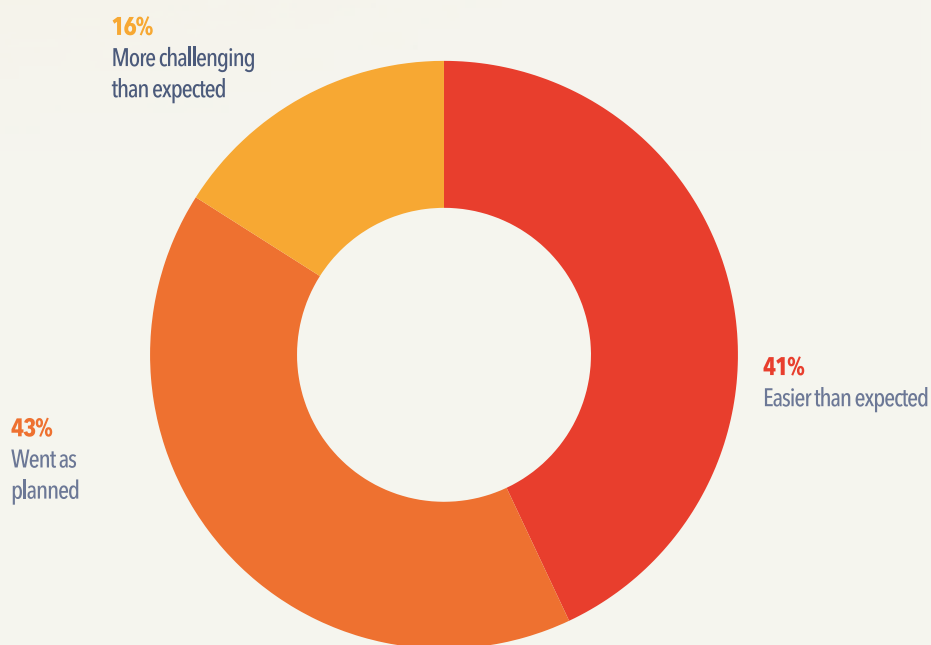
16%
More challenging
than expected

41%
Easier than expected

43%
Went as
planned

Figure 7.

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ORACLE JAVA PRICING AND JAVA SUPPORT

Over half of the survey respondents cited price as a factor in seeking an alternative to Oracle Java (Chapter 1, Figure 2).

Two-thirds of organizations that made the switch from Oracle Java to an OpenJDK distribution were able to save costs [Figure 8].

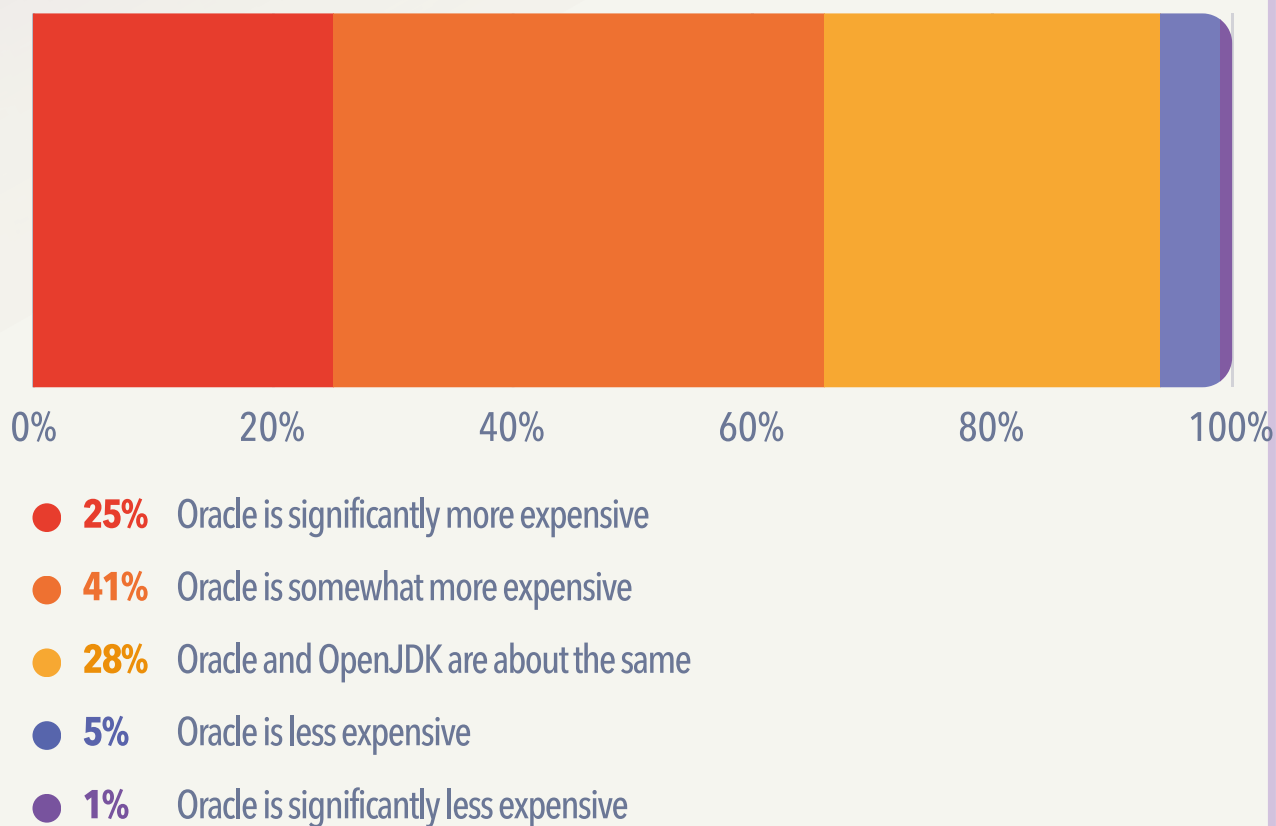## HOW DO THE SUPPORT COSTS FOR OPENJDK COMPARE TO THE ORACLE JAVA SE PRICE?

- **25%** Oracle is significantly more expensive
- **41%** Oracle is somewhat more expensive
- **28%** Oracle and OpenJDK are about the same
- **5%** Oracle is less expensive
- **1%** Oracle is significantly less expensive

Figure 8.

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Only A Minority Of Oracle Customers Have Moved To Employee-Based Pricing

So far, only 36% of Oracle Java customer respondents have moved to the new employee-based pricing model introduced in January 2023 [Figure 9].

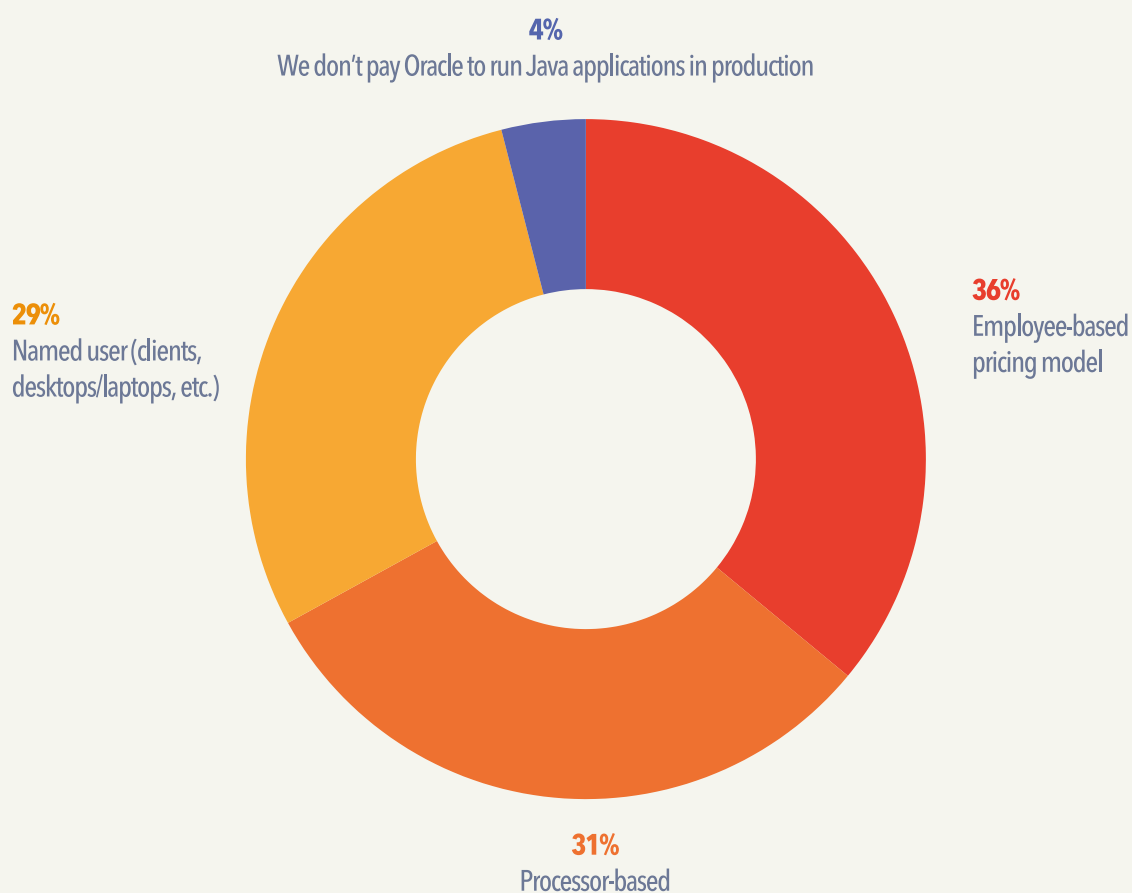## WHAT TYPE OF ORACLE LICENSE MODEL IS YOUR COMPANY USING TO RUN JAVA APPLICATIONS IN PRODUCTION?

4%
We don't pay Oracle to run Java applications in production

29%
Named user (clients, desktops/laptops, etc.)

36%
Employee-based pricing model

31%
Processor-based

Figure 9.

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Companies need supported Java in production

Do companies even need Java support for production applications? Responses to this survey question clearly indicate yes [Figure 10]. Participants could select more than one answer, and 83% selected either paid supported, free supported (support bundled with their existing cloud and infrastructure platform), or both.
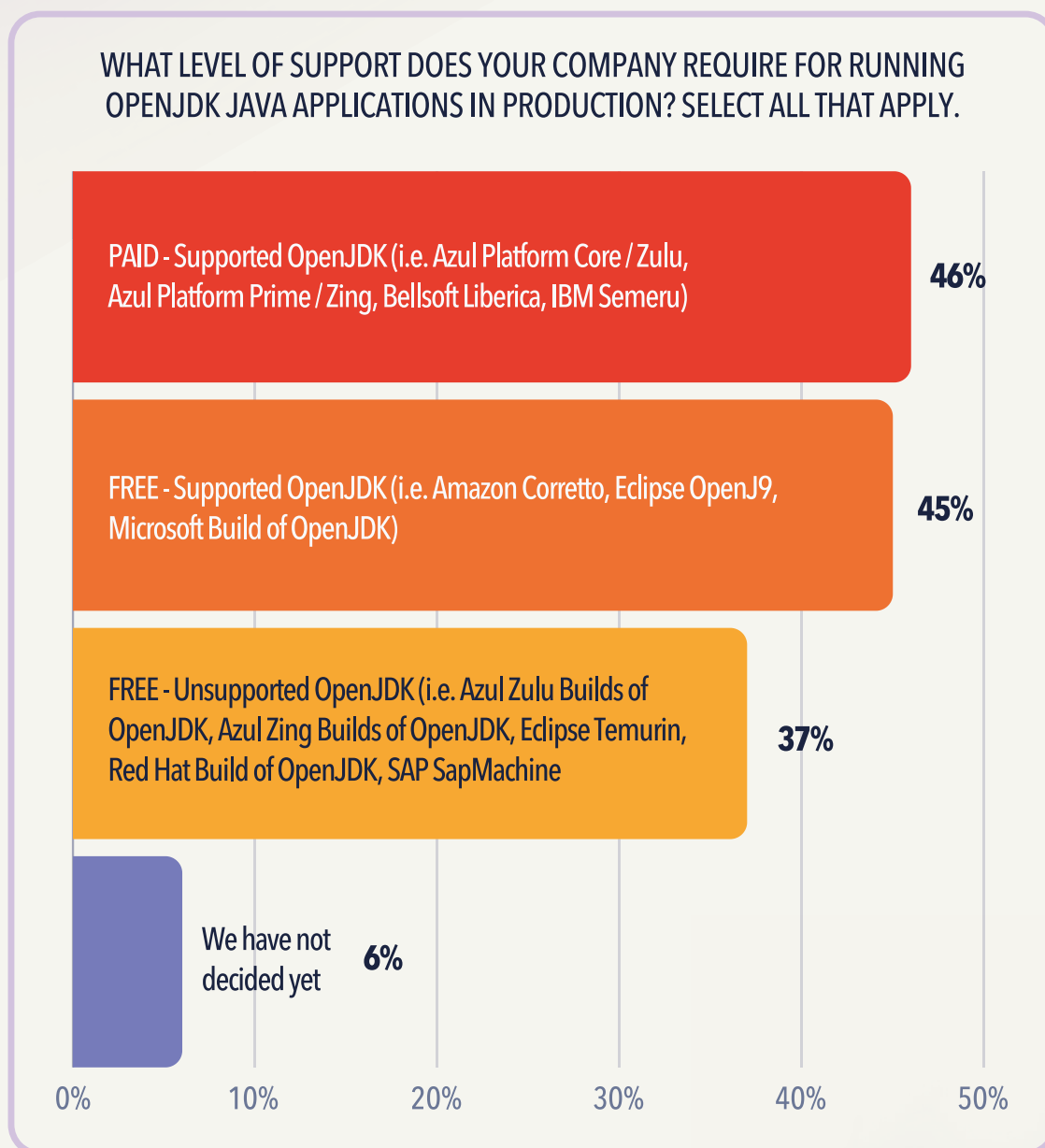
WHAT LEVEL OF SUPPORT DOES YOUR COMPANY REQUIRE FOR RUNNING OPENJDK JAVA APPLICATIONS IN PRODUCTION? SELECT ALL THAT APPLY.

PAID - Supported OpenJDK (i.e. Azul Platform Core / Zulu, Azul Platform Prime / Zing, Bellsoft Liberica, IBM Semeru) — **46%**

FREE - Supported OpenJDK (i.e. Amazon Corretto, Eclipse OpenJ9, Microsoft Build of OpenJDK) — **45%**

FREE - Unsupported OpenJDK (i.e. Azul Zulu Builds of OpenJDK, Azul Zing Builds of OpenJDK, Eclipse Temurin, Red Hat Build of OpenJDK, SAP SapMachine — **37%**

We have not decided yet — **6%**

0% 10% 20% 30% 40% 50%

Figure 10.

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When asked what participants value most in paid support for an OpenJDK distribution, participants said the top five reasons are [Figure 11]:

- Technical expertise (61%)
- Timely releases and fixes (54%)
- Customer support (42%)
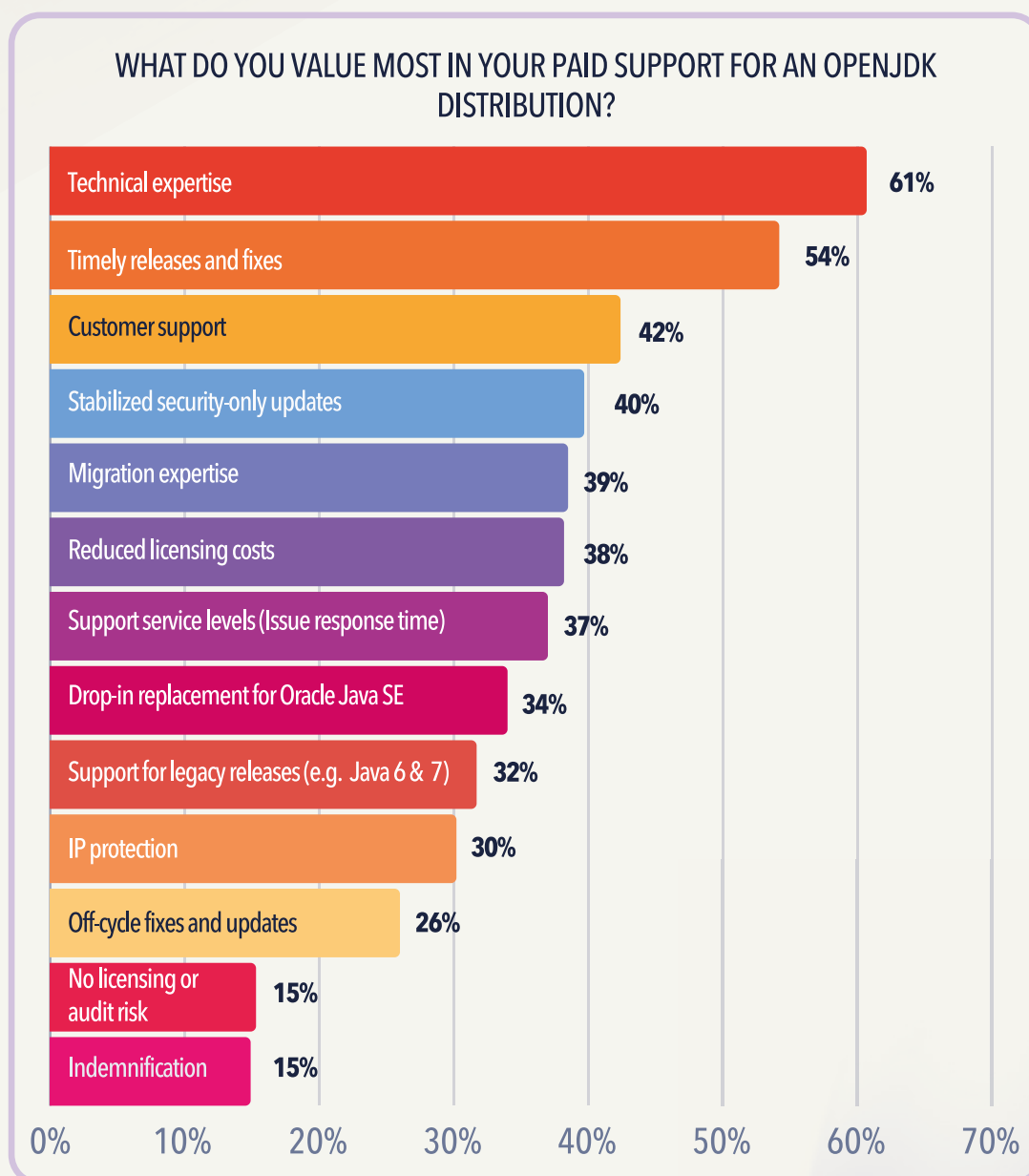- Stabilized security-only update (40%)
- Migration expertise (39%)

WHAT DO YOU VALUE MOST IN YOUR PAID SUPPORT FOR AN OPENJDK DISTRIBUTION?

Category	Percentage
Technical expertise	61%
Timely releases and fixes	54%
Customer support	42%
Stabilized security-only updates	40%
Migration expertise	39%
Reduced licensing costs	38%
Support service levels (Issue response time)	37%
Drop-in replacement for Oracle Java SE	34%
Support for legacy releases (e.g. Java 6 & 7)	32%
IP protection	30%
Off-cycle fixes and updates	26%
No licensing or audit risk	15%
Indemnification	15%

Figure 11.

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CONCLUSION

A strong trend toward use of OpenJDK Distributions

The Oracle Java Usage, Pricing & Migration Survey and Report was launched to assess the trends and reasons behind Oracle Java users migrating to OpenJDK distributions. As recently as 2020, Oracle held about 75% of the market for Java Development Kit (JDK) distributions (New Relic 2020); but in the Azul State of Java Survey and Report 2023, only 42% of respondents used one or more instances of Oracle Java (Azul, 2023).

Also, in the State of Java 2023, a staggering 82% of businesses expressed concerns with Oracle's pricing change announced in January 2023, and 72% were actively exploring alternatives to Oracle Java.

In this new survey, only a small minority of Oracle customers (14%) indicate their willingness to stick with Oracle Java given the importance of cost by over half of the survey respondents. Some Oracle customers indicated trepidation to migrate, but the survey found most of those that have already made the switch to an OpenJDK distribution did so in less than a year and found that it was easier than expected or within their expectations.

Stay tuned for more Java adoption and usage trends in the second annual Azul State of Java Survey and Report.

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ABOUT THIS SURVEY

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About this survey

The report data was compiled from Java professionals and those who use or deploy Java-based applications and infrastructure at all seniority levels. Participants from companies of all sizes were invited to participate in a survey on their company's decisions around using Oracle Java and OpenJDK distributions. A total of 663 qualified participants from six continents completed the survey. Participants that did not meet the minimum size of 100 employees or did not use Java as part of their job were disqualified. Dimensional Research, a leading market research firm, administered the electronic survey. Some participants were offered token compensation for their participation.
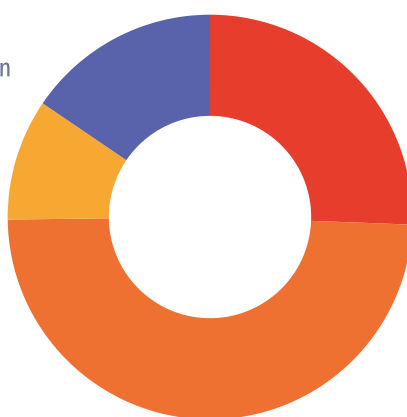
JAVA RESPONSIBILITIES

16%
I manage a team that has responsibilities for Java application development or operations

10%
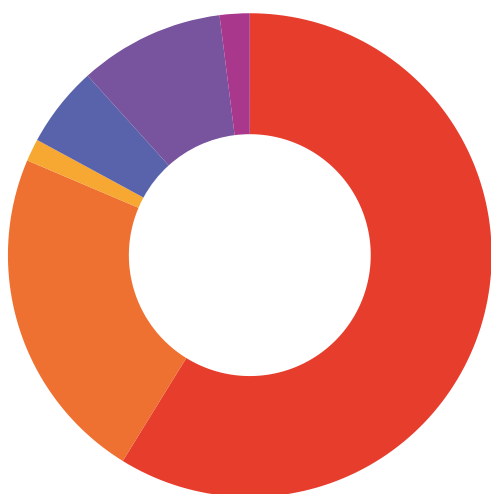Working with Java is a minor part of my job

26%
Working with Java is my entire job

49%
Working with Java is a substantial part of my job

LOCATION

59%
United States or Canada

23%
Europe
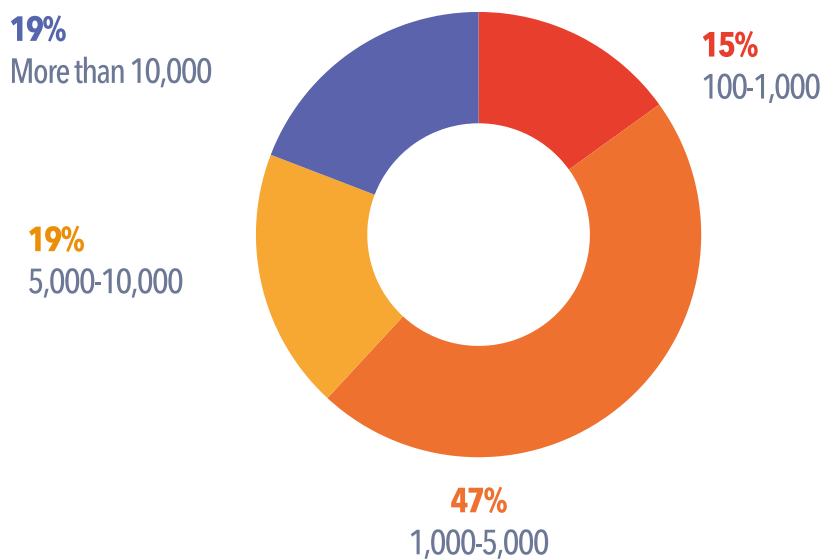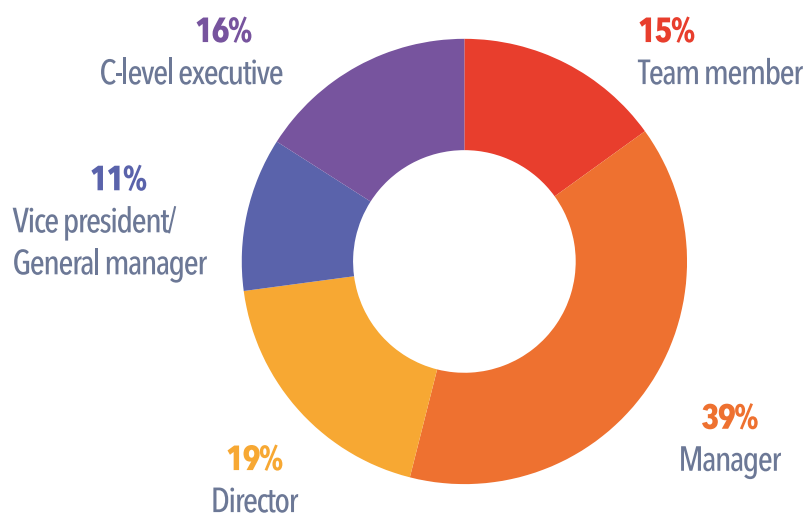
2%
Middle East or Africa

5%
Australia or New Zealand
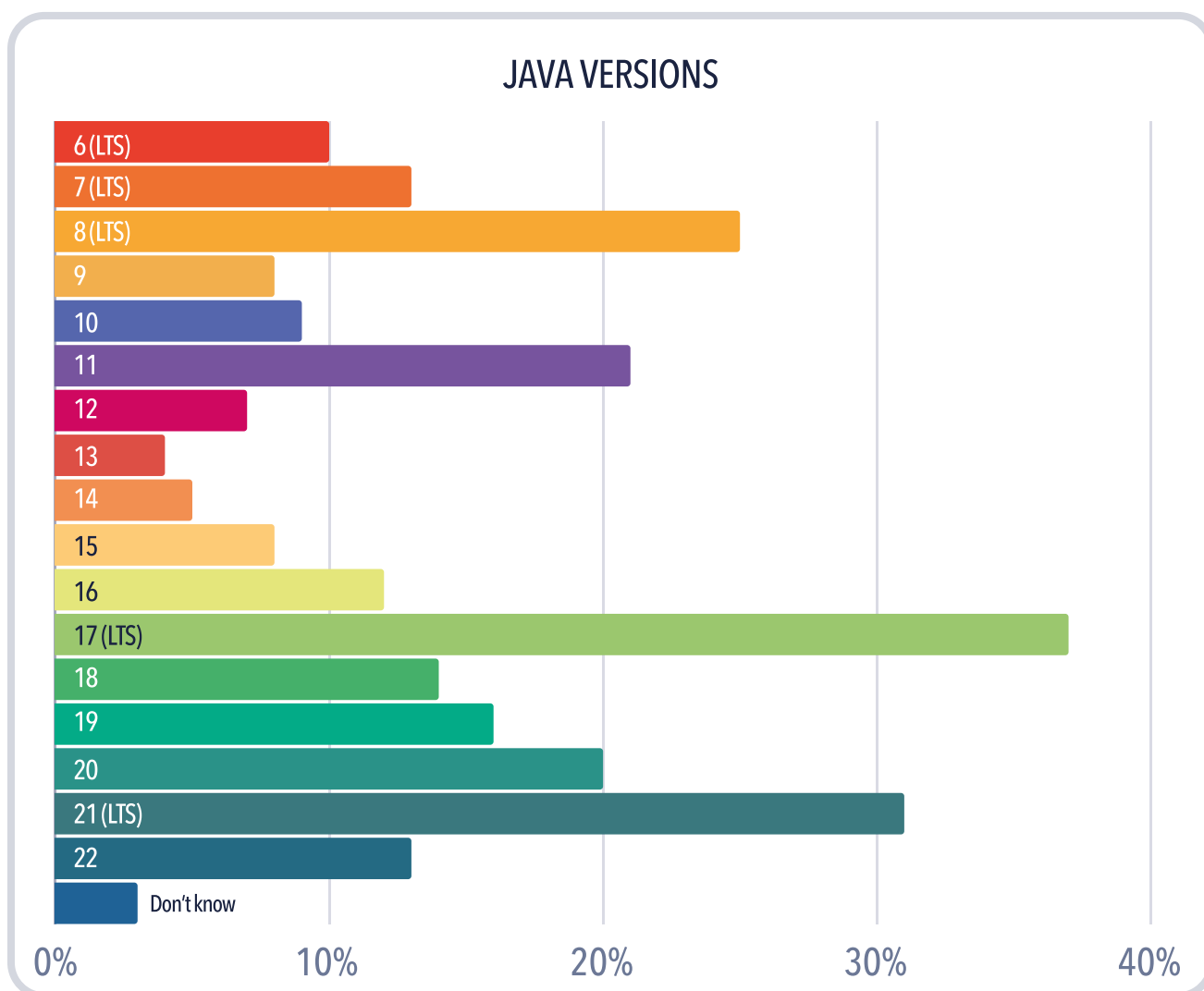
10%
Asia

2%
Mexico, Central America, or South America

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COMPANY SIZE

19%
More than 10,000

15%
100-1,000

19%
5,000-10,000

47%
1,000-5,000

SENIORITY

16%
C-level executive

15%
Team member

11%
Vice president/
General manager

39%
Manager

19%
Director

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JAVA VERSIONS

Version	Percentage
6 (LTS)	~10%
7 (LTS)	~13%
8 (LTS)	~25%
9	~8%
10	~9%
11	~21%
12	~7%
13	~4%
14	~5%
15	~8%
16	~12%
17 (LTS)	~37%
18	~14%
19	~16%
20	~20%
21 (LTS)	~31%
22	~13%
Don't know	~3%

0%   10%   20%   30%   40%

About AZUL

Headquartered in Sunnyvale, California, Azul provides the Java platform for the modern cloud enterprise. Azul is the only company 100% focused on Java. Millions of Java developers, hundreds of millions of devices, and the world's most highly regarded businesses trust Azul to power their applications with exceptional capabilities, performance, security, value, and success. Azul customers include 36% of the Fortune 100, 50% of the Forbes Top 10 World's Most Valuable Brands, all 10 of the world's top 10 financial trading companies, and leading brands like Avaya, Bazaarvoice, BMW, Credit Suisse, Deutsche Telekom, LG, Mastercard, Mizuho, Priceline, Salesforce, Software AG, and Workday. Learn more at azul. com and follow us @azulsystems.

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