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# 2024 IBM i Marketplace Survey Results

# 2024 IBM i Marketplace Survey Results

## ABOUT THE AUTHOR

Tom Huntington is an IBM Power Champion and Executive Vice President of Technical Solutions at Fortra. Tom has more than 35 years of experience with IBM i technology. He visits customers around the globe to discuss automation, backups, security, cloud, business intelligence, development practices, high availability, quality, and family life. Tom works with customers from all industries, from Fortune 100 companies to small businesses. Whether your data center is on-premise or in the cloud, Tom's passion is helping you secure and automate computer technologies to solve issues and improve productivity.

2024 marks the tenth edition of the IBM i Marketplace Survey Results. Each year, Fortra captures data on how businesses use the IBM i platform and the IT and cybersecurity initiatives it supports.

Over the years, this survey has become a true industry benchmark, revealing to readers the trends that are shaping and driving the market and providing insight into what the future may bring for this technology.

This survey is meant to encourage conversation about IBM i and what the community is or should be doing to address recent challenges and plan for the future. The hybrid workforce has been cemented as the new normal, and organizations have done a tremendous job of addressing the infrastructure and security challenges that have come with such a drastic change. As we look towards the future, cybersecurity remains top-of-mind for executives while the need for modernized applications continues to grow.

270 IBM i users from all over the world completed this year's survey, which revealed a steep increase in adoption of Power10 and IBM i 7.5, a high ROI satisfaction with the platform, and record high levels of concern about cybersecurity and application modernization. IBM i skills, high availability and disaster recovery, and all things cloud also piqued the interested of this year's survey respondents. We hope you find these and the many other data points to be thought-provoking and informative as you plan your 2024 projects.

As always, I want to thank everyone who participated in the research and who helped bring it all together. Your help and enthusiasm are always appreciated. I would also like to thank our team here at Fortra who puts so much time and energy into publishing these results.

Thank you,

**Tom Huntington**
Executive Vice President of Technical Solutions, Fortra

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# Survey Highlights

## Modernizing applications is a growing priority.

For the third straight year, concern around modernization has grown, with 72% of respondents now citing it as a top concern compared to just 51% in 2021. This trend is likely correlated with two things: the realization that IBM i is not going anywhere and the growing concern over IBM i skills. Both are resulting in organizations feeling the need to make their user interface and operations more conducive to admins and users with less experience. The concern of modernizing applications has also resulted in a need to outsource certain operations, contributing to the steady increase in cloud-exclusive or hybrid environments.

## Concerns around cybersecurity reach record heights.

Even among cybersecurity's eight-year run as the top concern for those planning their IT environment, the 2024 results stand out. 79% of respondents listed cybersecurity as a top concern, breaking the previous record of 77% and marking an 11% increase from 2023. Not only has cybersecurity remained a top priority, but it is clearly being further emphasized by IT leadership. And although organizations prioritizing security seem to be implementing multiple solutions, it is still alarming that 57% of respondents do not have firewall type software for protecting DB2 and only 37% have antivirus/ransomware protection. If your organization has concerns over IBM i cybersecurity skills, managed security services could be a solution.

## Power10 and IBM i 7.5 adoption are taking off.

Organizations are beginning to adopt the IBM Power10 scale-up and scale-out servers running the Power10 processor at a much greater rate. The percentage of respondents that own Power10 increased from 6% in 2023 all the way to 32% in 2024. Similarly, the percentage of respondents using IBM i 7.5 as their primary operating system level made a jump from 2% to 19%. Customers clearly understand the many tangible benefits that come with each new operating system and hardware release. The findings also demonstrate that older hardware (Power8 and older) and operating system levels (7.3 and older) are being gradually phased out. Make sure to plan your upgrades accordingly, so you aren't left unsupported.

## Organizations reward the reliability of IBM i.

It's no surprise that many businesses rely on IBM i as their primary business solution, given the platform's reputation for stability. 71% of respondents use IBM i to run more than half of their core business applications. This is a testament to the reliability of the IBM i system. Less than 3% of respondents expect to have migrated all apps off IBM i within the next two years while 12% will increase their workload and 13% will move to cloud.

## Rational Developer for i (RDi) and Visual Studio Code facilitate teamwork in the modern workplace.

One of the most prominent IBM i productivity tools is Rational Developer for i (RDi). For this reason, it's encouraging that this year's survey further cements RDi as a primary development tool. 56% of respondents reported using RDi, placing it squarely in second behind the Application Development Tool Set consisting of SEU, PDM, and more. Visual Studio Code is another primary development tool, with 37% of respondents reporting that they use it. RDi, Visual Studio Code, and other tools facilitate communication and teamwork, both of which are crucial in the modern, telecommuting workplace. If you're having trouble figuring out how to implement RDi but want some guidance, these six tutorials might help. There are more ISVs that support modernization efforts with other tools listed later in this document.

## RPG delivers on its promises.

The amount of development that takes place on IBM i is always a particular area of interest in our research. Once again, RPG is the most widely used language for new development on IBM i (89%), but people are clearly using multiple languages (SQL, CLP, open languages, etc.). This trend is fueled by the fact that modern RPG looks and acts like other languages, which also makes it easier to teach. This is promising for the future of IBM i and can help to close the IBM i skills gap.

## Trust and satisfaction on IBM i remain high.

94% of respondents this year believe their IBM i server gives them better ROI than other servers, a number IBM can be proud of. 12% of respondents will increase their IBM i footprint in 2024, and 43% of users will continue to run their IBM i environment as is. In addition, another 13% say will stay with IBM i, but they will move to the cloud. This speaks to the satisfaction that IBM i customers are experiencing.

# IBM i in the Data Center
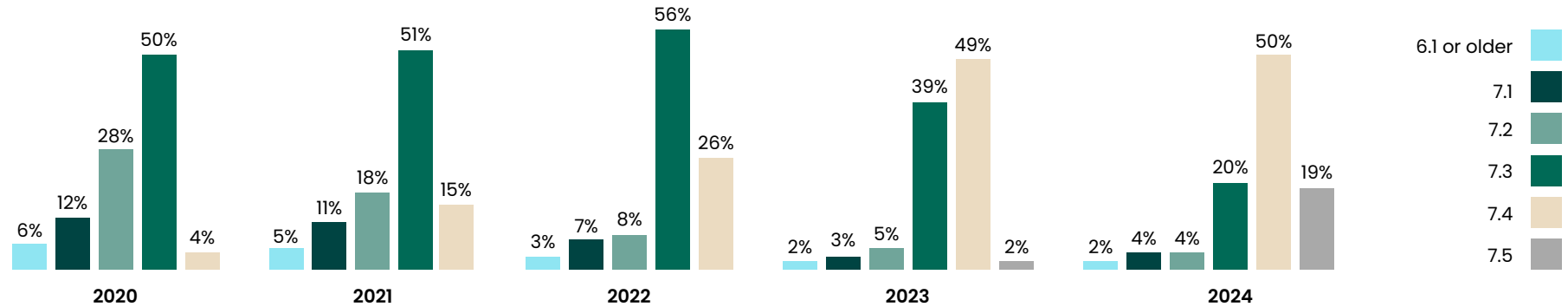
## TRENDS FOR THE YEAR

IBM i 7.5 was released in May of 2022 and adoption has grown from just 2% last year to 19% in 2024. At the same time, the use of older versions is steadily decreasing. The use of 7.3 dropped from 39% to just 20% while the use of versions 7.2 or older remained constant. Regarding Power servers, the use of Power10 has spiked—increasing from 6% to 32%. Meanwhile, the use of Power9 decreased slightly from 67% to 60%.

It is evident that customers are adopting the most recent releases more quickly than previous releases – a trend that is fueled by the need to reap the benefits of the features of newer versions, to provide a secure environment to support remote operations, and to facilitate application modernization.

It is also important to note that IBM i 7.3 is now on extended support as of September 30, 2023. This change, coupled with heightened concern over security, will push more and more customers to the latest supported releases of 7.4 and 7.5.

## What version of IBM i is your primary operating system level?



Legend: 6.1 or older, 7.1, 7.2, 7.3, 7.4, 7.5

**2020:** 6%, 12%, 28%, 50%, 4%
**2021:** 5%, 11%, 18%, 51%, 15%
**2022:** 3%, 7%, 8%, 56%, 26%
**2023:** 2%, 3%, 5%, 39%, 49%, 2%
**2024:** 2%, 4%, 4%, 20%, 50%, 19%

## Which IBM Power servers do you own?



Legend: Power6 model and older, Power7 model, Power8 model, Power9 model, Power10 model

**2020:** 15%, 38%, 56%, 31%
**2021:** 15%, 32%, 54%, 42%
**2022:** 10%, 24%, 49%, 55%
**2023:** 6%, 13%, 37%, 67%, 6%
**2024:** 8%, 13%, 38%, 60%, 32%
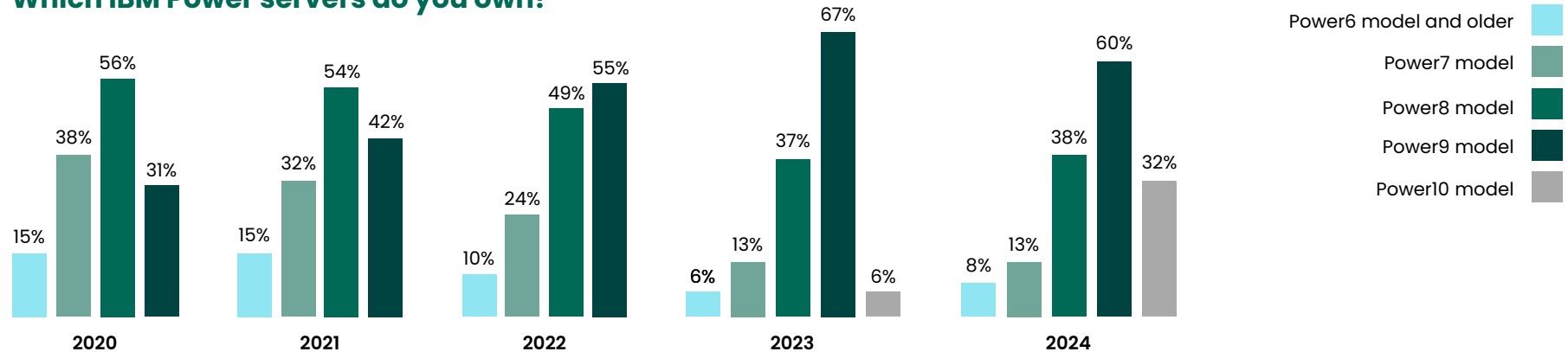
# IBM i in the Data Center

## UPGRADES

IBM i is an environment that provides great value to its users and one to which users show loyalty and commitment. This is reflected in this year's upgrade trends, with 61% of respondents planning to upgrade hardware, software, or both in 2024. It is also worth noting that 13% of respondents are planning on moving to the cloud, which can serve as another means of upgrading hardware and software.

This also signifies that 39% of respondents have no plans for hardware or software upgrades in 2024. Most clients are on a 3-5 year refresh cycle, but hardware and software upgrades are usually staggered, which is evident in the percentage differences between those that plan to update hardware or software only versus both at the same time.

Organizations are adopting the IBM Power E1080 scale-up servers or the scale-out S1014, S1022, S1022s and S1024 running the Power10 processor which was launched in September 2021 and July 2022. This year's findings indicate that 32% of the respondents have already migrated to using Power10, which is up from 6% last year. This is no surprise, as we know customers desire the many benefits of new hardware relating to security, virtualization, high availability, and more.

IBM has released Power Enterprise Pools 2.0 with Utility Capacity, which makes use of the IBM Cloud to simplify pool administration and automation of utility capacity management, so that private cloud infrastructures have more flexibility. Power Enterprise Pools 2.0 can be used by customers in their on-premises data centers to get the same flexibility of a true cloud

environment. IBM also announced subscription pricing on all Power9 and Power10 servers as well as IBM i 7.4 and 7.5. This capability mirrors the cloud pricing structure by giving customers the freedom to choose between placing IBM i investments on the capital expense budget or the operating expense budget. Click here to learn more about your IBM i billing options.

### Do you have plans to do a hardware and/or software upgrade in 2023?

- Yes, hardware only
- Yes, software only
- Yes, both
- No

11%
19%
31%
39%
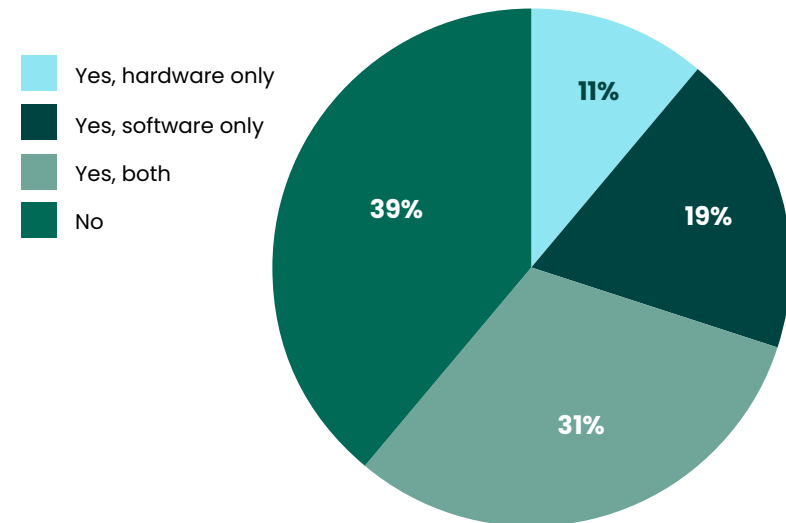
**RECOMMENDATION:** For anyone that does upgrade their hardware in 2024, programs such as the **IBM i Solution Edition** and **Capacity Backup (CBU) boxes for high availability** can be a huge help, with users eligible for rebates when new hardware and software are bundled together.

# IBM i in the Data Center
## POWER SERVER CAPACITY

When it comes to the total number of IBM Power servers organizations use, the IBM i Marketplace Survey shows impressively stable patterns year after year, and this year is no different. Customers with two or more IBM Power servers are generally running some form of hardware- or software-based high availability.

Turning attention to the number of partitions (virtual machine technology) respondents are running, there's a steady trend that businesses often consolidate servers but increase the number of partitions they are running. This is evidenced by the decrease in respondents running 2-3 partitions and increase in those running 11-30 partitions.

In 2024, over one third of respondents are running between two and six partitions. These VMs can share storage, processor and memory, and even support live partition mobility (LPM).

The trend of taking advantage of virtual machine technology is one that we expect to continue in future editions of the IBM i Marketplace Survey. This allows customers to run separate environments for development, quality assurance, high availability, Linux, and AIX alongside their IBM i production environment all in one physical IBM Power server. It also enables reduced power consumption and more effective utilization of resources.

### How many IBM Power servers do you have?

| Servers | 2024 | 2023 |
|---|---|---|
| 1 | 25% | 29% |
| 2 | 35% | 38% |
| 3 | 13% | 10% |
| 4-5 | 12% | 8% |
| 6-10 | 8% | 8% |
| 11-30 | 6% | 5% |
| 31+ | 1% | 2% |
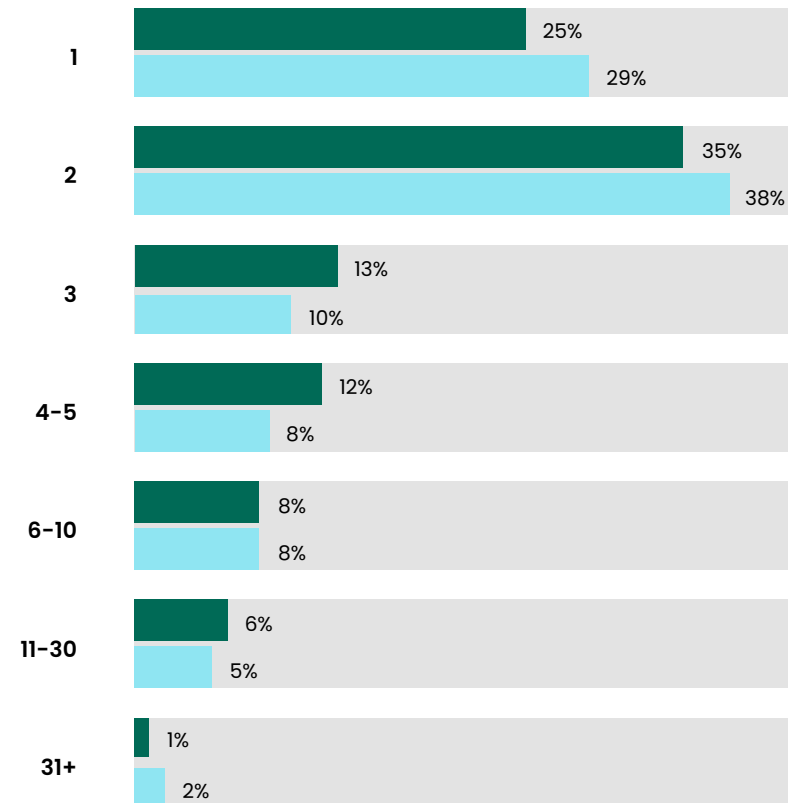
# IBM i in the Data Center

## POWER SERVER CAPACITY

**How many partitions of IBM i do you run?**

2024 ■ (dark green)
2023 ■ (light blue)

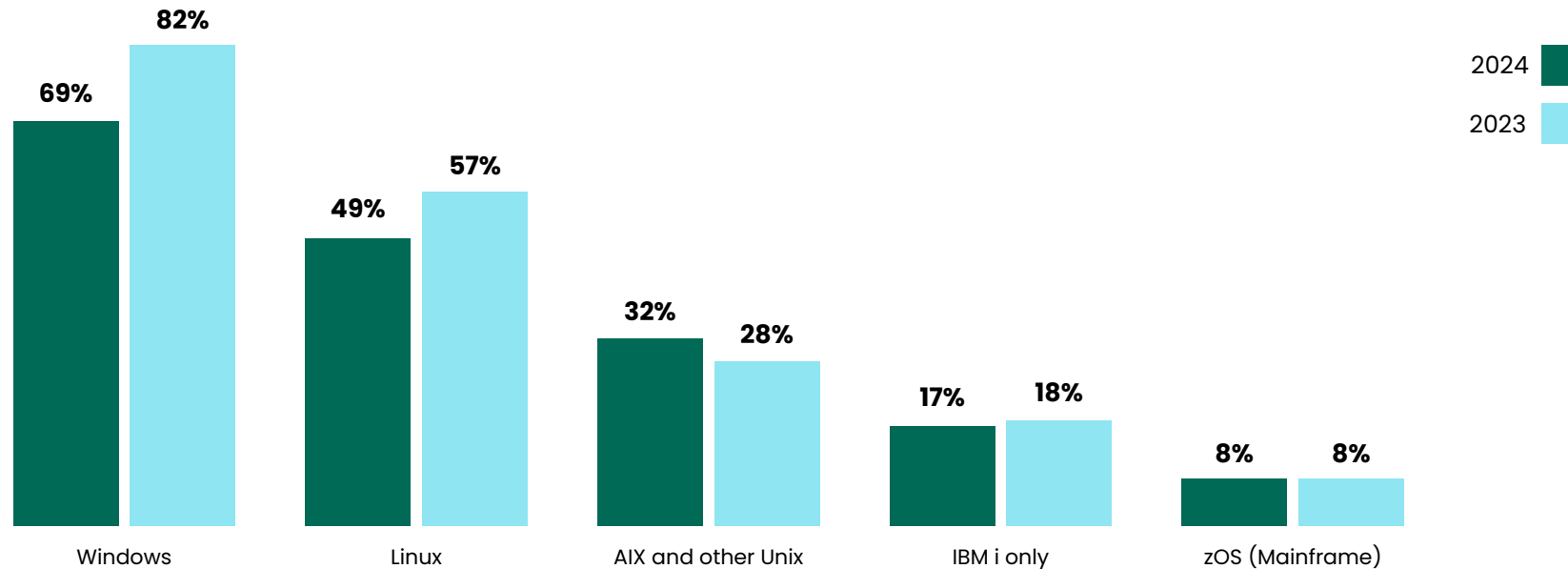| Partitions | 2024 | 2023 |
|---|---|---|
| 1 | 23% | 21% |
| 2-3 | 19% | 27% |
| 4-6 | 14% | 16% |
| 7-10 | 12% | 12% |
| 11-30 | 21% | 14% |
| 31-60 | 4% | 4% |
| 61-100 | 3% | 2% |
| 100+ | 4% | 4% |
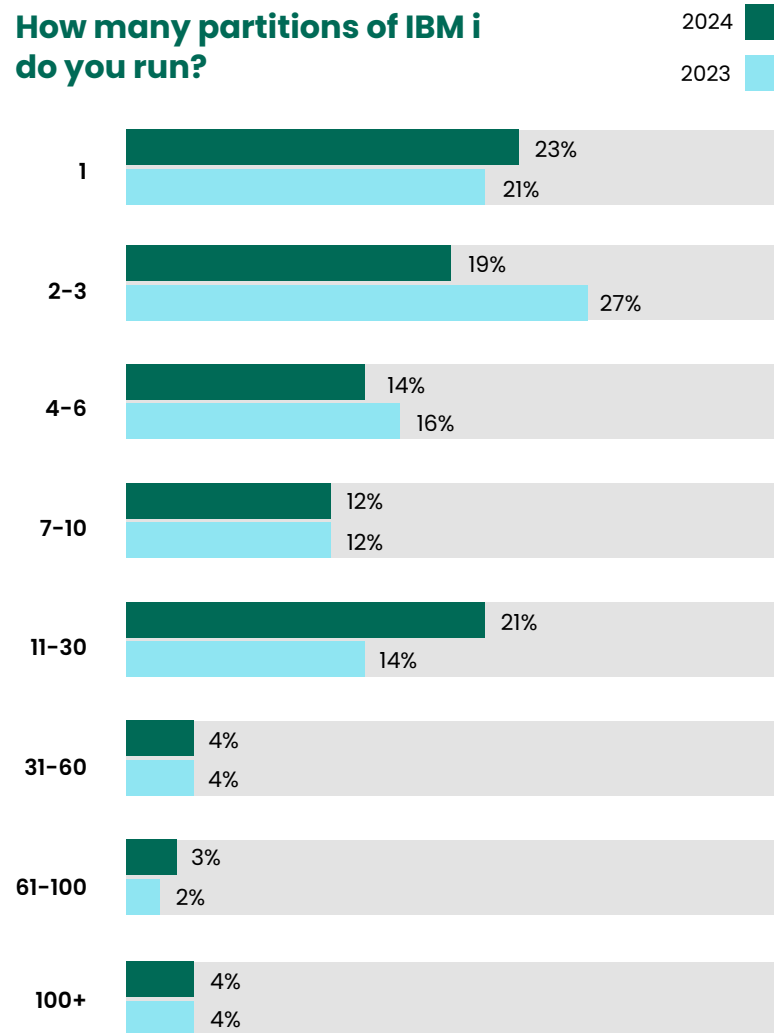
# IBM i in the Data Center

## OTHER OPERATING SYSTEMS

Most companies using IBM i also run additional operating systems beside it. Windows took the lead for a tenth consecutive year with 69% of respondents also using Windows servers. Linux is competitive, with 49% of survey respondents using this operating system.

IBM i-only responses remained at almost the same level as 2023 – 17%. This signifies that a large segment of customers relies solely on IBM i to run their business. Another 32% of businesses leverage AIX and other Unix-based systems for their on-premises IT environment.

It is interesting that Windows is staying high amongst Linux growth. This suggests that people could be shifting to using three operating systems in their environment. Growth in Linux could be based on new Linux workloads they are adding to their environment, while the Windows servers are staying around for those legacy workloads. Instead of replacing and moving legacy workloads, IT teams seem to be standing up different servers alongside Windows to eliminate the effort of moving servers where things are working properly.

### Other than IBM i, which operating systems do you run on servers in your on-premises IT environment?

Legend:
- 2024 (dark green)
- 2023 (light blue)

| Operating System | 2024 | 2023 |
|---|---|---|
| Windows | 69% | 82% |
| Linux | 49% | 57% |
| AIX and other Unix | 32% | 28% |
| IBM i only | 17% | 18% |
| zOS (Mainframe) | 8% | 8% |

# IBM i in the Data Center

## INFRASTRUCTURE LOCATION

Typically, IBM i users run most of their workloads on-premises. As demonstrated by this year's results, 74% of organizations plan to run their IBM i workloads on-premises. But, at the same time, the use of IBM i in the cloud is growing – and those who choose the cloud over the on-premises installations tend to run the majority of their workloads in the cloud.

The increase in IBM i customers in the cloud goes hand in hand with the need for modernization of applications and the concern over IBM i skills. Organizations are using cloud providers to offload some of the responsibilities associated with owning and operating IBM i – such as PTF work or hardware maintenance. Others use the cloud as a means of eliminating some of the financial elements of owning IBM i, such as paying for future upgrades or the long-term costs of owning and operating a data center.

### Where do you run your IBM i workloads?

74%

17%

9%

■ On-Premises only    ■ Hybrid (both cloud and on-premises)    ■ Cloud/service provider only
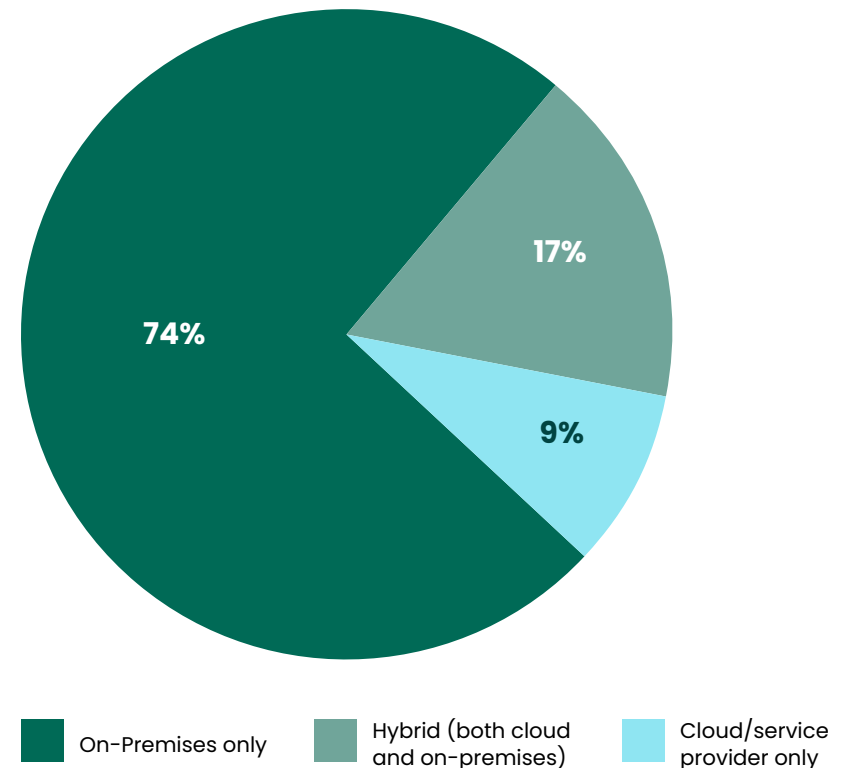
**RECOMMENDATION:** Running IBM i workloads in the cloud has great benefits. If your organization is thinking about moving to the cloud, check out our guide on items to consider before making the move. If you would like to learn more about best practices for migrating and maintaining workloads in the cloud, get expert advice by watching this webinar.
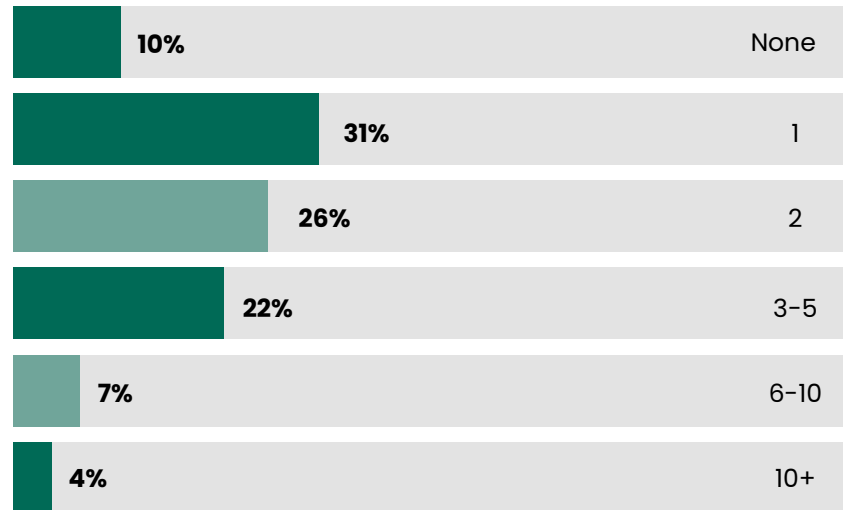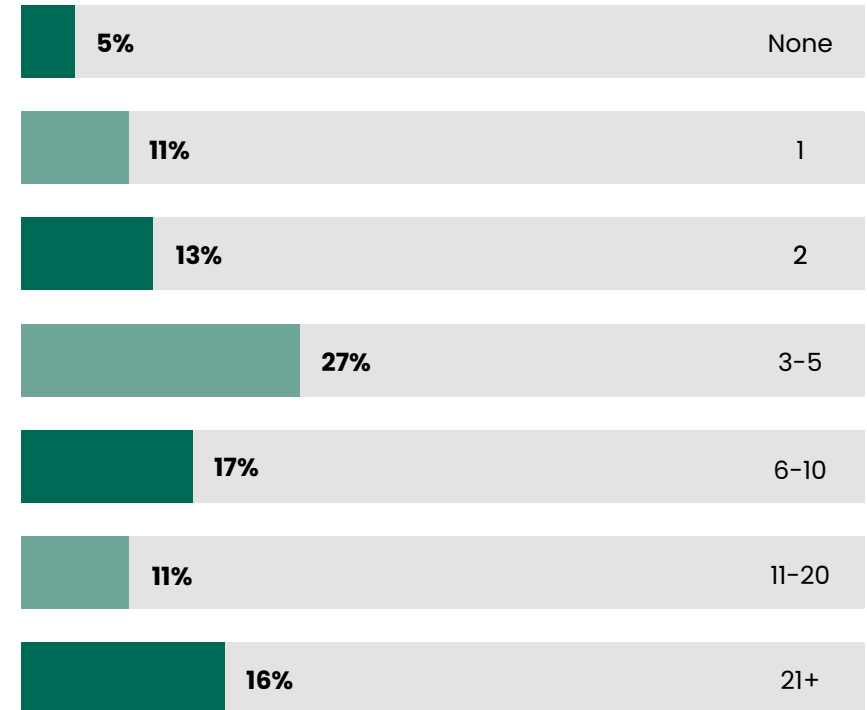
# IBM i in the Data Center

## STAFFING

A considerable proportion of businesses (27%) continue to report employing between three and five IBM i developers, a figure that has remained stable over the past 10 years. This consistency in developer numbers corresponds to the variety of languages, open source, and tools like RDi and VS Code that are used to continue furthering the core IBM i applications. It demonstrates a large commitment to modernizing the applications that service many industries.

A key unique selling proposition of IBM i is its need for little day-to-day administration. This year, 67% of our respondents have fewer than three administrators in total for IBM i, which is consistent with previous years. 10% of respondents selected the "none" option – signifying their use of managed services to monitor their systems and keep their operating system up to date.

## How many administrators do you have for IBM i?

| Percentage | Administrators |
| --- | --- |
| 10% | None |
| 31% | 1 |
| 26% | 2 |
| 22% | 3-5 |
| 7% | 6-10 |
| 4% | 10+ |

## How many developers do you have for IBM i?

| Percentage | Developers |
| --- | --- |
| 5% | None |
| 11% | 1 |
| 13% | 2 |
| 27% | 3-5 |
| 17% | 6-10 |
| 11% | 11-20 |
| 16% | 21+ |

**RECOMMENDATION:** Having the right expertise is a key component of any successful IBM i environment. If you feel your team is under-resourced or lacking certain skills, check out the **IBM i Academy** or first-class **training** options to fill any gaps you may have. IBM i user group like **COMMON** USA and **Common Europe** also offer educational and networking opportunities. If you are a member of COMMON, you also have access to free **security and administration boot camps**.
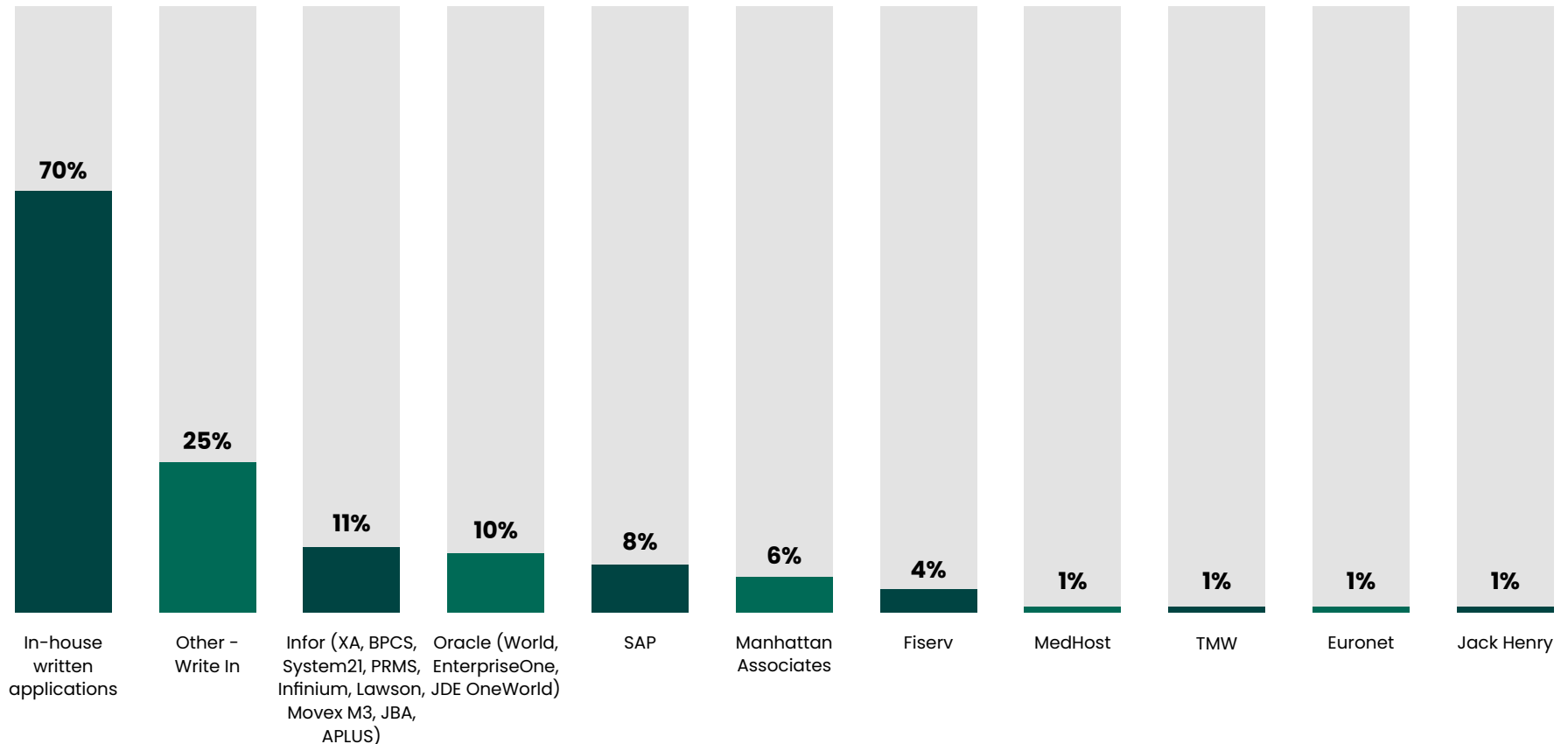
# IBM i in the Data Center

## BUSINESS APPLICATIONS

Homegrown applications that are written in-house remain the most commonly run applications on IBM i at 70%. Other "Write In" applications, tailored to specific business cases like medical, finance, and public administration, continue to account for a quarter of business applications running on IBM i. In addition, Oracle and/or Infor continue to be used by just over 20% of survey respondents.

IBM i is a highly flexible and versatile platform, as indicated by the volume of different business applications noted. With flexibility so highly valued in business, this trend is likely to continue. These unique business applications will continue to make IBM i a sticky platform. Note, however, that when writing in-house applications, it is essential to adhere to application modernization and security principles and to make sure your developers are educated and trained on writing secure and quality applications.

### Which business applications are you running on IBM i?

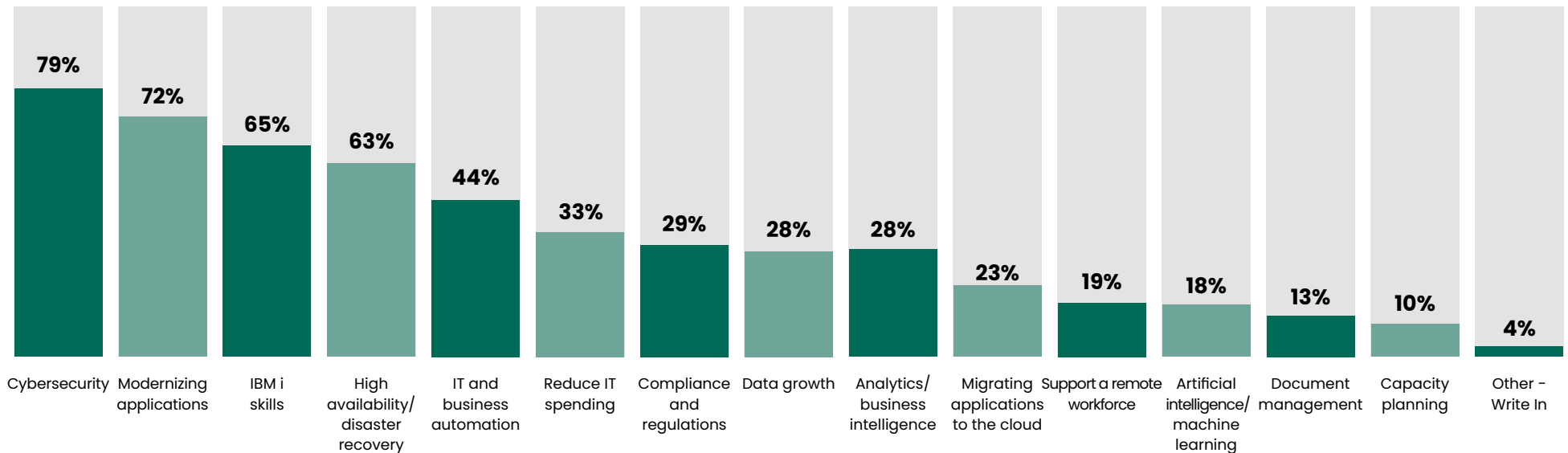| Application | Percentage |
| --- | --- |
| In-house written applications | 70% |
| Other - Write In | 25% |
| Infor (XA, BPCS, System21, PRMS, Infinium, Lawson, Movex M3, JBA, APLUS) | 11% |
| Oracle (World, EnterpriseOne, JDE OneWorld) | 10% |
| SAP | 8% |
| Manhattan Associates | 6% |
| Fiserv | 4% |
| MedHost | 1% |
| TMW | 1% |
| Euronet | 1% |
| Jack Henry | 1% |

# IT Initiatives & Trends

## TOP CONCERNS

Cybersecurity ranking as the number one concern is nothing new – it has held that spot since 2017. However, in 2024, concern over cybersecurity has reached a record high of 79%, marking a jump from 68% in 2023. Clearly, IT leadership is more aware than ever of the devastating ramifications of suffering a cyberattack.

Coming in next is modernizing applications at 72%, marking an increase from 64% in 2023. This makes sense because IBM has been focusing on the message of moving to the cloud to experience the value proposition of cloud-based applications and services. Not only that, but IBM and their business partners have a strong portfolio of products and tools that lend themselves to modernization, including RDi, VS Code, SQL, RPG free, and Merlin. Additionally, IBM has a network of vendors that help promote the modernization of user interfaces. Considering this concern has firmly taken second place, organizations need to take a holistic approach to cybersecurity, where application security is always baked into the processes of modernizing applications.

High availability/disaster recovery was passed by IBM i skills – which now sits at 65% and speaks to the concern over the retirement of many IBM i professionals. The good news with HA/DR is that you have options, and this guide is a good place to start as we talk about HA/DR in the cloud. If IBM i skills is a concern of yours, we encourage you to read our guides on what to do when your AS/400 talent retires and what to consider before moving to the cloud.

## What are your top 5 concerns as you plan your IT environment?

| Concern | % |
| --- | --- |
| Cybersecurity | 79% |
| Modernizing applications | 72% |
| IBM i skills | 65% |
| High availability/disaster recovery | 63% |
| IT and business automation | 44% |
| Reduce IT spending | 33% |
| Compliance and regulations | 29% |
| Data growth | 28% |
| Analytics/business intelligence | 28% |
| Migrating applications to the cloud | 23% |
| Support a remote workforce | 19% |
| Artificial intelligence/machine learning | 18% |
| Document management | 13% |
| Capacity planning | 10% |
| Other - Write In | 4% |

**RECOMMENDATION:** It's crucial to continue gaining a deeper understanding of the cybersecurity environment. Fortra's **State of IBM i Security Study** provides exclusive insight into the tools and strategies organizations are using to secure IBM i and where systems are most often left vulnerable. You can also check out the **IBM i home page** to discover all the different ways the platform facilitates modernization.
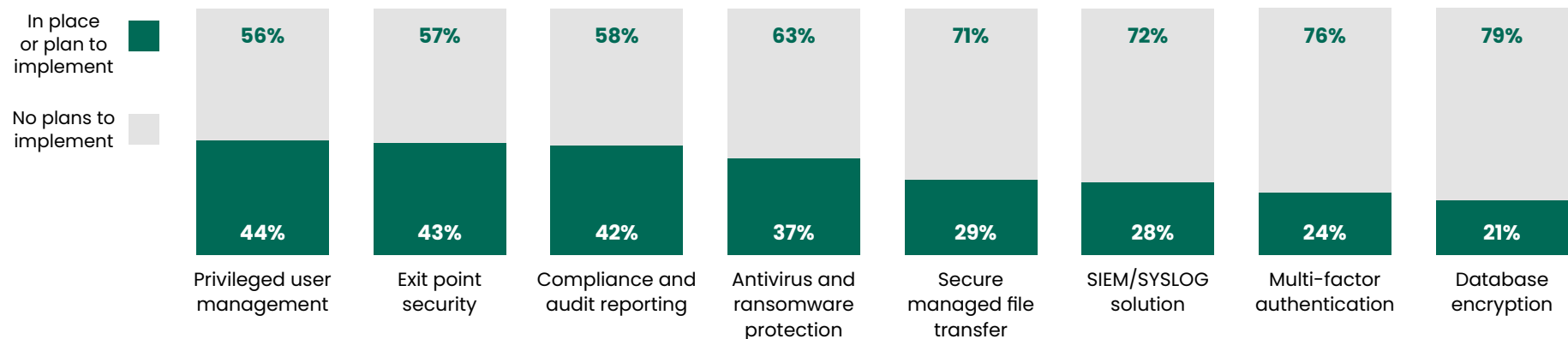
# IT Initiatives & Trends

## CYBERSECURITY

We understand cybersecurity is a top priority for most businesses nowadays. In the last several years, we have seen enough examples of organizations being brought to their knees by data breaches, ransomware, and security vulnerabilities to realize that failing to prioritize cybersecurity is often at the root. Even though businesses that place a high value on security appear to be deploying many solutions, many are leaning too heavily on built-in security features.

With ransomware attacks on the rise among IBM i organizations, it is surprising to see that only 37% of respondents have antivirus and ransomware protection. The IBM i carries a reputation of being one of the most secure platforms on the market, however, threats are becoming increasingly advanced and more prone to target higher value victims like IBM i customers. Additionally, the IBM i has never been more interconnected – and therefore exposed if proper security measures are not put in place. Employing solutions that continuously scan your IBM i for malware is a necessity in today's day and age.

To cover the financial risks of suffering a cyberattack, many are seeking cybersecurity insurance coverage. Gaining coverage can be difficult, and often requires organizations to have a variety of security measures such as MFA already in place. Even more are integrating IBM i with enterprise solutions via SIEM integration to help combat ransomware with improved visibility over critical IBM i messages and events.

Another underutilized security measure is exit point security – which only 43% of respondents have or plan to implement. As stated above, the IBM i is more interconnected than ever, and one of the best ways to prevent unauthorized access to your data is by taking advantage of exit points and programs. Exit points offer you almost complete control over who is authorized to access what, and how they can do so. If you have not implemented a commercial exit point solution, we recommend doing so in 2024.

### Which security solutions do you have in place or plan to put in place across your IBM i servers?

Legend:
- In place or plan to implement
- No plans to implement

| | Privileged user management | Exit point security | Compliance and audit reporting | Antivirus and ransomware protection | Secure managed file transfer | SIEM/SYSLOG solution | Multi-factor authentication | Database encryption |
|---|---|---|---|---|---|---|---|---|
| No plans to implement | 56% | 57% | 58% | 63% | 71% | 72% | 76% | 79% |
| In place or plan to implement | 44% | 43% | 42% | 37% | 29% | 28% | 24% | 21% |

**RECOMMENDATION:** If your organization is one that currently has no plans to implement certain cybersecurity solutions, it's worth rethinking that approach. If you are unsure of how to start, our free **IBM i Security Scan** and a team of experts will point you in the right direction, and **The State of IBM i Security Study** provides even more insight into the tool and strategies organizations are using to secure IBM i.

# IT Initiatives & Trends
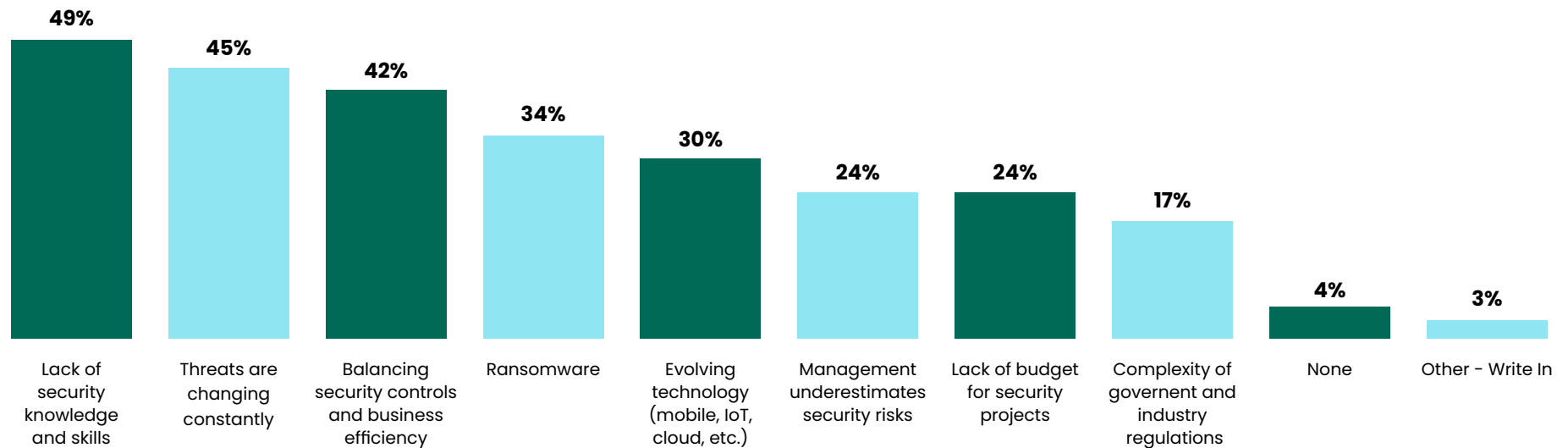
## CYBERSECURITY CHALLENGES

Of all the IBM i security challenges organizations face, a lack of security knowledge and skills once again topped the list this year, rising to 49%. Another 45% rate the constantly changing threats as their greatest challenge. These top two concerns have ranked first and second respectively for the last four years and reflect the current state of cybersecurity across all industries and boardrooms.

It is also interesting to note that the third challenge is balancing security and business efficiency. Too strict security control will leave employees inefficient in their roles and in the pursuit of achieving business goals. Balancing security and employee experience is essential. Organizations need powerful, capable tools that can launch them into the future with their best foot forward, all while avoiding breaches and security gaps.

Adaptation is the overarching goal in the face of cybersecurity threats. The ever-evolving nature of threats requires ongoing vigilance on the part of businesses.

## What are your greatest IBM i cybersecurity challenges?

| Category | Percentage |
|---|---|
| Lack of security knowledge and skills | 49% |
| Threats are changing constantly | 45% |
| Balancing security controls and business efficiency | 42% |
| Ransomware | 34% |
| Evolving technology (mobile, IoT, cloud, etc.) | 30% |
| Management underestimates security risks | 24% |
| Lack of budget for security projects | 24% |
| Complexity of governent and industry regulations | 17% |
| None | 4% |
| Other - Write In | 3% |

**RECOMMENDATION:** In a year that continues to serve up fresh cybersecurity challenges, choosing a cybersecurity partner who understands how to manage constantly evolving threats becomes even more important. **Managed Security Services (MSS)** from Fortra is a great option to fill in any gaps in the latest expertise on IBM i or your entire enterprise. As ransomware continues to be a concern, make sure you're **building a strategy to prevent and detect attacks**.

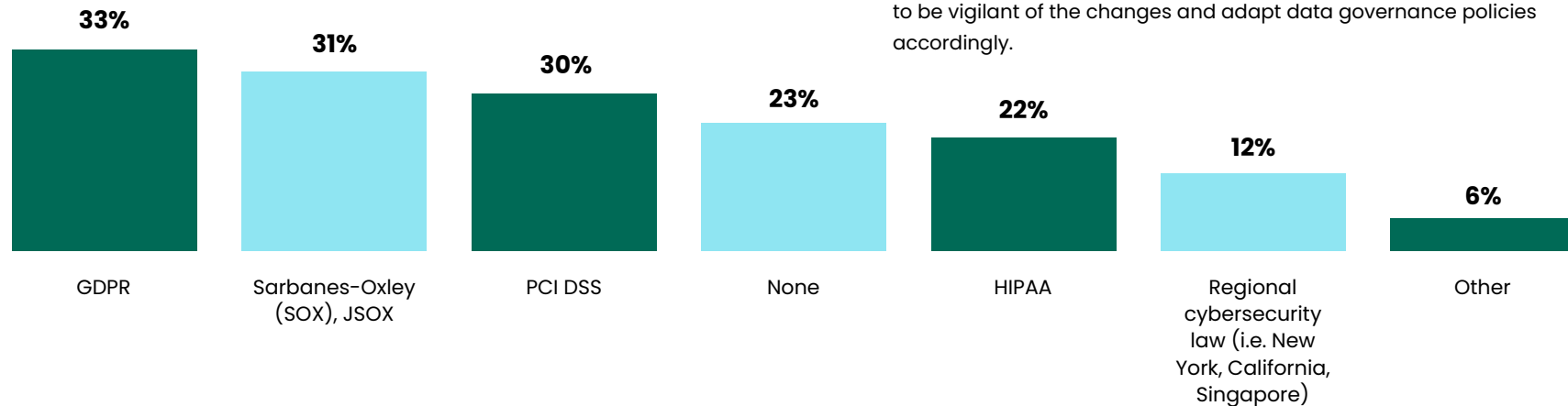# IT Initiatives & Trends

## REGULATIONS

IT and industry have shifted over the past several years toward implementing long-overdue improvements in data privacy, and this movement has also gained substantial traction at the national and state levels. Growth in both the number of regulations and the severity of punishments for breaking them indicate that compliance mandates are here to stay. 77% of respondents reported that they are adhering to at least one regulation, namely GDPR, PCI DSS, Sarbanes-Oxley, and HIPAA.

This makes it all the more surprising that 23% of our respondents do not adhere to any compliance mandates. While this figure has dropped significantly from 40% in 2018, it is still astonishing to see. If you are a privately owned business that does not need to comply with certain regulations, it is still worth looking to widely adopted frameworks such as the CIS benchmarks for guidance in crafting your security strategy. Many of the guidelines set forth by these frameworks offer security best practices that, if adopted and maintained, can help you create sustained security success for your organization.

It is also interesting to note that more and more businesses are now bound by state regulations, such as those in California and New York. In addition, as more and more countries pass national or regional regulations, the number of organizations required to adhere to these laws will only increase in the years to come. Gartner estimated that 75% of world countries would be covered by privacy legislation in 2023, and new laws and regulations are being enacted every year, especially in the EU (such as DORA and Data Governance Act), making it essential to be vigilant of the changes and adapt data governance policies accordingly.

## Which regulations do you adhere to?

| Regulation | Percentage |
|---|---|
| GDPR | 33% |
| Sarbanes-Oxley (SOX), JSOX | 31% |
| PCI DSS | 30% |
| None | 23% |
| HIPAA | 22% |
| Regional cybersecurity law (i.e. New York, California, Singapore) | 12% |
| Other | 6% |

**RECOMMENDATION:** Compliance is incredibly important, but some organizations struggle to find the resource to manage requirements efficiently. This **compliance monitoring and reporting software for IBM i** simplifies compliance report generation and allows you to quickly and easily provide auditors with the information they need. Automating audit processes is becoming a necessity for many organizations as they cannot afford to continue using manual and time-consuming methods.

# IT Initiatives & Trends
## DEVELOPMENT LANGUAGES

The amount of development that takes place on IBM i is always a particular area of interest in our research, and this year the development languages used for new development show some interesting trends. The usual leaders—RPG and SQL—remain at the top with 89% and 79% respectively. People have worried that RPG would fade away, but IBM's modernization of the language has helped it become a viable language for the future. It has the ability to call services, integrate open source, SQL and other modern techniques. Organizations are using modern, modular, free format RPG for new development, and they are pairing this with other languages, which is evident in the number of languages that have significant usage.

Java remains stable at 42%, and CLP declined by four points to 66%. CLP helps with the automation efforts as there is basically a command line interface to automate just about anything on IBM i. The number of users for other, more traditional development languages stayed very steady – PHP at 18% and Python at 20%.

We are seeing more and more people writing in a combination of languages, especially because modern RPG looks and acts like other languages, which also makes it easier to teach. This is promising for the future of IBM i and can help to close the IBM i skills gap.

### RECOMMENDATION:
As technology and development landscapes continue to evolve over time, it's increasingly important for organizations to stay on top of current trends. If you're looking for educational resources, organizations like **COMMON**, Fresche Solutions, Perforce, Profound Logic, and Lansa often offer webinars or other types of training that may be beneficial.

## Which development languages do you use today for new development on IBM i?

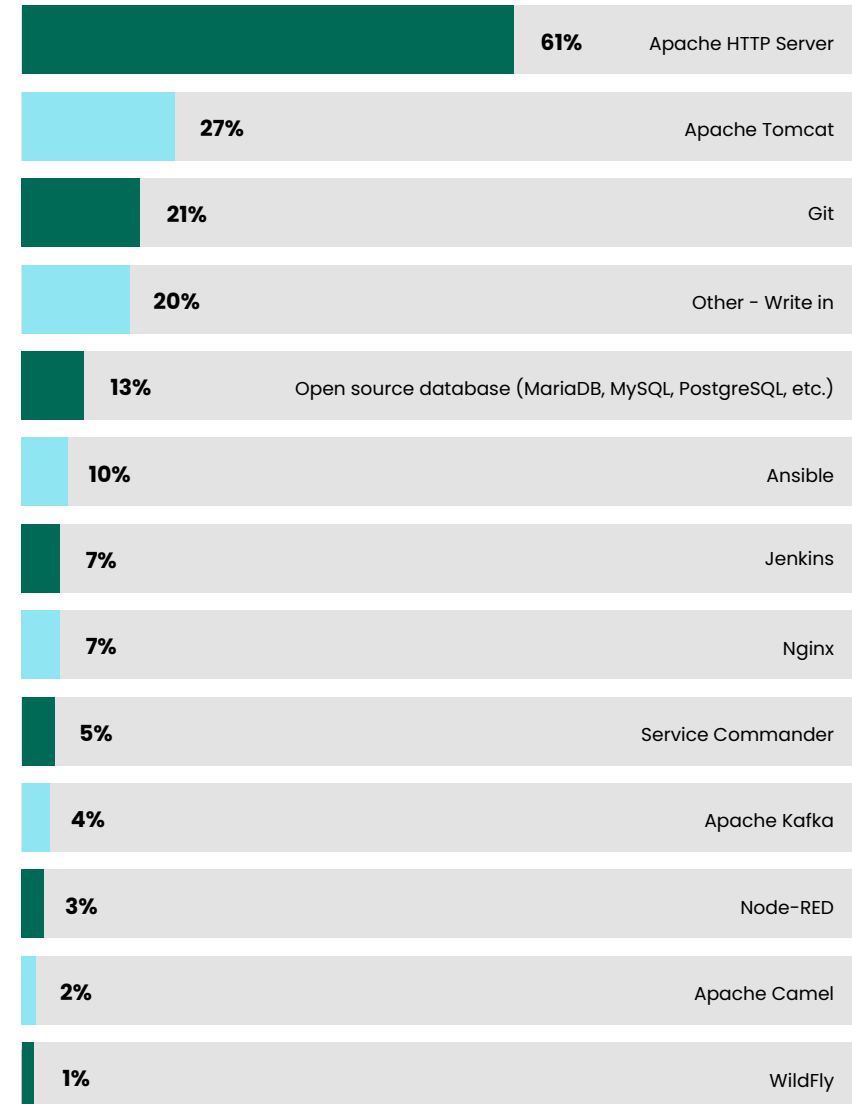| Language | Percentage |
|----------|-----------|
| RPG | 89% |
| SQL | 79% |
| CLP | 66% |
| Java | 42% |
| Python | 20% |
| PHP | 18% |
| Node.js | 18% |
| COBOL | 16% |
| .NET / C# | 10% |
| C++ | 9% |
| Other | 6% |
| Perl | 2% |
| Ruby | 1% |
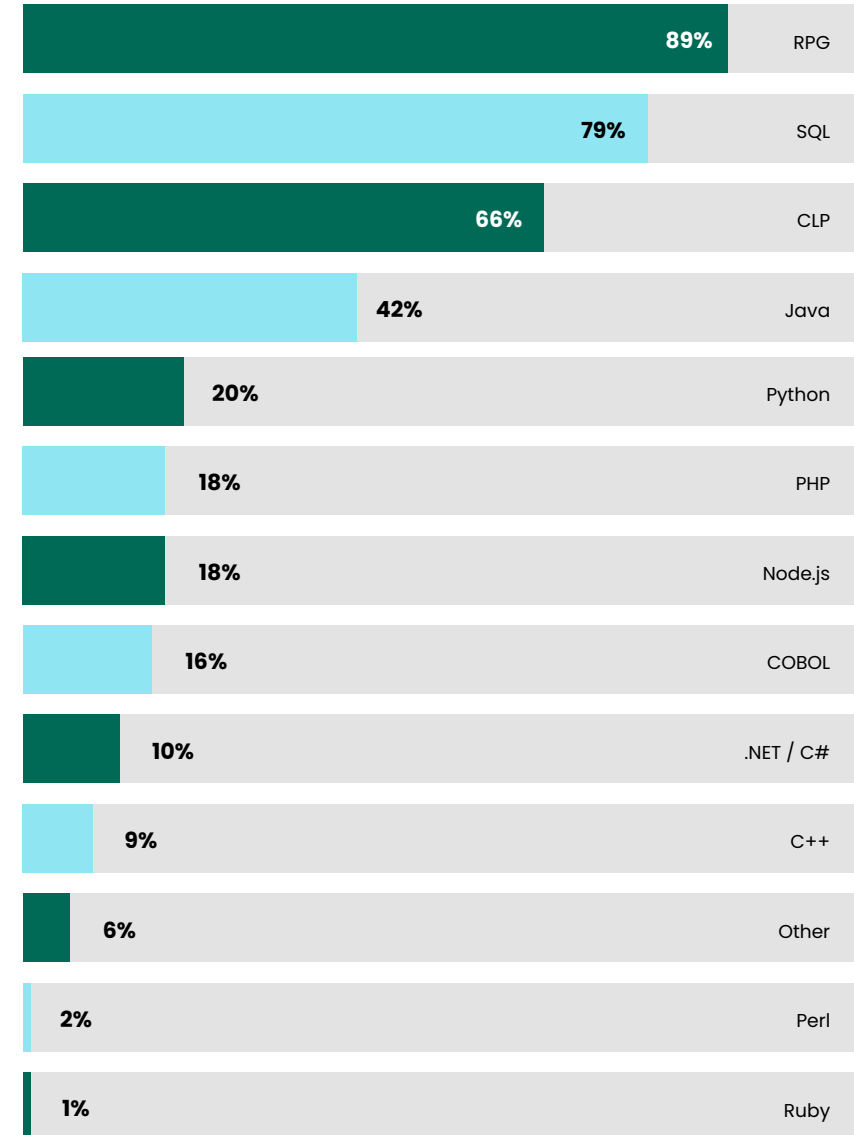
# IT Initiatives & Trends

## OPEN SOURCE DEVELOPMENT TOOLS

Open source, much like the rest of the IT world, is always developing. The increasing number of open source tools being implemented on IBM i is evidence of the significant effort put in by IBM to increase the availability of open source alternatives.

Some significant changes to note are that Apache Tomcat usage jumped from 22% to 27%, and Git usage dropped from 25% to 21%. Jenkins and Ansible continue to appear in the table, and together, with the use of Git and Bash, is a strong indication that businesses are putting DevOps approaches to use in IBM i workloads. This is part of the modernization conversation and helps explain why application modernization is near the top of the list of IT concerns.

## Which open source tools are you using on IBM i?

| Tool | Percentage |
| --- | --- |
| Apache HTTP Server | 61% |
| Apache Tomcat | 27% |
| Git | 21% |
| Other - Write in | 20% |
| Open source database (MariaDB, MySQL, PostgreSQL, etc.) | 13% |
| Ansible | 10% |
| Jenkins | 7% |
| Nginx | 7% |
| Service Commander | 5% |
| Apache Kafka | 4% |
| Node-RED | 3% |
| Apache Camel | 2% |
| WildFly | 1% |

**RECOMMENDATION:** With open source development almost certain to increase over the coming years, it is wise to ensure your development teams are ready for this. Information regarding support for open source on IBM i can be found **here**.
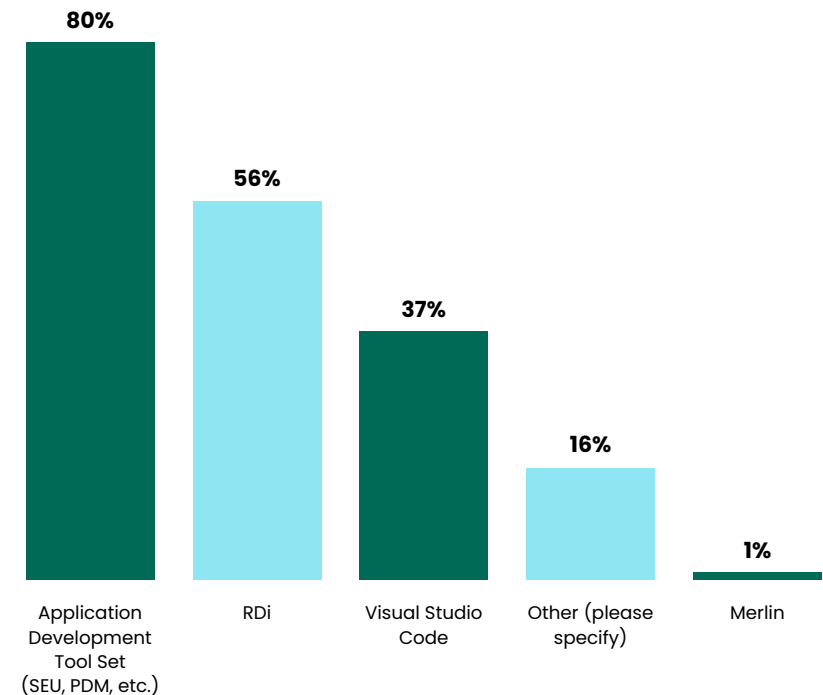
# IT Initiatives & Trends

## APPLICATION DEVELOPMENT TOOLS

This year's responses show a balanced use of older tools from the Application Development Tool Set and more modern tools like Rational Developer for i (RDi) and Visual Studio Code. The Application Development Tool Set (composed of SEU, PDM, and more) came in first at 80%, followed by RDi at 56%, and Visual Studio Code at 37%.

It is not surprising that such a large percentage of respondents use the Application Development Tool Set, since the more experienced developers are familiar with these tools. However, the adoption of cutting-edge practices is essential for attracting and retaining talented software developers, and the wide use of more modern tools like RDi, Visual Studio Code, and Merlin points toward a bright future for young developers working on this platform. Overall, the results indicate that IBM i developers are using a range of tools for different development activities – and their choice of tool often depends on what they are most familiar with.

### What application development tools are you using?

| Tool | Percentage |
|---|---|
| Application Development Tool Set (SEU, PDM, etc.) | 80% |
| RDi | 56% |
| Visual Studio Code | 37% |
| Other (please specify) | 16% |
| Merlin | 1% |

**RECOMMENDATION:** RDi is technology rich with potential for any IBM i shop. If it's a question of not being quite sure how best to deploy it, these **six RDi tutorials** contain a wealth of suggestions and tips to maximize the value from RDi.

# IT Initiatives & Trends

## AUTOMATION

When asked, "Does your IBM i run fully unattended after working hours?", 69% of respondents said yes. This is a trend that has fluctuated from year to year but has shown an overall consistent growth pattern since 2015. For the third consecutive year, less than a third of respondents said they attend to IBM i operations outside of normal business hours.

44% of respondents listed IT and business automation as a top concern in 2024, signaling an increased interest in RPA (Robotic Process Automation). With RPA and IBM i automation, you can "set it and forget it" while still readily adjusting as your organization evolves thanks to the rule-based technology that underpins both.

To help clients that run many instances of IBM i, IBM has been developing deployment and configuration automation tools. Ansible and Bash are two items used in helping with deployment and system configurations.

### Do your IBM i operations run fully unattended after normal working hours?

No 31%

Yes 69%
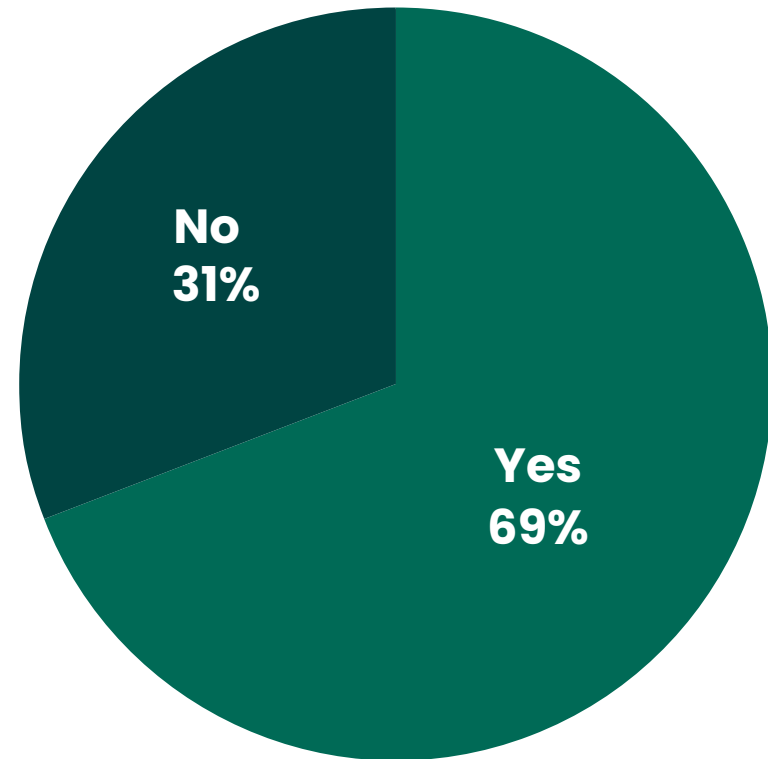
**RECOMMENDATION:** Automation can be incredibly useful for any IT department, saving time, money, and resources. If you are unsure whether more automation is suitable for your organization, a Fortra **guided automation assessment** can help with the decision-making. If you're working towards going paperless, check out our **document management solutions** that automate key business processes by electronically capturing, managing, and distributing documents and forms on-premises or in the cloud.

# IT Initiatives & Trends
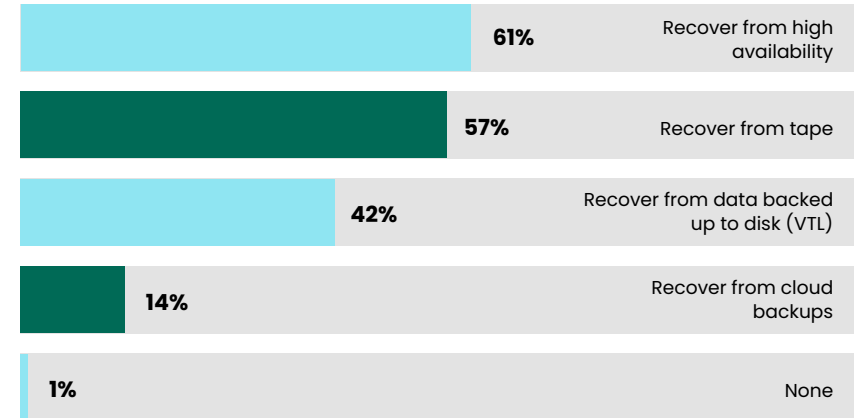
## HIGH AVAILABILITY

Unsurprisingly, 63% of our respondents this year cited high availability/ disaster recovery as a top concern when planning their IT environment, up from 56% in 2023. The good news is that nearly all of the survey respondents have one or more systems in place to recover from a disaster. IBM i customers have a multitude of backup and recovery options to match their desired recover time object (RTO) and recovery point object (RPO).

57% of organizations rely on recovering from tape and 61% have high availability. Customers today are also using storage point-in-time backups like FlashCopy. We expect to see a rise in the reliance on all different types of recovery in the future.

Software-based replication continues to be the clear favorite when it comes to the type of high-availability technology that organizations use, but hardware-based technology holds steady with 23% of respondents using IBM PowerHA and 13% using other forms of hardware-based replication.

When we talk about modernization, we tend to talk just about application modernization, but how you implement infrastructure to be more resilient is a type of modernization that is just as crucial.

## What kind of system do you have in place to recover from a disaster?

| | |
|---|---|
| 61% | Recover from high availability |
| 57% | Recover from tape |
| 42% | Recover from data backed up to disk (VTL) |
| 14% | Recover from cloud backups |
| 1% | None |

## Which high availability technology do you use with IBM i?

| Software | None | Hardware |
|---|---|---|
| 69% | 25% | 36% |
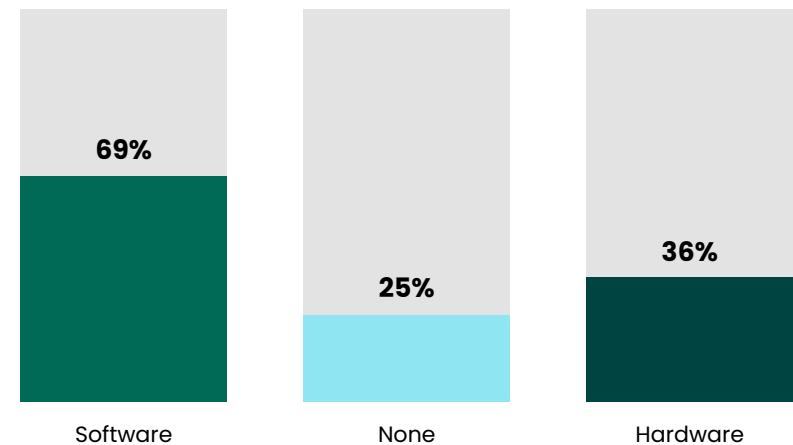
**RECOMMENDATION:** Disaster recovery cannot be left to chance or ignored completely. Fortra has a range of **business continuity solutions** and services that can help you plan for (and recover from) the worst. Our team can guide you through the various IBM i HA/DR tools such as **PowerHA**, **Robot HA**, and **Db2 Mirror for i**.

# Outlook for IBM i

## BUSINESS APPLICATIONS

An organization can't function well without its fundamental business applications. These applications must be readily accessible, execute quickly, and provide enterprises with the assurance that they will perform as expected.

It's no surprise that many businesses rely on IBM i for their most critical applications, given the platform's reputation for dependability and durability. Since 2016, respondents running between 51% and 100% of their core business applications on IBM i has remained stable at around 70%. This demonstrates users' confidence in the IBM i platform.

This year's results also saw a slight upward trend in the number of users that run between 76% and 100% of their core business applications on IBM i—up to 43%.

### What percentage of your core business applications run on IBM i?

**43%**
**12%**
**18%**
**28%**

- 76–100%
- 51–75%
- 25–50%
- Under 25%
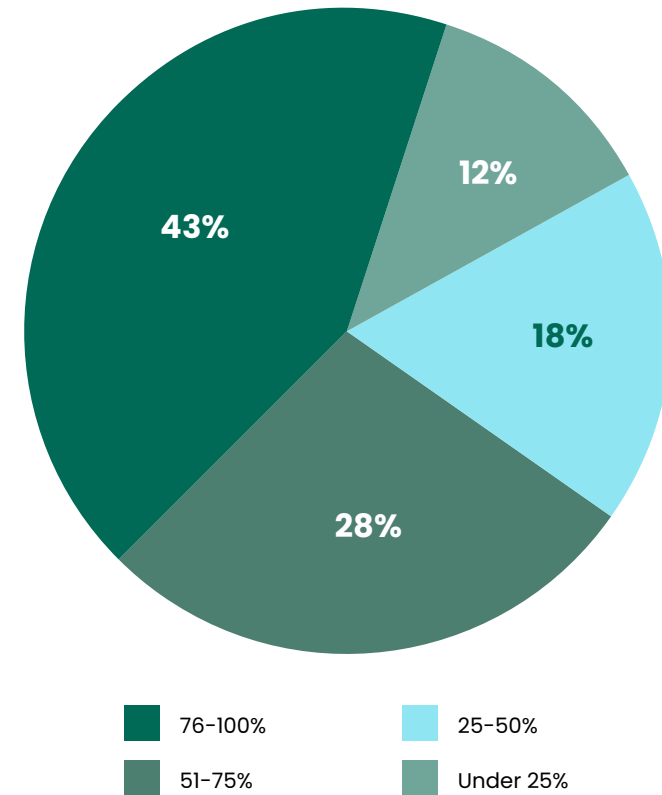
**RECOMMENDATION:** With applications relying very much on access to core business data, the role of business intelligence (BI) cannot be underestimated when it comes to successful applications. Fortra has a suite of **BI solutions and services** that dovetail seamlessly with IBM i and allow business users and leadership teams to make smarter and more informed decisions based on real-time data.
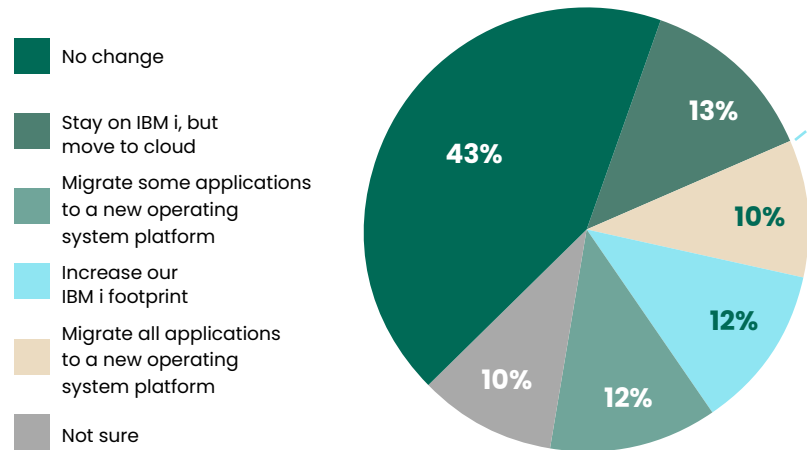
# Outlook for IBM i

## PLANS FOR THE PLATFORM

We have seen the value that users get from IBM i throughout the ten years that we have been conducting the IBM i Marketplace Survey. This is exemplified by the 68% of respondents who either plan to make no change to their IBM i, stay on IBM i but move to the cloud, or increase their IBM i footprint. From a management standpoint, IBM i requires fewer personnel and has a lower cost of ownership than other operating systems.

The percentage of businesses who will continue to use IBM i with no change in 2024 is greater than it was in 2023 (43% vs 37%). Regardless, the trend of customers moving to the cloud persists, with 13% of respondents reporting they will stay on IBM i but are moving to the cloud. This offers a clear indication that organizations are gradually realizing the benefits of cloud environments.

Additionally, 22% of organizations are planning to move some or all of their

applications to another operating system or service. Windows-based servers come out highest at 40%. If planning to move applications, Windows is not a surprising choice as many organizations have Windows servers running alongside IBM i. The number of users planning to move applications to Linux remained steady at 32% and AIX increased to 8% (up from 2% last year).

There isn't much of an exodus from IBM i, as slightly less than 3% of respondents plan to migrate all applications from IBM i within 2 years. Of those planning to migrate their applications from IBM i, 62% are planning to do so more than two years from now. In general, customers who don't have a plan for moving within a two-year time span typically end up sticking with the platform. IT management often underestimates the time to switch and the long-term value of applications on IBM i.

### What are your plans for the IBM i platform?

- No change
- Stay on IBM i, but move to cloud
- Migrate some applications to a new operating system platform
- Increase our IBM i footprint
- Migrate all applications to a new operating system platform
- Not sure

43%
13%
10%
10%
12%
12%

### When will you migrate all applications from IBM i?

| 11% | Not sure |
| 14% | More than 5 years |
| 48% | Between 2-5 years |
| 27% | Within 2 years |

**RECOMMENDATION:** If you are thinking about leaving IBM i, you need to understand the true cost of migration. We have seen first-hand customers attempting to move off IBM i over a period of time and then failing to do so. This failure is very expensive to your organization as it sets you years behind in application modernization and hardware levels. Our recommendation is to talk to both consultants who are for moving off IBM i as well as those who are against the move. They will help you understand the true costs associated with replatforming.

# Outlook for IBM i

## RETURN ON INVESTMENT

The most constant result of the annual IBM i Marketplace Survey over the past ten years has been the value that IBM i provides to its consumers. IBM i has consistently delivered a high return on investment (ROI), and 2024 is no exception.

94% of respondents said they believe IBM i provided better ROI than other servers. This number has never been below 90% in a decade of analysis, demonstrating that IBM is committed to maintaining a system that provides substantial value to its devoted clientele.

We know that many survey participants use multiple servers, so their opinions on the best server are well-informed. IBM i is a trusted platform, and its popularity will continue to rise in the years to come.

### Do you believe your IBM i server gives you better ROI than other servers?

No
6%

Yes
94%
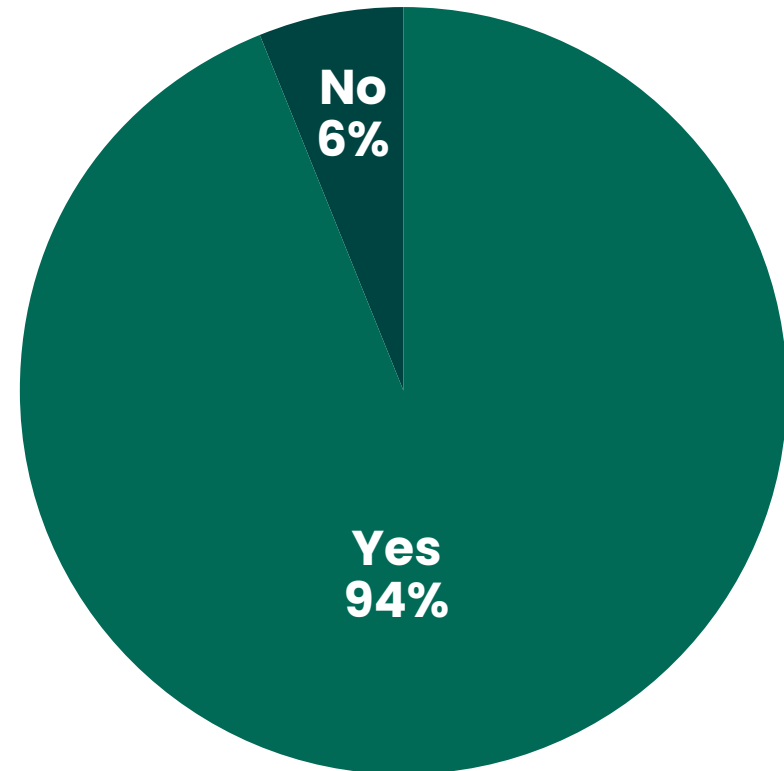
# Demographics

This survey represents the viewpoints of IBM i professionals from around the globe across multiple industries and regions. This diverse sampling spans variability in budgets, company size, server size, operating system versions, and experience levels to give a representative and diverse look at the worldwide IBM i market. This year saw an uptick in the number of respondents from the United States, and a slight downturn from respondents in Europe. Once again, manufacturing and banking/finance are the top two industries represented.
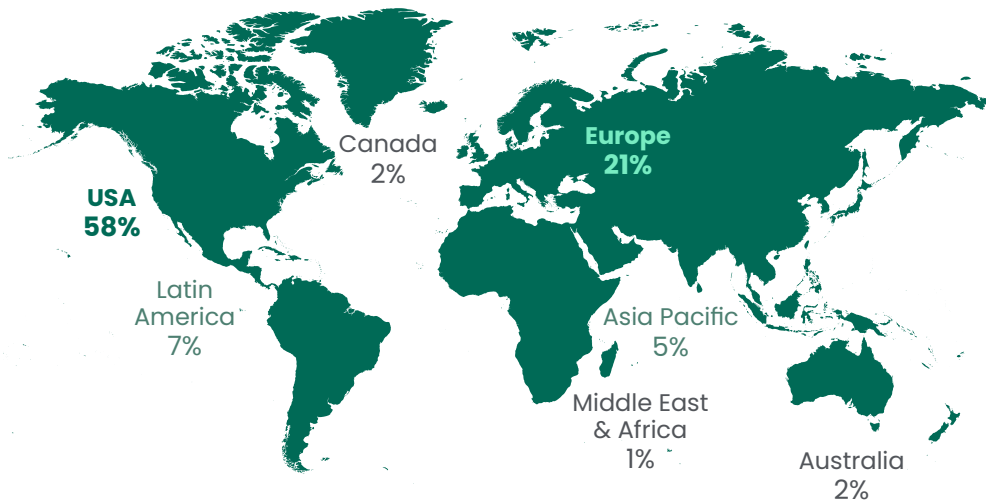
## What is your organization's primary industry?

| Percentage | Industry |
|---|---|
| 16% | Banking/Finance |
| 16% | Manufacturing |
| 13% | IT Software Development |
| 11% | Other - Write In |
| 8% | Distribution |
| 7% | Insurance |
| 6% | Technology |
| 6% | Healthcare |
| 6% | Government |
| 6% | Logistics/Transportation |
| 5% | Retail |
| 1% | Utilities |

## Where are you located?

Canada 2%

Europe 21%

USA 58%

Latin America 7%

Asia Pacific 5%
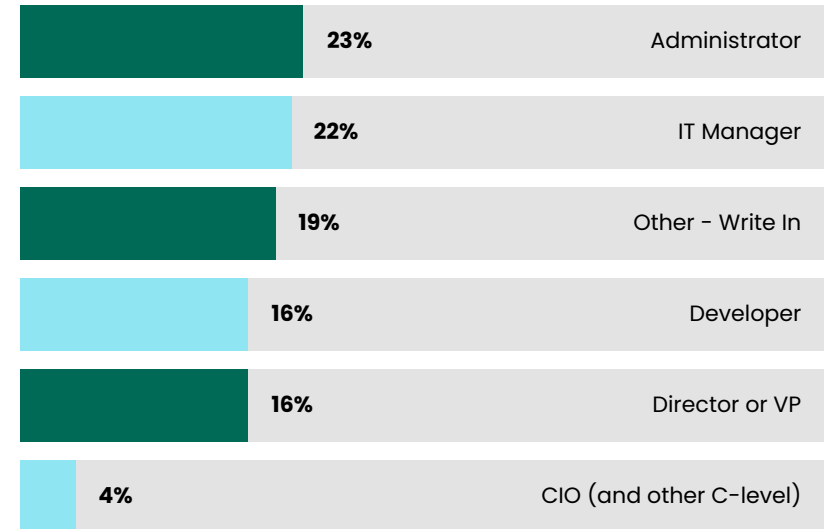
Middle East & Africa 1%

Australia 2%
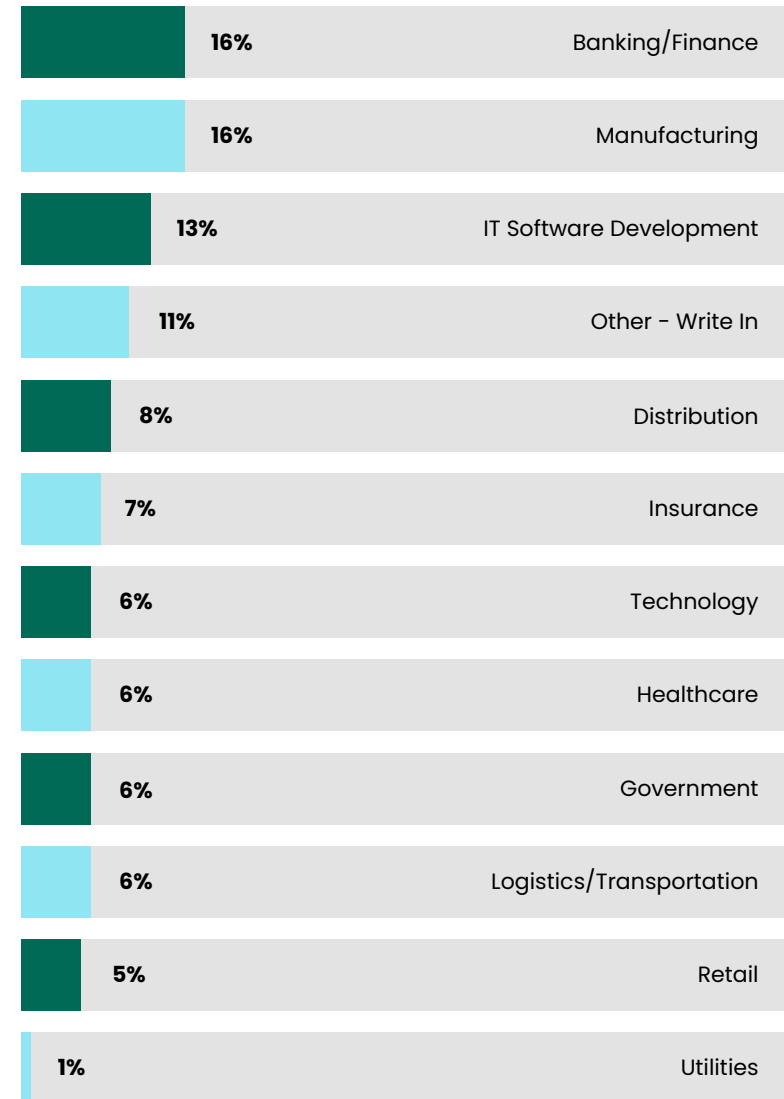
# Demographics

This year, the balance between respondents coming from a smaller organization (less than 500 employees) and those coming from larger ones (41% vs 59% respectively) slightly favored the larger organizations. In terms of the job titles of respondents, they are mostly IT managers, developers, and administrators, while under the "Other" option you may find titles like account manager, architect, and engineer.



## What is your job title?

| | |
|---|---|
| 23% | Administrator |
| 22% | IT Manager |
| 19% | Other - Write In |
| 16% | Developer |
| 16% | Director or VP |
| 4% | CIO (and other C-level) |

## How many employees does your organization have?

| | |
|---|---|
| 20% | Less than 100 |
| 10% | 100–250 |
| 11% | 251–500 |
| 15% | 501–1,000 |
| 18% | 1,001–5,000 |
| 11% | 5,001–10,000 |
| 15% | 10,001 + |
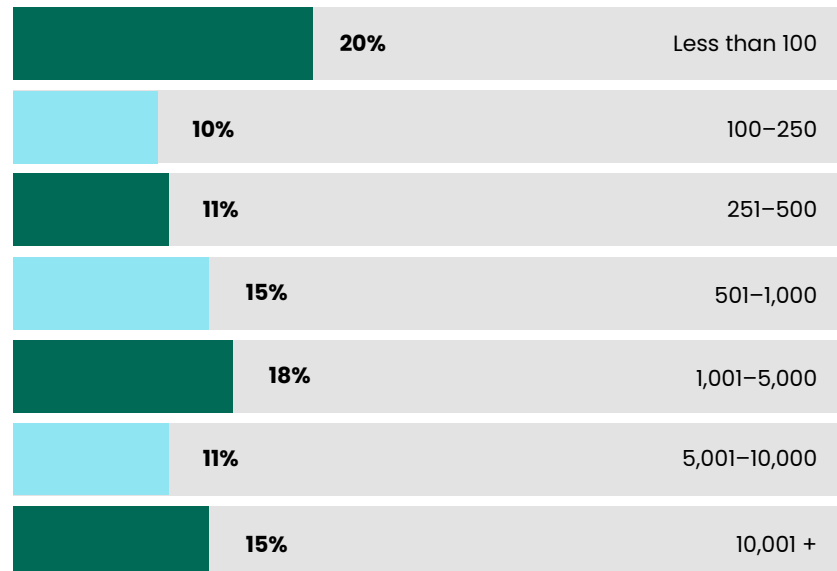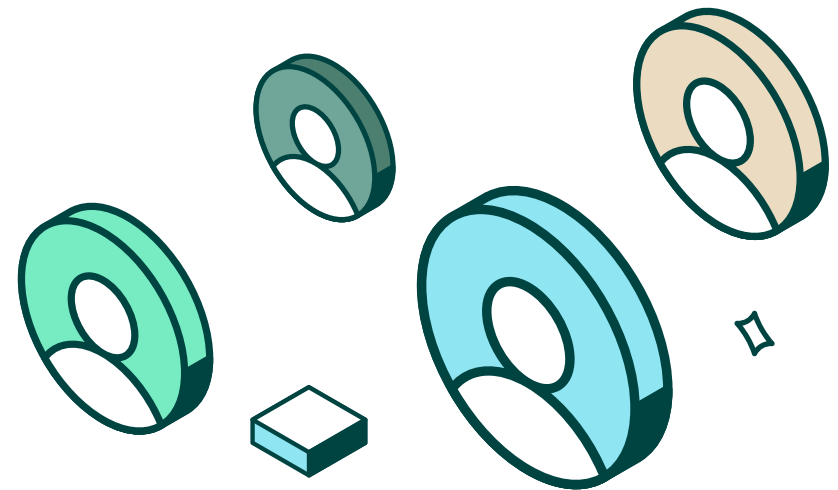
# Resources

If you're planning new projects for your IT environment, this list of tools, tips, and solutions is a great place to get you started.

| | |
|---|---|
| **Security & Compliance** | Powertech, Fortra Security Services, GoAnywhere MFT, State of IBM i Security Study, IBM i Security e-Course, IBM i Security Scan |
| **High Availability** | Robot HA, IBM i High Availability Handbook, PowerHA, Recovery Without Disaster Guide, Business Continuity eCourse, Business Continuity Quiz |
| **IBM i Skills** | IBM i Talent Retirement Guide, IBM i training courses, IBM i Academy, Manta Technologies, The 400 School, COMMON, COMMON Europe, IBM Education, Central Park Data Systems, System i Developer, Service Express (formerly iTech Solutions) |
| **Automation** | Robot, Halcyon, Guided Automation Assessment |
| **Modernization** | RDi, Sequel, RPG Toolbox, Fresche, Lansa, Perforce, Profound Logic, Arcad Software, IBM Redbook, IBM Merlin |
| **Mobility** | ASNA, Lansa, Zend, Sequel Web Interface |
| **Data Growth** | Robot Monitor, Robot Space |
| **Business Intelligence** | Sequel Data Access, Sequel Data Warehouse |
| **Going Paperless** | Fortra Document and Forms Management |
| **Capacity Planning/ PM400 Replacement** | Performance Navigator for IBM i |
| **Cloud Infrastructure** | IBM i in the Cloud Webinar, IBM i Cloud Migration Bundle, Skytap, Google Cloud, IBM Cloud for Power, Meridian IT |
| **Industry Insights** | Considering Leaving IBM Platforms?, IBM i Roadmap by IBM, Open Source Support on IBM i |