2023 Global Networking Trends Survey Results
About this document

Companion document to the 2023 Global Networking Trends Report, published by Cisco

• The survey data included in this document was commissioned by Cisco and collected by 451 Research, part of S&P Global Market Intelligence, to provide insights into how multicloud environments are influencing network technology and operations priorities, preferences, and choices.

• More than 2,500 global IT decision-makers and professionals in cloud computing, DevOps, and enterprise networking roles participated in the survey. The results provide the foundation for the 2023 Global Networking Trends Report, compiled in February 2023, which also includes executive perspectives and insights to provide guidance to help IT organizations evolve their networking models in support of dynamic business needs.

• Any use of the data in this document or in the report itself for any purpose should reference the source as “The Cisco 2023 Global Networking Trends Report”.

[Button: Read the full report]
Cisco 2023 Global Networking Trends Survey

Research methodology and objectives

Objectives

- Share emerging networking trends in multicloud world
- Identify primary challenges and opportunities for securing multicloud access
- Offer guidance

Respondents Surveyed: 2577

Demographics

13 Countries

- Canada - 100
- US - 509
- Mexico - 180
- Brazil - 184
- UK - 195
- France - 194
- Germany - 194
- China - 162
- Japan - 172
- Korea - 166
- Singapore - 167
- India - 180
- Australia - 174

Number of Employees

- 50% 500-999
- 32% 1000-4999
- 18% 5000 or more

NetOps - 1291
CloudOps - 639
DevOps - 647
2023 Global Networking Trends Survey Results

Workload deployment

The shift off-premises is continuing and is seen as inverting the current workload mix in two years

<table>
<thead>
<tr>
<th>Environment</th>
<th>Currently</th>
<th>In 2 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Third-party hosted/cloud</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>On-premises</td>
<td>5%</td>
<td>16%</td>
</tr>
<tr>
<td>Third-party hosted/cloud</td>
<td>33%</td>
<td>17%</td>
</tr>
<tr>
<td>On-premises</td>
<td>24%</td>
<td>31%</td>
</tr>
<tr>
<td>Mean</td>
<td>48.7</td>
<td>56.6</td>
</tr>
<tr>
<td>Median</td>
<td>50</td>
<td>55</td>
</tr>
</tbody>
</table>

What percentage of your workloads are currently deployed in the following environments?
Base: n = 1994
2023 Global Networking Trends Survey Results

Public cloud providers currently used

- **3%** More than 10
- **31%** 4-10
- **58%** 2-3
- **8%** 1

**Multicloud is the norm,** with 92% reporting using more than one public cloud

How many public cloud providers, such as AWS or Azure, do you currently use for these workloads and processes?
Base: \( n = 2577 \)
How many different Software as a Service (SaaS) providers, such as Office 365, salesforce, Workday or Zoom do you currently use for your business?

Base: n = 2577

SaaS application use is proliferating, with 69% saying they use more than 5 services.
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Significant motivations for the organization to use multiple (public and private) clouds

- **Managing Security**: 42%
- **More agile and scalable development environment**: 42%
- **Best of breed cloud services and application**: 41%
- **Business agility and innovation**: 40%
- **Business resilience and disaster recovery**: 35%
- **Reducing cloud services costs**: 34%
- **Preventing cloud provider lock-in**: 29%
- **Regional compliance**: 23%

**Enterprises report using multicloud** to balance security needs, be more agile and gain access to new capabilities.

What are the most significant motivations for your organization to use multiple (public and private) clouds for all services such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and SaaS? Base: n = 2577
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Significant motivations for the organization to use multiple (public and private) clouds

- Security concerns: 34%
- Managing costs across multiple clouds: 33%
- Increased operational complexity: 33%
- API visibility, security, and management: 32%
- Compliance and privacy concerns: 32%
- Workload portability: 27%
- Disparate cloud operating models: 26%
- Lack of visibility and control: 25%
- Skills shortage: 20%
- Meeting SLAs: 18%

Security, cost and complexity top challenges identified in multicloud

What are the most significant challenges your organization faces or would face using multiple clouds?
Base: n = 2577
### Top requirements when supporting multiple cloud operating models

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved visibility and analytics</td>
<td>46%</td>
</tr>
<tr>
<td>Automation and AI/ML to simplify operations</td>
<td>41%</td>
</tr>
<tr>
<td>Integration with existing on premises infrastructure and networks</td>
<td>38%</td>
</tr>
<tr>
<td>Integration with existing on premises toolsets</td>
<td>36%</td>
</tr>
<tr>
<td>Consistent policy across network and clouds</td>
<td>34%</td>
</tr>
<tr>
<td>Consistent (common) operating model across clouds</td>
<td>34%</td>
</tr>
<tr>
<td>Access to required skillsets</td>
<td>28%</td>
</tr>
<tr>
<td>Simplified spend optimization</td>
<td>28%</td>
</tr>
</tbody>
</table>

Top requirements indicated for multicloud are visibility and operational simplification.

What are your top requirements when supporting multiple cloud operating models?
Base: All respondents (Respondents selected Cloud Ops in S9) n = 639
2023 Global Networking Trends Survey Results

Use of cloud-based IT operations management platforms delivered as a service

Almost all use an operations management platform delivered as a service

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>94%</td>
</tr>
<tr>
<td>No</td>
<td>6%</td>
</tr>
</tbody>
</table>

Do you use cloud-based IT operations management platforms delivered as a service? Base: All respondents (Respondents selected Cloud Ops in S9) n = 639
2023 Global Networking Trends Survey Results

Top criteria for adopting cloud-based operations management platforms

Operational efficiency seen as leading technology push, with automation and AIOps out front

What are your top criteria for adopting cloud-based operations management platforms?
Base: All respondents (Respondents selected Yes in D4) n = 601

- Full lifecycle management: 22% Rank 1, 13% Rank 2, 13% Rank 3, 52% Did not rank
- Proactive support of on-premises infrastructure: 18% Rank 1, 18% Rank 2, 13% Rank 3, 51% Did not rank
- Virtual versioning for security and compliance requirements: 16% Rank 1, 17% Rank 2, 17% Rank 3, 49% Did not rank
- Predictive analytics: 14% Rank 1, 14% Rank 2, 14% Rank 3, 57% Did not rank
- Multi-tenancy and role-based access and control: 11% Rank 1, 15% Rank 2, 15% Rank 3, 59% Did not rank
- Quantifies operational complexity: 11% Rank 1, 14% Rank 2, 14% Rank 3, 61% Did not rank
- Low-code orchestration: 7% Rank 1, 8% Rank 2, 9% Rank 3, 75% Did not rank
Collaboration with Network Operations team

Over half indicate collaborating with networking teams weekly

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly</td>
<td>62%</td>
</tr>
<tr>
<td>Monthly</td>
<td>22%</td>
</tr>
<tr>
<td>Rarely</td>
<td>9%</td>
</tr>
<tr>
<td>Ad hoc or on demand</td>
<td>8%</td>
</tr>
</tbody>
</table>

How often do you collaborate with your Network Operations team?
Base: All respondents (Respondents selected DevOps in S9) n = 647
Adequacy of collaboration

Most feel that current level of collaboration with networking teams is adequate

- Yes: 87%
- No: 17%

Do you feel this is sufficient?
Base: All respondents (Respondents selected
Base: All respondents (Respondents selected DevOps in S9) n = 647
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Top roadblocks preventing more collaboration with Network Operations team

- **Lack of skilled staff and competing priorities** said to be top roadblocks in better collaboration with network operations

What are the top roadblocks preventing more collaboration between you and Network Operations?
Base: All respondents (Respondents selected No in E1a) n = 111

- Shortage of skilled staff: 49%
- Competing priorities between teams: 48%
- Adoption and integration of necessary processes and tools: 45%
- Cultural inertia/resistance to change: 43%
- Different objectives and incentives: 41%
- Siloed operations: 34%
# 2023 Global Networking Trends Survey Results

## Most pressing challenges DevOps team encounter when it comes to networking

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network reliability</td>
<td>48%</td>
</tr>
<tr>
<td>Lack of common tools, platforms and interfaces</td>
<td>42%</td>
</tr>
<tr>
<td>Accessing root cause analysis</td>
<td>41%</td>
</tr>
<tr>
<td>Outdated monitoring tools/observability</td>
<td>41%</td>
</tr>
<tr>
<td>NetOps team is siloed</td>
<td>37%</td>
</tr>
<tr>
<td>Insufficient automation</td>
<td>36%</td>
</tr>
</tbody>
</table>

**Network reliability** reported as most pressing networking challenge for DevOps teams

Which of the following are the most pressing challenges your DevOps team encounters when it comes to networking?

Base: All respondents (Respondents selected DevOps in S9) n = 647
Level of agreement with - ‘It is important for the DevOps team to have a seat at the table to help determine my organization’s networking strategy/priorities’

Almost all agree on importance of DevOps having a seat at networking table

On a scale of 1–5, using the guideline below please indicate your level of agreement with the following statement

'It is important for the DevOps team to have a seat at the table to help determine my organization’s networking strategy/priorities’?

Base: All respondents (Respondents selected DevOps in S9) n = 647
Enterprise Networking (Network Architecture)
# 2023 Global Networking Trends Survey Results

## Top 3 Network Technology actions that would best enable your organization to achieve digital initiatives for 2023

<table>
<thead>
<tr>
<th>Action</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interconnecting distributed hybrid cloud/edge workload</td>
<td>39%</td>
</tr>
<tr>
<td>Implement private 5G (not connected to provider networks)</td>
<td>37%</td>
</tr>
<tr>
<td>Improve management of distributed users and devices</td>
<td>36%</td>
</tr>
<tr>
<td>Increased automation</td>
<td>34%</td>
</tr>
<tr>
<td>Implement end-to-end network visibility</td>
<td>31%</td>
</tr>
<tr>
<td>Implement zero trust access on distributed users and devices</td>
<td>30%</td>
</tr>
<tr>
<td>Deploy remote access via SD-WAN, SASE</td>
<td>30%</td>
</tr>
<tr>
<td>Increased AI/ML processes</td>
<td>29%</td>
</tr>
<tr>
<td>Implement smart building Wi-Fi access</td>
<td>24%</td>
</tr>
</tbody>
</table>

**Hybrid interconnect and private 5G seen as top networking technologies to achieve digital initiatives**

Select the top 3 Network Technology actions that would best enable your organization to achieve its digital initiatives for 2023?

Base: All respondents (Respondents selected Enterprise Networking in S9) n = 1291
Biggest obstacles networking teams must overcome to deliver on digital initiatives

- Securing user access to cloud-based applications mobile devices or cloud-based solution: 41%
- Visibility into end-to-end network performance and security: 37%
- Lack of IT support for remote workers: 35%
- Legacy infrastructure: 32%
- Cost: 32%
- Network skills shortage: 32%
- Unified endpoint management: 31%
- Network bandwidth: 29%
- Inconsistent Internet connectivity: 27%
- Geographic scaling: 25%
- Lack of business direction: 23%

Securing user access and visibility are reported as leading networking obstacles to digital initiatives.

What are the biggest obstacles your networking teams must overcome to deliver on digital initiatives?
Base: All respondents (Respondents selected Enterprise Networking in S9) n = 1291
Challenges in providing secure user access from distributed locations to multiple cloud-based applications (IaaS/SaaS)

- Cloud security risks: 51%
- Consistent, robust security policy: 45%
- Endpoint security risks: 44%
- Internet services bandwidth or reliability: 42%
- Siloed cloud, network and security operations: 40%
- Increase in remote workers: 39%
- Lack of network visibility: 35%
- Meeting SLAs: 31%

Cloud and endpoint security risks and robust policy said to be top challenges in user access to multicloud.

What are the challenges in providing secure user access from distributed locations to multiple cloud-based applications (IaaS/SaaS)?
Base: All respondents (Respondents selected Enterprise Networking in S9) n = 1291
### Top 3 challenges in providing secure user access from distributed locations to multiple cloud-based applications (IaaS/SaaS)

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud security risks</td>
<td>91%</td>
</tr>
<tr>
<td>Siloed cloud, network and security operations</td>
<td>89%</td>
</tr>
<tr>
<td>Increase in remote workers</td>
<td>88%</td>
</tr>
<tr>
<td>Endpoints security risks</td>
<td>88%</td>
</tr>
<tr>
<td>Consistent, robust security policy</td>
<td>88%</td>
</tr>
<tr>
<td>Internet services bandwidth or reliability</td>
<td>85%</td>
</tr>
<tr>
<td>Lack of network visibility</td>
<td>70%</td>
</tr>
<tr>
<td>Meeting SLAs</td>
<td>69%</td>
</tr>
</tbody>
</table>

Many challenges seen in **providing secure user access to multicloud**

You chose challenges. Now please select the top 3 from your list?

Base: All respondents (Responses based on F4) n = 1291
2023 Global Networking Trends Survey Results

Two-Year Secure Access Outlook: Maturity model increasing in sophistication

How organizations are supporting user access to cloud-based applications in two years.

- **47%** Branches and remote clients primarily use a SASE model with contextually load balanced WAN links and cloud security that relies on machine learning and artificial intelligence for performance, security, and operations.
- **43%** Branches and remote clients primarily use contextually load balanced WAN links such as SD-WAN with integrated cloud delivered endpoint security i.e. Secure Access Secure Edge (SASE).
- **41%** Branches and remote clients primarily use contextually load balanced WAN links such as SD-WAN with on-premises endpoint security.
- **40%** Branches remote clients primarily use multiple load balanced WAN links (not SD-WAN) with cloud delivered endpoint security.
- **39%** Branches primarily use outbound load balanced WAN links (not SD-WAN) with on-premises endpoint security.
- **32%** Branches and remote clients primarily use VPN with on-premises endpoint security and performance functions.
- **14%** Clients primarily use SSL/TLS for application connectivity with on-premises endpoint security.
Approach to improve connectivity from all locations to cloud-based applications over the next two years

- Improve integration with cloud providers services: 53%
- Ensure internet performance visibility and insights: 48%
- Increase direct internet access regardless of location: 46%
- Expand reliance on Internet broadband: 41%
- More software-defined networks: 41%
- Migrate to Network as a Service (NaaS): 40%
- Expand MPLS circuits: 36%
- Deploy SD-WAN: 33%
- More colocation: 28%

Improving integration with cloud services and access said to be top approaches to better connectivity over next two years.
Top 3 multiple cloud access network initiatives in the next 24 months

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralized cloud-based security</td>
<td>59%</td>
</tr>
<tr>
<td>End-to-end network telemetry and visibility</td>
<td>51%</td>
</tr>
<tr>
<td>SD-WAN multicloud connectivity</td>
<td>49%</td>
</tr>
<tr>
<td>Predictive network analytics</td>
<td>47%</td>
</tr>
<tr>
<td>Orchestration and automation</td>
<td>42%</td>
</tr>
<tr>
<td>NaaS</td>
<td>27%</td>
</tr>
</tbody>
</table>

**Centralized cloud-based security** reported as top network initiative over next two years

What are the top 3 multiple cloud access network initiatives for your organization in the next 24 months?

Base: All respondents (Respondents selected Enterprise Networking in S9) n = 1291
2023 Global Networking Trends Survey Results

Top 3 most significant networking challenges faced when managing hybrid cloud and distributed workloads

- Complexity and variable security policies: 56%
- Complexity of end-to-end management: 53%
- Decentralized management: 44%
- Enforcing change controls: 39%
- Automated monitoring and reporting: 37%
- Visibility: 32%
- Network performance SLAs: 26%
- Traffic flows and dependencies: 12%

Complexity of security policies and management reported as most significant networking challenges with hybrid cloud

What are the 3 most significant networking challenges you face when managing hybrid cloud and distributed workloads? Base: All respondents (Respondents selected Enterprise Networking in S9) n = 1291
2023 Global Networking Trends Survey Results

Top 3 features or benefits for hybrid cloud networking that are most in demand

- Faster problem resolution: 50%
- Faster provisioning and change times: 48%
- Proactive problem detection: 44%
- Performance monitoring: 42%
- Network security and access controls: 30%
- Performance forecasting: 27%
- Programmatic integration with CI/CD pipelines: 26%
- Self-services configuration: 25%
- Application topology and dependency mapping: 7%

**Speed in problem resolution and provision said to be most in demand aspects of hybrid cloud networking**

What top 3 features or benefits for hybrid cloud networking are most in demand? Base: All respondents (Respondents selected Enterprise Networking in S9) n = 1291
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Top 3 motivations for greater collaboration between networking and cloud teams

Security and efficiency seen as top motivations for greater cloud and network team collaboration

What are the top 3 motivations for greater collaboration between networking and cloud teams?
Base: All respondents (Respondents selected Enterprise Networking in S9) n = 1291

- Improved cloud security: 45%
- Overall greater operational efficiency: 41%
- Enhanced cloud application performance: 39%
- Integrated cloud process workflows: 37%
- Better SLAs for cloud requirements: 35%
- Integrating operations models: 33%
- Better SLAs for continuity: 33%
- Attracting and retaining talent: 30%