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New Models for WAN and Service Provisioning

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Cloud Application Networking Challenges

Bandwidth needs rising – but budgets flat to down

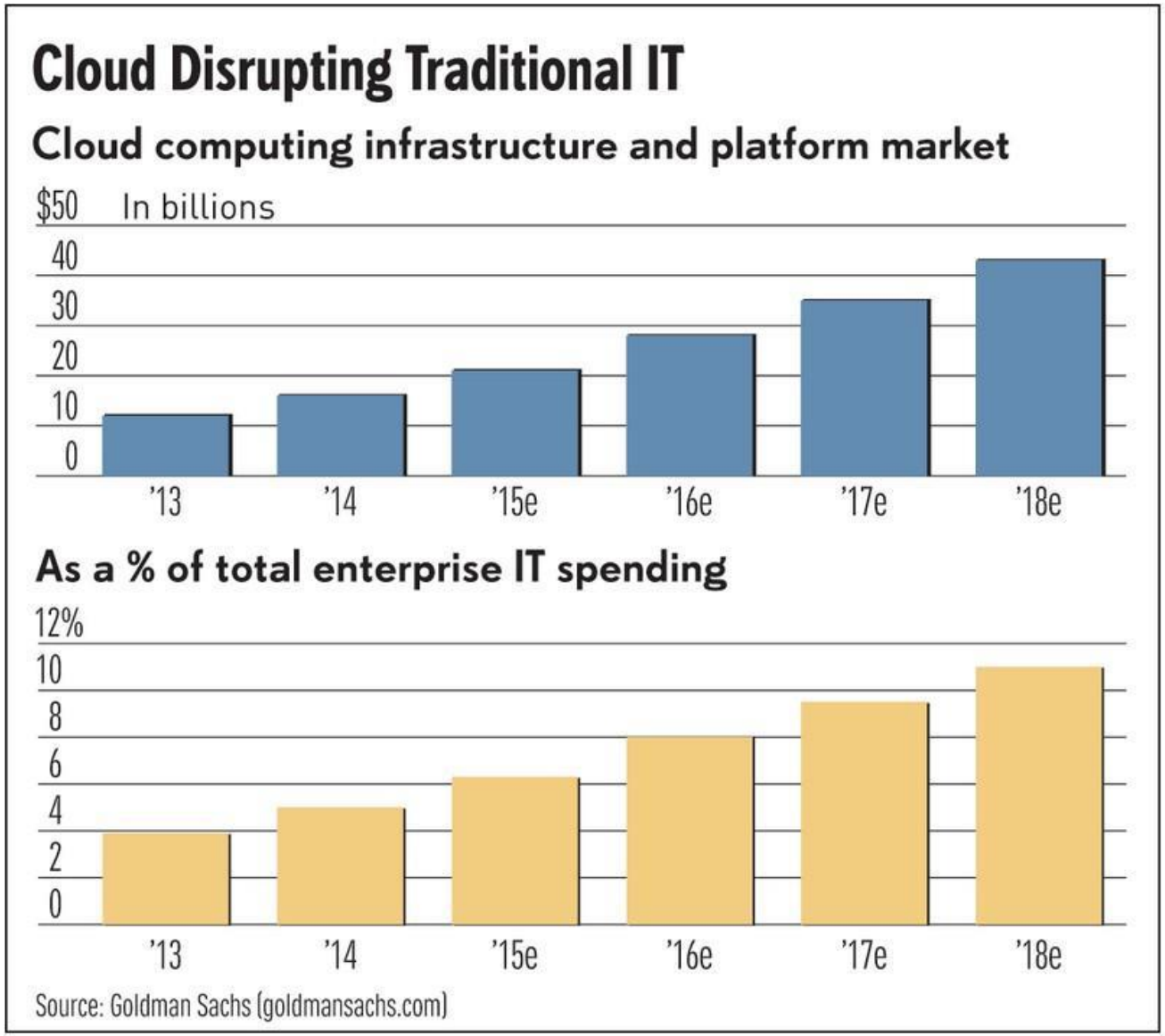
Rising security concerns

Demand for secure and reliable connections to cloud applications

Reliable global Internet connectivity a challenge

Challenges managing multi-cloud networks

Application performance challenges


Cloud Disrupting Traditional IT
Cloud computing infrastructure and platform market
$50
In billions
40
30
20
10
0
'13
'14
'15e
'16e
'17e
'18e
As a % of total enterprise IT spending
12%
10
8
6
4
2
0
'13
'14
'15e
'16e
'17e
'18e
Source: Goldman Sachs (goldmansachs.com)

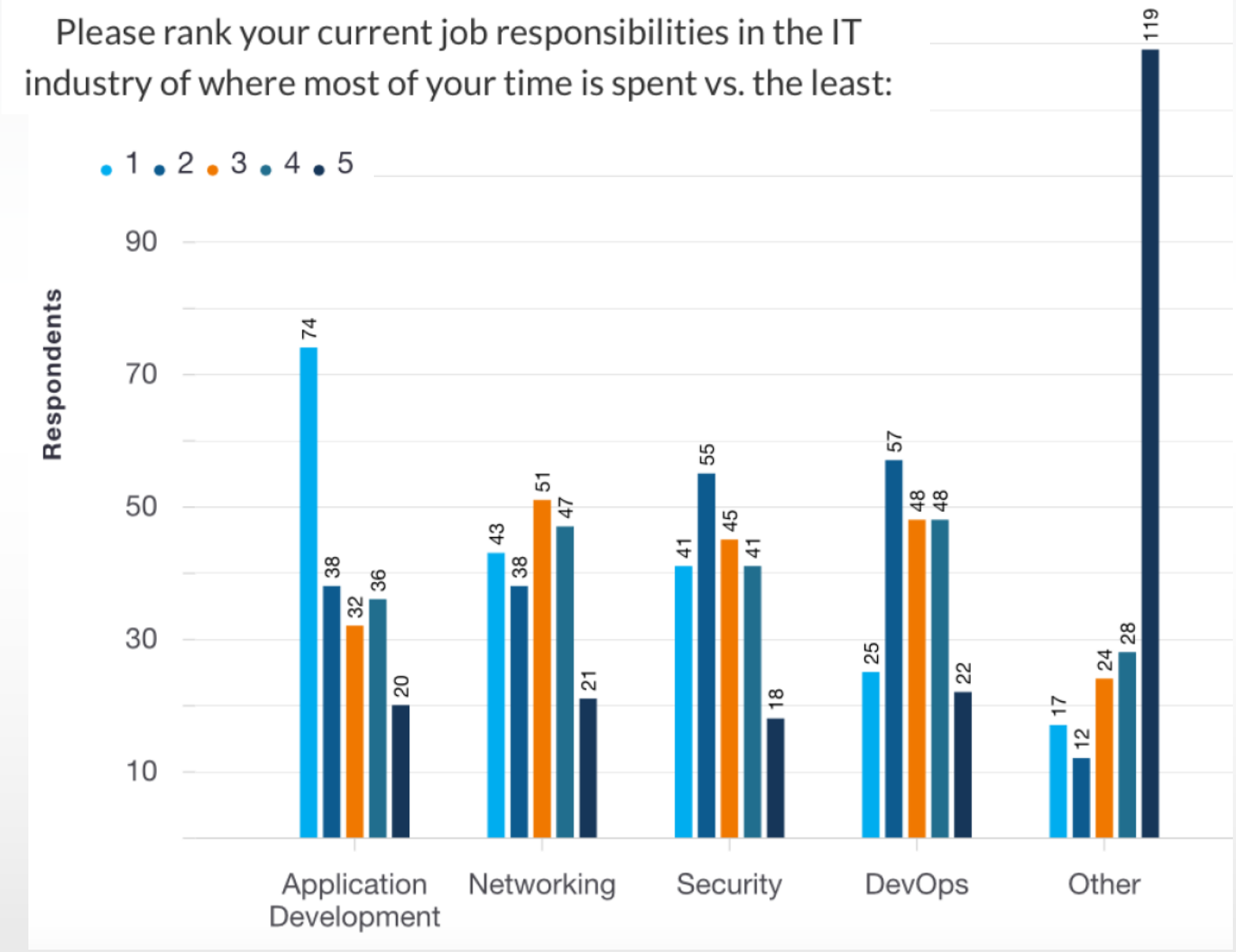
Cloud Impact on WAN

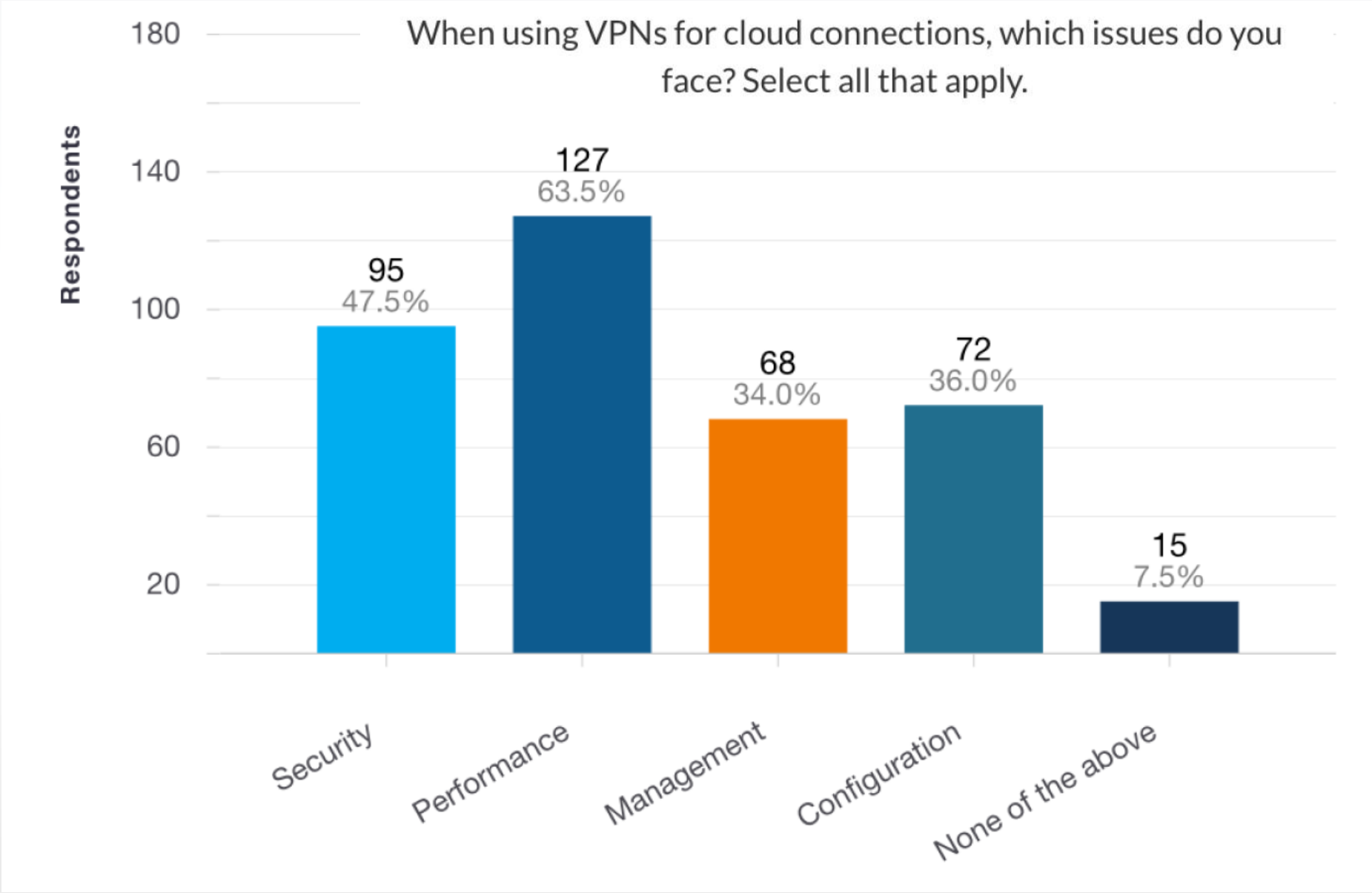
- More traffic going to the cloud
- Increased demand via broadband (remote branches and workers)
- Corporate WAN becomes a bottleneck
- Paying double for backhaul to corporate data center
- Traditional WAN doesn’t have fast/automated provisioning
- Exponential increase in devices (IoT, connected car, e.t.c.)

New Challenges Created

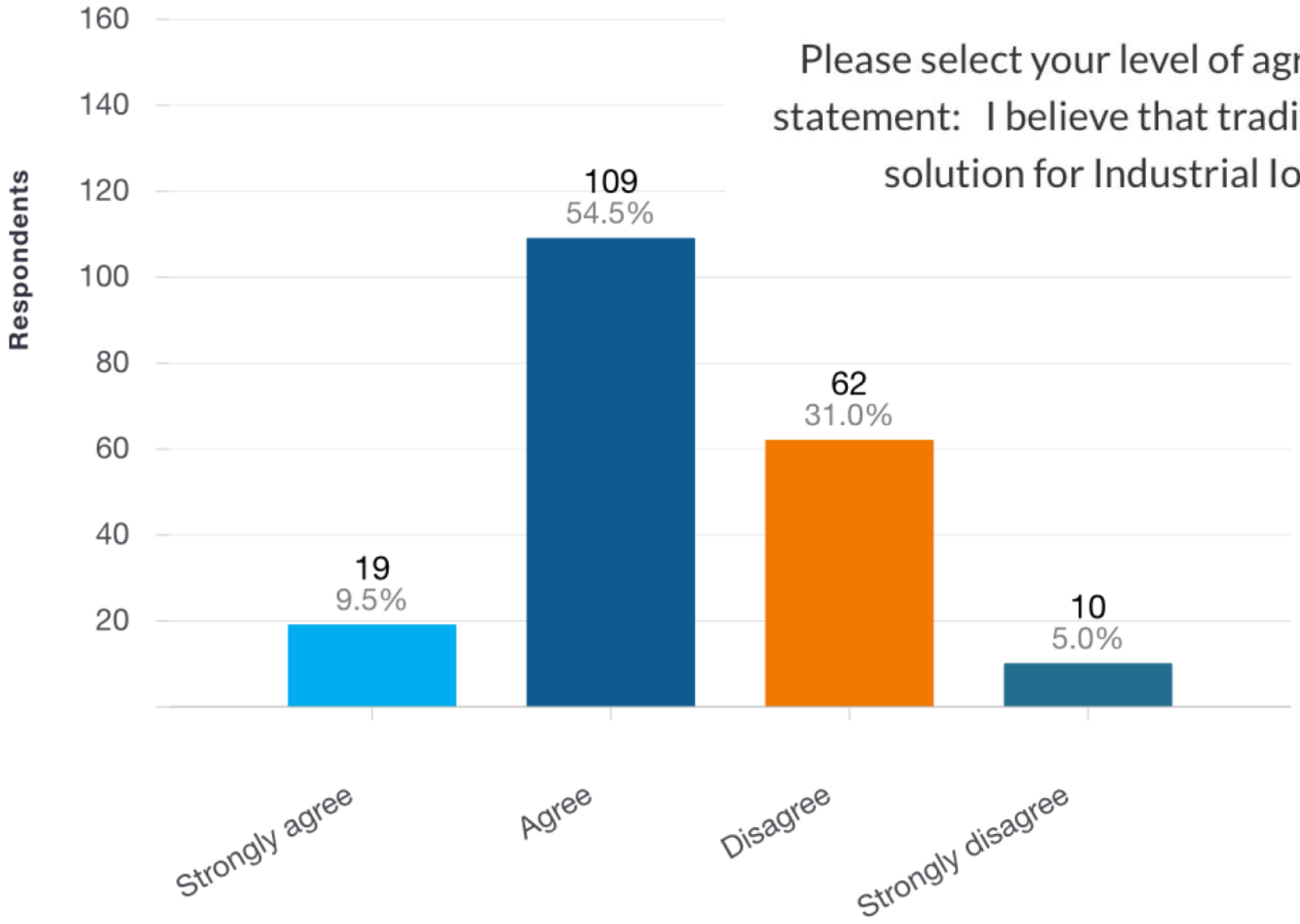
- How do you make multi-cloud transparent to the end users?
- How do you build a virtual, secure network that can adapt to multi-cloud?
- How do you insure the performance of this new “Virtual WAN” for users and applications?
- How can you instantly provision and automate configuration of new WAN services?

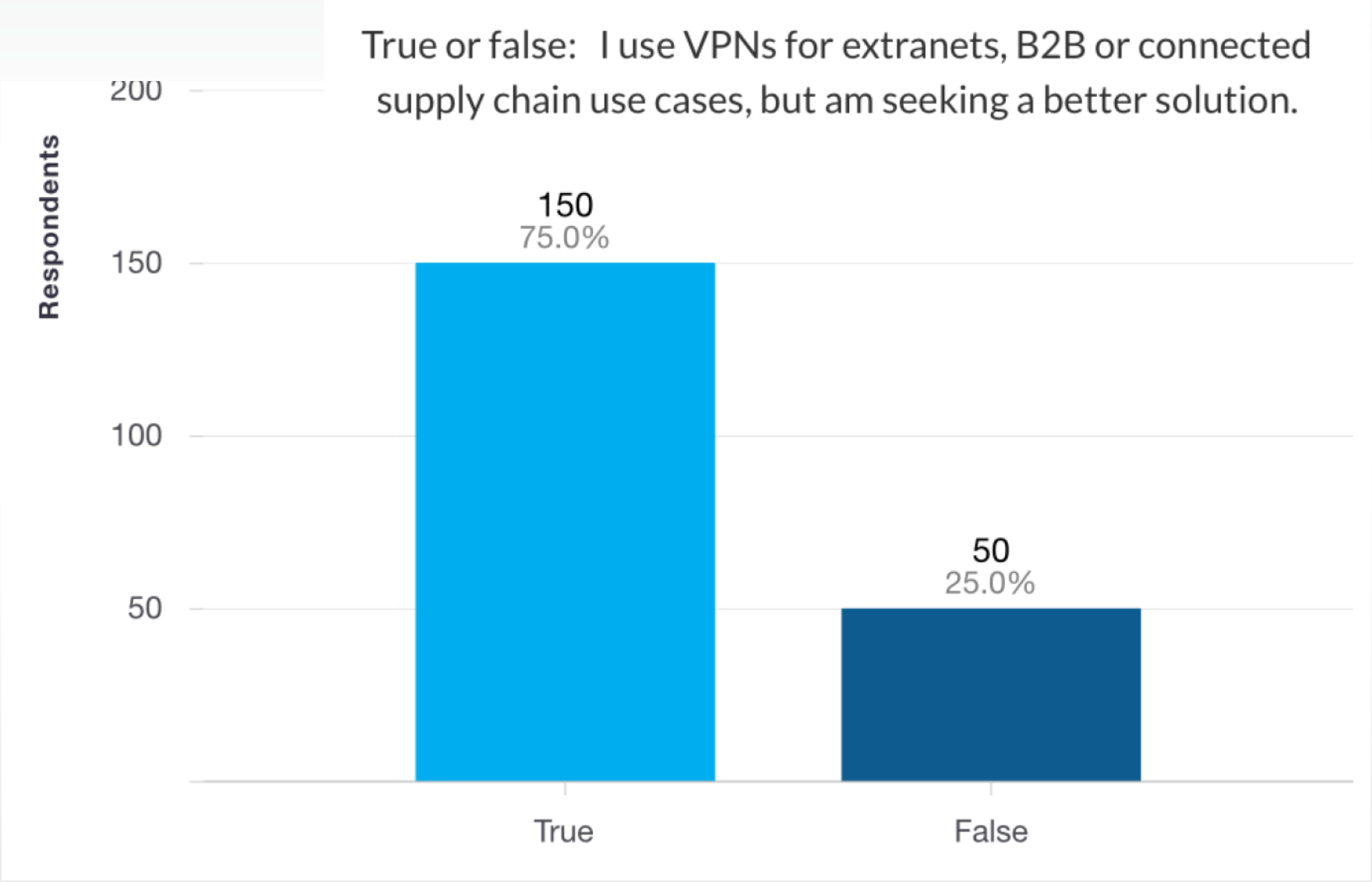
- 200 survey respondents
- All managers or above.
- Role distribution across IT
- US Only
- Roles ranked 1-5; 1=most time



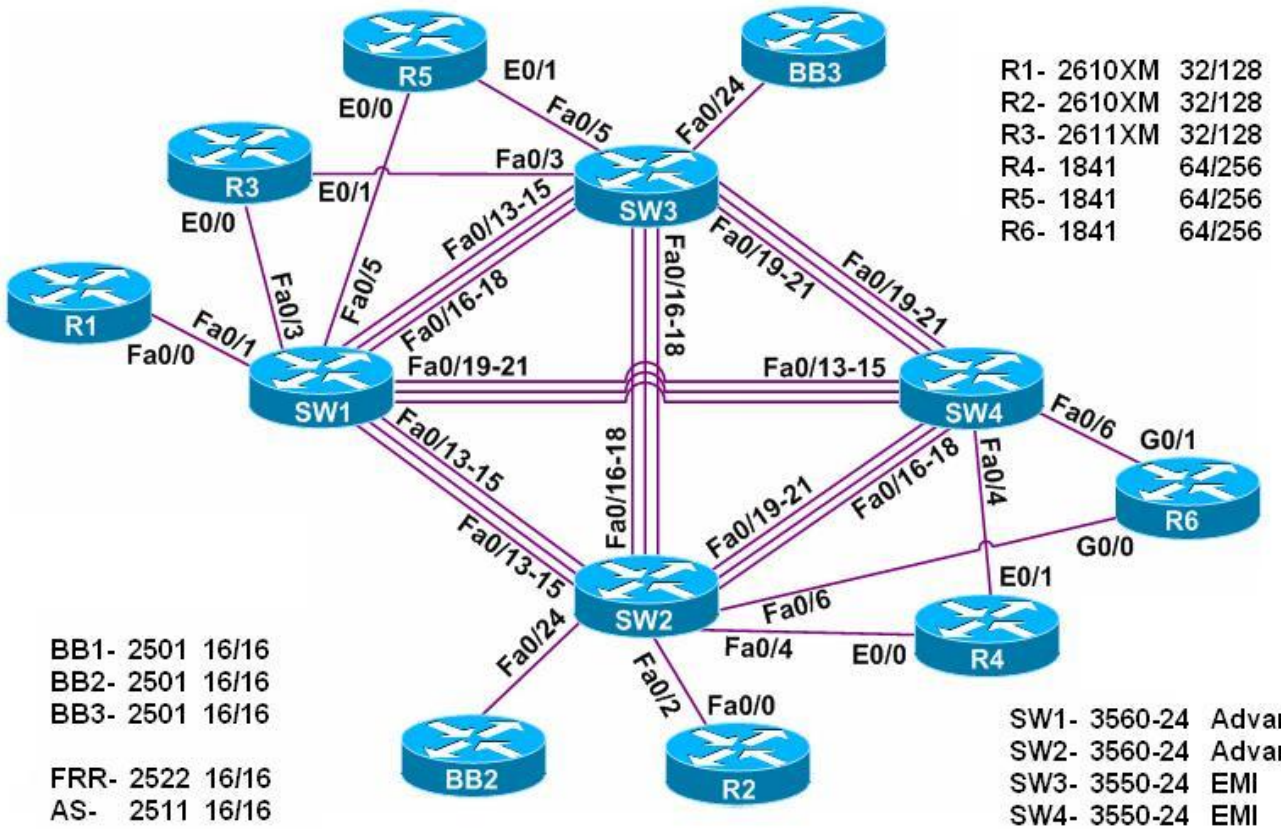

When using VPNs for cloud connections, which issues do you face? Select all that apply.
Respondents
180
140
100
60
20
95
47.5%
127
63.5%
68
34.0%
72
36.0%
15
7.5%
Security
Performance
Management
Configuration
None of the above

Please select your level of agreement with the following statement: I believe that traditional VPNs are not the best solution for Industrial IoT device connectivity.




True or false: I use VPNs for extranets, B2B or connected supply chain use cases, but am seeking a better solution.
Respondents
200
150
100
50
150
75.0%
50
25.0%
True
False

Look Like Fun?



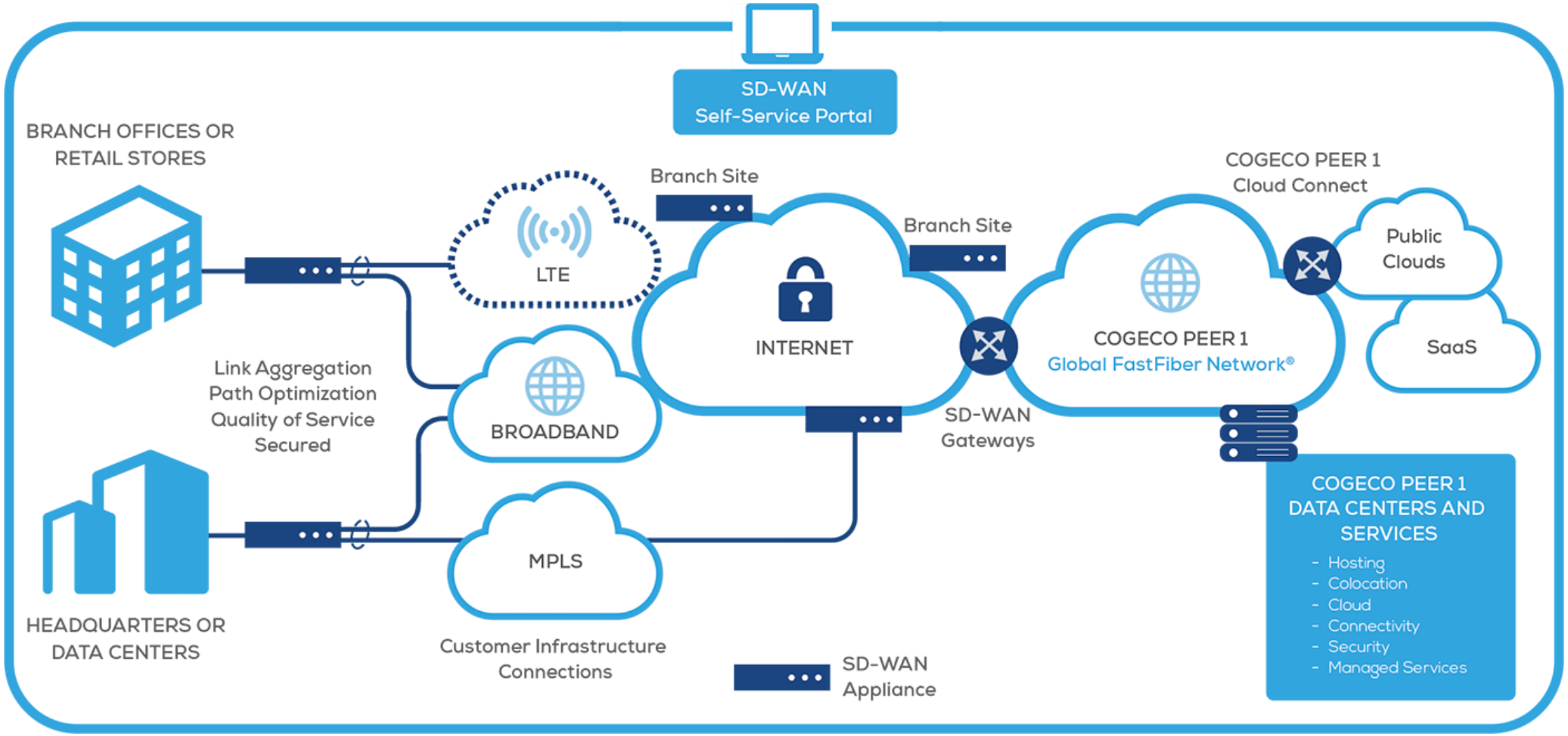
R1- 2610XM 32/128 2x WIC-1T
R2- 2610XM 32/128 2x WIC-1T
R3- 2611XM 32/128 1x NM-4A/S
R4- 1841 64/256 2x WIC-1T
R5- 1841 64/256 2x WIC-1T
R6- 1841 64/256 1x WIC-1T

BB1- 2501 16/16
BB2- 2501 16/16
BB3- 2501 16/16

FRR- 2522 16/16
AS- 2511 16/16

SW1- 3560-24 Advanced EMI
SW2- 3560-24 Advanced EMI
SW3- 3550-24 EMI
SW4- 3550-24 EMI

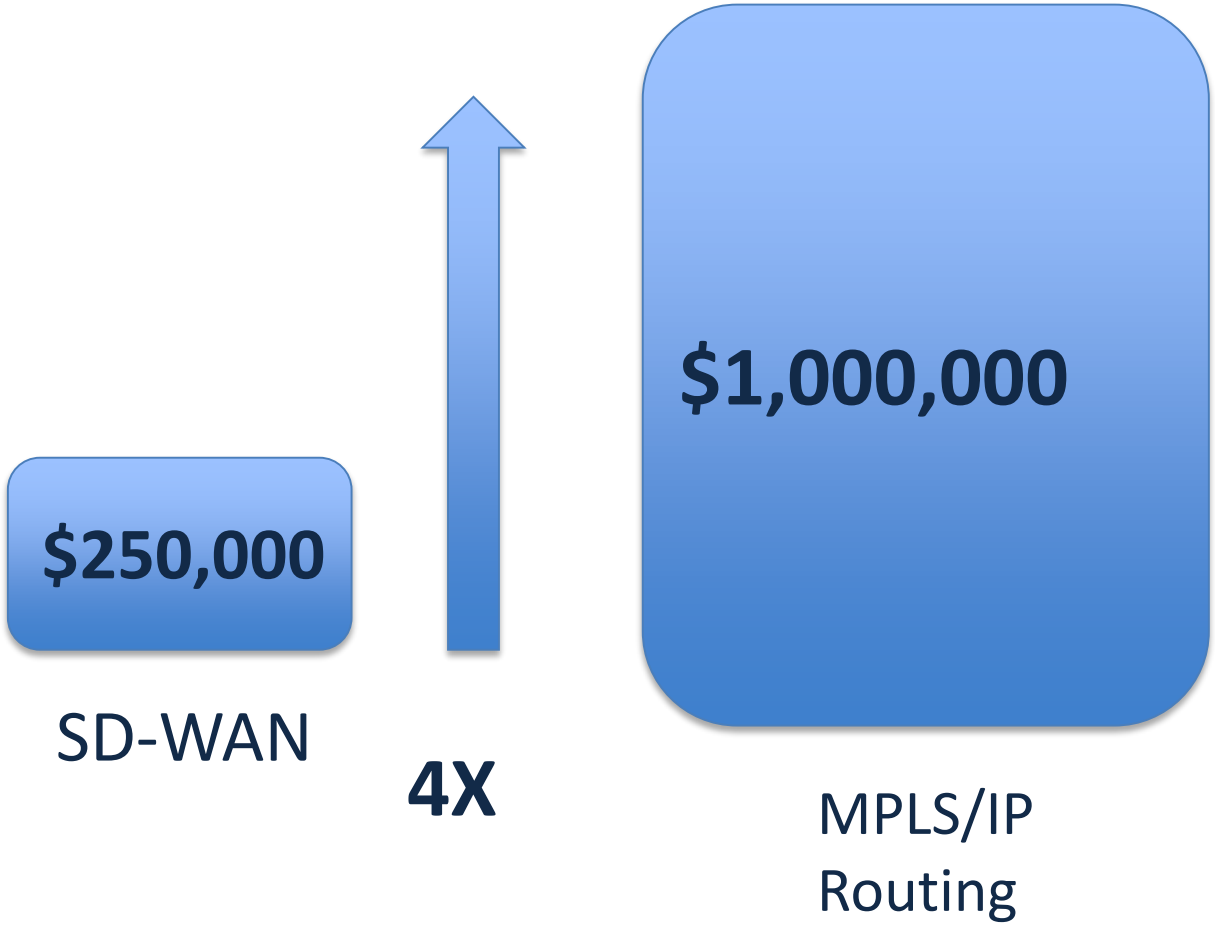
SD-WAN Architecture Example



Source: Versa Networks

Benefits of SD-WANs

- Leverage broadband Internet
- Enable automated provisioning
- Improve app performance
- Native security
- Reduce opex
- Reduce capex

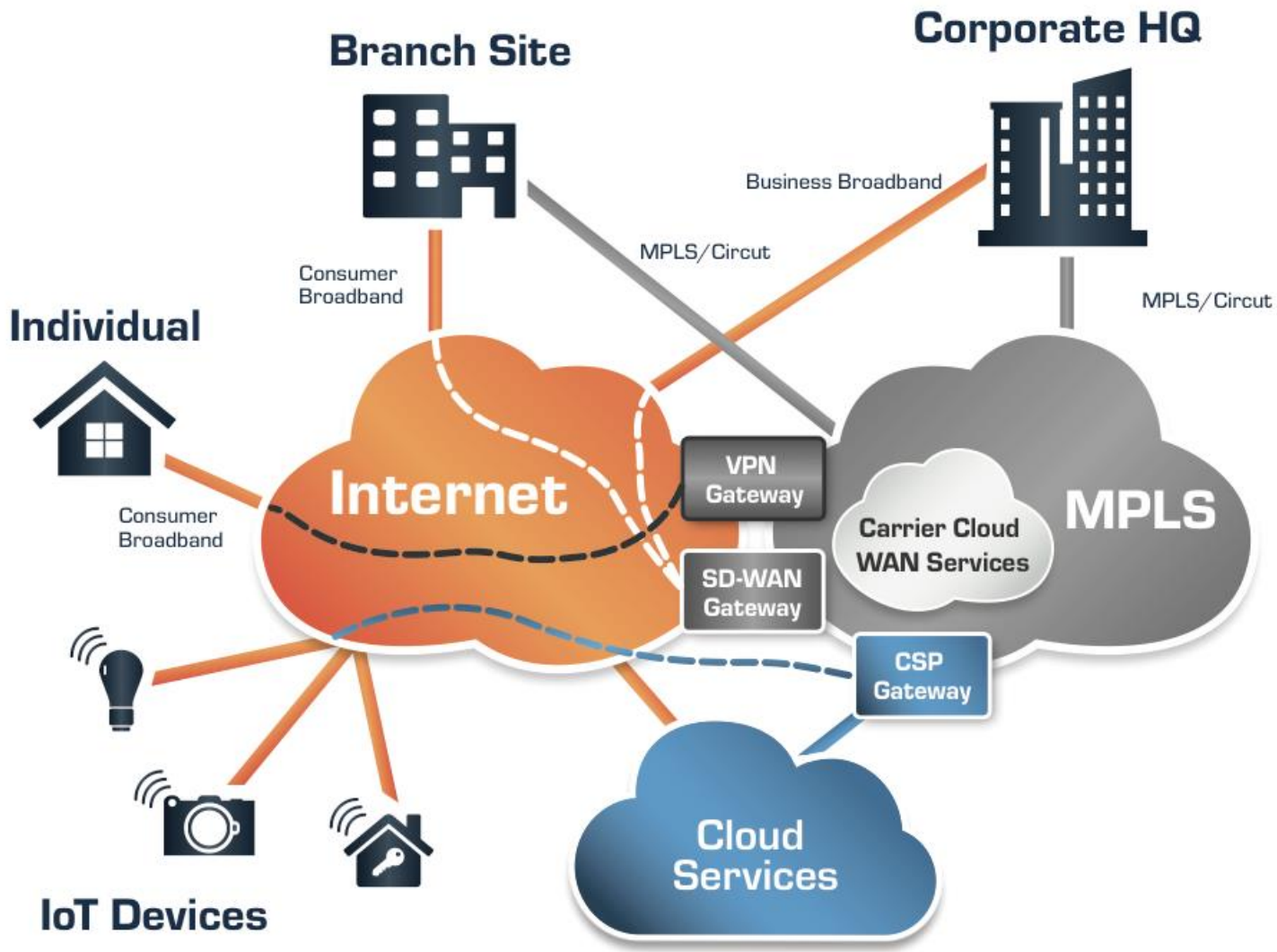


Source: Gartner Inc.

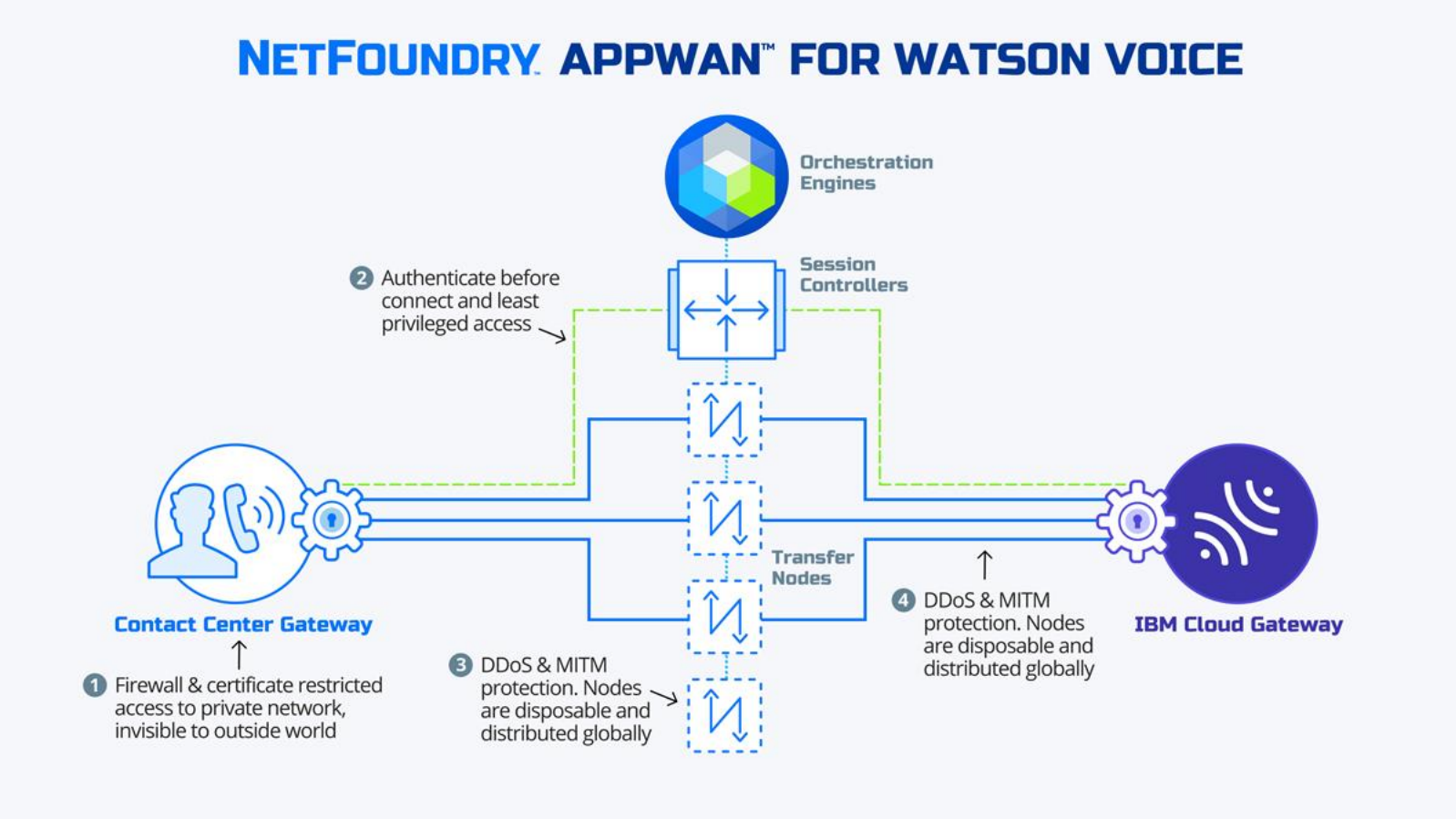
Benefits of AppWANs

- Cloud-native software overlay (no hardware)
- Follows the applications, not the devices.
- Easy to set up and tear down.
- Targeted at DevOps and software engineers rather than networking infrastructure
- Native security
- Transparent to the end user

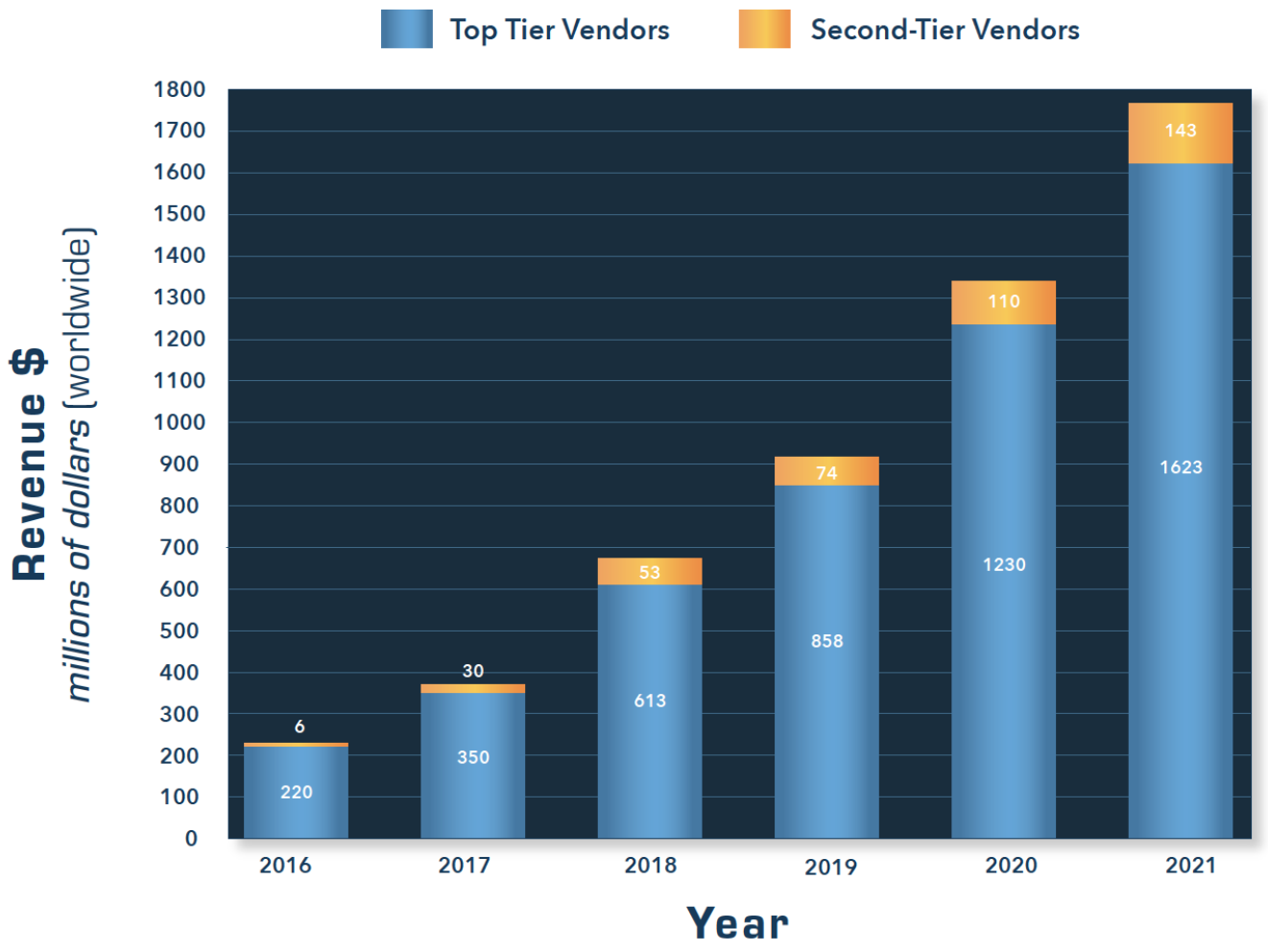
Networking Through the Cloud



AppWAN Example



SD-WAN Market Growth



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