



Designing End-to-End Visibility for a Distributed Workforce

Digital Workplace Experience

riverbed | *Aternity*[™]

Visibility Challenges for IT

New Tech Brings New Opportunity and Challenges



**INCREASED DEMAND
FOR DIGITAL SERVICES**

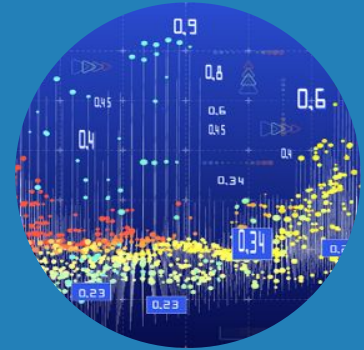


**LONG-TERM
HYBRID
WORK**



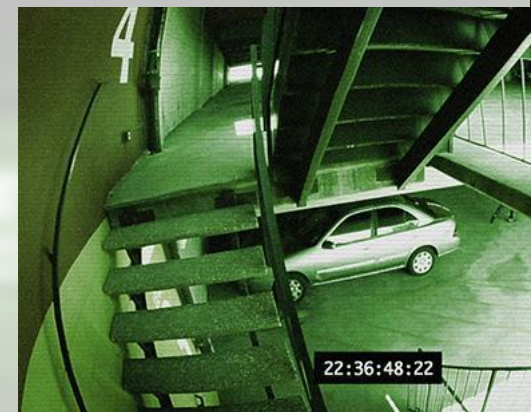
**CLOUD & SAAS
ADOPTION**

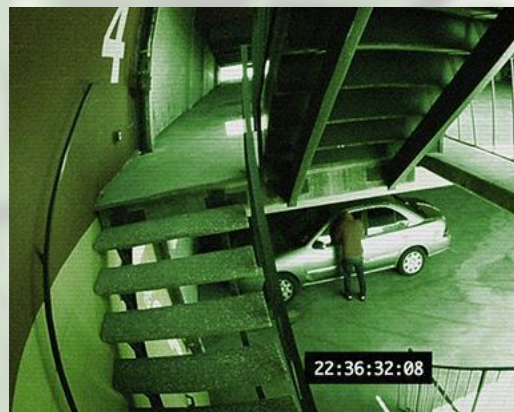
**VOLUME, VARIETY,
VELOCITY OF DATA**



**EXPANDED
THREATS**



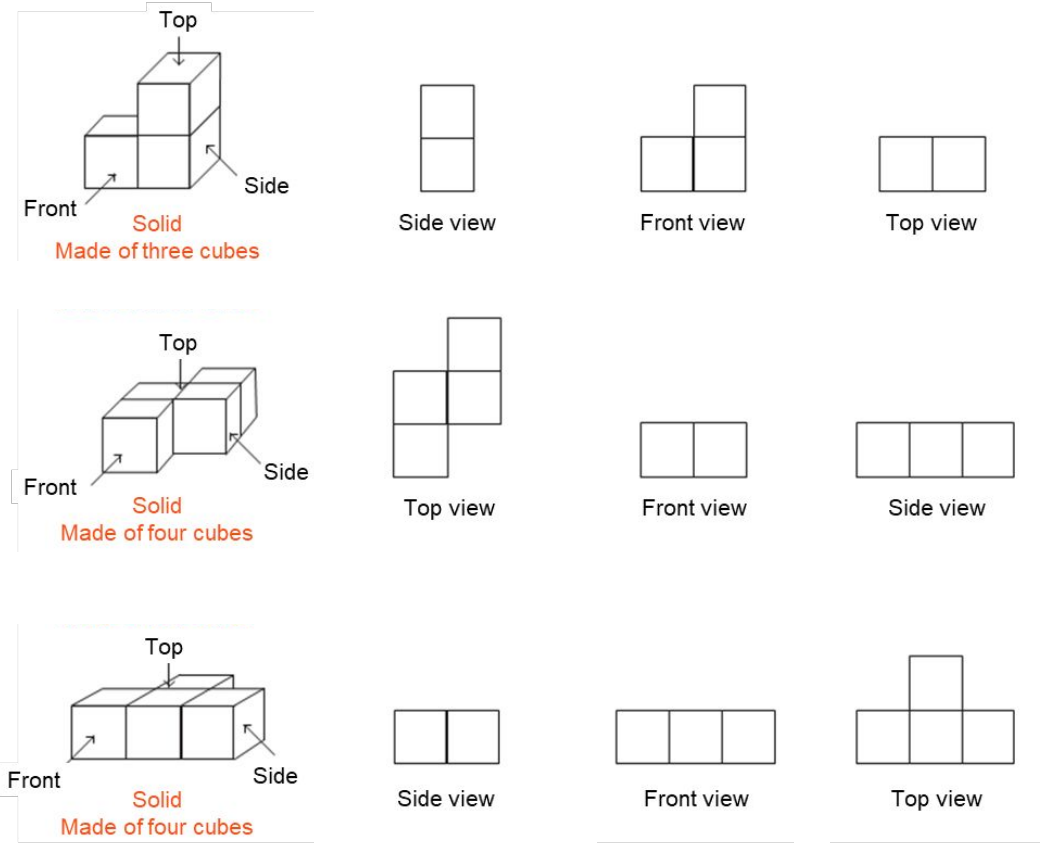






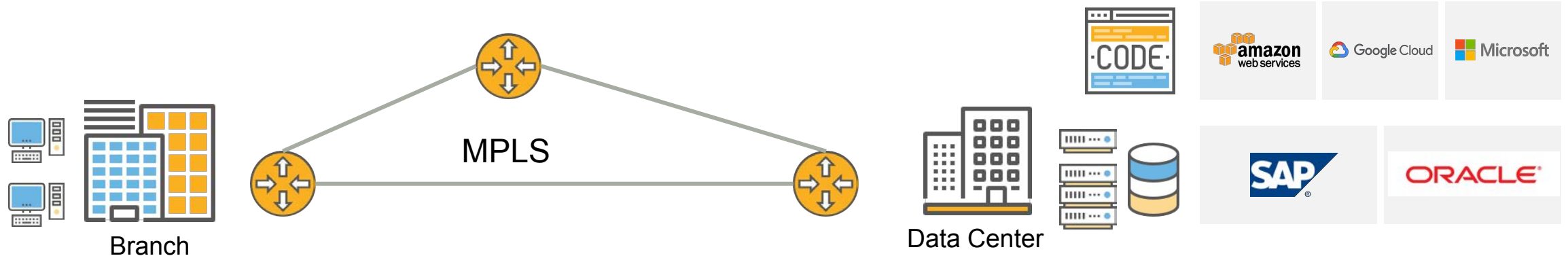
Diversify Your Visibility

Logs + Flows + Packets +
Endpoints + Cloud



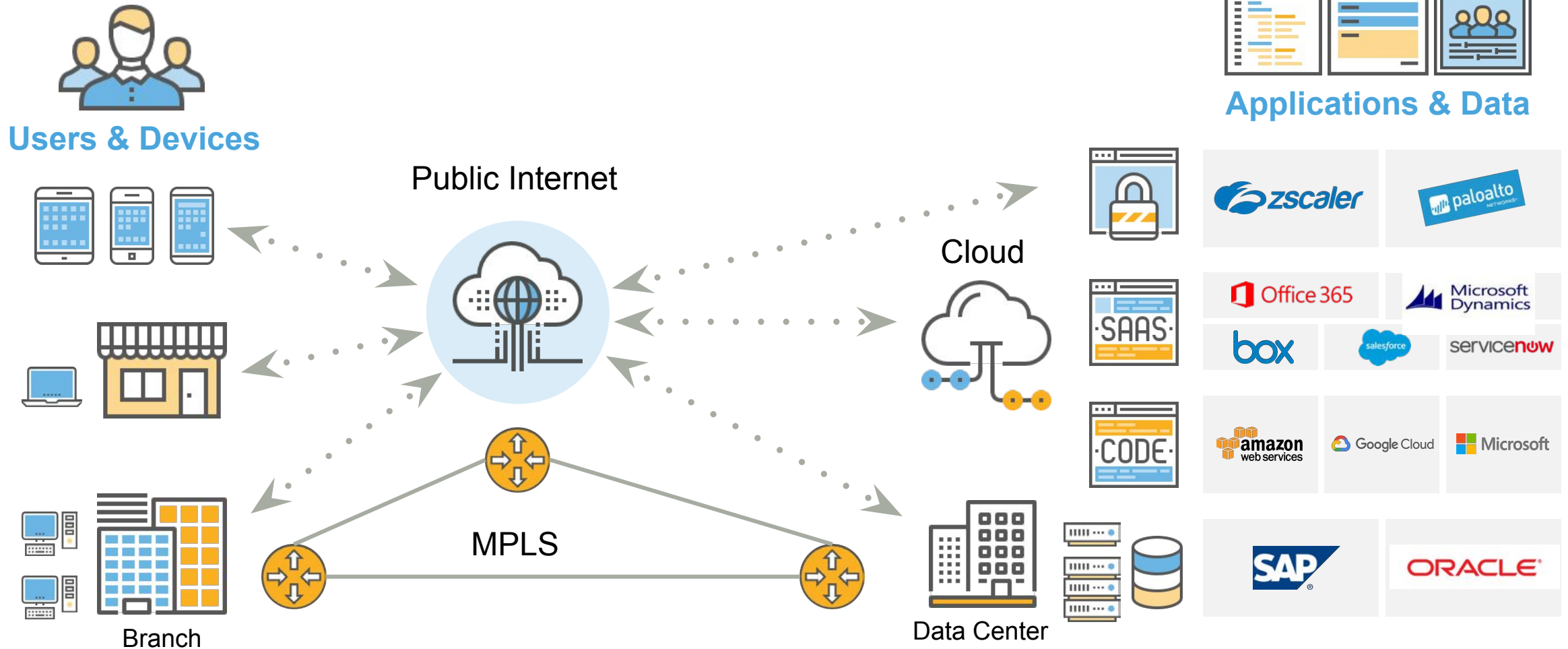
The New Digital Enterprise

Distributed, Hybrid, Complex



The New Digital Enterprise

Distributed, Hybrid, Complex



Same house, same day, different latency

11AM

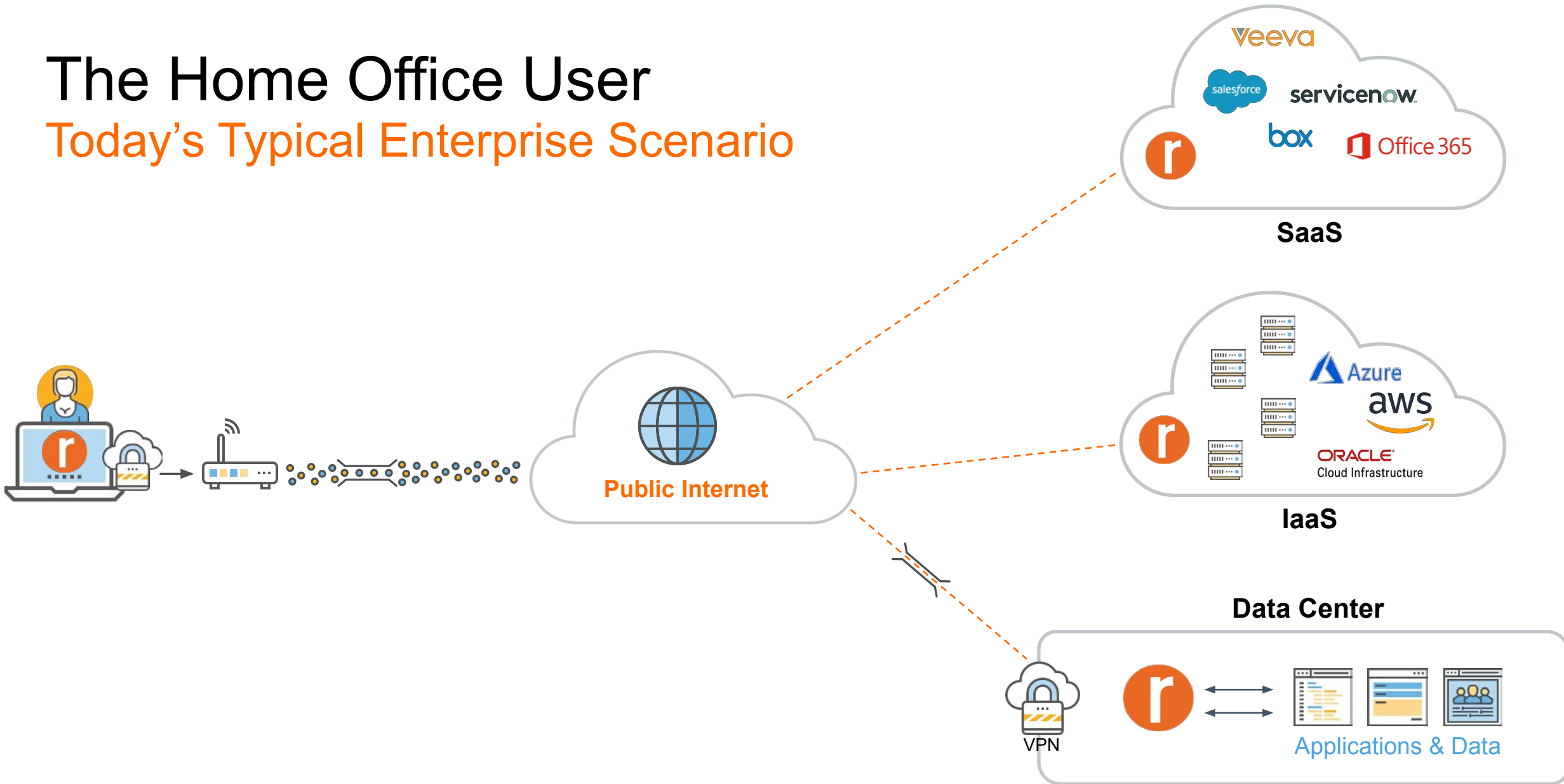
```
64 bytes from 40.97.148.226: icmp_seq=46 ttl=244 time=80.122 ms
64 bytes from 40.97.148.226: icmp_seq=47 ttl=244 time=91.398 ms
^C
--- outlook.com ping statistics ---
48 packets transmitted, 44 packets received, 8.3% packet loss
round-trip min/avg/max/stddev = 49.698/196.425/787.140/182.716 ms
root@ubuntu:~#
```

3PM

```
64 bytes from 40.97.164.146: icmp_seq=22 ttl=240 time=69.986 ms
64 bytes from 40.97.164.146: icmp_seq=23 ttl=240 time=70.414 ms
^C
--- outlook.com ping statistics ---
24 packets transmitted, 24 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 68.082/91.614/259.460/47.880 ms
```

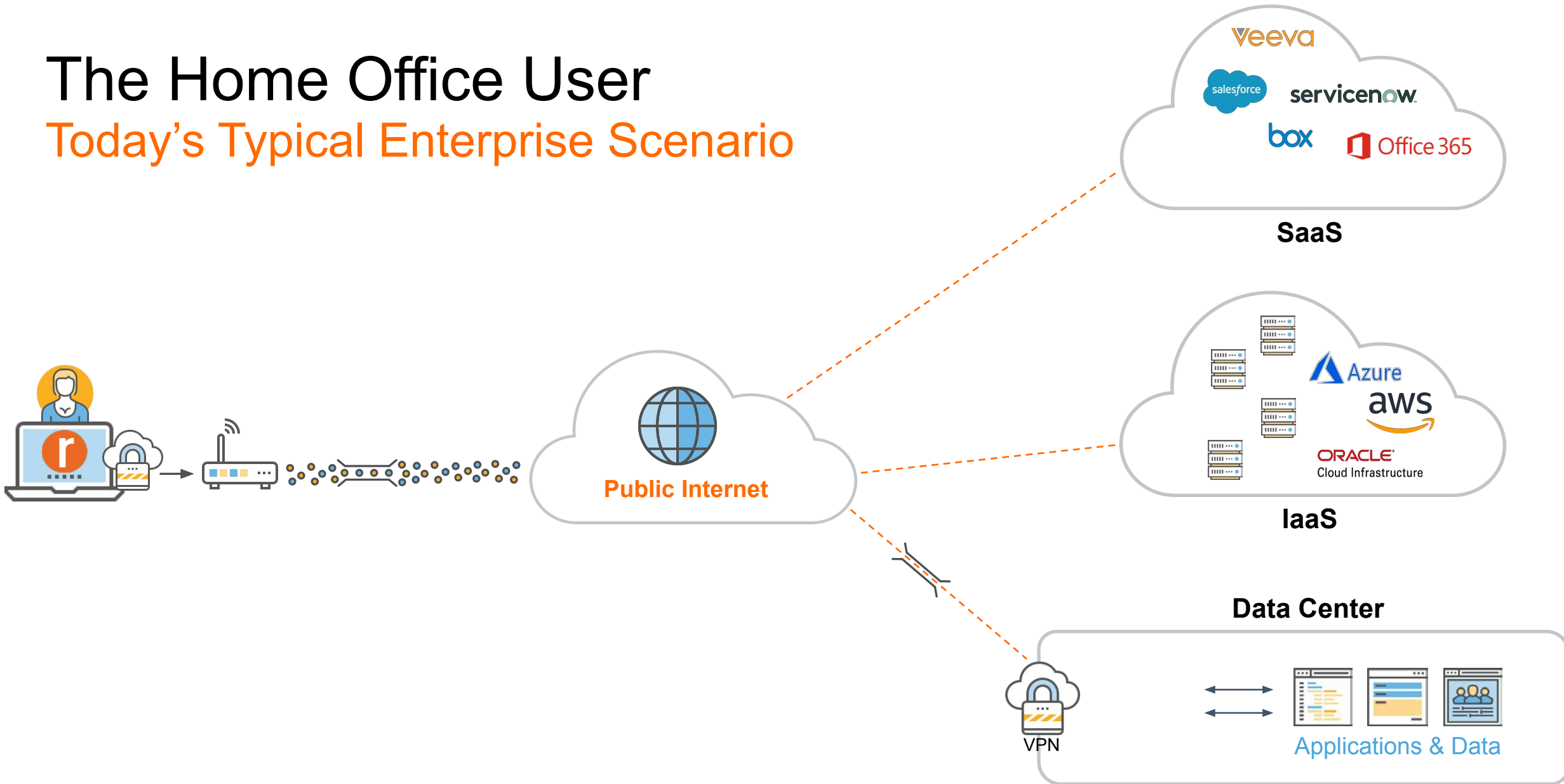

The Home Office User

Today's Typical Enterprise Scenario



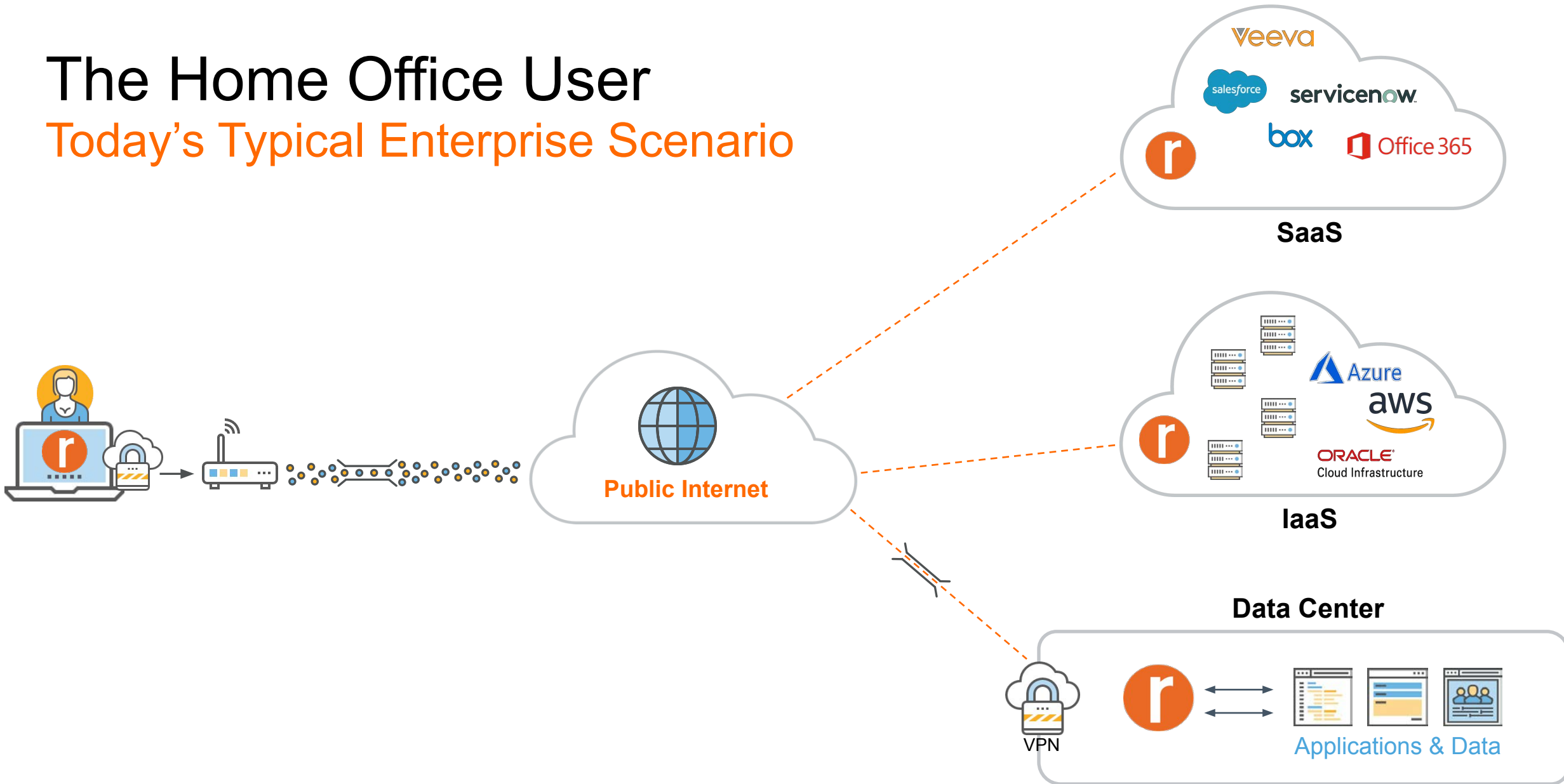
The Home Office User

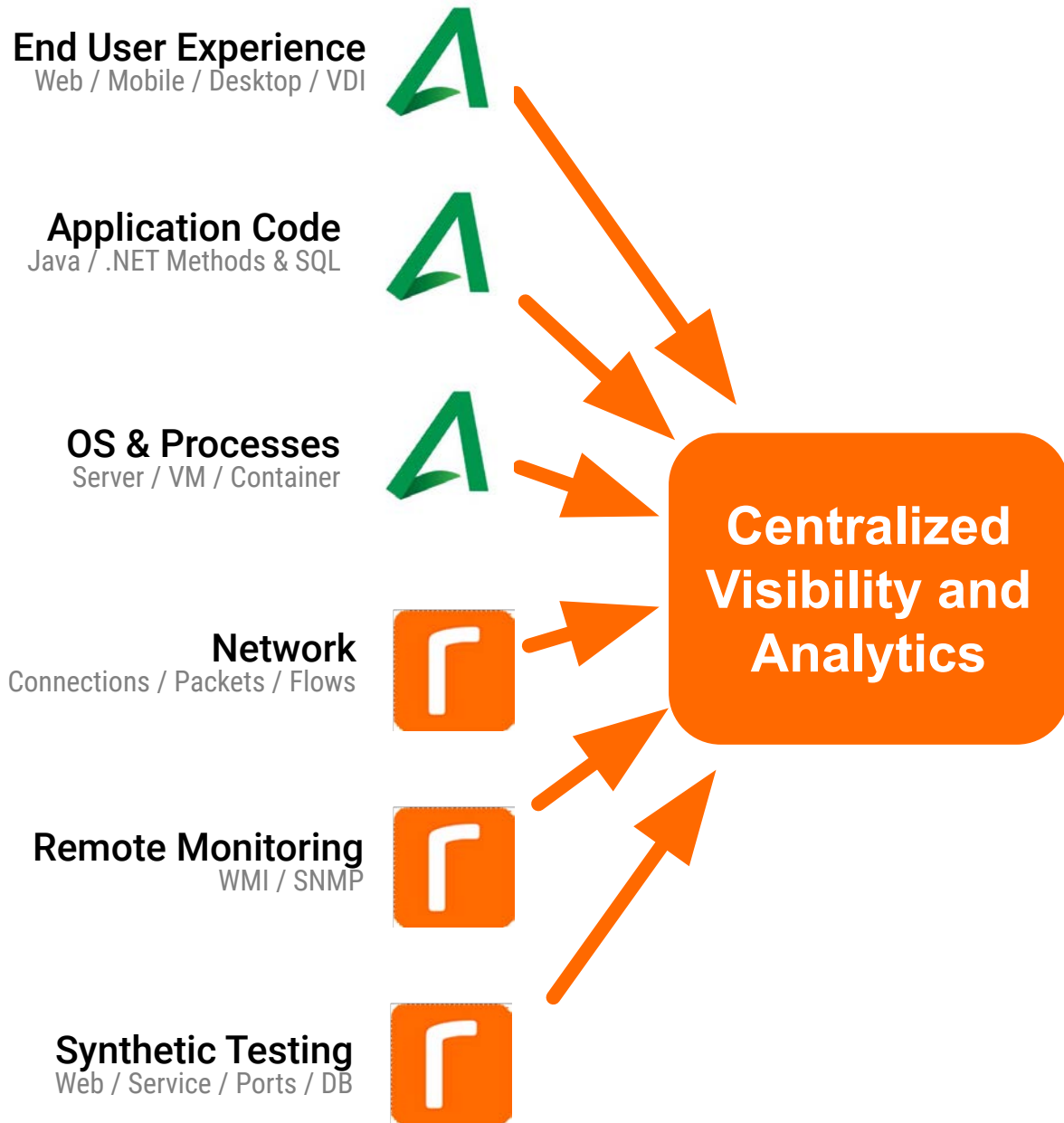
Today's Typical Enterprise Scenario



The Home Office User

Today's Typical Enterprise Scenario





End User Experience
Web / Mobile / Desktop / VDI

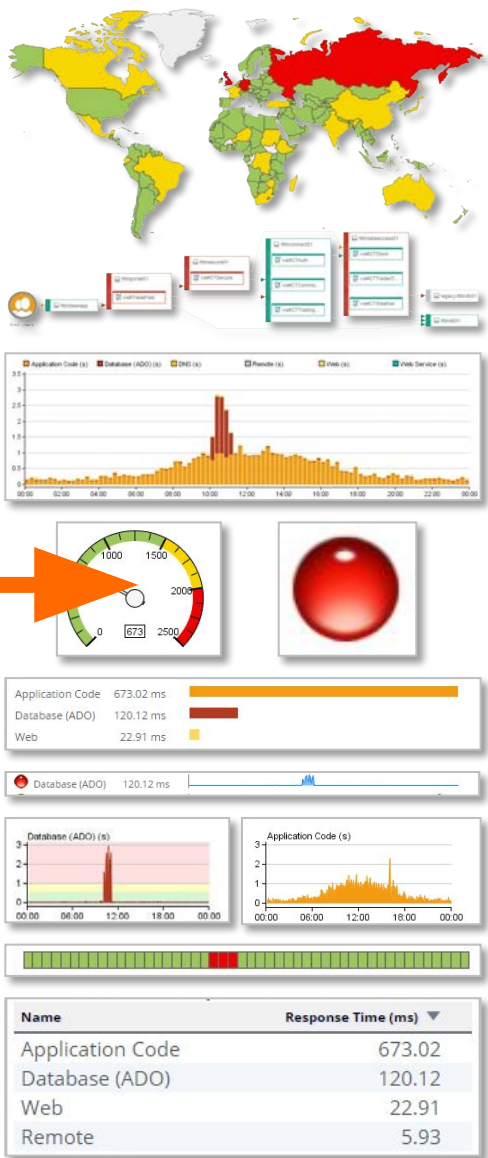
Application Code
Java / .NET Methods & SQL

OS & Processes
Server / VM / Container

Network
Connections / Packets / Flows

Remote Monitoring
WMI / SNMP

Synthetic Testing
Web / Service / Ports / DB



End User Experience
Web / Mobile / Desktop / VDI

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Java / .NET Methods & SQL

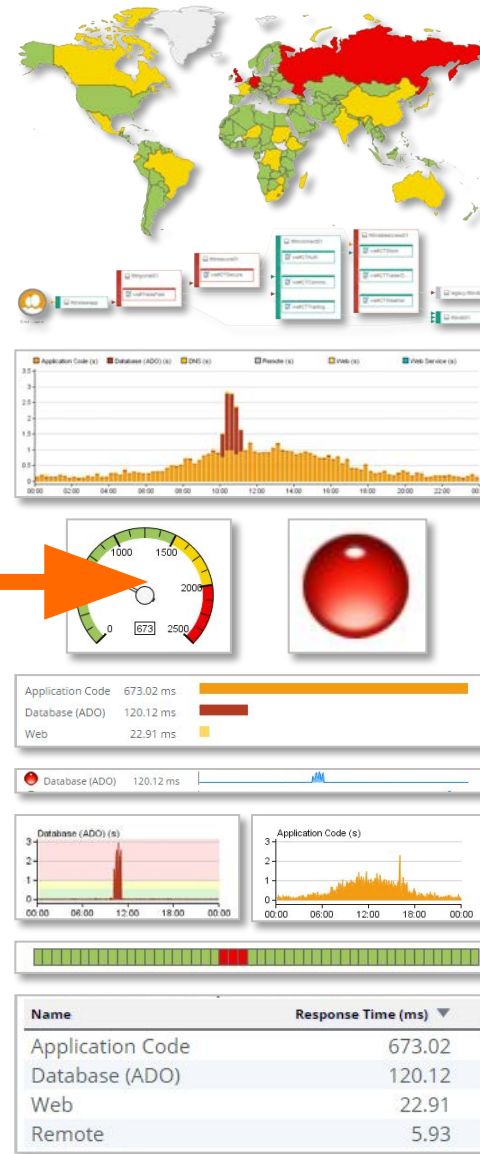
OS & Processes
Server / VM / Container

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Centralized Visibility and Analytics





Developer




Network Admin




NOC




DevOps

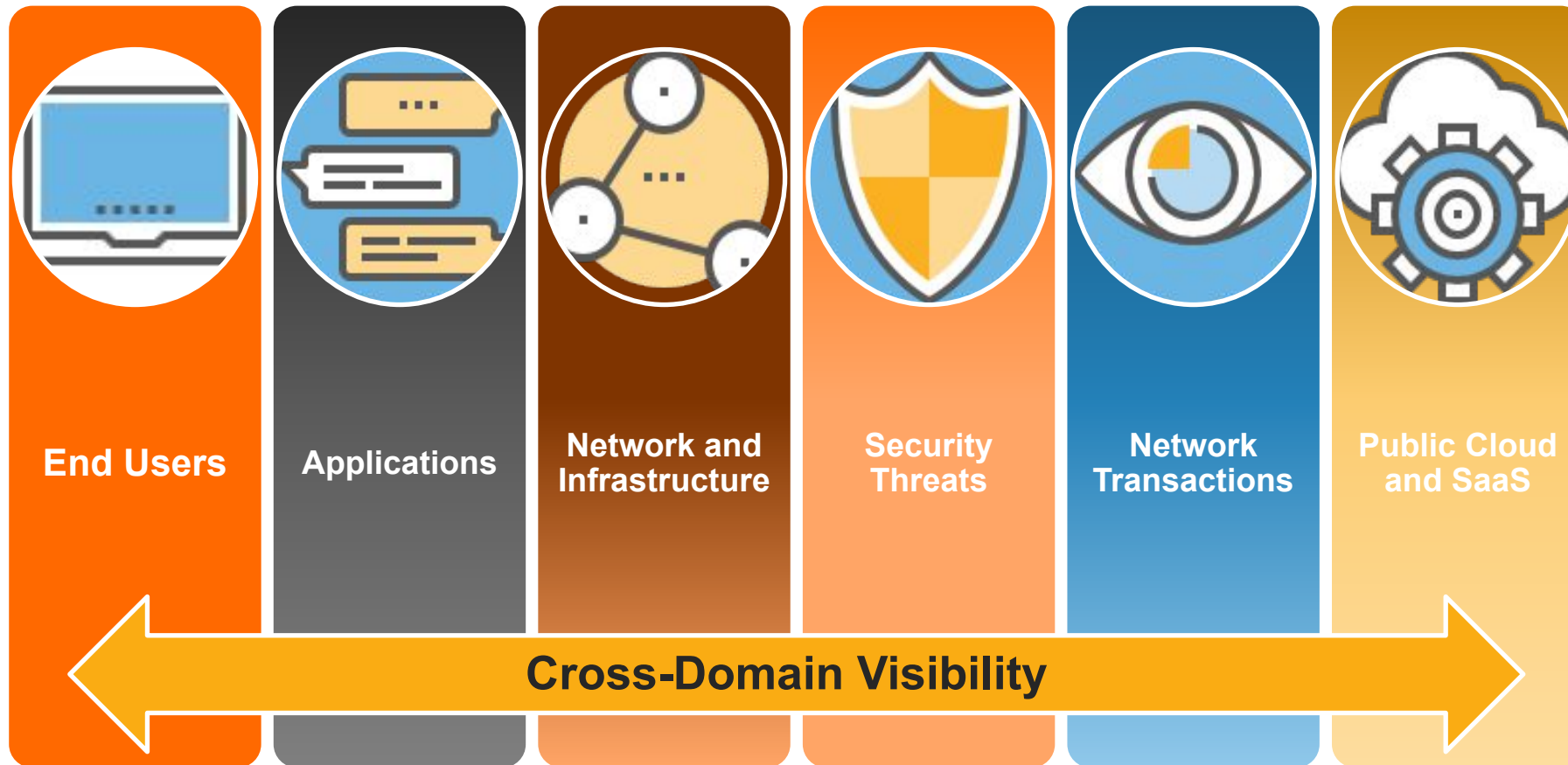



SecOps



Cross-Domain Visibility

Visibility into Anything, Anywhere



Considerations

Endpoint Visibility is about EUE



**Local Application
Performance**

- Agent-based or browser-plugin
- Local processes
- Local network activity
- How long does it take to load the page?
- How long did it take yesterday?
- Is there something in the code that's causing pages to feel slow?
- Is there a process using more resources than it should?
- What is the user's call quality?

Considerations

Where the Applications Live



**Physical, Virtual Servers,
Containers, Database Activity**

- Agent-based or agentless
- Browser or code plugin
- Synthetic testing
- How long is the server taking to respond?
- How are local resources being allocated?
- How long does it take to write to memory?
- What's going on with individual database transactions?
- How many requests is a server receiving?

Considerations

Public Cloud

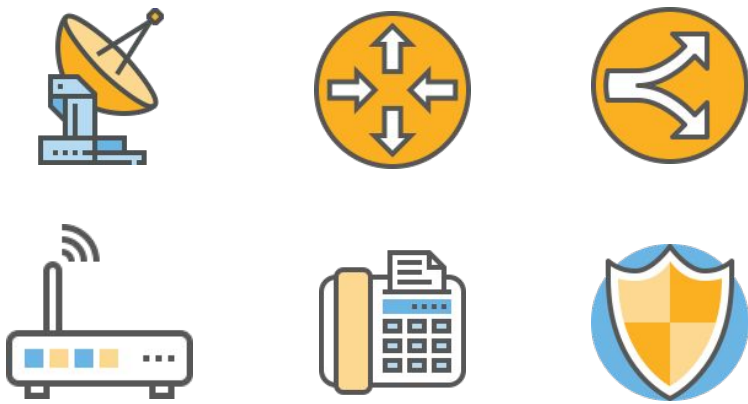


**Public Cloud Providers
and SaaS Providers**

- AWS VPC Logs, Azure Log Monitoring, Google Cloud systems and application metrics
- Synthetic tests
- How long is the cloud provider taking to respond?
- Is there unexpected multi-cloud activity?
- What is the daily average response time for my SaaS application in a particular GEO?
- Are requests going to the correct public cloud GEO?

Considerations

Everywhere in Between



Network devices such as routers, switches, firewalls, load balancers, communication endpoints

- Application flow data
 - Packet capture, aggregation, and analysis
 - Device info from SNMP, CLI, device APIs
 - Transmission times, delay, round trip time - capturing the macro and micro
-
- Is my network (or a device) overwhelmed?
 - Is there a network security threat?
 - Are my applications taking sub-optimal paths?

Correlation is King

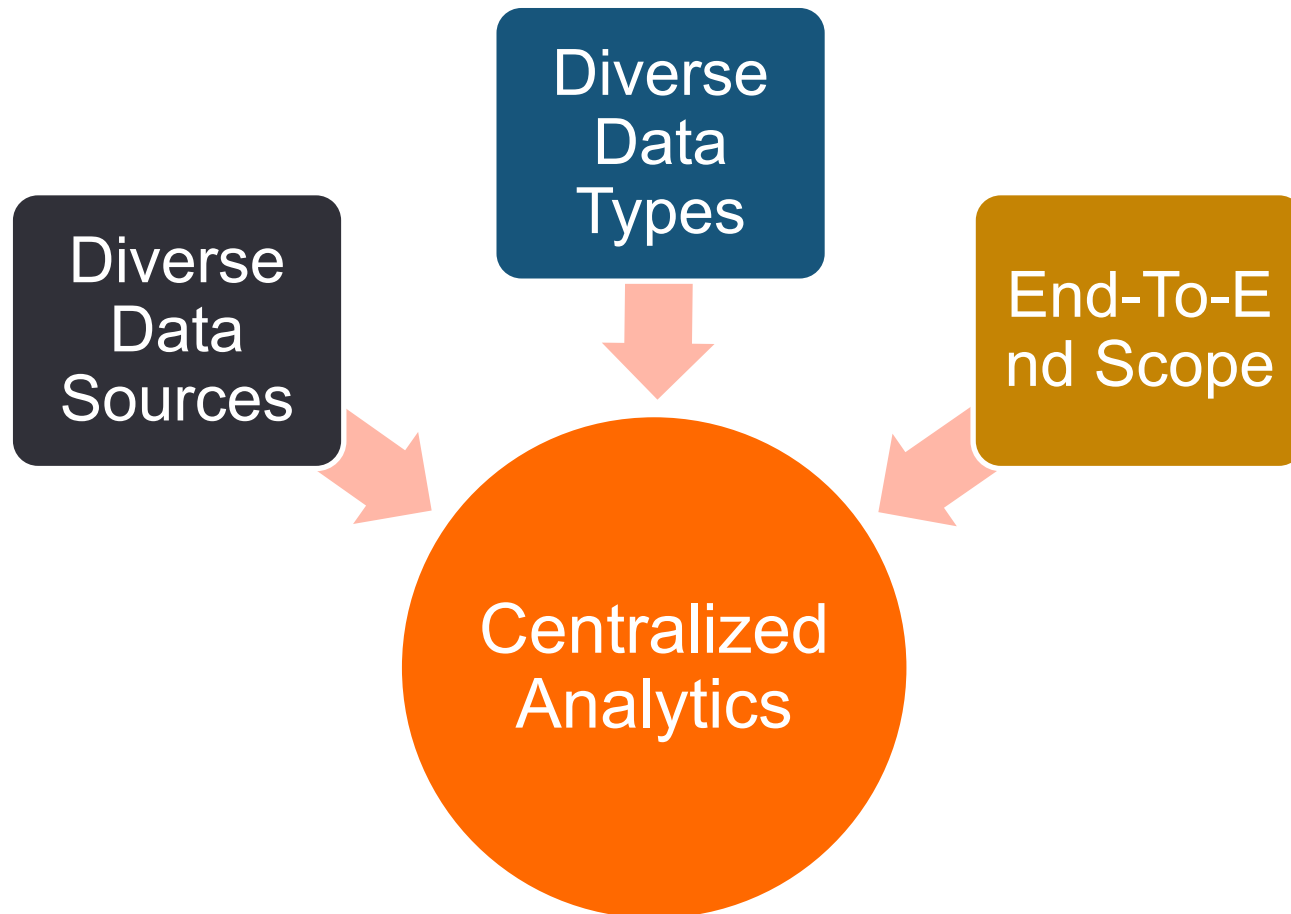
Diversified Views Illuminate

- VOIP calls drop when Interface GE10 has re-trans over 5%
 - This happens every Wednesday at noon
- Salesforce is slow for all users in EMEA
 - But only those using Safari browsers
- All applications are slow, but only for user Phil
 - Unusually high memory usage
 - XMRMINER.EXE is using 100% CPU



Centralized Analytics

Differentiating Between “Weird” and “Bad”



Thank You