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# Comunidade Cisco - Portuguese

**A visão da internet na era MultiCloud com ThousandEyes**

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- Tecnólogo em Redes de computadores
- Profissional com 6 anos de experiência em ambientes Service Provider e Data Center.
- CCNA R&S
- CCNP Service Provider
- Criador e redator do site [Howtonetwork.com.br](http://Howtonetwork.com.br)



Pedro Henrique Silva Ferreira  
Technical Consultant – Network



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## Agenda

- What is ThousandEyes
- ThousandEyes Agents
- Tests and Testing with ThousandEyes
- Use Cases
- Demo



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# What is ThousandEyes





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## Most Correlated Visibility In One View

Time Correlated

### Internet Insights

- Detection of global network outages
- Identification of affected domains



### App Experience

- Transaction scripting, page load



### HTTP/DNS/RTP Server

- HTTP Availability, response time, throughput



### Network Metrics

- Packet Loss, Latency, Jitter



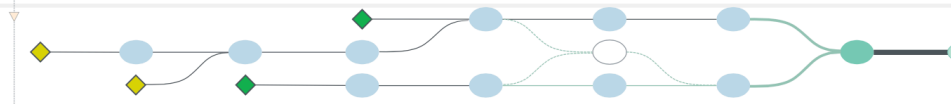
### Path Visualization

- Hop-by-hop; multi-point; bidirectional
- Metrics and data per hop
- Integrated Outage Detection



### BGP Monitoring

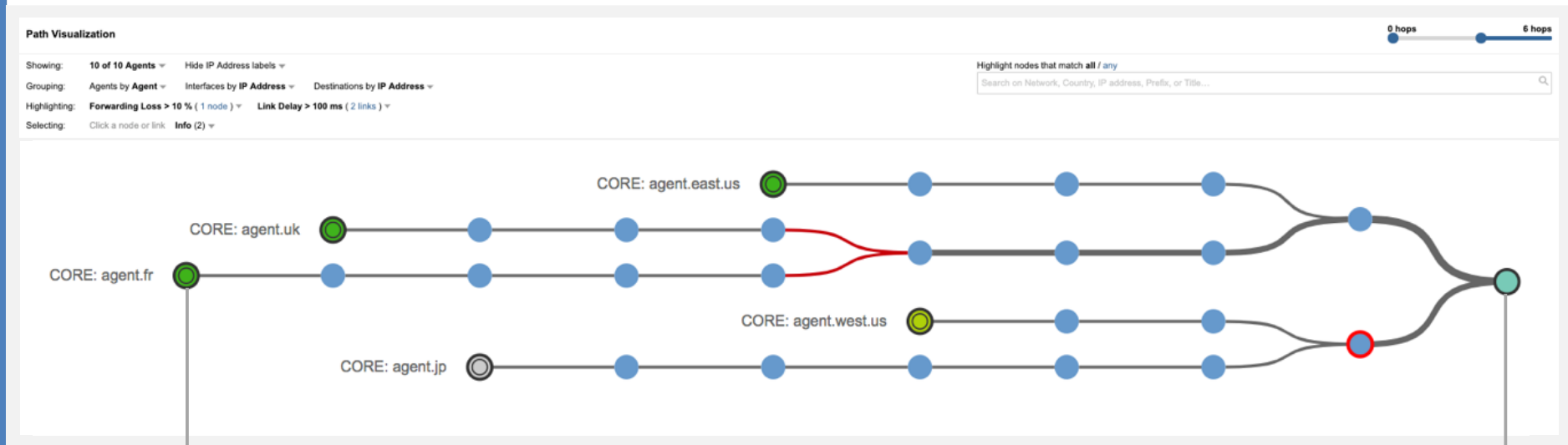
- Reachability, path changes, updates





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## Migration from the Traditional Enterprise



Enterprise WAN (MPLS)

Branch Offices

Structured IT Monitoring Tools

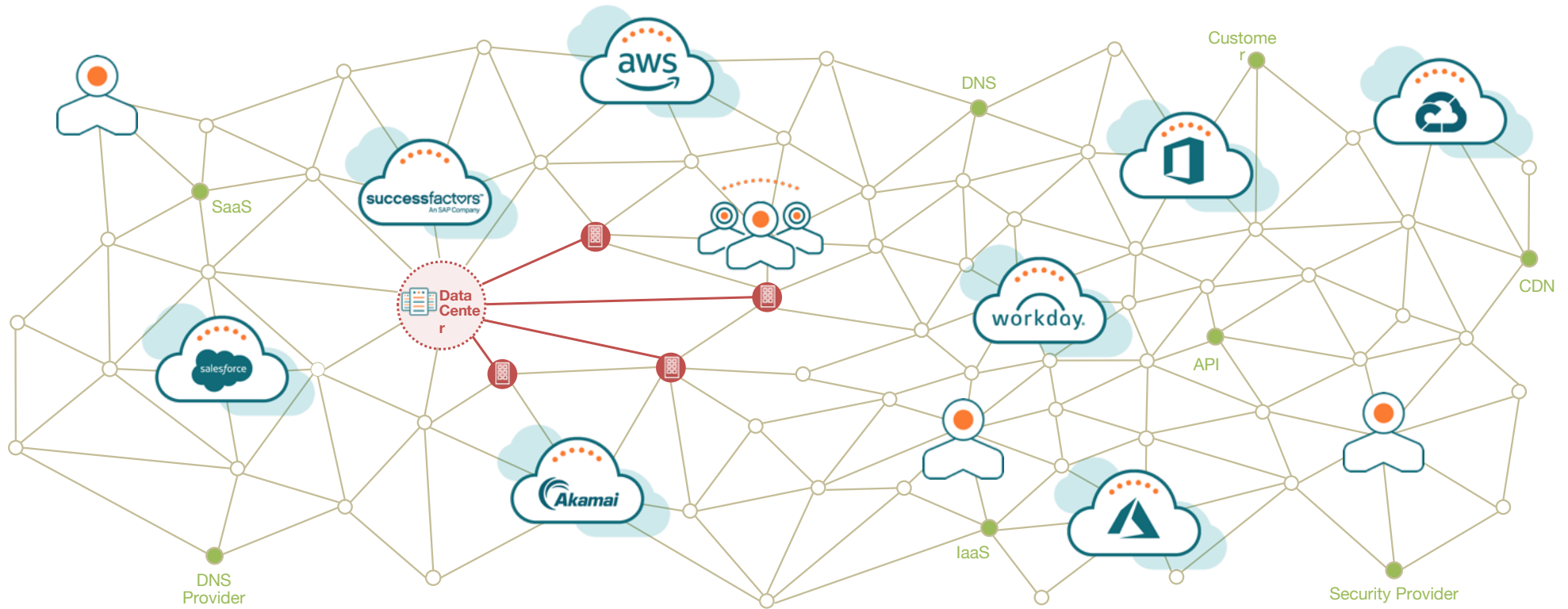
Enterprise Data Center hosts all applications





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### Cloud Migration Changing the IT Landscape





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## Cloud Migration Changing the IT Landscape

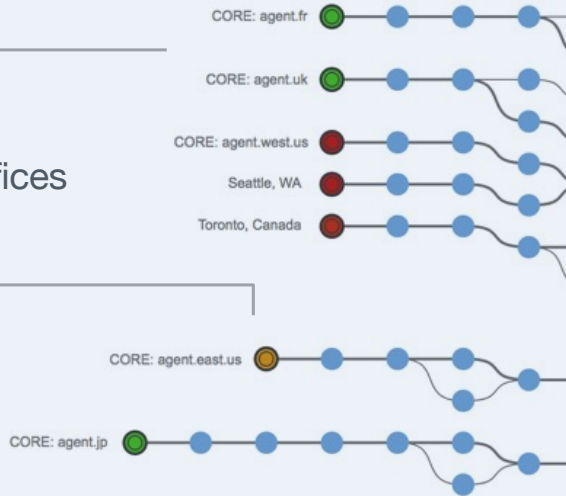
### Path Visualization

Showing: 10 of 10 Agents  Hide IP Address labels   
Grouping: Agents by Agent  Interfaces by IP Address  Destinations by IP Address   
Highlighting: Forwarding Loss > 10 % ( 1 node )  Link Delay > 100 ms ( 2 links )   
Selecting: Click a node or link Info ( 2 )

0 hops  6 hops

Highlight nodes that match all / any

Branch Offices



Microsoft Azure Network

Enterprise SD-WAN

Internet

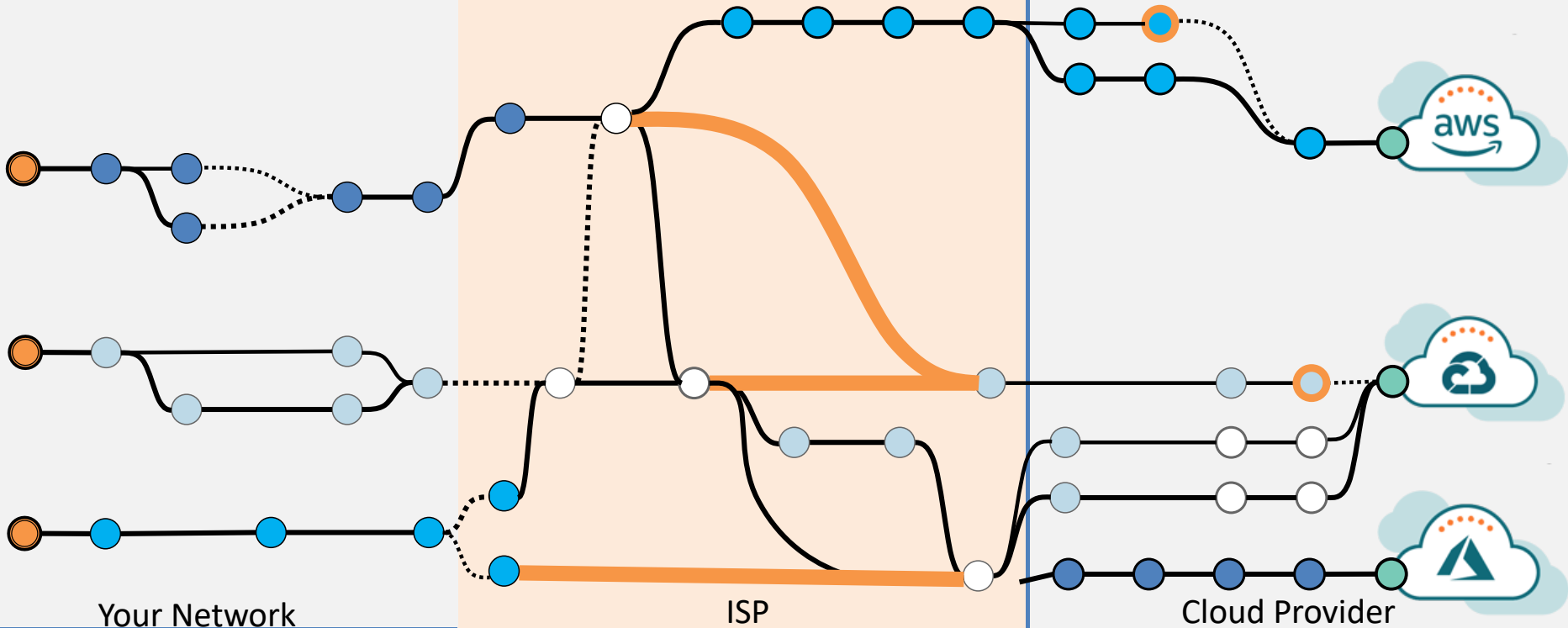
Cloud



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### Gain Unique Insights from Collective Intelligence

**INTERNET OUTAGE**



Your Network

ISP

Cloud Provider



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### Collaborate More Effectively with Shared Data

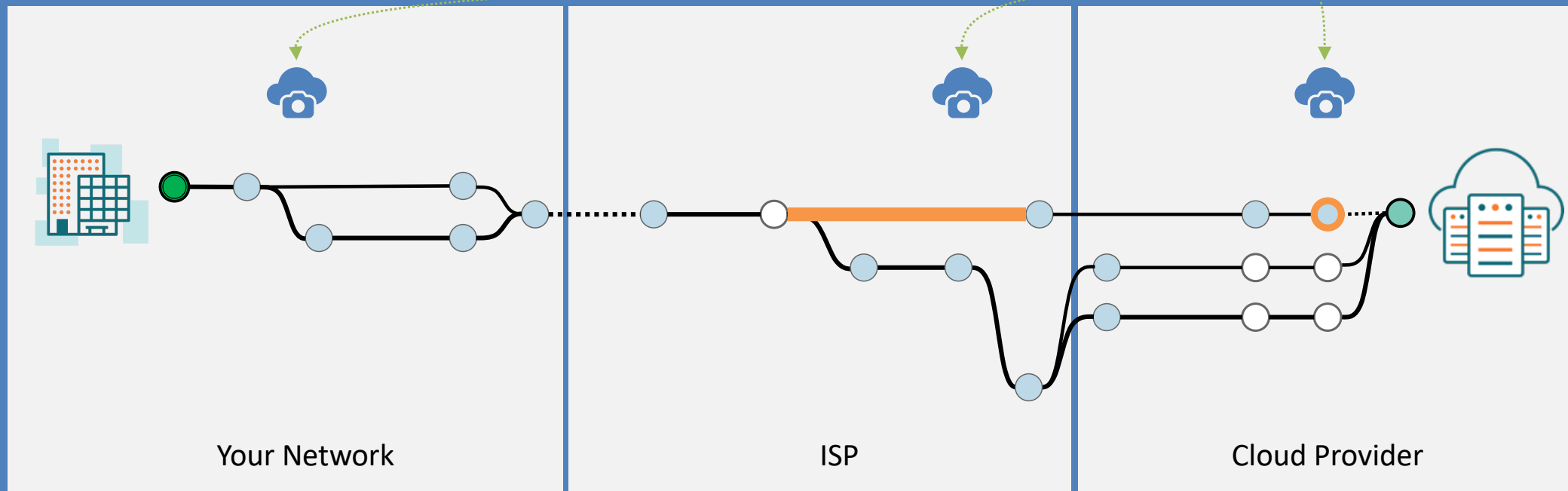
Alerts



Dashboards / Reports



ShareLinks



Your Network

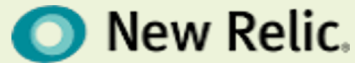
ISP

Cloud Provider



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## Integrations



APM



application digital experience

Focus on code instrumentation.  
Some synthetics, not really competitive.

integrations



generic SNMP



Old-world, strong within the four walls  
of the Enterprise.



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# ThousandEyes Agents





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## What are Agents



### Cloud Agent

Globally distributed agents installed in 193 cities in 58 countries around the world.



External Vantage Points



### Enterprise Agent

Lightweight software-based agents easily installed on your own network, in data centers, branch offices & VPCs.



Internal Vantage Points



### Endpoint Agent

Browser-based plugins installed on end-user laptops and desktops.



End User Experience



Correlated Test Output



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## TE Agent details

### Cloud Agent




- **Outside-In** monitoring
- 190+ Locations
  - Tier 2 and 3 service providers
  - Broadband providers
  - [www.thousandeyes.com/map](http://www.thousandeyes.com/map)



### Enterprise Agent

- **Inside-Out** monitoring
- Deployment Options
  - OVA / Physical Appliance
    - vmware  
  - Linux Package
    - ubuntu®  
  - Docker
  - Cisco ASR 1k / ISR 4k
  - x86 Bare Metal Server
- Clusters
  - Increase Capacity
  - Disaster Recovery 

### Endpoint Agent

- **End-user** monitoring
  - Windows / Mac
  - Browser Plug-in
    -   
  - Local service for tests
  - Multiple deployment options
  - Small footprint



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## Enterprise Agents details

### Enterprise Agent Variants



#### Package

Installs on customer managed systems



#### Container

Ubuntu based linux container



#### Virtual Appliances

An Ubuntu based VM



#### Physical Appliances

An ubuntu based machine install



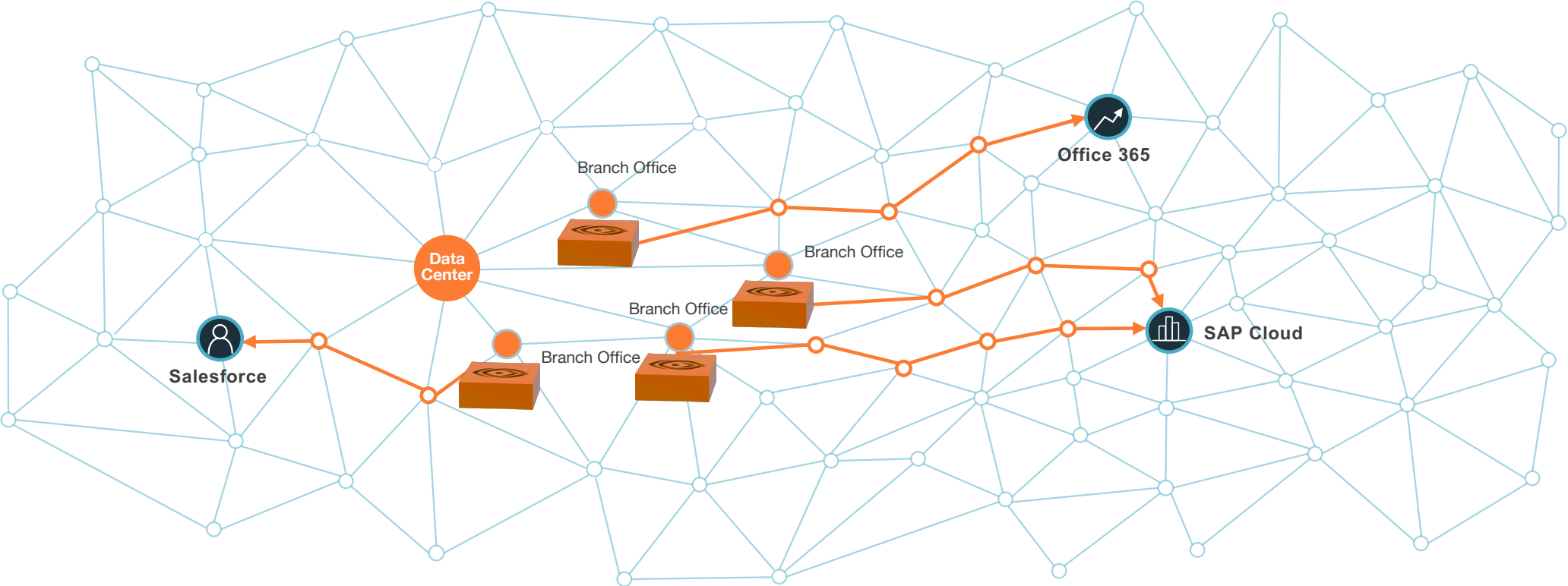
#### Cisco

Container based Agents for Catalyst 9k, Catalyst 8k, ISR 4k

Ubuntu Red Hat CentOS8 Oracle Linux Amazon Linux 2	Docker Kubernetes Amazon ECS	VMware VirtualBox Hyper-V AWS EC2	<b>Intel NUC: 8th, 10th gen</b> <b>Raspberry Pi 4 Model B</b> (4GB or 8GB)	Catalyst 9300/9400 Catalyst 8200/8300 ISR 4k
Repos available: apt.thousandeyes.com yum.thousandeyes.com	Requires Linux kernel 3.10 or newer	Appliance customization also available	Raspberry Pi does not support browser based tests	Docker based agent
Requires 2 CPU, 2GB RAM, 16GB SSD storage	Requires 2 CPU, 2GB RAM, 16GB SSD storage	Requires 2 CPU, 2GB RAM, 20GB SSD storage	Requires 2 vCPU, 2GB RAM, 20GB SSD storage	Requires 1 vCPU, 500 MB RAM, optional SSD
Multiple network interfaces supported	Single Network interface supported	Multiple network interfaces supported	Multiple network interfaces supported*	Single network interface supported



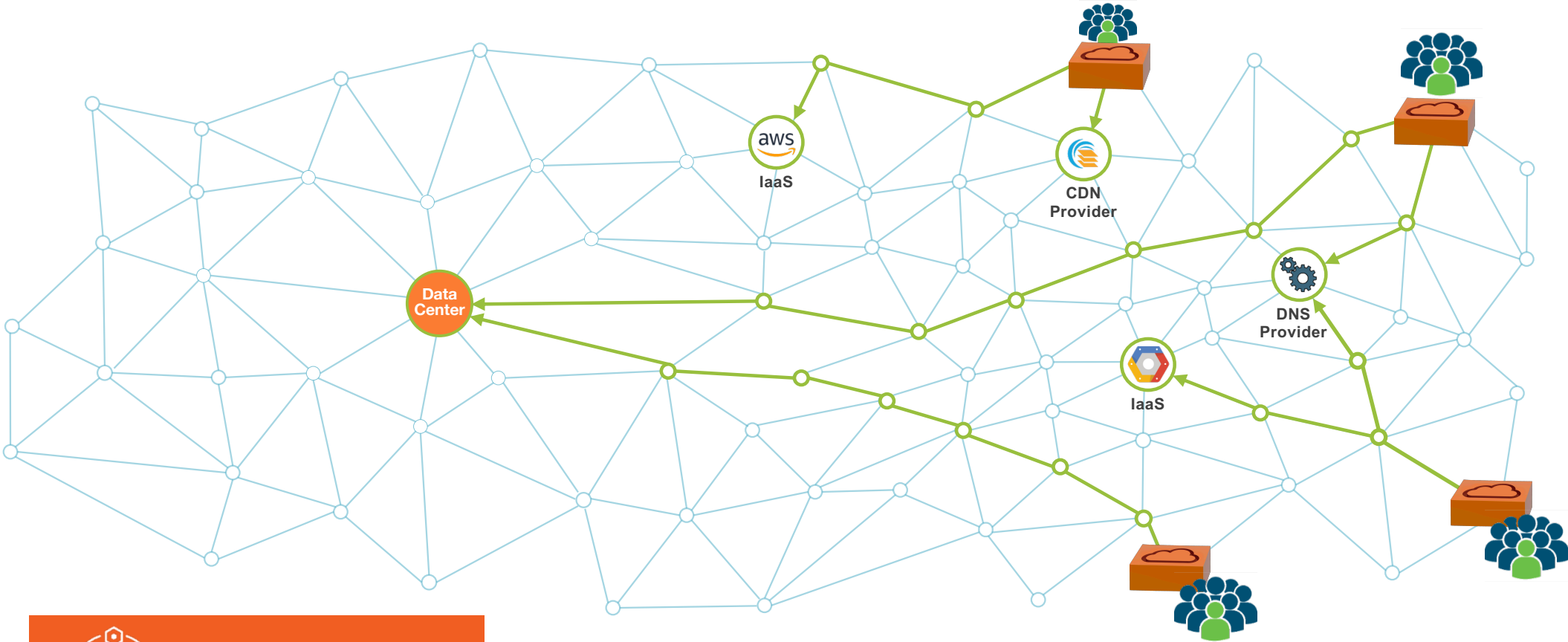
# See Inside Out



Employee  
Digital Experience

Enterprise Agents Primarily

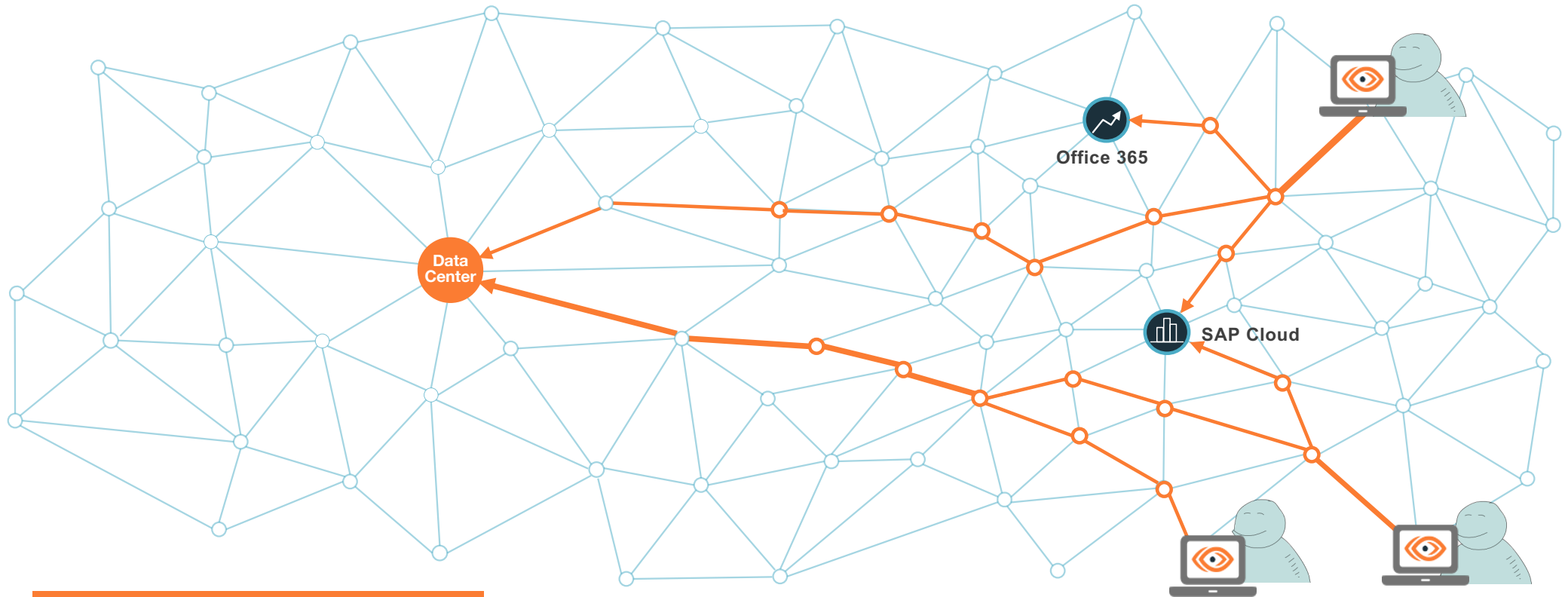
# See Outside In



 **Customer Digital Experience**

**Cloud Agents Primarily**

# Work From Home / Nomadic Employee



EndPoint Agent



Employee  
Digital Experience



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# Tests and Testing

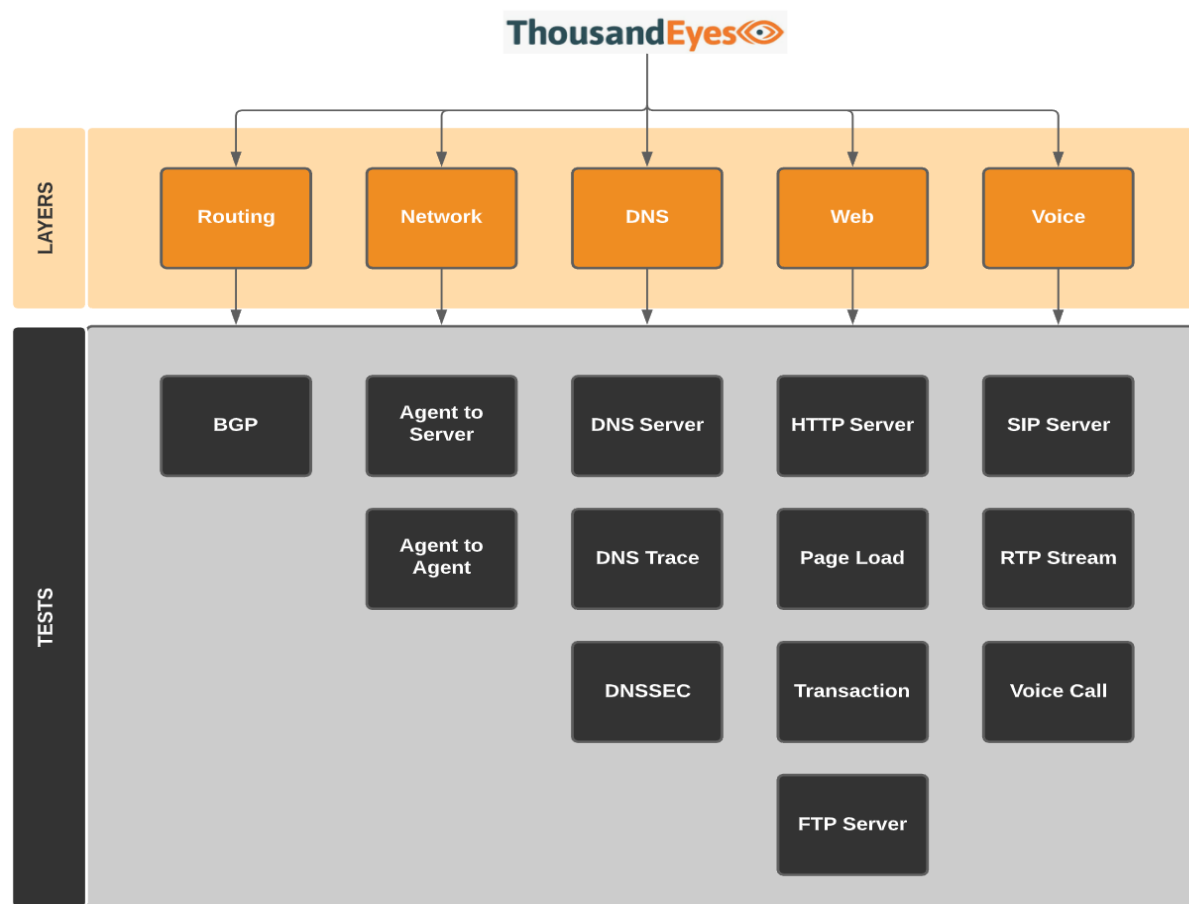


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ThousandEyes tests fall into several categories.

Tests vary in complexity and scope.

## Test and Testing

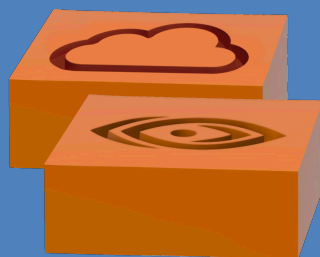






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### TE Agent Test Capability



Cloud and Enterprise Agent test capabilities are almost Identical

L3

Network Test

BGP Monitoring

DNS layer

DNSSEC

DNS Trace

DNS Server

web layer

Transaction Test

Page Load

HTTP Server

voice

RTP

SIP

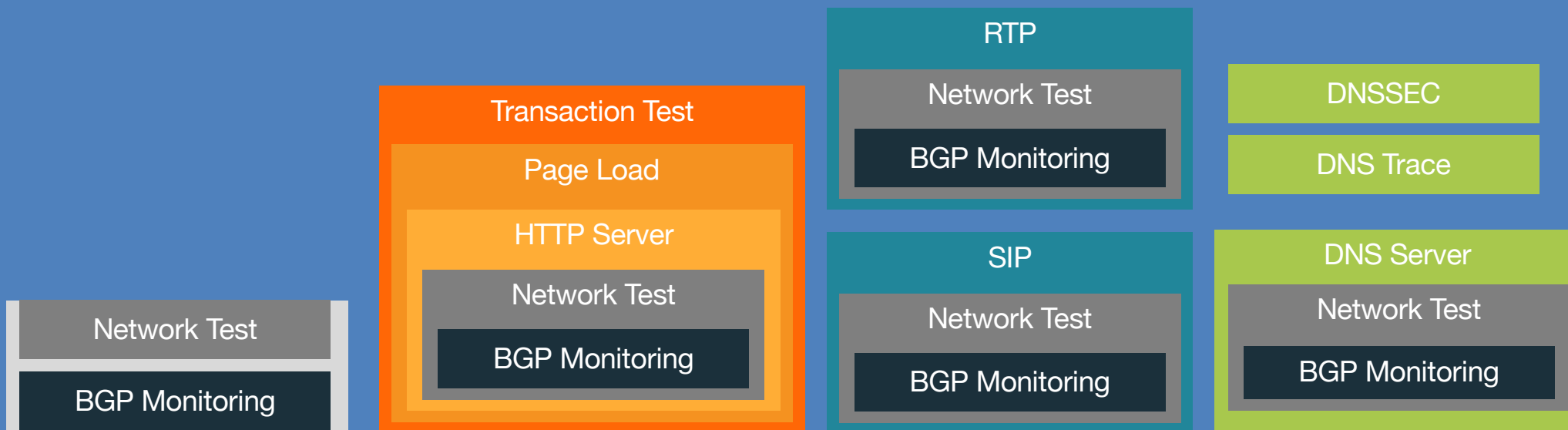


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### Tests Multiple Layers



Cloud and Enterprise Agent test Nesting will include additional visibility



Note: Pricing & Consumption: only the parent test is charged, not the included 'nested' tests

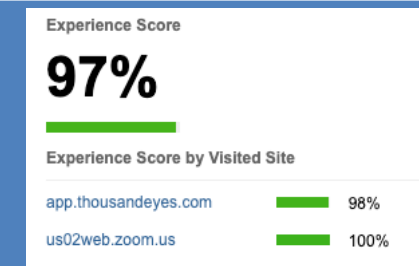
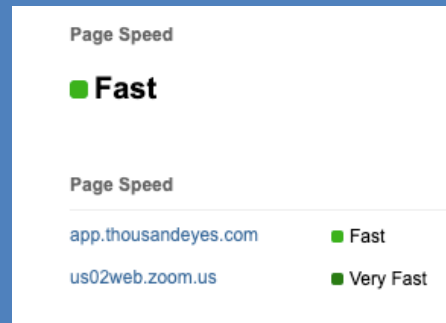
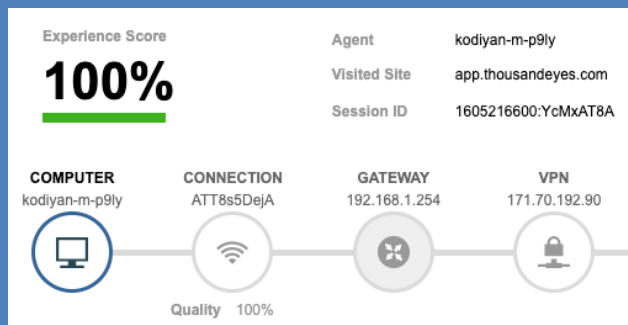
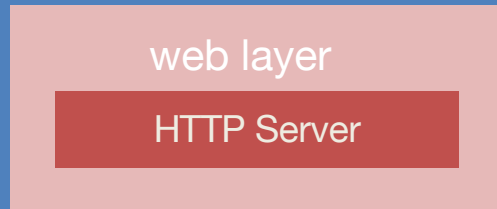
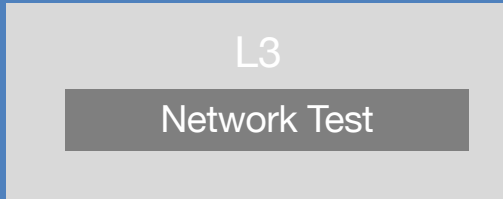


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## TE Endpoint agent visibility



Be aware of the testing differences and the manner in which the data is displayed





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# Use Cases



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## TE Use cases



Websites & Apps



DNS Services



CDN providers



DDoS Security



BGP Routing



ISP



SD-WAN



Cloud Security



Network Devices



Endpoints/LAN



IaaS Providers



SaaS Providers



UCaaS/Collaboration



VoIP





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## TE Use cases examples

### **Use case BGP test**

<https://xwvon.share.thousandeyes.com/view/tests/?roundId=1412222700&metric=loss&scenarioId=pathVisualization&testId=32827>

### **Use case Page Load test**

<https://kuvtfv.share.thousandeyes.com/view/tests/?roundId=1547080440&metric=load-time&scenarioId=pageLoad&testId=879066>

### **Use case Network Test**

<https://iqvtfni.share.thousandeyes.com/view/tests/?roundId=1553696400&metric=loss&scenarioId=pathVisualization&testId=953385>

### **Use case Transactional test**

<https://ppdasoqfr.share.thousandeyes.com/view/tests/?roundId=1596747300&serverId=789804&agentId=106806&metric=web-transaction-time&scenarioId=webTransaction>



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# Obrigado!

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# Demo