

Versatility 2024

Unlocking Full Visibility: The Power of Digital
Experience Monitoring in SASE Observability

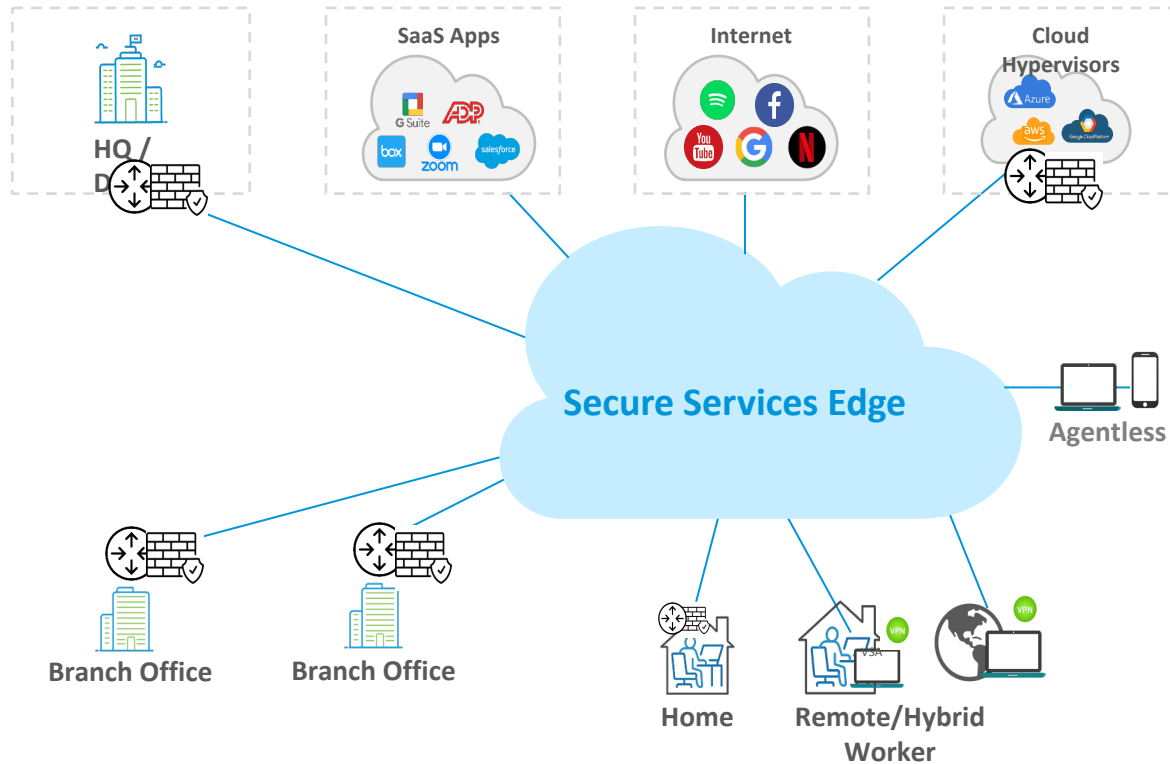


Agenda

- SASE Observability
- DEM in SASE
- Versa's DEM Solution
- DEM Insights
- Demo
- QA

SASE Observability

SASE Observability



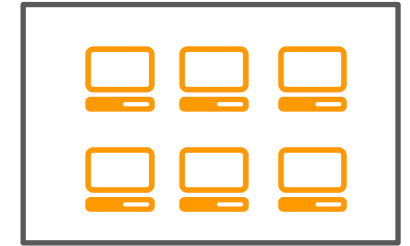
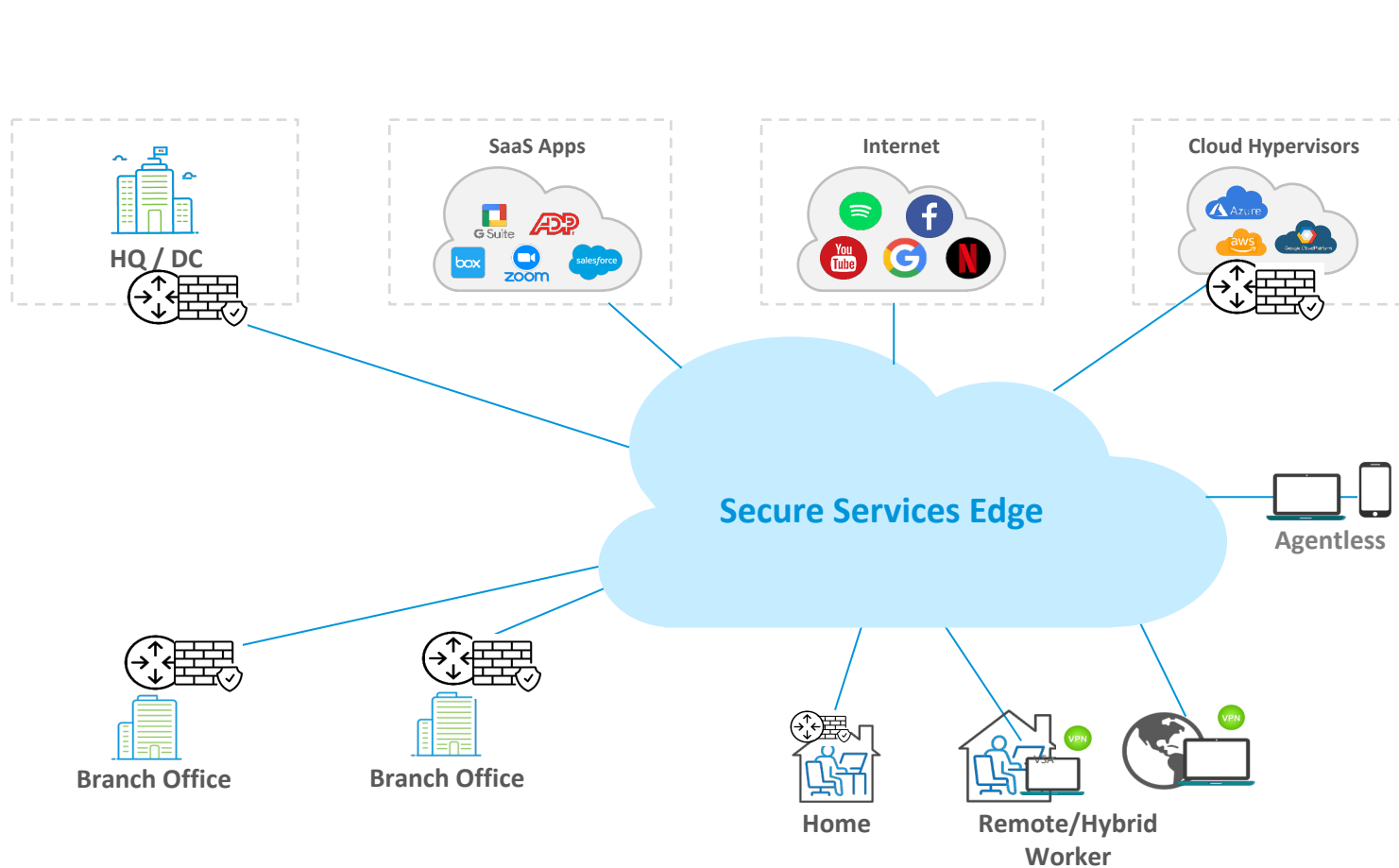
Continuous monitoring of your SASE infrastructure.

Collect events and logs from multiple touch points including users, networks, cloud services, and apps.

Connect and correlate data from disparate end points and derive actionable insights.

Detect potential problems with user and application experience before they escalate, keeping your network resilient and minimizing downtime.

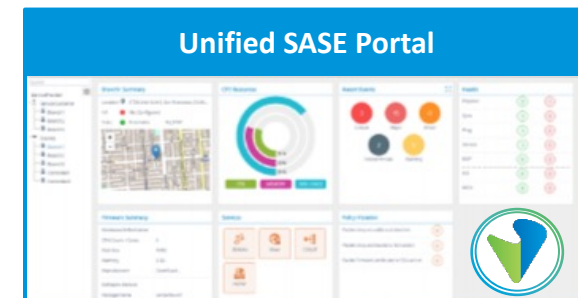
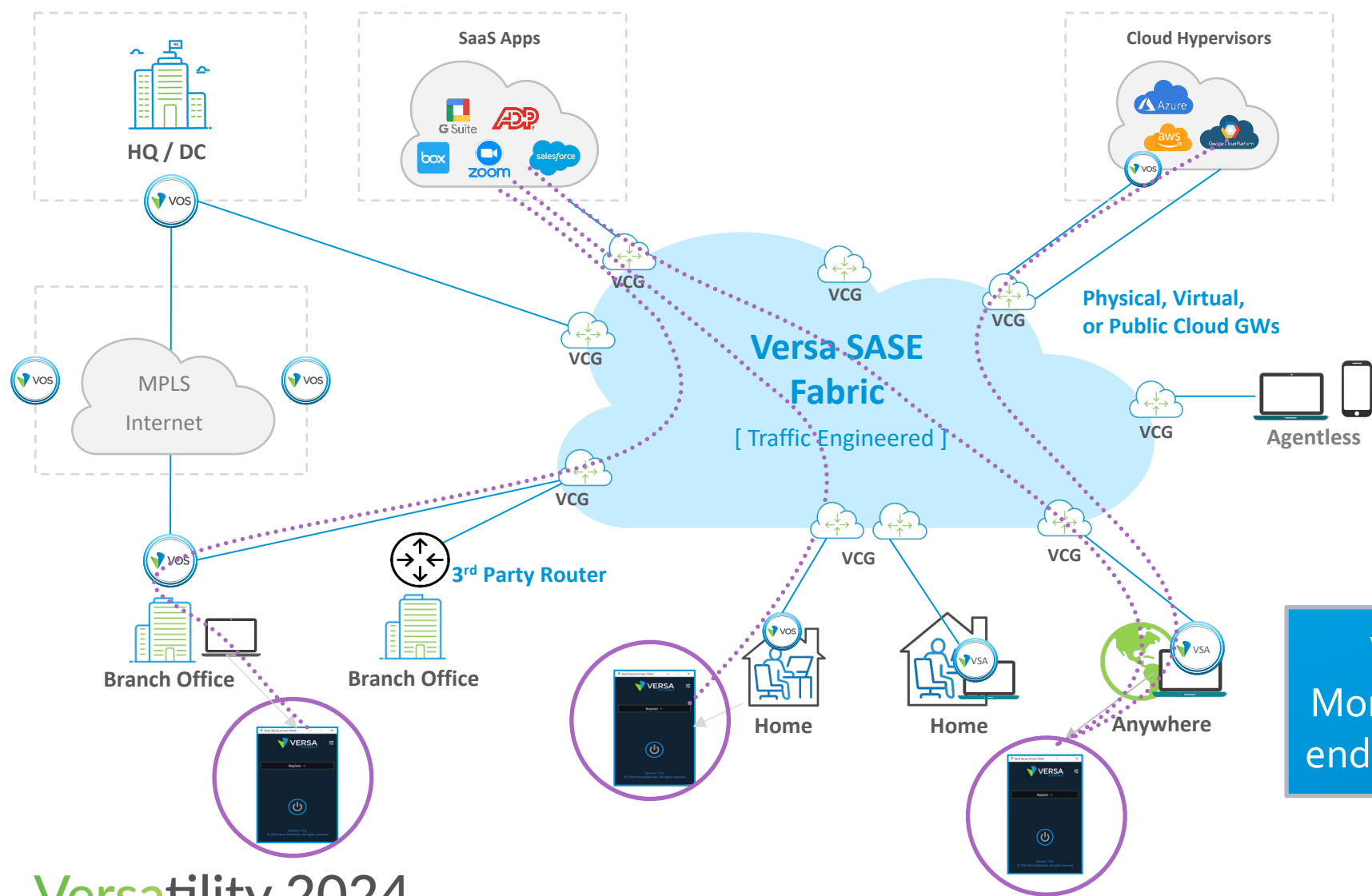
Challenges in typical SASE Observability Solutions



Multiple Panes of Glass for Visibility

- Complexity due to multi vendor environments
- Multiple panes of view leads to poor user and administrator experience
- Higher TCO due to replication of infrastructure
- Lack of e2e visibility and subsequent insights due to inconsistent data models.

Versa SASE Solution Suite



Unified Platform

Unified Policy

Unified Data Lake

Unified Console

Versa's Digital Experience Monitoring function provides for end-to-end observability in SASE

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DEM in SASE Observability

Digital Experience Monitoring (DEM) in SASE



User Application
Experience Monitoring

*Ensure consistent availability
and performance for business-
critical applications across
geographies*



Troubleshooting and
Problem Resolution



Performance
Optimizations



Analytics and
Insights

Digital Experience Monitoring (DEM) in SASE



User Application
Experience Monitoring

*Ensure consistent availability
and performance for business-
critical applications across
geographies*



Troubleshooting and
Problem Resolution

*Pinpoint the source of
problems, whether in the
network, application, or due
to security configurations*



Performance
Optimizations



Analytics and
Insights

Digital Experience Monitoring (DEM) in SASE



User Application Experience Monitoring

Ensure consistent availability and performance for business-critical applications across geographies



Troubleshooting and Problem Resolution

Pinpoint the source of problems, whether in the network, application, or due to security configurations



Performance Optimizations

Optimize SASE configurations for improving overall network performance.



Analytics and Insights

Digital Experience Monitoring (DEM) in SASE



User Application Experience Monitoring

Ensure consistent availability and performance for business-critical applications across geographies



Troubleshooting and Problem Resolution

Pinpoint the source of problems, whether in the network, application, or due to security configurations



Performance Optimizations

Optimize SASE configurations for improving overall network performance.



Analytics and Insights

Derive insights for users across regions, ISPs etc.



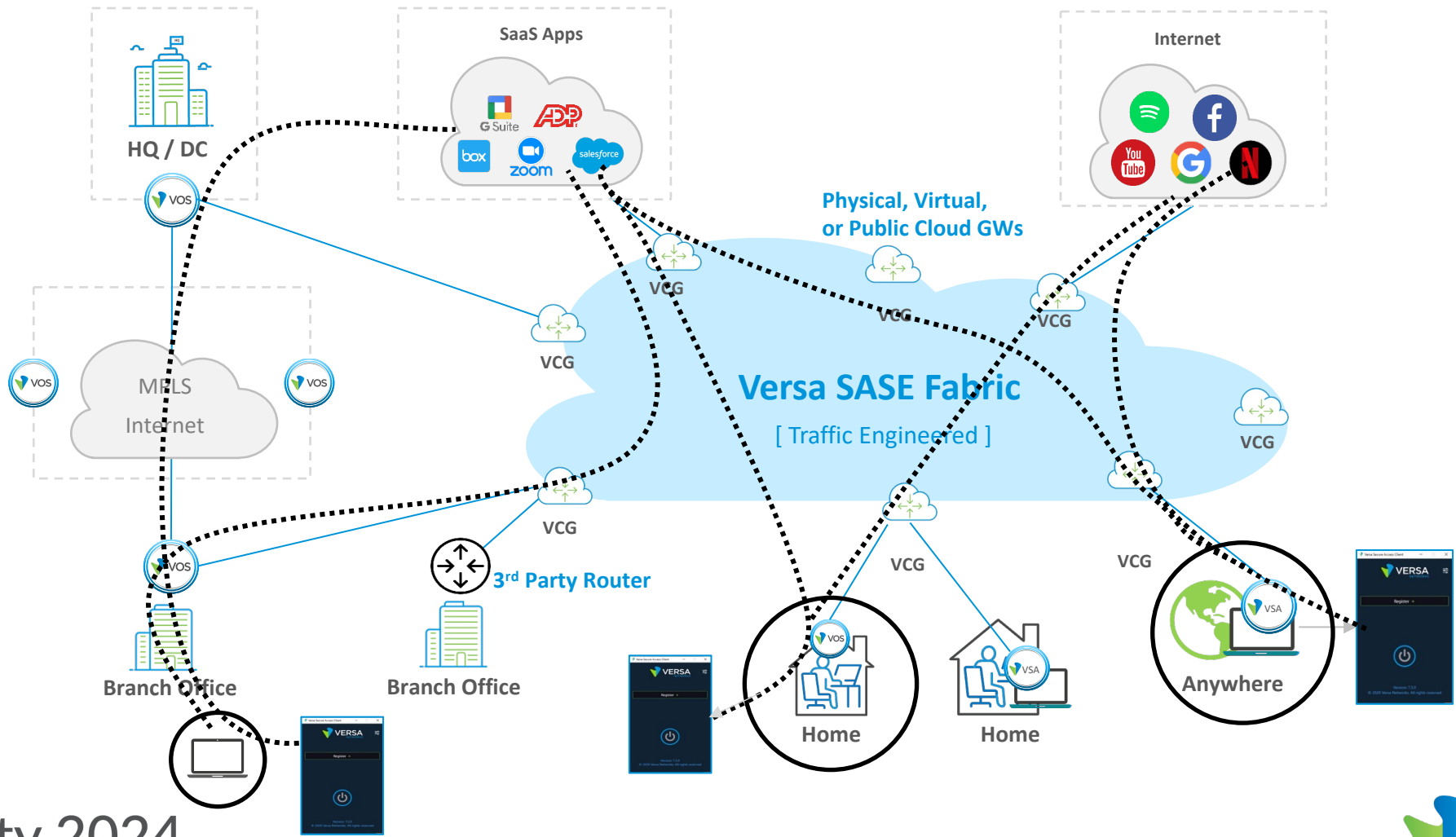
User Application Experience Monitoring

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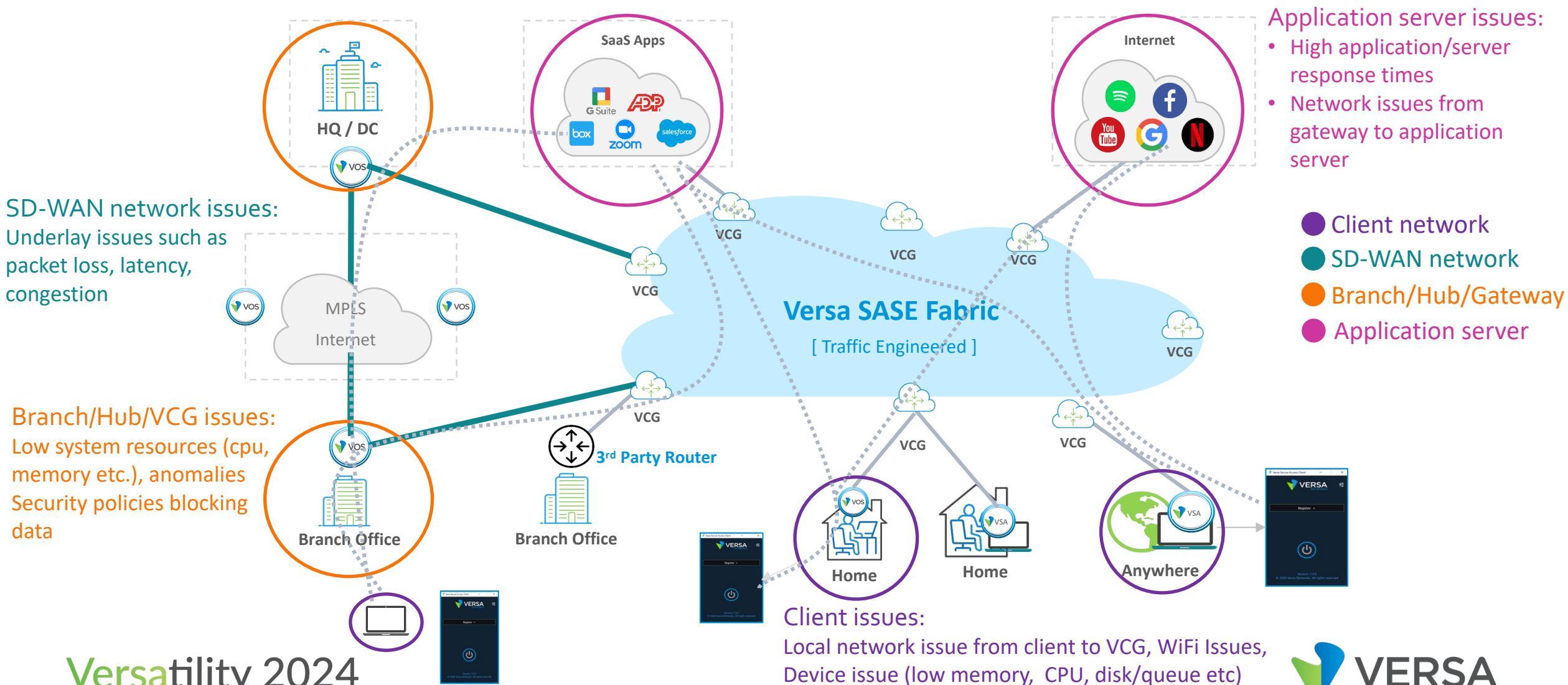
User Application Experience Monitoring



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User Application Experience Troubleshooting

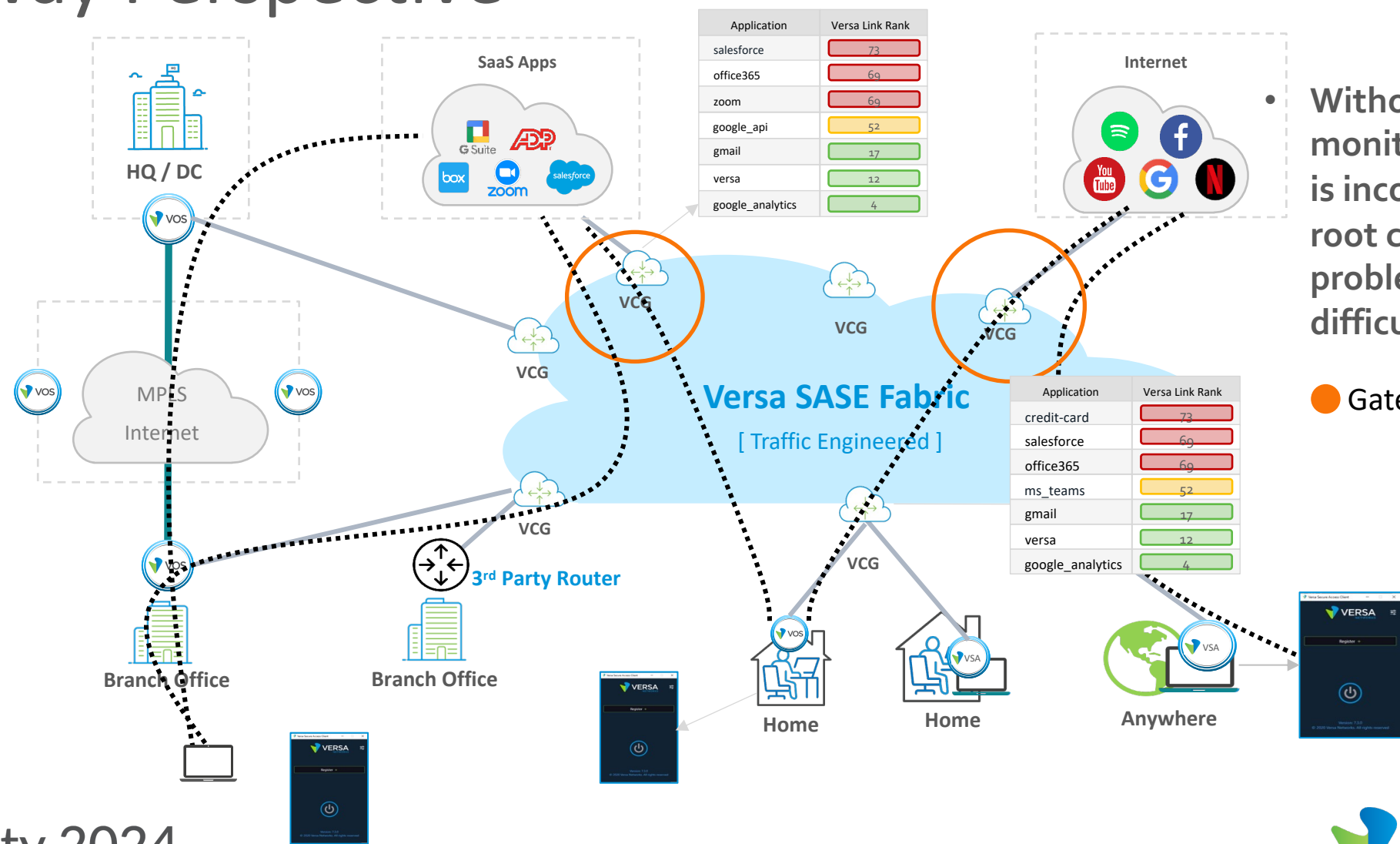


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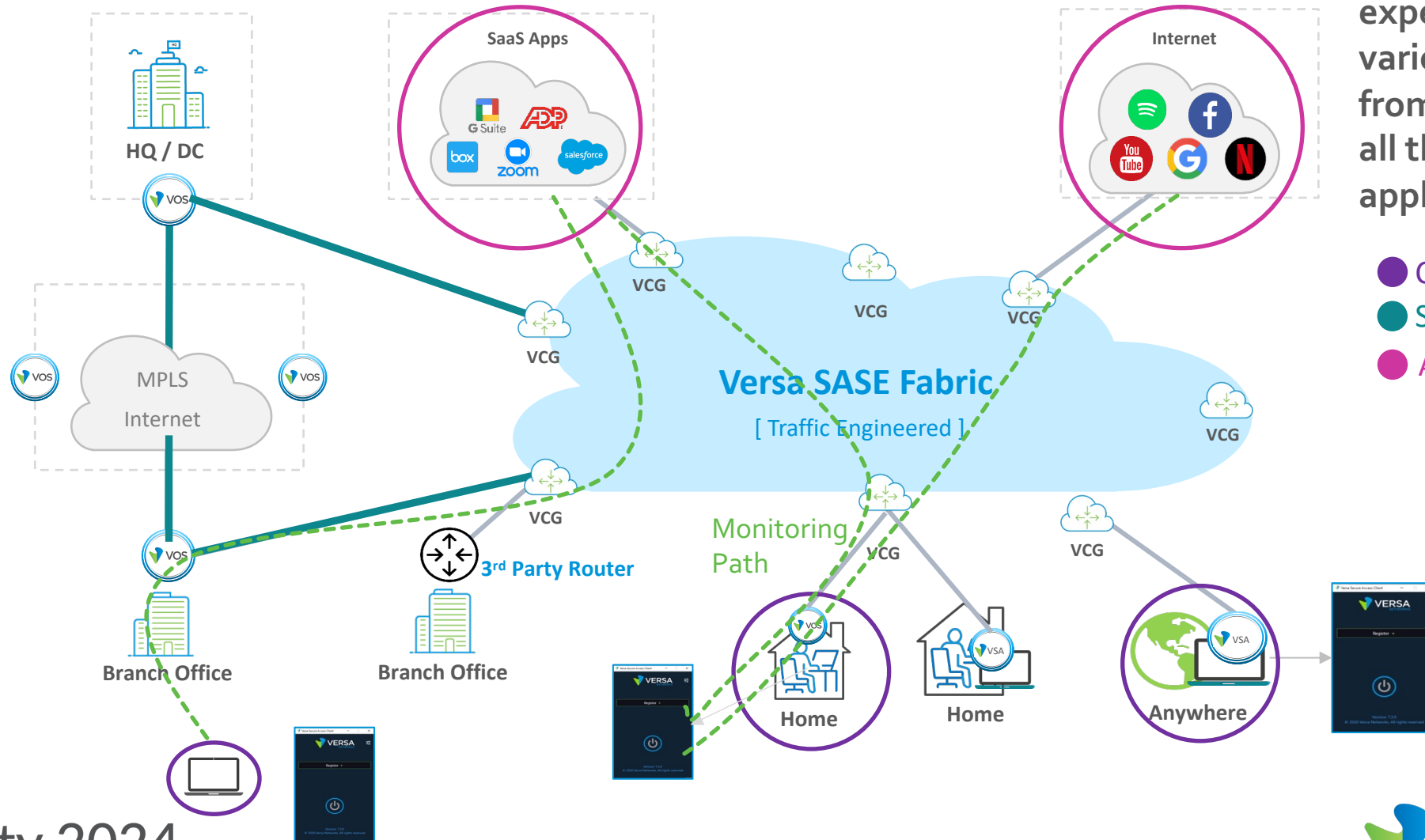
User Application Experience Troubleshooting: Gateway Perspective



Without end-to-end monitoring, visibility is incomplete and the root cause of the problem will be difficult to detect.

User Application Experience Troubleshooting Using DEM

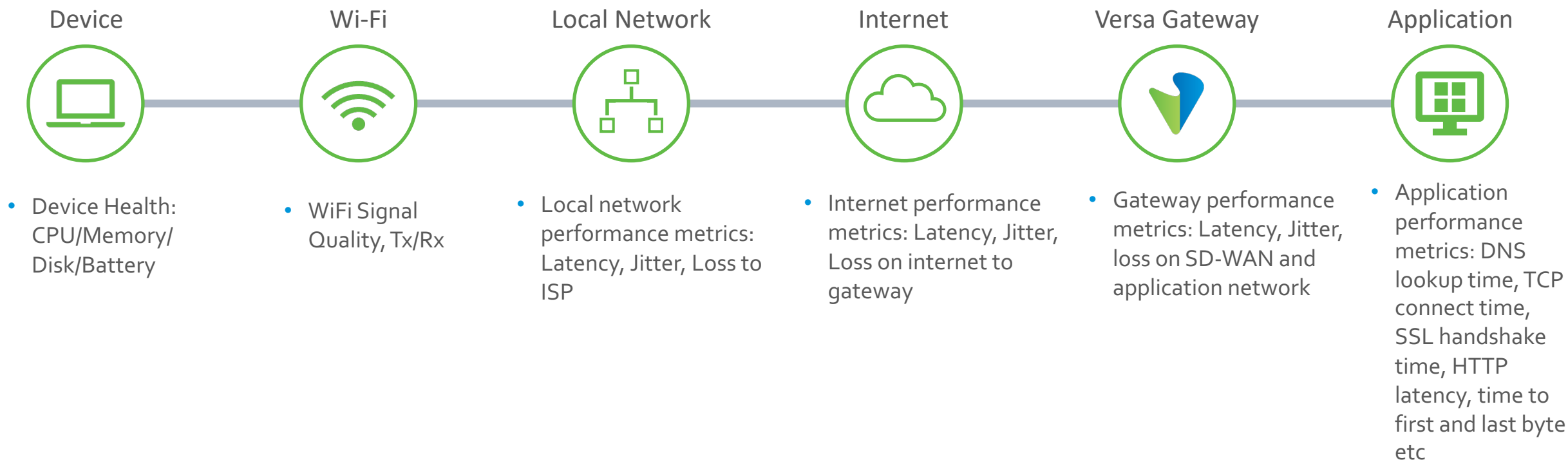
- Monitors the user's experience at various segments from client device all the way to the application servers



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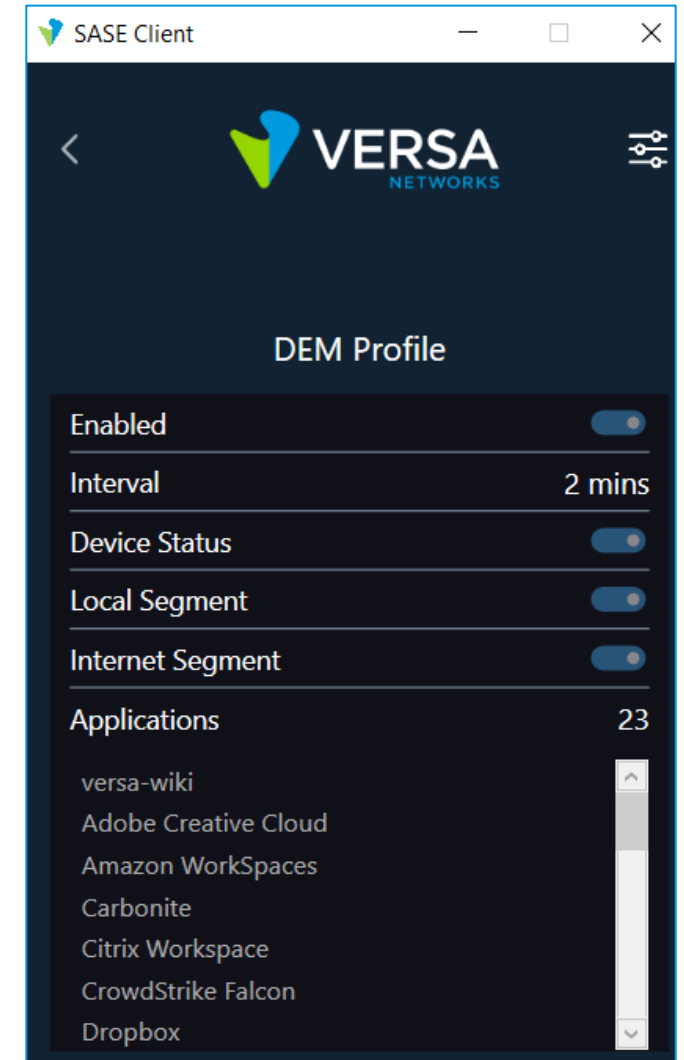
Versa's DEM Solution : End-to-End Monitoring

Measures performance metrics of various segments

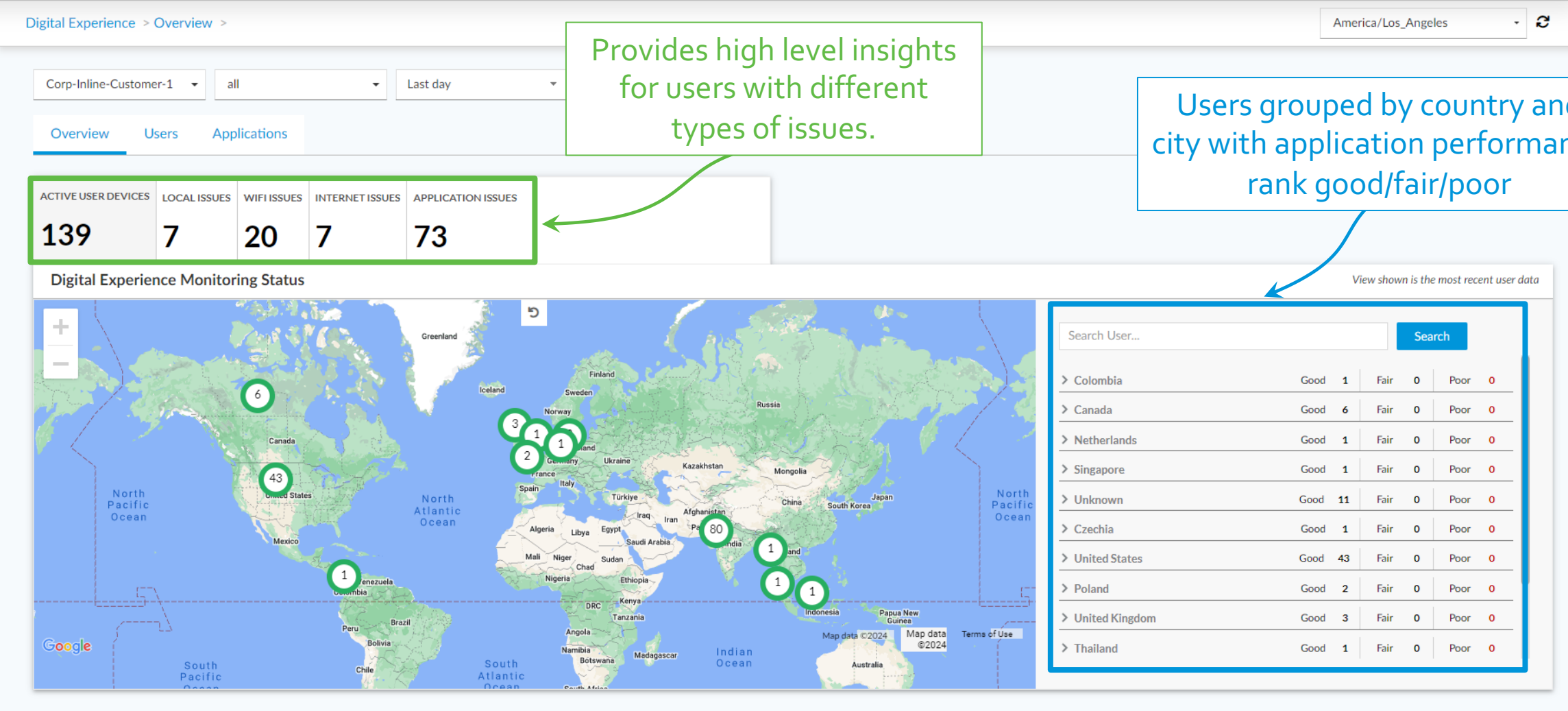


Versa's DEM Components

- SASE Client:
 - DEM enabled SASE client performs end to end monitoring of user's network and application performance
 - Sends synthetic probes periodically to determine the performance metrics
 - Exports of statistics and status for analytics to consume:
 - Device
 - Local segment
 - Internet segment
 - Application servers
- SASE Gateway:
 - Configures clients with DEM profiles
 - Exports DEM metrics received from SASE clients to analytics
- Analytics
 - Provides end to end visibility and actionable insights



DEM: Analytics Overview



DEM: User Experience Rank

Rank value range
0:30 – Good
31:70 – Degraded
71-100- Poor

Actionable insights

User's most recent information

32

Experience Rank

22

Monitored Apps

User: @versa-networks.com

Device: Michelles Laptop

OS: MacOS 14.4.1

SSID:

ISP: ATT-INTERNET4 (12.199.206.21)

Tunnel IP: 172.30.60.127

Gateway: Colovore-DC-Branch-1

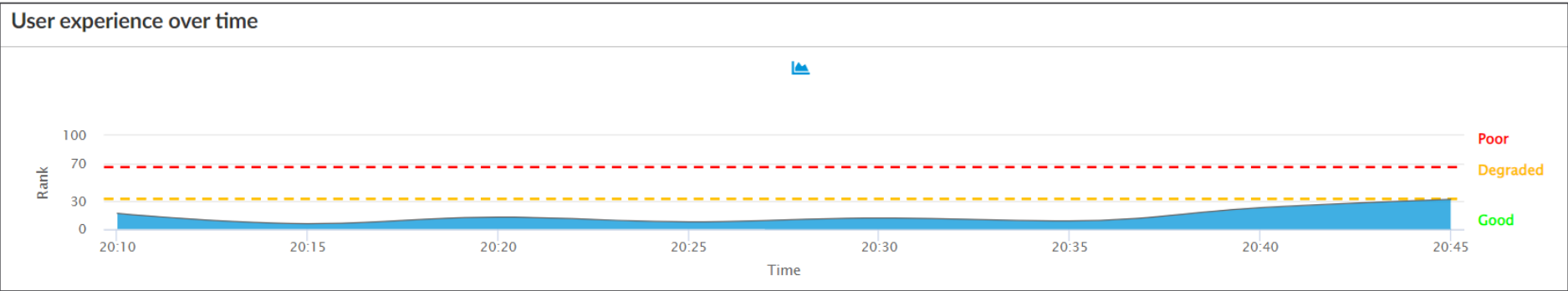
Gateway Profile: SantaClara-DC

Gateway FQDN: colovore-vpn.versa-networks.com (172...

Wi-Fi experiencing low signal - Move closer to the Wi-Fi Access Point.

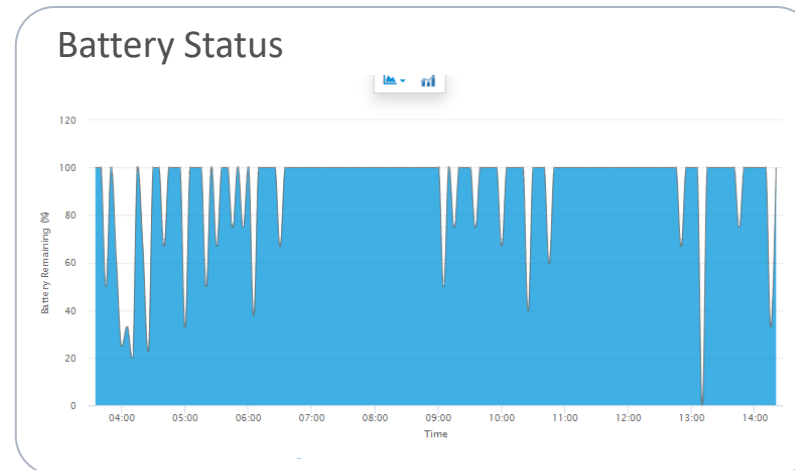
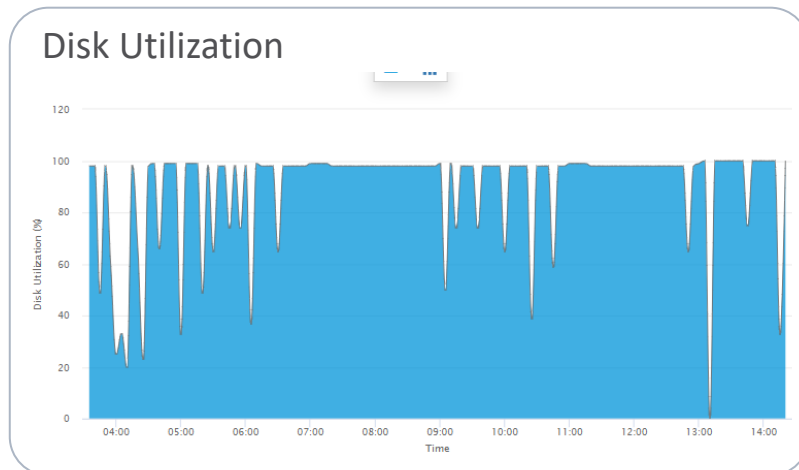
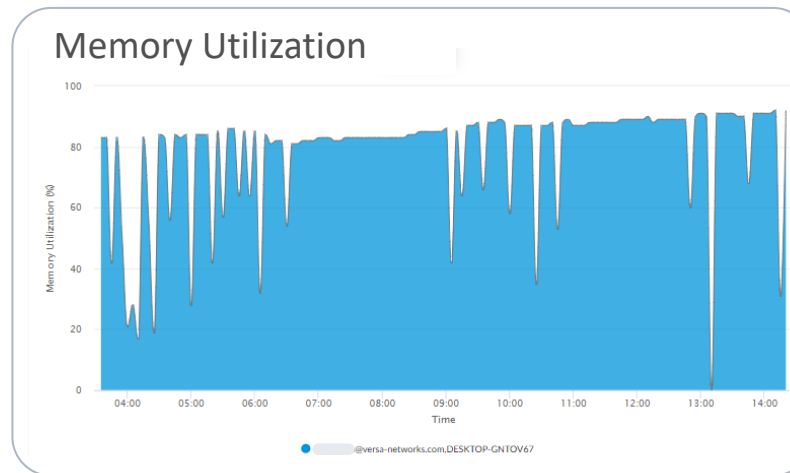
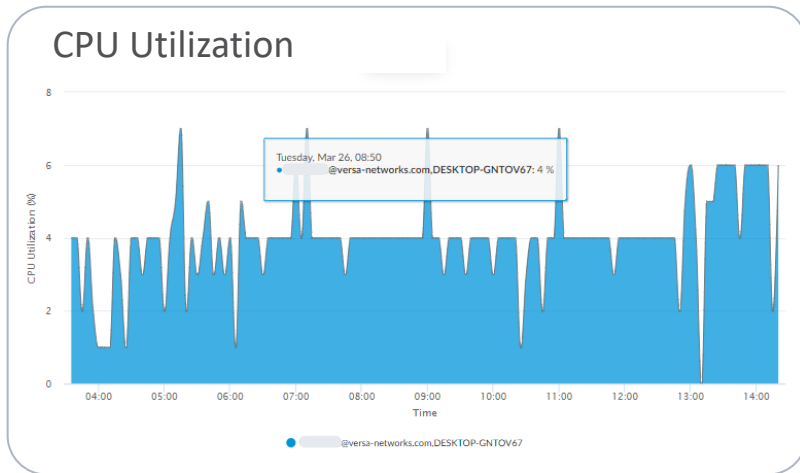
Local Network experiencing high delay, jitter - check local network for issues.

User experience rank:
Computed using various
metrics collected at
each interval



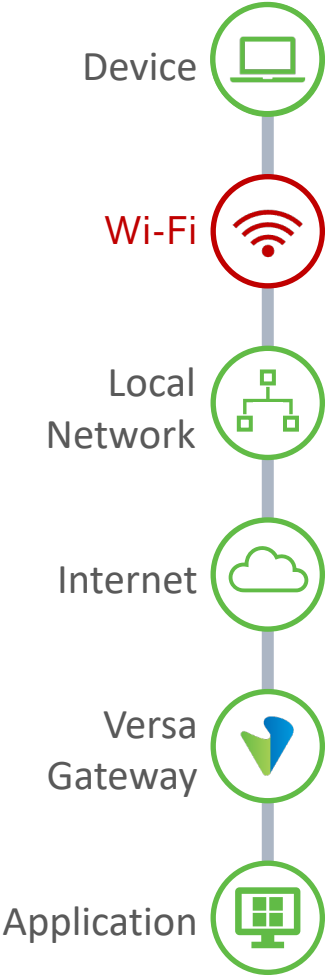
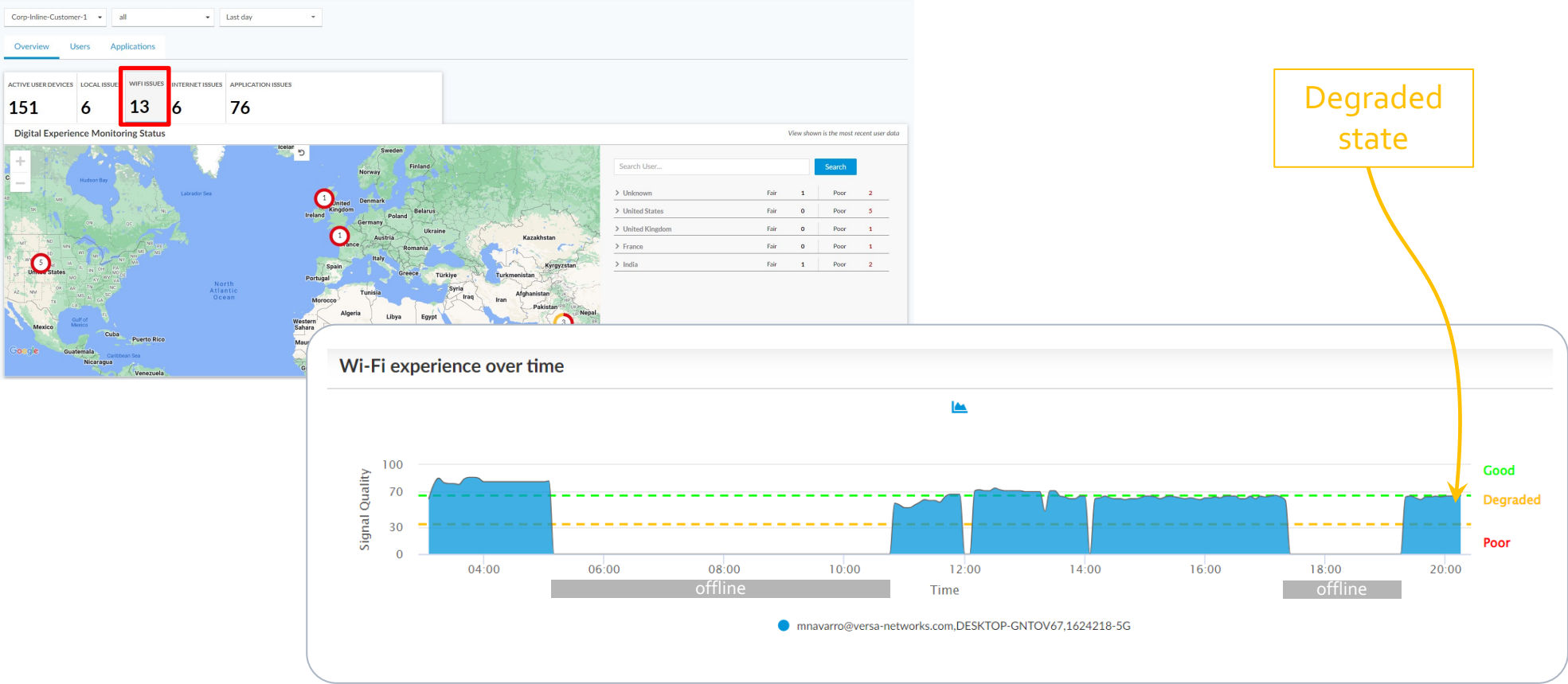
DEM: Local Issues - Device

Users with device issues – Based on device CPU, memory, disk, battery usage



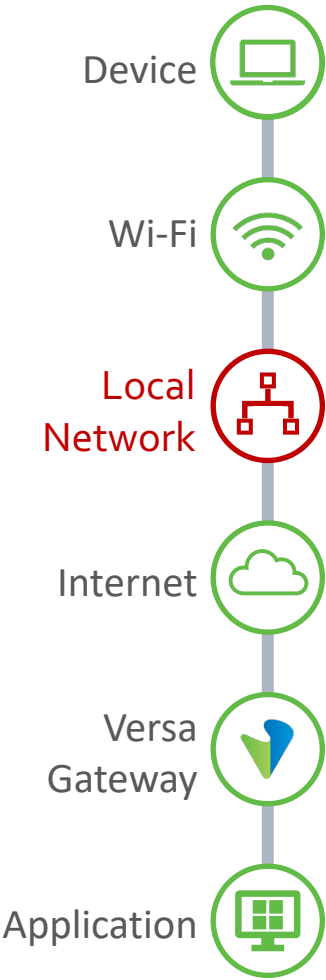
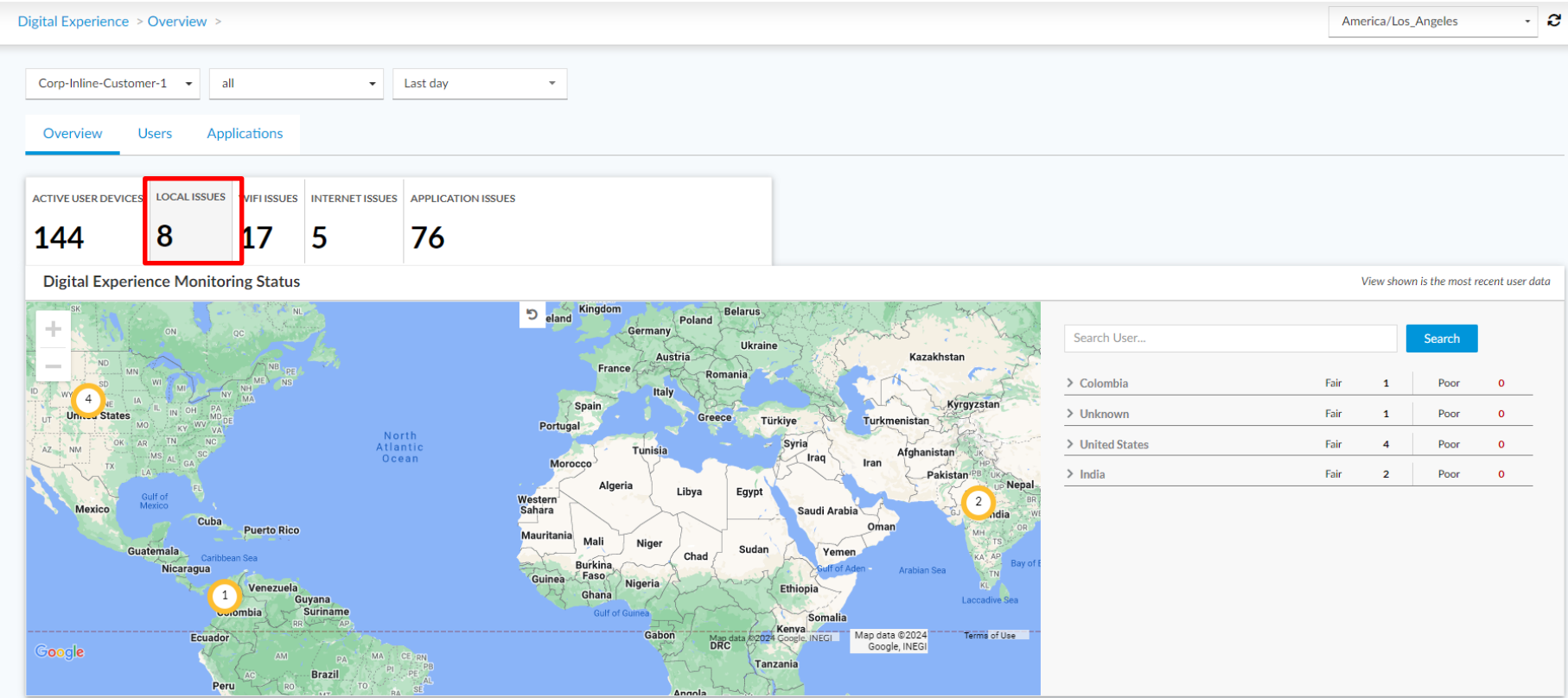
DEM: WiFi Issues

Users with WiFi issues – Based on signal strength, rx/tx bandwidth obtained from the device's WiFi driver



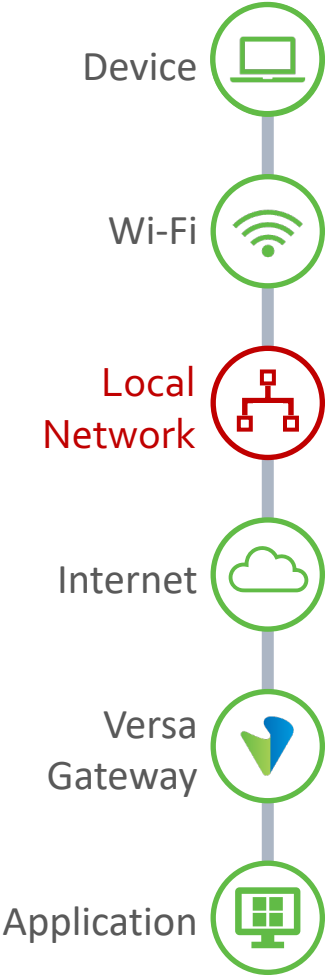
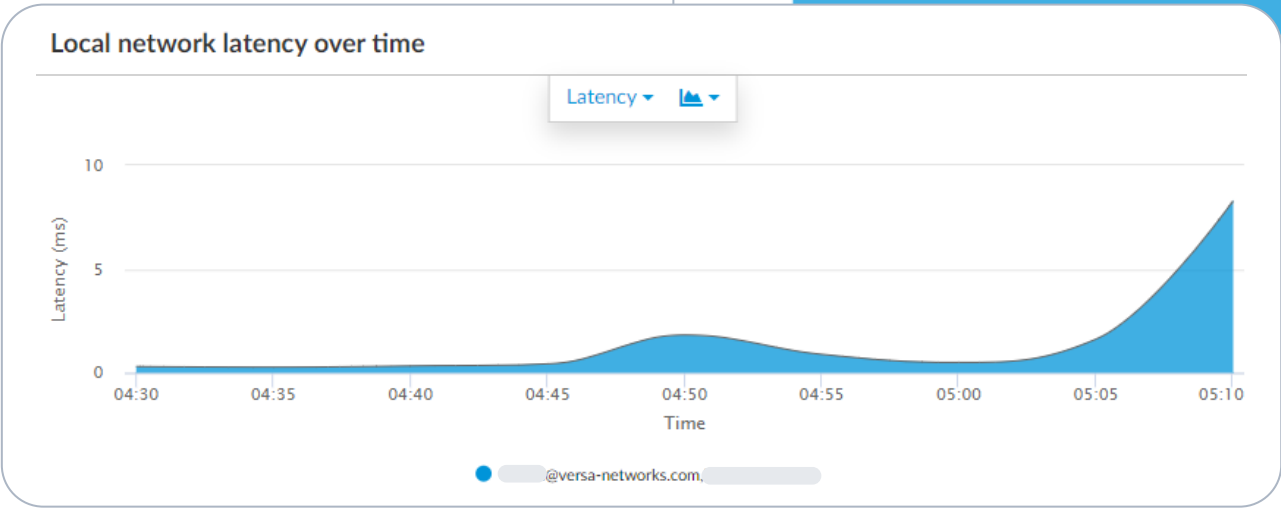
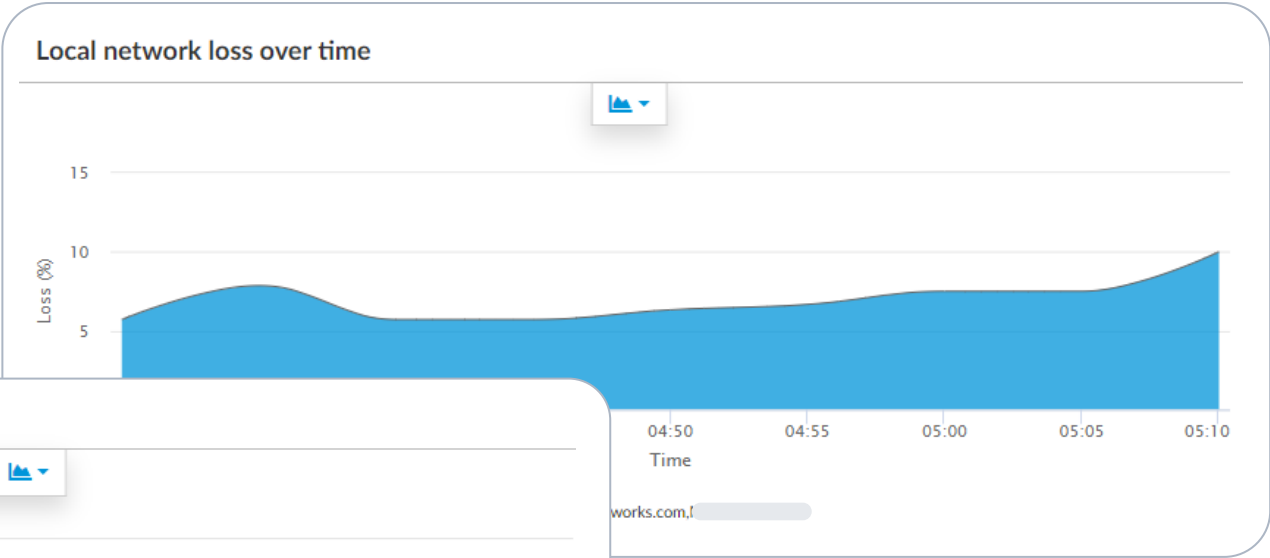
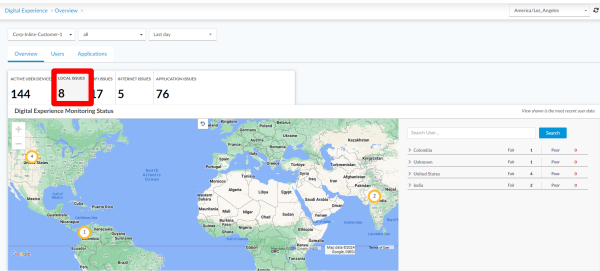
DEM: Local Issues - Network

Users with local network issues – Detected based on latency/jitter/packet loss metrics using ping / traceroute to nexthop gateway.



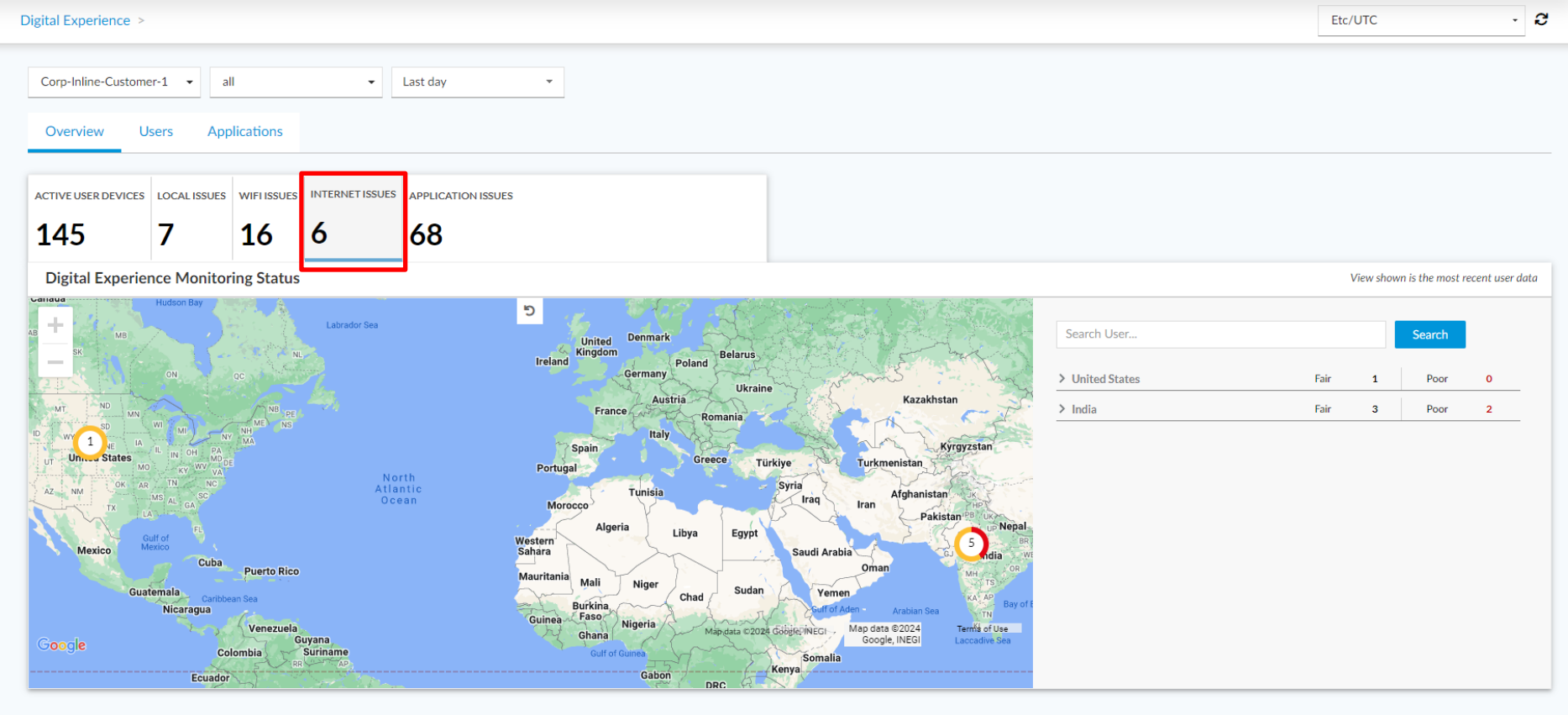
DEM: Local Issues - Network

Users with local network issues – Detected based on latency/jitter/packet loss metrics using ping / traceroute to nexthop gateway.



DEM: Internet Issues

Users with internet issues – Detected using ping/traceroute/TWAMP to SASE gateway



Device



Wi-Fi



Local Network



Internet



Versa Gateway

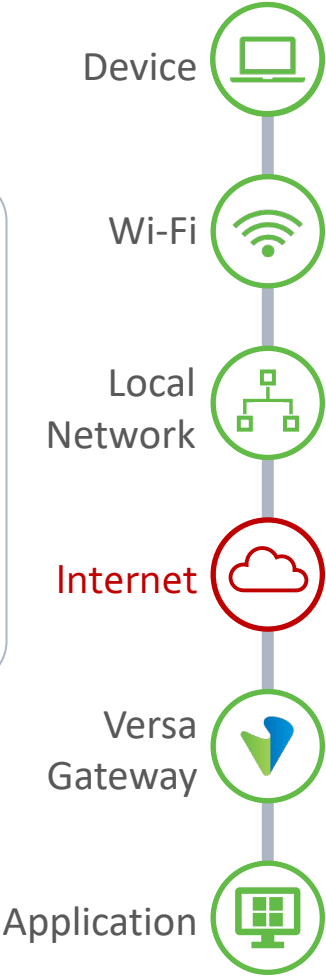
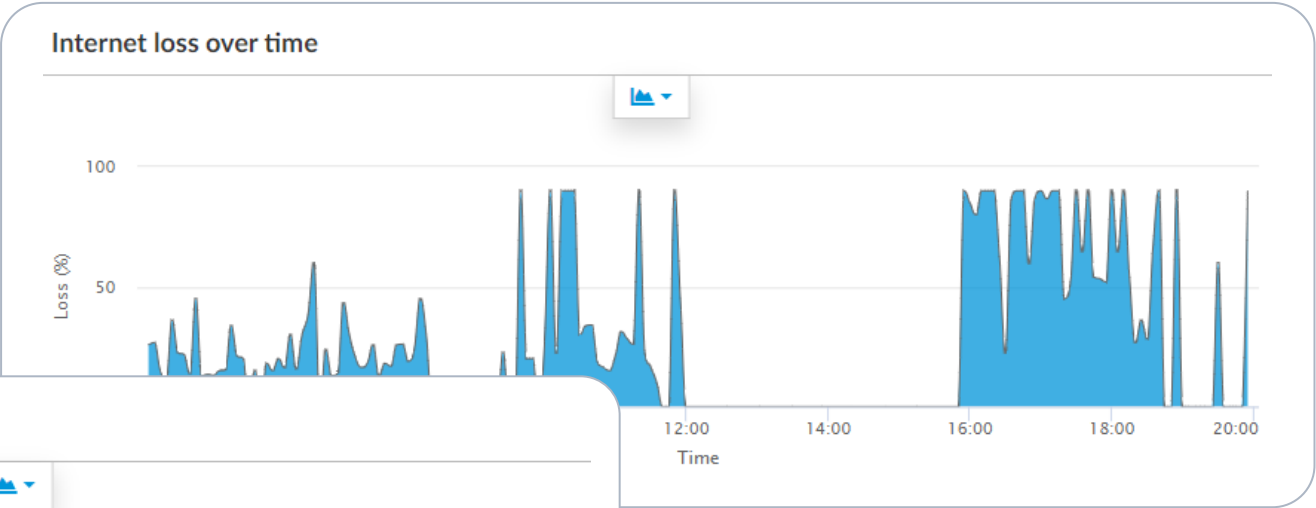
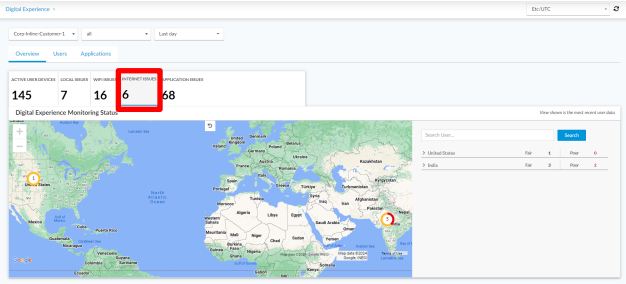


Application



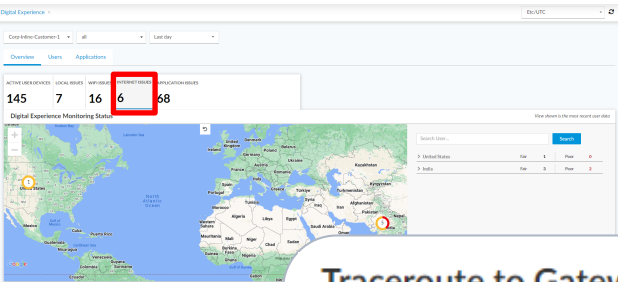
DEM: Internet Issues

Users with internet issues – Detected using ping /traceroute/TWAMP to SASE gateway

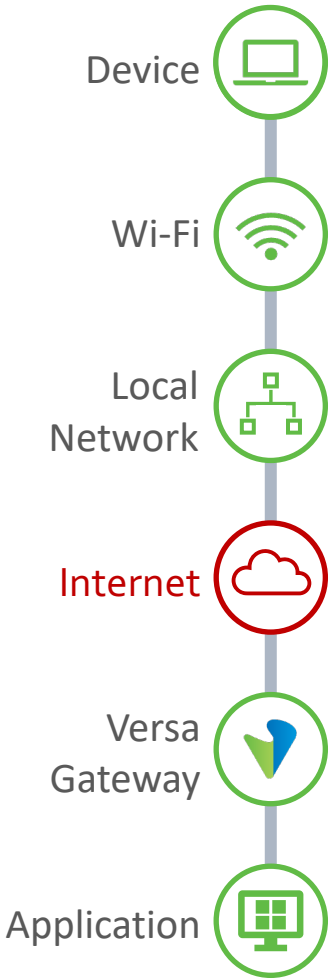
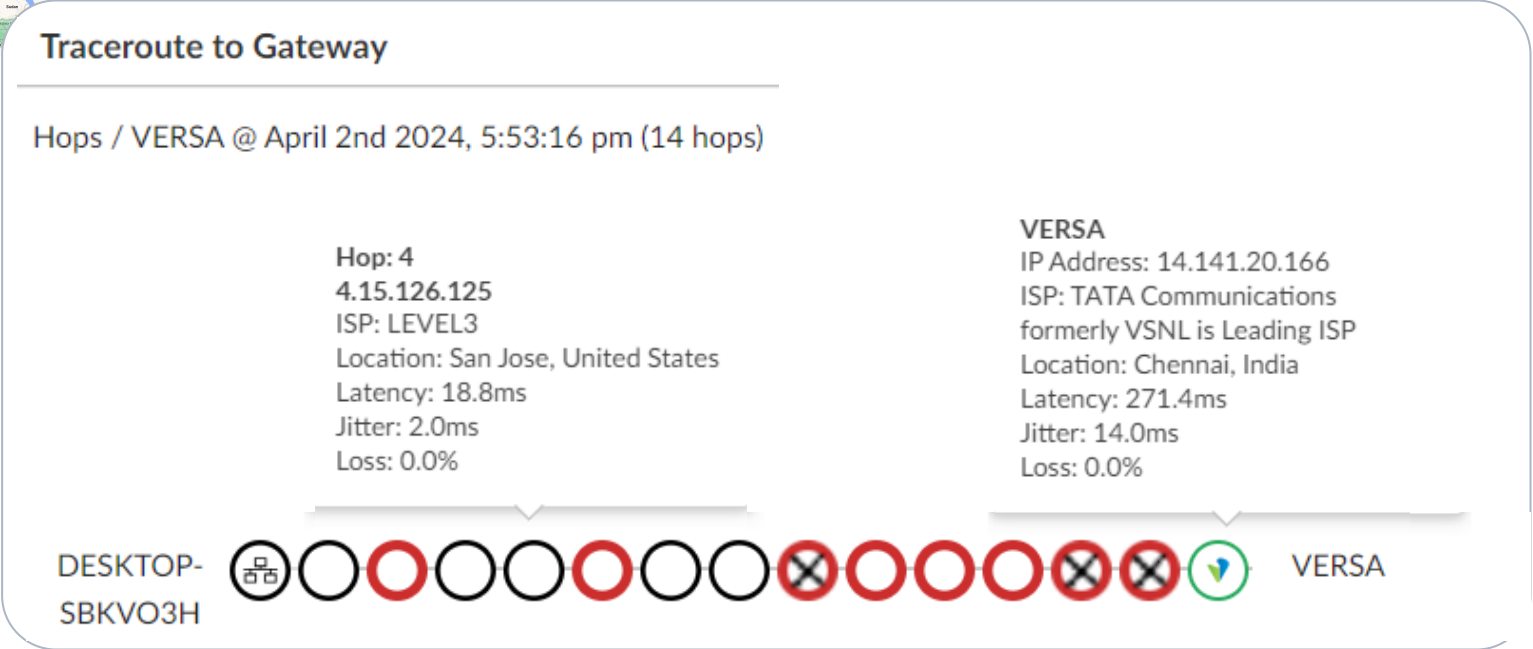


DEM: Internet Issues

Users with internet issues – Detected using ping /traceroute/TWAMP to SASE gateway

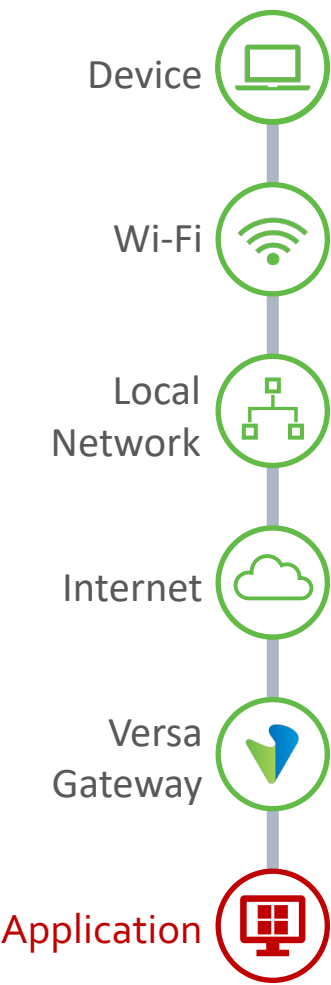
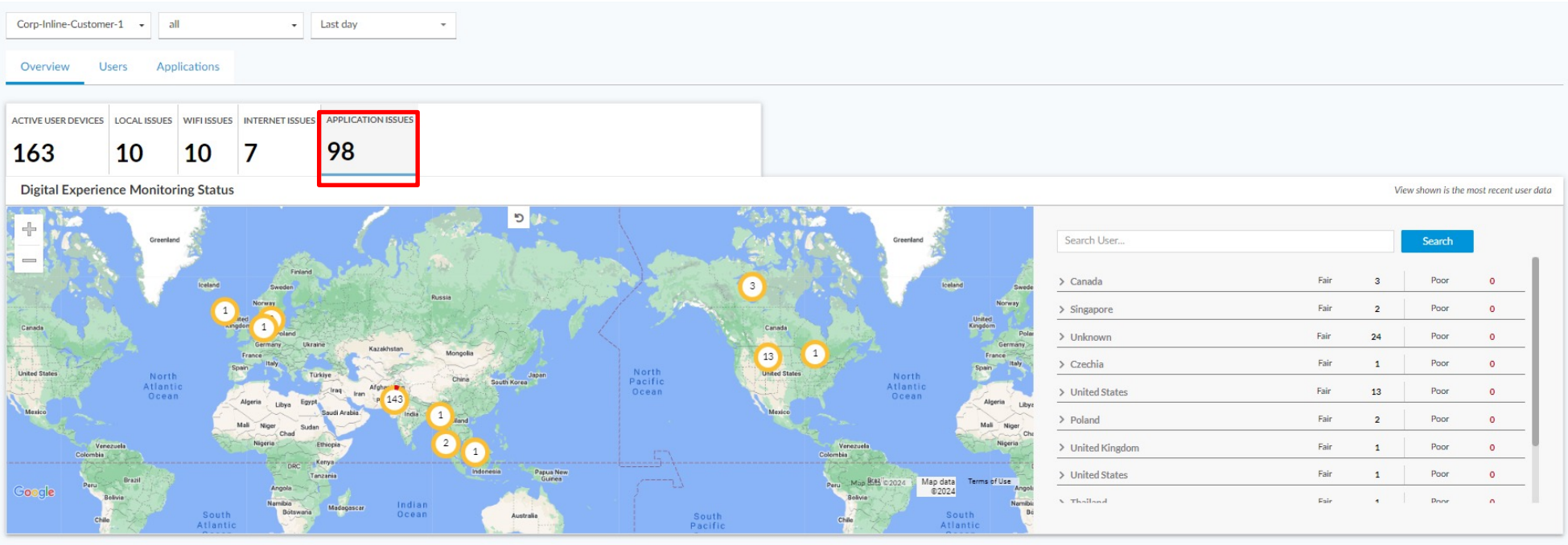


- Shows non-optimal gateway chosen by the user for connecting. The traffic is sent from San Jose to gateway in Chennai India



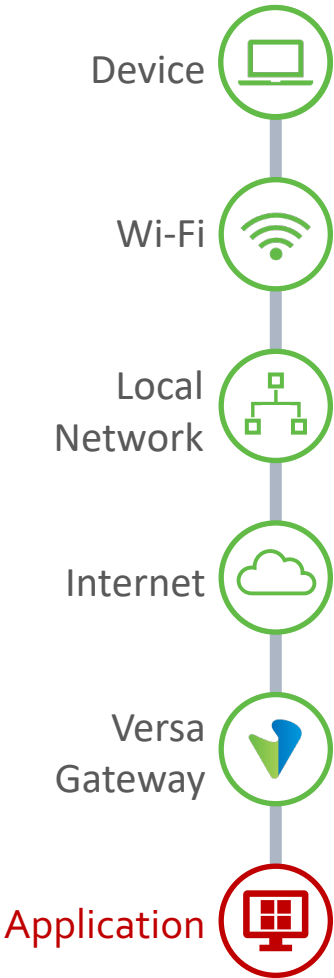
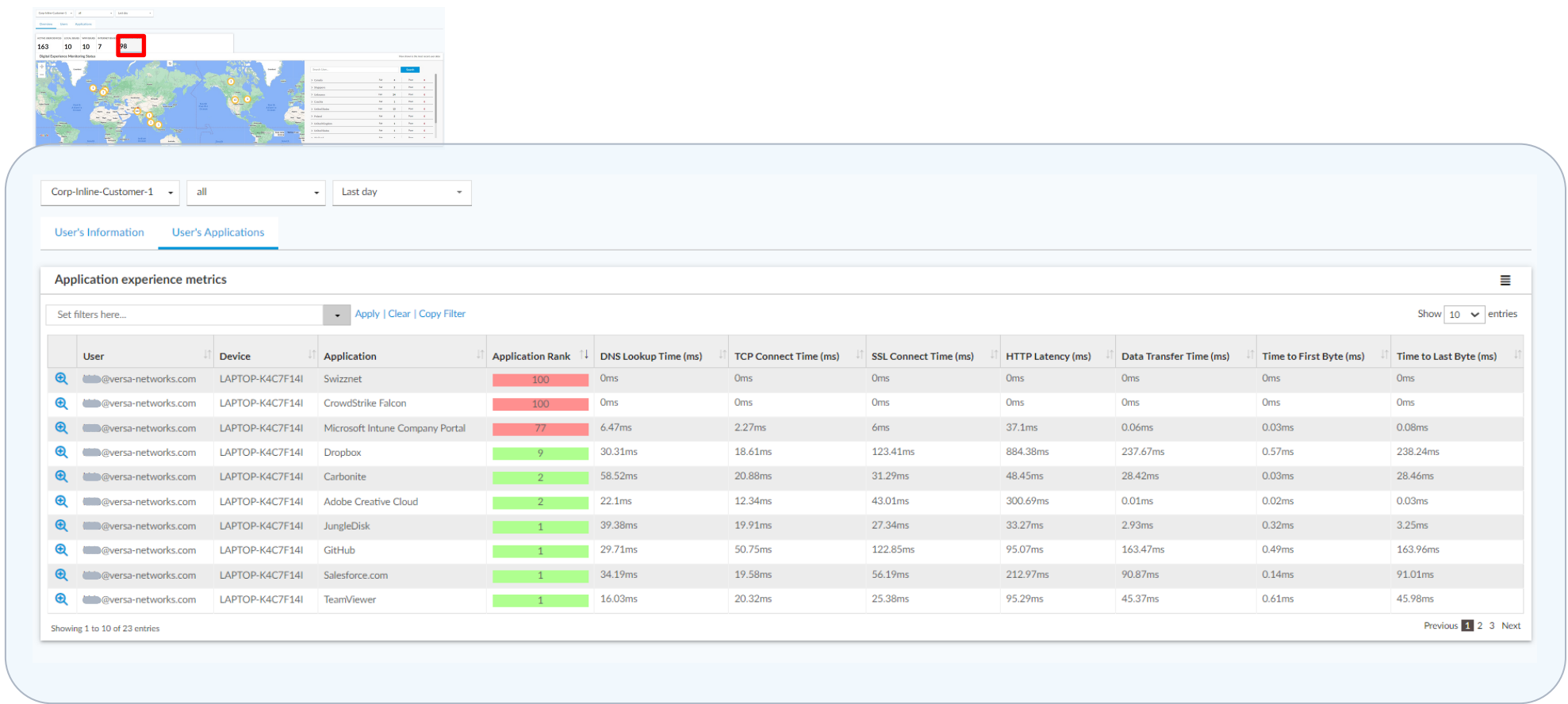
DEM: Application Issues

Users with application issues – Detected using ping/ HTTP GET/traceroute to application servers



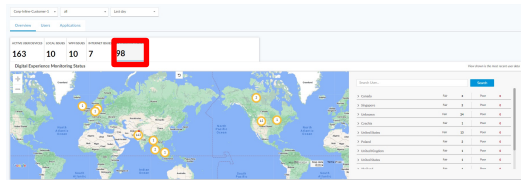
DEM: Application Issues

Users with application issues – Detected using ping/ HTTP GET/traceroute to application servers



DEM: Application Issues

Users with application issues – Detected using ping/ HTTP GET/traceroute to application servers



- Rank computed using network and application-level metrics

Corp-Inline-Customer-1 | all | Last day

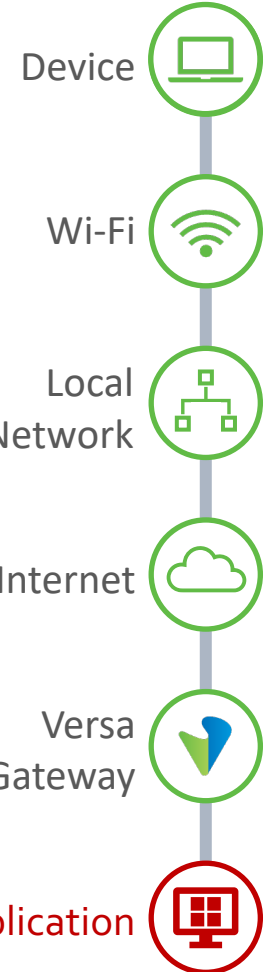
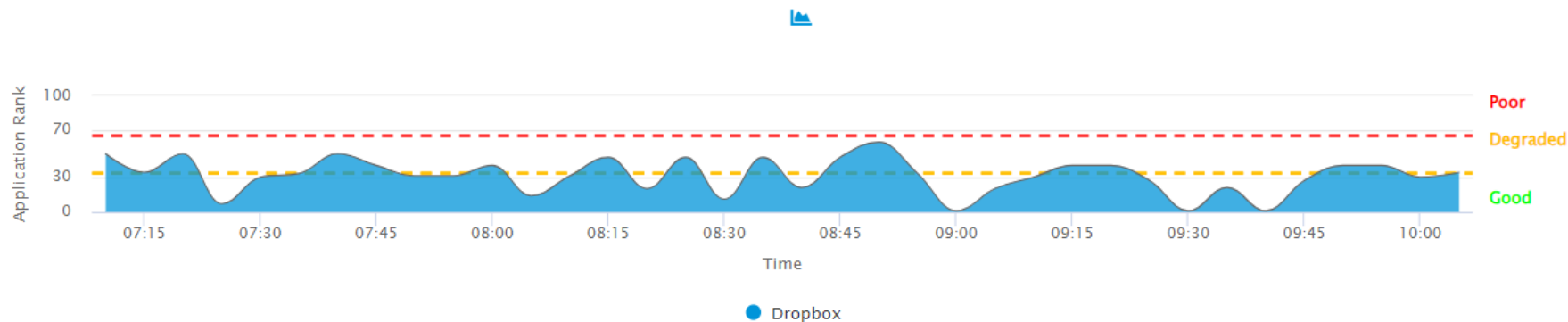
User's Information | User's Applications

Application experience metrics

Set filters here... | Apply | Clear | Copy Filter

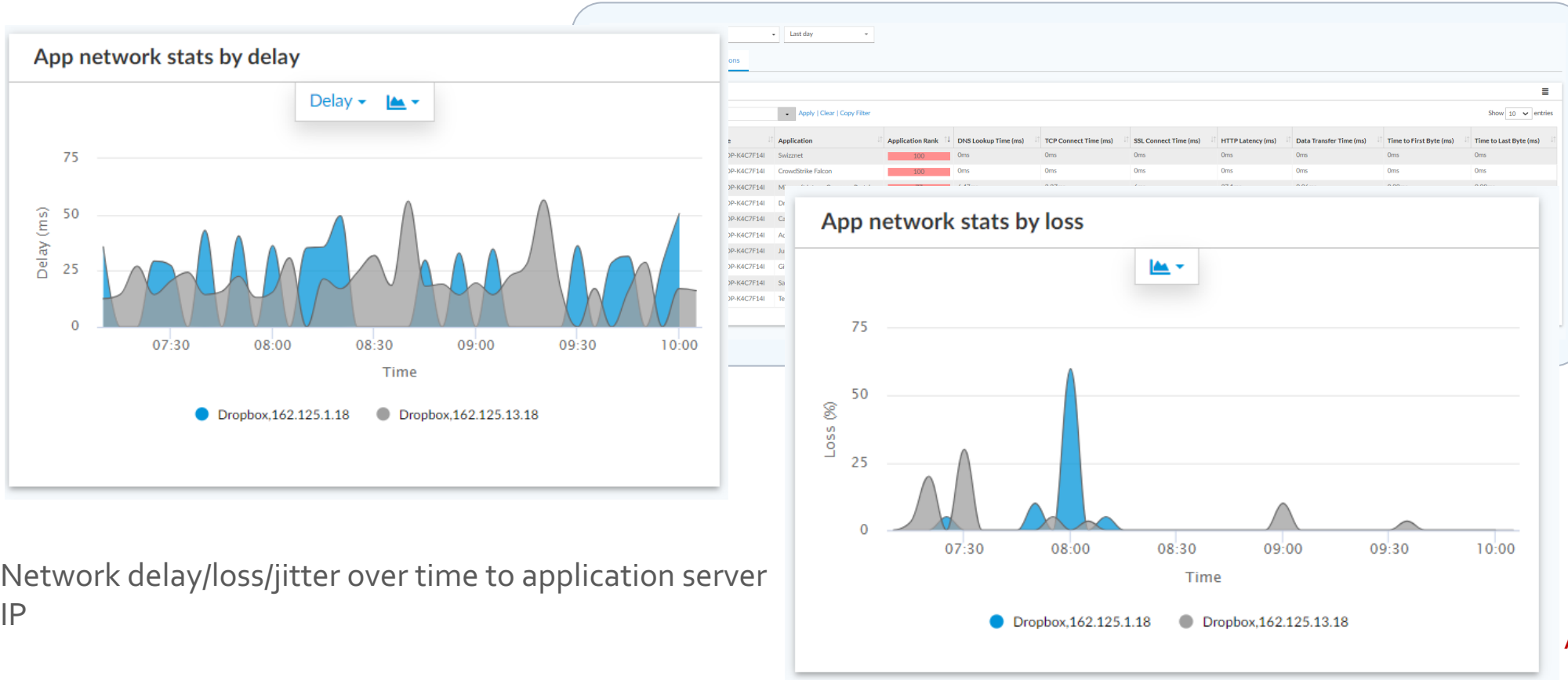
User	Device	Application	Application Rank	DNS Lookup Time (ms)	TCP Connect Time (ms)	SSL Connect Time (ms)	HTTP Latency (ms)	Data Transfer Time (ms)	Time to First Byte (ms)	Time to Last Byte (ms)
@versa-networks.com	LAPTOP-K4C7F141	Swizznet	100	0ms	0ms	0ms	0ms	0ms	0ms	0ms
@versa-networks.com	LAPTOP-K4C7F141	CrowdStrike Falcon	100	0ms	0ms	0ms	0ms	0ms	0ms	0ms
@versa-networks.com	LAPTOP-K4C7F141	Microsoft Intune Company Portal	77	6.47ms	2.27ms	6ms	37.1ms	0.06ms	0.03ms	0.08ms
@versa-networks.com	LAPTOP-K4C7F141	Dropbox	9	30.31ms	18.61ms	123.41ms	884.38ms	237.67ms	0.57ms	238.24ms
@versa-networks.com	LAPTOP-K4C7F141	Carbonite	2	58.52ms	20.88ms	31.29ms	48.45ms	28.42ms	0.03ms	28.46ms
@versa-networks.com	LAPTOP-K4C7F141	Adobe Creative Cloud	2	22.1ms	12.34ms	43.01ms	300.69ms	0.01ms	0.02ms	0.03ms
@versa-networks.com	LAPTOP-K4C7F141	JungleDisk	1	39.38ms	19.91ms	27.34ms	33.27ms	2.93ms	0.32ms	3.25ms
@versa-networks.com	LAPTOP-K4C7F141	GitHub	1	29.71ms	50.75ms	122.85ms	95.07ms	163.47ms	0.49ms	163.96ms
@versa-networks.com	LAPTOP-K4C7F141	Salesforce.com	1	34.19ms	19.98ms	56.19ms	212.97ms	90.87ms	0.14ms	91.01ms

Application Rank



DEM: Application Issues

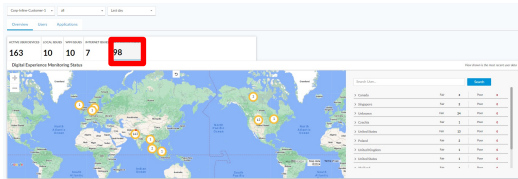
Users with application issues – Detected using ping to application servers



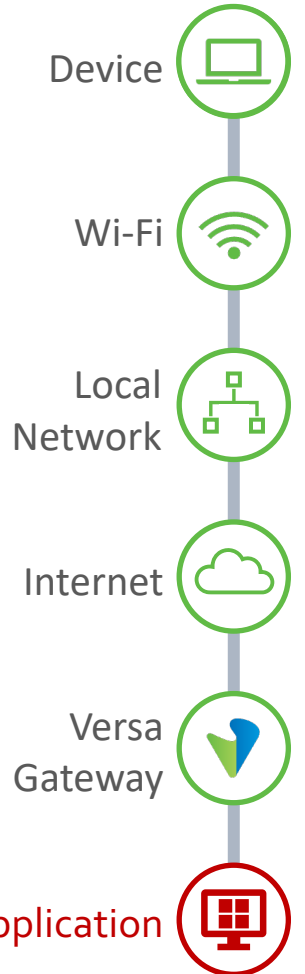
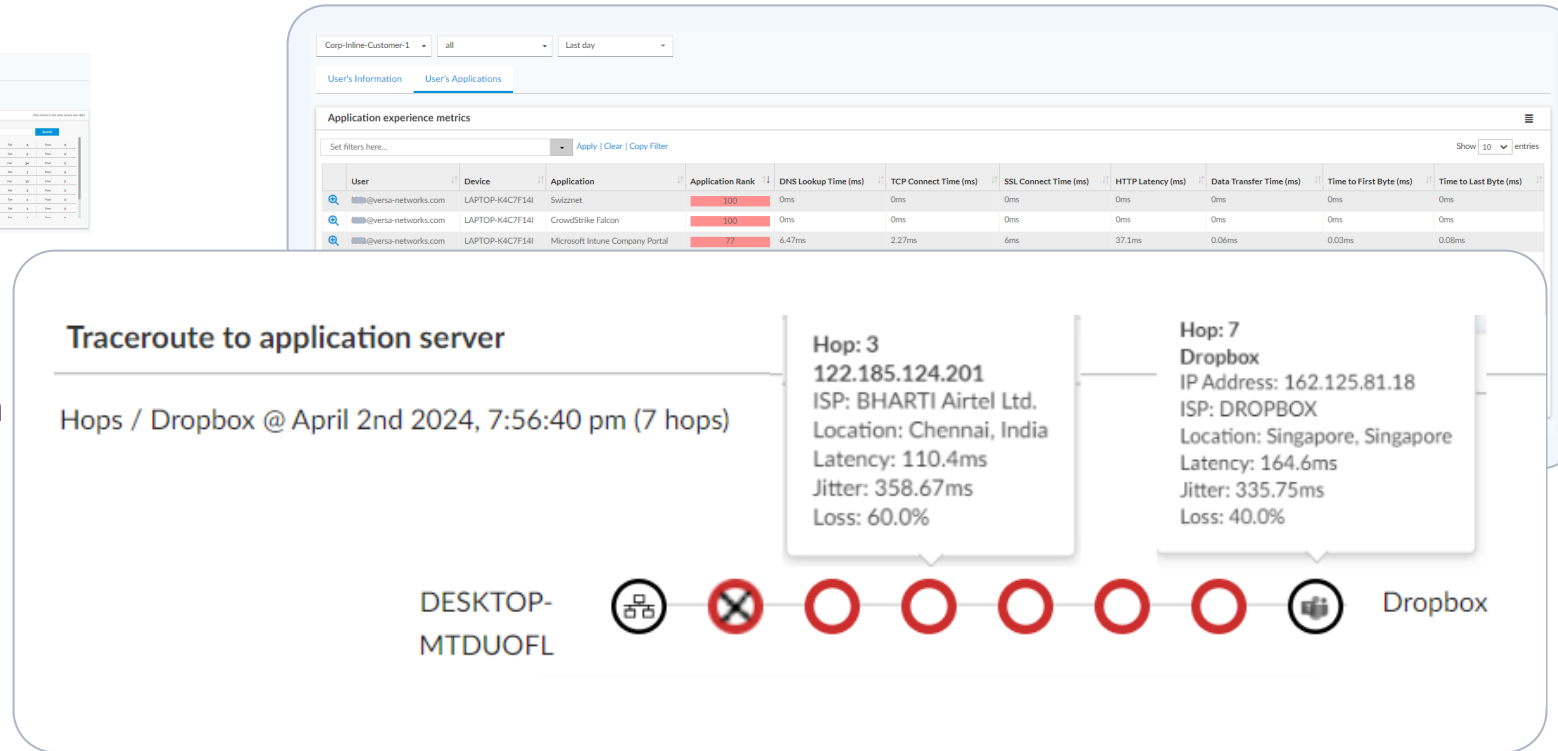
- Network delay/loss/jitter over time to application server IP

DEM: Application Issues

Users with application issues – Detected using traceroute to application servers



- Shows huge loss and jitter on the path from source to destination causing poor performance

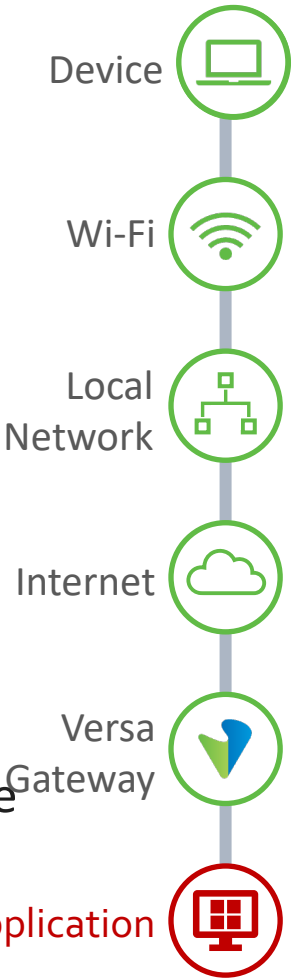


DEM: Application Issues

Detected using HTTP GET to application server

- DNS Lookup Time: Time taken by Domain Name Server to resolve domain name to application's server IP address
- TCP Connect Time: Time taken to perform TCP handshake with the application web server
- SSL Handshake Time: Time taken to perform SSL handshake used for secure (https) connectivity
- HTTP Latency: Time taken by HTTP get response
- Data Transfer Time: Time taken to perform data transfer
- Time to First Byte: Time taken to receive the first byte of information after a request is made
- Time to Last Byte: Time taken to receive the last byte of information after a request is made

Application Metrics									
Application	Application Rank	DNS Lookup Time (ms)	TCP Connect Time (ms)	SSL Connect Time (ms)	HTTP Latency (ms)	Data Transfer Time (ms)	Time to First Byte (ms)	Time to Last Byte (ms)	
Dropbox	61	124.06ms	157.86ms	749.68ms	2.36s	16s	0.69ms	16s	





Digital Experience Monitoring: Insights

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DEM Insights Examples

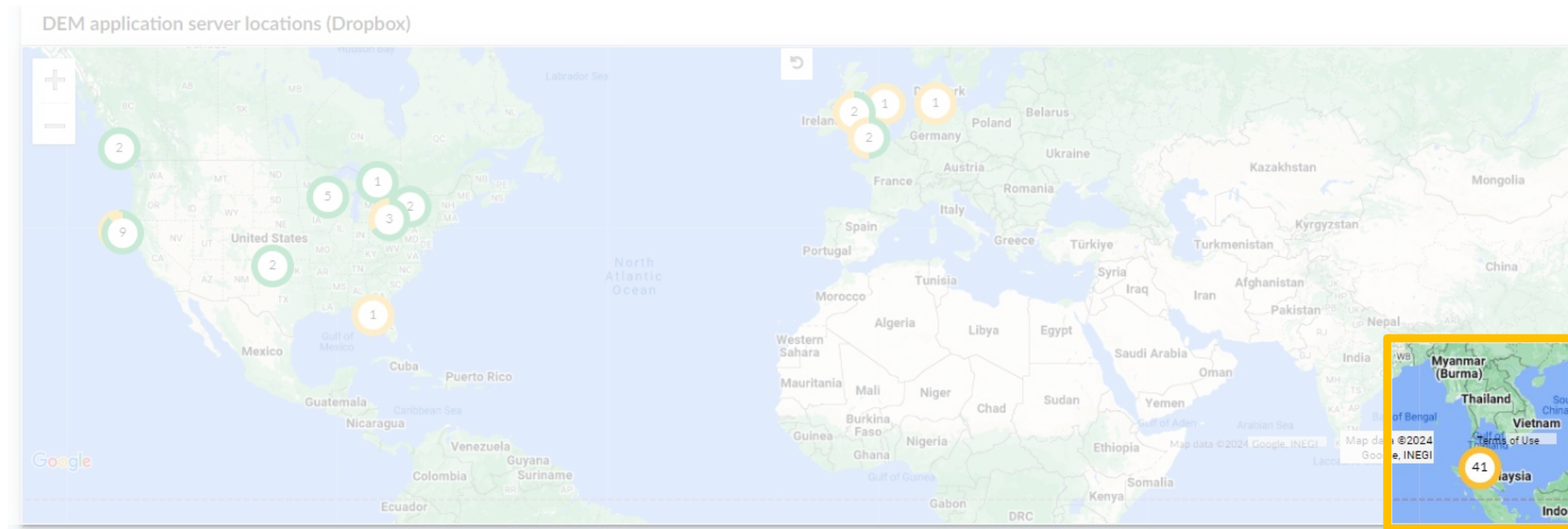
By correlating and connecting data from various users, several high-level insights can be derived

Examples:

- ISP: How is the connectivity to local ISP? Are other users in the same region seeing poor performance with the ISP?
- Application server: Are all users connected to application server having poor performance?
- Gateway: Are all users connected to a gateway having poor experience? Is the path to Gateway going thru optimal path?

DEM Insights: Is it an application server issue?

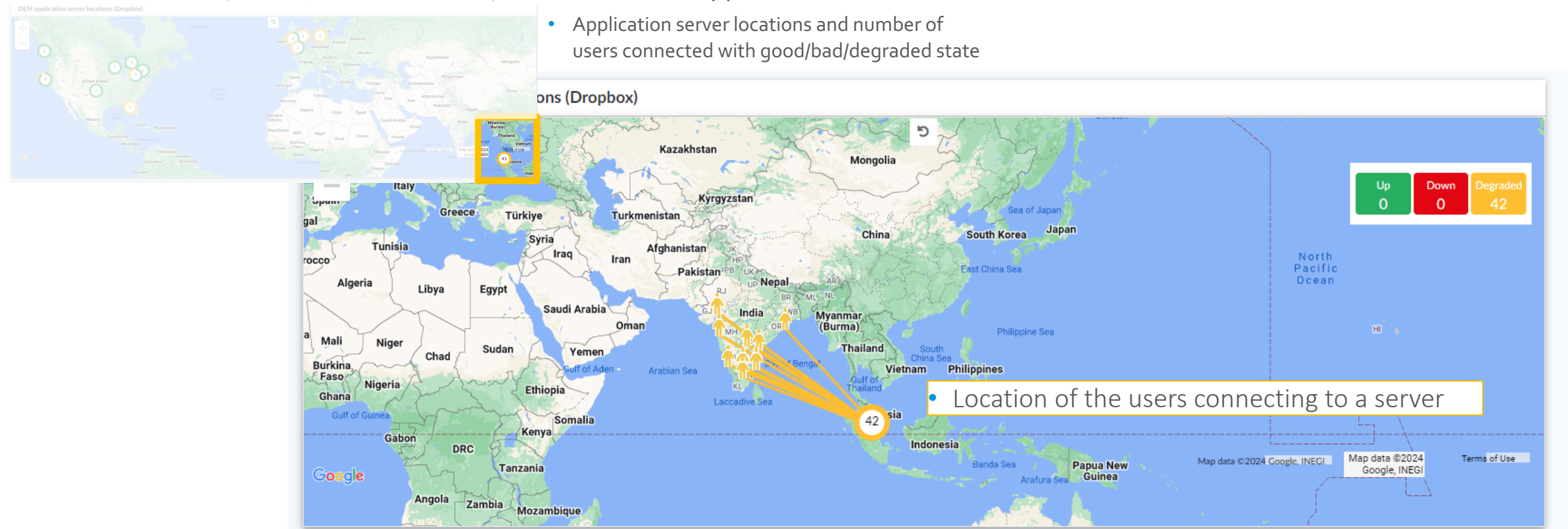
- Application map shows the users connected to various application servers in various geographies and their rank
- Helps determine if issue is local to a specific user or subset of user locations or all users accessing a specific server.
- If all users are impacted, then most likely the issue is with application server.



- Application server locations and number of users connected with good/bad/degraded state

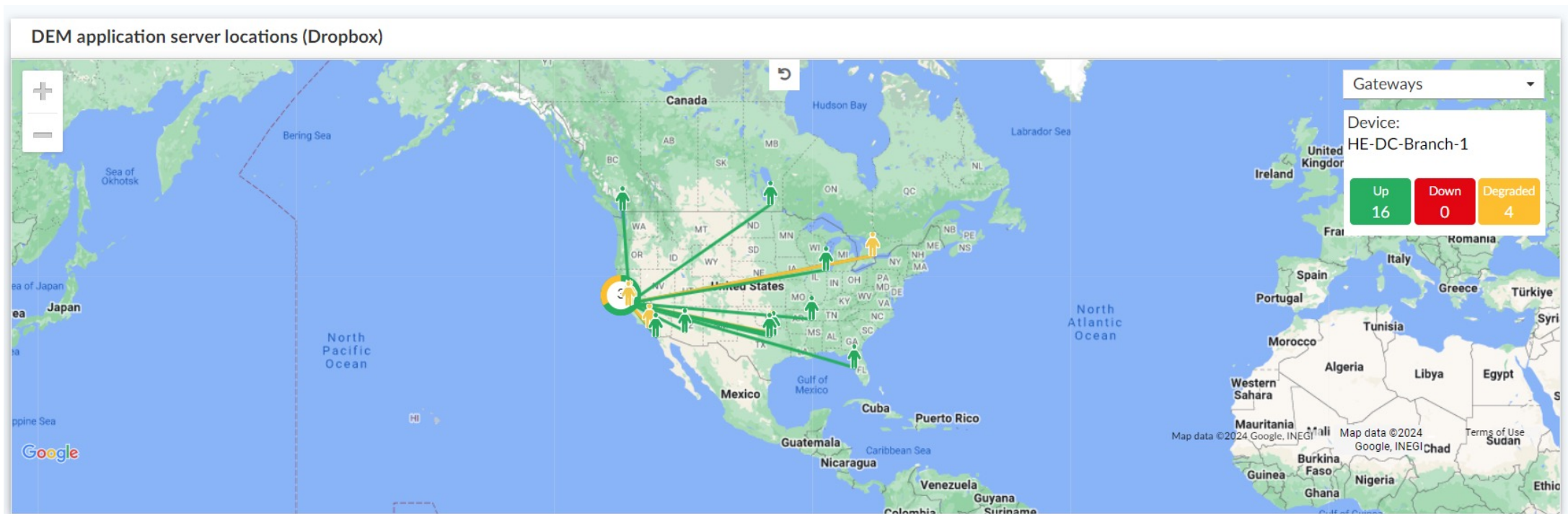
DEM Insights: Is it an application server issue?

- Application map shows the users connected to various application servers in various geographies and their rank
- Helps determine if issue is local to a specific user or subset of user locations or all users accessing a specific server.
- If all users are impacted, then most likely the issue is with application server.



DEM Insights: Is it gateway issue?

- Gateway map shows the users connected to various SASE gateways in various geographies and their rank
- Helps determine if issue is local to a specific user or subset of users or all users connected to a gateway.
- If all users connected to a gateway are impacted, then most likely the issue is with specific gateway.



Why Does DEM for SASE Observability Matter?

Provides greater
visibility across SASE
infrastructure

Reduces the
Mean Time to
Detect and Mean
Time to Recovery

Delivers business
outcomes by
improving
productivity and
reducing cost

An abstract graphic on the left side of the slide, consisting of numerous thin, light green lines that branch out and connect to small green dots, resembling a complex circuit or data network. The lines and dots are set against a dark blue background.

Demo

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Questions



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Thank you

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