



# KI-Integration in Netzwerk-Architekturen – die Zukunft moderner Infrastruktur erleben

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Partner Development



# Agenda

Einführung von KI im Campus-Netzwerk zur frühzeitigen Fehleranalyse und Problembehebung bei gleichzeitiger Reduzierung der Betriebskosten

Sichere Nutzung leistungsstarker Multi-Cloud-Anwendungen über verschiedene Standorte hinweg durch KI-gesteuertes SD-WAN

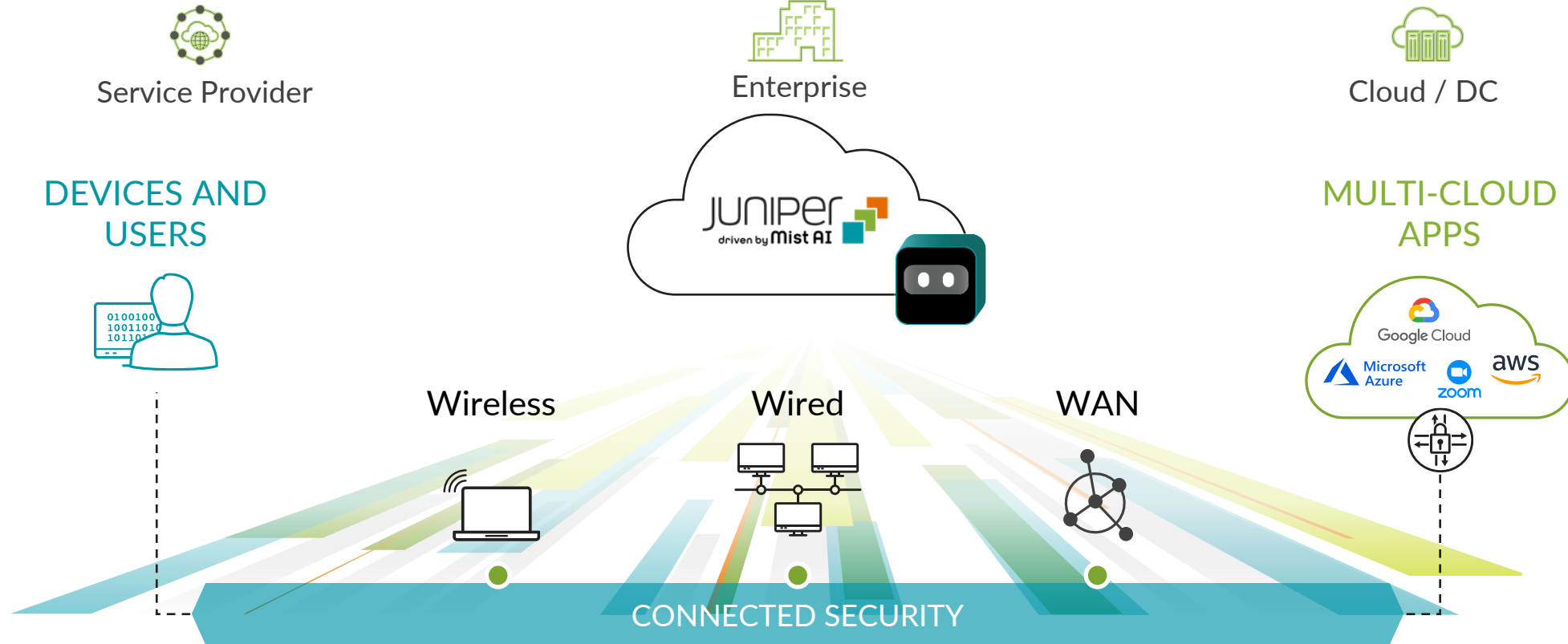
# Industry's Only AI-driven Full Stack Solution

Seit 1996

USA Sunnyvale

\$4.5Mrd

+9,500



# Industry's Only AI-driven Full Stack Solution

## AI-Driven Enterprise



### DEVICES AND USERS



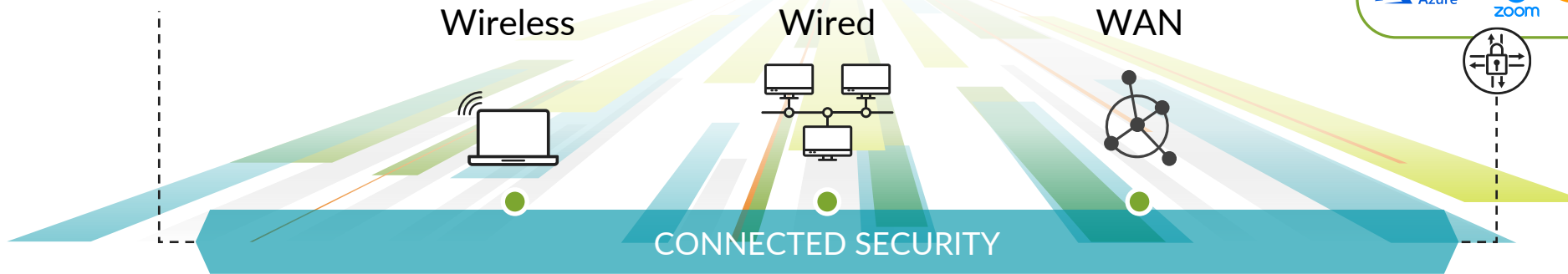
### MULTI-CLOUD APPS



Wireless

Wired

WAN





# The Experience-First Network

**The AI-NATIVE NETWORKING PLATFORM**



**1-hour outage in distribution  
centers,  
\$35 million in lost revenue**

AMAZON

**10-second downtime during the  
Olympics,  
1 million viewers miss the 100m dash**

BT

// I'm on the Wi-Fi, but my business app is as slow as a snail. //

// My phone has full bars, but my Teams call keeps going in and out. //

**But connectivity is not the same as experiencing a great connection**

// My internet is down but there are no outages reported. //

// I'm connected, but my video is pixelated. //



**We deliver this through the industry's first and only  
secure**

**AI-Native Networking Platform**

The bottom of the slide features several thick, overlapping, curved lines in various shades of green, creating a sense of motion and depth. These lines are positioned below the main text and extend across the width of the slide.

## AI-NATIVE NETWORKING PLATFORM

We start with Experience-First questions

“Wie können wir sicherstellen, dass jeder Nutzer an jedem Ort die gleiche Erfahrung erfährt?”

“Kann sich das Netz anpassen, um Probleme zu beheben, bevor die Nutzer sie überhaupt bemerken?”

**EXPERIENCE-FIRST**

“Erfüllt das Netz die Bedürfnisse aller Beteiligten?”

AI-NATIVE NETWORKING PLATFORM

**Delivering the best user and operator experiences**

EXPERIENCE-  
FIRST

**AIOPS**

The image features a central white circle with a green shadow, containing the text 'AIOPS' in bold green. Above it is a smaller white circle with a green shadow containing the text 'EXPERIENCE-FIRST' in bold green. The background is black with several concentric green circles of varying thicknesses, creating a sense of depth and motion.

AI-NATIVE NETWORKING PLATFORM

Leverages the right data...

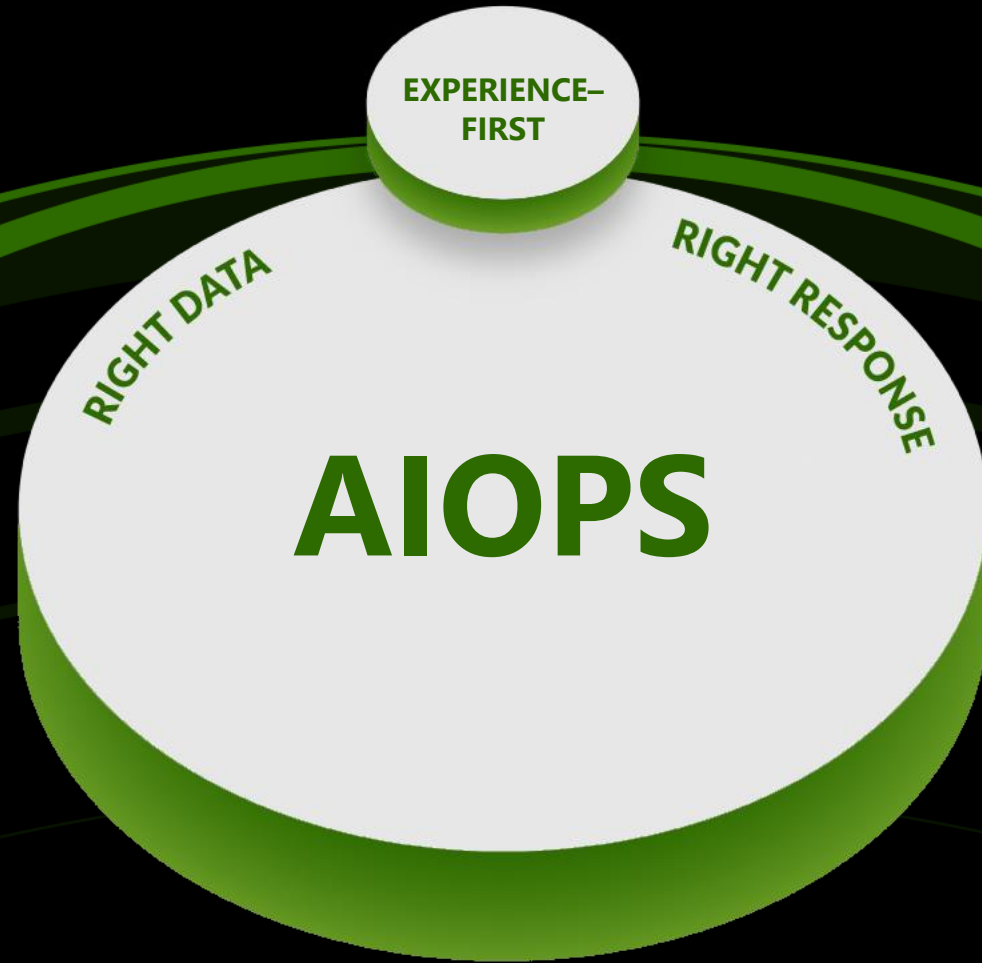
EXPERIENCE-  
FIRST

RIGHT DATA

**AIOPS**

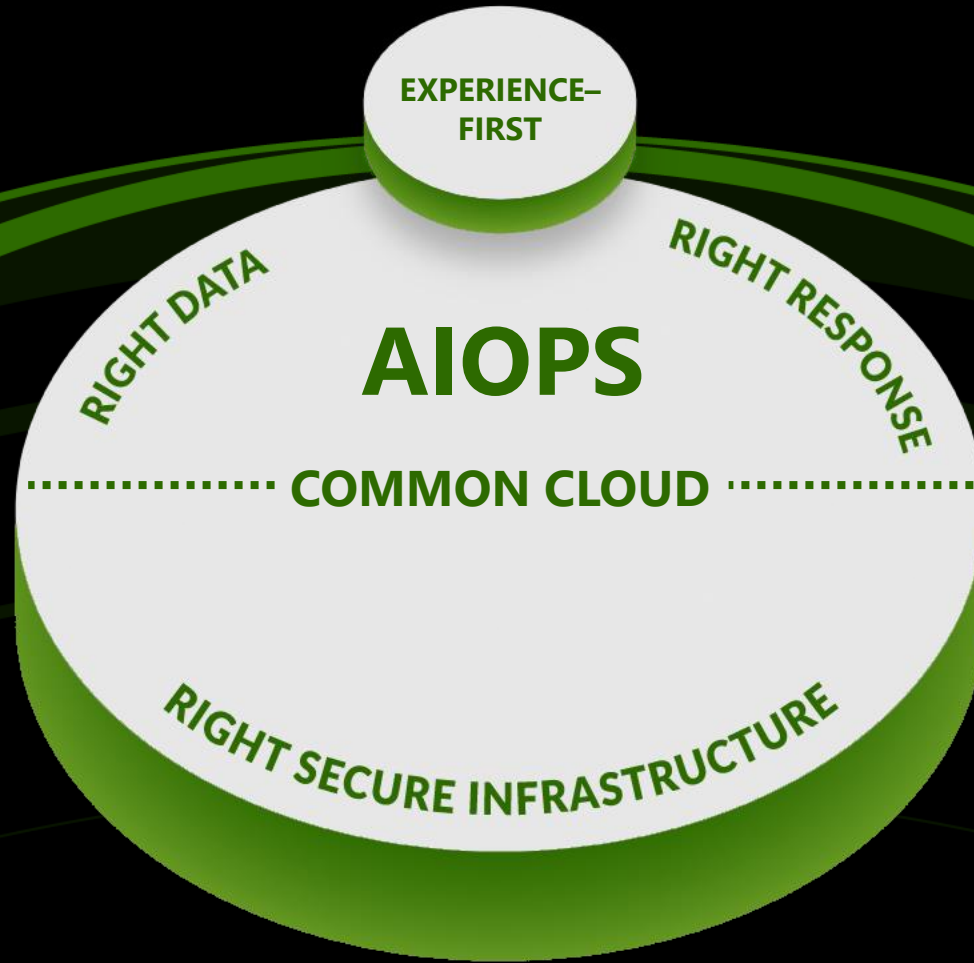
A central white 3D-style circle with a green shadow is the focal point. It is surrounded by several concentric green rings of varying thicknesses that create a sense of depth and motion. The background is a dark green gradient with faint, curved lines that complement the rings.

AI-NATIVE NETWORKING PLATFORM  
**The right real-time response...**



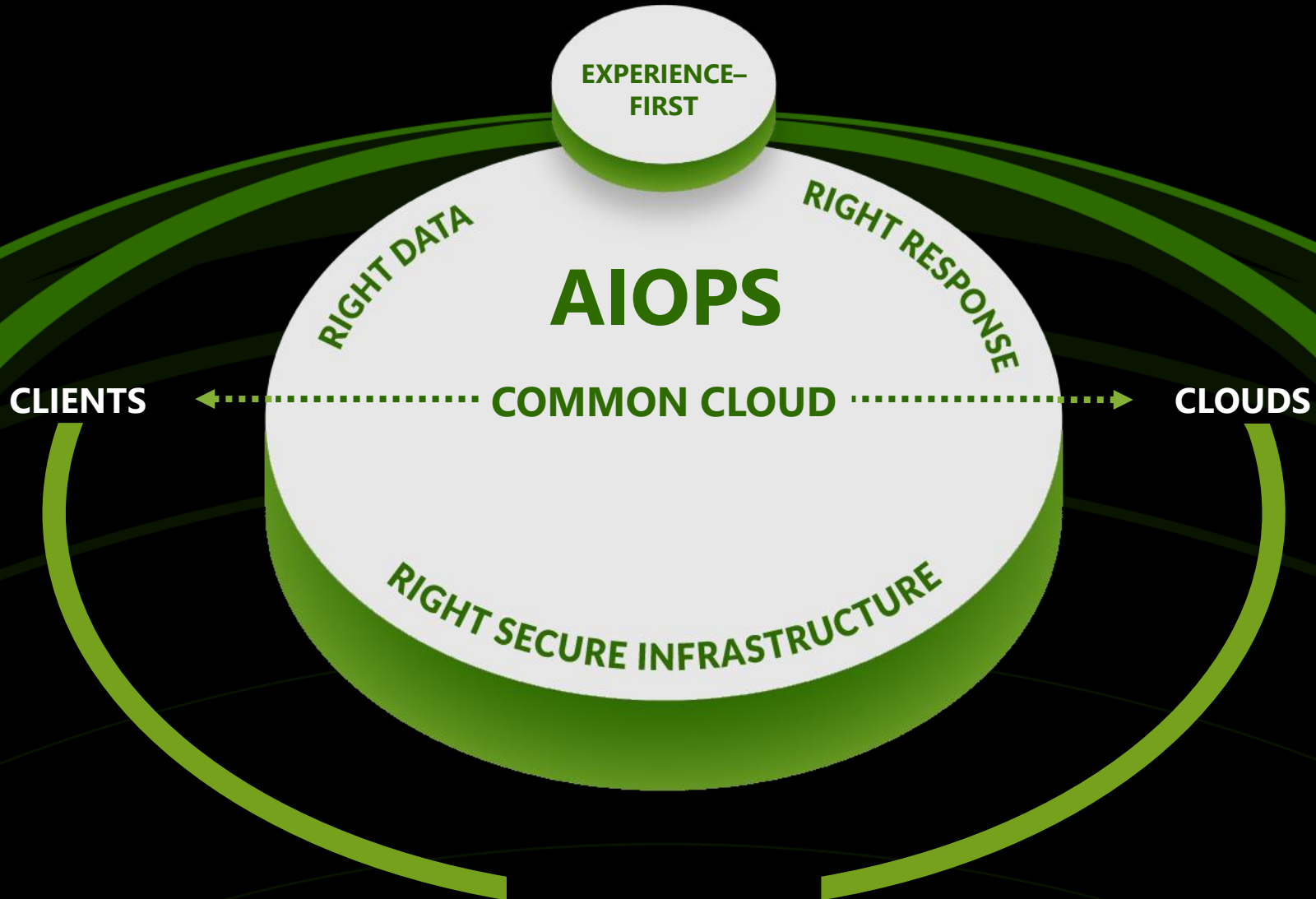
AI-NATIVE NETWORKING PLATFORM

All underpinned by the right secure infrastructure



AI-NATIVE NETWORKING PLATFORM

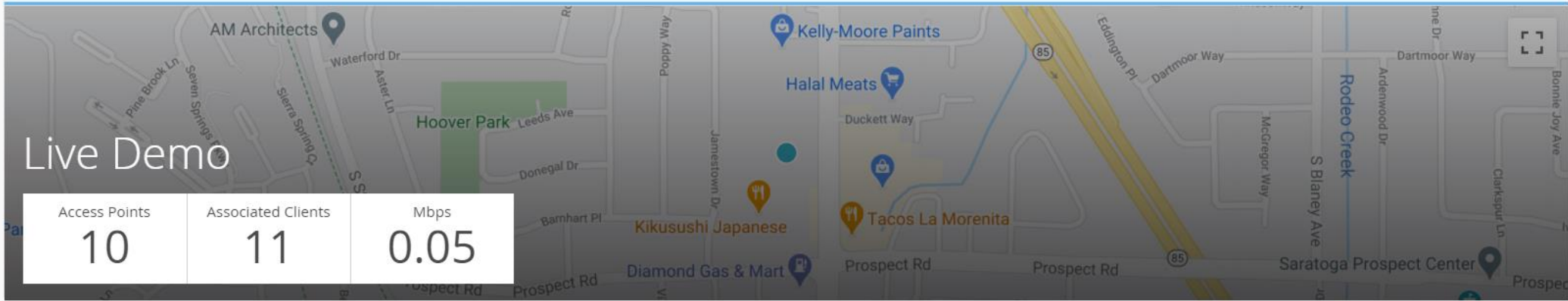
All underpinned by the right secure infrastructure



# WAS IST DIESES MIST AI ?

SO ein MIST...

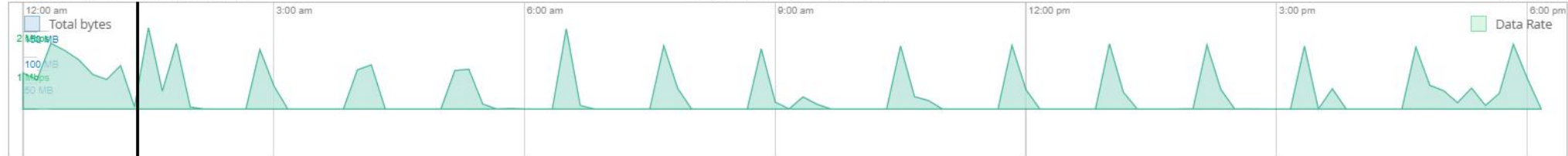




12:00 AM Apr 16 - 06:20 PM Apr 16

(drag an area of interest to Zoom In)

Site Events



1:20 am - 1:30 am, Apr 16: 3.5 MB, 0.05 Mbps

**Site Events** 0

There are no Events to display

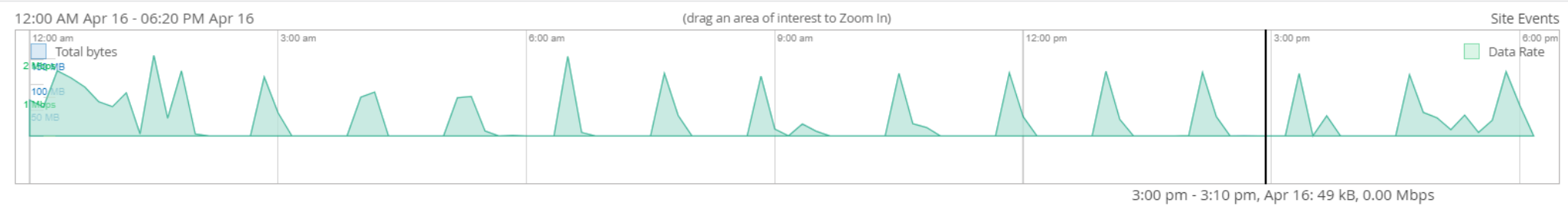
**AP Events** 236 Total 236 Good 0 Neutral 0 Bad

Configured	LD_Marvis	06:03:21.000 PM, Apr 16
RRM Action	LD_Marvis	06:03:17.000 PM, Apr 16
Configured by RRM	LD_Marvis	06:03:17.000 PM, Apr 16
Configured	LD_Kitchen-2	06:00:51.000 PM, Apr 16

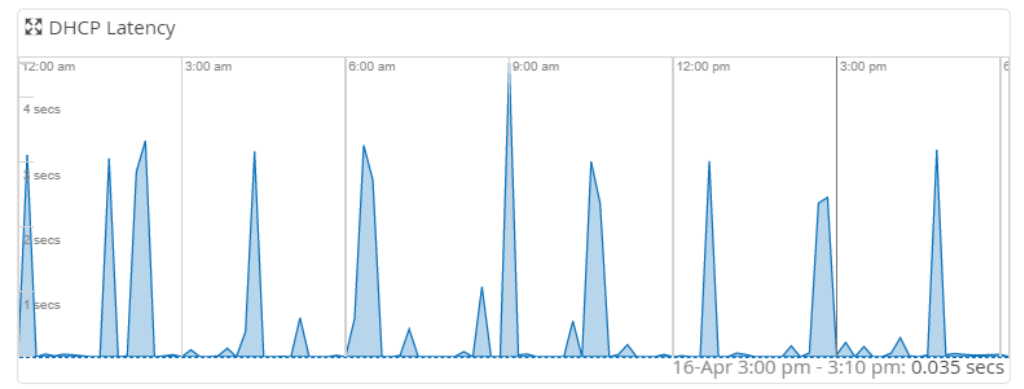
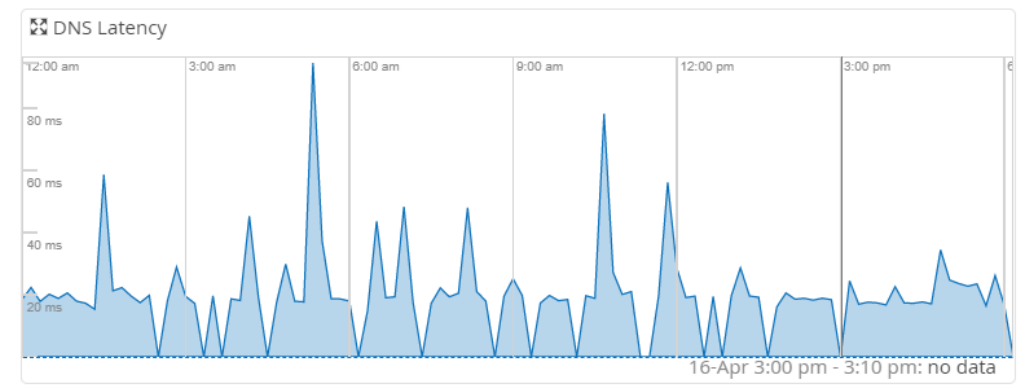
This event has no details



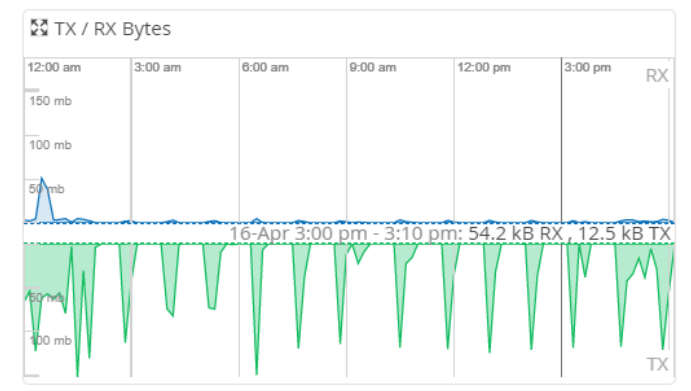
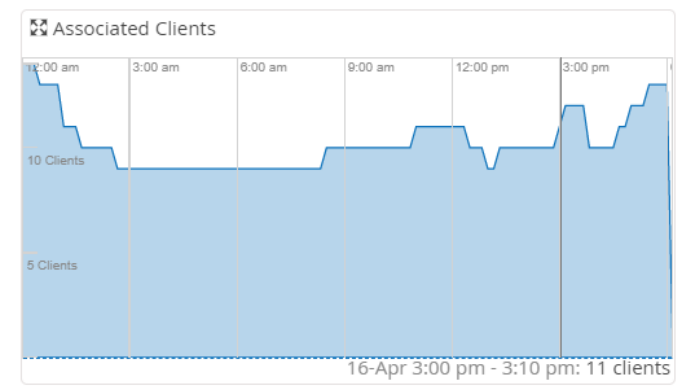
- Monitor
- Marvis™
- Clients
- Access Points
- Switches
- Gateways
- Location
- Analytics
- Network
- Organization



### Pre-connection



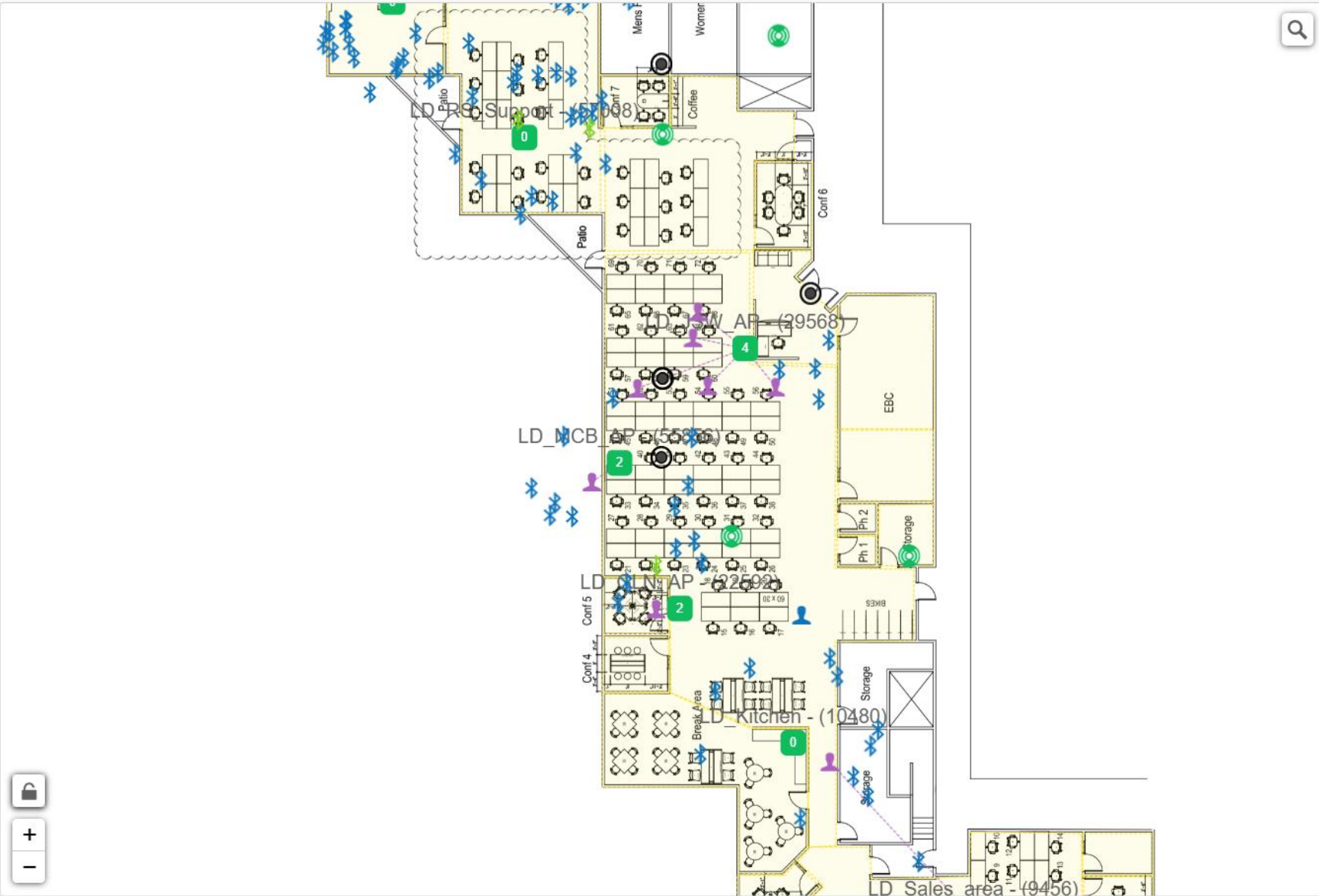
### Post-connection



< Live View : 01 - Office

18:14:00

- Ruler
- Validation Path
- Wayfinding Paths
- Beacons and Zones
- Setup Floorplan



- Clients
- Assets
- APs
- Beacons
- Zones

160 Clients

Curious George	00000000-0000-0...
Jane Doe	00000000-0000-0...
John Doe	00000000-0000-0...
Chrome	bc:17:b8:07:c4:b6
denali	50:32:37:ea:c3:c2
everest	50:32:37:e8:72:7e
hal	dc:a6:32:c7:e7:e6
iPhone	9e:89:31:67:ee:2a
kosciuszk	b8:27:eb:82:5b:ec
MacBook0467	f0:18:98:63:f8:83
mauna kea	b8:27:eb:c1:ef:bd
Mist-13s-Mini	50:32:37:e8:70:74
r2d2	dc:a6:32:c7:e8:97
rosie	b8:27:eb:b4:b4:36
00:25:df:23:0c:01	00:25:df:23:0c:01
5c:5b:35:0e:8a:f6	5c:5b:35:0e:8a:f6
5c:5b:35:3e:19:0d	5c:5b:35:3e:19:0d
5c:5b:35:3e:b7:f5	5c:5b:35:3e:b7:f5
5c:5b:35:50:0a:26	5c:5b:35:50:0a:26
Apple	e0:89:7e:83:8f:92
Apple AirLocate	84:ee:03:3e:a9:75
Axon-X55020539	12:20:13:03:33:05
d5:ea:02:9a:cd:0a	d5:ea:02:9a:cd:0a
Desk 2092	da:13:9e:0f:a4:f6
Desk 2646	d9:cc:e0:bc:0a:...



**LIVE DEMO** FRI, 06:14 PM

### Switches: ld-cup-idf-d-sw1\_1

Utilities Save Cancel

All 0 1

**METRICS**

- 100% Switch-AP Affinity
- 100% PoE Compliance
- 100% VLANs
- 100% Version Compliance
- 100% Switch Uptime

**PROPERTIES**

**INSIGHTS** [Switch insights](#)

MAC ADDRESS: dd:dd:49:91:65:2d

MODEL: EK2300-48P

VERSION: 20.2R2-S2.6

SWITCH PHOTOS:

**STATISTICS**

STATUS: Connected

IP ADDRESS: 192.168.8.143

MIST APS: 2

WIRELESS CLIENTS: 2

TOTAL POWER DRAW: 33.80 W

UPTIME: 22d 9h

LAST SEEN: 06:13:47 PM, Apr 16

Switch Configuration

Configuration is Managed by Mist Disable Configuration Management

**INFO**

Name: ld-cup-idf-d-sw1\_1

letters, numbers, \_ or -

**PORT CONFIGURATION**

Port Profile Assignment: Site, Template, or System defined

**RADIUS**

Override Site/Template Settings

Authentication Servers: 10.220.220.200: 1812

**LIVE DEMO** FRI, 06:16 PM

Name: LD\_Kitchen

IP Address:
 

- DHCP
- Static
- VLAN ID: (1 - 4094)
- MTU: default

Labels: \_GOOD, ✕ +

Site Assignment: Live Demo

Device Profile: None

Notes: Add Notes

WLANs:

SSID	Band	Source
Live_demo_o...	2.4/5	Template: Liv...
Guest_Live_D...	5	Template: Liv...
Live_demo_d...	5	Template: Liv...
Mist_LoT	5	Template: Liv...
Live-Demo-M...	5	Template: Liv...
Live_demo_R...	2.4/5	Template: Liv...
LD-CBRS-G	5	Template: LD...

Ethernet Properties:
 

- PoE Passthrough:  Enable  Disable
- Ethernet Port Configurations:  Enable  Disable
- Eth0: Full duplex, 1000 mbps, 0 (errors), 2.4 GB (bytes), 3.8 M (packets)
- Eth1:  Enable interface  Disable interface
- Module:  Enable interface  Disable interface

2.4 GHz Configuration:
 

- Enable:  Use site setting
- Channel Width:  Use site setting
- Channel:  Use site setting
- Power:  Use site setting

2.4 GHz Statistics:
 

- No. Clients: 0
- Channel Width: 20
- Channel: 6
- Power: 5 dBm
- BSSID: 5c:5b:35:00:41:a0 - af
- Total Bytes: 97.9 MB
- RX Bytes: 81 MB
- TX Bytes: 16.9 MB
- Total Packets: 123.6 k
- RX Packets: 74.8 k
- TX Packets: 48.8 k

5 GHz Configuration:
 

- Enable:  Use site setting
- Channel Width:  Use site setting
- Channel:  Use site setting
- Power:  Use site setting

5 GHz Statistics:
 

- No. Clients: 0
- Channel Width: 40

USB:  Configure USB port

BLE Settings:
 

- BLE Beacon Power

**LIVE DEMO** FRI, 06:17 PM

12:00 AM Apr 16 - 06:16 PM Apr 16 (drag an area of interest to Zoom In)

5:10 am - 5:20 am, Apr 16: 0 B, 0 Port errors

Application	Bytes	Percentage	Count	Size	Size
UNSPECIFIED-ENCRYPTED	149.8 MB	4%	6	1.9 MB	147.9 MB
RADIUS	18.1 MB	1%	11	8.7 MB	9.3 MB
SNAPCHAT	17.9 MB	1%	1	17.7 MB	231.3 kB
GOOGLE-GEN	15.8 MB	1%	4	7.5 MB	8.4 MB
ICLOUD	15.1 MB	1%	3	9.3 MB	5.8 MB
DNS	12.4 MB	1%	50	9 MB	3.4 MB
NIKE	10.9 MB	1%	1	8.4 MB	2.6 MB
SSH	6.4 MB	1%	2	3.1 MB	3.3 MB

**Gateway Charts** ge-0/0/0

Control Plane CPU

16-Apr 5:10 am - 5:20 am: 18.0% Max, 17.8% Avg

Data Plane CPU

16-Apr 5:10 am - 5:20 am: 11.0% Max, 9.0% Avg

**LIVE DEMO** FRI, 06:18 PM

### Occupancy Analytics

site: Live Demo 6:18:43 PM (updates every 3 minutes)

Zone Occupancy Client Density

**Entire Floorplan**

- 10% 01 - Office

**Potential Noncompliant Zones**

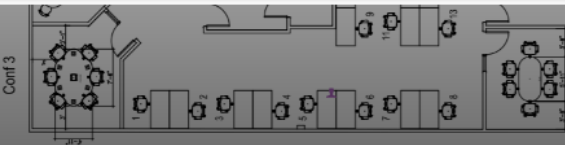
- 100% CSQA
- 50% NAP


**Compliant Zones**

- 33% Inside Sales
- 30% Engineering / Leadership / UI / Accounting / Marketing
- 25% Tron
- 9% Hardware / Firmware / Location
- 0% Quiet Room
- 0% Phone Room 1
- 0% KITT
- 0% Deckard
- 0% Alexa
- 0% Lab
- 0% Reception/Lobby/Entrance
- 0% Marvis
- 0% Terminator
- 0% Break Area / Kitchen
- 0% DevOps

– SO WHAT!!

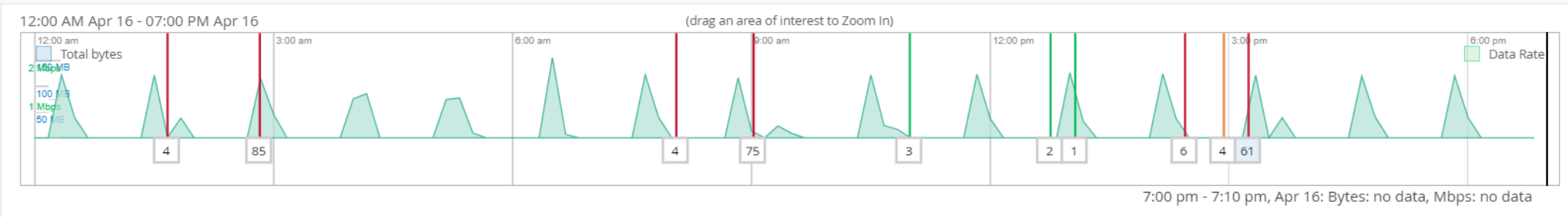
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# denali

Live Demo · 01 - Office · LD\_Sales\_area



### Client Events 245 Total 43 Good 63 Neutral 139 Bad

Event Type	Location	Time	AP	Client IP Address	Server IP Address	BSSID	RSSI	Protocol	VLAN	Band	DNS Servers	Last Association	DHCP Latency	SSID	Number of Streams	Subnet	Gateways	Lease Time
Failure	LD_Sales_area	03:34:24.123 PM, Apr 16	LD_Sales_area	192.168.2.252	192.168.2.1	5c:5b:35:54:59:b5	-45 dBm	802.11ac	1	5 GHz	8.8.8.8, 8.8.4.4	1.9 sec ago	157.21 msecs	Live_demo_do_not_remove	3	192.168.2.0/24	192.168.2.1	1 day 0 hr 0 sec
Disassociation	LD_Sales_area	03:34:03.129 PM, Apr 16																
Authorization Failure	LD_Sales_area	03:33:59.352 PM, Apr 16																
Authorization Failure	LD_Sales_area	03:33:51.685 PM, Apr 16																
Authorization Failure	LD_Sales_area	03:33:47.977 PM, Apr 16																
Authorization Failure	LD_Sales_area	03:33:41.344 PM, Apr 16																

### Applications 4

Application Name	Count



12:00 AM Apr 16 - 07:00 PM Apr 16

(drag an area of interest to Zoom In)



7:00 pm - 7:10 pm, Apr 16: Bytes: no data, Mbps: no data

### Client

CS Personal SaaS // cloudshark.org

Guest upload is turned off Log In

https://ap-logs-production.s3.amazonaws.com/ap-es/ap/5c-5b-35-50-03-cf/dt%3D2021-04-16/4d18ef85-9eb8-11eb-96d2-dbe8e772315... 26.8 kb · 123 packets · more info

Start typing a Display Filter

Apply Clear Filters Analysis Tools Graphs Export Profile

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	Apple_ea:c3:c2	Mist_54:59:b5	802.11	87	Authentication, SN=484, FN=0, Flags=.....C
2	0.000158000	Mist_54:59:b5	Apple_ea:c3:c2	802.11	73	Authentication, SN=0, FN=0, Flags=.....
3	0.007123000	Apple_ea:c3:c2	Mist_54:59:b5	802.11	205	Association Request, SN=485, FN=0, Flags=....R...C, SSID=Live_demo_do_not_remove
4	0.007262000	Mist_54:59:b5	Apple_ea:c3:c2	802.11	332	Association Response, SN=0, FN=0, Flags=.....
5	0.010571000	Mist_54:59:b5	Apple_ea:c3:c2	EAPOL	176	Key (Message 1 of 4)
6	0.016160000	Apple_ea:c3:c2	Mist_54:59:b5	EAPOL	171	Key[Malformed Packet]
7	0.764626000	Raspberr_c7:e7:a6	Broadcast	ARP	111	Who has 8.8.8.8? Tell 169.254.92.214
8	1.013515000	Mist_54:59:b5	Apple_ea:c3:c2	EAPOL	176	Key (Message 1 of 4)
9	1.014467000	Apple_ea:c3:c2	Mist_54:59:b5	EAPOL	171	Key[Malformed Packet]
10	1.832445000	192.168.2.24	255.255.255.255	UDP	140	55812 → 5555 Len=29
11	2.015327000	Mist_54:59:b5	Apple_ea:c3:c2	EAPOL	176	Key (Message 1 of 4)
12	2.016197000	Apple_ea:c3:c2	Mist_54:59:b5	EAPOL	171	Key[Malformed Packet]
13	3.017295000	Mist_54:59:b5	Apple_ea:c3:c2	EAPOL	176	Key (Message 1 of 4)
14	3.019046000	Apple_ea:c3:c2	Mist_54:59:b5	802.11	73	Deauthentication, SN=486, FN=0, Flags=.....C
15	3.254003000	Mist_54:59:b5	Apple_ea:c3:c2	802.11	417	Probe Response, SN=0, FN=0, Flags=....., BI=100, SSID=Live_demo_do_not_remove[Malformed Packet]
16	3.276019000	Mist_54:59:b5	Apple_ea:c3:c2	802.11	417	Probe Response, SN=0, FN=0, Flags=....., BI=100, SSID=Live_demo_do_not_remove[Malformed Packet]

Frame 1: 87 bytes on wire (696 bits), 87 bytes captured (696 bits) on interface 0  
 Radiotap Header v0, Length 43  
 802.11 radio information  
 IEEE 802.11 Authentication, Flags: .....C  
 IEEE 802.11 wireless LAN

```

0000 00 00 2b 00 0f 08 00 c0 01 00 00 af ca e9 de  ..+.o.....
0010 90 df 7d 3c 00 00 00 00 12 30 64 14 40 01 d5 a3  ..}<.....0d@...
0020 00 14 00 10 18 00 03 00 02 00 00 b0 00 2c 00 5c  .....\\
0030 5b 35 54 59 b5 50 32 37 ea c3 c2 5c 5b 35 54 59  [5TY.P27...[5TY
0040 b5 40 1e 00 00 01 00 00 00 7f 08 04 00 00 00 00  ..@.....
0050 00 00 40 bb 4e b4 04  ..@.N..
  
```

### Applic

App name

CNN

Yahoo

Amazon

4d18ef85-9eb8-1....pcap

Alle anzeigen

Unknown

84.3 MB

4%

1

82.3 MB

TX Bytes

16.4 MB

7.4 MB

7 MB

2 MB



- Monitor
- Marvis™
- Clients
- Access Points
- Switches
- Gateways
- Location
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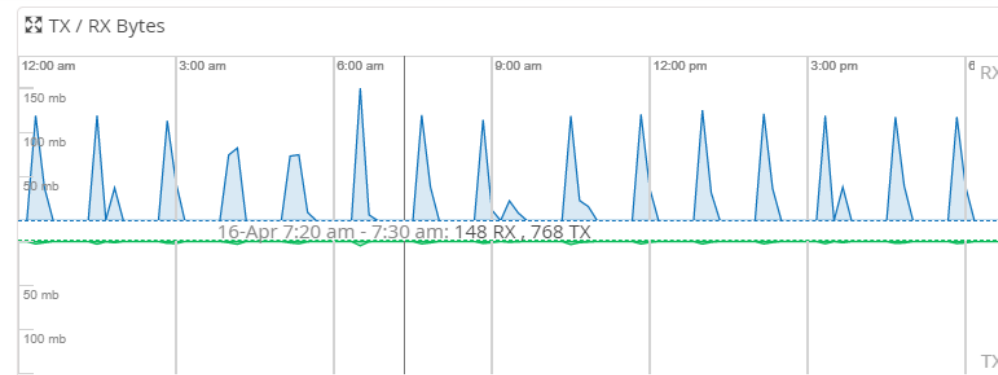
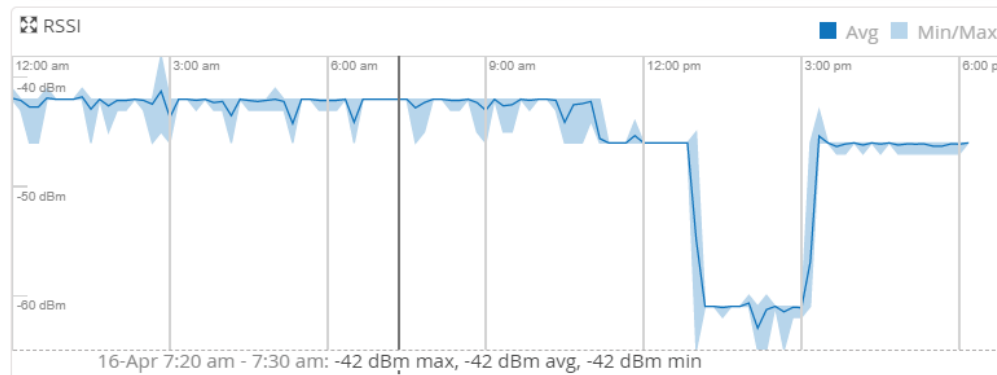
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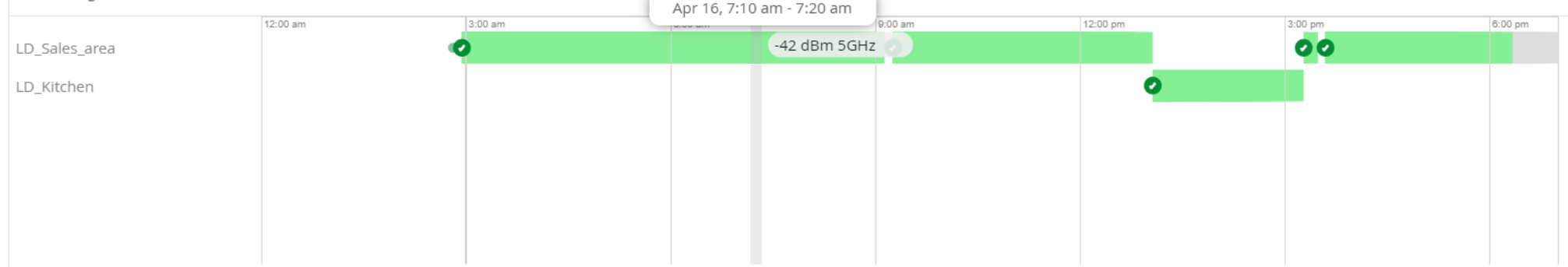


7:20 am - 7:30 am, Apr 16: 916, 0.00 Mbps

### Loss Connection



### Roaming



### Current Values

These values are not affected by the Time Range selection





TROUBLESHOOT "Curtis-iPhone" DURING "Last 7 Days"

How would you rate my response? ☆☆☆☆☆ [TELL ME MORE](#)

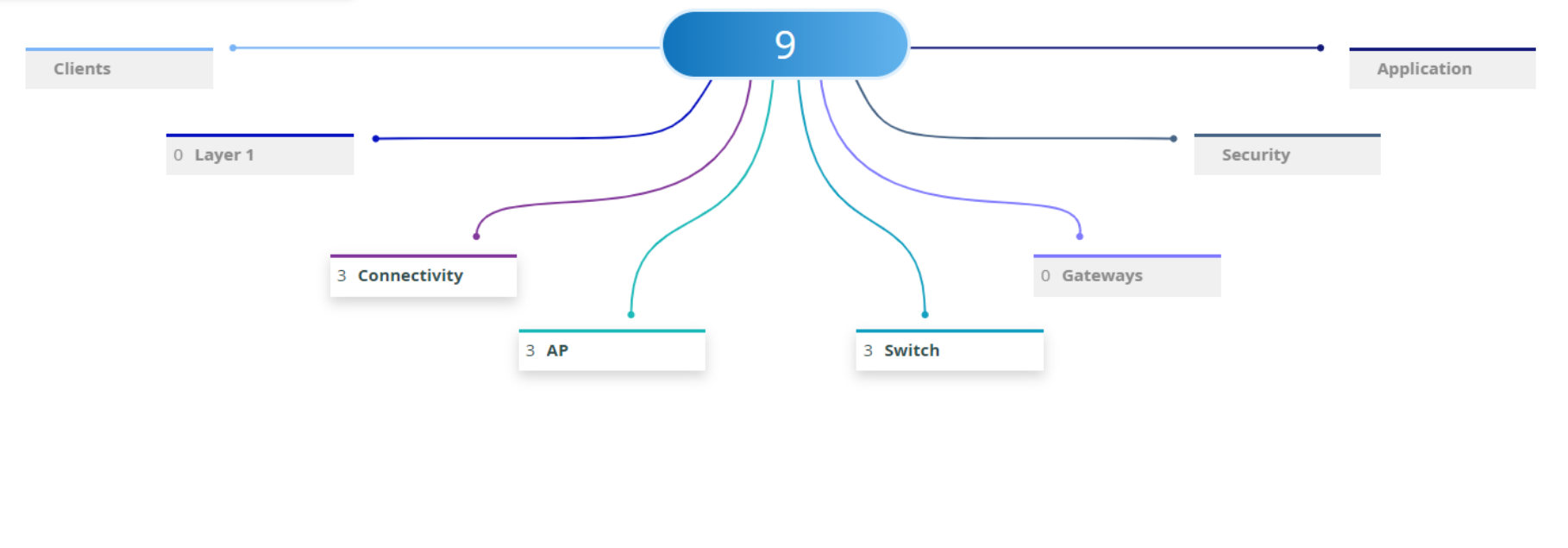
- Monitor  
Monitor the status of your Organization
- Marvis™  
View Security and Anomalies alerts

- Clients
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- Organization

Ask a Question

### ACTIONS

Org Sites



### LATEST UPDATES

Filter by action type

Today

16.4.2021, 18:11:06

**AI VALIDATED**  
Offline  
Site: Live Demo  
AP: LD\_Test  
Reason: No Ethernet Link.

Yesterday

Last 7 Days

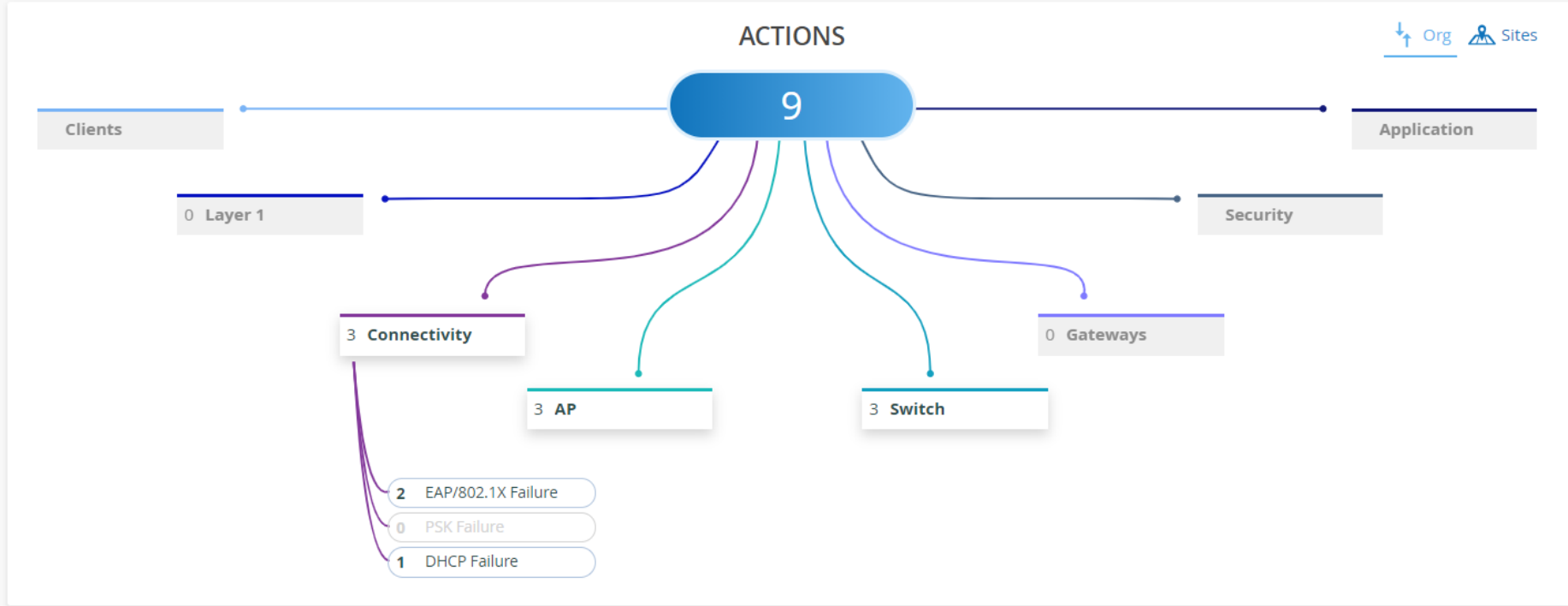
11.4.2021, 14:43:43

**AI VALIDATED**  
Missing VLAN  
Site: Live Demo  
Switch: 23 Switches. [View More](#)  
Reason: 0 APs missing VLANs

11.4.2021, 12:53:35

**REOCCURRING ISSUE**  
Ethernet Error  
Site: Live Demo  
Switch: Juniper48MP-NearPrinter  
Port: 525  
AP: LD\_Kitchen  
Reason: Unsupported Detail

## MARVIS



### LATEST UPDATES

Filter by action type

Today

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Last 7 Days

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## MARVIS



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# MARVIS

- Monitor
- Marvis™
- Clients
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  - Ethernet Error
  - Site: Live Demo
  - Switch: Juniper48MP-NearPrinter
  - Port: 525
  - AP: LD\_Kitchen
  - Reason: Unsupported Detail

## BAD CABLE

### RECOMMENDED ACTION



#### BAD CABLE

These devices have a bad cable connected to one or more ports. Please test & replace the cable.

<input type="checkbox"/>	Site	Switch	Details	Date
<input type="checkbox"/>	Live Demo	Juniper48MP-NearPrinter	Port ge-0/0/10	Apr 11, 2021 02:12 AM

STATUS

CABLE TEST

## ACTIONS

[Org](#) [Sites](#)

LATEST UPDATES

## Missing VLAN Details

2 impacted Access Points at **Live Demo**.

CORP-C-SW-1.mist.local

5c:5b:35:0e:02:b7

VLANs **100, 200, 300** missing on port **Gi1/0/21**.

5c:5b:35:3e:e0:06

VLANs **100, 200, 300** missing on port **Gi1/0/13**.

3 Connectivity

0 Gateways

The below switches have 1 or more VLANs missing on the ports where Mist APs are connected to. Please add the VLANs to the respective switch ports.

<input type="checkbox"/>	Site	Switch	Details	Date
<input type="checkbox"/>	Live Demo	CORP-C-SW-1.mist.local	2 APs missing VLANs. <a href="#">View More</a>	Apr 11, 2021 04:44 AM

STATUS

AP: LD\_Kitchen  
Reason: Unsupported Detail

# 9 Switches

site Live Demo ▾

[List](#)
[Topology](#)
[Location](#)

[Inventory](#)
[Claim Switches](#)

9 Switches    10 Mist APs    13 Wired Clients    11 Wireless Clients    165 W Total Allocated AP Power

100% Switch-AP Affinity    100% PoE Compliance    100% VLANs    -- Version Compliance    100% Switch Uptime

<input type="checkbox"/>	Name	IP Address	Mist APs	MAC Address	Wireless Clients	Model	Version	Total Power Draw	Description	Managed	Status
<input type="checkbox"/>	ex4300-LD-TEST	10.2.15.173	0	f4:b5:2f:4c:72:40	0	EX4300-48T	19.3R1.8	0.00 W	Juniper EX4300 Series		Reboot to use
<input type="checkbox"/>	ld-cup-idf-a-sw1	--	0	fc:33:42:e9:3c:ef	0	EX2300-C-12P	--	0.00 W	Juniper EX2300 Series		Disconnected
<input type="checkbox"/>	ld-cup-idf-a-sw2	192.168.8.210	2	18:2a:d3:56:2c:62	3	EX3400-48P	19.3R1.8	33.00 W	Juniper Networks, Inc. ex3400-48p Ethernet Switch, kernel JUNOS 19.3R1.8, Build date: 2019-09-20 08:00:03 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.		Connected
<input type="checkbox"/>	ld-cup-idf-b-sw1	192.168.200.15	3	18:2a:d3:4a:3d:69	4	EX3400-48P	18.2R3-S7.4	50.20 W	Juniper Networks, Inc. kernel JUNOS 18.2R3-S7.4, Build date: 2018-09-20 08:00:03 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.		
<input type="checkbox"/>	ld-cup-idf-c-sw1	10.2.17.29	3	18:2a:d3:4a:5e:a2	3	EX3400-48P	20.3R1-S1.1	45.40 W	Juniper Networks, Inc. kernel JUNOS 20.3R1-S1.1, Build date: 2020-09-20 08:00:03 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.		
<input type="checkbox"/>	ld-cup-idf-d-desktop	192.168.2.61	0	3c:8c:93:94:74:dc	0	EX2300-C-12P	18.4R2.7	2.20 W	Juniper EX2300 Series		
<input type="checkbox"/>	ld-cup-idf-d-sw1_1	192.168.8.143	2, 0	d0:dd:49:91:65:2d	2	EX2300-48P	20.2R2-S2.6	33.80 W	Juniper Networks, Inc. kernel JUNOS 20.2R2-S2.6, Build date: 2020-09-20 08:00:03 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.		

✕

Hello Karl-Heinz, I'm Marvis your virtual network assistant. Here are some options to get started. Please select one and I can then help answer your question better

✕ Message

Choose an option

[Troubleshoot device](#)
[Troubleshoot site](#)
[Find my device](#)

[List my device](#)
[Documentation](#)
[Marvis Actions](#)

**Mist**

- Monitor
- Marvis™
- Clients
- Access Points
- Switches**
- Gateways
- Location
- Analytics
- Network
- Organization

**LIVE DEMO**

9 **Switches** site Live Demo

List Topology Location

Search

Inventory Claim Switches

9 Switches | 10 Mist APs | 13 Wired Clients | 11 Wireless Clients | 165 W Total Allocated AP Power

100% Switch-AP Affinity | 100% PoE Compliance | 100% VLANs | -- Version Compliance | 100% Switch

<input type="checkbox"/>	Name	IP Address	Mist APs	MAC Address	Wireless Clients	Model	Version	Total Power Draw	Description
<input type="checkbox"/>	ex4300-LD-TEST	10.2.15.173	0	f4:b5:2f:4c:72:40	0	EX4300-48T	19.3R1.8	0.00 W	Juniper EX4300 Series
<input type="checkbox"/>	ld-cup-idf-a-sw1	--	0	fc:33:42:e9:3c:ef	0	EX2300-C-12P	--	0.00 W	Juniper EX2300 Series
<input type="checkbox"/>	ld-cup-idf-a-sw2	192.168.8.210	2	18:2a:d3:56:2c:62	3	EX3400-48P	19.3R1.8	33.00 W	kernel JUNOS 19.3R1.8 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.
<input type="checkbox"/>	ld-cup-idf-b-sw1	192.168.200.15	3	18:2a:d3:4a:3d:69	4	EX3400-48P	18.2R3-S7.4	50.20 W	kernel JUNOS 18.2R3-S7.4 01:05:14 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.
<input type="checkbox"/>	ld-cup-idf-c-sw1	10.2.17.29	3	18:2a:d3:4a:5e:a2	3	EX3400-48P	20.3R1-S1.1	45.40 W	kernel JUNOS 20.3R1-S1.1 21:29:57 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.
<input type="checkbox"/>	ld-cup-idf-d-desktop	192.168.2.61	0	3c:8c:93:94:74:dc	0	EX2300-C-12P	18.4R2.7	2.20 W	Juniper EX2300 Series
<input type="checkbox"/>	ld-cup-idf-d-sw1_1	192.168.8.143	2, 0	d0:dd:49:91:65:2d	2	EX2300-48P	20.2R2-S2.6	33.80 W	kernel JUNOS 20.2R2-S2.6 13:53:38 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.

**MARVIS**

https://manage.mist.com/admin/vnadocs...

network issues?

Here are the top matches I found. Please select one to see troubleshooting details.

- denali**  
Client Mac: 50:32:37:ea:c3:c2 IP: 192.168.2.252 Site: Live Demo
- iPhone**  
Client Mac: 9e:89:31:67:ee:2a IP: 192.168.2.100 Site: Live Demo
- r2d2**  
Client Mac: dca6:32:c7:e8:97 IP: 192.168.2.54 Site: Live Demo
- Intel Corporate**  
Client Mac: bc:17:b8:07:c4:b6 IP: 192.168.2.101 Site: Live Demo
- Unknown**  
Client Mac: 30:30:20:30:30:20 IP: None Site: Live Demo

If you cannot find the device in the list, Can you tell me the site name?

Troubleshoot site

+ Message



## 9 Switches

site Live Demo

List Topology Location

Search

Inventory Claim Switches

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100% Switch-AP Affinity    100% PoE Compliance    100% VLANs    -- Version Compliance    100% Switch

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<input type="checkbox"/>	ex4300-LD-TEST	10.2.15.173	0	f4:b5:2f:4c:72:40	0	EX4300-48T	19.3R1.8	0.00 W	Juniper EX4300 Series
<input type="checkbox"/>	ld-cup-idf-a-sw1	--	0	fc:33:42:e9:3c:ef	0	EX2300-C-12P	--	0.00 W	Juniper EX2300 Series
<input type="checkbox"/>	ld-cup-idf-a-sw2	192.168.8.210	2	18:2a:d3:56:2c:62	3	EX3400-48P	19.3R1.8	33.00 W	kernel JUNOS 19.3R1.8 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.
<input type="checkbox"/>	ld-cup-idf-b-sw1	192.168.200.15	3	18:2a:d3:4a:3d:69	4	EX3400-48P	18.2R3-S7.4	50.20 W	kernel JUNOS 18.2R3-S7.4 01:05:14 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.
<input type="checkbox"/>	ld-cup-idf-c-sw1	10.2.17.29	3	18:2a:d3:4a:5e:a2	3	EX3400-48P	20.3R1-S1.1	45.40 W	kernel JUNOS 20.3R1-S1.1 21:29:57 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.
<input type="checkbox"/>	ld-cup-idf-d-desktop	192.168.2.61	0	3c:8c:93:94:74:dc	0	EX2300-C-12P	18.4R2.7	2.20 W	Juniper EX2300 Series
<input type="checkbox"/>	ld-cup-idf-d-sw1_1	192.168.8.143	2, 0	d0:dd:49:91:65:2d	2	EX2300-48P	20.2R2-S2.6	33.80 W	kernel JUNOS 20.2R2-S2.6 13:53:38 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.

MARVIS

Mist Site

If you cannot find the site in the list, Can you tell me the site name?

Troubleshoot site Live Demo

Checking Live Demo. Here is what I found:

**Slow Association** →

Clients in the site were slow due to NoneNone.

**Limited Capacity** →

It was due to WIFI interference.

please check r2d2

Checking r2d2. Here is what I found:

**Limited Capacity** →

It was due to wireless interference.

+ Message

## 9 Switches

site Live Demo

List Topology Location

Search

Inventory Claim Switches

9 Switches    10 Mist APs    13 Wired Clients    11 Wireless Clients    165 W Total Allocated AP Power

100% Switch-AP Affinity    100% PoE Compliance    100% VLANs    -- Version Compliance    100% Switch

<input type="checkbox"/>	Name	IP Address	Mist APs	MAC Address	Wireless Clients	Model	Version	Total Power Draw	Description
<input type="checkbox"/>	ex4300-LD-TEST	10.2.15.173	0	f4:b5:2f:4c:72:40	0	EX4300-48T	19.3R1.8	0.00 W	Juniper EX4300 Series
<input type="checkbox"/>	ld-cup-idf-a-sw1	--	0	fc:33:42:e9:3c:ef	0	EX2300-C-12P	--	0.00 W	Juniper EX2300 Series
<input type="checkbox"/>	ld-cup-idf-a-sw2	192.168.8.210	2	18:2a:d3:56:2c:62	3	EX3400-48P	19.3R1.8	33.00 W	kernel JUNOS 19.3R1.8 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.
<input type="checkbox"/>	ld-cup-idf-b-sw1	192.168.200.15	3	18:2a:d3:4a:3d:69	4	EX3400-48P	18.2R3-S7.4	50.20 W	kernel JUNOS 18.2R3-S7.4 01:05:14 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.
<input type="checkbox"/>	ld-cup-idf-c-sw1	10.2.17.29	3	18:2a:d3:4a:5e:a2	3	EX3400-48P	20.3R1-S1.1	45.40 W	kernel JUNOS 20.3R1-S1.1 21:29:57 UTC Copyright (c) 1996-2021 Juniper Networks, Inc.
<input type="checkbox"/>	ld-cup-idf-d-desktop	192.168.2.61	0	3c:8c:93:94:74:dc	0	EX2300-C-12P	18.4R2.7	2.20 W	Juniper EX2300 Series
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The client experienced limited RF capacity 21% of the time due to wireless interference. This problem is affecting a small number of clients, correlating most strongly with the Access Point LD\_JSW\_AP.

Additional information listed below:

- [Failure Timeline](#)
- [Client Insights](#)
- [Scope of Impact](#)   
show correlation information
- [Other minor issues](#)

Checking r2d2. Here is what I found:

+ Message

# Client-to-Cloud Automatisierung und Insights



## 128 TECHNOLOGY



### Marvis

Client

To cloud



Wi-Fi Assurance



Wired Assurance

WAN Assurance, der Endanwender im Fokus



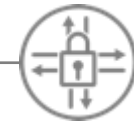
Why is my zoom call breaking up?



Wireless LAN



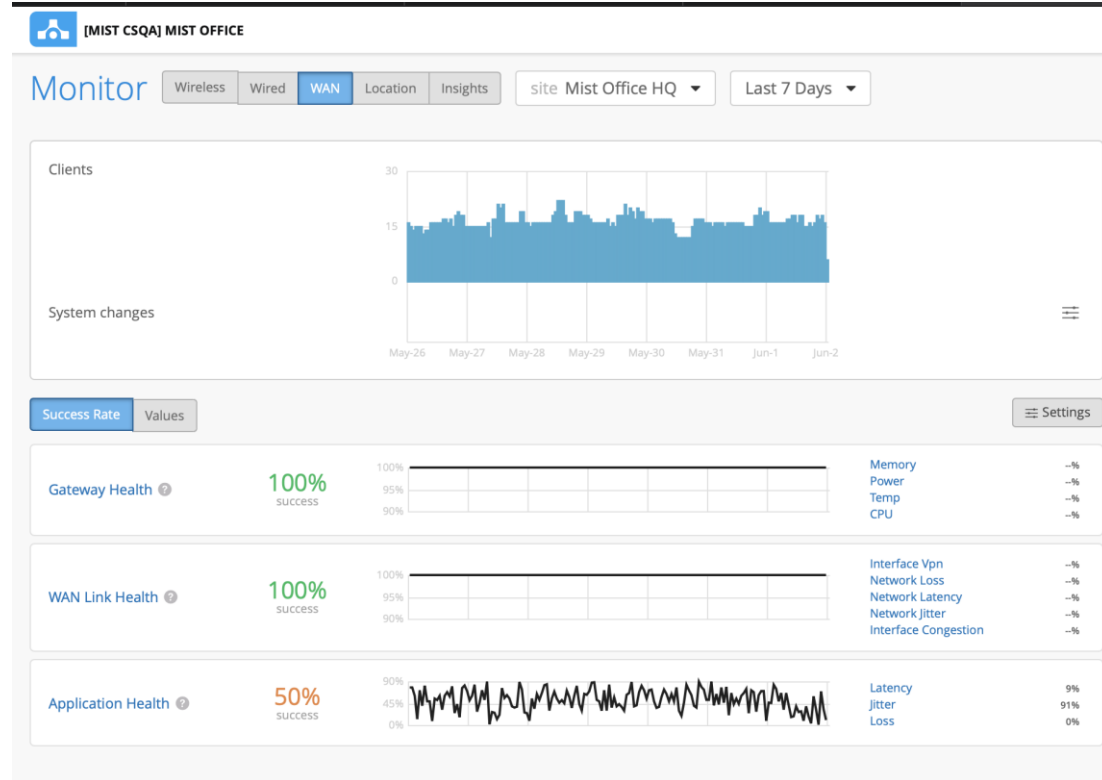
Wired LAN



SD-WAN Edge



# WAN Assurance – Application SLE



**Feature:** Application SLE to measure application health per user

**Function:**

- Probes for top X or the applications critical to the customer that provide data on latency, jitter and loss.
- Success/Failure is measured in user minutes for those applications of interest.

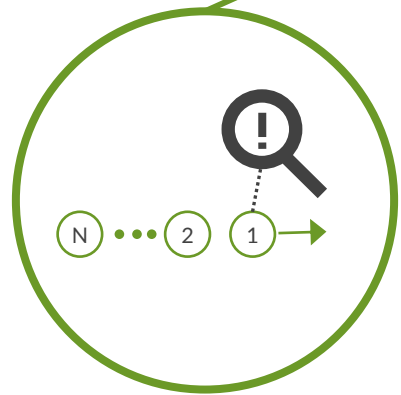
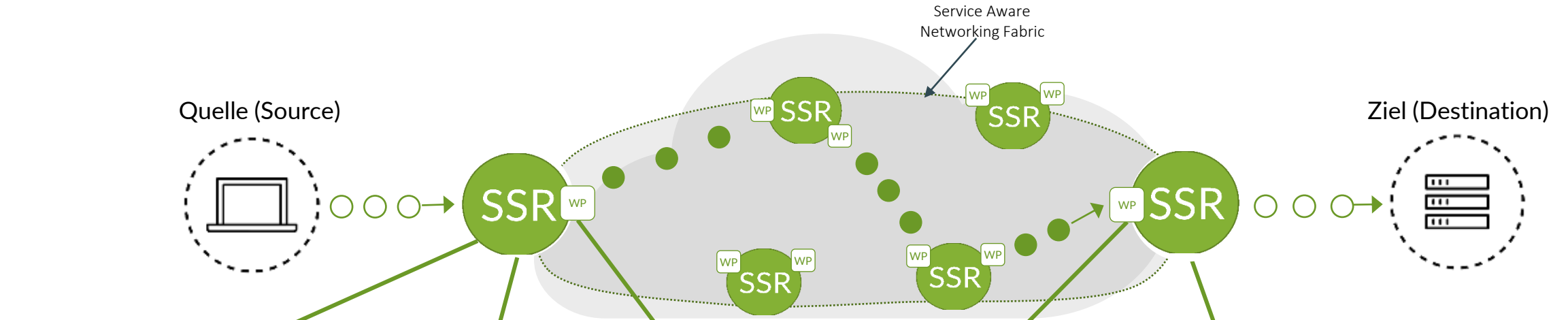
**Outcome:**

- WAN Assurance SLEs will clearly identify Link issues, App issues or Gateway issues with correlations
- These are the AI primitives that are consumed by Marvis to proactively identify root cause of the issue a) Application Server b) WAN link c) Gateway Health

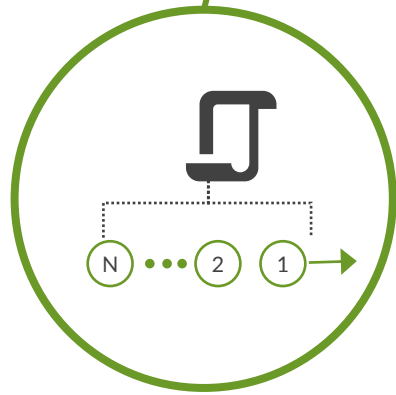


# KI-gesteuertes SD-WAN

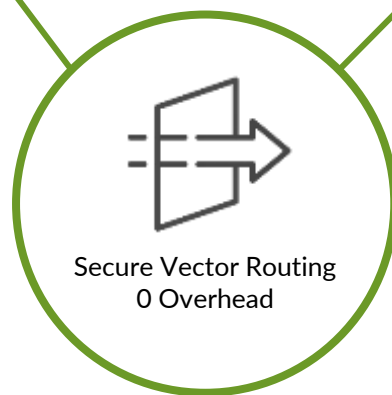
...oder was ist Secure Vector  
Routing



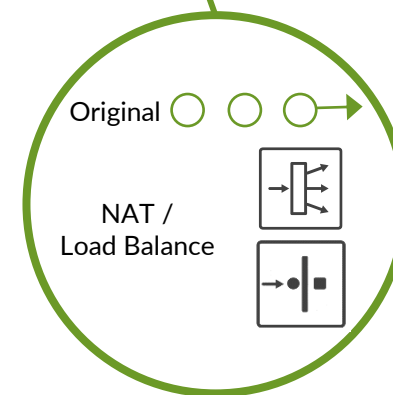
DETECT NEW SESSION



ASSOCIATE POLICIES



TUNNEL-FREE Hop-by-Hop



DELIVER SESSION TO DESTINATION



SERVICE POLICIES  
SECURITY POLICIES

# Session Smart Routing - Mehrwerte für den Kunden



## Vereinfachung

Keine (VPN-)Tunnel,  
keine Overlays.

Netzwerk richtet sich  
am Bedarf der  
Anwender aus



## Agilität

Schnellere  
Inbetriebnahme und  
Reaktionszeiten,  
dynamische  
Optimierung

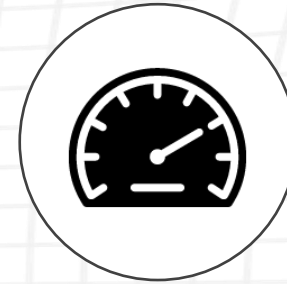
Hoher  
Automatisierungsgrad,  
keine Limits durch  
VPN-Tunnel



## Security

Integriertes Zero-  
Trust Model:  
Authentifizierung +  
Verschlüsselung +  
Segmentierung

Risikominimierung  
vor Sicherheitslecks



## Performance

Weniger Overhead,  
höhere Skalierung,  
dynamische  
Optimierung

Bis zu 60% kürzere  
Latenzzeiten

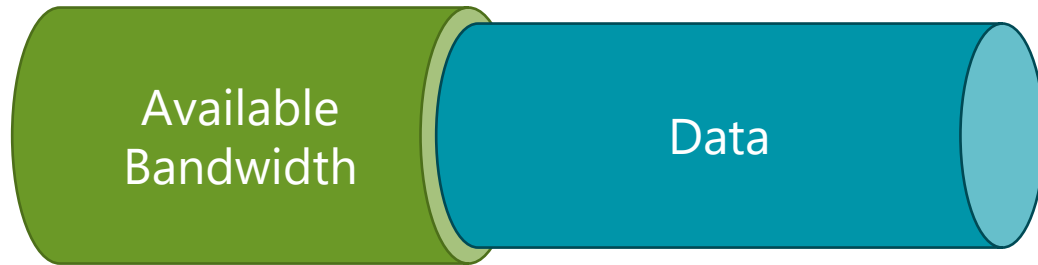


## Einsparungen

Reduzierung von  
Kosten für  
Bandbreite und  
Verbindungen um 30-  
50%

Bis zu 75% weniger  
Ausgaben für  
Infrastruktur

# Tunnel-frei mit Secure Vector Routing



- Recover 30%-50% overhead compared with old SD-WAN
- Improved encryption efficiency
- Optimized adjacency management – fine grained control
- Distributed Analytics

**30%**  
Bandwidth Reduction

Eliminates Backhaul

Multipath Optimization

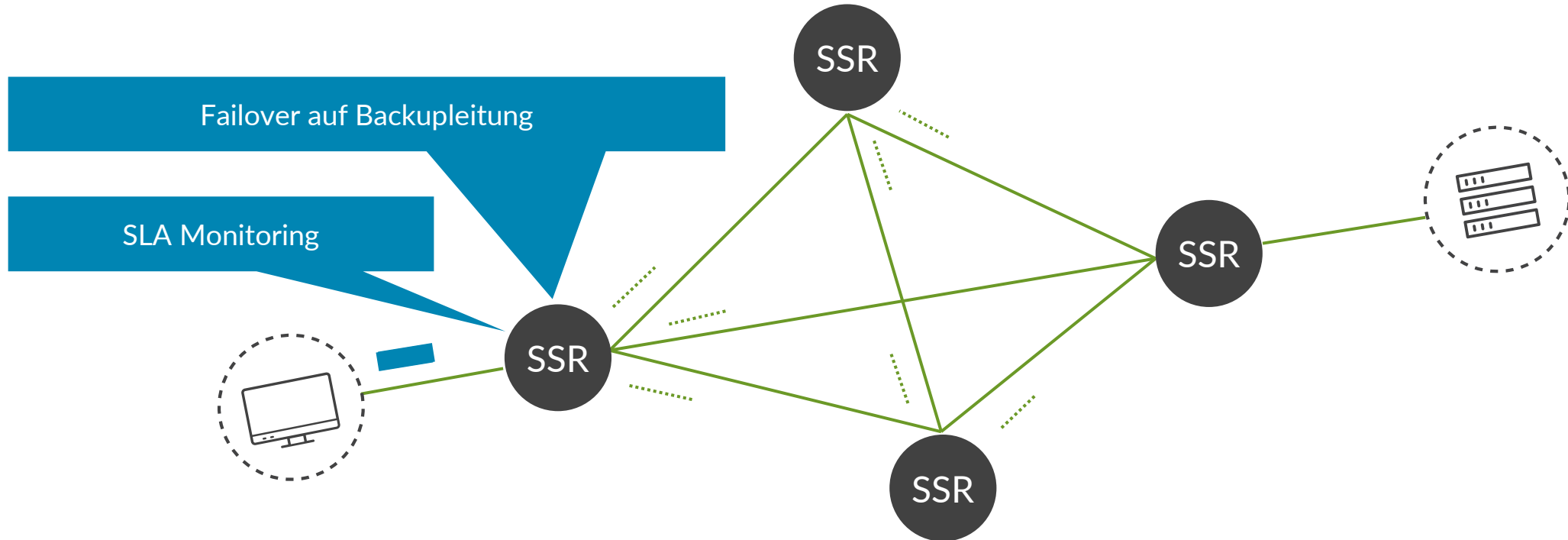
Reduced Infrastructure Costs

Scalability

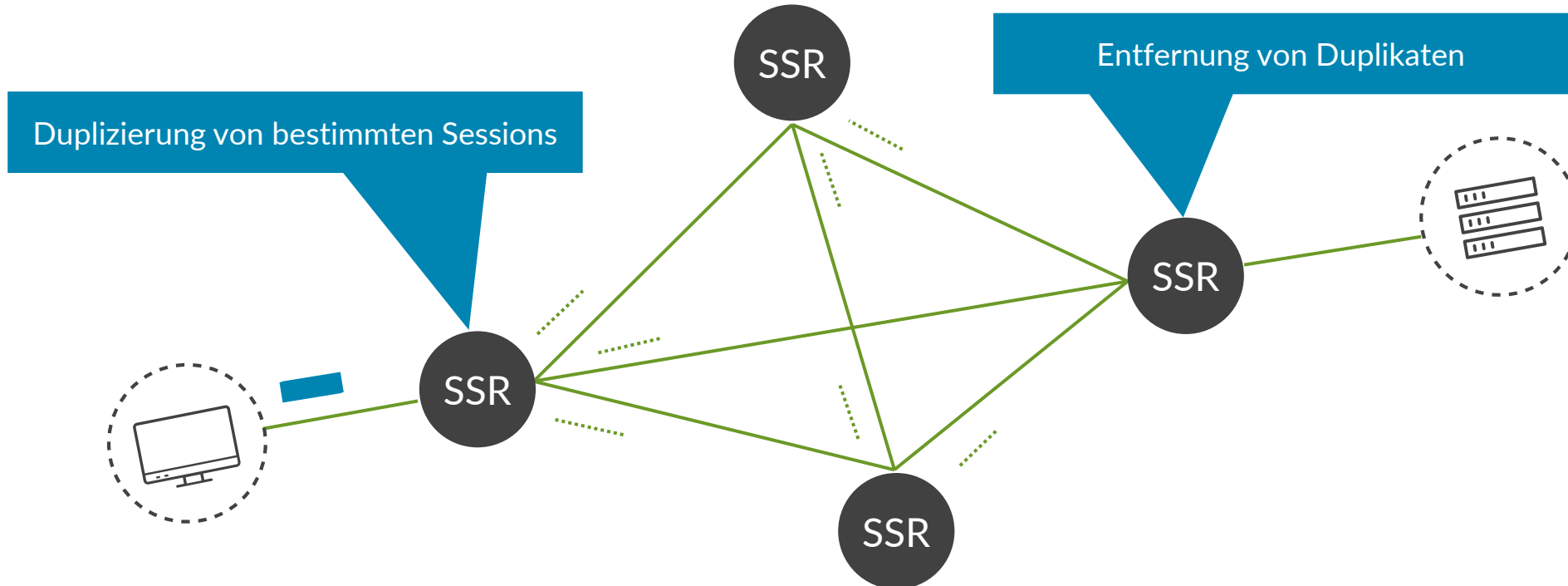
Tunnel-free Secure Vector Routing provides the most optimal fabric routing architecture for SD-WAN



# Migration von Sessions

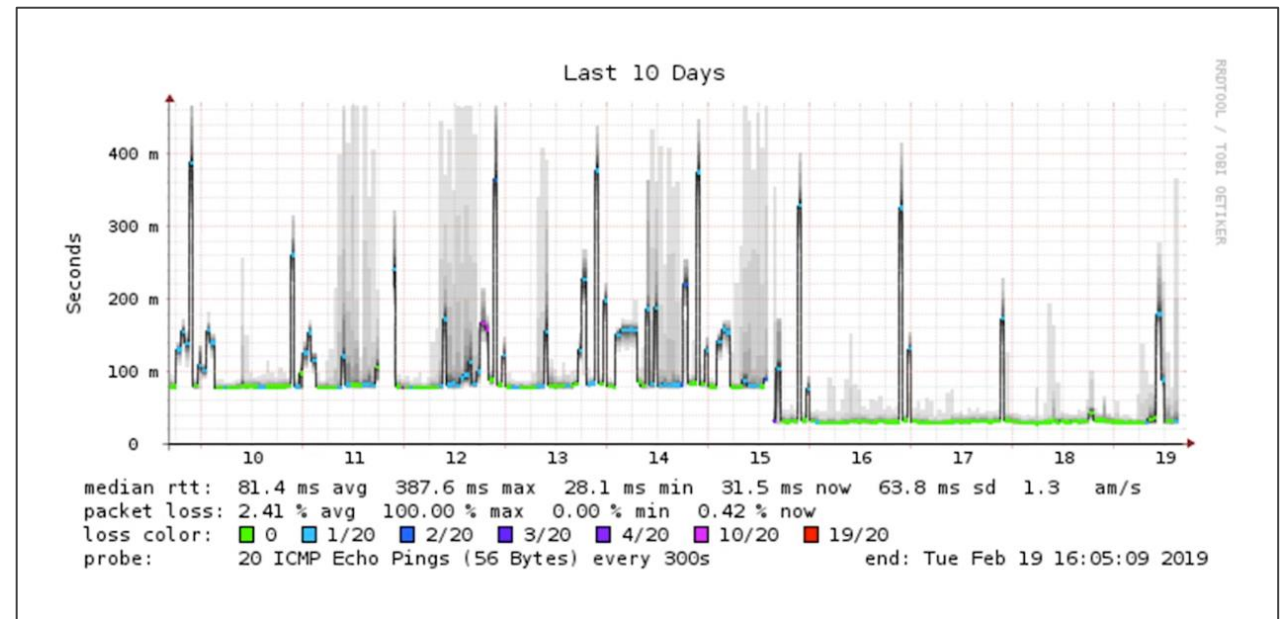


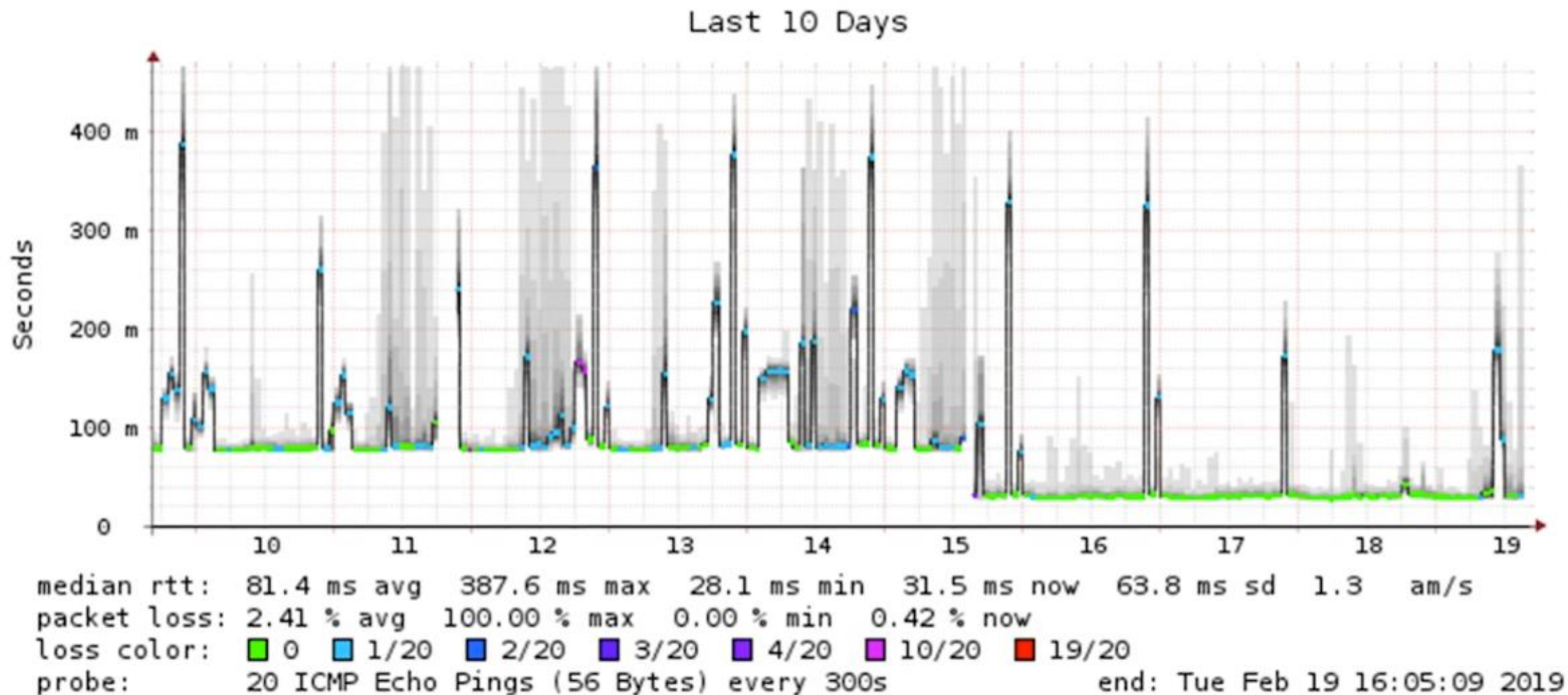
# Duplizierung von Sessions



# Case Study: Standortvernetzung

- Anbindung von Außenstandorten an Zentrale
- IPSEC-in-IPSEC Tunnel abgelöst
  - Deutlich weniger Ausfälle
- Qualität deutlich verbessert
  - Geringere Latenz
  - Signifikante Reduktion von Packetverlusten und Jitter
  - Erhöhung der MTU (Ablösung von IPSEC Tunneln)
  - 30% Bandbreitenersparnis





SSR SERIES FOR ENTERPRISE BUSINESS

# Secure, AI-driven SD-WAN

High performing | Scalable | Zero Trust Secure

- Instantaneous failover for voice, video, and critical apps
- Fast and seamless application performance
- Enhanced bandwidth utilization
- PCI Compliant
- IDS/IPS & URL Filtering
- Manage full-branch offerings under a single, multi-authority management console
- Tunnel-free architecture
- Real-time insight into user experience with WAN Assurance
- Immediate root cause discovery



SSR120



SSR130



SSR1000



Madrid Desktop



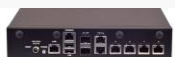
Madrid 1U



SR530



1515B



1515A



SR570



WAN Assurance

60%  
Latency Reduction

“With Juniper SSR we accomplished in 3 weeks what we were unable to do with MPLS.”

— Datacenter & Networking Platform Owner



A VISIONARY

SD-WAN Infrastructure

Gartner

2022  
MAGIC QUADRANT

# Use Case: Standortvernetzung

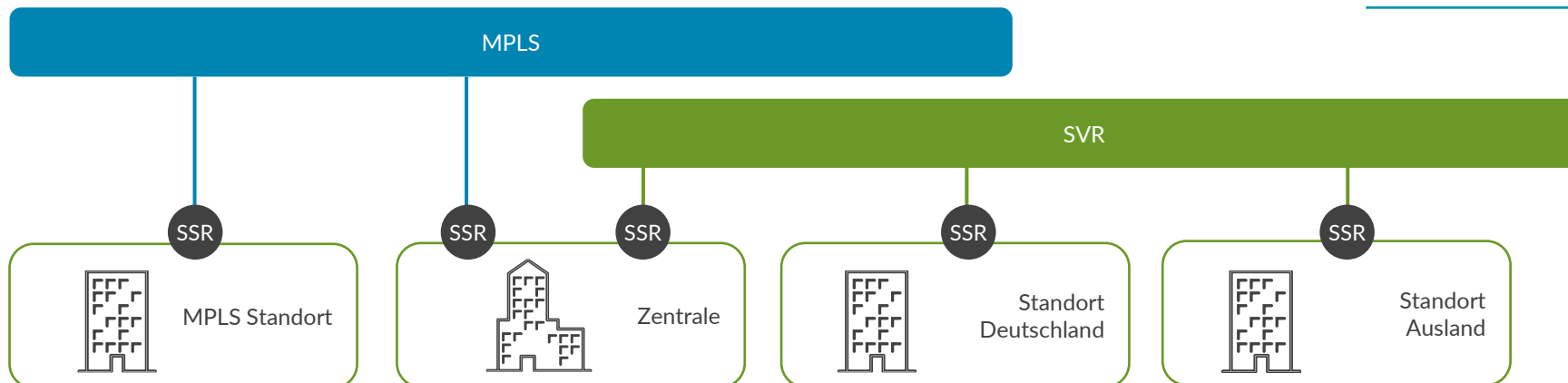
Vollständige MPLS Integration (z.B. BGP Routing)

Ergänzung und Ersatz von MPLS

- Providerunabhängigkeit

Integration von Auslandsstandorten

- Erschließung von Standorten außerhalb der MPLS Reichweite
- SVR-Standorte finden automatisch besten Weg ins MPLS Netz



## Herausforderungen

- Unvorhersehbare Qualität bei Breitband-Verbindungen
- Schlechte Verlässlichkeit von business-kritischen Applikationen
- Kostenintensive Infrastruktur

## Vorteile

- Integration von Standorten außerhalb des eigenen MPLS-Netzes
- Starke Verschlüsselung
- Hochverfügbarkeit
- Globales Management von Policies

## Unterschiede

- Tunnel-freie Architektur
- Standardisierte VNF Implementation
- Schnelles Failover
- Zero-touch deployment

# Marvis | Virtual Network Assistant (VNA)

Marvis  
Actions

Conversational  
AI interface

Delivers self-driving network

Automatic actions

Driver Assist to recommend actions

- Track upgrades
- Fix misconfigured ports/VLANs
- Identify bad cables
- Find L2 loops
- Identify device compromise and risk to the network

The screenshot displays the MARVIS interface with a central 'ACTIONS' hub containing 10 items: 5 Switch, 3 AP, 2 Authentication, DHCP, DNS, RF, Security, Clients, and 5 Missing VLAN (Low Power). Below this is a 'MISSING VLAN' section with a table of recommended actions:

ID	Info	Action	Date
MV-8	VLAN 248 is missing in 4 APs in 3 Switches at 2 Sites	Add VLAN 248 to the switches	Sep 23, 2019 04:50 PM
MV-1	VLAN 100 is missing in 2 APs in 1 Switch at 1 Site	Add VLAN 100 to the switch	Sep 27, 2019 02:34 AM
MV-12	VLAN 200 is missing in 2 APs in 2 Switches at 1 Site	Add VLAN 200 to the switches	Sep 30, 2019 01:35 AM

The 'LATEST UPDATES' sidebar on the right shows three items: a 'RESOLVED ACTION' (AP Health (ID: HC-11)), an 'AI VALIDATED' item (Missing VLAN (ID: MV-9)), and a 'REOCCURRING ISSUE' (Ethernet Error (ID: EE-10)).

# Marvis | Virtual Network Assistant (VNA)

Marvis Actions

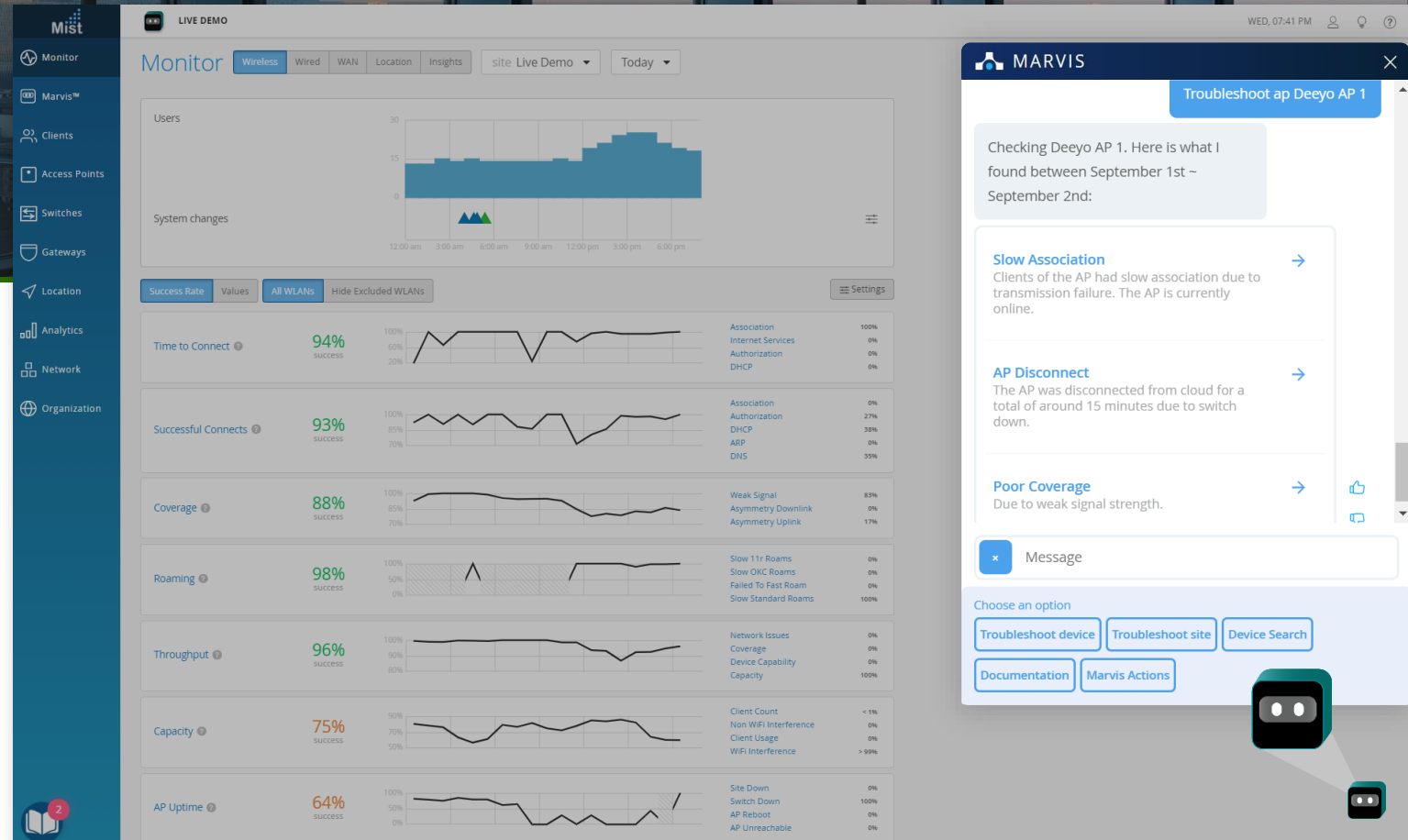
Conversational AI interface

Transforms how IT interacts with the full stack network

Streamlines operations and boosts experiences

Uses chat (NLP)

Provides deep understanding of issues





# AI-Driven Enterprise Solutions



AI-Driven Cloud Services

Virtual Network Assistant

**Marvis**

- AI-driven Problem Solver
- Conversational Assistant

UPDATED



**Marvis Actions**

- Proactive Network Insights & Remediations
- All Encompassing Network Visibility

Premium Analytics

Wi-Fi Assurance

User Engagement

Asset Tracking

NEW

IoT Assurance    Access Assurance

Wired Assurance

WAN Assurance

**Wireless Infrastructure**



**Wired Infrastructure**



**WAN Infrastructure**





# Thank you

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Experience™