PASSUS

BEZPOŚREDNIE STARCIE LIDERÓW RYNKU

APM: nGenious One

Partnerzy konferencji

riverbed NETSCOUT

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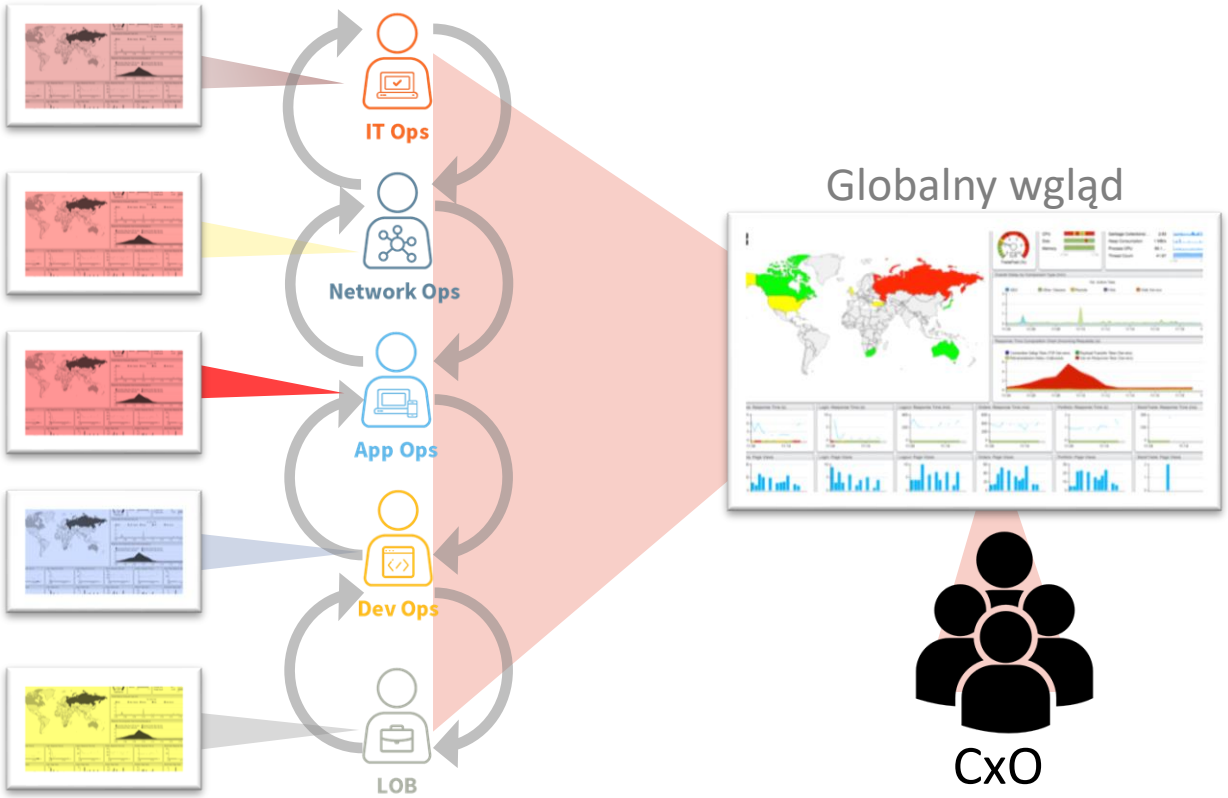
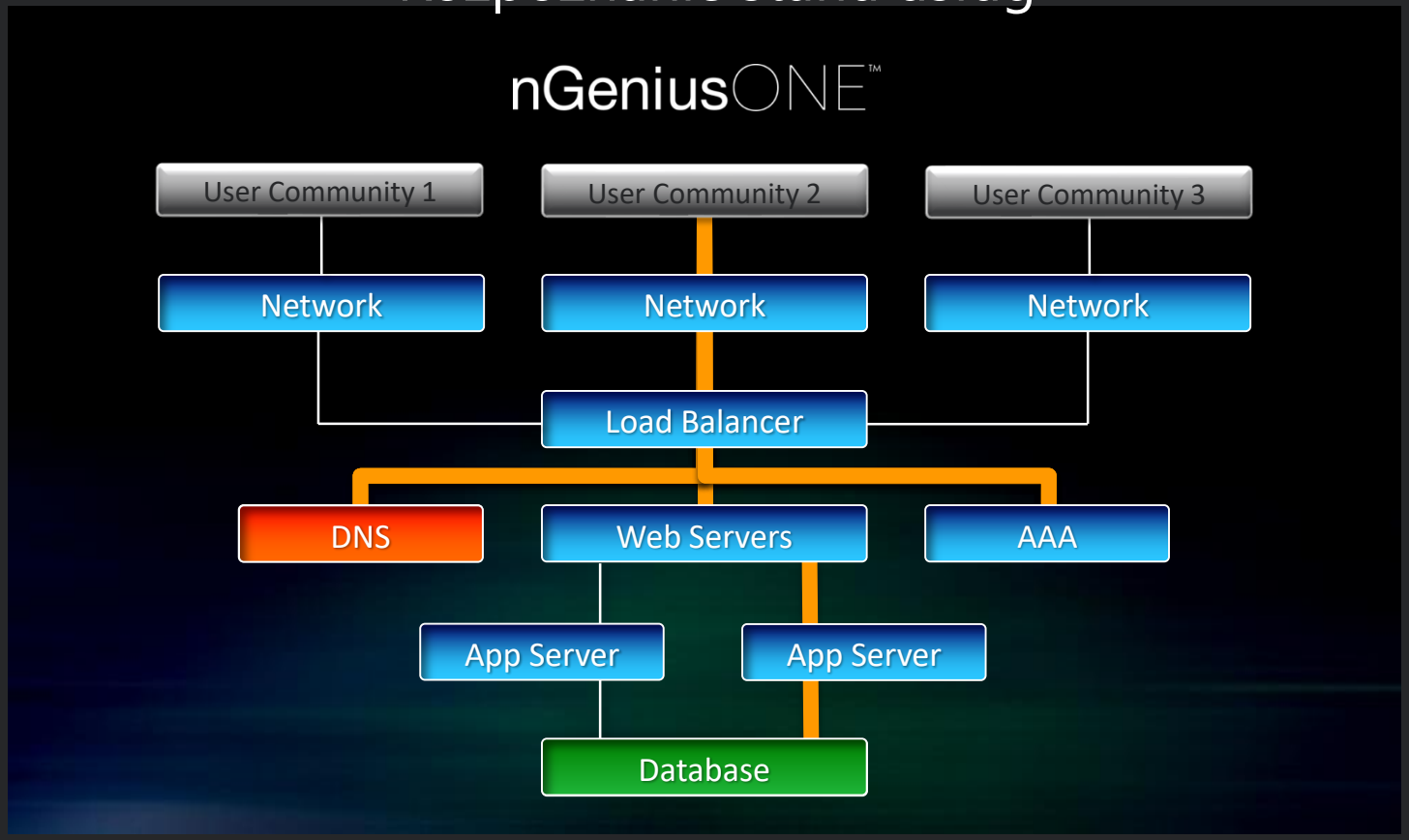
Podejście do monitoringu



Cel: zunifikowany monitoring biznesowy

Rozpoznanie stanu usług



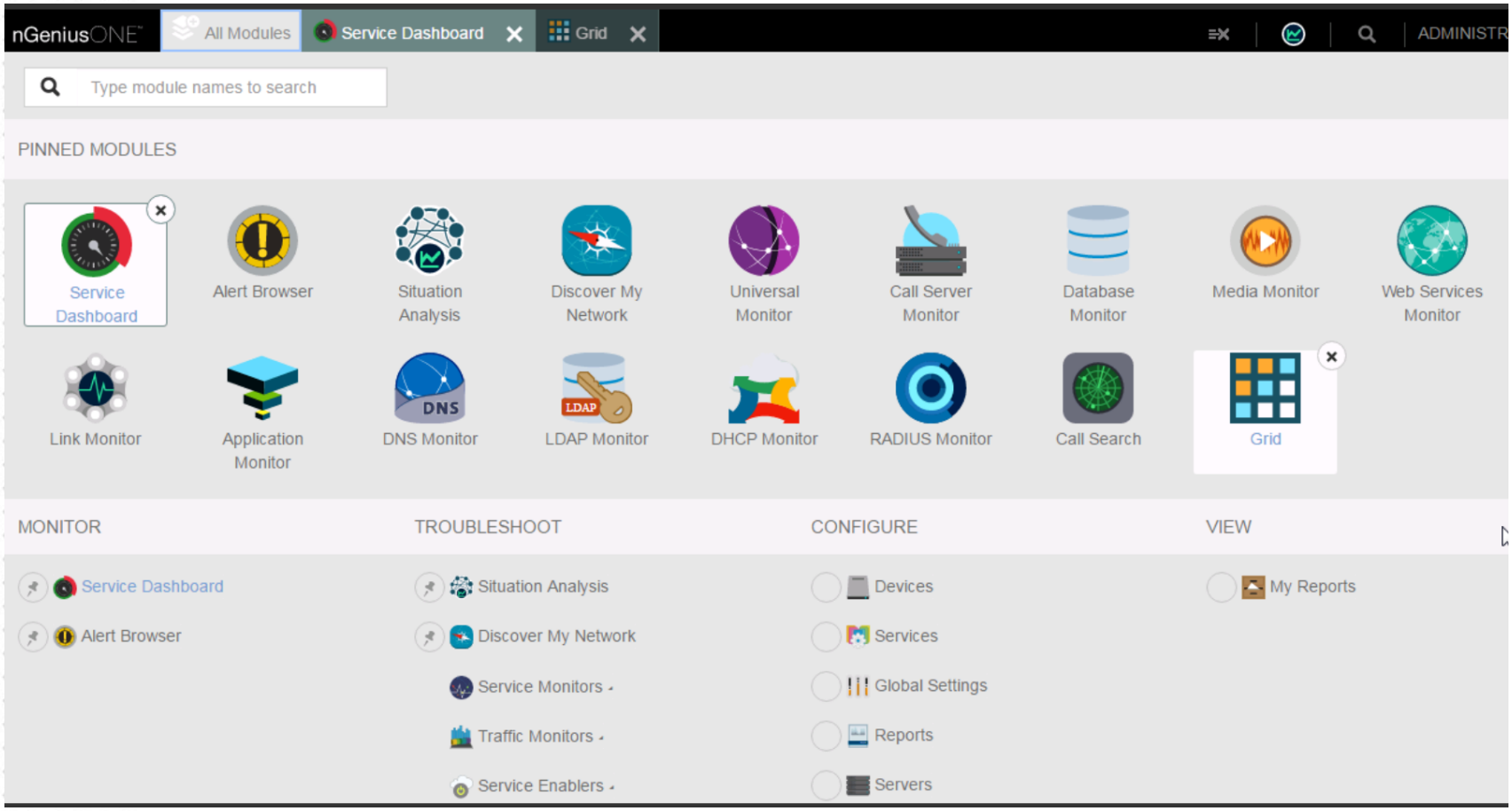
Parametry

- Opóźnienie
  - CIFS – setki komunikatów, ważna każda ms
  - Brak czasu rzeczywistego
- Straty pakietów
  - Retransmisje, zajętość pasma, opóźnienie
  - Niedozwolone podczas 3-way handshake
- Zmienność opóźnienia
  - Zabójcze dla VoIP/Video (>30ms)
- TCP (Tahoe, Reno, FAST, Vegas, Cubic, Compound: CTCP, DCTCP)
  - Zero window

Parametry -> wpływ

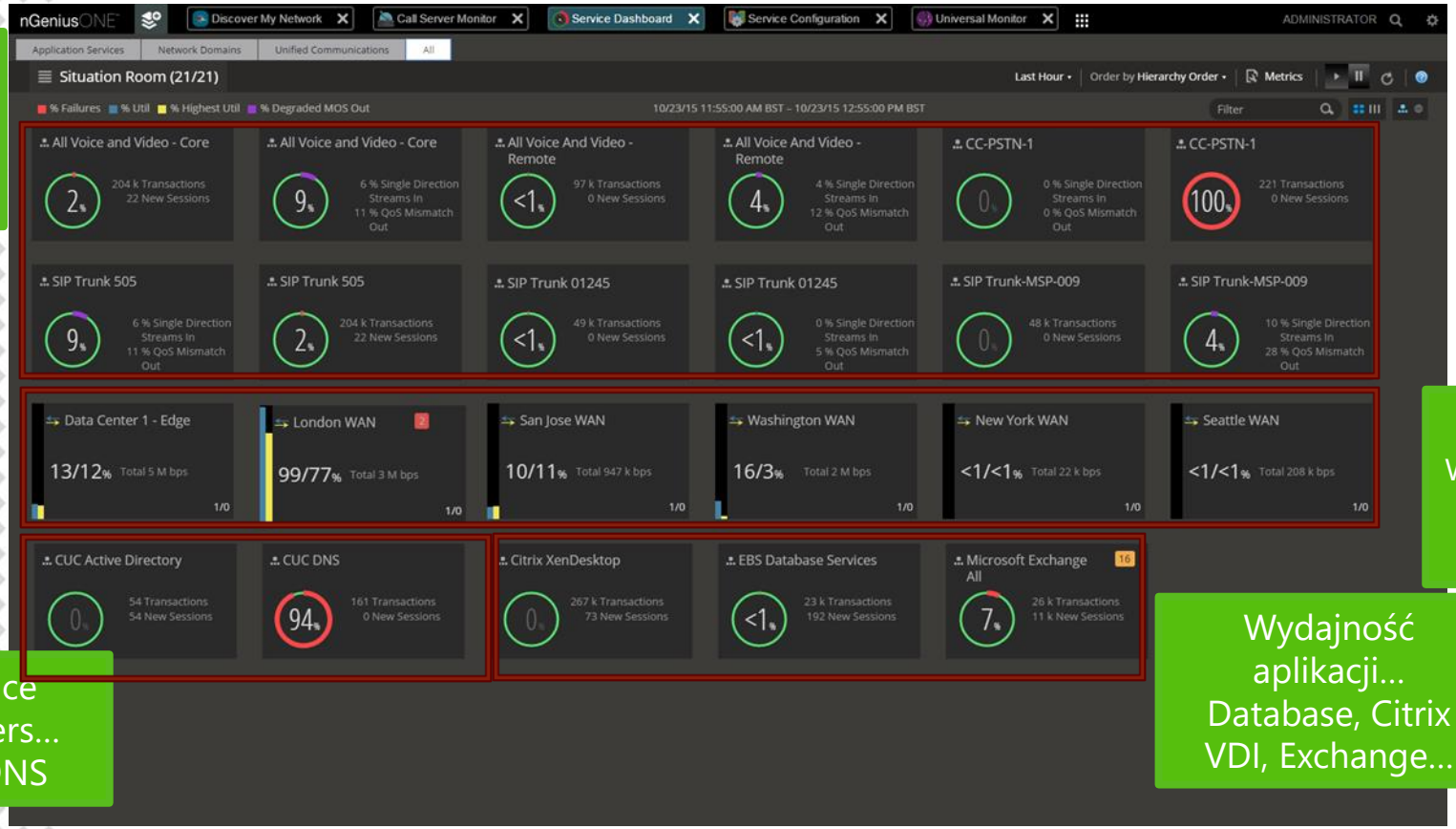
- Wersja optymistyczna – czekamy dłużej
- Wersja pośrednia – aplikacja potrafi przywrócić sesję/działanie/zapisane dane
- Wersja pesymistyczna – aplikacja nie jest przygotowana, traci dane, przestaje działać, wymaga zaczęcia od początku

Kompleksowość



Kompleksowy wgląd we wszystkie elementy

Jakość audio, video, SIP Trunk



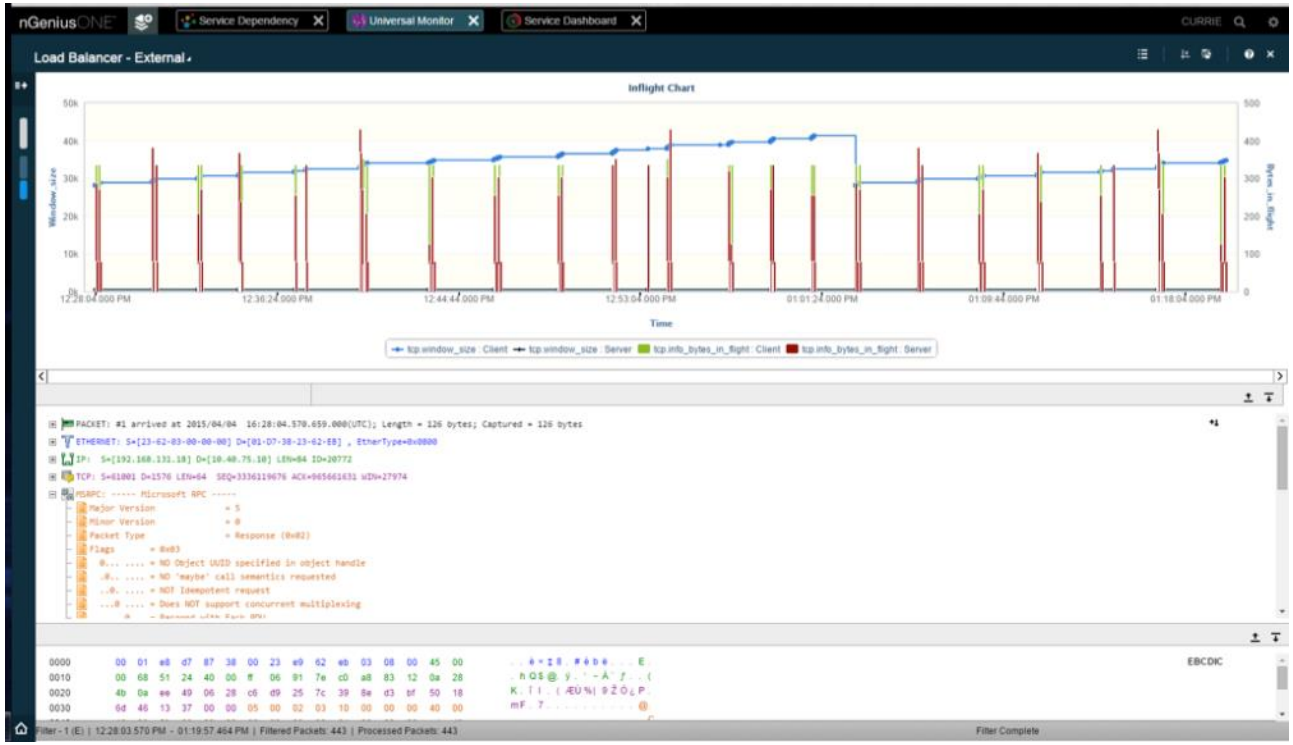
Wykorzystanie WAN

Service Enablers… AD, DNS

Wydajność aplikacji… Database, Citrix VDI, Exchange…

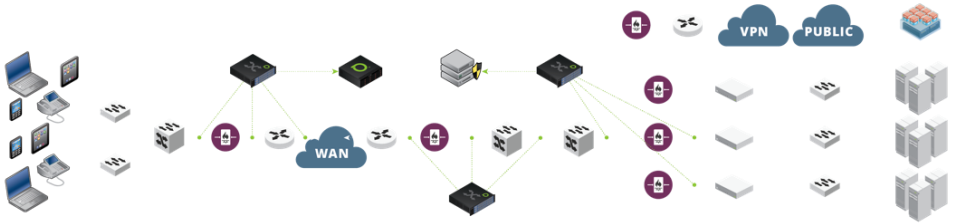
Analiza pakietowa (L7, DPI…)

- Analiza danych użytkownika, przykłady działań (workflow)
- Wykonywana onsite – oszczędność pasma i zasobów



Unified Communications

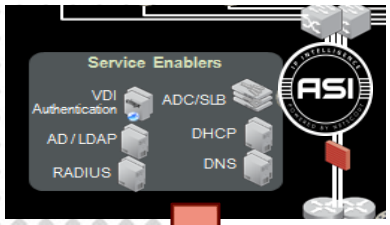
- ORACLE acme packet, CISCO, Lync, AudioCodes, IBM, LifeSize, AVAYA, Polycom, Vidyo, snom, Jabra, PLANTRONICS, Sonus
- UC, Voice/Video, SIP Trunking, UC Lync, Jabber…
- Konwergencja usług i elementów infrastruktury
  - UC, audio, video, dane
  - Nie tylko DC – oddziały, CallCenter, pracownicy mobilni



Co wpływa na problemy?

"Users not registering"
"Phones not connecting"
"Slow to connect call"

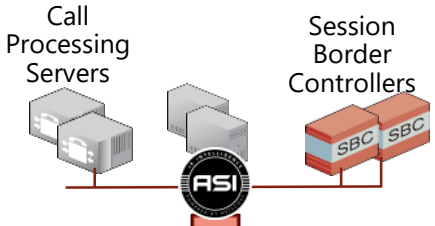
Network and Enablers Infrastructure Performance



(Network Congestion, QoS, LDAP/AD, DNS, DHCP)

"Takes a long time to connect"
"No Dial Tone"

Call Signaling and UC Server Performance



(Server Load Balancing, Signaling Errors)

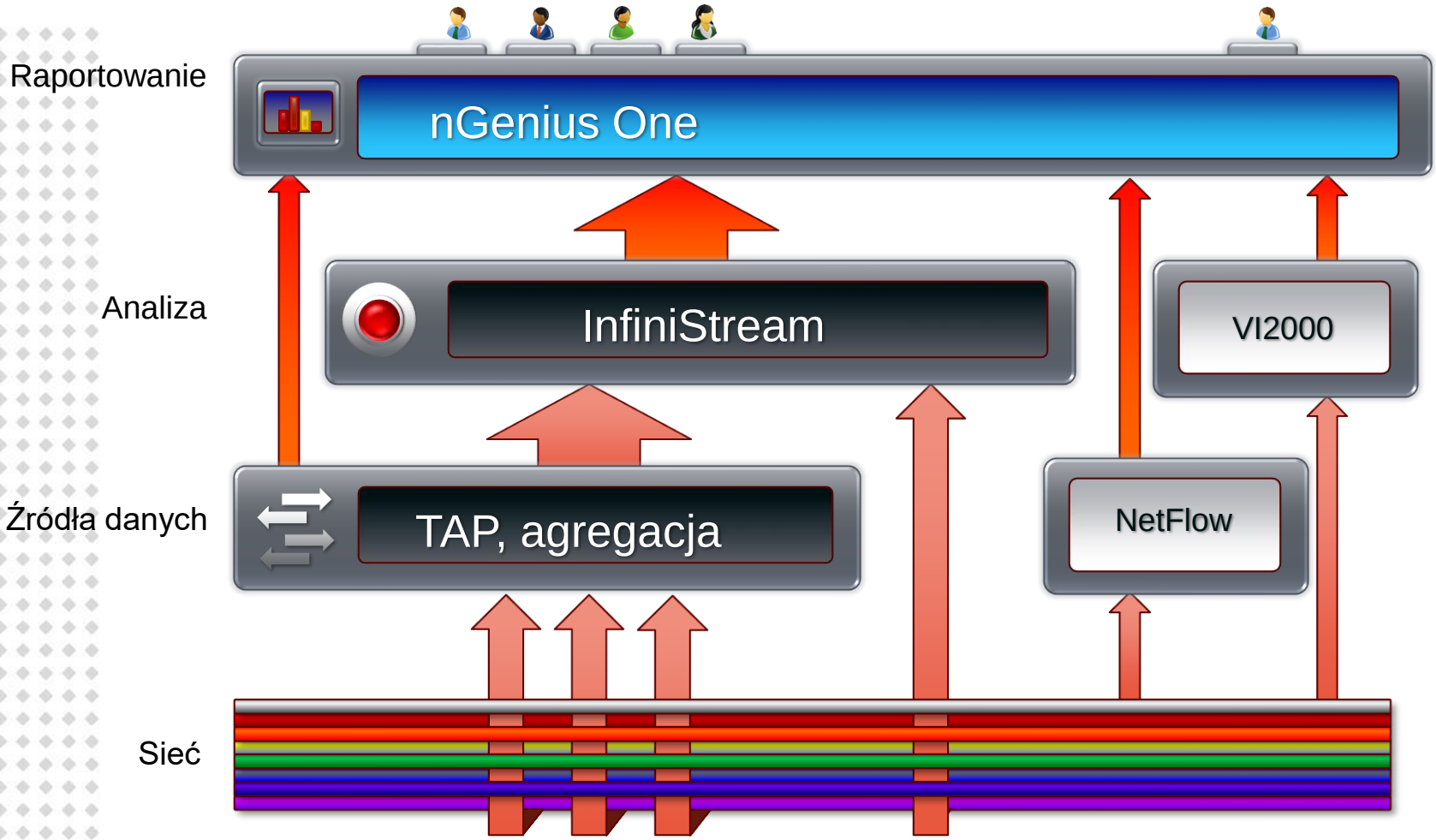
'Bad Voice Quality'
"I can't hear you"

"The picture is blocky"
"My Video has no audio"

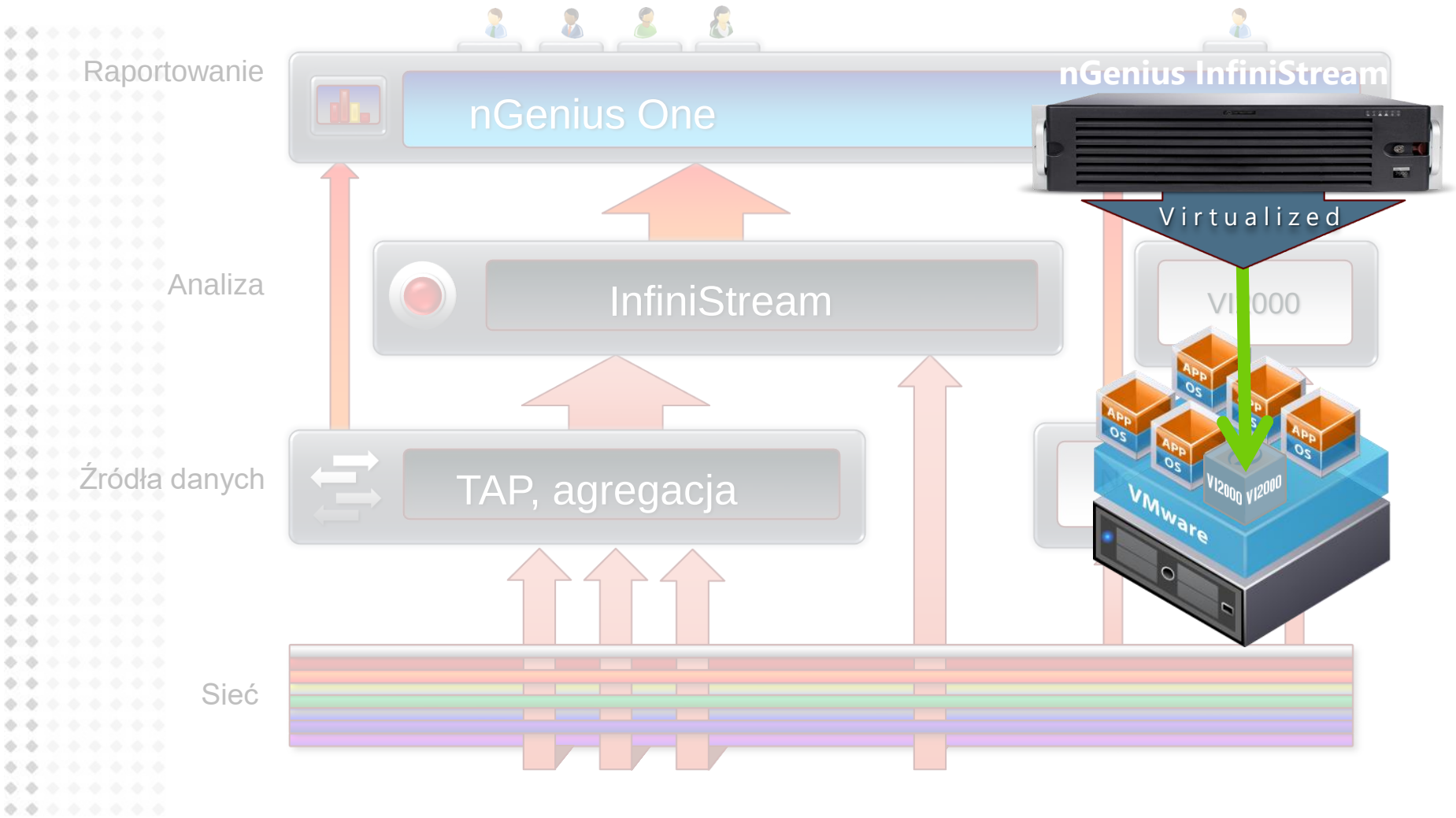
Voice and Video Media Performance

QoS Mismatch / CODEC MOS, One way calls, loss, jitter

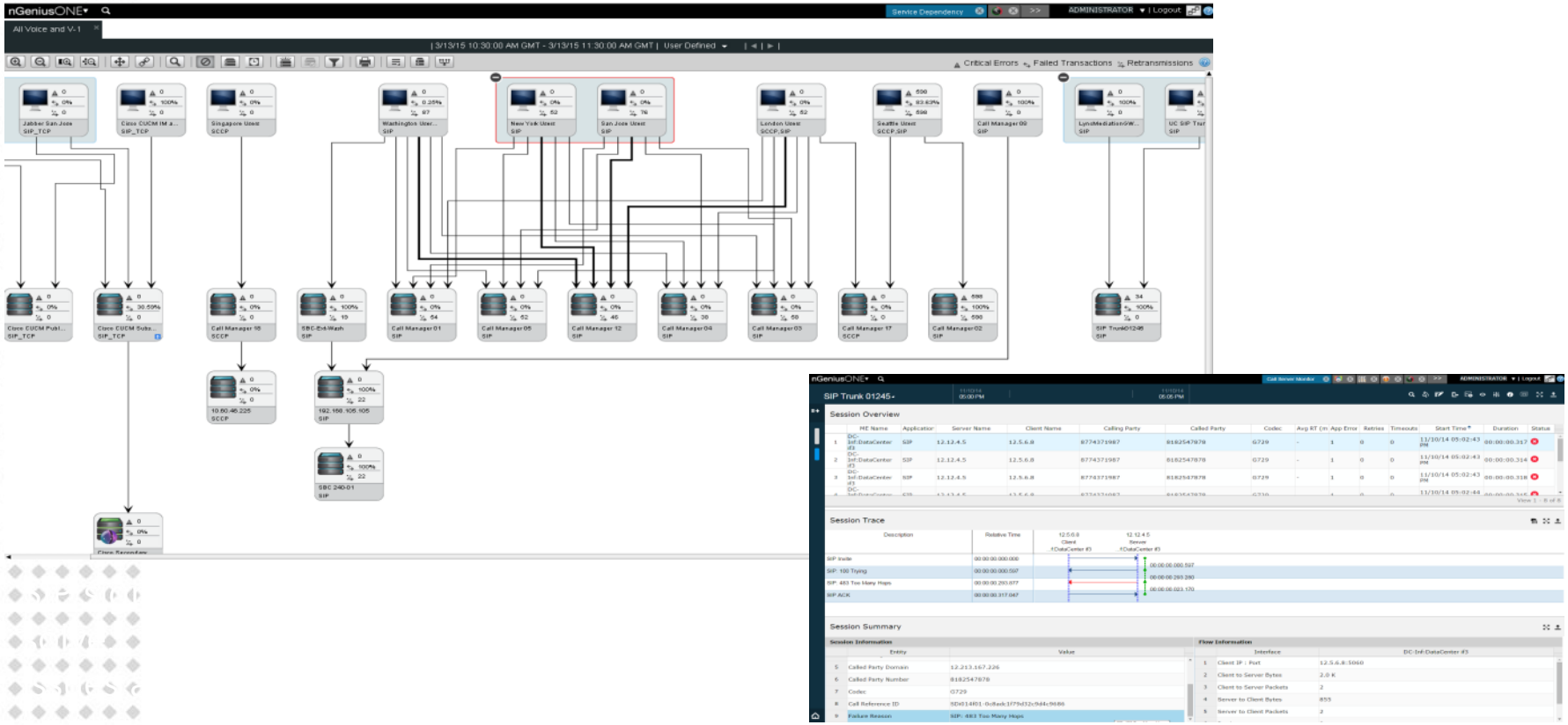
Architektura



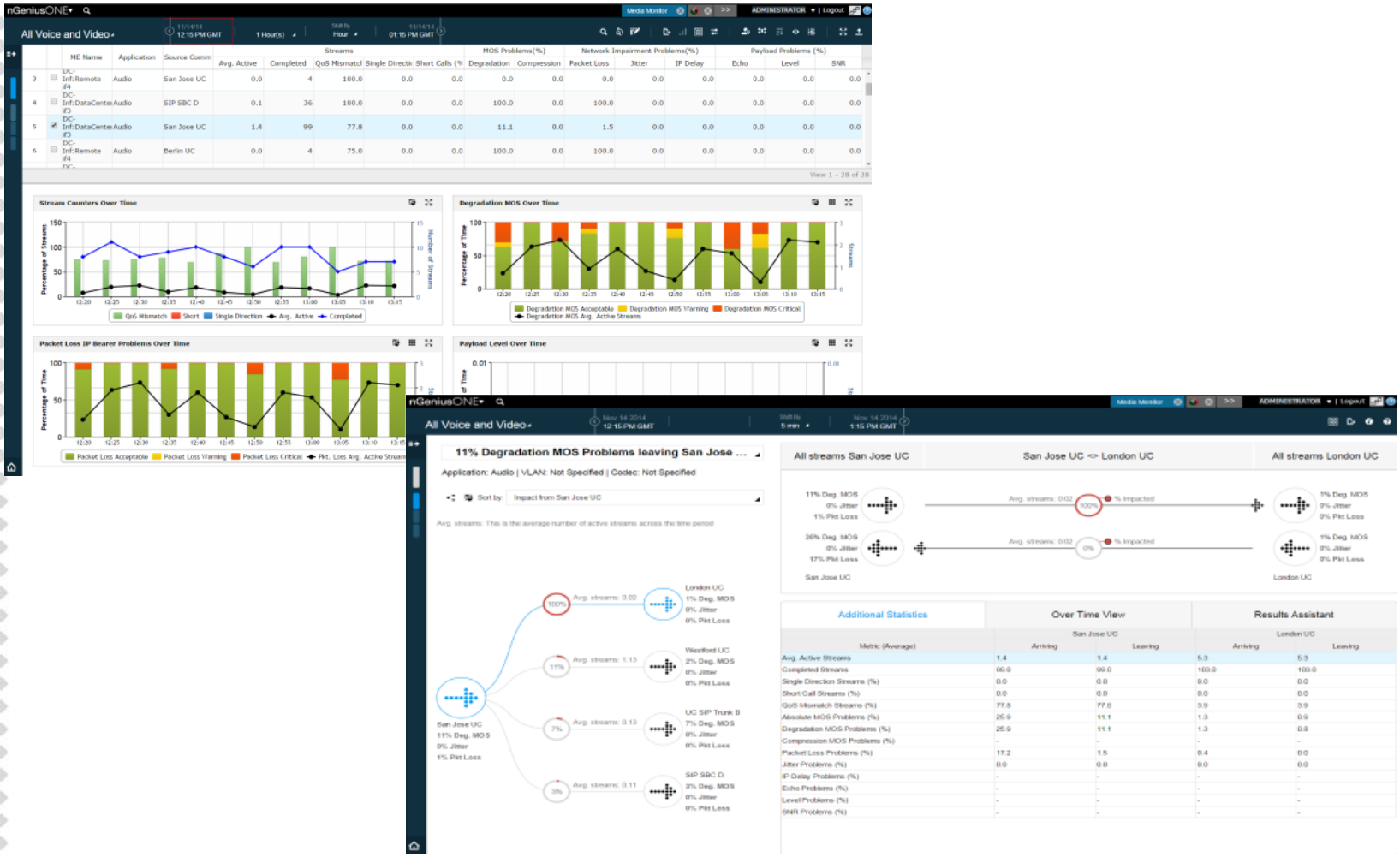
Architektura



Zależności pomiędzy komponentami



Widok konwersacji i zależności



Gdzie jest problem?

nGeniusONE | Call Search | ADMINISTRATOR

Lync Media | Jul 22 2015 4:45 AM EDT | Jul 22 2015 4:47 AM EDT

Call Details: Summary | IP Bearer | Loss and Jitter | Voice Payload | Video Payload | QoS

Leg 1 192.168.44.64 (San Jose UC) to 192.168.44.128 (London UC)

IP Delay: 73 ms
192.168.44.64
Lync San Jose
user_1724408

Voice IP: 3.2
Voice Deg: 1.1
Packet Loss

Voice IP: 3.1
Voice Deg: 1.1
Packet Loss

IP Delay: 73 ms
192.168.44.128
Lync London
user_1724428

Related Streams: Summary | Network | Payload | General

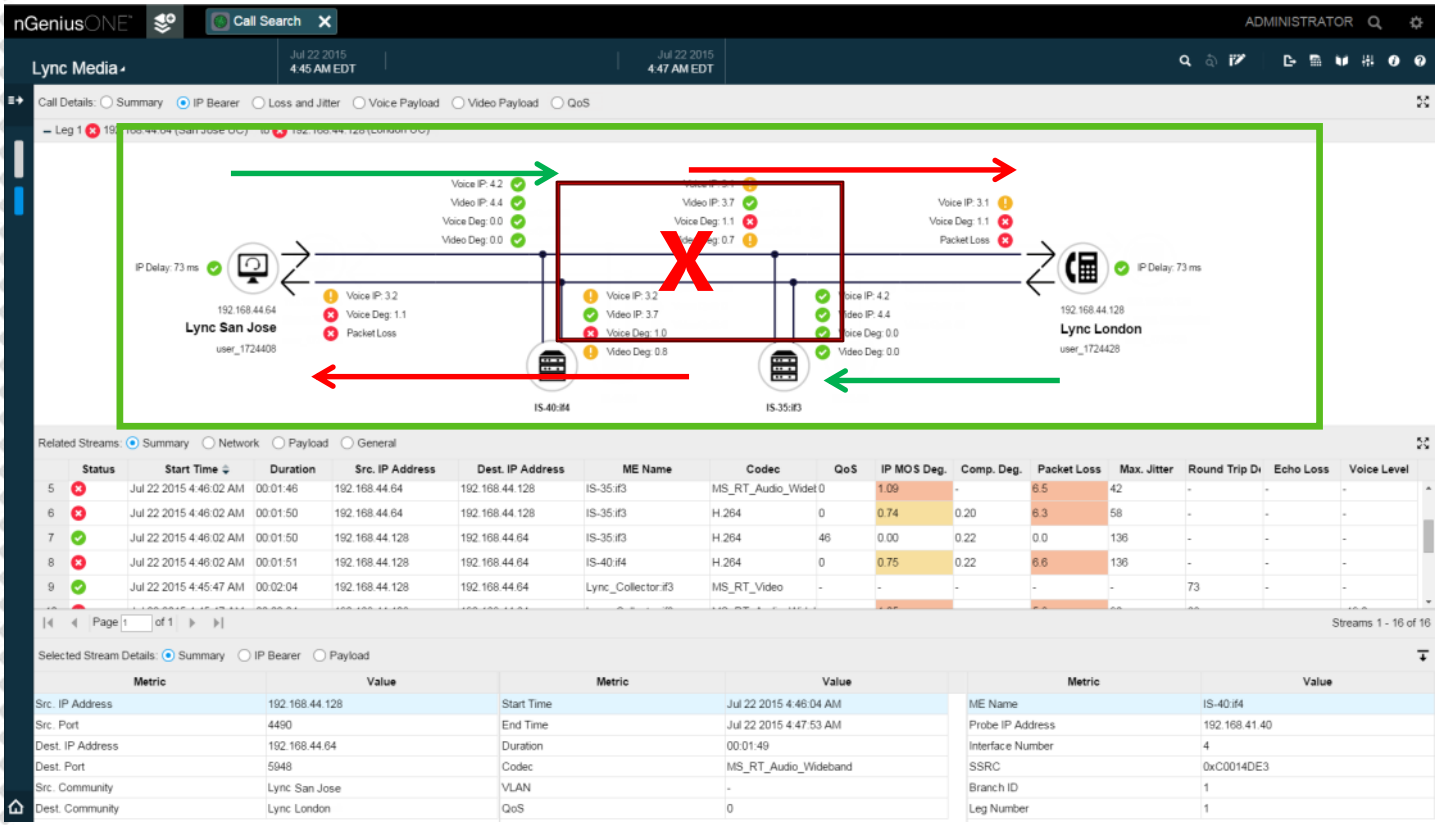
	Status	Start Time	Duration	Src. IP Address	Dest. IP Address	ME Name	Codec	QoS	IP MOS Deg.	Comp. Deg.	Packet Loss	Max. Jitter	Round Trip D	Echo Loss	Voice Level
5	✗	Jul 22 2015 4:46:02 AM	00:01:46	192.168.44.64	192.168.44.128	IS-35:if3	MS_RT_Audio_Widel	0	1.09	-	6.5	42	-	-	-
6	✗	Jul 22 2015 4:46:02 AM	00:01:50	192.168.44.64	192.168.44.128	IS-35:if3	H.264	0	0.74	0.20	6.3	58	-	-	-
7	✓	Jul 22 2015 4:46:02 AM	00:01:50	192.168.44.128	192.168.44.64	IS-35:if3	H.264	46	0.00	0.22	0.0	136	-	-	-
8	✗	Jul 22 2015 4:46:02 AM	00:01:51	192.168.44.128	192.168.44.64	IS-40:if4	H.264	0	0.75	0.22	6.6	136	-	-	-
9	✓	Jul 22 2015 4:45:47 AM	00:02:04	192.168.44.128	192.168.44.64	Lync_Collector:if3	MS_RT_Video	-	-	-	-	-	73	-	-

Page 1 of 1 — Streams 1 - 16 of 16

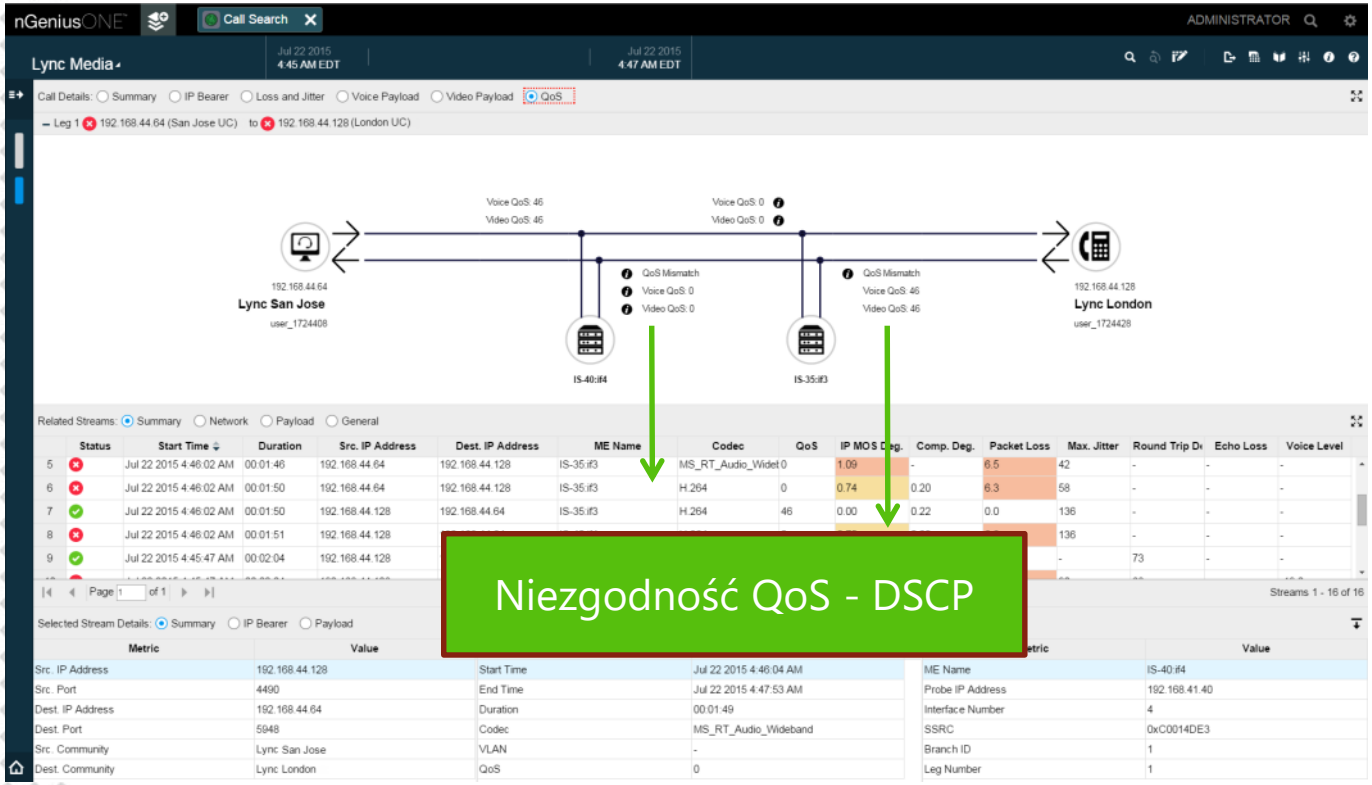
Selected Stream Details: Summary | IP Bearer | Payload

Metric	Value	Metric	Value	Metric	Value
Src. IP Address	192.168.44.128	Start Time	Jul 22 2015 4:46:04 AM	ME Name	IS-40:if4
Src. Port	4490	End Time	Jul 22 2015 4:47:53 AM	Probe IP Address	192.168.41.40
Dest. IP Address	192.168.44.64	Duration	00:01:49	Interface Number	4
Dest. Port	5948	Codec	MS_RT_Audio_Wideband	SSRC	0xC0014DE3
Src. Community	Lync San Jose	VLAN	-	Branch ID	1
Dest. Community	Lync London	QoS	0	Leg Number	1

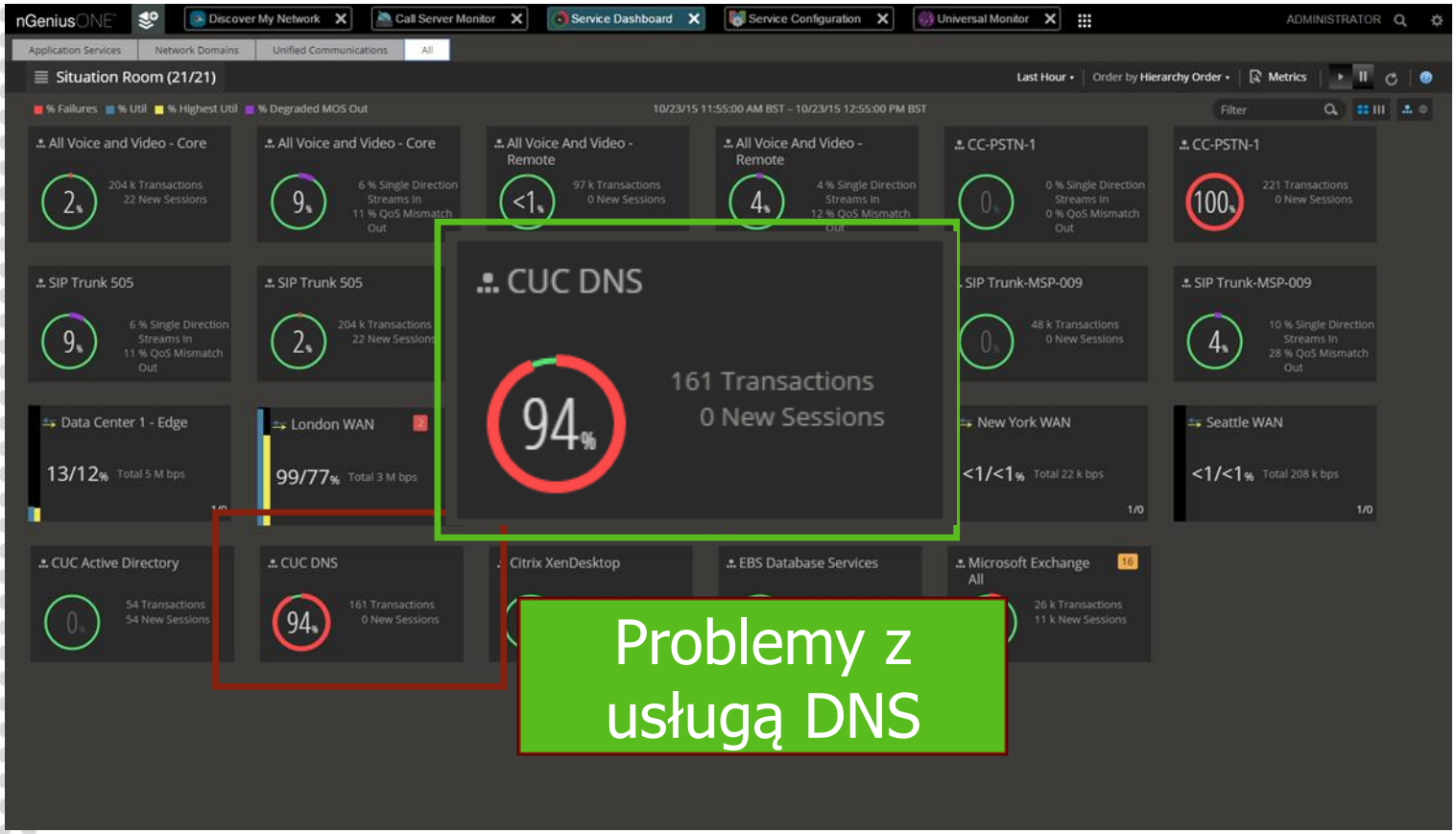
Gdzie jest problem?



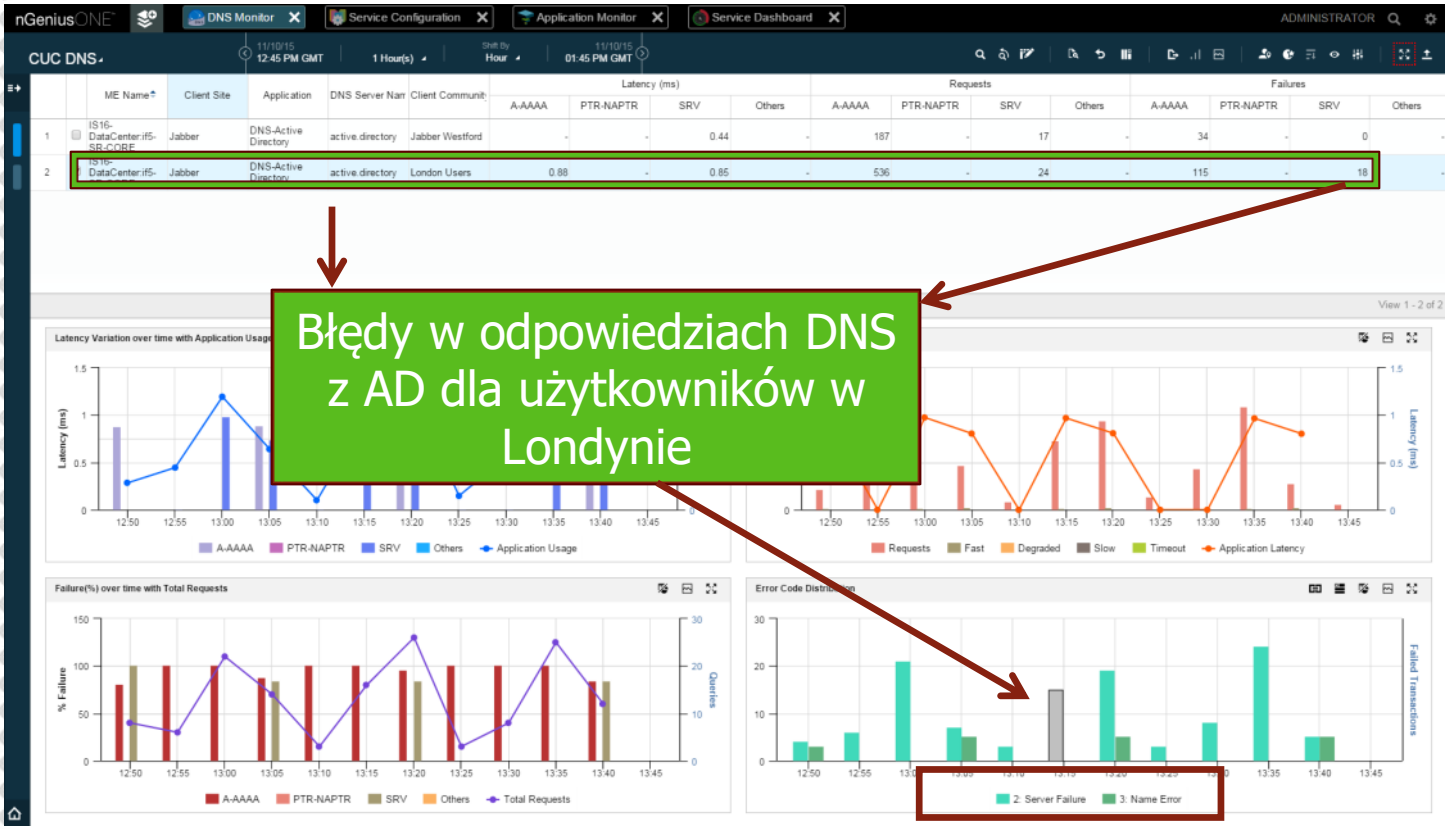
Gdzie jest problem?



DNS problem

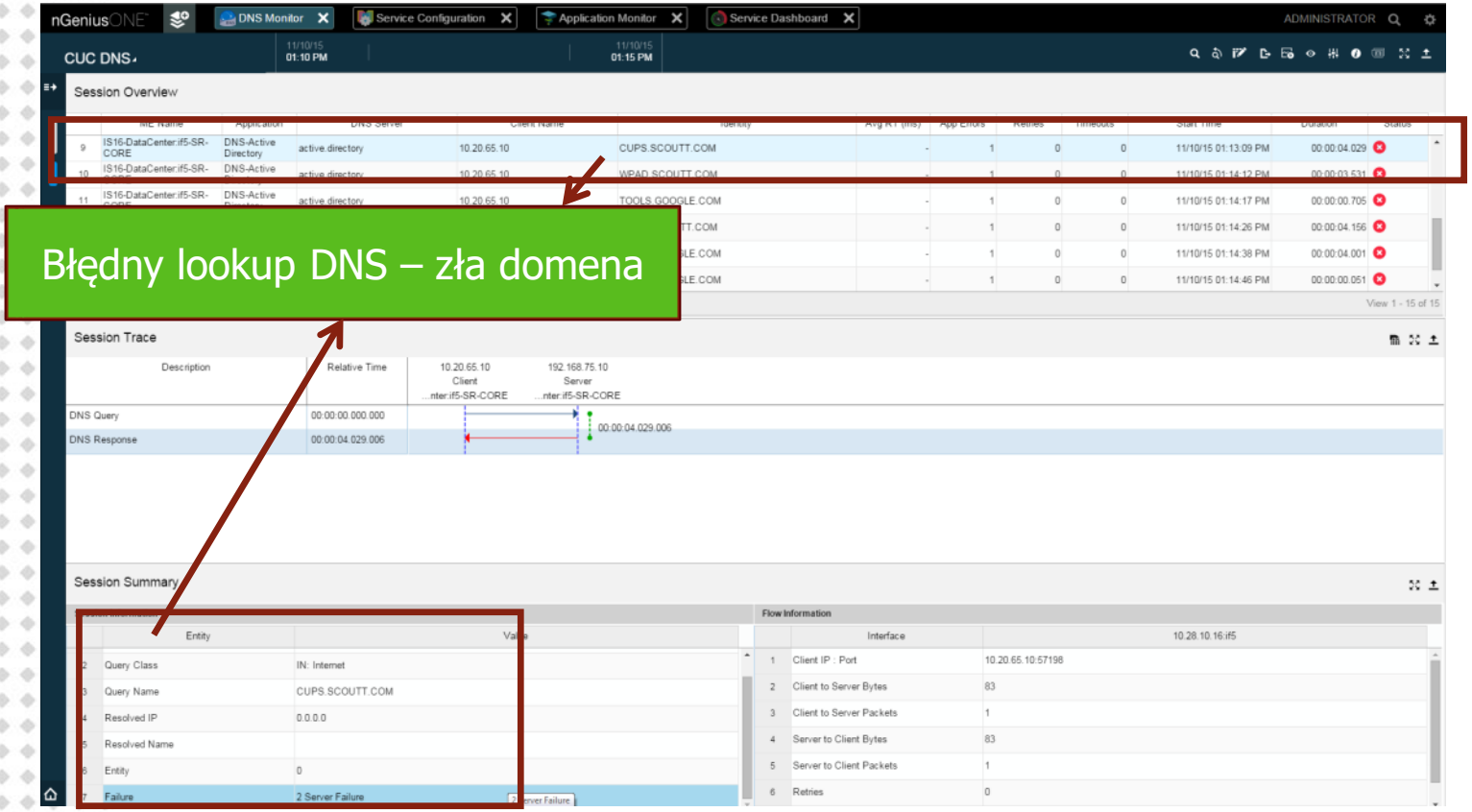

nGeniusONE
Discover My Network
Call Server Monitor
Service Dashboard
Service Configuration
Universal Monitor
ADMINISTRATOR
Application Services
Network Domains
Unified Communications
All
Situation Room (21/21)
Last Hour
Order by Hierarchy Order
Metrics
% Failures
% Util
% Highest Util
% Degraded MOS Out
10/23/15 11:55:00 AM BST – 10/23/15 12:55:00 PM BST
Filter
All Voice and Video - Core
2%
204 k Transactions
22 New Sessions
All Voice and Video - Core
9%
6 % Single Direction Streams In
11 % QoS Mismatch Out
All Voice And Video - Remote
<1%
97 k Transactions
0 New Sessions
All Voice And Video - Remote
4%
4 % Single Direction Streams In
12 % QoS Mismatch Out
CC-PSTN-1
0%
0 % Single Direction Streams In
0 % QoS Mismatch Out
CC-PSTN-1
100%
221 Transactions
0 New Sessions
SIP Trunk 505
9%
6 % Single Direction Streams In
11 % QoS Mismatch Out
SIP Trunk 505
2%
204 k Transactions
22 New Sessions
CUC DNS
94%
161 Transactions
0 New Sessions
SIP Trunk-MSP-009
0%
48 k Transactions
0 New Sessions
SIP Trunk-MSP-009
4%
10 % Single Direction Streams In
28 % QoS Mismatch Out
Data Center 1 - Edge
13/12%
Total 5 M bps
London WAN
99/77%
Total 3 M bps
New York WAN
<1/<1%
Total 22 k bps
1/0
Seattle WAN
<1/<1%
Total 208 k bps
1/0
CUC Active Directory
0%
54 Transactions
54 New Sessions
CUC DNS
94%
161 Transactions
0 New Sessions
Citrix XenDesktop
EBS Database Services
Microsoft Exchange
All
16
26 k Transactions
11 k New Sessions
Problemy z usługą DNS

DNS problem

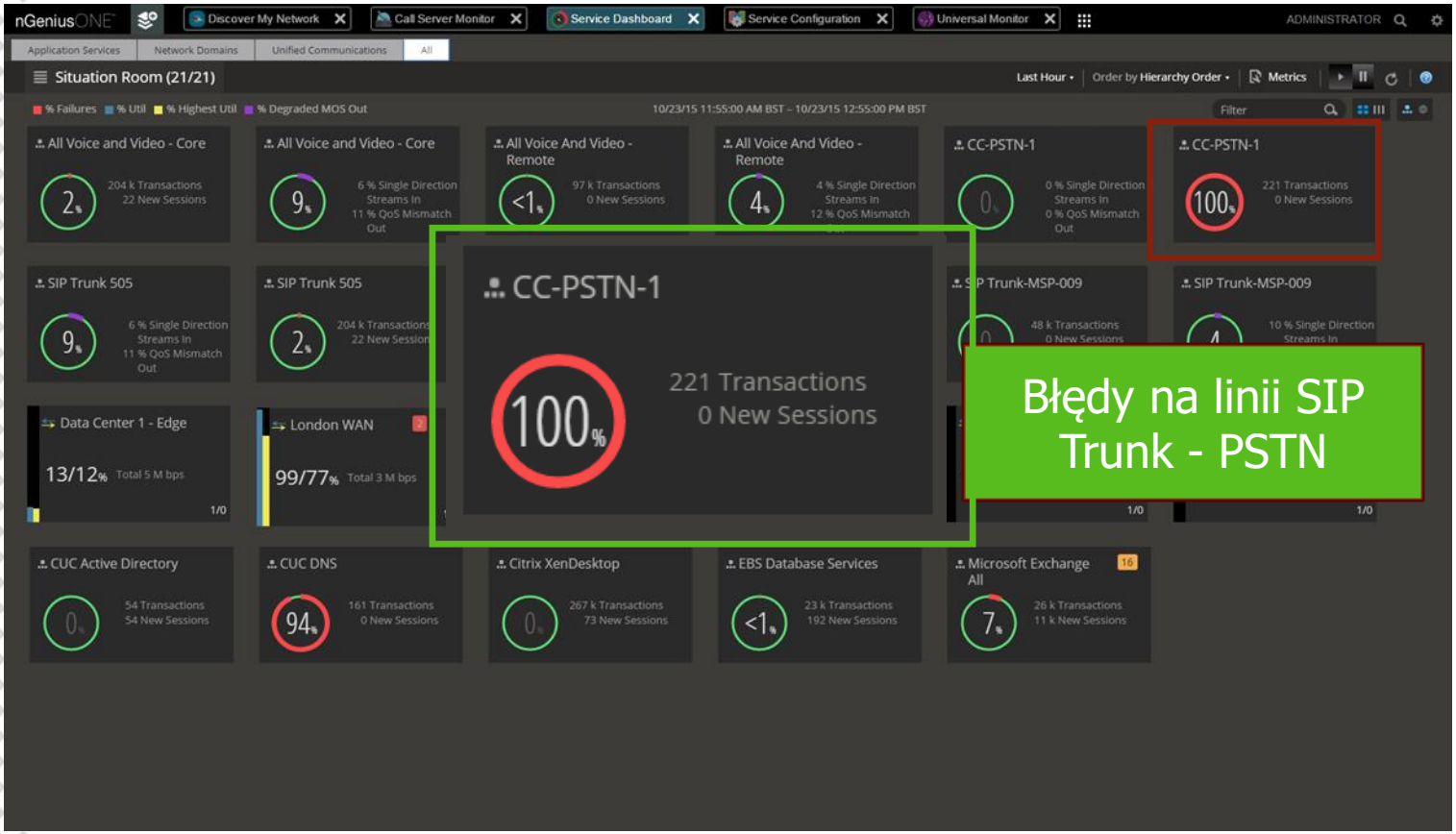


Błędy w odpowiedziach DNS z AD dla użytkowników w Londynie

DNS problem

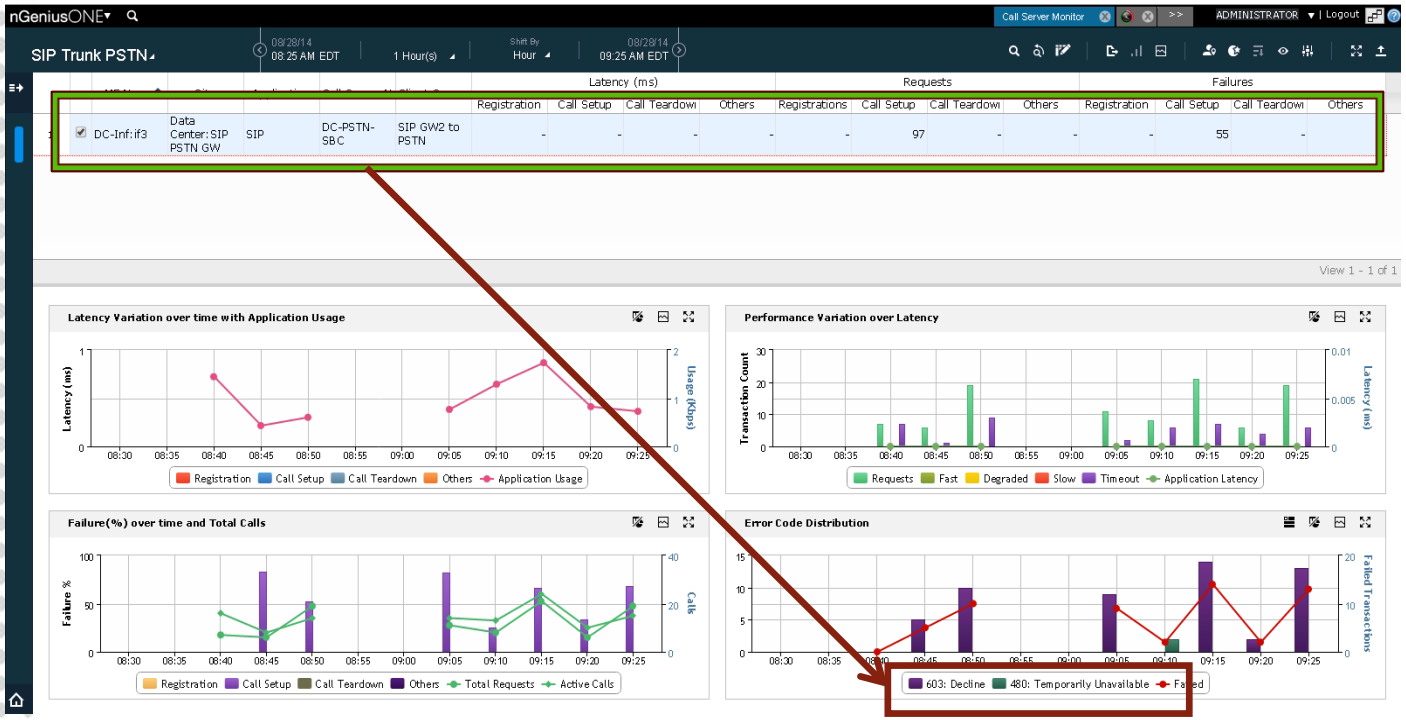

nGeniusONE
DNS Monitor
Service Configuration
Application Monitor
Service Dashboard
ADMINISTRATOR
CUC DNS
11/10/15 01:10 PM
11/10/15 01:15 PM
Session Overview
Błędny lookup DNS – zła domena
Session Trace
Description
Relative Time
10.20.65.10 Client
192.168.75.10 Server
DNS Query
00:00:00.000.000
DNS Response
00:00:04.029.006
Session Summary
Entity
Value
Query Class
IN: Internet
Query Name
CUPS.SCOUTT.COM
Resolved IP
0.0.0.0
Resolved Name
Entity
0
Failure
2 Server Failure
Flow Information
Interface
10.28.10.16:if5
Client IP : Port
10.20.65.10:57198
Client to Server Bytes
83
Client to Server Packets
1
Server to Client Bytes
83
Server to Client Packets
1
Retries
0

Call Control

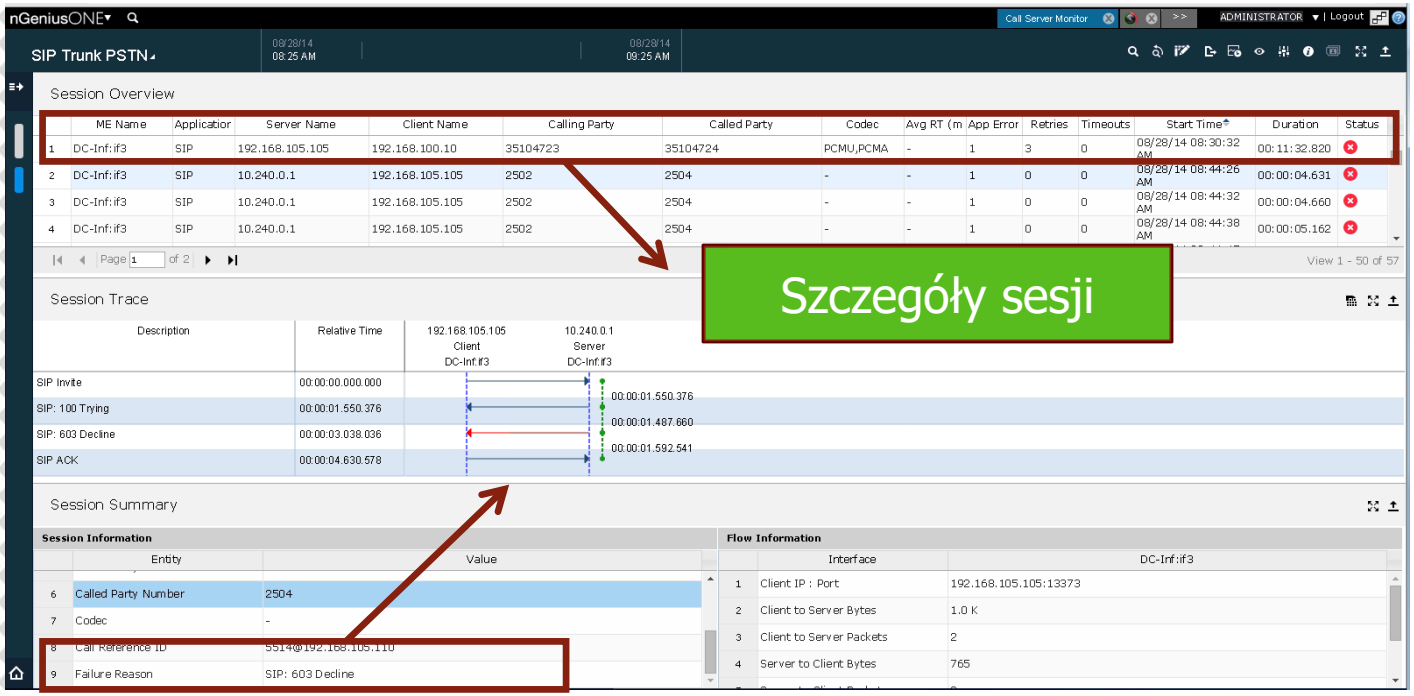


Błędy na linii SIP Trunk - PSTN

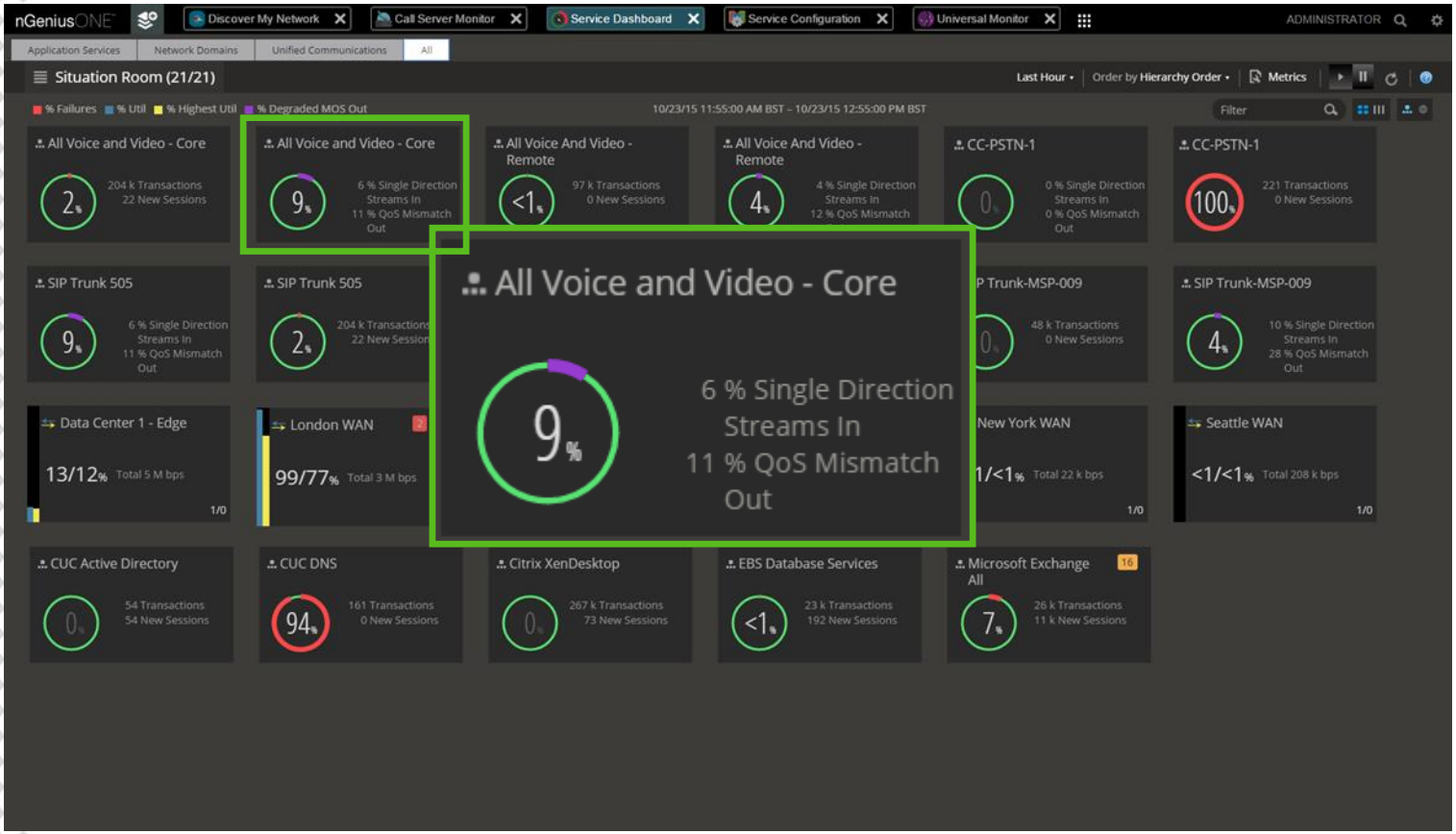
Call Control



Call Control



Jakość multimediów



Podsumowanie

Dziękuję za uwagę

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