Cloudsourced Network Analytics

GT HILL
Director Technical Marketing

We are Nyansa

- Silicon Valley startup
- Founded September, 2013
- MIT, Meraki, Aruba Networks, Google
- Revenue generating
- Deployed in 50+ customers

TESLA

SUFFOLK UNIVERSITY BOSTON

LIBERTY UNIVERSITY

NETFLIX

nimble storage

Brandeis

vocera

A Big Problem

Capacity	Trend	Benchmarks	Planning	Troubleshooting
Do I have enough network capacity to handle peak load?	What effect did my change have on the client experience?	What are the characteristics of good networks?	Where should I invest time and resources?	Does the problem manifest in the client or the infrastructure?

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A Big Solution

One client – Root cause analysis and remediation OS version, username, hostname, MAC / IP address

Tens of thousands of clients – Automatic custom baselines, incident prioritization, intra-company reporting and trending

Thousands of customers – Cross company correlation and comparison, inter-company reporting, trending, insights and global advisories

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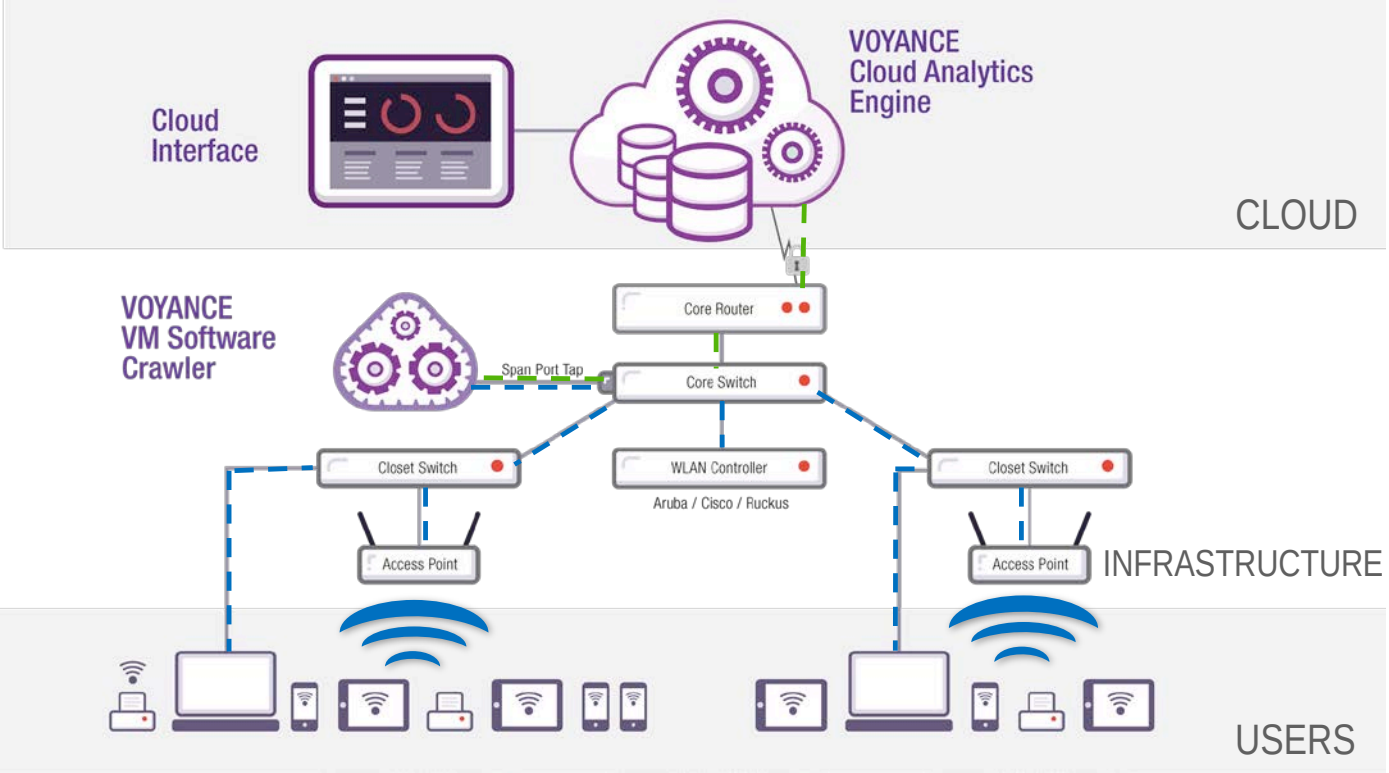
How it Works

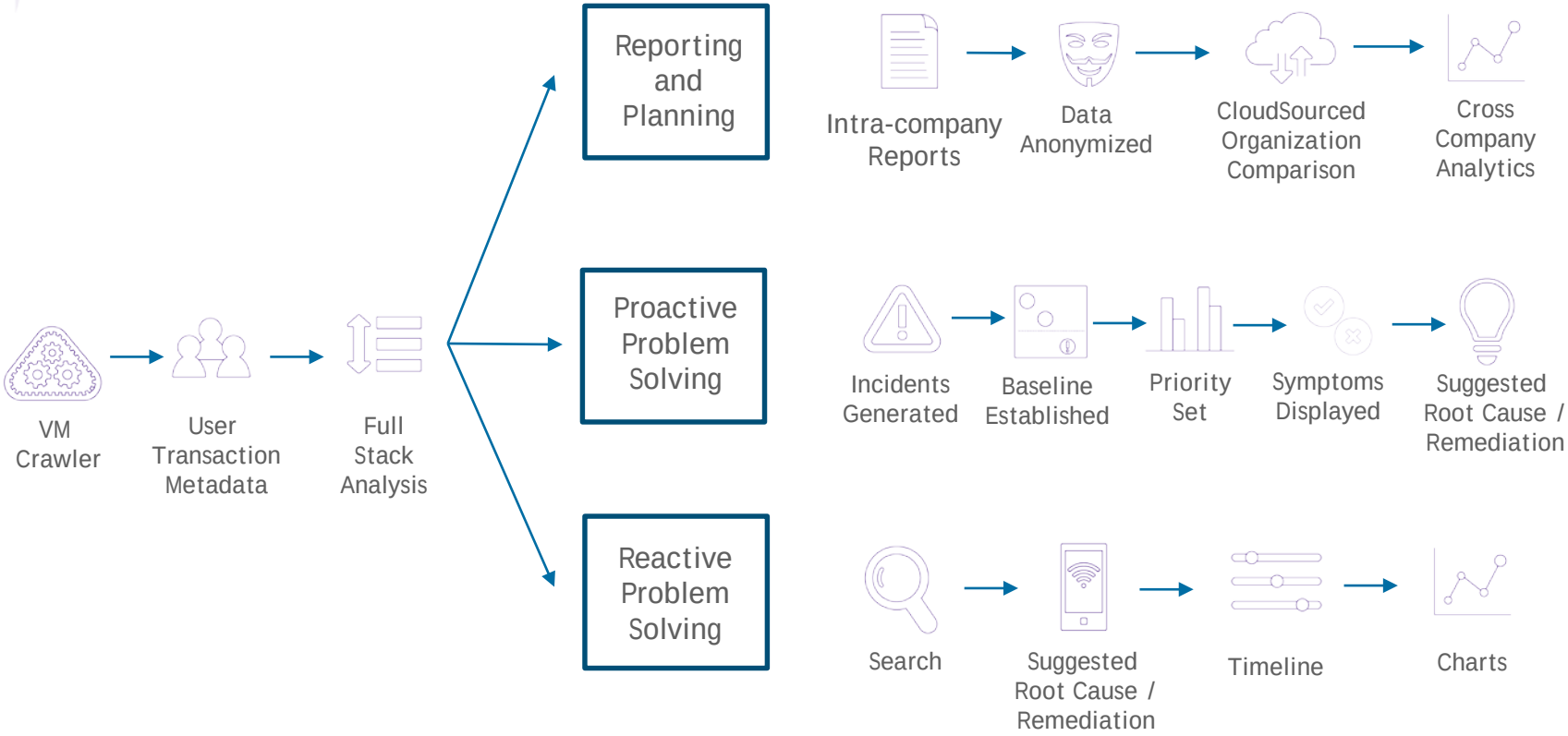


The cloud engine processes and correlates incoming data providing actionable information for IT staff

The Voyance crawler intercepts all data through a span port on network switch(es) and receives Wi-Fi data from the controller. It then processes the data and sends low bit rate metrics to the cloud

Wired and wireless data flow through the network infrastructure and WLAN controller

What's Happening in the Cloud?



What Data are we Inspecting?

√ APP ID
√ Protocol stats
√ Flow stats
√ Device stats
√ Network stats
√ WLAN metrics
√ User Info

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What Data are we Inspecting?

DHCP
- Issued IP address
- Lease time
- Status code

DNS
- Response/query type
- Response time
- Number of queries
- Number of Answers
- Time to Live (TTL)

RADIUS
- Username or login
- Session duration
- Response time

RTCP
- Jitter
- Delay
- Packet Loss
- Src/Dest IP

UDP
- Jitter
- Session duration
- Src/dest IP&port
- Sr/Dest Port

HTTP
- URL
- Page Load time
- User Agent String
- Round Trip Time
- Status/Error Codes

SSL
- Domain & org name
- List of name servers

TCP State Machine
- Round trip time
- Retransmission error rate
- Timeouts, window size
- SYN/ACK relationships
- Sequence number timings
- Src/Dest IP & port

SIP
- MOS score
- Codec
- Call duration

WLAN
- AP uptime, reboots, model, IP, O/S
- Radio Frequency status
- Channel utilization
- Signal to noise ratio (SNR)
- Noise floor
- Radio resets
- SSID and BSSID
- Controller CPU / memory utilization
- Associated clients to given AP
- Client performance

Network stats
- MAC to IP binding
- User table info
- Defined roles and/or VLANs

Client device / user
- Device type
- Operating System & version
- Device vendor
- Client capabilities (a/b/g/n/ac)
- Client connection type
- Timestamp on network
- Username or login
- User agent
- User role type

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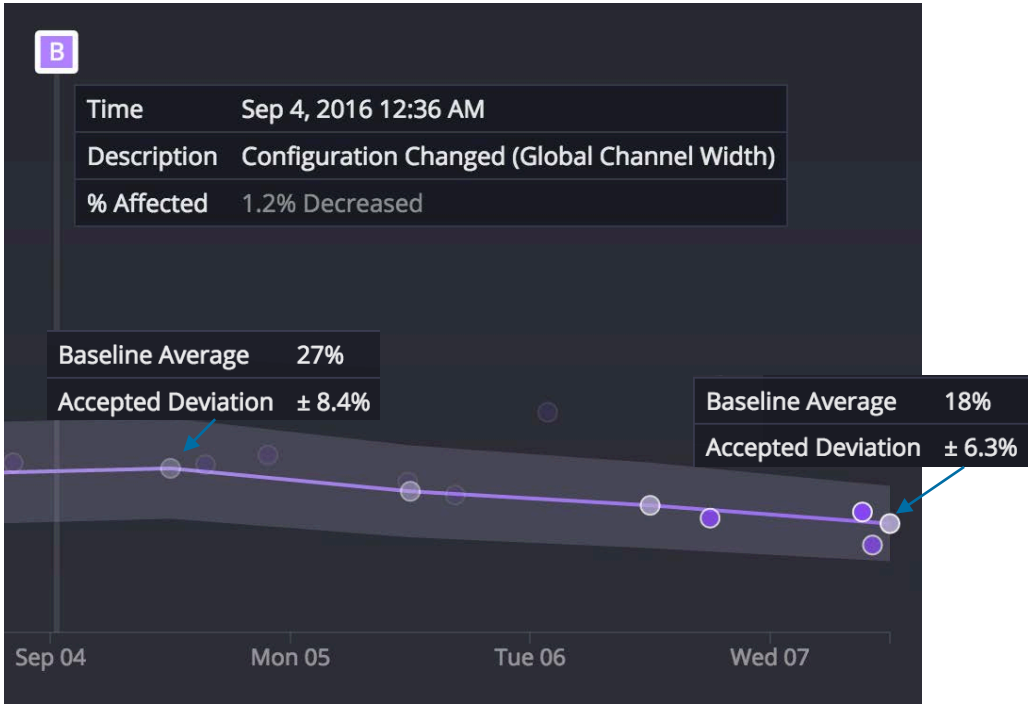
Analytics at Work – User Troubleshooting

- 1. Search
- 2. Root Cause
- 3. Network Performance
- 4. Application Analytics

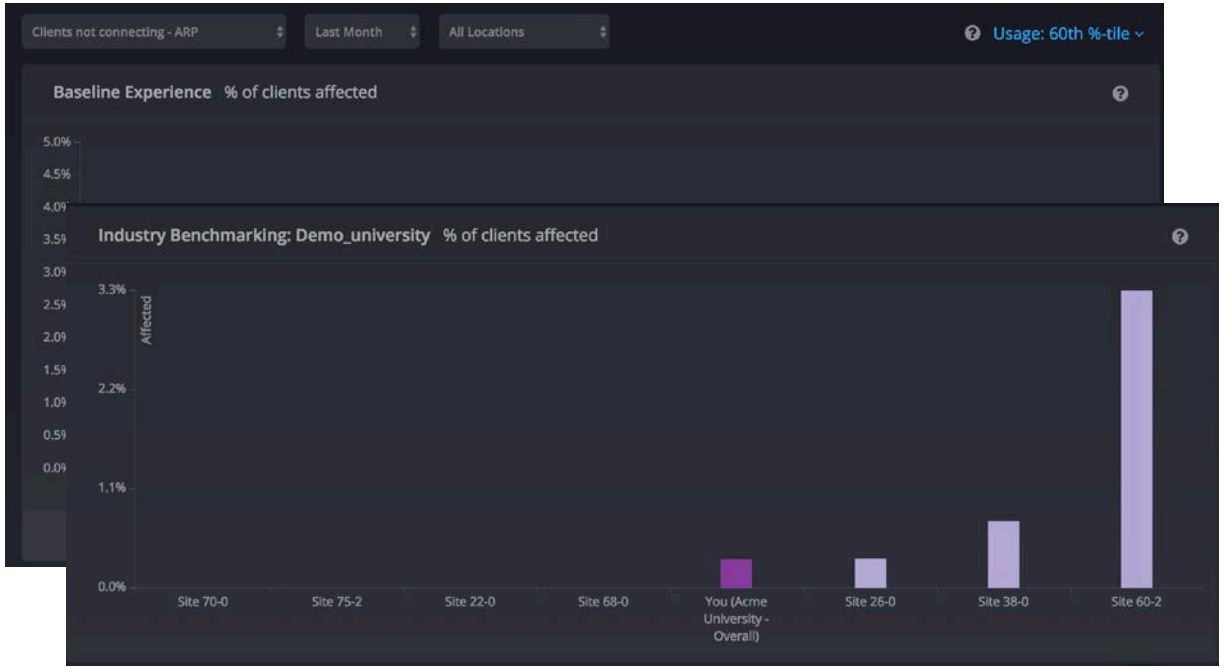
Analytics at Work – Tracking Changes

- Did the change I made make a difference?



Analytics at Work – Baselines/Benchmarks

- Baselining networks services
- Benchmarking against other like environments




THANK
YOU