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CABLE-TEC EXPO® 2020

VIRTUAL EXPERIENCE » OCTOBER 12-15

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IMAGINE THE POSSIBILITIES...

2020 Fall Technical Forum

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LESSONS LEARNED FROM COVID-19 PANDEMIC

Connectivity and COVID-19: Maintaining QoE During a Crisis

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CTO
Plume

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IMAGINE THE POSSIBILITIES...

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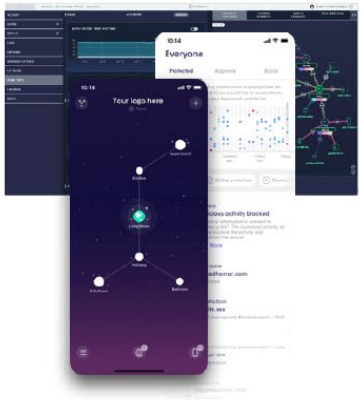

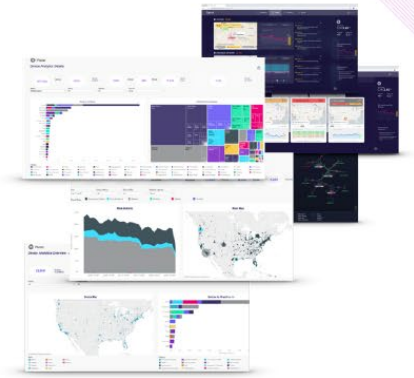

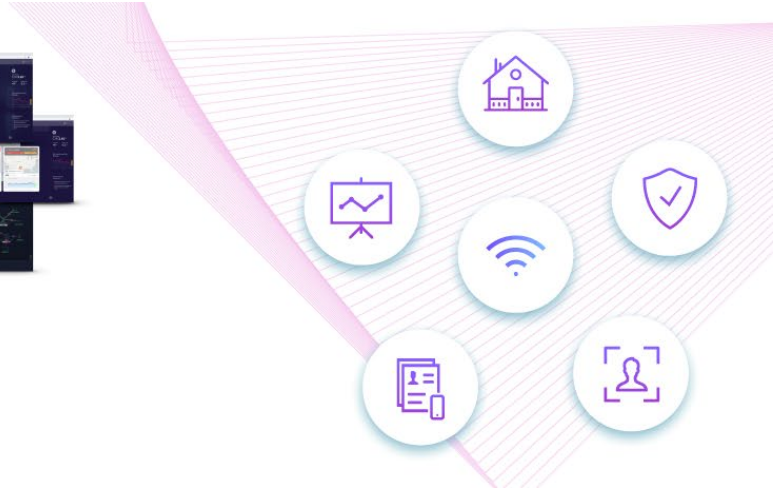

Platform +

Device agents (OpenSync™)

Cloud (stats, optimization, controller)

NOCs for multi-tier support

User app

Data Analysis =

Dashboards for visibility

Predictive algorithms

Automated proactive support

New Services

WiFi management

Cyber security

Access and parental controls

WiFi motion detection

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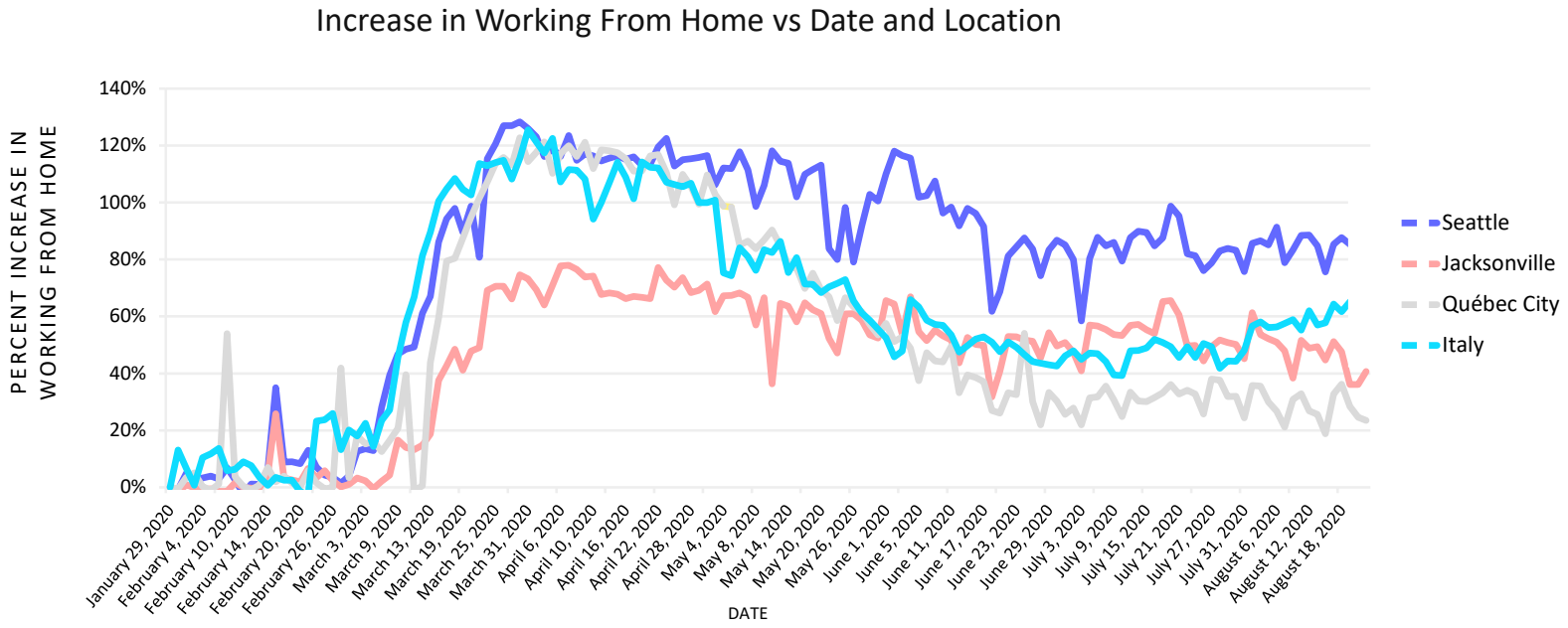
Increase in Working From Home with COVID-19



Seattle highest sustained, Jacksonville lowest, Quebec City biggest recovery, Italy showing rebound

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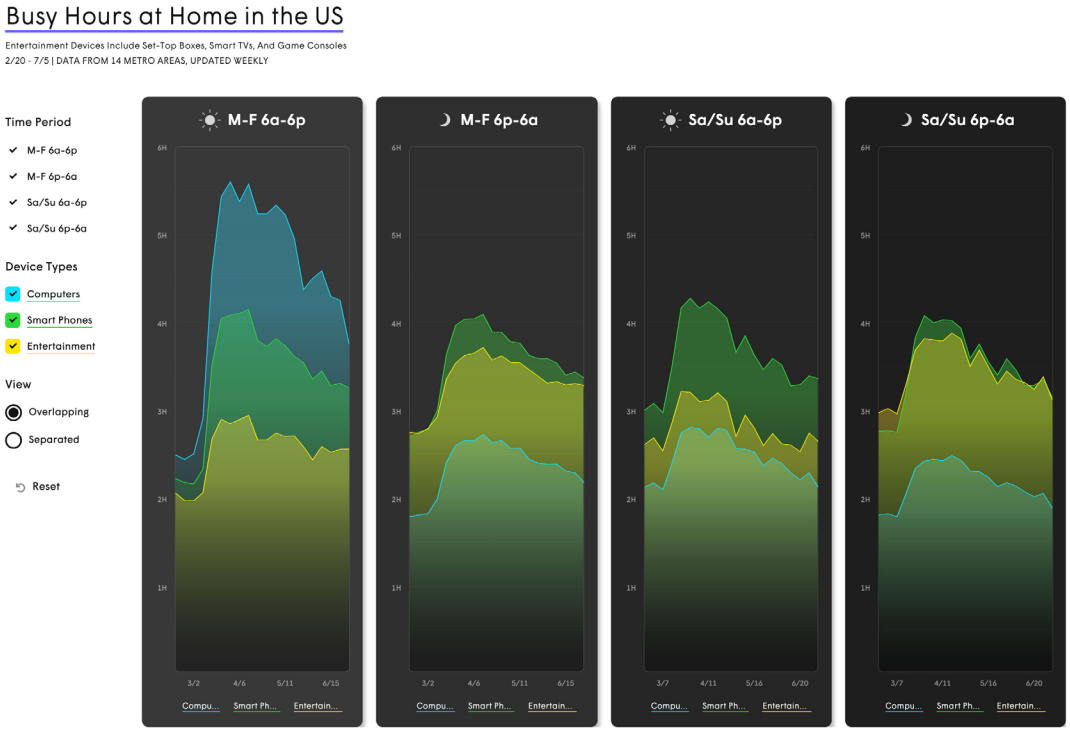
Increase in Device Utilization with COVID-19

Hours of active use vs. device type and time period = strain on network



Computer usage during weekday up by 197%, Smartphone up 152%

Extending the workday: computer usage up 69% in evenings

Total usage up 120%

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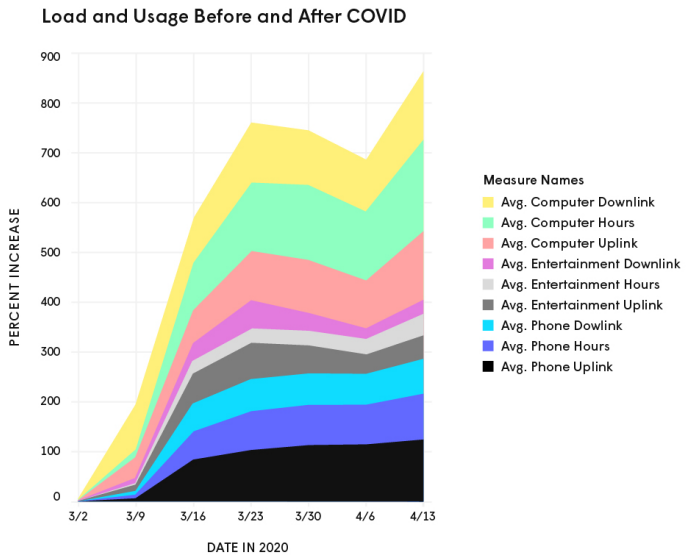
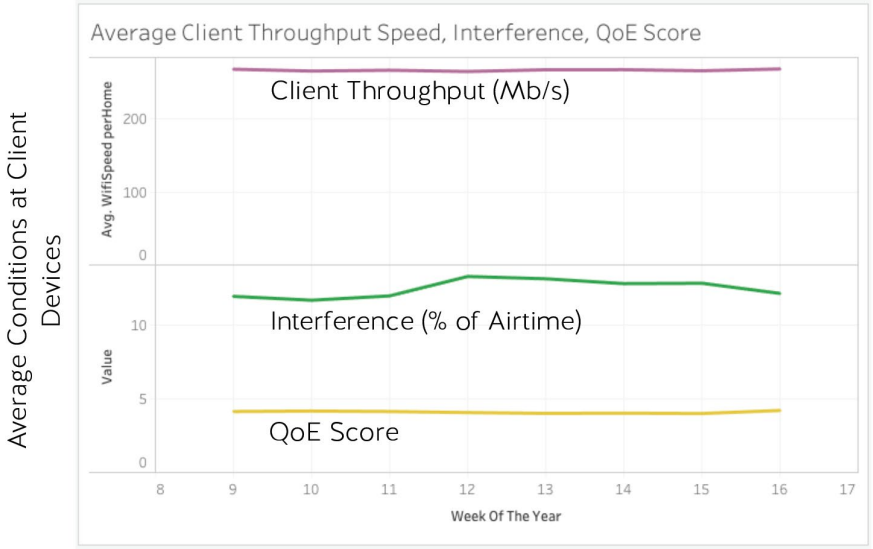
Applying intelligent cloud techniques stabilizes performance



Strain of COVID, increased loads on optimization and steering



Client throughputs, interference levels, QoE scores maintained

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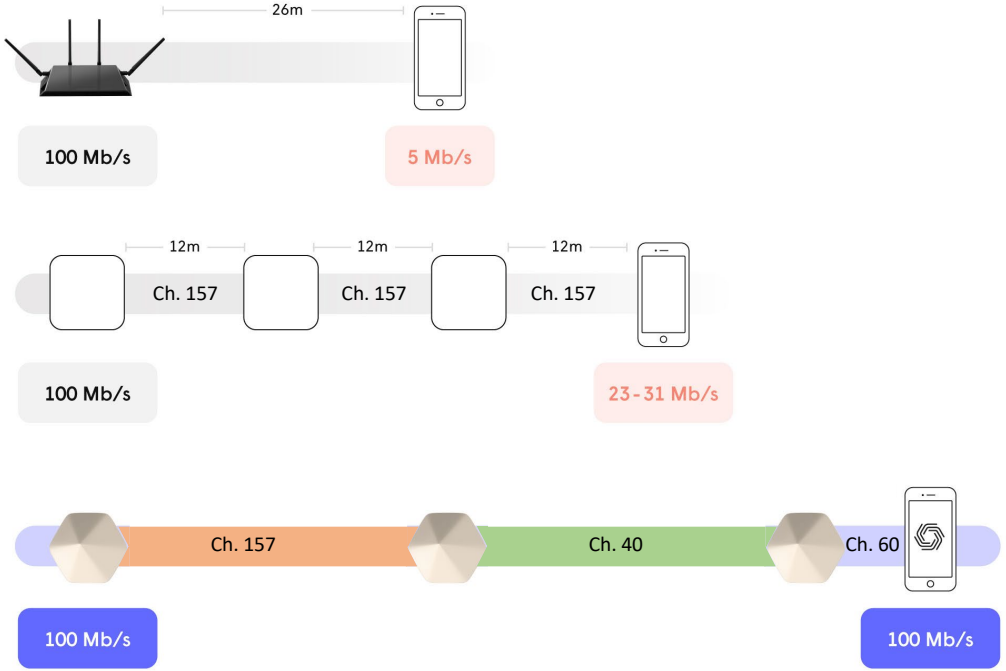
Multi-AP = coverage, optimized multi-channel backhaul = performance



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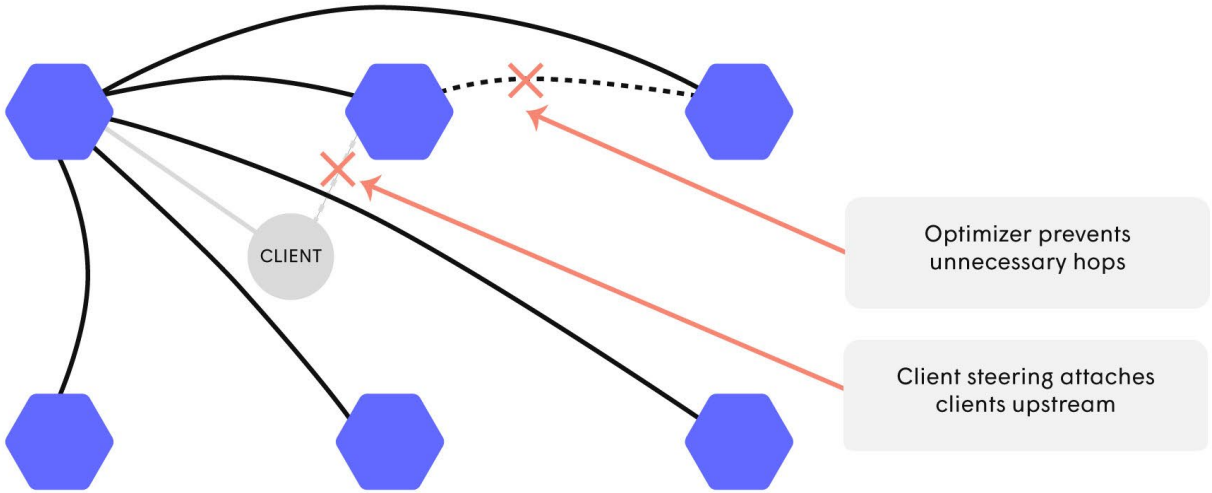
Connections made on basis of performance, not signal strength



The closest AP is often ***NOT*** the best AP

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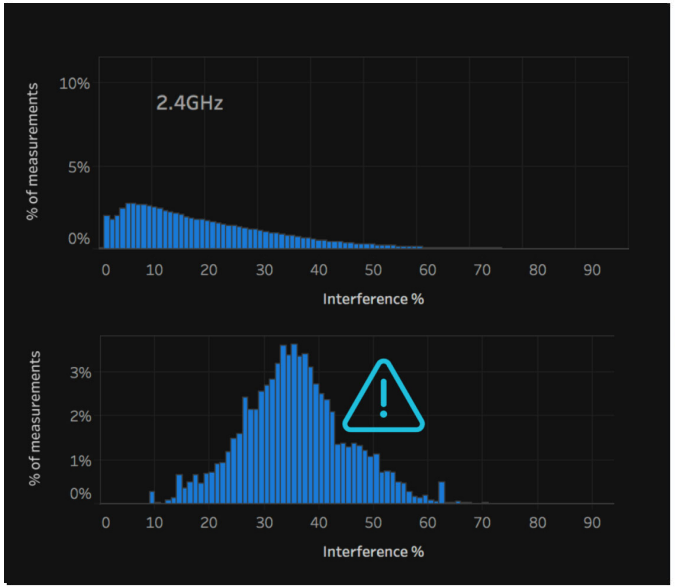
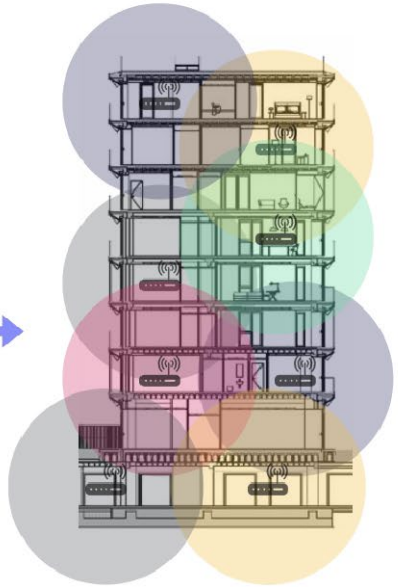
Multi-Dwelling Unit (MDU) Optimization



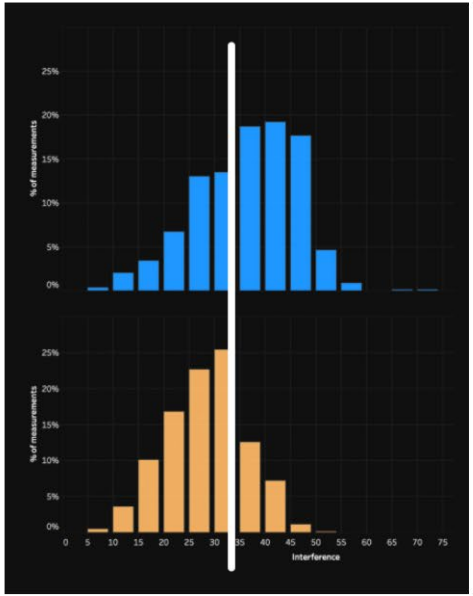
Urban MDUs significantly higher interference than suburban homes



Cloud based algorithm

Auto-cluster MDUs

Optimize over entire MDU



Optimization significantly reduces number of customers experiencing interference above 33%

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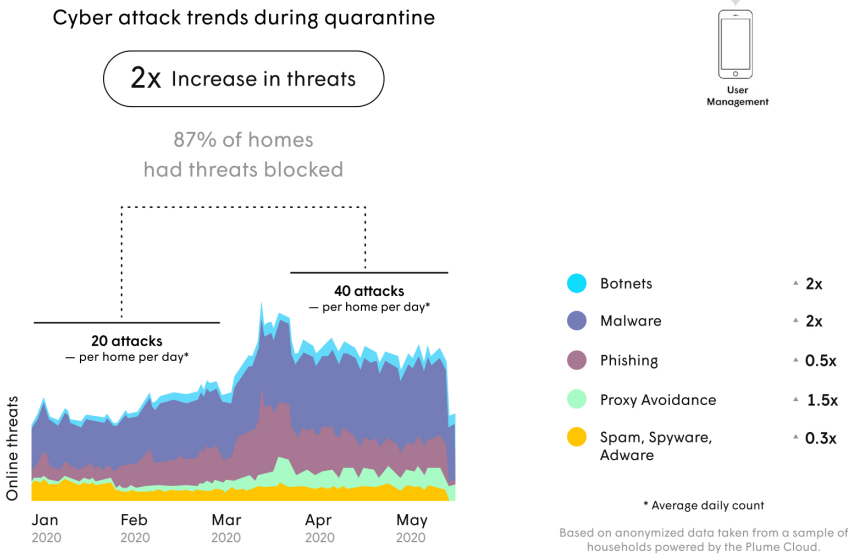
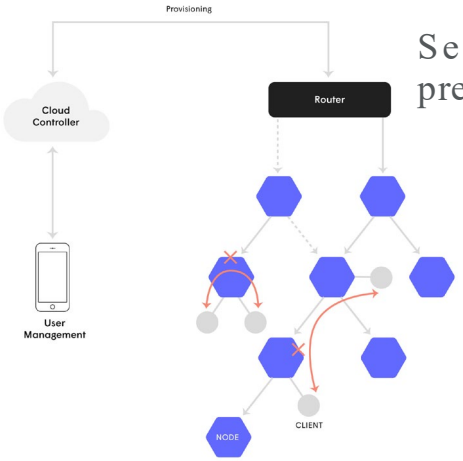
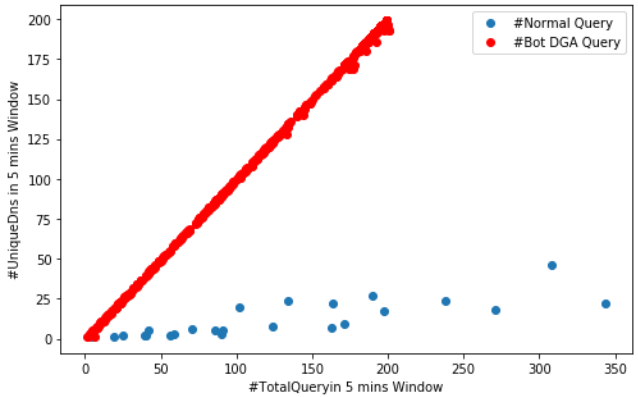




Security at every extender to prevent lateral movement

Machine learning to identify infected devices



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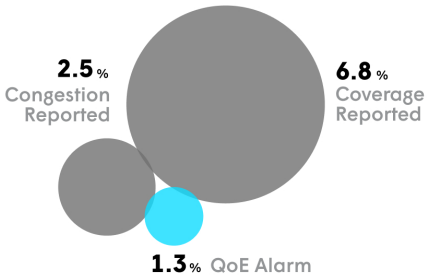
QoE *NOT* QoS

Behavior of services, not the network!

Consider

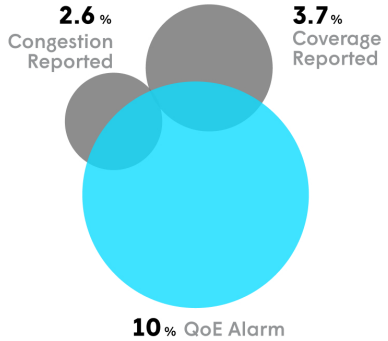
- Device type
- Historical usage
- All hops through network, broadband performance
- Secondary parameters: PER, Channel utilization, interference
- Learn across millions of devices

IoT device alarms by type



Experience issues heavily over-reported

Streaming device alarms by type



Experience issues heavily under-reported

Comprehensive QoE metric

Legacy metrics

* Based on anonymized data taken from a sample of U.S. households powered by the Plume Cloud

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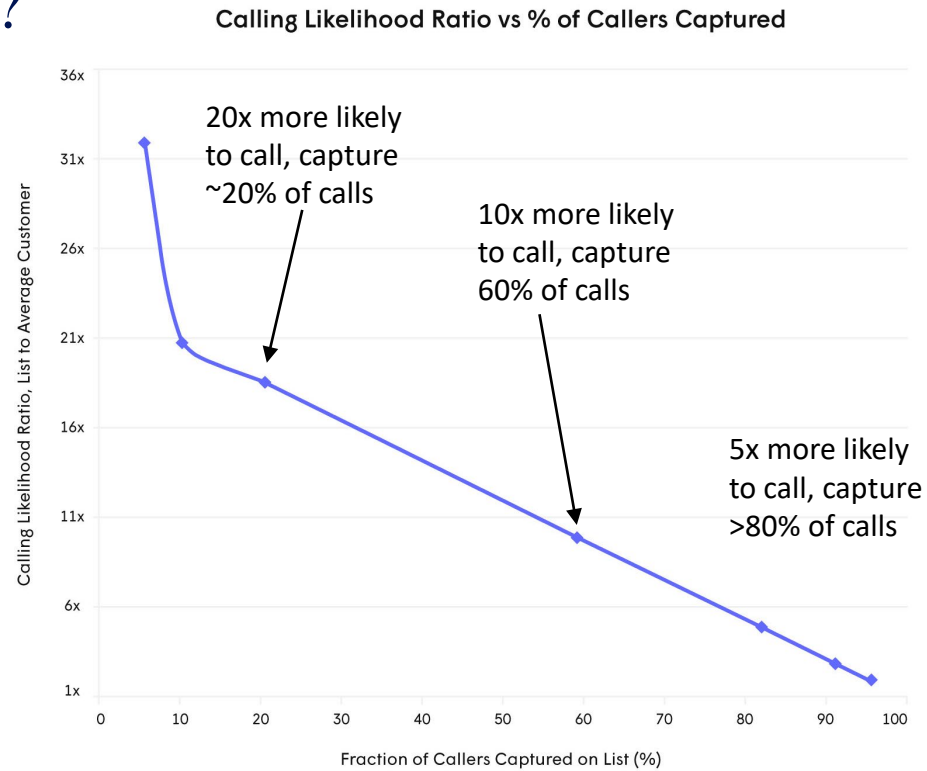
A List of Who is Going to Call?

Use machine learning to predict who is going to call

- Direct proactive maintenance
- Send preventive emails
- Understand what drives calls

Utilize hundreds of factors about network performance, usage, customer behavior



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Thank You!

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