



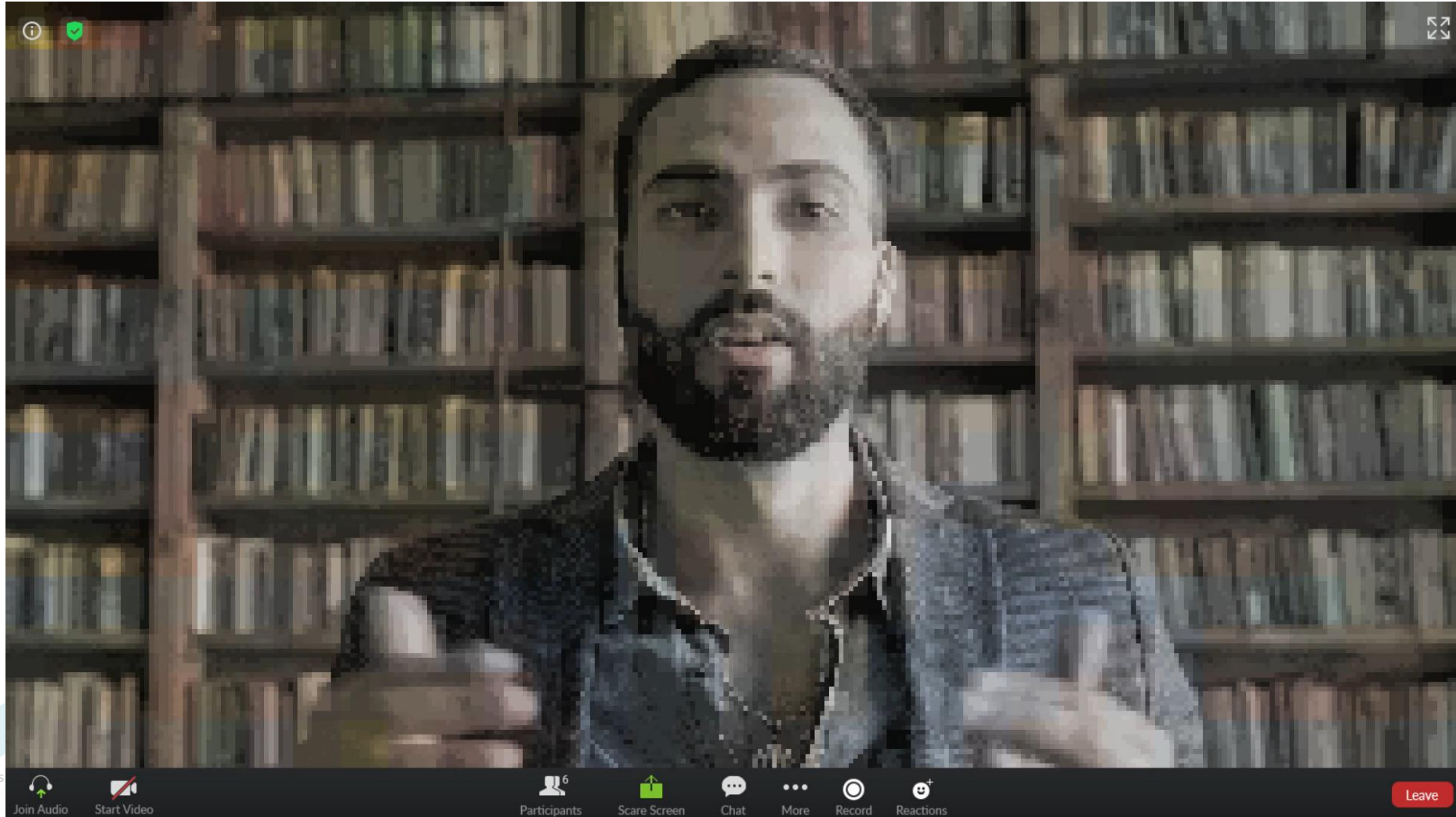
AI IN NETWORKING: MODERNIZE YOUR NETWORK WITH JUNIPER MIST

Yedu Siddalingappa, Tech Lead Specialist, Juniper Networks

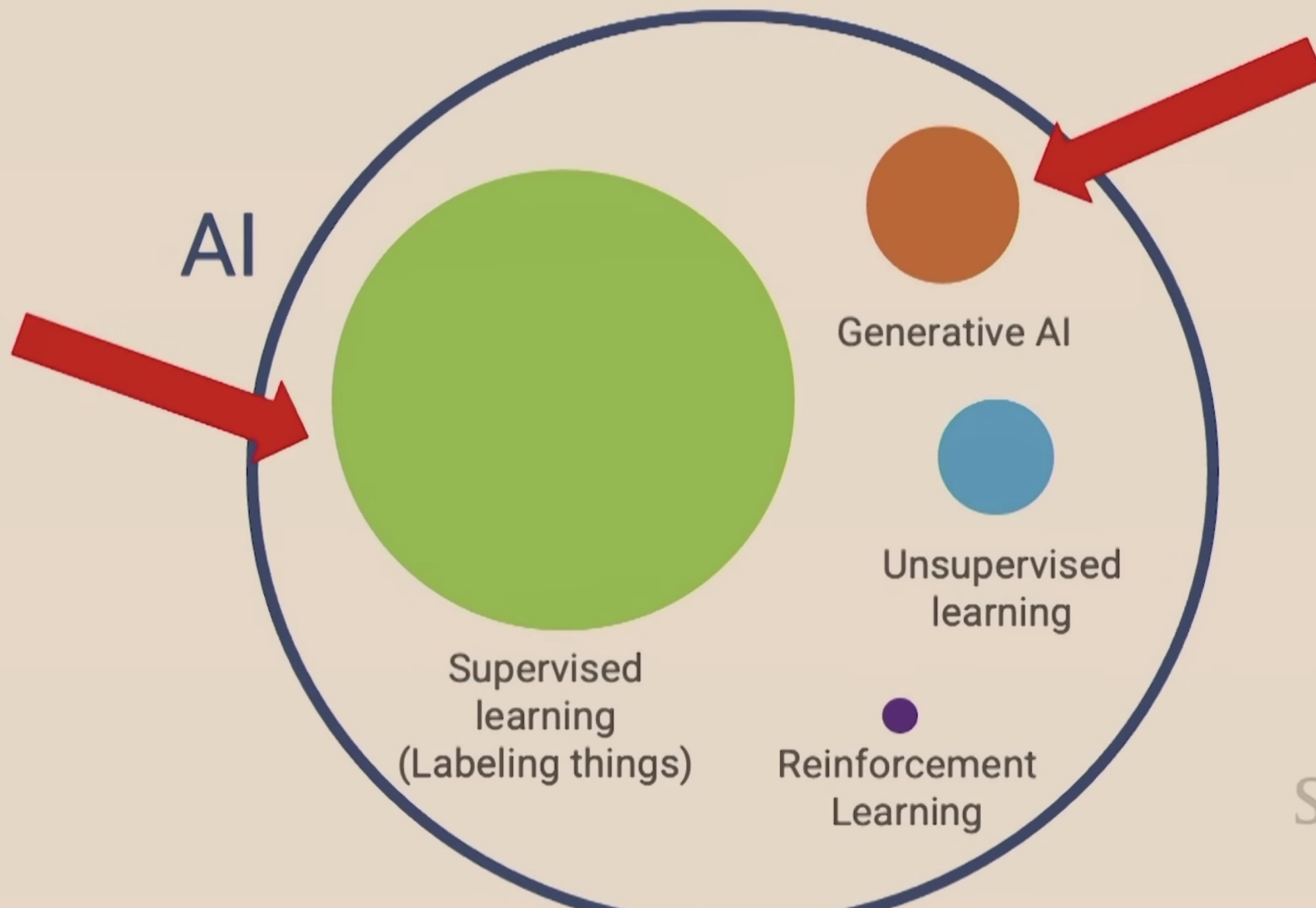


Why AI in Networking ?

- Reduce the burden on Network Operators
- Improve User Experience



AI is a collection of tools



Stanford

Andrew Ng



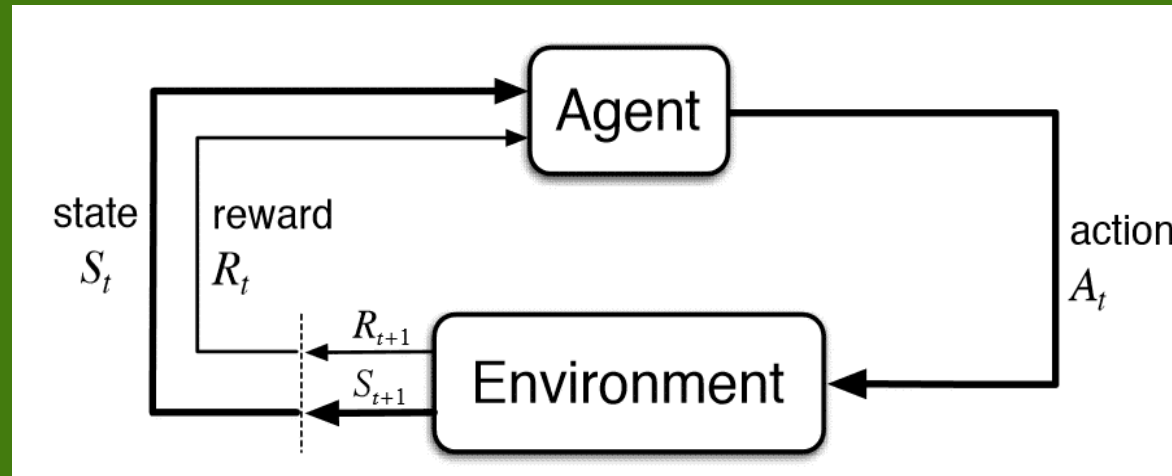
Reinforcement Learning

AI IN ACTION



Reinforcement Learning – Delivers Amazing User Experience

REINFORCEMENT LEARNING



AI Driven Radio Resource Management



Reinforcement Learning – Fewest User Complaints Ever!

“...99% drop in student complaints”

University of Massachusetts Amherst



University of
Massachusetts
Amherst



Jim Mileski
Chief Technology Officer



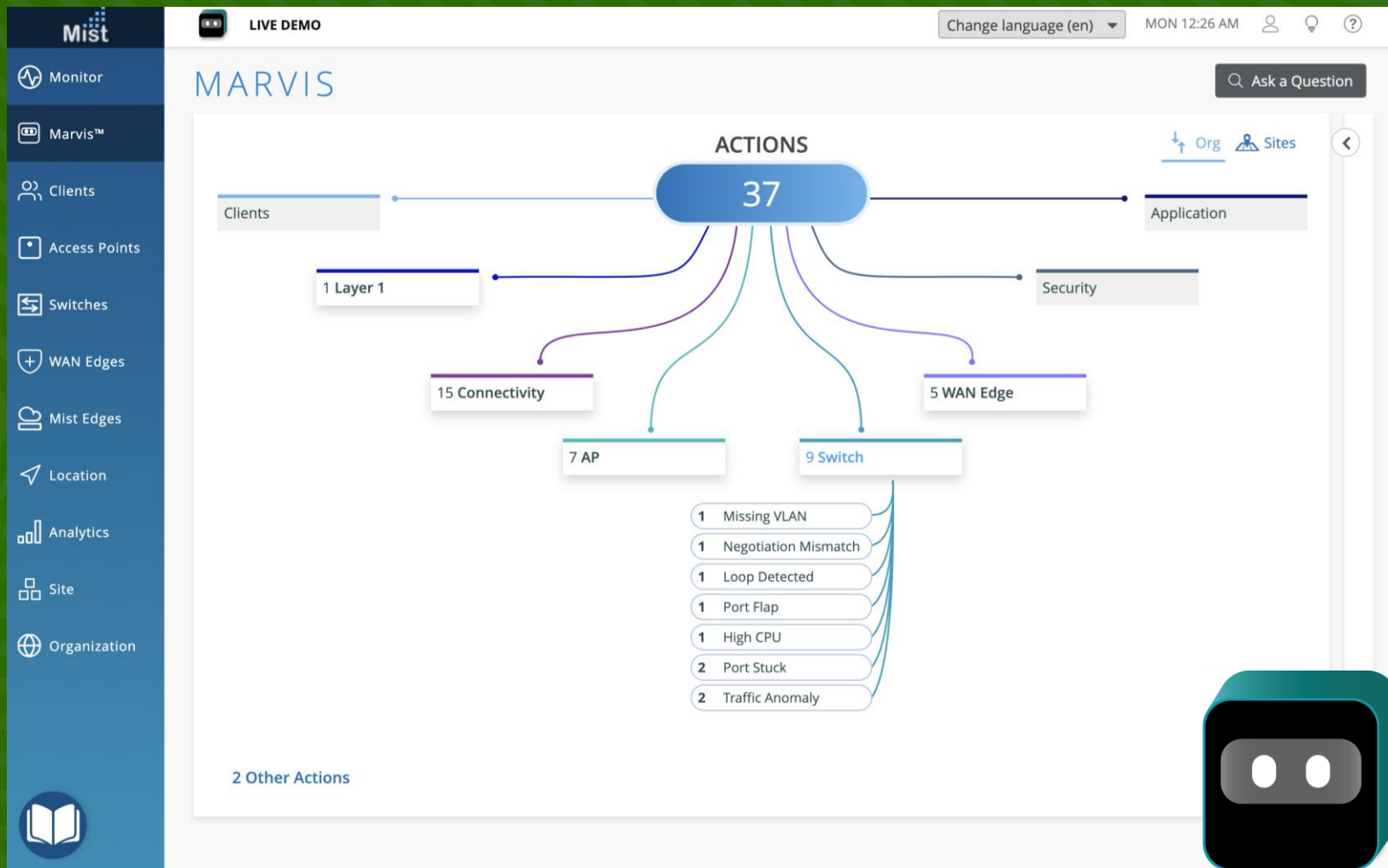
Keith Parsons | [LinkedIn](#)
Heavy Wireless



Supervised Learning

AI IN ACTION

Supervised Learning – Improves IT Operations Experience





Supervised Learning – Improves IT Operations Experience

Large Logistic
Provider

“...MTTR down 96% on average per ticket”

Walmart  Global Tech

“...dramatically decreased rollout time”

GAP

“...85% reduced site visits”

servicenow

“...over 90% reduction in user opened support tickets”

Large Service
Provider

“...fastest most efficient technology roll out in our history”

MIT

“...it’s like we woke up from a dream, watching Mist roll out”



“...best technology we have ever deployed in restaurants”

 Dartmouth

“...since Marvis, escalated tickets are down by factor of 10”

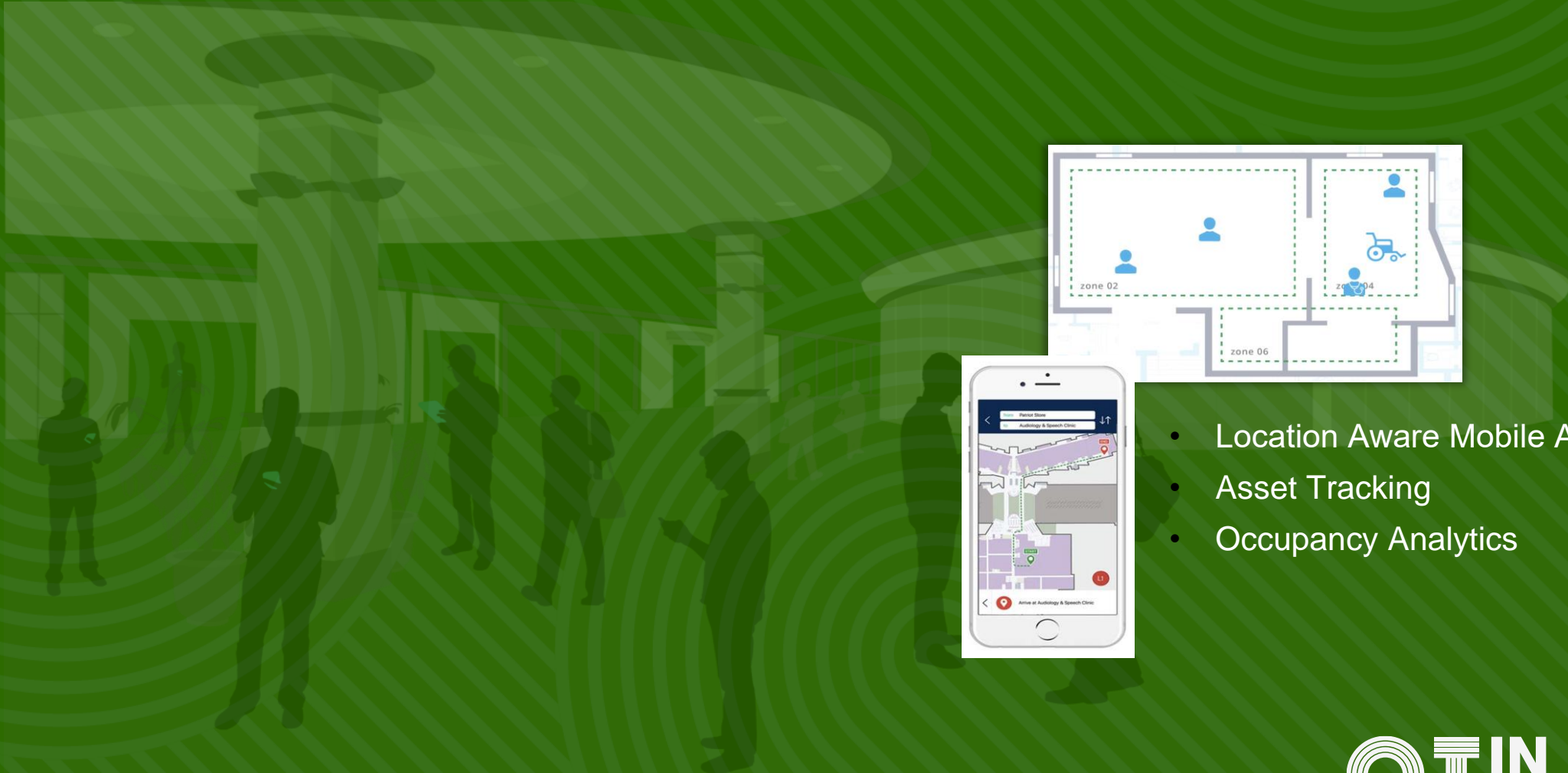




Un-supervised Learning

AI IN ACTION

Unsupervised Learning – Enables Digital Solutions

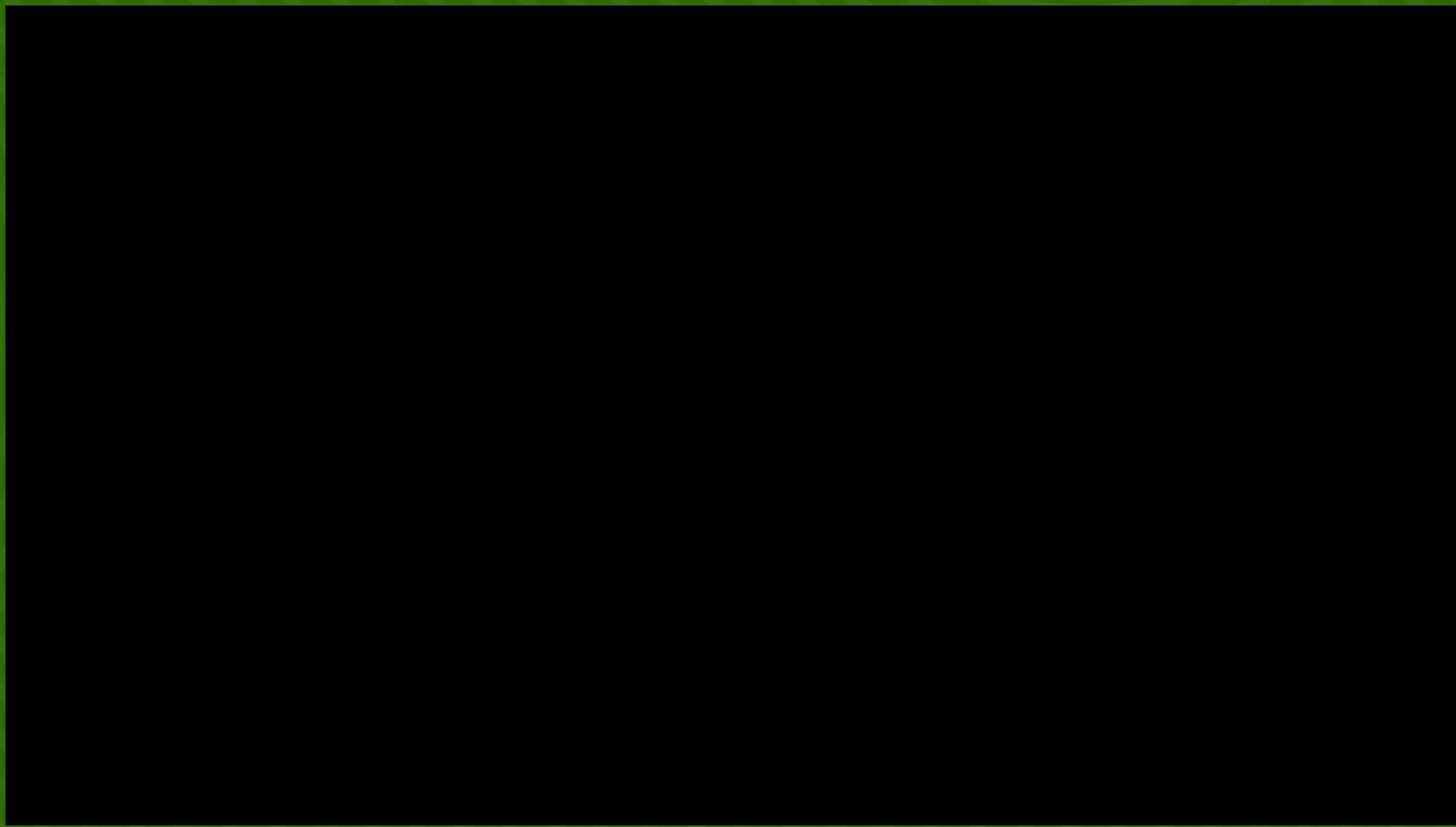


- Location Aware Mobile App's
- Asset Tracking
- Occupancy Analytics



Unsupervised Learning – Enables Rich Mobile Experiences

- Indoor wayfinding
- Multi-floor access
- Population analysis (dwell time)
- Asset tracking
- Location history





Generative AI

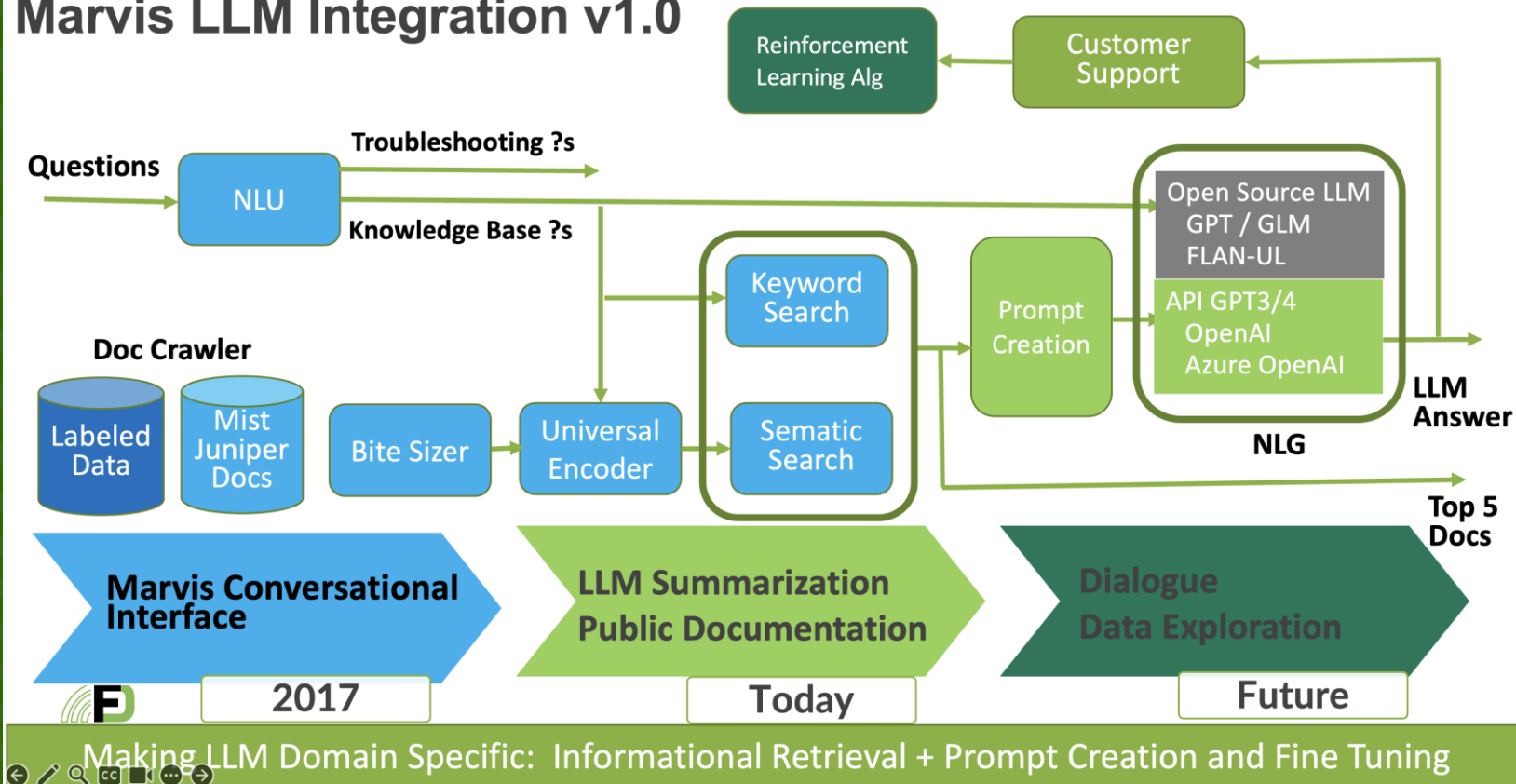
AI IN ACTION



Generative AI – Improves IT Operations Experience

GENERATIVE AI

Marvis LLM Integration v1.0





Generative AI – Improves IT Operations Experience

GENERATIVE AI

The screenshot displays the Juniper Mist Monitor interface. At the top, it shows 'LIVE DEMO' and 'Change language (en)'. The main navigation menu on the left includes Monitor, Marvis™, Clients, Access Points, Switches, WAN Edges, Mist Edges, Private 5G, Location, Analytics, Site, and Organization. The 'Monitor' section is active, showing a 'Wireless' filter and 'Last 7 Days' time range. A 'Users' chart shows a peak in activity around Oct 27. Below this, a 'System changes' bar is visible. The 'Success Rate' section is expanded to show 'All WLANs'. It contains four rows of performance data, each with a success percentage, a line chart, and a list of metrics.

Metric	Success Rate	Chart	Sub-metric	Value
Time to Connect	79% success	[Line Chart]	Association	85%
			Internet Services	0%
			Authorization	11%
			DHCP	4%
Successful Connects	76% success	[Line Chart]	Association	< 1%
			Authorization	> 99%
			DHCP	< 1%
			ARP	0%
			DNS	< 1%
Coverage	85% success	[Line Chart]	Asymmetry Uplink	37%
			Asymmetry Downlink	0%
			Weak Signal	63%
Roaming	95% success	[Line Chart]	Latency	78%
			Stability	2%
			Signal Quality	20%



Mutual Information

SLE Feature Discovery
Anomaly Scope Cause Analysis
Zoom Root Cause Analysis

Logistic Regression

AP Health, Switch Health
Port Stuck, High CPU

XGBoost Decision Tree

Zoom Prediction
Switch Uplink Detection

LSTM- Neural Network

PreConnection Anomaly
Detection,
Wired Anomaly

Domain Expertise Classification

Service Level Metrics, Event Timeline

K-Means Clustering

Scope failure analysis

Decision Tree

AP / Switch Health, DHCP
Health, Coverage Hole, bad
cable

Bayesian Inference

Anomaly Root Cause Analysis
Persistently Failing Clients
Auto Placement of AP

SUPERVISED LEARNING



GAI / LLM / Transformers
Marvis Conversational Assistant

GENERATIVE AI

Unsupervised Learning
Location

UNSUPERVISED
MACHINE LEARNING

**Reinforcement
Learning**

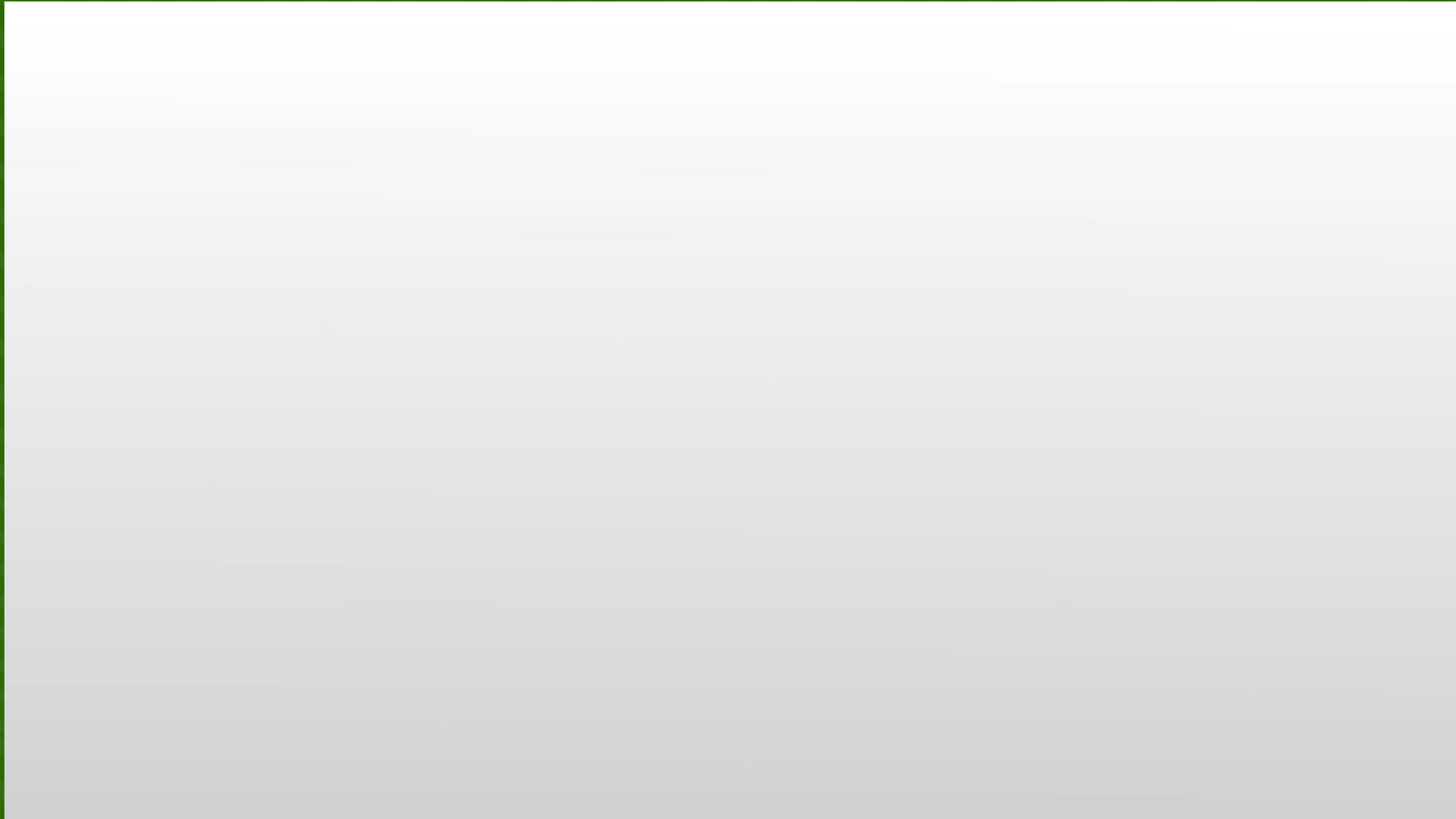
AI Driven RRM

REINFORCEMENT
LEARNING





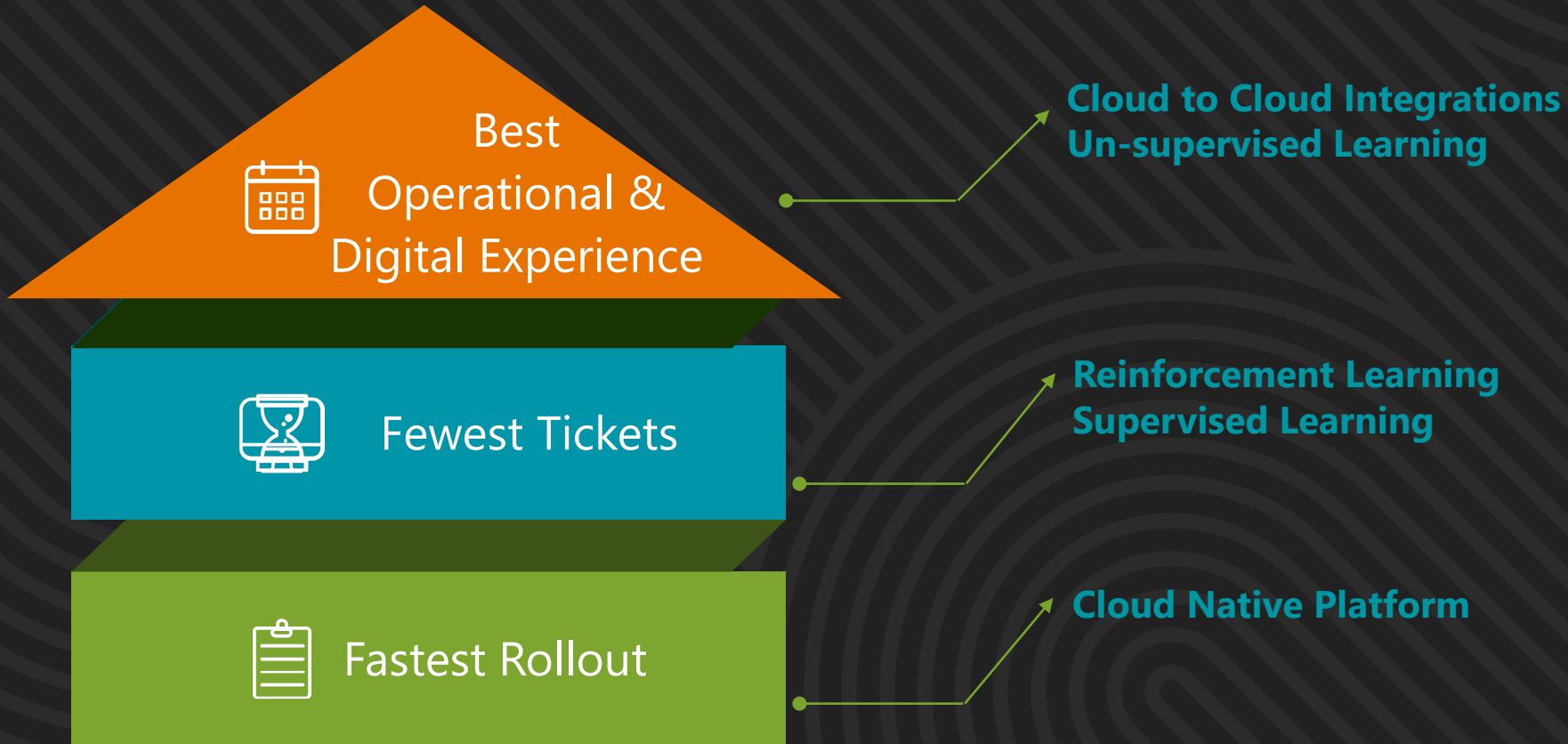
Simplifying AI Adoption – with Marvis



MARVIS

CTION

What you should expect from a Juniper-Mist Network!



THANK YOU

AI IN ACTION JUNIPER
driven by Mist AI

