NETSCOUT

Migrate to the Cloud with Confidence

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NETSCOUT at a glance

- $1B+ Revenue
- 3500 Employees – 35% in R&D
- 3 Major design centers
- Security
  - For both Enterprise and Service Provider
  - Market leader in DDoS
- Enterprise
  - Solutions for SME to the largest businesses
- Government & Defense
  - Federal, Civilian, State, Local, DOD
- Service Provider
  - Scaling to the worlds largest and busiest networks
By 2020, over 90% of Enterprises Will Use Multiple Cloud Services and Platforms

- Source IDC
Digital Transformation Driven by The Hybrid Cloud

Originally driven by lines of business – quickly becoming a strategic asset

Emerging technology to provide elasticity in the enterprise infrastructure

Public Cloud

Private Cloud

Conventional Infrastructure

IT Must Provide a Complete and Common Management Approach

Still a critical part of the enterprise service offerings
Existing Apps on the move
New Apps run in Multi Cloud Environments

- Classic n-Tier Design
- Microservices

- Outsourced Private Cloud
  - SDDC-NSX, ACI
- On-Prem Private Cloud
- SaaS
- On-Prem Traditional
  - ESXi, Hyper V, KVM...
- On-Prem Public Cloud
- Public Cloud
  - AWS, GCP, Azure

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Virtualizing the Network with SDN
Decoupling Applications from Infrastructure

- **Topology Independence**: Application agility without regard to the underlying physical topology
- **Network Virtualization Platform**: Aligning a ubiquitous networking and security platform to the application
- **Pooled Data Center Capacity**: Maximizing utilization and offering complete flexibility
VMs, Hypervisors, Networking and Security
Requires collaboration between IT Teams

Application
SDN (e.g. NSX, ACI)

Server

Network

Network Infrastructure
Data Centers / Cloud etc.
What keeps the IT Teams awake at Night?

- Why is my application performance suffering?
- Where are my VMs Hosted?
- Why is the host to host traffic increasing?
- How do I engineer traffic in my data center(s) / to the cloud?
- Why are these applications consuming so much bandwidth?
- How are my Apps Communicating?
- How are my VMs performing?

**Diagram:**
- Application
  - IP payload
  - IP 10.0.0.1, 10.0.0.2
  - Ethernet vMAC1, vMAC2
- SDN Controller
  - VxLAN
  - UDP
  - IP 192.168.0.1, 192.168.1.1
  - VLAN
  - Ethernet
- Server
  - Network
  - VLAN
  - Ethernet
Managing The Hybrid Cloud Environment

Too Many People Using Too Many Tools with Little Automation

- Server Management Tools
  - Virtual Servers
  - Physical Servers

- Network Management Tools
  - Legacy Network
  - Software Defined Network

- Application Management Tools
  - Cloud Applications
  - Legacy Applications
nGenius ASI – Transforms Wire Data to Smart Data

- Key Performance indicators
- Session Records
- Packet Capture
Adaptive Service Intelligence – ASI+

Pervasive and Scalable Technology
- Software-centric, designed for both physical and virtual environments
- Tier-1 scale
- Technology innovator

Smart Data
- Multi-dimensional meta-data
- KPI, FLOW, SESSION, PACKET
- Entire Service Stack – applications, DB, enablers, serves, dependencies…

Open API
- KAFKA – streaming
- REST – on-demand
- Export to third parties

Greener Deployment
- Process then store model
- Uses least amount of hardware
- Smaller footprint, less power

Scalable, Real-Time Actionable Intelligence
nGenius Service Assurance Solution
Smarter Analytics from Smart Data

nGeniusONE
InfiniStreamNG
ASI

Network Assurance
Application Assurance
Infrastructure Assurance

vNG1
vSCOUT & vSTREAM
ASI
nGeniusPULSE

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Network Assurance

- An application oriented view of network services supporting the delivery of business services
- Network team visibility for capacity needs and to ensure availability, reliability and responsiveness of applications
- NETSCOUT is the leader and inventor of wire data based network assurance
Network Assurance / Capacity Management

North-South (VXLAN) Traffic Analysis

- Host to Host Traffic, by Application
- Virtual Network (VNI) Tracking by Host, VM and Application
- Traffic to Cloud
- Application Analysis
- Service Dependency
Why is the host to host traffic increasing?

Why are these applications consuming so much bandwidth?
Application Assurance

- Application teams require visibility into increasingly complex and distributed applications.
- Custom applications are increasingly likely to use a micro-service architecture distributing services over many servers.
- vSCOUT and vSTREAM have made monitoring throughout this environment possible and affordable.
Application Assurance
East West Visibility in the Virtual Environment

vNG1
vSCOUT & vSTREAM

ASI

- KPI's and Application Analysis
  - Latency
  - Transactions
  - Errors
  - Service Dependency

1. vSCOUT runs in the Virtual Machine
2. vSCOUT delivers ASI that can be leveraged by nGeniusONE
Application Assurance
East West Visibility in the Virtual Environment

1. vSCOUT runs in the Virtual Machine
2. vSCOUT delivers ASI that can be leveraged by nGeniusONE
   • KPIs and Application Analysis
   • Latency
   • Transactions
   • Errors
   • Service Dependency

Why is my application performance suffering?

How are my VMs performing?

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Extending Visibility in the Data Center
Physical and Virtual
Migration to the Cloud Can Limit Visibility

On-Prem Data Center

AWS, Azure, GCP

Cloud
vSCOUT Illuminates the Cloud

On-Prem Data Center

Cloud

AWS, Azure, GCP
Infrastructure Assurance

SERVER INFRASTRUCTURE MONITORING

Network Device Availability and Health

NETWORK INFRASTRUCTURE MONITORING

Server Availability and Health

SERVICE AVAILABILITY MONITORING

Service Availability of SaaS, Public and Private Cloud, VoIP, and Networks
# Infrastructure Assurance

## Server Infrastructure Monitoring

- **Availability and Health**

## Network Infrastructure Monitoring

- **Network Devices**

## Service Infrastructure Monitoring

- **Service Availability of SaaS, Public and Private Cloud, VoIP, and Networks**

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### Business Services Performance

<table>
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<th>Business Services</th>
<th>Service Tests</th>
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<th>Network Devices</th>
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**How are my VMs performing?**

**How is my SaaS performing?**

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UseCase: Cloud Migration with nGenius
Migrate with Confidence

Westford-
Corporate HQ
e-Business Suite with Corporate sensitive data

London
Main European database (GoldenGate 1)
With data replication of subset of information for performance reasons (GG2)

Singapore
High-Performance, resilient Database
RAC - failover active/active
Visibility in the Hybrid Cloud

Oracle Database Cluster RAC1 / RAC2
AWS – Singapore Region
NFS Storage
nGeniusONE Local Server

AWS – London Region
Oracle Database GoldenGate1
Oracle Database GoldenGate2
nGeniusONE Local Server

Data Center - Boston
nGeniusONE Local Server

Virtualized Services:
Corporate Oracle E-Business Suite
DB VM
App VM
Web VM
DB-Corp VM

nGeniusONE Global Manager

From Azure
From Google, IBM, etc.
Service Dashboard – Global Manager

Performance of Application – inside AWS, and on-prem (Corporate)

Failures in Singapore (AWS)
Web Services Monitor

Singapore Web Server

Errors on increased Load
New User Group Identified
Integrated Performance Visibility
Status, CPU, Memory and Performance, Errors
Visibility across Clouds
Service Dependency - On-Prem (ESX/NSX), AWS, Azure
Migrate to the Cloud With Confidence

Pervasive Visibility and Intuitive Workflows

nGeniusONE & nGeniusPULSE

Service Dashboard
High-level visibility into critical services and performance issues

Service Monitors
Service Monitors identify key performance metrics to verify and correlate service impact

Session Analysis
Perform granular user session tracing and analysis with hop-by-hop transaction and latency

Deep-Dive Packet Analysis
Expert packet-level analysis and decode for deep-dive investigation of service performance issues

Contextual Drill-Down to Infrastructure Health
Quickly identify the status of network and computing equipment and run proactive synthetic tests
Migrate to the Cloud With Confidence
Retain Visibility into Multi-cloud Environments with ASI Smart Data and:

- nGeniusONE
- InfiniStreamNG
- ASI
- vNG1
- vSCOUT & vSTREAM
- ASI
- nGeniusPULSE

Network Assurance
Application Assurance
Infrastructure Assurance
Thank You!

PLEASE VISIT US AT BOOTH 18 PLEXNET / PLATINUM NETSCOUT PARTNER

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