Delivering on Cisco’s Vision for The Internet of Things

Cisco Connected Safety and Security
Announcing secure scalable video surveillance IoT technologies, applications and architectures
Agenda

• Internet of Things
• What’s New
• Customer perspectives
• Q&A
Delivering the right information to the right person (or machine) at the right time.

Leveraging data into more useful information for decision making.

Physical devices and objects connected to the Internet and each other for intelligent decision making.

People + Process + Data + Things = People-to-People + People-to-Machine + Machine-to-Machine
Cisco’s 3 Phase Strategy for Internet of Things

Safety and Security

- As a Platform (1 Year Ago)
  - Next Generation Products
  - Medianet
  - Virtualization

- IoT technologies, applications, architecture (Today)
  - Hyper-scalable architecture
  - IoT Analytics and metadata
  - IoT solutions enablement
  - Camera Software as a Platform

- IoT enabled vertical Business Intelligence
  - Cloud
  - Apps for Vertical Business Intelligence
What’s New? Cisco Internet of Things Portfolio

Cisco Connected Safety and Security Solutions

- Platforms
  - ISR G2, UCS-Express E-1200, E-1400 modules
  - MSP Appliances (12-24 TB Capacity)
  - UCS B and C Series

Video Surveillance
  - VSM 7
  - Federation
  - Dynamic Proxy
  - Medianet & Metadata

Medianet
  - New development platform,
  - Rugged Dome, SD, HD,
  - Megapixel, Box, Dome,
  - PTZ, 3000 to 7000 series
  - Video Encoders

Incident Response
  - Cisco Instant Connect
  - Cisco IPICS
  - IP Dispatch Console
  - PTT & Mobile Clients
  - ISSI gateway

Operations & Access Control
  - Operations Manager
  - Cisco Physical Access Manager, Gateways

New IoT features

Cisco Storage CPS-SS-4RU Series
(120 TB Capacity)
Video Surveillance Manager 7 – What’s new?

IoT technologies and architectures for secure, scalable video surveillance

- **Secure, scalable video surveillance architectures**
  - Centralized Data Center Architecture, Centralized Management
  - Distributed Architecture, Centralized Management
  - Distributed Architecture, Distributed Management
  - **Federator**: New capabilities to support IoT scale
  - **Dynamic Proxy**: Enables efficient use of bandwidth
  - Enhanced medianet capabilities

- **Analytics and metadata platform for business intelligence**

- **Zero data loss solution with Cisco routers**
VSOM Federator

- Easily connect and manage hundreds to millions of cameras and connected devices for centralized or highly distributed video surveillance architectures
- Provides for an operational integration through multiple VSOMs
- Single pane of glass to monitor live and archive video from all end points globally using thin client or SASD
- Configurable level of alerts to consolidate and display to Federator user
- Minimal configuration through use of regions and sites to represent VSOM systems
Cisco Dynamic Proxy
Enabling the efficient use of limited bandwidth for real time video surveillance at IoT scale

Dynamic proxy allows many more users to access live video streams from remote and mobile locations
End-to-End Medianet Management for Secure, Scalable Video Surveillance

- Scale from hundreds, thousands to millions of devices
- Simplify trouble shooting with end-to-end visualization of video flows and on-demand Mediatrace
- Enables fast, accurate resolution of wired or wireless performance issues for end-to-end traffic
- Easily fix video performance issues
- Perform pre-deployment assessment and capacity planning
Secure, Scalable Video Surveillance Centralized Data Center Architecture, Centralized Management

Virtualized VSM on UCS for Hyper-Scalable with practically unlimited number of cameras and devices

Central Storage and Data Processing – Data Center

Users of Video Surveillance System
- Restricted Access
- Full Access

Role-Based Access to Video Cameras and Archives

Other End Users: Police Department, Emergency

Video Surveillance Endpoints (Analog Cameras)
- Analog Stream
- Encoder

Video Surveillance Endpoints (Digital Cameras)
- Digital Stream

IP

WAN
Secure, Scalable Video Surveillance Distributed Architecture, Distributed Management

**Federation of Video Surveillance Operations Manager**

- **Central Users of Video Surveillance System**
  - Restricted Access
  - Full Access

- **Access to Video Cameras and Archives from any VSOM**

**Highly distributed operations with visibility for centralized operations with federation**

- **VSM on UCS C-Series**
  - 32 IP Streams

- **VSM Express on UCS E-Series for ISR**
  - 8 IP Streams

10 Analog Streams

10 IP Streams

IP Streams

WAN

WAN

WAN

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“Zero Data Loss” On-Board Video Surveillance Storage
Transportation Example

- Ability to manage and capture video surveillance from IP camera on-board video storage with zero data loss
- Can be customized to be aware of network bandwidth available and prioritize to meet mission needs
Application Development Platform for all Cisco IP Cameras
Bringing Business Intelligence to the edge

- Cisco IP Cameras have become Smart Endpoints, bring intelligence to the edge

- Dynamically add functionality easily through software
  Ability to install and remove apps, as needed
  Examples: Video Analytics, Audio communications through cameras, IoT Sensor Aggregators, Audio Analytics

- Open eco-system for application development

- All apps will be Cisco tested and certified to provide validated applications
Cisco Video Surveillance 6050 Ruggedized IP Camera

- 2MP IP camera capable of 1080p resolutions as 30 fps
- IP67 housing is dust proof and submersible to 1m
- Ideal for transportation applications
  - Vibration Resistant
  - Suitable for trains, buses, ships, and other vehicles
  - Locking M12 connector (optional M12 to RJ45 accessory available)
- IK10 Rated Vandal proof housing
- Local Storage – Up to 32GB
Analytics and Metadata Platform for Business Intelligence

- VSM post recording motion metadata search to speed incident investigation
- Secure APIs for integration with third party analytics to record and index metadata with video

Video Surveillance Manager 7
A platform for analytics and metadata
IoT Connected Safety & Security CDN Partner Program
Creating Partner Micro-solutions

20+ partners at various stages in the CDN lifecycle covering a wide range of solutions including Video Analytics, Video Network Monitoring, Mobile Clients & Display Walls

- Validated Partners:
  - BRS Labs
  - ActionPacked!™
  - RealityMobile

- Currently Validating:
  - activu
  - intuVision
  - BBV
  - ObjectVideo
  - PRISM Skylabs

- Currently Integrating:
  - CNL
  - AGENT
  - Rockwell Automation
  - ISS
  - SCOPiX
  - INTERGRAPH
  - SureView Systems
  - S2 Security
  - INNOWATCH
  - Netgenium
What’s New? Cisco Instant Connect

New ways to communicate and collaborate using private and public networks

Bringing “Instant Connect” Unified Communications and collaboration into operations powerful new capabilities providing greater control, flexibility, and lower costs
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Customer Perspectives

Dallas Area Rapid Transit
Charles Byrd, Manager, Public Safety Technologies

Brazil Ministry of Justice
Daniel Russo, IT Director
Ricardo Max, Contract Coordinator

Trajano Gabriel, Public Safety Product Manager, Medidata Informatica S/A.
Dallas Area Rapid Transit Case Study

CHALLENGE

• Protecting DART passengers and facilities; provide friendly services and efficient public safety together with over 300 DART police officers and coordination with other public safety agencies
• Better Deter, Prevent, Investigate and ensure safety in an open environment with high passenger traffic
• Improve safety for passengers, emergency call box calls with live video monitoring, investigation for incidents such as objects left behind, crowd monitoring, accidents, and incidents involving people or property

SOLUTION

• Cisco Video Surveillance Manager 7
• Approximately 1700 Cisco IP Cameras deployed within 58 Light Rail Train Stations, with future plans for parking lots, and other areas.

RESULTS

• Improved management of public safety for DART Police and operations with situation awareness for centralized video monitoring
• More efficient operations with video search capabilities, and side by side live and recorded video monitoring
• Five star services rating

Dallas Area Rapid Transit
• Supports Dallas and 12 of its suburbs
• 225,000 Daily Passengers; 104 Million annually
• 45 miles of light rail; 35 miles of commuter rail,
• 120 bus routes; 80 miles of HOV lanes,
• 700 square mile area.

“Cisco VSM 7 and Cisco medianet enabled IP cameras give us the ability to easily use video surveillance technologies for public safety across all of our DART locations to help keep passengers safe and achieve efficient operations.”

Charles Byrd, Manager, Public Safety Technologies, Dallas Area Rapid Transit
Public Safety Case Study: Brazil Ministry of Justice – Mobile Command and Control Center

Daniel Russo, IT Director

CHALLENGE

• Supply vehicles adapted and equipped with technology to act as a Mobile Command and Control Center (CiCCM), operating in a variety of emergency situations during the upcoming sport events and other public safety scenario;

SOLUTION

• Deployed 27 Mobile Command Vehicles
• Embedded 3G/Wifi Connectivity, External Access Point, Switches and routers provided by Cisco Solutions;
• Integrated communication between the operational teams in the field, Mobile C3 and the main Control Centers supported by Cisco IPICS
• Embedded Cisco ToIP integrated to radio communication system;

RESULTS

• Two different models of MC3 vehicles;
• Enhanced the response power of public safety agencies;
• Improved the capability to solve emergency situation;

Integrator: MEDIDATA INFORMATICA S/A.

SESGE, Special Secretary for Security for Large Events
• Responsible for safety and security for Confederations Cup, Olympics 2014, and FIFA world Cup

“Cisco IPICS enables us to effectively communicate and coordinate across security agencies to provide safety and support large events.”

Ricardo Max, Contract Coordinator, SESGE

Integrator: MEDIDATA INFORMATICA S/A.
Brazil Ministry of Justice introduces Mobile Command and Control Center

Dilma Rousseff visits the monitoring center in Brasilia at the Integrated Command Control System for Major Events Security (Photo: Roberto Stuckert Filho/PR)
Thank you