Control Systems

Agenda

1. ROSA Product Family

2. Key Features

3. New Feature Highlights

4. Product Positioning

5. Demo

ROSA Product Family

SPVTG Video Processing Portfolio Overview

VIDEO PROCESSING

- Cisco DCM Gateway — IP Video Gateway
- Cisco DCM Video Processor / transcoder — Video Processing
- Cisco Media Processor — Live ABR Transcoder — INLET TECHNOLOGIES
- Cisco® MEP D9036 Modular Encoder — Encoders
- Cisco Transcode Manager — File based Transcoder — INLET TECHNOLOGIES
- Cisco Receivers — Receivers Decoders
- Cisco ROSA® Cisco PNC — Control Systems

Media Content Delivery Chain

Transitions are taking place in many area's

Production

- News Gathering
- Sport Events
- Studio-to-Studio

Contribution

Cisco ROSA®

ROSA VSM 5.2

Video Contribution

- Studios
- Event venues
- SAT operators
- SPs
- Broadcasters

Post production

Post Production

Production Data Center

Distribution

**Cisco ROSA®
Cisco PNC**

ROSA NMS/EM

IP

Video Distribution

- Cable Providers
- Satellite Providers
- Content distributors
- HFC networks
- Terrestrial networks

Consumer

- Home
- Network
- OTT

Live-Live resiliency   *NLE*   *Encapsulation*   *TV Everywhere*

IP   *Opex*   *I-Frame*   *Low latency*   *P-DC*   *Simulcrypt*   *IP*   *Blackouts*   *DRM*   *Advertising*

10 bit color   *OTT*   *H.264 HD/SD*   *HTTP ABR*   *EPG bundles*   *nDVR*

Videoscape Reference Architecture

Provider systems
- Subscriber Mgmt
- Billing

TRIBUNE MEDIA SERVICES
TV Schedules

hulu
Unmanaged VOD

INDEMAND
starz
Managed VOD

OTA/Sat/Network
Linear TV

You Tube
Unknown

Media Suite
- Unified CMS
- Entitlement
- Publisher

Workflow Control

Migration Suite
- RTN UI Server
- Virtual STB Server

Cisco ROSA®
Cisco SMC

ROSA NMS/EM SMC

Compression Suite
- AS Series Media Processors
- Virtual Origin Services
- Transcode Manager
- Encapsulator / ABR Packager
- Mobile Content Adaptation Engine

Applications Suite
- Value Add Apps
- EAS App
- Companion Device Brk
- XoD
- Linear/TSTV
- nDVR App
- Store Front

Distribution Suite
- Service / Proximity Routing
- CDN Tier (Data Center)
  - CDS Content Acquirer
- CDN Tier (Core / Aggr Routing)
  - CDS Cache
- Edge Routing & Caching Tier
  - CDS Streamer
  - ASR9K (ISM)

ASR5K Mobile Video GW

Cable, xDSL, FTTH, 4G

3G/4G & WiFi

Media GW

Videoscape Home
- Legacy STB
- Hybrid STB
- Videoscape IP STB
- Connected TV, PC & Tablet Soft Client

On the Go
- Notebook & Tablet Soft Client
- Smartphone/ Tablet Soft Client

- Advanced Advertising
- Reporting & Analytics
- Recommendations
- Social Networks

Conductor
- Alert Manager
- Session Manager
- Connection Manager
- Device Manager
- Client Frameworks

End to End System Management

+1750 Systems sold worldwide

Around 80 active accounts in Europe

Around 60 active accounts in NA&LA

Around 40 active accounts in APAC
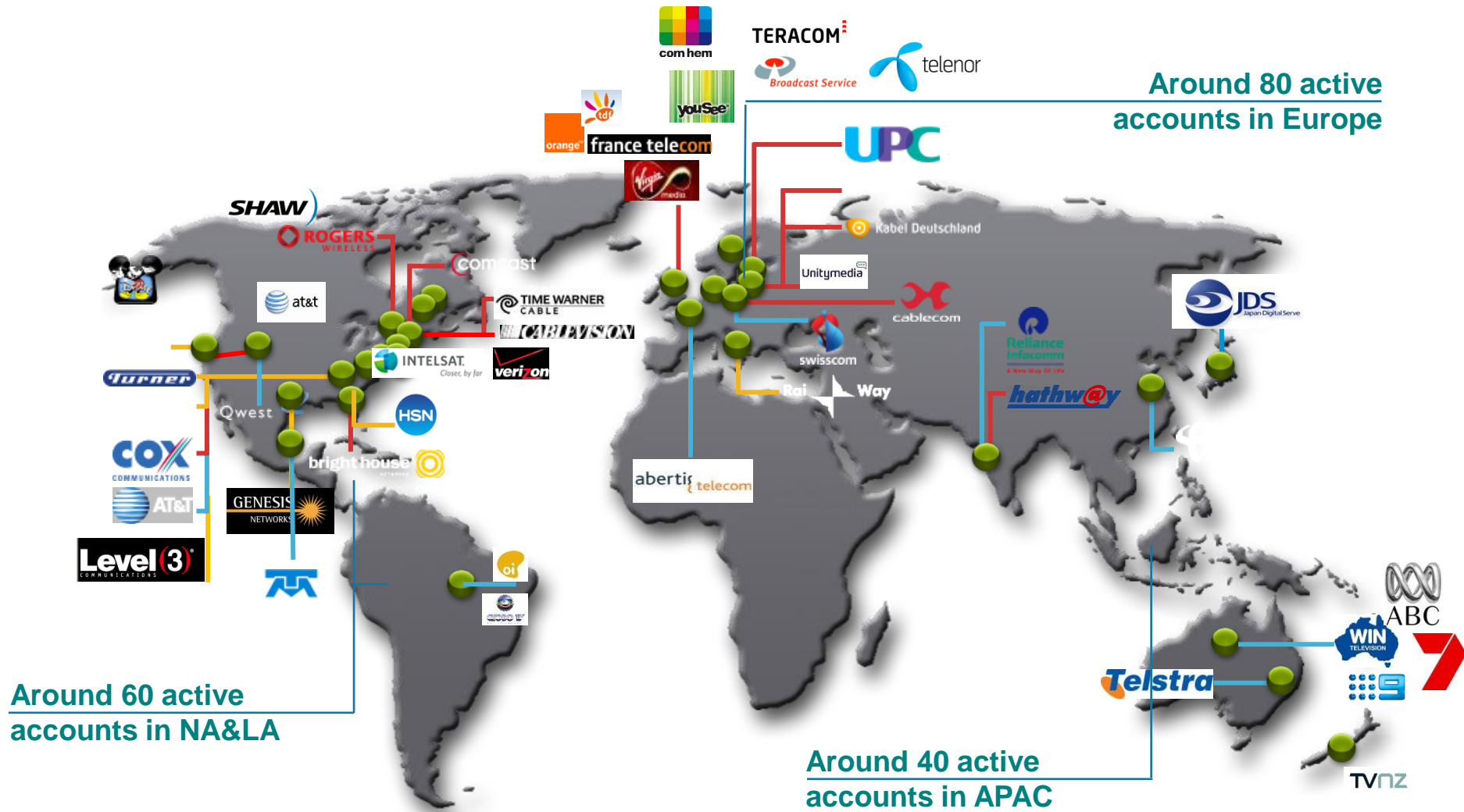
Video Management by ROSA

More than 1750 ROSA NMS Systems Shipped

NA	**+45 Active Accounts**
LA	**+15 Active Accounts**
EMEA	**+90 Active Accounts**
APAC	**+40 Active Accounts**

Near every system ships with Device Redundancy

ROSA is key application is device redundancy control and monitoring for Cisco SPVTG Video Hardware Solutions

ROSA excels in device and service redundancy management

D9036 and Statmux Controller Redundancy
Best-Ever redundancy schemes and mechanisms (protection and speed)

''The'' Management Application for DCM Platform

Large accounts managing 100's of DCMs (TW, FOX, Virgin Media, …)

ROSA entered in IP Contribution

ROSA VSM 5 enters Intelsat, large interest from other accounts
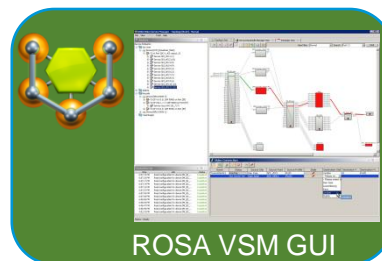
ROSA Product Family
Overview

ROSA VSM

ROSA VSM GUI

Service Oriented

ROSA NMS

ROSA NMS GUI

Device Oriented

ROSA EM

ROSA EM GUI

Network Elements

Cisco + 3rd PTY gear
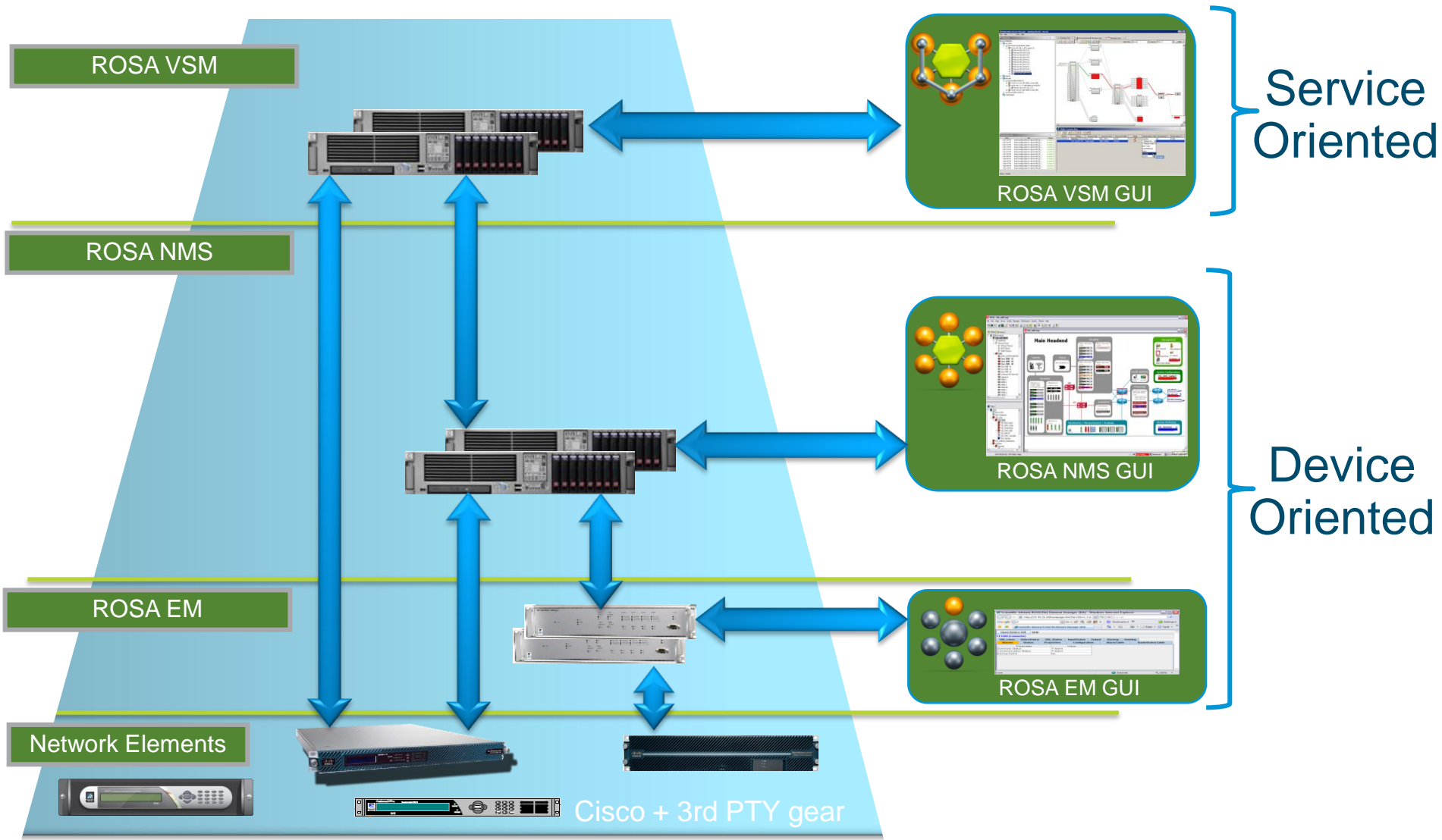
# ROSA Product Family
Key Features

ROSA VSM

- Session Creation and Modification
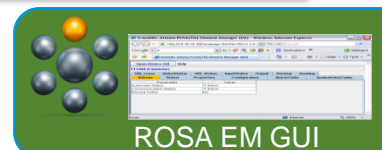- Resource Checking
- Session Scheduling

ROSA VSM GUI

Service Oriented

ROSA NMS

- Automation and Scheduling (Macros)
- DCM Config Suite (DVB Tools, EIS, ..)
- Settings Store / Restore of Device Configs
- Service Status Representation
- Device Alarming and Filtering
- Email Notification of Operators and Engineers
- Performance Monitoring
- Driver Creation Tools (SNMP and Hardcontacts)

ROSA NMS GUI
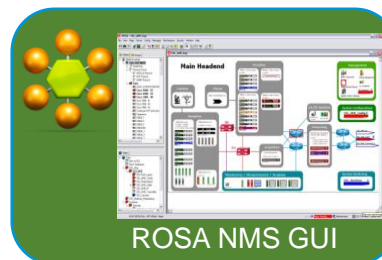
Device Oriented

ROSA EM

- Service Uptime- Redundancy Control & Management
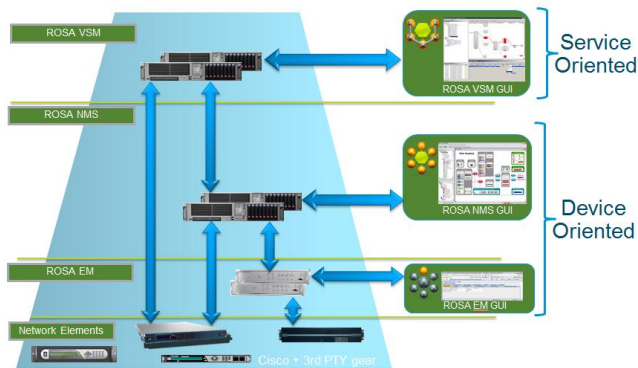- SNMP proxy for serial protocols and hardcontacts

ROSA EM GUI

Network Elements

Cisco + 3rd PTY gear

Key Features

ROSA VMS/NMS/EM – Key Features

- ROSA VSM
- ROSA VSM GUI — Service Oriented
- ROSA NMS
- ROSA NMS GUI — Device Oriented
- ROSA EM
- ROSA EM GUI
- Network Elements
- Cisco + 3rd PTY gear

- Service Uptime- Redundancy Control & Management
- D9036 and Statmux Controller Redundancy **NEW '11**
- Video Contribution – Session Creation , Modification and Scheduling (eg DCM-GW) **NEW '11**
- Video Contribution - Resource Checking **NEW '11**
- Service Status Representation (ASSR)
- DCM Platform Config Suite (DVB Tools, EIS, Macros)
- Automation and Scheduling (Macros)
- Device Alarming and Filtering
- Settings Store / Restore of Device Configs
- High-Availability / Warm-Standby Solution

- Best-Ever redundancy schemes and mechanisms (protection and speed)
- Service and Device status representation in the wink of an eye
- IP Video Device Integration
- Easy to Use Application for Contribution applications
- Support for broad set of devices
- Scalable Solution
- Customizable on customer behalf

ROSA NMS/EM
Feature Overview

Platform Features

Feature	Details	Category
Equipment Backup	• ROSA EM redundancy controller • Support for DCM, D9036, D9034, D9032, D9054, D9854, ….	**Redundancy**
Service Status Reflection	• Aggregated Service Status Reflection • Service Status Dashboards	**Alarming and Status**
Device Alarming	• Device Alarm Logging • Alarm Filters • Alarm viewer • Alarm messaging rules	
DCM Configuration Tools	• SI Editor / Distributor • Macro component and device Macros • AC Manager	**Configuration Management**
Automation and Scheduling	• Macros • Macro Presets • Macro Scheduler	
Equipment Configuration	• Settings Management • Server Side Device Configuration backup and Restore • GroupWise Equipment Manager	
Notification	• Notification Task • Service Dashboards • e-mail notification	**Operator Tools**
Driver Creation	• SNMP Profile Manager • UDD Profile Manager	**Device Integration**
System	• Windows 2008 R2	**System**

ROSA NMS/EM
Essential Component in the D9036 backup support

Sidebar navigation:
- Equipment Backup
- Service Status
- Device Alarming
- DCM Config Tools
- Automation & Scheduling
- Equipment configuration
- Notification
- Driver Creation
- TBD

Diagram labels:
- Input Router (A/V)
- D9036_Main
- D9036_BU
- D9036_Main
- D9036_BU
- D9036_Main
- D9036_BU
- T(0)   T(1) T(2)
- 1:1 Backup
- N:M Backup
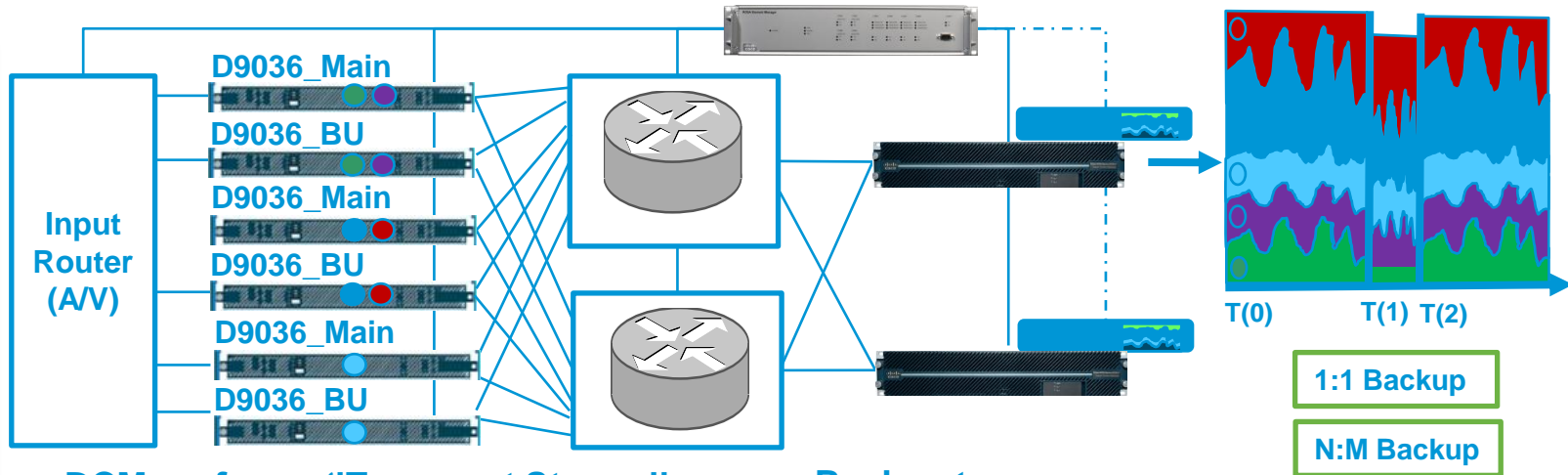
- **DCM performs ''Transport Stream'' Backup (Autonomous)**

- **ROSA EM white and blacklists statmuxed channels per individual stream* >> Adaptive Quality***

- **Alarms / Backup Triggers:**
  - Service Loss Alarm from DCM (Service Loss propagates to TS backup config on DCM)
  - D9036 Device Operational Failure (DOF) alarm / Hard-Contacts D9036 (Optional, additional protection)
  - D9036 Link Loss on GBE Port(s)
  - IP Switch Link Down

- **Backup type**
  - Per Stream Backup (= per Service backup when channels are carried over SPTS to the DCM) *
  - Support for ASI*** and GBE (switch of output Router/Switch)
  - Support for Statmux Operation (White and Blacklisting of statmuxed channels – VSEs)
  - Support for Statmux Controller Backup (1:1) *

Future capability indicated
*** Failover rate period is anticipated to be very short for 1:1 operation*
**** Depends on TS creation*

ROSA NMS/EM
Service Status Reflection – Service Dashboards

- Equipment Backup
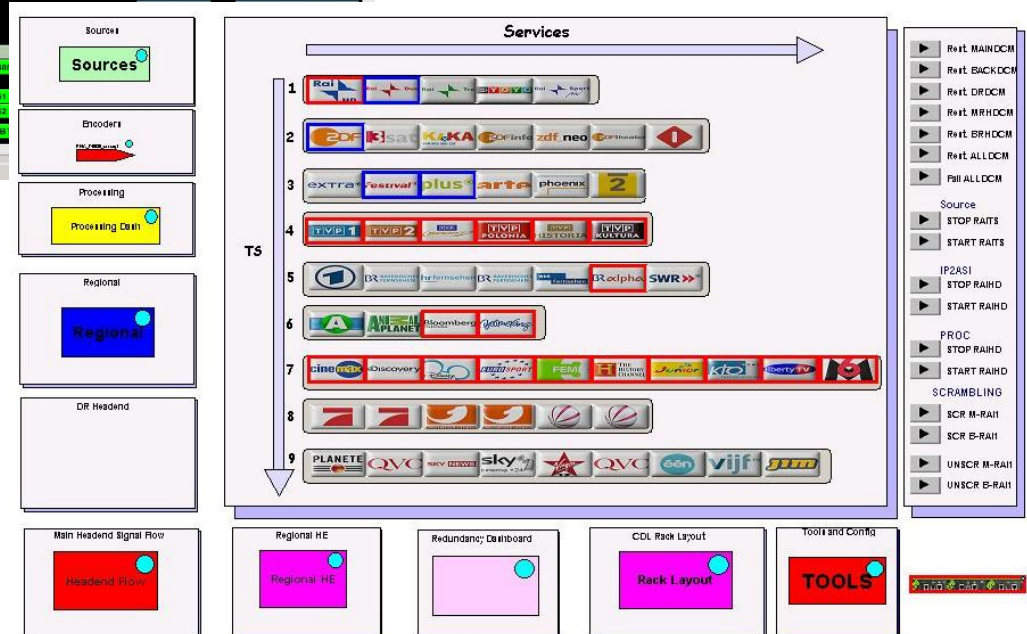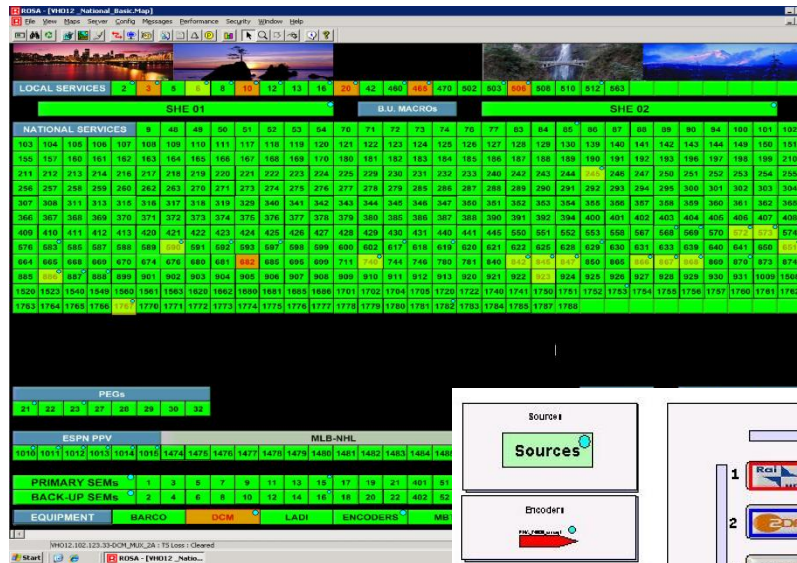- **Service Status**
- Device Alarming
- DCM Config Tools
- Automation & Scheduling
- Equipment configuration
- Notification
- Driver Creation
- TBD

ROSA VSM – Video Service Management

Total Control with Dockable Views

Topology   **Alarms**   **Services**   **Scheduling(*)**

(*) VSM 5.2

ROSA VSM – in Contribution ...

Controlling video flow and configuration

- Video Flow Control and Verification over Easy-to-Use GUI

- Single Click Service setup and tear-down

- Manual and Scheduled (*) setup and tear-down of Sessions/Services

- Easy Configuration of Devices via pre-defined configuration templates

- Video Equipment Redundancy Support

- Video Resource Verification
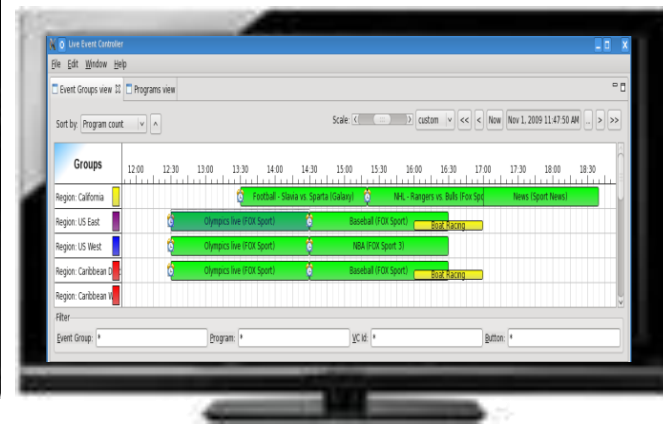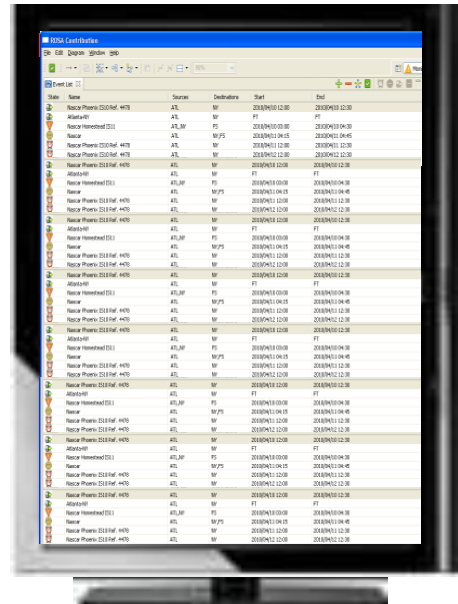
(*) VSM 5.2

ROSA VSM
Feature Overview

Platform Features

ROSA VSM 5 Client	▪ Dock-able Views ▪ Multi-Panel Support	**Client Software**
Topology Management	▪ Network topology ▪ NMS <> VSM mapping of devices ▪ Detailed Connection of the devices	**Network**
Session Builder	▪ Guided Event Creation ▪ Easy verification ▪ Graphical Assistance	**Connection Management**
Event Manager and Overview	▪ Event List ▪ Operator Main interaction	
Device Configuration Templates	▪ Easy configuration of devices ▪ Reduce complexity	
Scheduler (*)	▪ Easy overview ▪ Shedule GUI	
Alarm Visualization	▪ Device status indication ▪ Easy access to comprehensive error reports	**Monitoring**
Device Support	▪ DCM/DCMG ▪ Video routers ▪ D9094 ▪ Probe integration	**Device Integration**
Platform	▪ High availability support ▪ Co-install with ROSA NMS	**System**

(*) VSM 5.2

ROSA VSM
Scheduler – Scheduling Sessions

VSM 5 Client

Topology Management

Session Builder

Event Overview
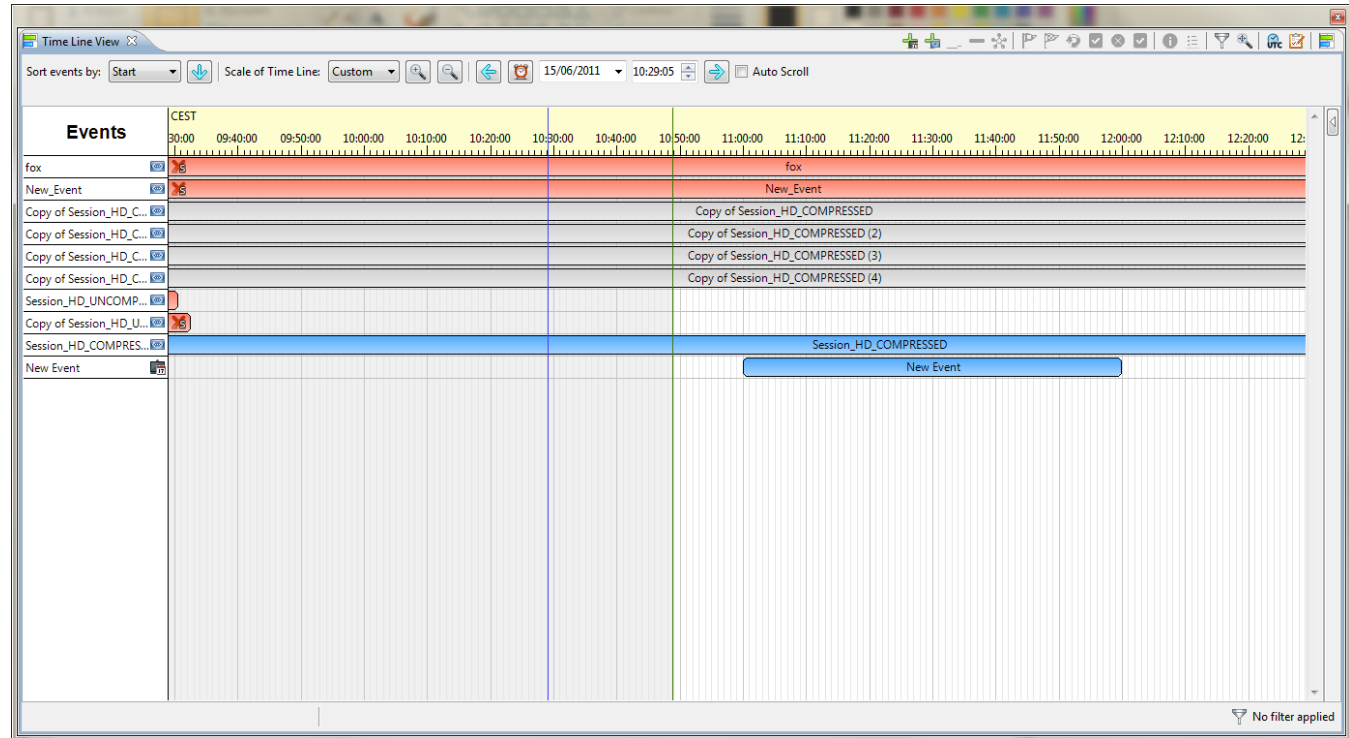
Configuration Templates

Scheduler

Alarm Visualization

Device Support

Platform

- **Session can be scheduled**

Example of Scheduler Timeline view in VSM 5.2 GUI

- **Graphical User Interface – timeline view**

- **Consistent and easy-to-use overview**

New Feature Highlights

ROSA Product Family
New Feature Releases, brief overview

ROSA VSM

ROSA NMS

ROSA EM

ROSA EM 4.01.50

Released

D9036 Device Driver
D9036 Redundancy Support
Device Backup Status on NMS Maps

Network Elements

Cisco +
3rd PTY gear

ROSA EM 4.01.80

July 2011

D9036 Redundancy in Stat.Mux.
Stat. Mux. Controller Redundancy (1:1)

ROSA Product Family
New Feature Releases, brief overview

ROSA VSM

ROSA NMS

Released

ROSA NMS 4.4

Enhanced High Availability Support (HA + DR)
Settings Management support for D9036
Windows 2008 R2 Support
Simplified License Model (*)

September 2011

ROSA NMS 4.5

UCS Server Support

ROSA EM

Network Elements

Cisco + 3rd PTY gear

(*) First step on Oracle / DCT introduction, planned for NMS 4.5

ROSA Product Family
New Feature Releases, brief overview

VSM 5.1 Intro to broader market

Full-Time/Linear Sessions / Topologies
DCMG and DCM Support
Enhanced Session Manager
Device Alarming

Released

ROSA VSM

NEW

ROSA NMS

VSM 5.2 Scheduling of Sessions

November 2011

Session Scheduling
Resource Conflict Prediction
UCS Server Support

ROSA EM
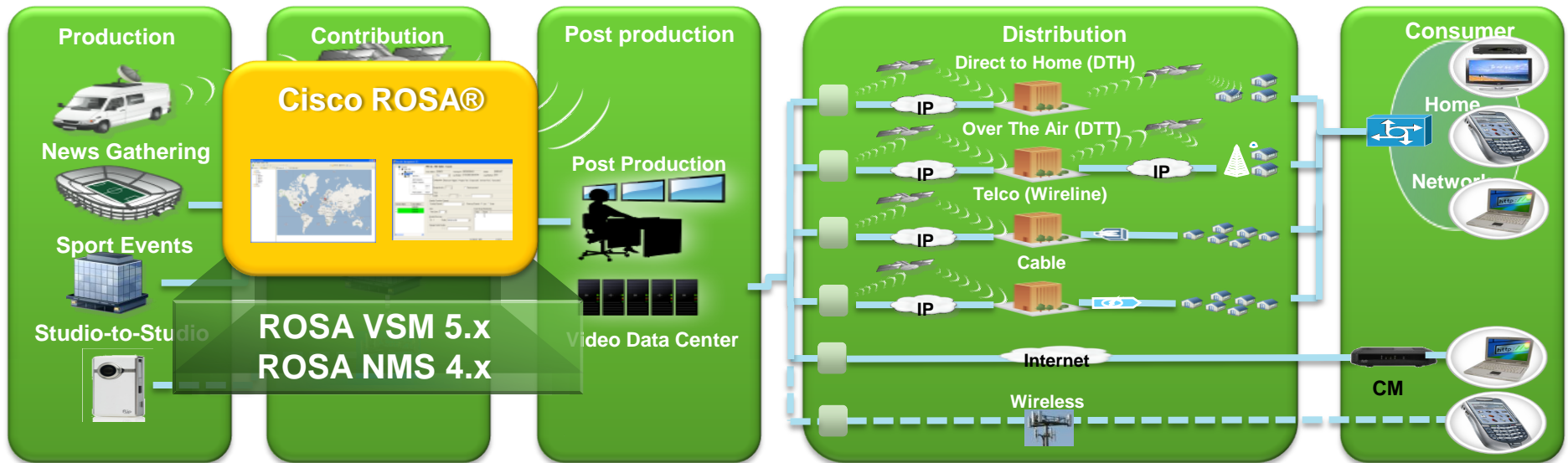
Network Elements

Cisco + 3rd PTY gear
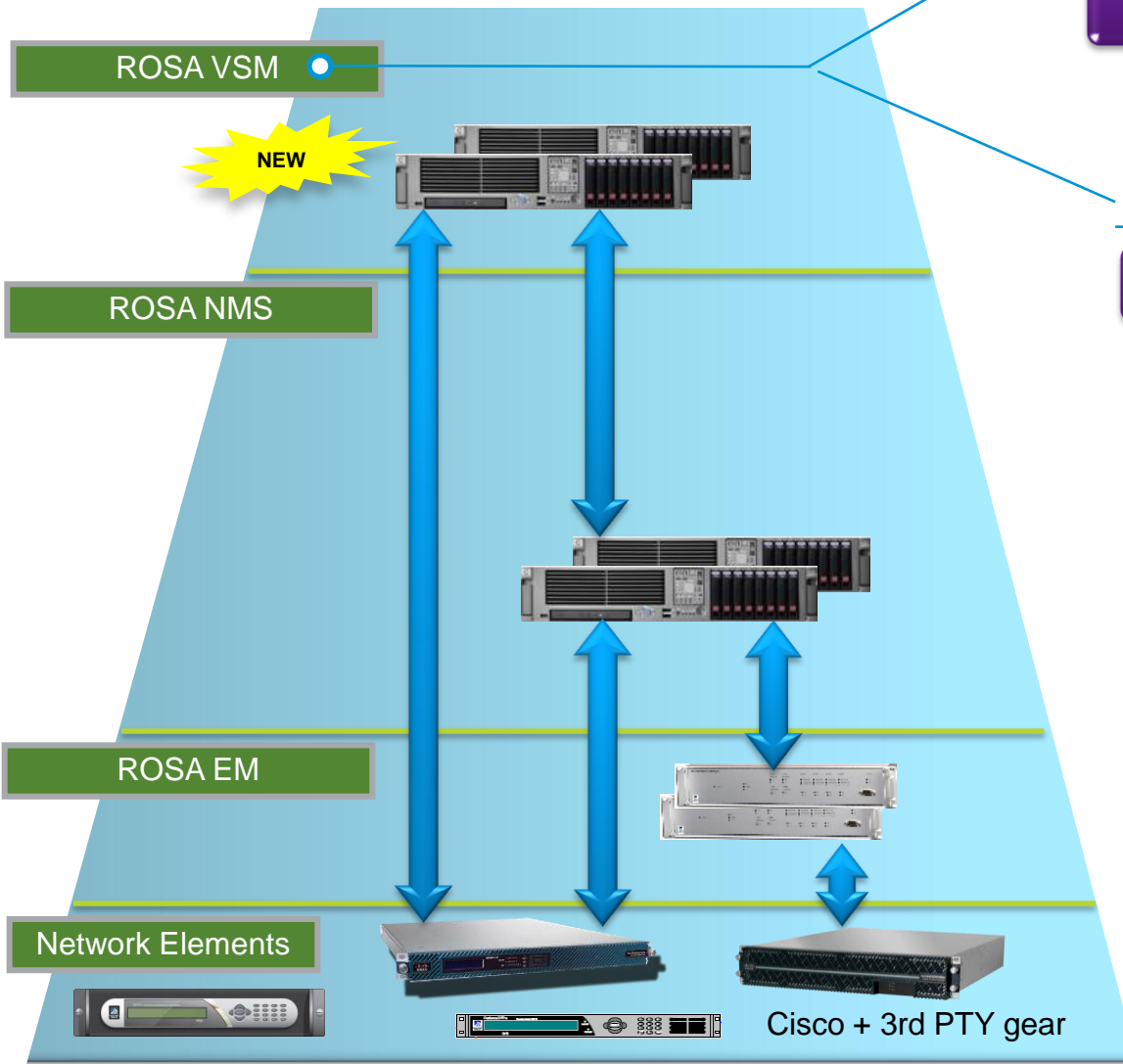
ROSA Product Positioning

... in contribution

Video Flow Control and Verification over Easy-to-Use GUI Single Click Service Setup and tear-down **Manual and Scheduled Setup and** Tear-Down of Events **Easy Configuration of** Devices via Pre-Defines Configuration Templates Video Equipment Redundancy Support **Video** Resource Verification

Production	Contribution	Post production		Distribution	Consumer

Production
- News Gathering
- Sport Events
- Studio-to-Studio

Contribution

Cisco ROSA®

Post production
- Post Production
- Video Data Center

Distribution
- Direct to Home (DTH) — IP
- Over The Air (DTT) — IP ... IP
- Telco (Wireline) — IP
- Cable — IP
- Internet
- Wireless

Consumer
- Home
- Network
- CM

ROSA VSM 5.x
ROSA NMS 4.x

Content Contribution

D9093/4 AVC LL Decoder

SDI

D9887B Modular AVC Rx

SDI

D9093/4 AVC LL Co-dec

SDI

News Gathering

D9901 DCM Gateway UC

SDI

D9901 DCM Gateway UC

SDI

D9901 DCM Gateway J2K

SDI

D9901 DCM Gateway J2K

SDI

D9901 DCM ASI Transport

MPEG

D9901 DCM ASI Transport

MPEG

Cisco ROSA®

D9036 Modular Co-Dec*

SDI

D9036 Modular Co-Dec*

SDI

ROSA VSM 5.x
ROSA NMS 4.x

>> <<
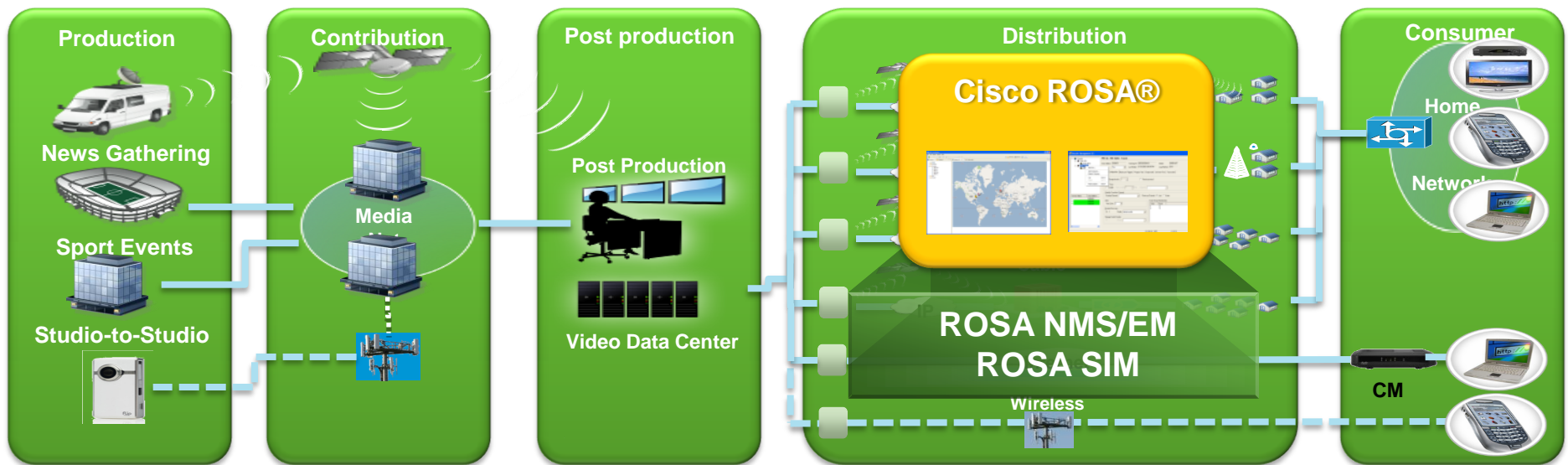
... in distribution

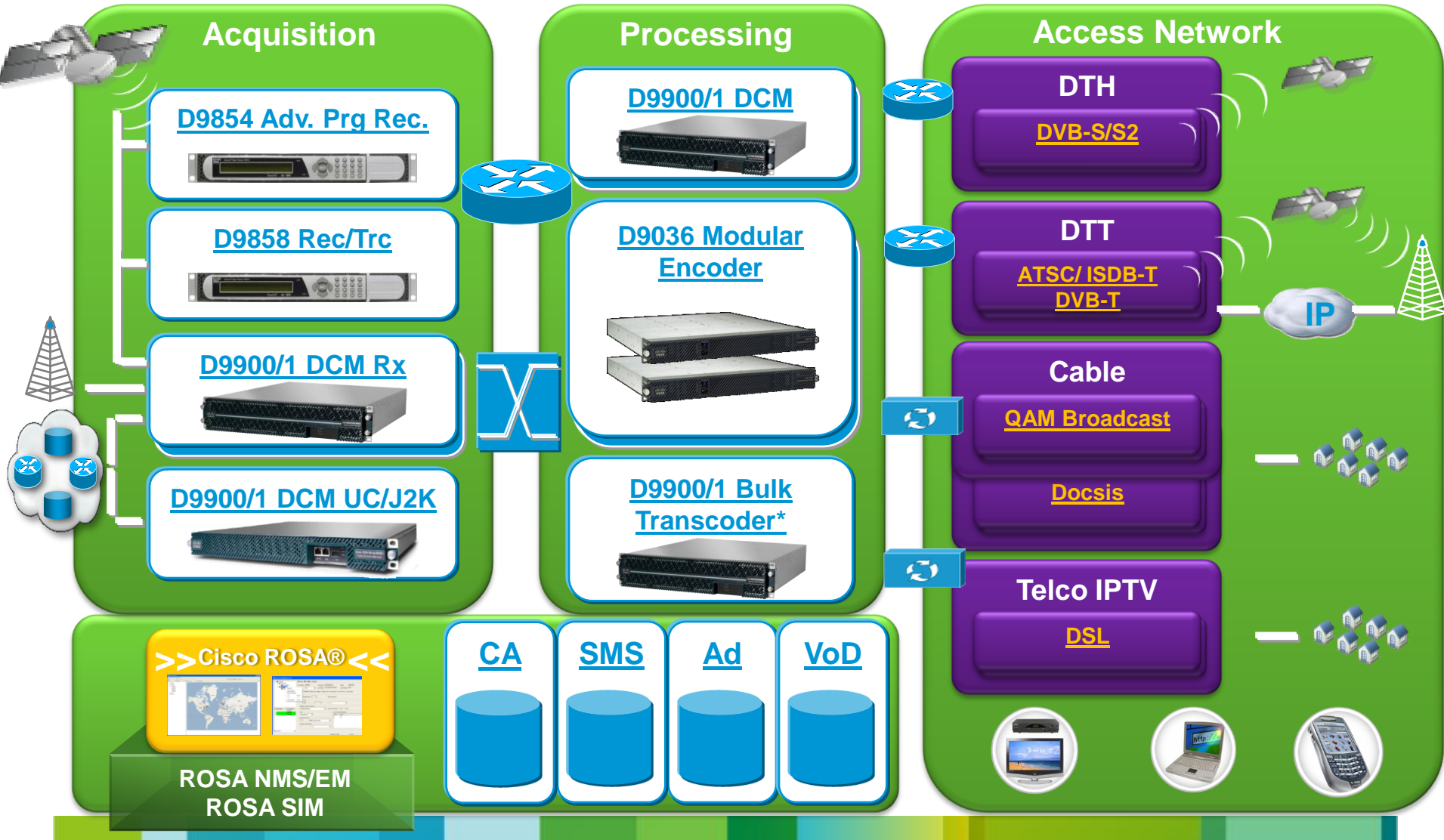Service Status and Alarming Over Dashboards Scheduled Reconfiguration of Devices and Services Consistent Alarm Messaging Easy scenario activation from Operators Interfaces Device Configuration Service Switching DVB Compliant Video Equipment Redundancy 3rd Party Device Integration Support Large Scalability

Production
News Gathering
Sport Events
Studio-to-Studio

Contribution
Media Net

Post production
Post Production
Video Data Center

Distribution
Cisco ROSA®
ROSA NMS/EM
ROSA SIM
Wireless

Consumer
Home
Network
CM

Secondary Distribution of Content
Distribution over any network to any screen

Acquisition

D9854 Adv. Prg Rec.

D9858 Rec/Trc

D9900/1 DCM Rx

D9900/1 DCM UC/J2K

>>**Cisco ROSA®**<<

**ROSA NMS/EM
ROSA SIM**

CA

SMS

Ad

VoD

Processing

D9900/1 DCM

D9036 Modular Encoder

D9900/1 Bulk Transcoder*

Access Network

DTH

DVB-S/S2

DTT

**ATSC/ ISDB-T
DVB-T**

Cable

QAM Broadcast

Docsis

Telco IPTV

DSL

IP

ROSA Demo

ROSA VSM 5.2 in action

Topology Root

Global View

Topology Detail
Details on Devices Topology

Session Builder
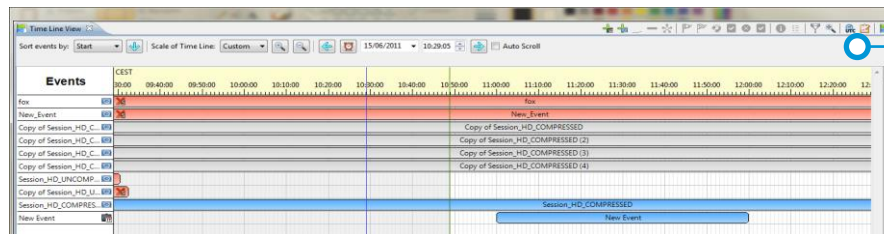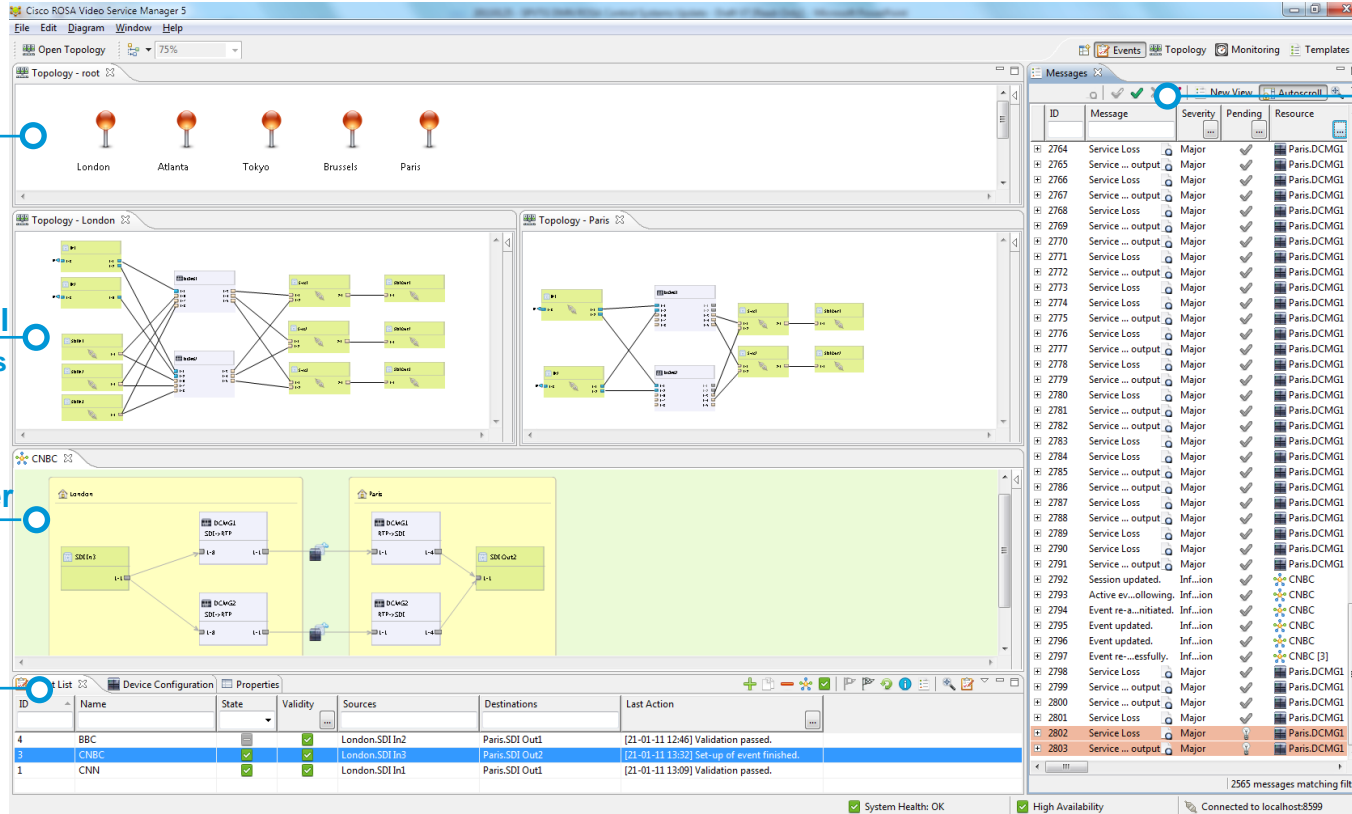Guided Session Creation

List Viewer
Planned & Ongoing Sessions

Message Viewer
Device Alarming and System Logs

Scheduled View
Scheduling Contribution Events

Thank you.