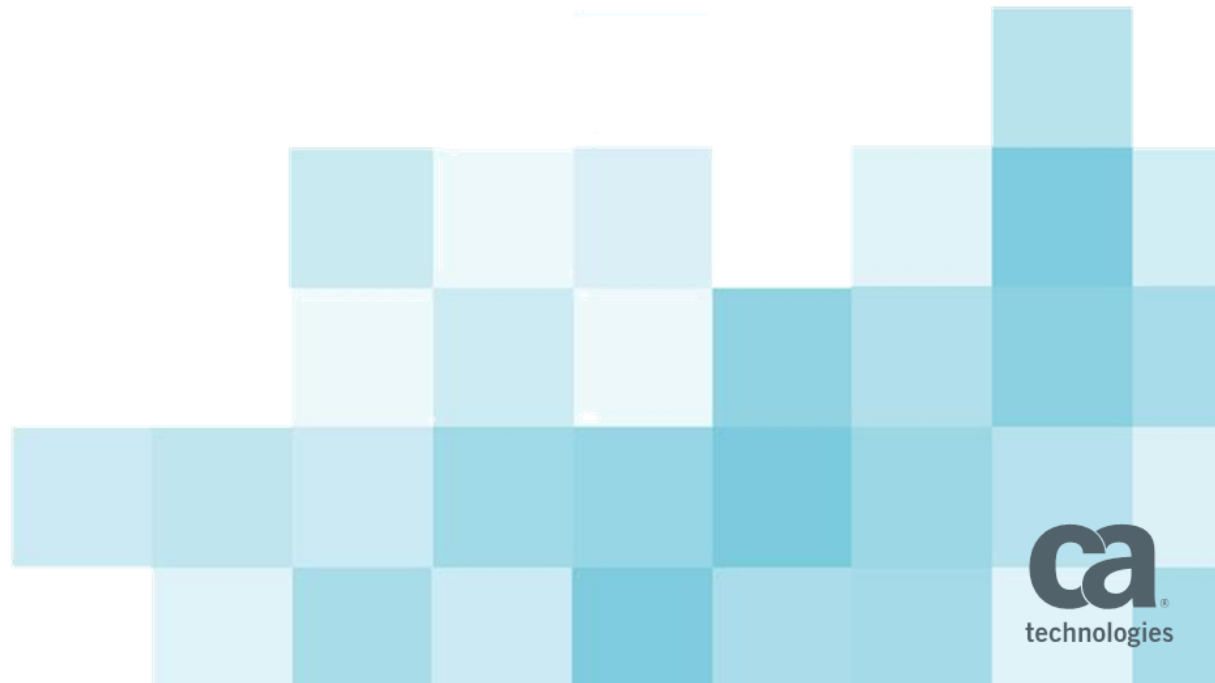# CA Infrastructure Management
External Roadmaps

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Vice Presidents Product Management

October 15, 2015

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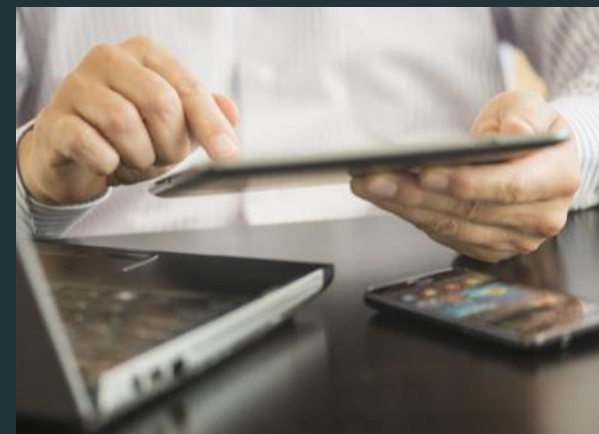
welcome
to the
Application Economy

$153B

Public cloud services market expected to grow 17.8% in 2014 to $153 billion[1]

268B

By 2017, mobile apps will be downloaded more than 268 billion times[3]

50%

By 2018, more than 50% of B2B collaboration will take place through Web APIs[2]

[1] Gartner Forecast: Public Cloud Services, Worldwide, 2012-2018, 3Q14 Update, Ed Anderson, et al, 29 September 2014
[2] Gartner Hype Cycle for Application Development, 2014, Thomas E. Murphy, et al, 29 July 2014
[3] Gartner Press Release, "Gartner Says by 2017, Mobile Users Will Provide Personalized Data Streams to More Than 100 Apps and Services Every Day" January 22, 2014 http://www.gartner.com/newsroom/id/2654115

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Applications Are Changing the World of Business

SO WHAT'S **THE PROBLEM?**

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there's an app for that!

Is your infrastructure ready?

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Operations Challenges

CUSTOMER **CLOUD** **NETWORK** **FRONT END** **BACK END**

Limited visibility into mobile app performance, behavior, crashes

Lack of insight into end-to-end infrastructure and application performance management across mobile, distributed and mainframe

Difficult to pinpoint root cause of issues, performance suffers, slow MTTR

Cloud Apps   Firewalls   Switches   Load Balancers   Portal   Web Services

Customers, users

Apps

WAN/WWW   Routers   Web Servers   Physical Data Center   3rd Party Applications   Mainframe   Database

Inability to trace complex transactions that traverse the entire infrastructure from customer-facing systems of engagement to back-end legacy systems of record

No data on physical layer - power, space, and cooling

Systems of Engagement

Systems of Record

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Traditional, Tactical Monitoring

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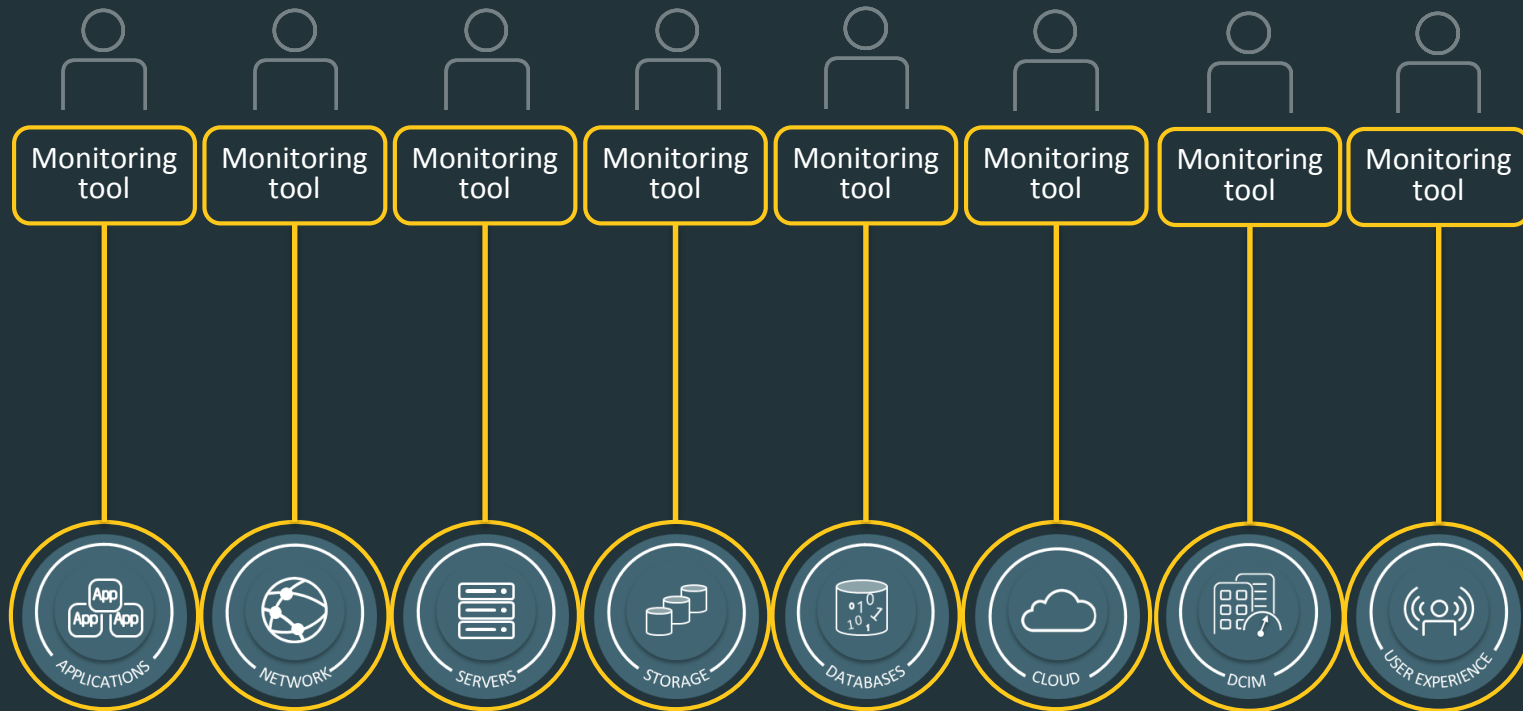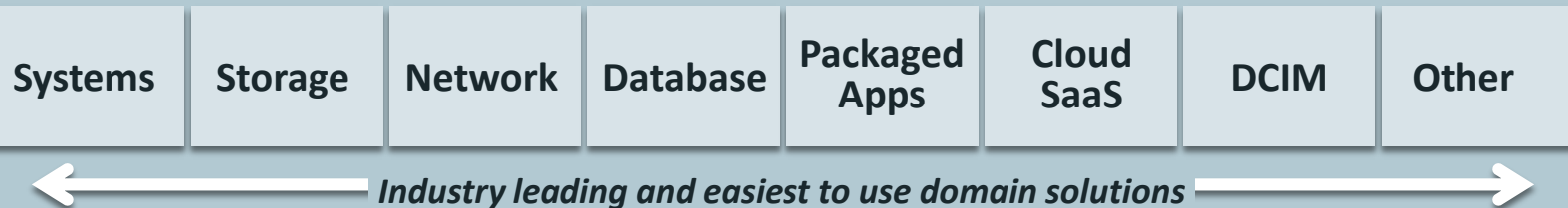
Unified, Strategic Monitoring
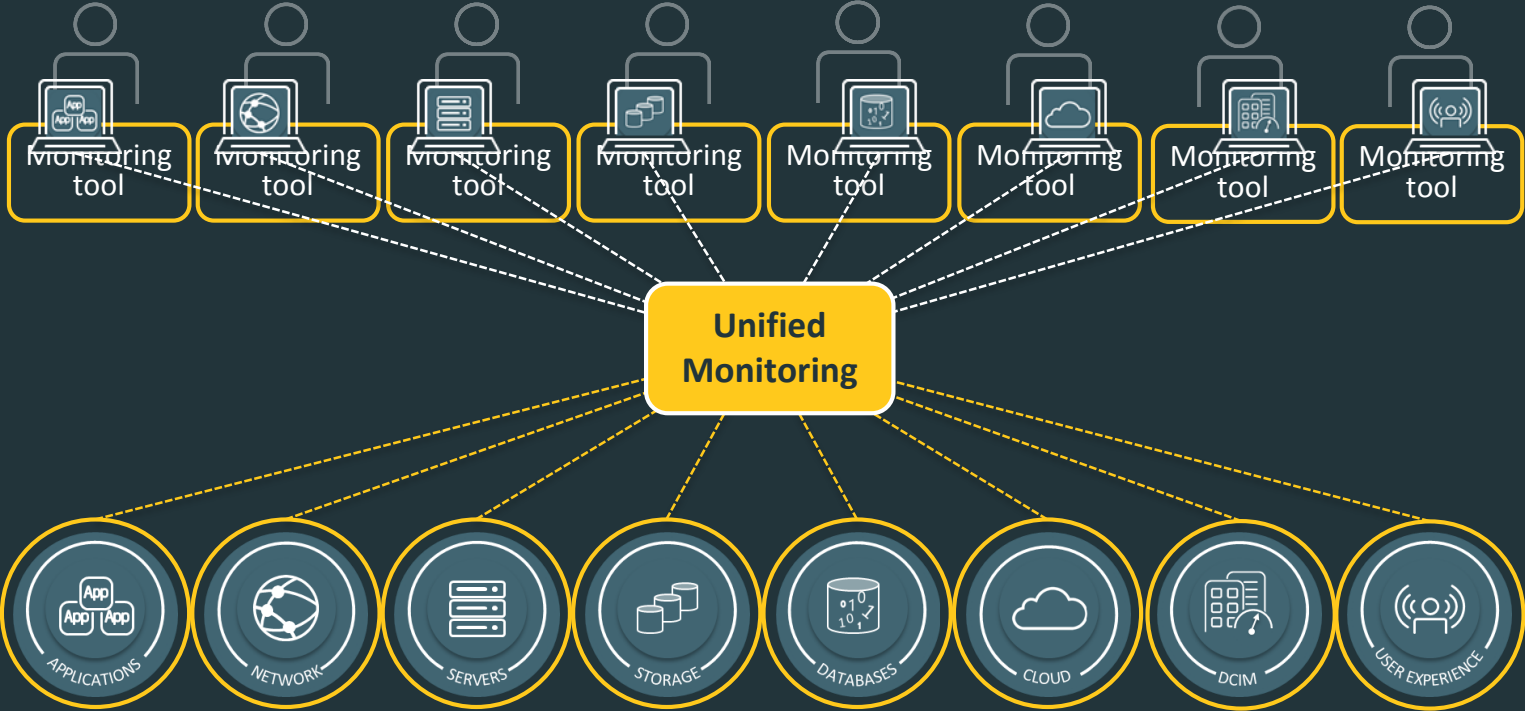
Infrastructure Management Portfolio Vision

CA Unified Infrastructure Management

Unified Management Portal
(available via mobile)

Operational Intelligence Solutions
(e.g. Capacity Management, Service Operations Management, etc.)

Systems	Storage	Network	Database	Packaged Apps	Cloud SaaS	DCIM	Other

← *Industry leading and easiest to use domain solutions* →

Adaptable and extendable (over 140 probes in CA Nimsoft Monitor today)

CA Application Performance Management

CA Cloud Service Management

Other CA and Third Party Tools

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Roadmap Delivered: CA Spectrum

Q3CY14	Q4CY14	Q1CY15	Q2CY15

Q3CY14

Spectrum 9.4

- **Enhanced technology support** – Support for Virtual Switching and protocols like LACP to give CA Spectrum the ability to discover and automatically manage devices with link aggregation turned on
- **Updated authentication support** – Multi-domain support via integration with EEM r12 supporting complex authentication schemas
- **Unified Infrastructure Management** – Enhanced CA Nimsoft Monitor integration including ability for CA Spectrum to get CA Nimsoft Monitor inventory for physical, model those entities and assert alarms on them in case of problems & drive root cause & impact analysis
- **Reduced footprint for virtual environment support** – Support for multi-instance VMware deployment
- **Enhanced MPLS support** – Support for MPLS when using Distributed SpectroServers
- **Top community voted enhancement requests** – Removal of loaded MIBs in MIB browser, add "last occurred" timestamp to alarms, sort alarms based upon update time in alarm browser, ability to see cleared alarm history in GUI, modeling gateway topology import/export via web services,
- **Security improvements** – support for FIPS-256
- **Enhanced content** – Over 190 key certification updates

Q4CY14

Spectrum 9.4.1

- **Unified Infrastructure Management** – Enhanced CA Nimsoft Monitor integration including ability for CA Spectrum to get CA Nimsoft Monitor inventory for VMWARE virtual servers, model those entities and assert alarms on them in case of problems. Also show switch-ESX-VM relationship and drive root cause and impact analysis across physical and virtual.
- **Innovation:** New information view called "High Impacting Outages". Drive More Value & ROI clearly showing the highest impacting outages and potential $$ impact
- **New mobile interface** – New mobile interface support for high value use cases like Alarm View
- **Enhanced content** – Over 200+ key certification updates planned to close our the Juniper & Cisco gap completely
- **Spike**: Research MIBs and other details for WLC and Access Point support
- **Spike**: Research the walk files for VPC support
- **Spike**: External alpha image validation for 64 bit

Spectrum 9.3 H02

- Key Certifications
- Maintenance Roll Up for improved stability
- Security vulnerability updates

Video Content
- Video content for features and capabilities and how-to on youtube & social media

Q1CY15

Spectrum 9.4.2

- Spectrum-eHealth CAC support for NetComm
- Key Certifications
- Maintenance Roll Up for improved stability
- Security vulnerability updates

Spectrum 9.4.2.1

- Hot-fix to resolve Java Certificate Expiry problem

Video Content
- Video content for features and capabilities and how-to on youtube & social media

Spike

Dynamic MPLS technical approach and feasibility (with customer acceptance of the approach)

Q2CY15

Spectrum 10.0

- **Enhanced technology support** – Virtual Port Channel (VPC) support for Cisco Nexus devices; extending support for Cisco Virtual Switching, allowing root cause and impact analysis on the newer technologies
- **Platform Update:** Updating to the latest version of Apache struts backend, to mitigate vulnerabilities. Move to Java 8, RH 7 and others
- **Lower TCO** – Enhanced performance and lower footprint through support for 64-bit Spectrum app to support approx. 12K devices per SpectroServer (6X improvement)
- **Enhanced customer value** – Support for top community voted enhancement requests around reporting, alarm handling, recording device performance, filters for maintenance alarms using WS API and maintenance modes for VMW
- **Spectrum Support for Google Map Integration:** Integrating Spectrum One Click with Google Maps to allow depicting network devices with their status on a true GIS MAP like Google Maps
- **Enhanced content** – Key certification updates extending to newer chassis & ASA devices, and many more
- **Operational efficiency** – Improvements for driving ease of use and performance in areas of SRM – handling large scale and Query Optimizations for improved performance

Spike

Investigate the feasibility of creating Web UI in support of UIM first and then Spectrum after. The deliverable would be a rough scope estimate and potential impacts to plan of record

Spike

SDN Support in Spectrum, working with the SDN Gateway team on requirements from Spectrum and the solution design thereof

Video Content
- Video content for features and capabilities and how-to on youtube & social media

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100% on time   **100% on time**   **100% on time**   **100% on time**

10

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Roadmap <u>Delivered</u>: CA Performance Management

Q3CY14	Q4CY14	Q1CY15	Q2CY15
CA Performance Management 2.3.4	**CA Performance Management 2.4**	**CA Performance Management 2.4.1**	**CA Performance Management 2.5.0**
User Experience	**User Experience**	**User Experience**	■ **User Experience**
■ Extend MSP alias support to include all sub -components	■ Improved usability based on end-user feedback & interviews	■ Customer enhancement to support 95% in Top Trend Views	■ Improved usability & Customer Enhancements
■ New role controls will make it easy for MSPs to provide customers and internal staff a compelling dashboard experience as they can group, search, and view w/ name, name_alias, or both	■ Improved Look and Feel for CAPC and PDF	■ Customer enhancement to support improvement to dashboard PDF – landscape view	■ Top Projections View
	■ Site/Group Navigation Improvements		■ Enhanced analytic table views including Summary Statistics , OnDemand Table Views, and Health Summary Views
■ Scorecard views to show high level aggregate metrics on utilization	■ Introduce OpenAPI for configuration, data, and event retrieval	**Core Processing & Storage**	■ Copy Dashboards
■ Improved usability & enhancements based on end-user feedback	■ OpenAPI fast TTV with Smart Query Builder	■ Upgrade Vertica 7.0.2.5	■ OpenAPI: Performance Improvements – additional query support
Core Processing & Storage	■ Improve Dashboard Visualization of Events	■ December 2.3.4 Sustaining level set	■ Query Builder Updates
■ Vertica 7 upgrade to improve stability, performance and ease of deployment		■ December 2.4 Early Access Feedback	**Core Processing & Storage**
■ Simple push button DC rebalancing makes it easier to administer at high scale	**Core Processing & Storage**	■ Filtered Event View Defects	■ Speed certifications: make it simple to add/edit metrics to existing OOB certs
■ Improved Reporting Performance at scale with Vertica database resource pools; also sets up architecture for more advanced analytics	■ Simplify the ability to implement "non-GA" certifications from CA or alternate sources	■ Notifications Defects	■ Analytics: Compute multiple percentiles
	■ Allow Non-DA Administrators to Configure Threshold Monitoring	■ Change to Poll Rate causes race condition	■ Analytics: Compute multiple projections
■ Stand-alone Mediation Manager improves scale, resilience & administration – also makes it easier to administer and modify certifications	■ Improve Workflows to Configure Thresholds & Event Processing	■ DC w/ CAMM upgrades took 5 hours	■ Lifecycle - Polled Item Lifecycle Admin State (On, Off, Down, Retired)
■ Speed certification and improve quality, performance at scale with improved Vendor Cert Grouping work focusing on normalization of metric families	■ Improve Event Notification System	■ Support OnDemand Cert Upgrades	■ Data Aggregation & Normalization Improvements add bits/s and bytes /s for interface metric family
	■ Improve component level poll controls		■ Introduce new OAM configuration service (API) with initial support to configure (ping, trace, jitter) for Cisco
100% On Time	**100% On Time**	**100% On Time**	**100% Delayed**

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Roadmap Delivered: CA Mediation Manager (CAMM)

Q2CY14	Q3CY14	Q4CY14	Q1CY15

Q3CY14

CA Mediation Management 2.2.6

New device packs for CSPs
- ZTE CSCF
- ZTE AGSF
- ZTE SSS
- ZTE SBC

Updates to existing device packs
- ALU 5620SAM ifDescr support
- AAA, WMS FemtoGateway, ALSMS, SR7750, SIAE Microwave
- ALU SA/CP, Starent SGSN, GGSN, Ciena OME6500
- ALU 5620 SAM R12
- Cisco/Starent PDSN sew schemas (CA eHealth/CA Performance Management)
- NSN HLR/HSS, eNodeB
- NetApp Filer 8.x 7&C Mode

Additional admin capabilities
- New Mediation Manager for Performance Management architecture – (web changes, installer changes, device pack migration)
- Customer recommended enhancements
- Apply certification from Mediation Manager Web

Migrate CA eHealth device packs to CA Performance Management
- eH to IP: NortelMS2000;
- PM to eH: Cisco Call Manager

Q4CY14

CA Mediation Management 2.4.0

New device packs for CSPs
- Ruckus Smartcell Gateway SCG (WiFi)
- ZTE SBC
- Metaswitch Voice & Multimedia Service
- ALU 7750 HRU

Updates to existing device packs
- Cisco/Starent PDSN for PM & eHealth
- ALU 5620 SAM for eHealth
- CAMM Self-Monitoring for PM
- Starent GGSN for PM
- Ericsson SGSN for PM
- Nokia Siemens HLR/HSS for PM

Additional admin capabilities
- Device Pack customization tool enhancement to preserve changes and highlighting customized changes
- CAMM Web enhancements including LC stop capability, component memory update, simplified process for device pack installation, Updated browser support
- CAMM polling performance optimization
- CAMM enhancements for TypeCatalog Web Service to align with SNMP certifications
- Device Pack Customization Enhancements to support PM 2.4
- Test suite automation enhancements
- CAMM web enhancements for device pack installation process

Migrate CA eHealth device packs to CA Performance Management
- Nortel SST, Ericsson Service Over Optical, Ericsson Service Over MicroWave, Genband Gateway, Starent GGSN
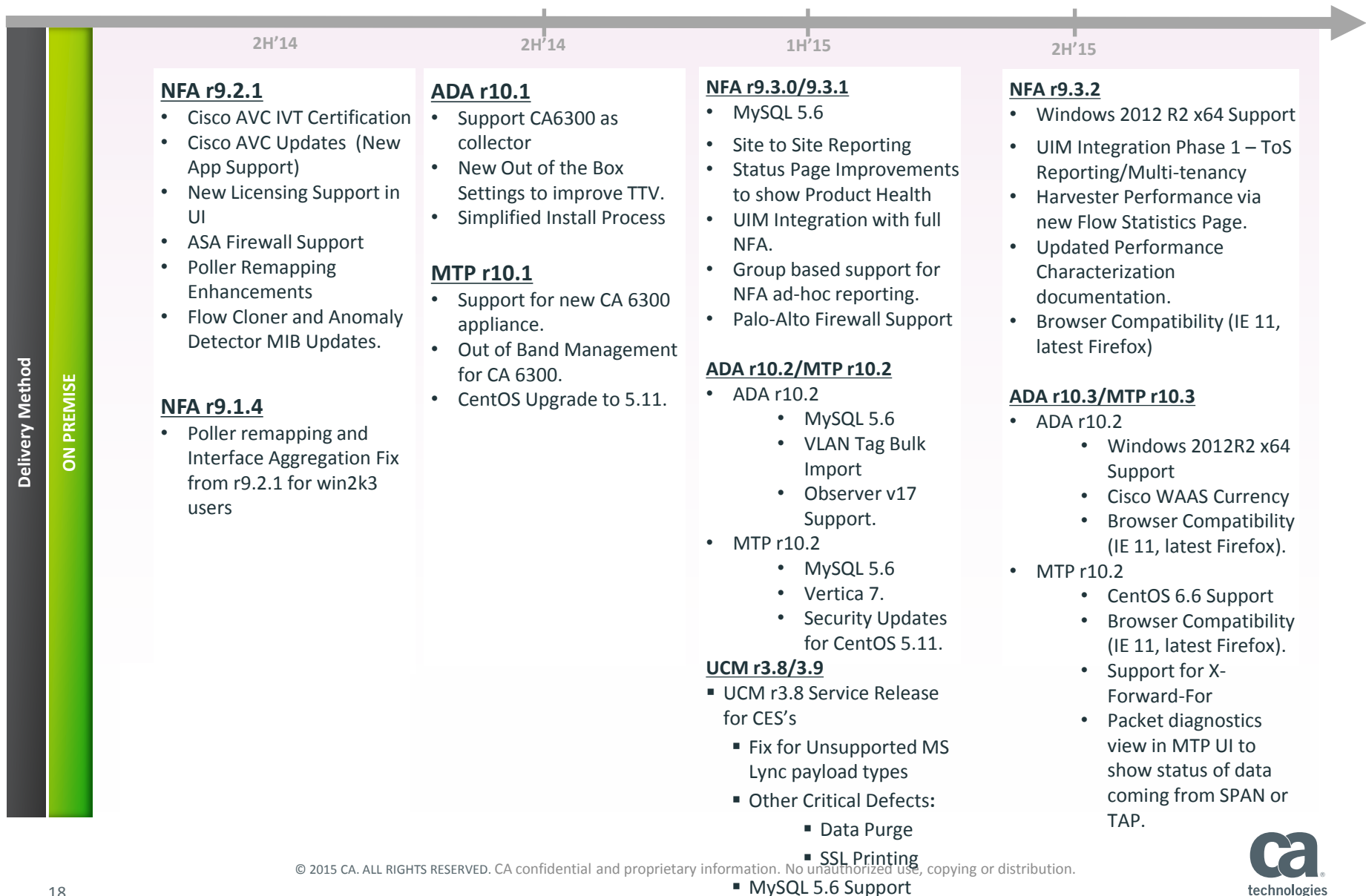
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Roadmap <u>Delivered</u>: eHealth

Q3CY14	Q4CY14	Q1CY15	Q2CY15

Q3CY14

Certification Kit 6.3.2.06

- Customer requested certifications (100 planned/124 delivered)
- Security Vulnerabilities: July Oracle CPU (independent download kit)
- New Browser Certifications: Firefox 29, Chrome 36+

Q4CY14

eHealth 6.3.2.07

- New OS Platform Support- Win2012
- FIPS 256 compatibility
- Client Updates – Windows 8, Windows 2012
- Customer-requested device certifications (115 planned / 121 delivered)
- Monthly Delivery of Certs for Verizon, customer retention
- Supportability: enhanced GetSupportInfo , added performance information
- Security vulnerability update: October Oracle CPU (independent download kit)
  - Apache 2.4+ and OpenSSL 1.0.1i
  - Tomcat 7.5.54+
  - Java 1.7.0_5x+

Certification Kit 6.2.2 D15

- Customer-requested device certifications (239 planned/ 245 delivered)

Q1CY15

Certification Kit 6.3.2.08

- Customer-requested device certifications (106 planned, 108 delivered)
- Security Vulnerabilities: January Oracle CPU (independent download kit)
- Oracle OOB for 11.2.0.4
- Cert Acceleration:
  - Delivered 3 Monthly Cert-only kits for Verizon MSO, as planned

Q2CY15

eHealth 6.3.2.09

- CAC-enabled eHealth + SPECTRUM integration
- Siteminder support on Solaris (NASA)
- EEM/LDAP support, tested
- Updated OS support: Red Hat 6.6
- Upgrade to MKS 9.1
- Browser (Firefox, Chrome) support updates
- Official support for eHealth running in VMware environment where Vmotion takes place (storage, ?)
- Implement Tomcat logging
- Security Vulnerabilities
  - April Oracle CPU (independent kit)
  - Update Apache and OpenSSL
  - Java 1.8
  - Java Certification Expirations
- Monthly certification kits (1) for Verizon MSO, Verizon Business delivered
- Customer-requested device certifications (128/121 delivered)

Certification Kit 6.2.2 D16

- Customer-requested device certifications (236/229 delivered)

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Roadmap Delivered: CA Unified Infrastructure Management

SEPTEMBER 2015	DECEMBER 2015	MARCH 2015	AUGUST 2015

SEPTEMBER 2015

Unified Infrastructure Management 8.0

- Name Change: CA Unified Infrastructure Management
- Usage Metering and Billing Improvements: Additional Probe Support
- List functionality migrates into HTML5 Dashboards
- Predictive Analytics – Time to threshold: increased availability by analyzing rate of change and predicting time of threshold breach
- Time over threshold: Reduces false positives caused by erratic spikes
- New Top N and At-a-glance reports: help pinpoint the areas of highest concern

Probes

- IBM Websphere MQ Series probe v2
- Sybase probe enhancements
- Jdbc_response enhancements
- AWS 3.0
- HyperV
- Oracle Probe support for Oracle 12 database

DECEMBER 2015

Unified Infrastructure Management 8.1

- Improved Network Monitoring and Reporting hundreds of network device vendors and thousands of vendor models supported out-of-box
- Detailed Network Interface views and reports: Faster time-to-value with out of box views and reports, bandwidth utilization, errors, discards and more
- Interface grouping: Group network interfaces in USM for group views and reports of critical interfaces
- Template-based Configuration: Easily deploy monitoring templates in SNMP Collector and ICMP for faster configuration
- Dashboard context selectors: Big improvement in the ability to create dashboards that supply workflows as well as predefined views.

Probes

- Snmpcollector 2.0: Scales to 100K elements 5min/40 metrics per, additional device support including NetApp
- Hadoop 1.0
- SQL Server: support SQL Server 2014
- Oracle: Oracle 12c Pluggable Database
- AWS 3.5 - Support for SQS, SNS, ELB, Auto Scale groups
- Azure 2.0 - Revamped Azure monitoring probe
- ICA_Response

MARCH 2015

Unified Infrastructure Management 8.2

- Situations to watch Report: Identifies top elements that have exceeded thresholds or that are predicted to do so in the future.
- Trend Report: Provides visual correlation of behavior across multiple metrics to simplify troubleshooting.
- NFA Integration Phase 1 – Provides unified view of SNMP data and traffic consumption (top applications, hosts, conversations) inside a single pane of glass.
- Health Index: a single derived metric that indicates overall health of an element based on key performance indicators.
- New UIM Installer: Streamlining installation from versions of Nimsoft as old as 6.5.
- Admin Console Performance: Improvements for configuration of high-scale installations.(> 500% in some areas.)

- Element Grouping
- eHealth Migration Quickstart

Probes

- Snmpcollector 2.x: Increased Vendor Certifications
- Cassandra 1.0: Big Data monitoring for the leading distributed database.
- VMWare 6.41: Configurations can be quickly applied to a large group of hosts or VM's providing elastic monitoring at scale

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AUGUST 2015

Unified Infrastructure Management 8.31

- Element Aliases: A device or interface alias can be added to allow users to identify items by familiar names. Available in USM, reports, and for group creation.
- NFA Integration Phase 2 : Extending NFA integration to include Type of Service (Data) along with SNMP data to understand how applications are classified and delivered over the network.
- Analysis Report Scheduling: Report configurations can now be named and scheduled using the Report Scheduler for automated distribution by email and ftp.
- PDF Output of HTML Dashboards Schedulable output to email or FTP.
- Database support enhancements: Oracle 12 support for compartmentalized schemas + MySQL improvements.
- Improved, simplified installer

Probes

- HP 3Par
- VMWare bulk configuration
- Probe Framework SDK 2.1
- Increased IPV6 support

rsp A I18N complaint

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NFA, ADA and UCM Roadmap **Delivered**

Delivery Method

ON PREMISE

| 2H'14 | 2H'14 | 1H'15 | 2H'15 |

NFA r9.2.1
- Cisco AVC IVT Certification
- Cisco AVC Updates (New App Support)
- New Licensing Support in UI
- ASA Firewall Support
- Poller Remapping Enhancements
- Flow Cloner and Anomaly Detector MIB Updates.

NFA r9.1.4
- Poller remapping and Interface Aggregation Fix from r9.2.1 for win2k3 users

ADA r10.1
- Support CA6300 as collector
- New Out of the Box Settings to improve TTV.
- Simplified Install Process

MTP r10.1
- Support for new CA 6300 appliance.
- Out of Band Management for CA 6300.
- CentOS Upgrade to 5.11.

NFA r9.3.0/9.3.1
- MySQL 5.6
- Site to Site Reporting
- Status Page Improvements to show Product Health
- UIM Integration with full NFA.
- Group based support for NFA ad-hoc reporting.
- Palo-Alto Firewall Support

ADA r10.2/MTP r10.2
- ADA r10.2
    - MySQL 5.6
    - VLAN Tag Bulk Import
    - Observer v17 Support.
- MTP r10.2
    - MySQL 5.6
    - Vertica 7.
    - Security Updates for CentOS 5.11.

UCM r3.8/3.9
- UCM r3.8 Service Release for CES's
    - Fix for Unsupported MS Lync payload types
    - Other Critical Defects:
        - Data Purge
        - SSL Printing
        - MySQL 5.6 Support

NFA r9.3.2
- Windows 2012 R2 x64 Support
- UIM Integration Phase 1 – ToS Reporting/Multi-tenancy
- Harvester Performance via new Flow Statistics Page.
- Updated Performance Characterization documentation.
- Browser Compatibility (IE 11, latest Firefox)

ADA r10.3/MTP r10.3
- ADA r10.2
    - Windows 2012R2 x64 Support
    - Cisco WAAS Currency
    - Browser Compatibility (IE 11, latest Firefox).
- MTP r10.2
    - CentOS 6.6 Support
    - Browser Compatibility (IE 11, latest Firefox).
    - Support for X-Forward-For
    - Packet diagnostics view in MTP UI to show status of data coming from SPAN or TAP.

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Roadmap Delivered: Service Operations Insight

Q3CY14	Q4CY14	Q1CY15	Q2CY15

SOI 3.2 CU3 (Q3CY14)

SOI 3.2 CU3
- Simplified Catalyst Container for connectors
- Disaster Recovery support with CA ARCserve Replication and High Availability / XOSoft 16.5
- Maintenance currency

SOI Connectors
- Nimsoft Monitor Connector
- ServiceNow Dublin

Certification
- EEM 12.5 and EEM 12.41 (tolerance)

SOI 3.3 (Q4CY14)

SOI 3.3
- New "Pending Clear" Alert State
- Policy based Automatic Alert Updating
- Delay Timer for Actions on Escalated Alerts
- Expanded Token Set for Escalation Actions
- Extended number of user attributes from connectors
- Expanded Alert History sorting
- Service Discovery performance
- Enhanced Automatic Service Discovery policy for null / unset values
- Action and Policy names for Escalations and Notifications
- Connector startup time and Initialization performance
- Integrated Documentation Wiki
- EEM Cluster support

SOI Connectors
- Spectrum 9.4.1
- UIM 8.0, UIM 8.1
- Nimsoft / UIM rebranding
- SNMP Connector (ownership)

Certification
- EEM 12.5 and 12.51 (tolerance)
- Windows 2012 / 2012 R2 (excl. HA)

SOI 3.3 CU1 (Q1CY15)

SOI 3.3 CU1
- New Managed / Unmanaged paradigm for CIs
- Selective Quality / Risk Assignment
- Alert Clear State from the Domains
- Multi-service Maintenance schedule assignment
- Multi-alert Action Processing
- Escalation Policy enable / disable Selectivity and en masse
- CI and Alert User Attribute processing for Unmanaged Alerts
- Offline Connector Alerts
- Universal Helpdesk API – Update Ticket
- REST Interface Extensions
- Alert Queues for Spectrum GCs
- Online SOI DB Purge
- Tenancy and Correlation
- Vulnerability Updates

SOI Connectors
- UIM Connector
  - Granularity
  - Performance and HA
  - Oracle
  - Seamless upgrade
- MS SCOM Connector (ownership)

Certifications
- IE11+
- Windows 2012 R2 (HA / CABI)

SOI 3.3 CU2 (Q2CY15)

SOI 3.3 CU2
- IFW Container support on Linux
- Spectrum Connector support on Linux
- Detailed CI views on RCA
- Enhanced Impact Analysis in Low granular mode

100% on time | *100% on time* | *100% on time* Q1CY15 |

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Questions