

CRUZ OPERATIONS CENTER

Comprehensive Network Ops for Converging Infrastructures

Powerfully simple and scalable solution to discover, configure, and monitor your hybrid cloud and infrastructures – on premises or from the cloud

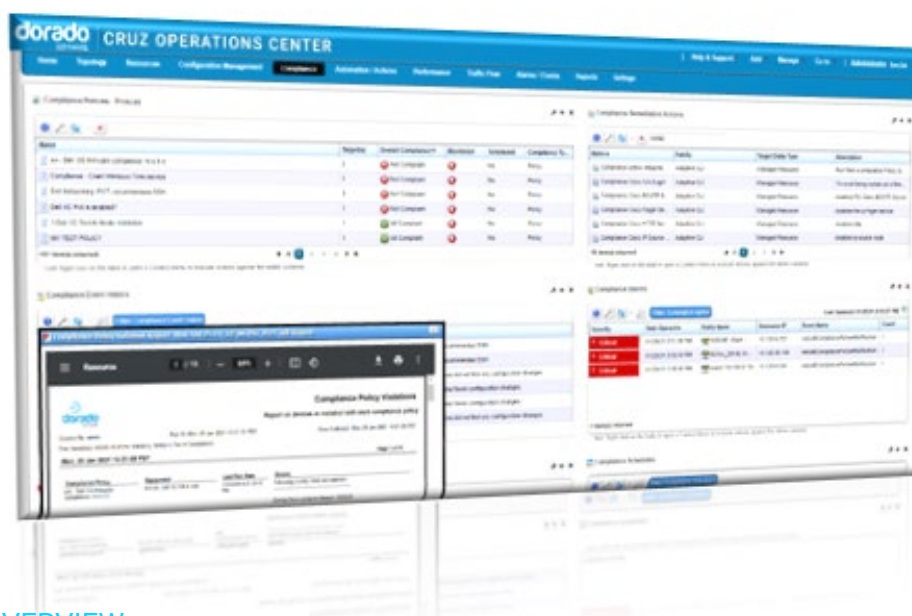
Vendor/technology agnostic network operations management – break vendor lock in, manage legacy as you modernize and refresh technologies

Platform for all Cruz products ensures a truly integrated suite

Feature Highlights

- Discovery, Inventory, CMDB
- Fault management/alerts, events, alerts,
- Configuration file management
- Reporting
- Customer self-care/multi-tenancy
- Automated topology mapping
- SW lifecycle management
- Group (one-to-many) operations
- User security management
- Comprehensive solution auditing & logging
- Multi-technology/vendor
- Open API for 3rd party integration

Cruz Operations Center (CruzOC) makes it easier to plan and manage multi-vendor, converging environments with centralized management for discovery, configuration management, monitoring, and reporting of physical and virtual interdependent resources. With critical hybrid cloud and infrastructure control, operators can improve network and service quality, accelerate deployments, and lower operating costs.



OVERVIEW

- Detailed information on device locations and connectivity, and draw physical and logical topology maps
- Easily backup, restore, and deploy, configurations
- Proactively monitor infrastructure health notifications: alerts, traps, Syslog
- Simply manage firmware deployments lets administrators focus on more critical activities
- Base platform for all Cruz advanced network management and domain controller products for seamless integration throughout the Cruz suite.

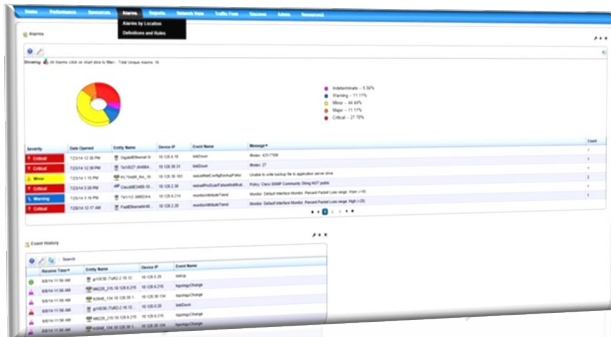
Deep Discovery, Inventory, CMDB

- Automated, multi-protocol with centralized credentials management
- Maintains associations between the managed equipment to show the interdependencies within your network infrastructure
- Periodically resyncs with the environment to ensure accuracy over time
- Provides physical device discovery at the chassis, PIC/card, and port level, as well as logical discovery of sub interfaces and links

Fault Management/Event Service Automation

- Monitors your multi-vendor network for potential health-affecting conditions via notification and Syslog analysis
- Displays dependable and filterable record of all events and alarms
- Customizable alarm correlation
- With CruzControl's automation framework can initiate any system operation, like script execution, configuration backups, and or restorations in response to any event

ALARMS



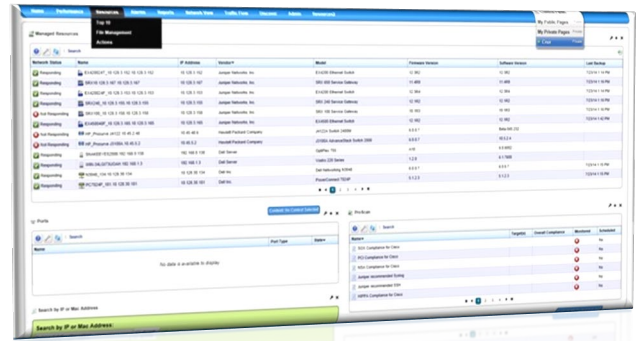
Configuration File Management

- Template-based configuration file creation, backup, and restoration – on a scheduled, or ad hoc basis
- Visual, color-coded configuration file comparison feature to quickly identify change

Firmware/OS Management & Deployment

- Download and maintain various versions of firmware for all your devices
- Deploy firmware upgrades to devices, or groups of devices

RESOURCES



Group (one-to-many) Management

- Use seeded groups or create static or dynamic groups to manage one-to-many management actions
- On demand multi-select options to target specific devices for specific operations – group firmware deployment, group credential updates

Customer Self-Care (multi-tenancy)

- Let customers administer their network within the bounds that you set
- Administrators create and customize multiple tenant sites that do not interfere with each other, while the master site views all customer networks maintaining ultimate control

Advanced Scheduling

- Provides an easy-to-use scheduling system to automate task execution in a lights-out environment – you don't have to be near the system
- Detailed audit records are kept for scheduled task executions

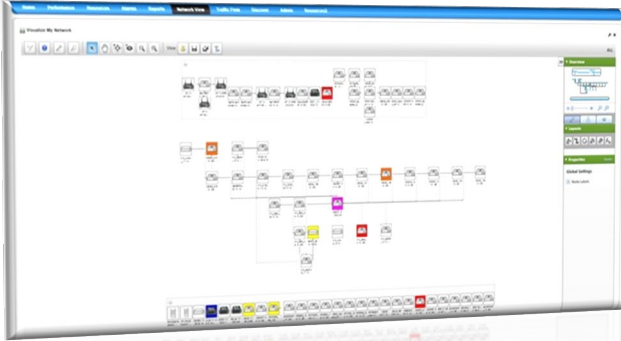
Automated Network Topology

- Easily view large environments in a dynamic, highly customizable, and automatic logical topology viewer
- Model networks to see conditions as and where they occur
- Map resources with geographical locations and multiple zoom levels from continents to neighborhoods
- Topology views let you monitor network devices, expand or drill in any view with a mouse click to subcomponents for physical and logical L2/L3 connections
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Flexible Reporting

- Create reports using dozens of templates (asset tracking, device subcomponents, network, and device performance, etc.) or quickly generate custom reports
- Report, export and filter to accommodate different users
- Generate groups of reports, optionally with a table of contents, and trend reports displaying multiple assets
- Execute manually or on a schedule
- Save in .pdf, .html, .csv, and other standard formats, and email to users
- When integrated with other Cruz products, reports may be automatically generated and emailed in response network threshold, condition or other events

TOPOLOGY



User Management

- Manage user/user group security settings and their functional permissions (RBAC) within the application
- Single Sign on Options (SSO)

System Self-Management

- Automate data-archiving of data-like audit trails, alarms, and performance records to avoid overwhelming your database with unnecessary data
- Self-monitor performance and displays the results in dashboards and the Application Server Statistics portlet

Inventory Maintenance

- Maintenance and suspension states let you reduce distractions while a known device is offline or are transitioned from old infrastructure to new

- Automated warranty reporting and alerting for easy maintenance of purchased warranties
- Track service calls on devices (date, type, technician, comments) and maintain those records in the database

Comprehensive Solution Auditing & Logging

- Retains all transactions with devices
- Audit Trail Manager lets you easily revisit these transactions to make troubleshooting easier
- Export logs in PDF, automate archives in text or XML

Multi-technology/Vendor

- Single pane-of-glass to manage your hybrid cloud and network infrastructures: Servers, Routers, Switches, Security Devices, Storage, Appliances
- Vendor Support Examples: Cisco, Ruckus, Aerohive, DellEMC, Brocade, HPE, Juniper, Netgear, Extreme, Siemens, SonicWall, Enterasys, Nortel, Alcatel, 3Com, and many more
- Data Center Networking Switches: Dell OS10, SONiC, Nexus and more

Server / OS Management

- Manage physical server hardware for Windows, Linux, Solaris, KVM, ESX, Baseboard Management Controller (BMC), iDRAC, and Remote Access Controller (RAC), XCC, ILO, CMC
- Manage Windows and Linux server and client-based OSs
- Deep discovery of server OS, interfaces
- Monitor events, logs
- Configuration management operations such as backup, restore, and deploy
- Management interfaces WMI, SSH / PowerShell, Telnet, SNMP, WBEM, and Redfish
- Supports the latest generation servers by Cisco, HP, Dell Technologies, Lenovo, and more
- Discover and manage VMs directly or through integration with technologies such as Nutanix and OpenStack

Network Operations Collaboration

- Build operational communities across IT management systems silos so workgroups can share information instantly, solve problems quickly, and deliver services faster
- Different work groups have a truly integrated (and highly customizable) experience to access both vital network and service information from anywhere quickly

CruzOC – the platform for all Cruz products – ensures integrated solutions to automate, control, and orchestrate networks and services

CRUZ ADVANCED ADD-ON APPLICATIONS

Cruz solutions easily scale to add more functionality – The following products extend network operations and automation while maintaining a single-pane-of-glass

Cruz Compliance Controller

Single Point of Compliance Visibility and Control

Perform automated compliance checking and with the addition of CruzControl perform auto-remediation on the spectrum of IT infrastructure in your environment

Cruz NetInsight

Traffic Flow Data Collection and Analysis

Visibility into IP traffic behavior, usage patterns, and network utilization to help identify the users, applications, protocols, and conversations consuming network bandwidth

Cruz Network Performance Manager (NPM)

Visualize and Proactively Monitor Health and Performance of Converged IT

Real-time health and performance of entire network for easier troubleshooting and MTTR

KPIs, CPU, disk, memory ICMP, interface metrics, Custom/DIY monitors

Dynamic pre-built, on demand, and customizable dashboards

Trend reporting for time-based data

CruzControl

Highly flexible DevOps tool to customize and automate service delivery and fulfillment and adds automation to any Cruz product

Shorten time-to-market and reduce deliver errors

Standardize how users configure the network with DIY and pre-built Action scripts

- Automated script tools – any-CLI, SSH, Powershell, RACADM, excli, Linux CLI, API scripting
- Dynamic rendering of Action scripts to REST API
- Bulk configure one or more devices, ports or logical interface with a single Action or button on the UI
- Automate script execution by schedule, workflow, or in response to an internal or external event trigger

ARCHITECTURE

Cruz is built upon a componentized Device Driver (DD) architecture; DDs provide standardized application support protocols and configurations. By simply installing a new driver, Cruz can manage additional devices without needing to upgrade applications. In addition, for those vendors where a driver is not currently available, you can easily create your drivers with the DD Software Development Kit (SDK).

Cruz features a graphical user interface based upon standard web portal technologies. This allows for a highly customizable user experience to satisfy customer specific operational procedures, all within a multi-tenant environment.

CRUZ PORTFOLIO

The Cruz portfolio makes planning, modernizing, managing, and extending multi-vendor, converging environments easier. The Cruz integrated portfolio includes infrastructure management, operations, and automation and control products, with deployments on-premises or from the cloud.

TECHNICAL SPECIFICATIONS

Interface Support

SNMPv1/v2/v3, Proprietary Device CLI, XML, SSH, WMI, WQL, CIM, Web Services API, HTTP/S, RMI/IIOP, XML, TCP/IP, UDP Multicast

Supported Secure Email Notification Protocols

SSL, TLS

Database Support

Oracle and MySQL

EJB Application Server-Based

JBOSS

Integration/Development Tools

Java, Web

RESTful Web Services

Operating Environments

MS Windows, Redhat/Centos Linux, Virtual Appliance

Collaboration Features

Community-based OPENSOCIAL, Wiki Knowledgebase, Activity Tracking, Instant Messaging, Message Boards, Shared Calendar, Conference Rooms