



# Resource Management & Operations

Dorado Software's Redcell Resource Management and Operations Suite provides critical device control in any network resulting in improved network and service quality, accelerated deployments and lower operational costs. The solution is a flexible and scalable suite comprised of integrated infrastructure management products for multi-vendor, multi-technology environments and offers rich resource management capabilities to manage the diverse set of interdependent resources that are involved at delivering today's next generation services.

## Key Benefits

### Increase Operational Efficiency

- Reduce errors while performing daily task
  - such as discovery, group operations, compliance and change management, health monitoring & problem resolution.
- Configuration normalization across multi-vendor/technology equipment, while retaining vendor-specific functionality, reduces training and errors

### Increase Device Utilization

- Comprehensive visibility of devices, components and their interconnections
- Pre-configured monitors include network services, applications, and performance monitoring

### Fast Problem Resolution

- Single "pane of glass" view into infrastructure allows for quick problem resolution without the use of multiple point tools
- Synchronize connectivity and asset data for a complete picture of your infrastructure, and view in customizable reports and topology

### Advanced monitoring and event notification action framework

- Automate key event notification functions
- Forward critical alarms to key people for resolution

### Reduce SW Expenses for Point Management Solutions

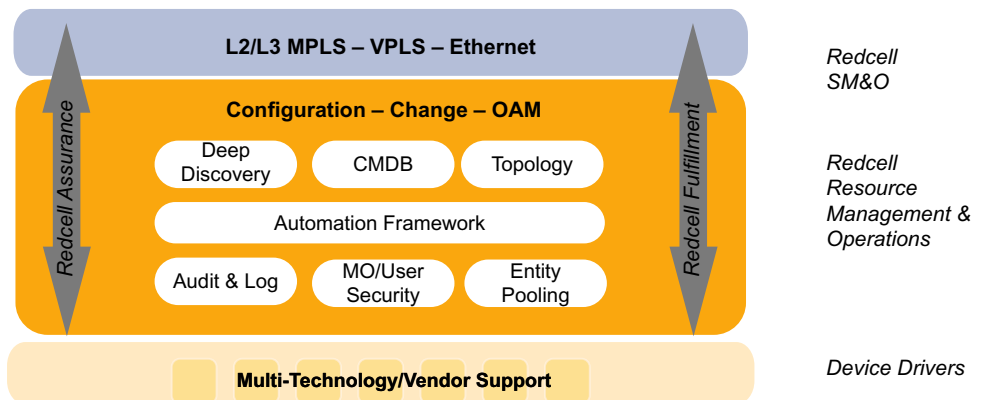
- Consolidated management solution reduces need for element managers and associated SW licenses, and reduces staffing and training expenses

The Redcell Resource Management and Operations (RM&O) Suite features a complete network administration system for today's most advanced operation center environments. Offering scalability and multi-vendor support, Redcell offers operators a feature-rich and distributable management system that integrates easily with any third party application. Key functional areas:

- Inventory Management/CMDB
- Configuration File Management
- Firmware/OS Management
- Security Management
- Graphical Topology
- Element Fault Management/Event Services
- Performance Management
- Group (one-to-many) Operations
- 3rd Party Integration

## Foundation for an Integrated Suite

The Redcell RM&O suite of capabilities are the foundation for true seamless integration of service creation and service fulfillment, in addition to service assurance.



*Integrated platform provides common services for all Redcell applications and device drivers.*

Used in conjunction with off-the-shelf Redcell Device Drivers – hardware specific software that provides the intelligent communication between Redcell applications and the network devices –RM&O manages both single and multi-vendor network environments. Simply installing a new Redcell Device Driver provides additional network element support (application upgrades are not necessary).

In addition, you can easily enhance drivers, or create new ones, with The Device Driver SDK – without having to write software code.

### Key Features of Redcell Resource Management & Operations Suite

#### Deep Discovery, Inventory, CMDB

- Automated, multi-protocol with centralized credentials management
- Maintains associations between the managed equipment, so that you know 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

#### Event Fault Management

- Monitors your environment for potential health-affecting conditions via SNMP & Syslog events
- Based on pre-defined and user-defined criteria, escalates via multiple notification methods – the appropriate issues as alarms to you Alarm Viewer, via email or page, to 3rd-party systems, etc.
- Automatically trigger system-initiated operations such as script-execution, configuration backups and/or restorations
- Displays dependable and filterable record of all events and alarms that have occurred in your environment for troubleshooting and remediation purposes
- All performance data and SLA metrics are available for comprehensive reporting
- Heartbeat monitoring
- Alarm correlation

#### Performance Management

- Built in "Monitors" accurately collect and analyze real-time performance metrics for most device types to inform you of the current and historical performance of your global environment
- Provides graphical dashboards for device key performance indicators and service performance metrics commitments to consistently ensure you are meeting SLA
- Advanced alerting when pre-defined or user-defined thresholds are surpassed



Unified Views - Dashboards - for quick visibility and navigation

#### Configuration File Management

- Template-based configuration file creation, back-up and restoration on a scheduled or ad hoc basis
- Visual, color-coded configuration file comparison features to quickly identify changes

#### User Interface Configuration

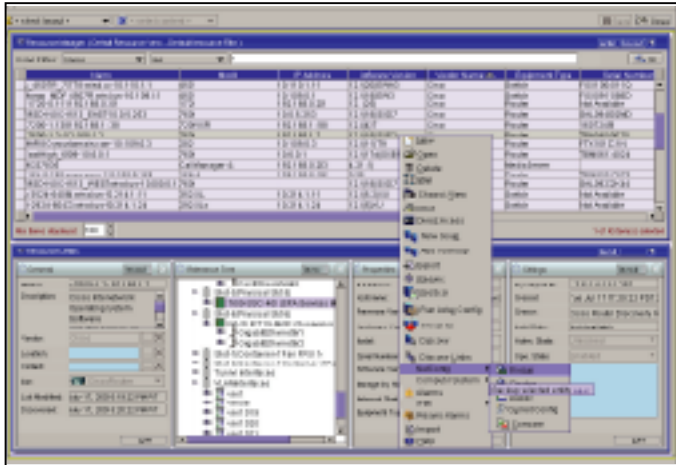
- Real-time or discrete configuration management for things like system, routing protocols, ports and VLAN configurations

#### Firmware/OS Management & Deployment

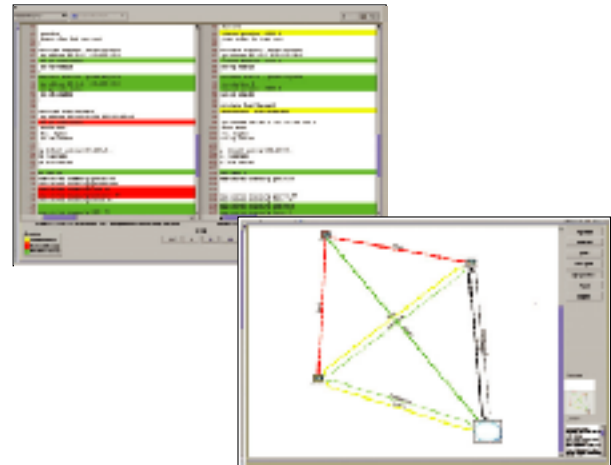
- Deploy systems or firmware upgrades to devices, or groups of devices
- Schedule or immediately backup and restore OS/FW versions
- Troubleshoot with comparison features

#### Free-Form Configuration – Adaptive CLI

- Configure and archive the results of scripts sent to devices or use the device's own basic script language, and then output of Perl scripts to manage repetitive or conditional communication
- Pre-seeded with popular scripts and easily add scripts that you can execute without having administrative knowledge of the actual scripting language
- Group and sequence to run as Tasks and configure as a response to system events, like alarms or internal notifications to perform automated diagnostics and troubleshooting activities



Configure, Compare, Monitor, Report



## Change/Compliance Management

- Quickly detect changes through event-driven or proactive change monitoring
- Event-based configuration change detection via SNMP trap and Syslog
- Policy-based compliance detection via Redcell ProScan™ – pro-active configuration file scanning
- Audit trails with compliance scan policies
- Provides comprehensive Reporting of Configuration Changes – meaningful reports on what changed, who made the change, when the change was made and authorization status

## Graphical Network Topology Mapping

- Easily view your environment in the customizable topology that displays your network logically and geographically and their hierarchical relationships – enabling you to see conditions as and where they occur
  - Geographical mapping of devices with multiple zoom levels from global to interface views providing extensive flexibility in network viewing and management
  - Physical topology provides a "chassis view" representation of the device and any components that may reside within
- Topology views let you monitor network devices, drill down in any view with a mouse click to sub-components and logical connections and respond to graphically represented network alarms

## Audit Trail

- Transactions between Redcell and devices are retained in its database. The audit trails manager lets you easily revisit these transactions to make troubleshooting easier
- Audit logs can be exported in PDF or CSV.

## Extensive Reporting

- Offers extensive reporting and exporting capabilities that can be easily filtered and customized to a variety of different users
- Create reports using dozens of included templates (asset tracking, device subcomponents, network and device performance, etc.) or easily generate custom reports
- All reports can be executed immediately or on a schedule and the report output can be saved in .pdf, .html, .xls, .csv, and other standard formats

## User Management

- Manage user/user group security settings and their functional permissions within the Redcell applications

## Group Management

- Flexibility to create static or dynamic groups to manage one-to-many management actions

## 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 readily available for each scheduled task execution

## System Self-Management

- Automate data-archiving of audit trails, alarms, and performance records to help you manage your database so it does not become overwhelmed with data you do not want to retain
- Use default archiving configurations, or create your own, to discard obsolete information or archive it in files



## Technical Specifications

### Interface/Communication Protocols

- SNMP v1/2/3, Proprietary Device CLI, Telnet/SSH, RMI/IIOP, XML, WMI/CIMI, Web services, TCP/IP, HTTP/S, UDP Multicast

### Multi-technology Management

- Routers, switches, security devices, servers, storage devices

### Device Support Examples

- Cisco
- Juniper
- HP
- Avaya
- Ericsson
- Siemens
- Nortel
- Alcatel
- Foundry
- Extreme
- 3Com
- Enterasys

### Operating Environments for Installation

- Microsoft Windows 2000, XP, 2003
- Sun Solaris
- Redhat ES Linux v4, v5
- SUSE Linux v9, v10

### Database

- MySQL (embedded database)
- Oracle

### Integration

- Web services, email gateway, and event forwarding

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