# Network Configuration Automation

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## Overview

### Configuration Management

The LiveAction Configuration Management integrates automated device discovery for a comprehensive multi-vendor asset inventory repository. This single configuration database establishes and maintains the basis for configuration management lifecycle across the enterprise environment. Configuration Management applied over the life cycle of network elements establishes a system of record for assets and inventory visibility and control of configuration, management reporting and performance.
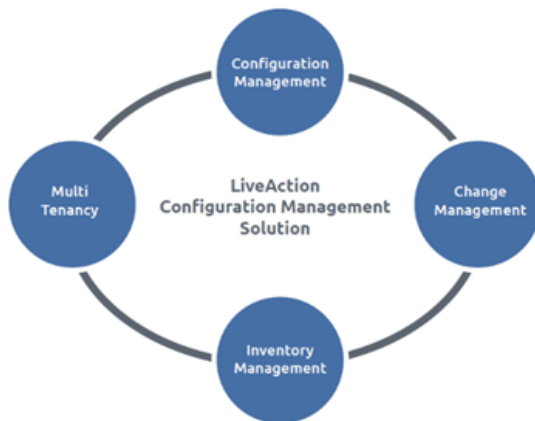


### Change Management

Change Management automation reduces risk of manual mistakes, while supporting a collaborative approach by reviewing the plan for change before executed. Change Management spans people, process and technology. LiveNCA enables automated processes to see, analyze and control

### Inventory Management

LiveNCA reports detailed hardware information including serial numbers, supporting audits of user accounts to find old, unused or unauthorized accounts and remove.

## LiveNCA Capabilities

**Configuration Management**
- See existing configuration and compare it against new configurations
- Edit and create configuration to be pushed from backed up configurations

**Configuration Backup and Restore**
- Create backups of the configuration data for each device in the inventory
- Compare configurations between devices, detect changes in configuration

**Device Discovery**
- Add devices to the inventory either manually or automatically
- Schedule device discovery to coincide with operations

**Change Advisor**
- See what commands will be run to restore back to the selected configuration
- Real-time change detection

**SmartChange**
- Apply unique changes to multiple devices at the same time

**Compliance**
- Retain history of configuration changes and access logs
- Quickly and easily look back to see which user made a change

**Open APIs**
- JSON-RPC 2.0 API over HTTPS for language neutral integration from external systems
- APIs for: Inventory, Networks, Configuration, Credentials, Scheduler, Plugins, Compliance, Telemetry, Bridge

## LiveNCA Key Features

### LiveNCA is a complete network change and configuration management solution.

#### Change Advisor

When something goes wrong, it's good to know you can always revert to a known working state. Change Advisor compares the current running or a draft configuration with the prior configuration and generate a list of commands necessary to rollback that change.

#### Draft Configurations

When preparing for an upgrade or change, Draft Configuration allows the creation or editing of configuration, either running or startup. Draft can then be compares to existing configuration to verify that only the parts you expect to change are actually affected.

#### SmartChange

SmartChange allows network element to be upgraded all at once through a command, which can be customized. The templates can then be scheduled to update configuration changes for automating maintenance or upgrade scenarios.

#### User Access Control

LiveNCA presents user defined roles based on a granular permission system to separate organizational operations by role.

#### Auto Login

LiveNCA allows SSH to discovered devices in the inventory database. The login is recorded, indexed and searchable for security and forenics. This allows for centralized support of local infrastructure.

#### Start-up Wizard

Online access with three easy steps:

- Add devices
- Set credentials
- Validate backup

#### Disaster Recovery

LiveNCA manages the current and previous configurations. Should a failure occur and service restoration is requested LiveNCA replaces the configuration devices and quickly restores them back into production.

#### Systems Integration

LiveNCA offers a wide breadth of APIs to facilitate the integration with network maangement, service managememnt and asset management systems.

#### Compliance

Real-time compliance detects and reports a rule or violation in the device configuration is found. Policies can be applied to all or partitioned devices.

#### Multi tenancy

Manage multiple networks from a single pane of glass. Multi-tenancy supports overlapping IP spaces, allowing managed service providers to centrally manage separated geographic or organizational environments.

#### Job Management

Create, manage, edit and run scheduled job tasks automatically. With user defined triggers a schedule is specified for periodic cycles, repeated tasks including historic jobs.

# LiveNCA Key Configuration Parameters

| Parameters | Functional Item |
|---|---|
| Device Discovery | SNMP<br>CLI ARP cache<br>CLI OSPF neighbors<br>CLI EIGRP neighbors |
| Configuration Management | Configuration Capture<br>Configuration Revision History<br>Configuration Comparison<br>Change Tool Output Comparison<br>Configuration Restore<br>Full-text search<br>IOS Image Backup |
| Device View | Inventory Management<br>Sort by Backup Status<br>Custom Fields |
| Device Property Collection | OS Version<br>Make/Model<br>Memory<br>CPU<br>Serial Number<br>Card/Slot information<br>Device Picture Display |
| Search Capabilities | Specific IP (IPv4 and IPv6)<br>Devices in Subnet (IPv4 and IPv6)<br>Interface IP search<br>Hostname (including wildcard)<br>Make/Model (including wildcard)<br>OS Version (including comparison operator)<br>Changed Date<br>Backup Status<br>Custom Fields<br>Serial Numbers<br>Custom Tags<br>Full-text Configuration<br>Network-wide Switch-Port/IP |

| Parameters | Functional Item |
|---|---|
| Change Tools | Configuration Restore<br>Command Runner (multiple commands)<br>CLI OSPF neighbors<br>Enable/Disable Interfaces<br>IOS Software Distribution<br>Login Banner (MOTD)<br>Name Servers Manager<br>NTP Servers<br>Port VLAN Assignment<br>SNMP Community Strings<br>SNMP Trap Hosts<br>Syslog Hosts<br>Static Routes (add/delete)<br>Add/delete device user account<br>Enable password change<br>VTY password change<br>Local User password change<br>Perform backup after tool completes |
| Bulk Update (Smart Change) | Template based configuration change with CSV import for multiple devices<br>Excel file import and export<br>Add custom menu<br>Set schedule |
| Cisco PnP* (Option) | Automatic forwarding of IOS configuration<br>Import and export of configuration template |

## LiveNCA Network Device Support

| | |
|---|---|
| Anritsu PureFlow | APC smart-UPS |
| Apresia | Aruba ArubaOS |
| Blue Coat ProxySG | Brocade Silkworm |
| Check Point SecurePlatform VPN1 Edge Firewalls | CheckPoint |
| Cisco ACNS Platforms | Cisco Airespace Controller |
| Cisco CatOS | Cisco CS500 |
| Cisco CSS/ArrowPoint | Cisco GSS Appliances |
| Cisco IOS | Cisco LocalDirector |
| Cisco Nexus | Cisco SAN-OS |
| Cisco Security Appliances | Cisco VPN |
| Cisco VxWorks | Cisco WAAS Platforms |
| Cisco WLSE | Citrix NetScaler |

## LiveNCA System Requirements

**Operating Environments**

| Component | OS | Version |
|---|---|---|
| Operating Systems | Linus OS | -CentOS 6, CentOS 7, -RedHat 6, and RedHat 7 -Only 64bit operation systems are supported. |
| | Windows OS | -Windows Server 2008 R2 -Windows Server 2012 -Windows Server 2012 R2 -Windows Server 2016 |
| | VM Ware | -vSphere |