UMP Business Router Management

Introduction

Business routers, due to their complexity, are configured and managed differently than home routers. The difference lies in both routers and their management methods. Business routers have better quality and wider variety of the offered features (VLAN, VRF), as well as ability to handle higher loads (load-balancing), dedicated customer service, enhanced security (traffic filtering, SLA, AAA) and higher uptime reliability (failover/backup mechanisms, FHRP).

From the device management perspective, there is no one standard that would enable a unified configuration of enterprise-oriented devices (with NETCONF/YANG not being widely adopted yet, not to mention legacy devices), and so **business routers are configured and managed through the use of Command-Line Interface (CLI) and SNMP (used primarily for notifications and alerts).** Although some vendors provide dedicated tools for their business router management, they're often unfeasible to use by telcos offering multi-vendor solutions. Advanced feature-set and straightforward management protocol mean that in order to provide enterprise SLA guarantees telcos and businesses need to have specialized staff and have to rely on manual configuration which is not only insecure and prone to errors, but it also significantly slows down the enterprise customer adoption.

UMP Business Router Management solution solves this problem with **dedicated graphical (GUI) panels for CLI (SSH/Telnet) management covering the most essential feature-set of several leading enterprise routers vendors such as Cisco, Mikrotik and Juniper.**

UMP Business Router Management

Management of business routers in UMP is done with the use of a Graphical User Interface instead of manual CLI commands. With just a few mouse clicks, a user can perform complex configuration of routers from multiple vendors in a unified way. The configuration can be easily done either per-device or using powerful UMP grouping mechanism. What's more, the solution was designed with firmware upgrades in mind, which means that even after potential backward-incompatible upgrades the panels along with the underlying logic can be adapted in a matter of hours with no system downtime. Similarly, new features can be added, giving the operators the fastest time to market in order to offer the highest SLA standards possible.

UMP Business Router Management additionally allows the operators to **receive insightful monitoring alerts about their transfer-layer SLA fulfillment, out-of-service interfaces, router hardware issues or home routers being used in a business context.** The solutions comes with complete documentation which brings even less specialized staff up to speed so they can help the operator drive enterprise-level customer adoption.

Key features

- Dedicated graphical (GUI) panels for features avaliable in CLI (SSH/Telnet) management with ready-to-use configuration templates for business routers from vendors including Cisco, Mikrotik and Juniper
- Support for advanced business routers configuration, including Users, Prefix Lists, IP Routes, VLAN, FHRP, ACL, Firewall, NTP, DNS, AAA, Interfaces, Object Tracking, Bridges, DHCP, Ethernet, NAT, Route Maps, IP SLA, Traffic Control, IP Security, SNMP, VRF, WiFi and Policy Maps
- Dedicated monitoring — Link Consumption, Interface Status, Hardware Usage and Router Usage Characteristics
- Configuration done per device or automated using powerful UMP grouping mechanism
- Ability to change graphical interface and underlying logic with no system downtime
- Possibility to integrate backup restore configuration option with Business Router Management solution to easily reset and restore devices config
- Complete documentation for each graphical panel
- Management of business routers and other devices in a unified way in one platform (Unified Management Platform)
- Auto-discovery of business routers (only with AVSystem DHCP server)
- Automatic actions triggered by monitoring alerts (only with AVSystem Smart Workflows)

Supported vendors and devices

Cisco Business Routers

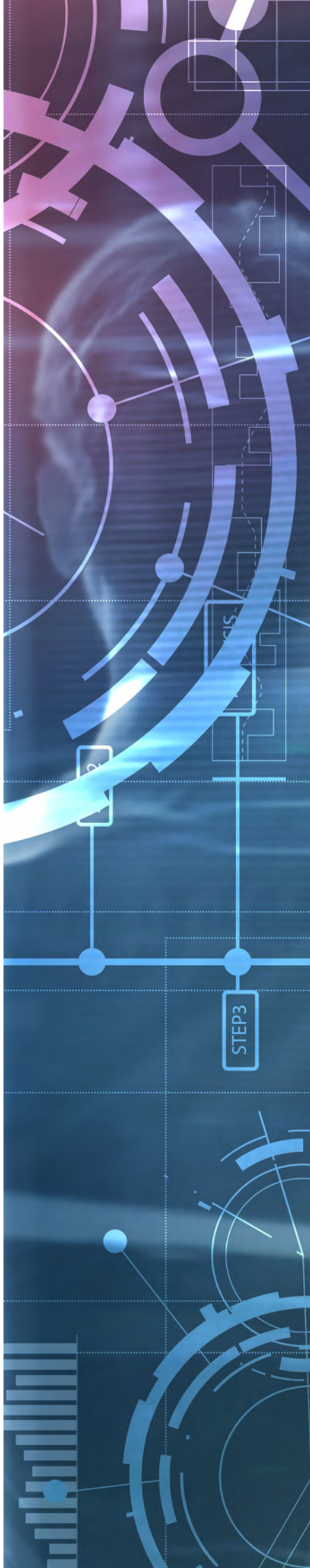
Model	Software version
C800-UNIVERSALK9-M	Cisco Internetwork Operating System versions from 12-4(15) T4 to 15-4(3)M1
C870-ADVIPSERVICESK9-M	
C880DATA-UNIVERSALK9-M	
C880DATA-UNIVERSALK9_ NPE-M	
C1900-UNIVERSALK9-M	
C3900-UNIVERSALK9-M	

MikroTik Business Routers

Model	Software version
hex_lite	MikroTik RouterOS versions from 5.24 to 6.45.3
RB750	
RB750GL	
RB750GR3	
RB750r2	
RB750R2	
RB750UP	
RB941-2ND	
RB951-2N	
RB951G-2HND	
RB951Ui-2HnD	
RB952UI-5AC2ND	

Juniper Business Routers

selected devices with Juniper Junos OS 13.3 software version



Sample chapter from documentation

Configuring interfaces on MikroTik devices

Read this instruction to learn how to manage interfaces configuration on MikroTik by setting particular parameters. For more domain specific information refer to vendor documentation.

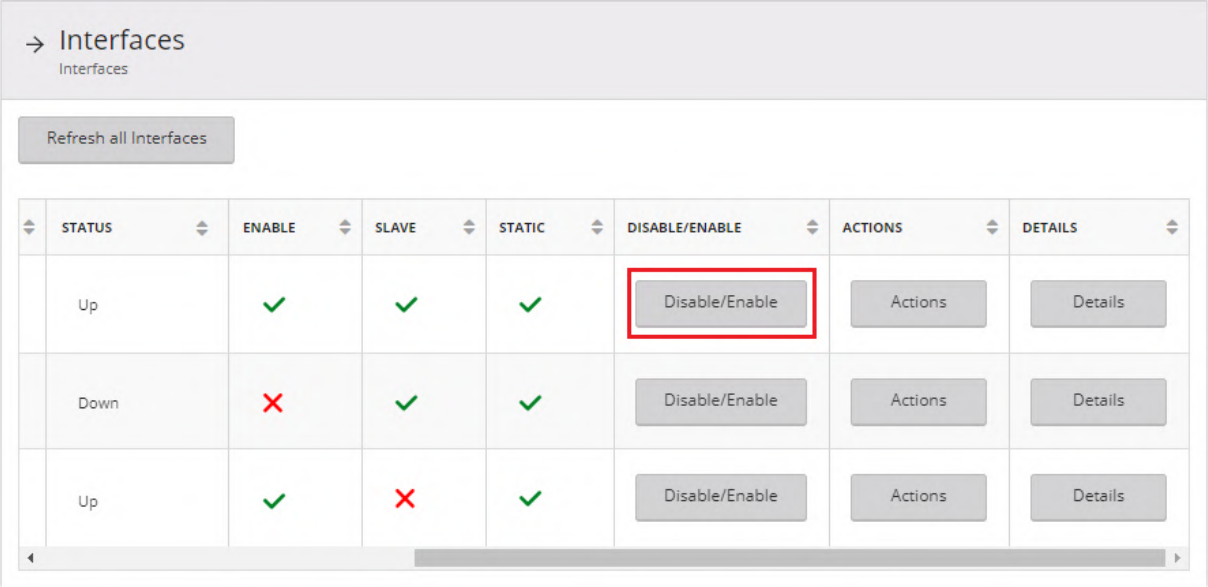
Prerequisites:

- The user must have a proper permission - *dmc.sengs.interface.*
- The device data model must have the *InternetGatewayDevice.X_AVS_EXT.Interface node.*
- The device must belong to *root.businessRouters group*

Enabling or disabling status of interfaces

To disable or enable an interface:

1. Go to Customer care device management.
2. Select a device and go to the Interfaces menu.

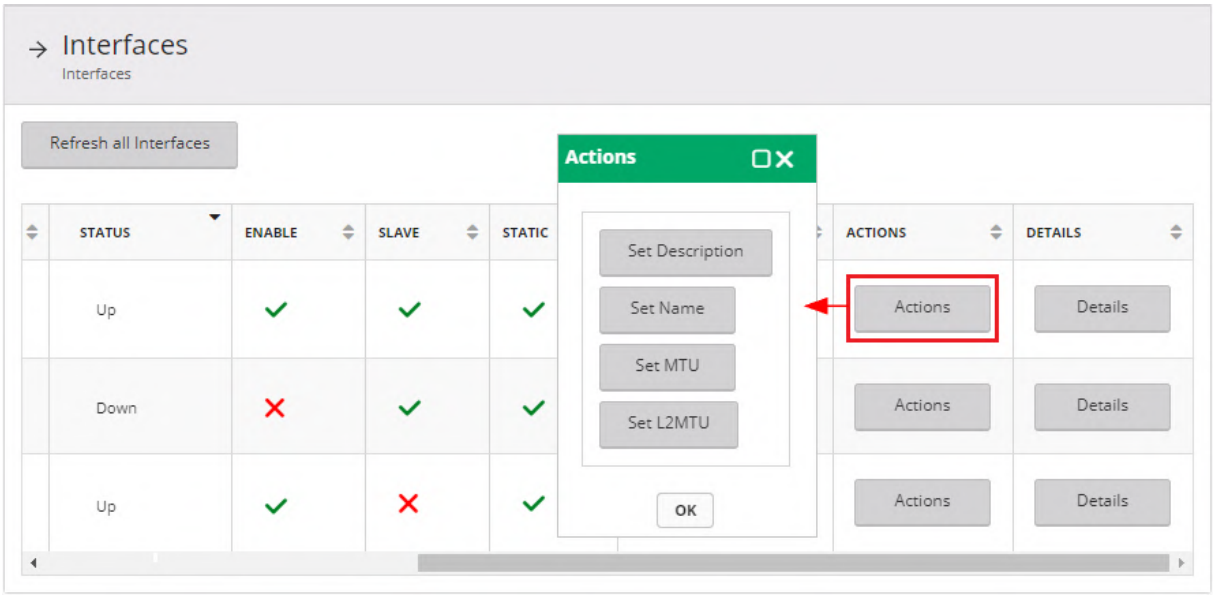


3. Click the Disable/Enable button. The proper action is performed depending on the status of the interface in the Enable column.

Performing actions on interfaces

To perform an action:

1. Go to Customer care device management.
2. Select a device and go to the Interfaces menu.
3. Click the Actions button:
    - Set Description
    - Set Name
    - Set MTU
    - Set L2MTU

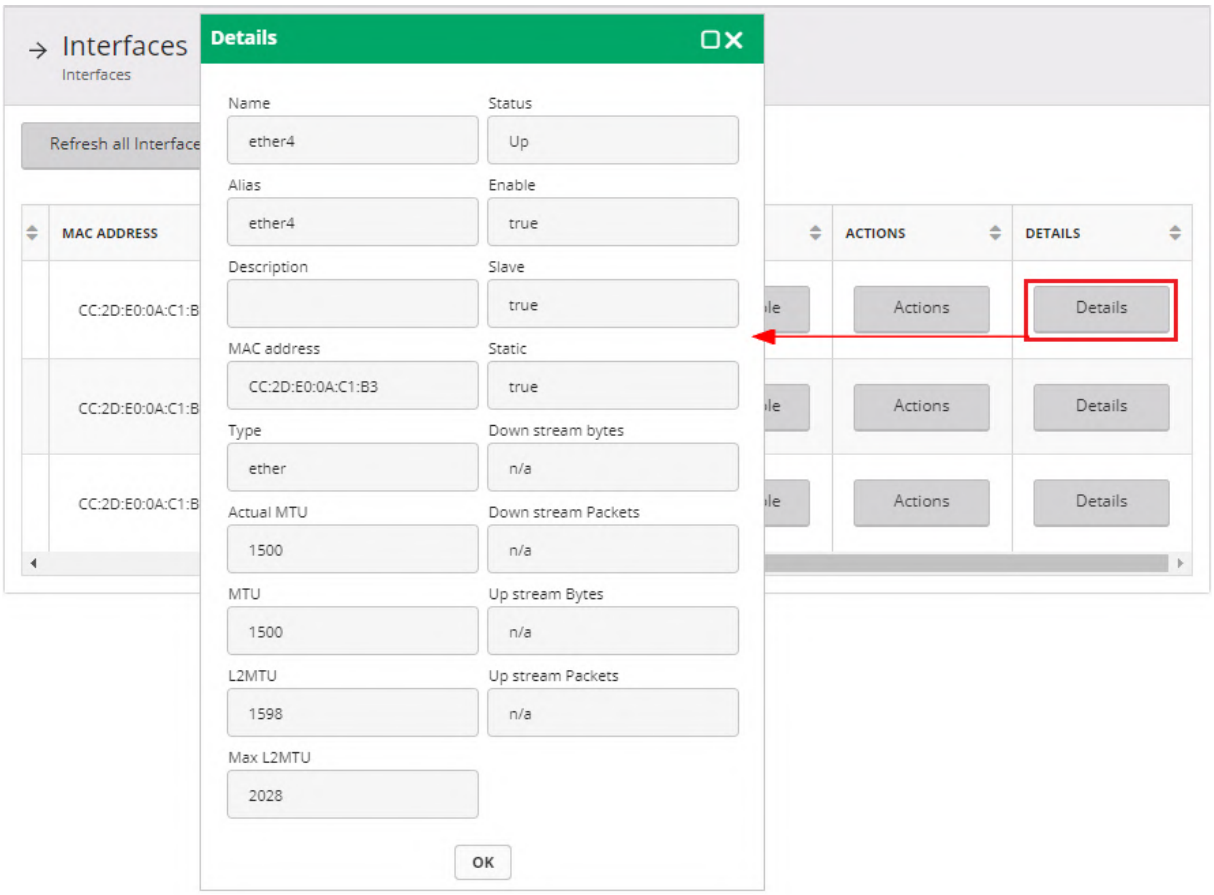


- Introduce changes.
- Click the Save button.

Displaying details of interfaces

To display details of an interface:

1. Go to Customer care device management.
2. Select a device and go to the Interfaces menu.
3. Click the Details button. Details of the selected interface are displays in the read-only view.



Modifying the panel

Each time an action is performed (i.e. new / edit / delete) in Business Router setting panel, a CLI (Command Line Interface) SSH/Telnet session is immediately performed using task created from a task template. Values from setting panels are passed as task properties to task templates containing all the underlying CLI commands.

Both settings panels and task templates can be modified - read the Task templates and Setting panels chapters in User documentation to learn more.

Used task templates

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Available task properties

Skipped in brochure

UMP

Unified Management Platform (UMP) is a highly scalable and flexible multi-protocol system for provisioning, management and monitoring of various types of devices. As an industry-proven device management platform UMP offers many powerful mechanisms that allow efficient management of any type of devices via various protocols. Some of the platform's features are:

- Single and group device automated management
- Flexible modelling of customer business processes and provisioning workflows
- Customer Care with configurable Graphical User Interface
- Quality of Experience with diagnostics, monitoring and comprehensive reporting for devices and groups
- Scalable architecture, high availability, capable of handling millions of devices
- SLA guarantees with 24/7 premium support
- Easy integration with OSS/BSS systems
- Devices auto-discovery
- Multi-tenancy
- Mobile Self-Management

Your next step

If you want to learn more about Business Router Management in our Unified Management Platform (UMP), contact us at **sales@avsystem.com**.

About AVSystem

No IoT deployment is successful without proper device management—this is what AVSystem stands for.

As a 12-year-old company, AVSystem is an expert in its field. We help companies around the world deliver better quality of service thanks to our top-class device management solutions. We also focus on WiFi VAS & indoor location as well as other systems for SDN and NFV. Apart from creating software, we actively participate in the standardization process of the LwM2M standard to enable secure device management and service orchestration in the IoT ecosystem. 100+ large companies worldwide prove the superiority of AVSystem's technology.

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