

/ STANDARD BUILD

Device Manager by SmartRG

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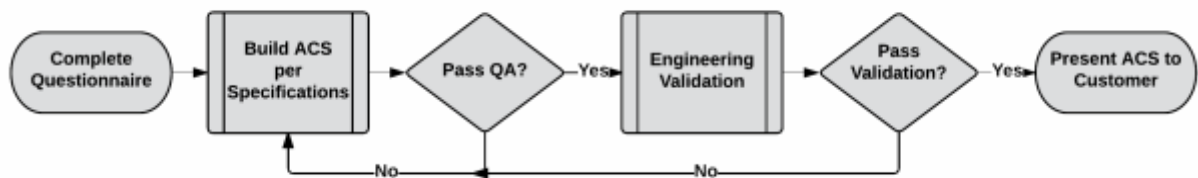
INTRODUCTION

This document defines the standard Device Manager by SmartRG Device Management Platform features, applications and value-added tools based on the Device Manager 5.2 architecture. For advanced configuration beyond the scope of the standard deployment described in this document, a professional service engagement is required. Consult your SmartRG account representative for a quote customized to your needs.

Features are dependent on device capabilities and may vary. For device interoperability of non-SmartRG devices, a 3rd party interop engagement is required. Consult your SmartRG account representative for a quote customized to your needs.

Deployment Workflow

Your SmartRG account team will work with you to determine your requirements using our questionnaire template. Following the requirements gathering, we will build the ACS per your specifications including the standard build elements described in this document.



STANDARD DEPLOYMENT FEATURES AND APPLICATIONS

The following features and applications are standard with any Device Manager by SmartRG deployment.

LAN Device Management

- Automatically identifies the vendor and configured device name for most LAN devices in the home
- Shows connectivity status (online/offline, Wireless/Ethernet)
- Manage LAN-side IP addressing

Managed WiFi

- Verify SSID and passphrase settings
- Check encryption type
- Help select least congested channel to improve performance
- View WiFi signal strength

WiFi Signal Monitor

- Shows the wireless signal strength of each client device, enabling easy troubleshooting of WiFi performance issues

Managed Firewall

- Help setup a port forward if necessary
- Explain IP conflicts and how to resolve them

Universal Device Management (UDM™) Click-thru

- Simple setup of HTTP click thru to the local UI for LAN devices such as webcams and printers
- Customizable URL path and port numbers

WAN Configuration Management

- Modify PPP credentials
- View WAN status and statistics (i.e. packets transmitted, received, dropped, errors)

Device Firmware Updates

- Push firmware updates to a device if required
- Assist with RMA processes

Device Status

- View connectivity history
- Push settings such as Inform Interval and turn on advanced diagnostics for troubleshooting

Modem Security

- Disable WAN-side modem access
- Manage modem access passwords

CPE UI Click Thru

- Click-thru to local CPE user interface to view more detailed statistics such as WAN configuration

Captive Portal

- Allows the service provider to redirect the user to local diagnostics or to the website of their choosing, as a way of proactively troubleshooting or enforcing usage policies. Captive portal is a standard feature but requires customization services for deployment.

Replace Device

- Copies the settings of a device to second device
- Ideal for RMA workflow

Service Provider Announcements

- Create customized messaging that appears in the CSR portal
- Useful for daily bulletins or reminders

Other Administrative Tasks

- Provision subscriber, associate to a device, enable and disable services
- View connectivity history for a device
- Reboot device
- Change inform interval for a device
- Create and apply labels to devices/subscribers
- Create new users of the system and manage roles and permissions

Device Manager Bulk Operations

Bulk Operations is used to modify settings for a large number of devices in a concerted, scheduled fashion. Below are some examples of how Bulk Operations may be used:

- Modify the inform interval of subset of devices. For example, for all CPEs that have been online for 60 days, back-off the inform interval to 72 hours to lessen network traffic.
- Setup periodic retrieval of device information for reports. This would allow the operator to collect data during off-hours and run the report during the day.
- Set Captive Portal settings for specific devices. Captive portal can be used to force the subscribers web browser to a specific site, which is applicable for bulletin notifications (security alerts, new offers, etc) or to get opt-in on new terms of service (See DMCA use cases).
- Upgrade firmware to a CPE, and in the future to other TR-069 enabled LAN devices.
- Modify device settings on the CPE, for instance changing wireless channel to “auto” for devices that are experiencing poor WiFi performance or are stuck on channel 6. Could be used for TR-069 parameters as well such as the ACS URL and SSL on/off.
- Enable a new service to appear in the Control Panel for subscribers to try out. Makes it easy to enable new services on a trial basis.

Control Panel Subscriber Portal

The Control Panel subscriber portal helps consumers setup and access their devices and services from anywhere in the world. Here are some of the key uses for the Control Panel:

Home Network Device View

- Provides a simplified view of all devices in the home, connectivity type, online vs. offline
- Accessible using a browser, from within the home or remotely

Wireless Configuration

Allows user to easily configure their WiFi network without assistance from customer support

Firewall Configuration

Setup of port forwards and static IP addresses needed for certain applications (e.g. games, devices) to securely access the Internet

Universal Device Management (UDM™) Click-thru

- Simple setup of HTTP click thru to the local UI for LAN devices such as webcams and printers
- Customizable URL path and port numbers

Device Manager Northbound API

- Subscriber API enables 3rd party systems to provision and manage subscriber data
- RESTful services are common programming tools that make it easy to build dynamic provisioning and service enablement flows

Scripting Engine

- The scripting engine provides access to the Device Manager Javascript editing tool, which can be used to create and customize scripts for managing end devices.

Device Manager Analytics

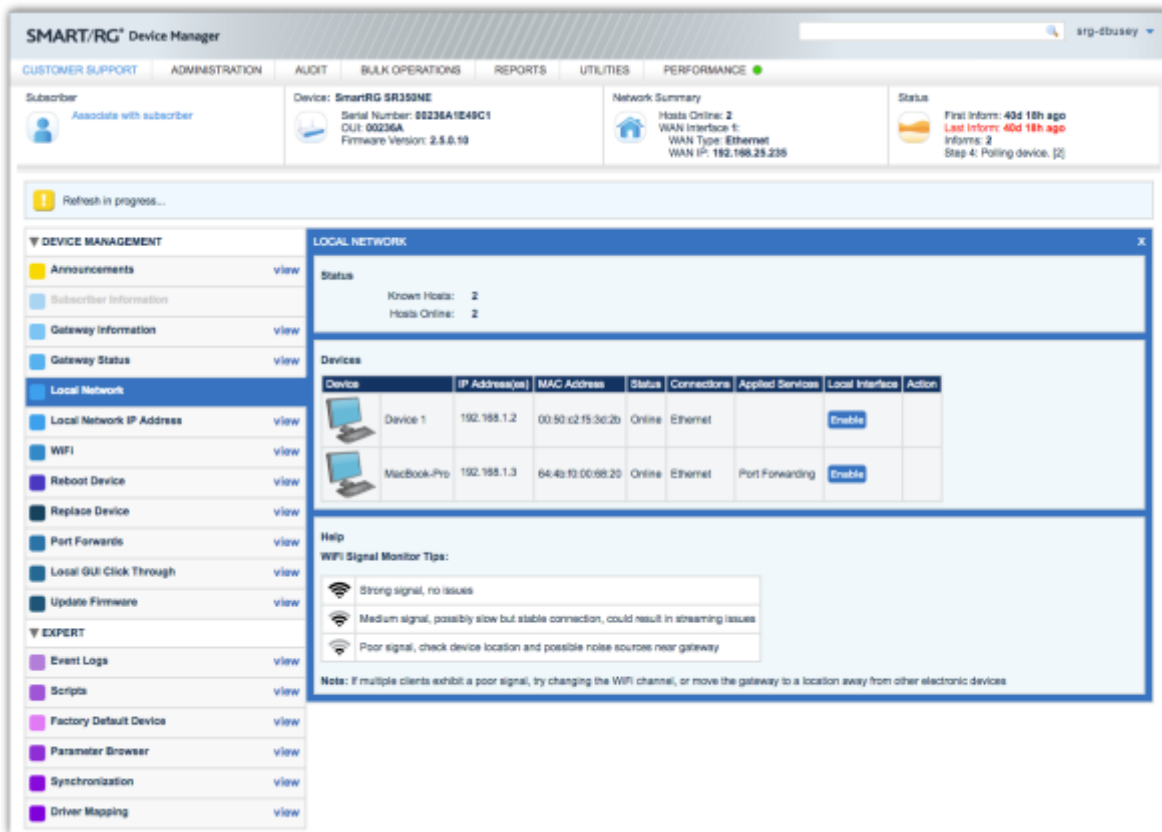
- Analytics is used to aggregate data maintained in Device Manager. This data can be used to study a wide variety of conditions.

Domains Management (optional)

- Separates subscribers, devices, and system users into distinct domains
- Ideal for segmenting support entities, and creating wholesale support offerings

STANDARD DEPLOYMENT - USER INTERFACE

The standard visual deployment of the features and applications in the CSR Portal UI will resemble the image below. Note however that Device Manager is extremely customizable. The left navigation bar may be altered per your specification to include optional features or modified to simply to alter the vertical sequence in which these features appear. The groupings in which the features are presented (i.e. Device Management vs. Expert as seen below) can also be changed.



Permissions may also affect this view as the CSR role has access to fewer features than the Administrator role.

Additional, custom roles (beyond CSR and Admin) with specific permissions may also be created per your specification.

Consult your SmartRG Sales Engineer to arrange for and document the specifics of the customizations that best fit your business processes and staffing model.

VALUE ADDED TOOLS

We know your time is valuable. To assist you with your management needs, we have included the following scripts, reports and bulk operations as part of the standard deployment.

Scripts

- Mgmt Change Management URL
- Mgmt Change Management Passwords
- Mgmt Sync STUN
- TR069 Reboot Device
- TR069 Default Device
- TR069 Download Default Config File
- TR069 Get All Parameters
- TR069 Update Firmware
- TR069 Update Protected Firmware
- TR069 Schedule Inform
- TR069 Set Inform Interval
- DNS Set DNS Server
- NAT Enable NAT (Internet On)
- NAT Disable NAT (Internet Off)
- WiFi Change Wireless Power Level
- WiFi Disable Auto Channel
- Stats Collect Device Statistics

Reports

- Managed Devices
- Connected Hosts
- DSL Statistics
- Informing Devices
- WiFi Report

Bulk Operations

- Sample FW Update
- Collect DSL Stats

If you require additional capability, please consult your Account Representative and ensure that your requirements are reflected in the Device Manager Questionnaire intake process.

REVISION HISTORY

REV	DATE	DESCRIPTION
1.0	10/2015	Initial Release
1.1	2/2016	Modified doc name to standardized naming scheme Re-branded product nomenclature from "Prime Home..." to "Device Manager by SmartRG"
1.2	4/2016	Added section describing standard UI deployment and customization possibilities on pg 5.
1.3	5/2017	Updated for v10.0.0 Updated document to conform to current style guide specifications.