OTV1.2 Features & Enhancements

Groups Functionality Modified

o New tab called "Device Groups"

  – Lists all device groups

  – Allows creation, editing and deletion of regular and multicast groups

o Group has to be created first before devices can be added to the group

  – Check box to specify group as "multicast group" during creation

  – Multicast groups are explained in next section

o Search and select devices of interest to add devices to group

  – "Add devices to group" function available in meters/devices tab
     (not device groups tab)

o Devices can be added to a group via file import as well

  – MAC address is required and used as device identifier

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New "Device Groups" Tab

- o   Easily select and delete multiple groups

- o   Create & view "multicast groups" – used for meter program update

Add Devices to Group

o Note: New group have to be created before meters can be added to group

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Add Devices to Group – Import File

All Devices   **Meters**   **Device Groups**   **Device Group Detail**   15 Devices reported alert state

Kishore Test

Search
refreshed on Jul 1 18:08:16 GMT
📑 Import Devices   ☰ Manage Tasks   📑 Messages   🗑 Delete   ⟲ Refresh

☐	State	MUD Status	Device Type	Details	▼ Last Activity

⏮ ◀ 1-1 of 0 ▶ ⏭

Import Devices   ☒

Device Identifier: Mac Address   ▼

Import File: Choose File   No file chosen

Note:

Cancel   **Submit**

List of meters to add to group

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Multicast User (MUD) Groups

o   Suited for large group of devices

    – Bounded latency in delivery of command → Faster execution

o   Limited set of functionality supported by MUD groups

o   Only AMI1.2 meters can be added to MUD groups

o   Check box to specify group as "multicast group" during creation of group

o   Adding devices to MUD group is a two step process

    – When devices are added, "MUD status" in OTV will be listed as "Pending"

    – Status changes to "Assigned" after comm. system adds devices to MUD group

o   Search and select devices of interest to add devices to group

    – "Add devices to group" function available in meters/devices tab

o   Devices can be added to a group via file import as well

    o MAC address is required for use as identifier

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Multicast User (MUD) Groups – "Pending"

Multicast User (MUD) Groups – "Assigned"

Manage tasks & send messages to entire group

Kishore Test (Multicast, UUID: f79ddb14-b3d7-44~~18-b37b-ag~~00~~0982ba~~a)

| All Devices | Meters | Device Groups | **Device Group Detail** |

Search
refreshed on Jul 10 17:15:23 GMT

📇 Import Devices   **☰ Manage Tasks**   **📑 Messages**   **🗑 Delete**   **↻ Refresh**

☐	State	MUD Status	Device Type	Details	▼ Last Activity
☐	🟢 Switch state: Not present	Assigned	Smart Meter	Smart Meter 1.2 HES/MDMS Serial Number: 56138507 HES/MDMS Meter ID: 56138507 Model: GE kV2c Description: CL200, P3	Jul 10, 2015 17:14:29 GMT
☐	🟢 Switch state: Not present	Assigned	Smart Meter	Smart Meter 1.2 HES/MDMS Serial Number: 58595845 HES/MDMS Meter ID: 58595845 Model: GE kV2c Description: no battery	Jul 10, 2015 17:14:25 GMT
☐	🟢 Switch state: Not present	Assigned	Smart Meter	Smart Meter 1.2 HES/MDMS Serial Number: 58595842 HES/MDMS Meter ID: 58595842 Model: GE kV2c Description: SITI Testing	Jul 10, 2015 17:14:25 GMT

Meter added to MUD group

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Send Messages to MUD Group

| All Devices | Meters | Device Groups | **Group Messages** | 15 Devices reported alert state |

MUD_SGM_1.2_meters Sent Messages

⁺≡ Send Message   ↻ Refresh

Send Message to Group   ☒

Send | Request Meter Program Update/Meter Read ▾ |

Please Choose …
Request Meter Information
Request Meter Program Update/Meter Read
Request Communication Device Reset
Request Communication Device Hard Reset

Limited set of message compared to a regular device group

Cancel   **Send**

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Program Update via MUD Groups

Send "Program Update" message to meters in MUD group

Select meter program XML file

Start Time – When EMCM will apply program update to the devices

Expire Time – Program update not applied if current time is past expiry

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Group With Meters of Different AMI Versions

- AMI system can function with meters on different AMI versions

- OTV groups can consist of meters with AMI 1.2/1.1/1.0 meters

  - MUD groups can consist of only AMI 1.2 meters

- Group consisting AMI 1.2 and AMI 1.0 meters

  - Only ping message can be sent to this group

- Group consisting AMI 1.2 and AMI 1.1 meters

  - All messages can be sent to this groups

  - AMI 1.1 meters silently ignore messages that feature only in AMI 1.2

- CMEP export and Demand Reset scheduled tasks possible for all groups

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AMI1.1 Meters and Non-Applicable Commands

Commands	AMI 1.1 Meter Behavior
Request Season Change	EMCM silently drops the command. No response sent back
Request Real Time Pricing	EMCM silently drops the command. No response sent back
Request Meter Program Update	Rejected by OTV
Request Interval Data Reading	Rejected by OTV Incorrect error message in OTV "ERROR = Load Profile Set Number Out of Range"
Request Disable Override*	kV2c: Rejected by OTV for all kV2c meters I-210+ (with switch): Main relay will disconnect

*Note:
I-210+ (AMI1.2): EMCM rejects disconnect message.
                                No change to relay state.
I-210+c (AMI1.2) with switch: EMCM rejects disconnect request

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Group of AMI1.0 and AMI1.2 Meters

o   Not all group functionality available for groups with AMI1.0 & AMI1.2 meters

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Group of AMI1.0 and AMI1.2 Meters

- o CMEP export and Demand Reset scheduled tasks available

- o Only "Send Ping" message possible to mix group

Group of AMI1.1 and AMI1.2 Meters

All Devices   **Meters**   **Device Groups**   **Group Messages**   10 Devices reported alert state

AMI 1.1 & 1.2 Sent Messages   ⬆ Send Message   ⟳ Refresh

Message Type	Status	▼ Date Initiated

Send Message to Group   X

Send   Please Choose ...   ▼

Please Choose ...
Send Ping
Request Meter Switch State
Request Meter Switch Connect
Request Meter Switch Disconnect
Request Meter Information
Request Disable Override
Request Meter Demand Reset
Request Billing Data Readings
Request Meter Data Reporting Configuration Set
Request EMCM Device Configuration Set
Request Interval Data Reading
Request Season Change
Request Real Time Pricing Change
Request Meter Program Update/Meter Read
Request Power Quality
Request Clear All Meter Flags
Request Communication Device Hard Reset
Request Communication Device Reset

All messages can be sent to this group

Messages specific to AMI 1.2 meters are ignored by AMI 1.1 meters

Cancel   Send

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Advanced Search Based on Metadata

Advanced Search Based on Metadata

- o Users can perform device search with specific meta data names and combination of AND and OR logics

- o Search can consist of multiple logic blocks:

- o ({meta name 1: value [OR value 1 OR value 2 ...]} [AND {meta name 2: value ... }] ...) [OR ({} AND {} ...)]

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Admin Page - Configuration

Revamped & Versatile Notifications

Notification Groups   Smart Meter ▼

✚ Add   ⬆ Export (csv)   ⬆ Email Test   ✎ Base Email URL

Group Name	Application Type	Assigned Alarms/Events	Assigned Emails	Description
Peters	Smart Meter	High Temperature,Timeout Exceeded,Meter Config Err...	peter.jensen@onrampwireless.com,james.song@onrampw...	
Special events (peter)	Smart Meter	Meter Info Change,Meter Communication Error,AMR Er...	peter.jensen@onrampwireless.com,james.song@onrampw...	This is for monitoring events ...

⏮ ◀ 1-2 of 2 ▶ ⏭

Clicking on a row opens editor

Alarm Types   Smart Meter ▼

Title	Severity	Email Text
Timeout Exceeded	CRITICAL	Timeout Exceeded
Tamper Detected	MAJOR	Meter has reported tamper detection
Service Error	MAJOR	Service Error
Reverse Energy Flow	MAJOR	Meter has measured reverse energy flow
Power Fail	MAJOR	Meter has measured grid side power failure
Metering Problem	MAJOR	Metering Problem
Meter Info Change	INFO	Meter info change detected
Meter Config Error	MAJOR	Meter misconfiguration detected
High Temperature	MAJOR	Meter has measured high temperature
AMR Error	MAJOR	AMR Error

⏮ ◀ 1-10 of 10 ▶ ⏭

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User Configurable Notifications

Notification Group Editor

Notification Group Peters

Group Name: **Peters**

Application Type: Smart Meter

Description:

Emails (Comma Separated): peter.jensen@onrampwireless.com,james.song@onrampwireless.com

My Profile

Notification

Group Name

Peters

Special events (peter)

Alarms: ☐
- ☑ AMR Error   ☑ High Temperature
- ☑ Meter Config Error ☐ Meter Info Change
- ☑ Metering Problem   ☐ Power Fail
- ☐ Reverse Energy Flow ☑ Service Error
- ☐ Tamper Detected   ☑ Timeout Exceeded

Alarm Type

Title
Timeout Exceeded
Tamper Detected
Service Error
Reverse Energy Flow
Power Fail
Metering Problem
Meter Info Change
Meter Config Error
High Temperature
AMR Error

Events: ☐

(☐ Display CIM Code)

- ☐ AMR Error
- ☐ Auxiliary Switch 1 Closed
- ☐ Auxiliary Switch 1 targeted Close
- ☐ Auxiliary Switch 2 Closed
- ☐ Auxiliary Switch 2 targeted Close
- ☐ Auxiliary Switch 3 Closed
- ☐ Auxiliary Switch 3 targeted Close
- ☐ Auxiliary Switch 4 Closed
- ☐ Auxiliary Switch 4 targeted Close
- ☐ Auxiliary Switch 5 Closed

- ☐ AMR Error Cleared
- ☐ Auxiliary Switch 1 Open
- ☐ Auxiliary Switch 1 targeted Open
- ☐ Auxiliary Switch 2 Open
- ☐ Auxiliary Switch 2 targeted Open
- ☐ Auxiliary Switch 3 Open
- ☐ Auxiliary Switch 3 targeted Open
- ☐ Auxiliary Switch 4 Open
- ☐ Auxiliary Switch 4 targeted Open
- ☐ Auxiliary Switch 5 Open

Cancel **Save** **Delete**

Change Severity of Alarm Types

My Profile   Users   Configuration   **Notifications**   Reports

Notification Groups   Smart Meter

Alarm Type Editor   [X]

Title   Tamper Detected

Severity   Critical ▼

-- Please Choose --
Critical
Major
Minor
Warning
Info
None (Suppress Notifications)

Email Text

Cance

Group Name	Application Type	Assigned Alarms			Description
Peters	Smart Meter	High Temperatu... Config Err...		james.song@onrampw...	
Special events (peter)	Smart Meter	Meter Info Chan... Error,AMR Er...		james.song@onrampw...	This is for monitoring events ...

(csv)   ⬆ Email Test   ✎ Base Email URL

1-2 of 2

Alarm Types   Smart Meter ▼

Title	Severity	Email Text
Timeout Exceeded	CRITICAL	Timeout Exceeded
Tamper Detected	MAJOR	Meter has reported tamper detection
Service Error	MAJOR	Service Error
Reverse Energy Flow	MAJOR	Meter has measured reverse energy flow
Power Fail	MAJOR	Meter has measured grid side power failure
Metering Problem	MAJOR	Metering Problem
Meter Info Change	INFO	Meter info change detected
Meter Config Error	MAJOR	Meter misconfiguration detected
High Temperature	MAJOR	Meter has measured high temperature
AMR Error	MAJOR	AMR Error

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Meaningful DST Support

Enhanced Group Messages – 1/3

- New messages added to OTV

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Enhanced Group Messages – 2/3

Relay override

Meter Switch Disable Override   X

Relay Type: | Auxiliary Relay ▼ |

Relay Number: [   ]

[Cancel] [Disable Override]

Power outage detection settings

Set EMCM Device Configuration   X

Max Momentary Outage Duration (Seconds): ☐ [   ]

Max Momentary Interruption Duration (Seconds): ☐ [   ]

Min Power On Duration (Milliseconds): ☐ [   ]

Charge Cap Delay (Seconds): ☐ [   ]

[Cancel] [Submit]

Report all load profile sets

Request Interval Data Reading   X

Start Time: | Jul 1 20:22:02 GMT | 📅

End Time: | Jul 2 00:21:02 GMT | 📅

Interval Data Set | 0 ▼ |
0
1   [Cancel] [Submit]
2
3

Limited set of Billing UOMs

Billing Data Readings   X

Category: | Bulk/Register Data Summation Wh ▼ |
Bulk/Register Data Summation Wh
Bulk/Register Data Summation All
[Cancel] All
CIM Code

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Enhanced Group Messages – 3/3

Season change

Request Season Change

Season: [2 ▼]
- 0
- 1
- **2**
- 3

Start Time(optional): [   ] 📅

End Time(optional): [   ] 📅

[Cancel Last Request] [Cancel] [Submit]

RTP/CPP change

Request Real Time Pricing Change

RTP: [On ▼]
- **On**
- Off

Start Time(optional): [   ] 📅

End Time(optional): [   ] 📅

[Cancel Last Request] [Cancel] [Submit]

On-demand PQ readings

Request Power Quality

Type: [All ▼]
- **All**
- Line Side Diagnostic
- Instantaneous Demand
- Instantaneous Distortion

[Can...]

Hard reset of EMCM

Meter Downlink Request

You have chosen to send 'Communication Device Hard Reset' message to this group. Do you want to proceed?

[Cancel] [Yes]

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Signal Coverage Information

- o Coverage status, active or stale, is known from time stamp

- o Signal strength of meter is based on last update of coverage

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Summary of OTV1.2 Enhancements

New "Device Groups" Tab

o   Lists all current device groups in OTV

o   Allows creation, edition, and deletion of regular and multicast groups

o   Easier management of groups

Multicast User (MUD) Groups

o   Faster execution, with bounded latency, of commands sent to groups

o   Creation of multicast groups for AMI 1.2 meters only

OTA Meter Program Update

o   Meter program update to group of meters using multicast

Advanced Search

o   Perform device search with specific metadata and combination of *AND* and *OR* logics

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Summary of OTV1.2 Enhancements

Improved Notifications

o   User configurable alarm & event notifications

o   Change the severity of alarms, including suppress notifications

Enhanced Meter Reading Capabilities

o   Scheduled and on-demand read of limited set of UOMs of billing registers

o   Scheduled read of multiple/all load profile sets supported by meter

o   On-demand read of power quality metrics

OTA Relay Operation

o   Remote connect/disconnect of main and auxiliary relays of SGM meters

o   Arm-to-connect support

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Summary of OTV1.2 Enhancements

Improvements to Demand Reset (OTV 1.2.7)

o   Schedule demand resets in advance at EMCM

o   Execution of demand reset at exact specified time

Others

o   Remote (OTA) season change and RTP change from OTV

o   Remote OTA hard reset of EMCM

o   Intuitive time zone listing for all activities

o   Configurable momentary & sustained outage detection setting

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Thank You!