

NMIS/opCharts Integration - Custom Fields

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Feature Overview

NMIS supports custom fields, or custom attributes for managed nodes. For example; some organisations may find that a Country attribute is important to them. Once a custom field is provisioned in NMIS it may be extended to opCharts, where it can be added to the node filter so nodes can be filtered by the new attribute, the node table so it is possible to see this value for all nodes and to the node view page so the new attribute can be seen when looking at an overview of an individual node.

Configuration & Verification

Configure NMIS

Modify Table-Nodes.nmis

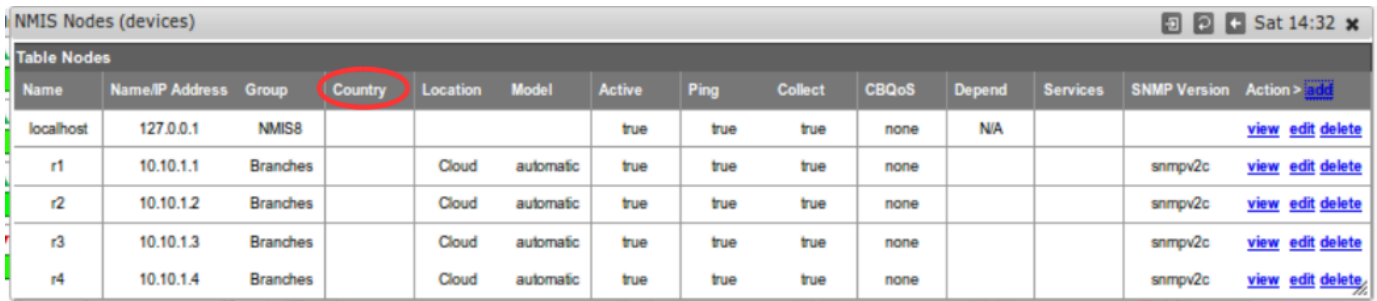
Adding a custom field to NMIS is accomplished by modifying `/usr/local/nmis8/conf/Table-Nodes.nmis`. Notice that this file contains a hash with a Nodes section. For this example we will add a Country field. Several fields may be added if required. Put the new field between the 'extra_options' entry and the 'advanced_options' entry. Observe the new country field in the code block below.

/usr/local/nmis8/conf/Table-Nodes.nmis

```
--snip
%hash = (
    Nodes => [ # using an array for fixed order of fields
        { name => { mandatory => 'true', header => 'Name',display =>
'key,header,text',value => ["" ] }},
        { host => { mandatory => 'true', header => 'Name/IP Address',display
=> 'header,text',value => ["" ] }},
        { group => { mandatory => 'true', header => 'Group',display =>
'header,popup',value => [ @groups ] }},
        { community => { mandatory => 'true', header => 'SNMP
Community',display => 'text',value => [ "$C->{default_communityRO}" ] }},
        { extra_options => { special => 'separator', header => 'Extra
Options' }},
        { country => { header => 'Country', display => 'header,text',value =>
["" ] }},
        { netType => { header => 'Net Type', display => 'popup',value =>
["wan", "lan" ] }},
        { roleType => { header => 'Role Type', display => 'popup',value =>
["core", "distribution", "access" ] }},
        { location => { header => 'Location',display => 'header,popup',value
=> [ sort keys %{loadGenericTable('Locations')} ] }},
        { advanced_options => { special => 'separator', header => 'Advanced
Options' }},
    ],
--snip
```

Verify Table-Nodes.nmis

Using the NMIS GUI navigate to System -> System Configuration -> NMIS Nodes. This should render the Table Nodes widget displaying the new field. If it does not; restore the original Table-Nodes.nmis file and try again paying close attention to syntax.



The screenshot shows the 'NMIS Nodes (devices)' window in the NMIS GUI. The 'Table Nodes' widget displays a table with the following columns: Name, Name/IP Address, Group, Country, Location, Model, Active, Ping, Collect, CBQoS, Depend, Services, SNMP Version, and Action. The 'Country' column is highlighted with a red circle. The table contains five rows of data:

Name	Name/IP Address	Group	Country	Location	Model	Active	Ping	Collect	CBQoS	Depend	Services	SNMP Version	Action
localhost	127.0.0.1	NMIS8				true	true	true	none	N/A			view edit delete
r1	10.10.1.1	Branches		Cloud	automatic	true	true	true	none			snmpv2c	view edit delete
r2	10.10.1.2	Branches		Cloud	automatic	true	true	true	none			snmpv2c	view edit delete
r3	10.10.1.3	Branches		Cloud	automatic	true	true	true	none			snmpv2c	view edit delete
r4	10.10.1.4	Branches		Cloud	automatic	true	true	true	none			snmpv2c	view edit delete

Assuming everything is working as desired we may now click the 'edit' button per device and update the Country attribute.

Modify Config.nmis

Modify the node_summary_field_list list attribute in /usr/local/nmis8/conf/Config.nmis. Add the new field key value previously added to Table-Nodes.nmis to this list. The code block below adds the country attribute.

/usr/local/nmis8/conf/Config.nmis

```
--snip
  'node_summary_field_list' =>
'host,uuid,country,customer,businessService,serviceStatus,snmpdown,wmidown,remote_conn
ection_name,remote_connection_url,host_addr',
--snip
```

Verify Config.nmis

Config.nmis can be compiled with perl to make sure there are no syntax errors

```
perl -c /usr/local/nmis8/conf/Config.nmis
# /usr/local/nmis8/conf/Config.nmis syntax OK
```

Configure opCharts

Modify opCommon.nmis

Add the new field to the following attributes in /usr/local/omk/conf/opCommon.nmis.

- opcharts_gui_node_list_table_columns
- opcharts_node_selector_sections
- opcharts_gui_node_summary_list

Examples of modifying each of these attributes may be found in the code block below.

/usr/local/omk/conf/opCommon.nmis

```
--snip
  'opcharts_gui_node_list_table_columns' => [
  {
    'cell' => 'NodeLinkCell',
    'comment' => 'must be present for NodeLinkCell to work on any column, use
renderable => 0 to hide',
    'label' => 'Name',
    'name' => 'node_name',
    'renderable' => 1
  },
  {
    'cell' => 'String',
    'label' => 'Host',
    'name' => 'node_summary.host'
  },
  {
    'cell' => 'String',
    'label' => 'Country',
    'name' => 'node_summary.country'
  },
  {
```

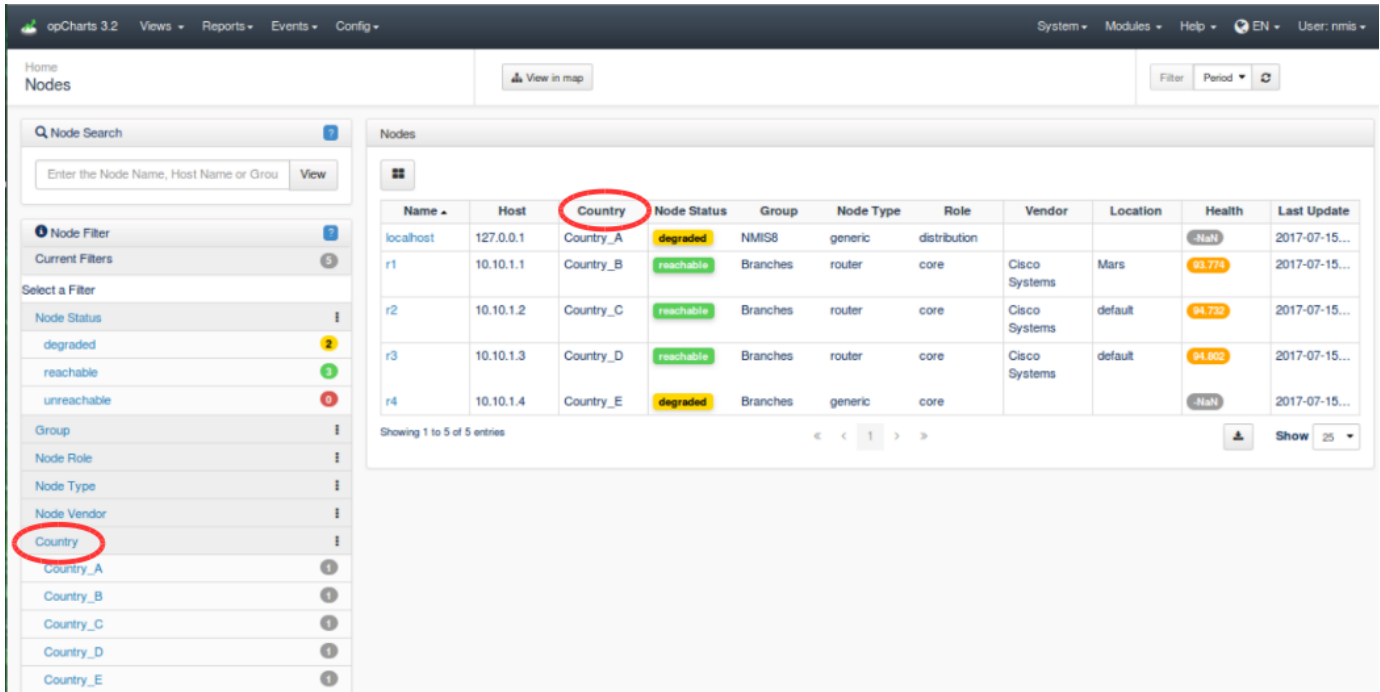
```
        'cell' => 'NodeStatusCell',
        'label' => 'Node Status',
        'name' => 'node_summary.nodestatus'
    },
--snip
    'opcharts_node_selector_sections' => [
        {
            'key' => 'nodestatus',
            'name' => 'Node Status'
        },
        {
            'key' => 'group',
            'name' => 'Group'
        },
        {
            'key' => 'roleType',
            'name' => 'Node Role'
        },
        {
            'key' => 'nodeType',
            'name' => 'Node Type'
        },
        {
            'key' => 'nodeVendor',
            'name' => 'Node Vendor'
        },
        {
            'key' => 'country',
            'name' => 'Country'
        }
    ],
--snip
    'opcharts_gui_node_summary_list' => [
        'name',
        'country',
        'group',
```

```
'host',  
'host_addr',  
--snip
```

Verify opCommon.nmis

- Restart the omkd service.
- Open a browser to the opCharts GUI.
- The new field should be found as in the example below.

If any discomfort in experienced restore the original opCommon.nmis



The screenshot shows the opCharts 3.2 interface. On the left, there is a 'Node Filter' sidebar with a search bar and a list of filters. The 'Country' filter is selected and highlighted with a red circle. The main area displays a table of nodes. The 'Country' column in the table is also highlighted with a red circle. The table contains the following data:

Name	Host	Country	Node Status	Group	Node Type	Role	Vendor	Location	Health	Last Update
localhost	127.0.0.1	Country_A	degraded	NMIS8	generic	distribution			-NaN	2017-07-15...
r1	10.10.1.1	Country_B	reachable	Branches	router	core	Cisco Systems	Mars	93.774	2017-07-15...
r2	10.10.1.2	Country_C	reachable	Branches	router	core	Cisco Systems	default	94.732	2017-07-15...
r3	10.10.1.3	Country_D	reachable	Branches	router	core	Cisco Systems	default	94.602	2017-07-15...
r4	10.10.1.4	Country_E	degraded	Branches	generic	core			-NaN	2017-07-15...

Conclusion

Understanding that 'one size fits all' solutions fits no one well; Opmantek strives to provide customers with the ability to customize their network management solutions.