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Using the Prisma-II XD SNMP interface to communicate with ROSA EM / TNCS

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1 Subject – Context

This document applies to Scientific Atlanta customers who use ROSA EM / TNCS to monitor the Prisma II XD chassis and its modules using the ICIM 2 SNMP interface.

The document provides the following information:

- Requirements for monitoring Prisma II XD via the ICIM's SNMP interface.
- How to connect to the Prisma II XD ICIM 2.
- How to add the Prisma II XD SNMP devtypes to the ROSA EM devlist.
- ROSA EM graphics with the Prisma II XD SNMP devtypes.

2 Requirements

- ROSA EM Version 03.02.25 or higher / TNCS Version 3.03.20 or higher
- Prisma II XD ICIM 2 version 2.02.10 or higher.
- IP connectivity from the ROSA EM / TNCS server to the Prisma II XD chassis.

3 Setup of the Prisma II XD ICIM 2

- Set the IP address, Subnet mask and the Gateway for each ICIM 2 module to be monitored. Refer to the ICIM 2 User's Guide for details of setting up the IP address and restarting the ICIM 2.
- Note the chassis addresses on all chassis in the ICIM 2 domain.
- Connect the ICIM 2's Ethernet port to the IP network with a cat5 cable.

4 Setup of ROSA EM / TNCS


There are 2 methods to add Prisma II XD SNMP devices to ROSA EM / TNCS:

4.1 Editing the devlist

- Information on how to download and upload ROSA EM devlist files can be found in the ROSA EM User's Guide.
- Information on the devlist structure itself can also be found in the ROSA EM User's Guide.
- Enter the groups and devices into the *devlist.txt* file. Below is a sample devlist for Prisma II XD SNMP devtypes.

Note: There are only 2 devtypes for Prisma II XD SNMP:

- *p2snmpicim.txt* which is used for the ICIM 2 module
- *p2snmpmod.txt* which is used for the Prisma II XD modules.

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group racksnmp graphic="rack 40" desc=snmp address=1000
group prisma2xd_1 port=none address=10001 graphic="chassis prisma2xd" desc="Chassis 1" racverpos=30
p2snmpmod chassis_1 address="10.90.144.26" port=Ethernet slonum=1 subslo=0
p2snmpmod mod_1_1 address="10.90.144.26" port=Ethernet slonum=1 subslo=1
p2snmpmod mod_1_2 address="10.90.144.26" port=Ethernet slonum=1 subslo=2
p2snmpmod mod_1_3 address="10.90.144.26" port=Ethernet slonum=1 subslo=3
p2snmpmod mod_1_4 address="10.90.144.26" port=Ethernet slonum=1 subslo=4
p2snmpmod mod_1_5 address="10.90.144.26" port=Ethernet slonum=1 subslo=5
p2snmpmod mod_1_6 address="10.90.144.26" port=Ethernet slonum=1 subslo=6
p2snmpmod mod_1_7 address="10.90.144.26" port=Ethernet slonum=1 subslo=7
p2snmpmod mod_1_8 address="10.90.144.26" port=Ethernet slonum=1 subslo=8
p2snmpmod mod_1_9 address="10.90.144.26" port=Ethernet slonum=1 subslo=9
p2snmpmod mod_1_10 address="10.90.144.26" port=Ethernet slonum=1 subslo=10
p2snmpmod mod_1_11 address="10.90.144.26" port=Ethernet slonum=1 subslo=11
p2snmpmod mod_1_12 address="10.90.144.26" port=Ethernet slonum=1 subslo=12
p2snmpmod mod_1_13 address="10.90.144.26" port=Ethernet slonum=1 subslo=13
p2snmpmod mod_1_14 address="10.90.144.26" port=Ethernet slonum=1 subslo=14
p2snmpmod mod_1_15 address="10.90.144.26" port=Ethernet slonum=1 subslo=15
p2snmpmod mod_1_16 address="10.90.144.26" port=Ethernet slonum=1 subslo=16
p2snmpmicim icim2_1 address="10.90.144.26" port=Ethernet
group prisma2xd_2 port=none address=10002 graphic="chassis prisma2xd" desc="Chassis 2" racverpos=10
p2snmpmod chassis2 address="10.90.144.26" port=Ethernet slonum=2 subslo=0
p2snmpmod mod_2_1 address="10.90.144.26" port=Ethernet slonum=2 subslo=1
p2snmpmod mod_2_2 address="10.90.144.26" port=ethernet slonum=2 subslo=2
p2snmpmod mod_2_3 address="10.90.144.26" port=ethernet slonum=2 subslo=3
p2snmpmod mod_2_4 address="10.90.144.26" port=ethernet slonum=2 subslo=4
p2snmpmod mod_2_5 address="10.90.144.26" port=ethernet slonum=2 subslo=5
p2snmpmod mod_2_6 address="10.90.144.26" port=ethernet slonum=2 subslo=6
p2snmpmod mod_2_7 address="10.90.144.26" port=ethernet slonum=2 subslo=7
p2snmpmod mod_2_8 address="10.90.144.26" port=ethernet slonum=2 subslo=8
p2snmpmod mod_2_9 address="10.90.144.26" port=ethernet slonum=2 subslo=9
p2snmpmod mod_2_10 address="10.90.144.26" port=ethernet slonum=2 subslo=10
p2snmpmod mod_2_11 address="10.90.144.26" port=ethernet slonum=2 subslo=11
p2snmpmod mod_2_12 address="10.90.144.26" port=ethernet slonum=2 subslo=12
p2snmpmod mod_2_13 address="10.90.144.26" port=ethernet slonum=2 subslo=13
p2snmpmod mod_2_14 address="10.90.144.26" port=ethernet slonum=2 subslo=14
p2snmpmod mod_2_15 address="10.90.144.26" port=ethernet slonum=2 subslo=15
p2snmpmod mod_2_16 address="10.90.144.26" port=ethernet slonum=2 subslo=16

```

Devlist explanation:

- o Line 1 is a standard entry for an equipment rack
- o Line 2 is a standard entry for a Prisma II XD chassis. The graphics are determined by the "graphic" keyword and must be equal to "chassis prisma2xd" for the Prisma II XD chassis.
- o Line 3 describes the entry for the Prisma II XD chassis. This will also represent the power supply and fan information. The required fields are:
 - o Devtype – p2snmpmod is the devtype for the chassis.
 - o Unique name – "chassis" is used in the example.
 - o Address – Identifies the IP address of the ICIM 2.
 - o Port – Use "Ethernet" for the modules.
 - o Slonum – This is the Prisma II XD chassis address.
 - o Subslo – 0 is the chassis slot number.
- o Line 4 -19 describes entries for Prisma II XD modules using SNMP devtypes. Notice that the devtypes for all entries are the same (p2snmpmod). When using the SNMP interface on the ICIM 2, only one devtype is required regardless of the module being monitored. The other fields which are required are as follows:
 - o Unique module name – In this example modx is used.
 - o Address – Identifies the IP address of the ICIM 2.
 - o Port – Use "Ethernet" for the modules.
 - o Slonum – This is the Prisma II XD chassis address.
 - o Subslo – 1...16 is the slot number in the chassis where the module is plugged into.
- o Line 20 describes a Prisma II XD ICIM 2 SNMP devtype entry. The required fields are:
 - o Devtype - P2snmpmicim is the devtype for the ICIM 2.
 - o Unique name – icim2 is used in the above example.
 - o Address – This will be the IP address of the ICIM 2 module
 - o Port – Use "Ethernet" for the ICIM 2 module.
- o Line 21 – 38 describe the entries for a second chassis which is managed by the ICIM 2 of the first chassis. Remark that the address of these entries is the same as for the ones in the first chassis, but the

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slonum (Prisma II XD chassis address) is different. The slonum has to be unique in the ICIM 2 domain. The subslo is specific for each slot in the chassis:

- Sub slo = 0: is the sub slot specific for the chassis.
- Sub slo = 1 ..16 are the sub slot's specific for the modules in the chassis.
- There are no rules on the order of ICIM2, chassis or modules in the devlist. For example: you can put the chassis on line 20 or 4 or ... instead of line 3.
- It is suggested in the Prisma 2 XD User's Guide not to manage more than 4 chassis by one ICIM 2.

4.2 On line Add/ Delete

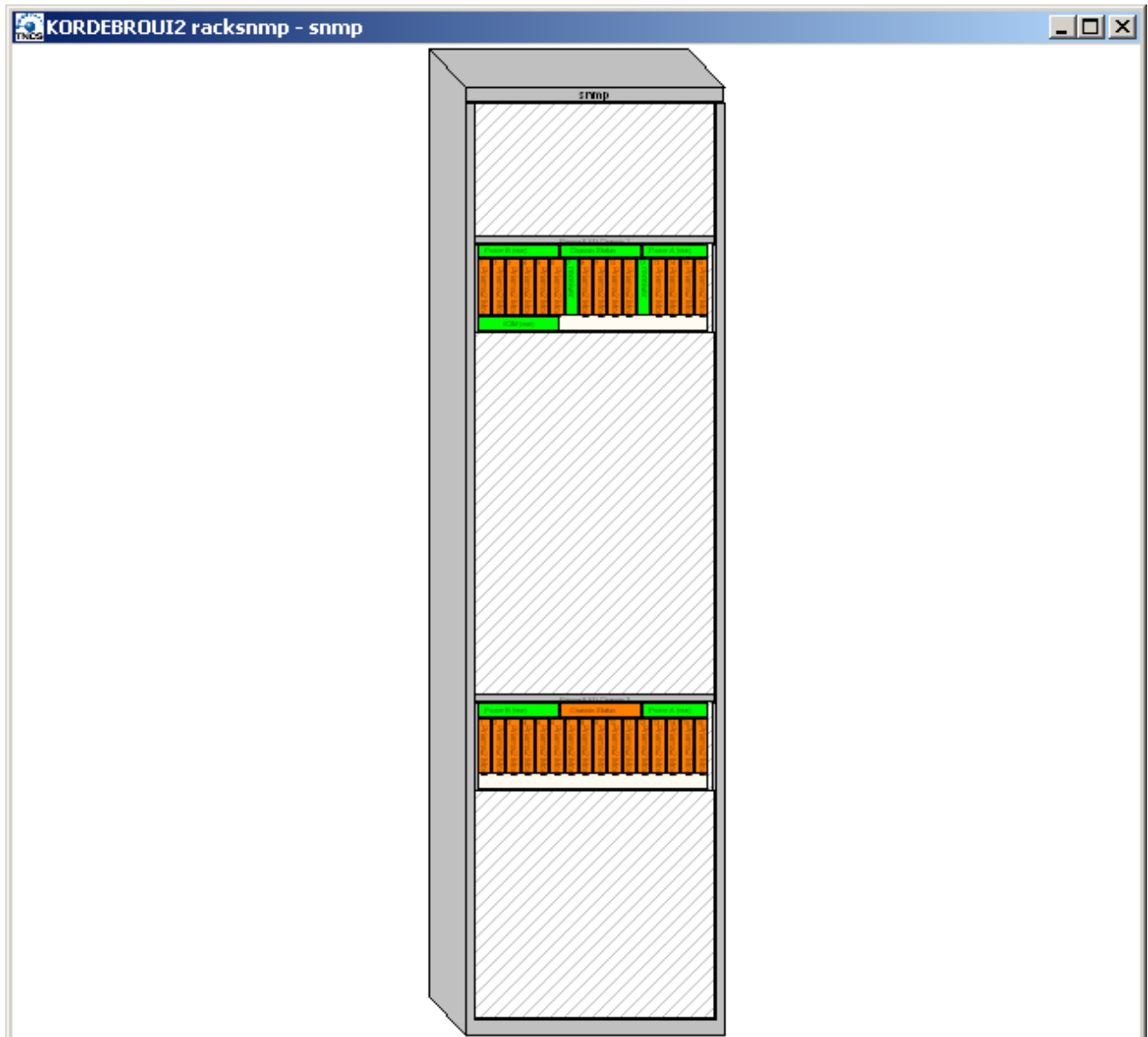
The Prisma II XD SNMP devtypes can be added using an on line Add/ Delete. More information on how to do this can be found in the ROSA EM User's Guide. The following actions are needed to get the same result as with the devlist example from above:

- First add the rack and chassis groups.
- Add the chassis using the p2snmpmod devtype, the Prisma II ICIM 2 IP address, the Ethernet port, the Prisma II XD chassis address as slot number and 0 as sub slot.
- Add the modules using the p2snmpmod devtype, the Prisma II ICIM 2 IP address, the Ethernet port, the Prisma II XD chassis address as slot number and the chassis slot number as sub slot.
- Add the Prisma II XD ICIM 2 using the p2snmpicim devtype, the Prisma II ICIM 2 IP address and the Ethernet port.
- Open the details page for the chassis group and input "chassis prisma2xd" in the "graphics" field of the chassis group.

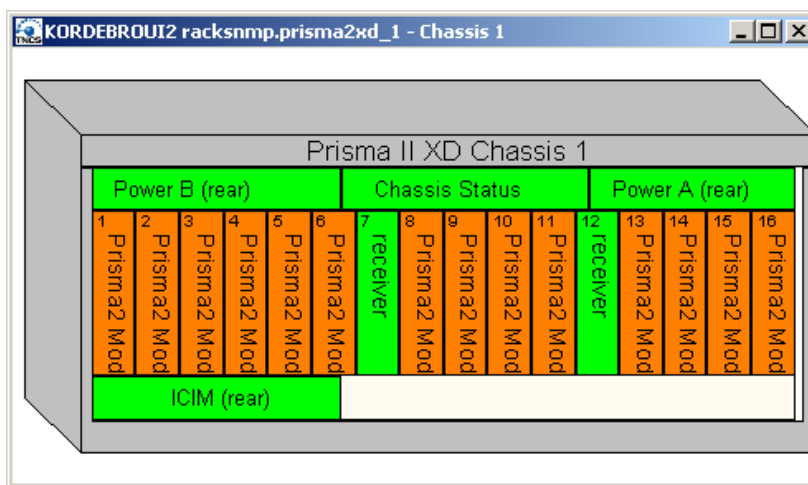
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5 ROSA EM / TNCS graphics with SNMP devtypes

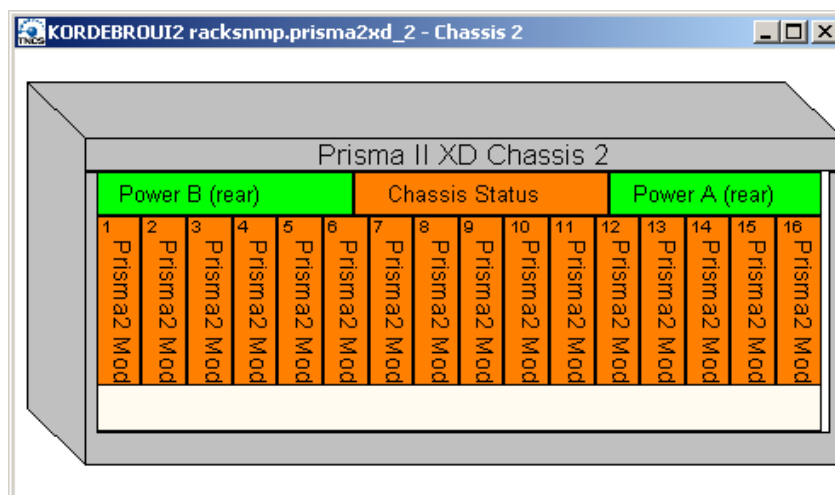
The rack graphics look as follows when having the above devtype:



The Prisma 2 XD chassis graphics as follows:



- The power supplies and ICIM 2 modules are shown at the top/bottom of the chassis depending on where they are physically inserted at the back of the Prisma II XD chassis.
- The devices marked in green are the ones that are really available; the orange ones are not available in the Prisma 2 XD chassis.
- A communication alarm is present for the modules which aren't present, except for the Power A and Power B because they are part of the chassis devtype and not integrated separately. All modules in the chassis will have a communication alarm when the Prisma II XD ICIM 2 is not available in the chassis. This because all SNMP communication goes through the ICIM 2.
- The label of the modules displayed on the Prisma II XD graphic indicates the module type inserted in the slot. When no card is available Prisma2 Mod is shown. Those labels can't be changed by the user.



- The second Prisma 2 XD chassis is in alarm because it is not physically present in the example above, but is present in the devlist. The "Power B (rear)" and "Power A (rear)" are shown as OK (green) because it can not be determined if they are present or not due to the communication alarm on the chassis.