



A.I.M.O.S. V2.80

Marc Mueller • September 2016

POWERED BY





Andrew, a CommScope Company, is the foremost supplier of one-stop, end-to-end radio frequency (RF) solutions. Our Antenna, Cable, and Cabinet Group and Wireless Network Solutions Group combine to design, manufacture and deliver complete solutions for wireless infrastructure--from top-of-the-tower base station antennas to cable systems and cabinets, RF site solutions, signal distribution, and network optimization.

A.I.M.O.S. Introduction - Andrew Wireless Solutions

After this course the participant will be able



- to explain the basic A.I.M.O.S. architecture/structure
- to explain the communication principals between Repeater/A.I.M.O.S.
- to integrate Repeaters into A.I.M.O.S.
- to configure Repeaters with A.I.M.O.S.
- to interpret incoming alarms

This course does not cover



- installation of A.I.M.O.S. - SW
- installation/set up of modems
- set up of RAS connections in MS Windows OS
- set up of Packet Switch network (APN)

Introduction - What is A.I.M.O.S.?

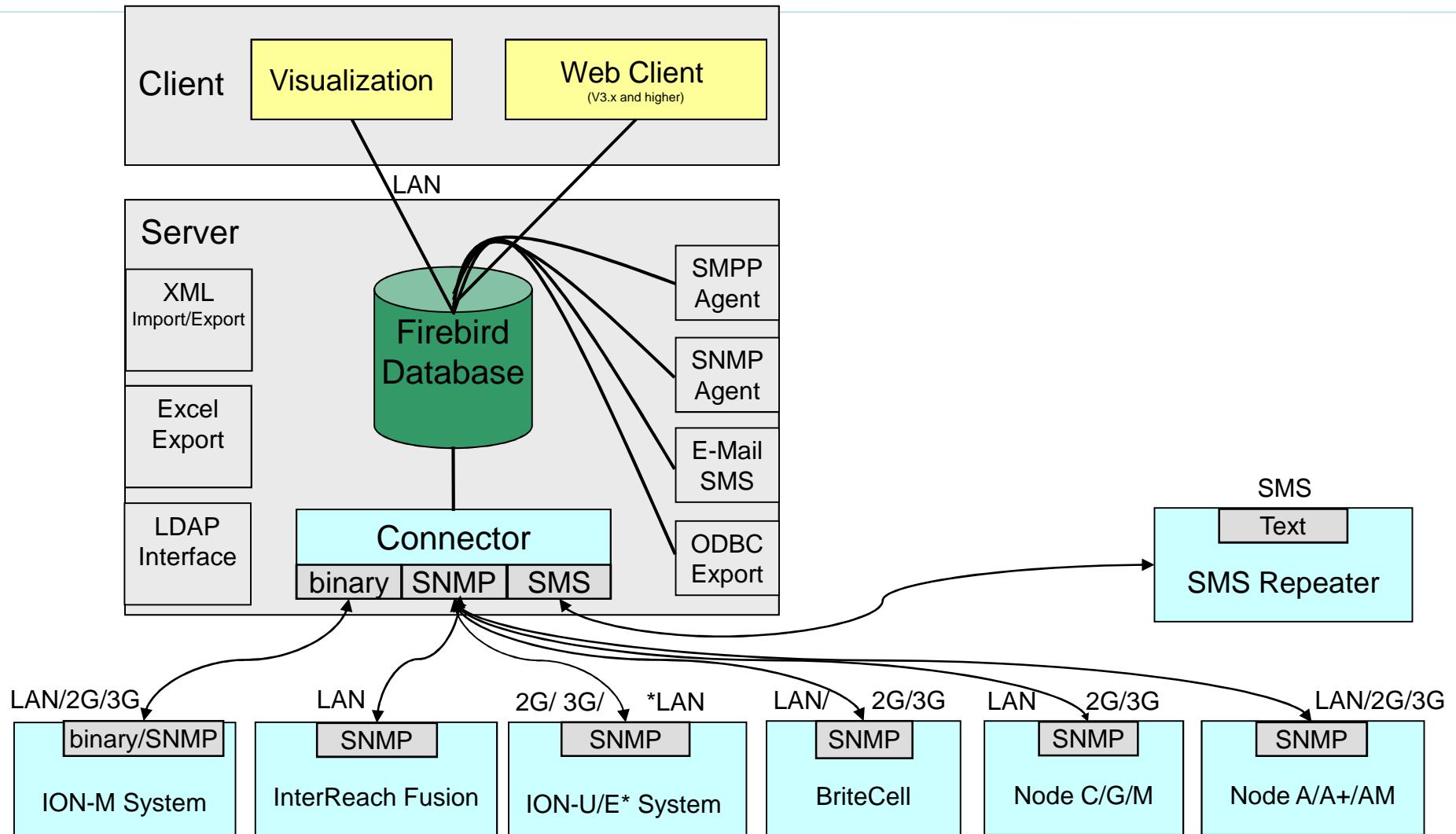


A.I.M.O.S. (Andrew Integrated Management and Operating System) is a comprehensive software that gives the ability to control and monitor repeater systems in mobile networks.

Architecture of A.I.M.O.S. - Andrew Wireless Solutions

Architecture of A.I.M.O.S.

COMMSCOPE®



Communication principles - Andrew Wireless Solutions

Type of Repeater connection



Node C/G/M

- bi-directional RAS via GSM/3G modem
- Protocol: SNMP



Node A/A+AM

- LAN
- bi-directional RAS via GSM/3G modem
- Protocol: SNMP



InterReach Fusion

- LAN
- Protocol: SNMP

Type of Repeater connection



ION-M

- bi-directional RAS via GSM/3G modem or LAN
- Protocol: binary



ION-B BriteCell

- bi-directional RAS via GSM/3G modem or LAN
- Protocol: SNMP



ION-U/E

- bi-directional RAS via GSM/3G modem or LAN
- Protocol: SNMP

Type of Repeater connection



Repeaters with SMS interface for alarm forwarding

MR2003P



MRx18

DICE



A.I.M.O.S. alarming messaging types:

- SMS from A.I.M.O.S. to SMS receiver (e.g. mobile) via GSM modem
- E-mail from A.I.M.O.S. to an e-mail address

Betreff: AIMOS Alarm (SIM;NODA=1590; Test Alarm;critical)

Event time: 5/4/2016 9:19:04 AM

Alarm state: critical
Alarm ID:1633
Specific Problem: 9633
Text: Test Alarm

Unit type: NodeA
Component Name: SIM
ID Number: 7613589-0002
Serial Number: 14
SW Version: V1.7.6.0
Unit location: localhost
Alarm latitude: 48° 47' 11" N
Alarm longitude: 10° 48' 48" E
UID1: {NodeAM01-0171-4682-9C71-6BFE97867028}
UID2: NodeAM_Simulator

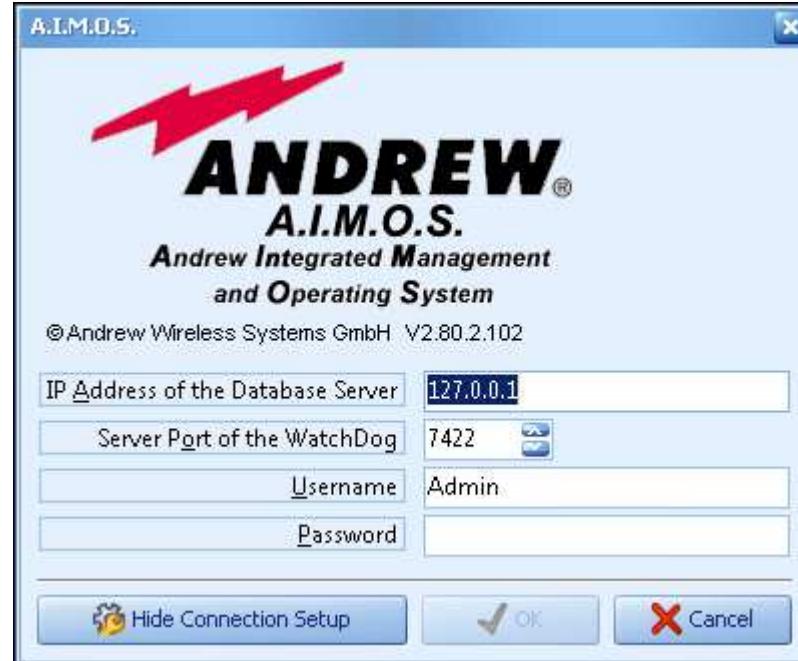
Betreff: AIMOS SMTP Alive Message

This message was automatically sent to test whether the email transport is working

- SNMP alarm forwarding from SNMP agent to NMS (optional)
- one-way
- via LAN
- SNMP V2c
- SNMP V3 (encrypted)

-
- Client visualisation on A.I.M.O.S. server locally and / or
 - Concurrent client visualisations of A.I.M.O.S. remotely

Server - client visualisation



- For local login enter local host IP address (127.0.0.1).
- For remote login the IP address of A.I.M.O.S. database server has to be entered.

default user name:

Admin

default password:

start

Visualization

COMMSCOPE®

Windows 7.3.0.117 - Andover Integrated Management and Operating System

File Tools View Extras Window ?

Network Element Filter

Include any NE

Job S... Component Name

Supervision Configuration Maintenance Notes Log

Alarm History Recognize Located NE Excel Export 46 Alarms listed

Drag a column header here to group by that column

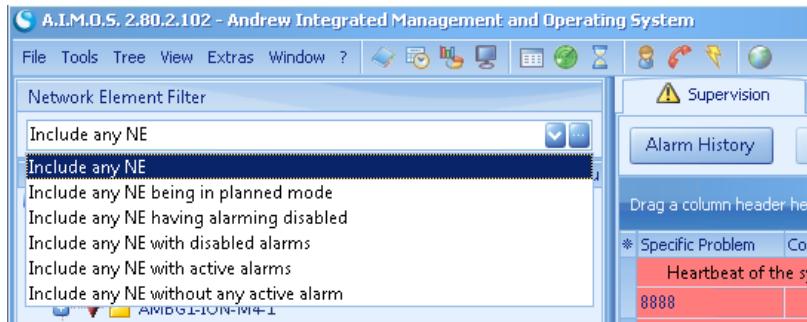
Specific Problem	Component Name	Severity	Raise Time	Recognized	User Recognized	Recognize Time	Cleared	User Cleared	Clear Time	Duration
Heartbeat of the system is missing		Critical	05.01.2010 15:10:18	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
Segment 2 RSSI Alarm	Buch	Minor	05.01.2010 09:58:06	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
Segment 1 RSSI Alarm	Buch	Minor	05.01.2010 09:58:06	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
SNMP Agent Cold Start Notification	A.I.M.D.S.	Information	19.05.2009 09:37:06	<input type="checkbox"/>	<empty>		<input checked="" type="checkbox"/>	<empty>	19.05.2009 09:37:06	00:00:00.000
Test Alarm	A.I.M.D.S.	Minor	29.04.2009 11:44:25	<input type="checkbox"/>	<empty>		<input checked="" type="checkbox"/>	Admin	29.04.2009 11:45:03	00:00:38.000
Heartbeat of the system is missing		Critical	20.04.2009 09:27:04	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
RSSI-DL [dBm] - DIS	509400041	Critical	02.08.2007 15:57:48	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
PwROUT-DL [dBm] - DIS	509400041	Major	02.08.2007 15:57:48	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
Polling Failure	102	Critical	02.08.2007 15:46:28	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
ALC-DL - ALARM	509400012	Critical	02.08.2007 15:24:56	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
Polling Failure	102	Critical	02.08.2007 15:18:47	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
ALC-DL - ALARM	1100	Critical	02.08.2007 14:40:53	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
PwROUT-DL [dBm] - DIS	5590	Major	02.08.2007 13:54:00	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
PwROUT-DL [dBm] - DIS	5590	Major	02.08.2007 11:49:38	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
Polling Failure	102	Critical	02.08.2007 11:47:35	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
PwROUT-DL [dBm] - DIS	5590	Major	02.08.2007 09:21:53	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
ACCU-VOLTAGE-L2 - VOLTAGE LOW	202406120	Minor	01.08.2007 11:45:34	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
ACCU-VOLTAGE-L1 - VOLTAGE LOW	104000417	Minor	01.08.2007 11:45:34	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		

Alarm Summary

Severity	Critical	Major	Minor	Warning	Cleared	Informative	Total
All	24	6	5	9	2	0	46
Sub	24	6	5	9	2	0	46

127.0.0.1 Admin Test license for T-D1 expires on 23.11.2010

CAPS NUM SCRL INS Money Twins



Network Element Filter:

- Select a predefined or setup a custom filter for Network Element List

Alarm Summary							
Severity	Critical	Major	Minor	Warning	Cleared	Informati	Total
All	24	6	5	9	2	0	46
Sub	24	6	5	9	2	0	46
127.0.0.1 Admin Test license for T-D1 expires on 23.11.2010							

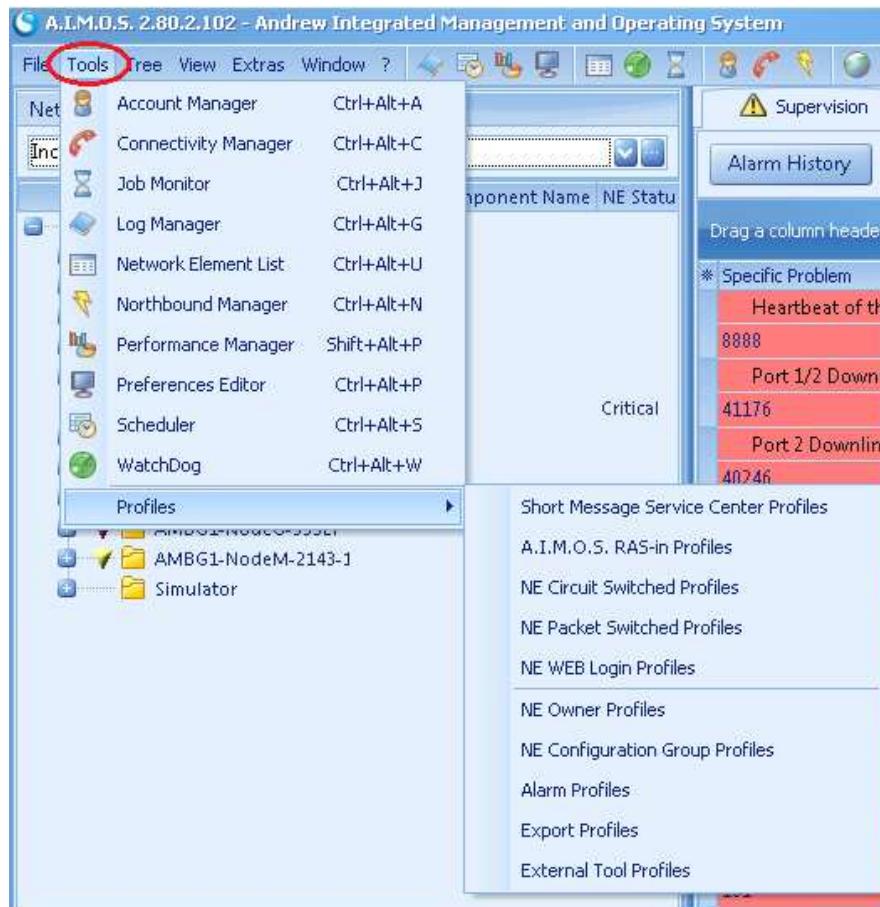
Alarm Summary:

- Overview about all active alarms

Supervision											
46 Alarms listed											
*	Specific Problem	Component Name	Severity	Raise Time	Recognized	User Recognized	Recognize Time	Cleared	User Cleared	Clear Time	Duration
	Heartbeat of the system is missing	Buch	Critical	05.01.2010 15:10:18	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
	Segment 2 RSSI Alarm	Buch	Minor	05.01.2010 09:58:06	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
	Segment 1 RSSI Alarm	Buch	Minor	05.01.2010 09:58:06	<input type="checkbox"/>	<empty>		<input type="checkbox"/>	<empty>		
	SNMP Agent Cold Start Notification	A.I.M.O.S.	Information	19.05.2009 09:37:06	<input type="checkbox"/>	<empty>		<input checked="" type="checkbox"/>	<empty>	19.05.2009 09:37:06	00:00:00:00
	Test Alarm	A.I.M.O.S.	Minor	29.04.2009 11:44:25	<input type="checkbox"/>	<empty>		<input checked="" type="checkbox"/>	Admin	29.04.2009 11:45:03	00:00:38:00
	Heartbeat of the system is missing										

Supervision

A.I.M.O.S. Tools - Andrew Wireless Solutions



- Account Manager
- Connectivity Manager
- Job Monitor
- Log Manager
- Network Element List
- Northbound Manager
- Performance Manager
- Preferences Editor
- Scheduler
- WatchDog
- Map
- Profiles

The screenshot shows the 'Account Manager' software interface. At the top, there's a toolbar with icons for Insert, Edit, Delete, Export, Refresh, Organizations, Roles, and NE Owner. Below the toolbar is a grid table with columns: Organization Role, User Name, Enabled, Expiry Date, Most Recent Use Text, Folder, NE Or Phone, Alarm Severities, eMail, eMail Alarm Forwarding, Enabled, SMS Modem Group, Alarm Severities, SMS Enabled, Security Level, and SNMPv3. The grid contains numerous rows of user account data, with some cells highlighted in yellow. At the bottom of the grid is a scroll bar.

The screenshot shows the 'Edit User' dialog box. It includes fields for Organization (262222 - DCCS-NOC), User Name (Admin), Expiry Date, User Active (checked), User Text (Default Admin), Assigned Role (Administrator Role), Assigned Folder ([Root]), Assigned NE Owner (All), and Phone Number. There are three main sections: 'eMail Alarm Forwarding' (Enabled checked, eMail Alarm Severities: None selected, eMail: Info-Warn-Min), 'SMS Alarm Forwarding' (Enabled checked, SMS Modem Group: <empty>, SMS Alarm Severities: None selected, SMS: <empty>), and 'SNMPv3 Settings' (Security Level: <SNMPv3 disabled>, Authentication Algorithm, Authentication Password, Encryption Algorithm, Encryption Password). At the bottom are OK and Cancel buttons.

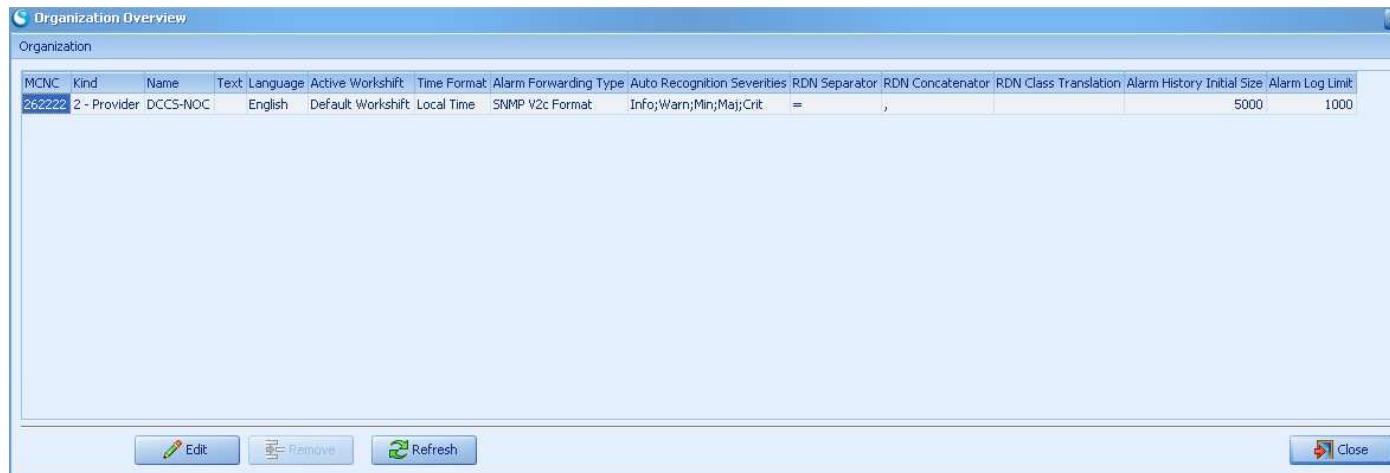
Account Manager:

- Create additional user accounts
- Assign roles to user accounts
- Enable E-Mail forwarding
- Enable SMS forwarding
- Enable SNMPv3

Right	Administrator Role	Standard User Role	Read Only User Role
Account Management	Write		
Alarm Clear	Write		
Alarm Delete	Write		
Configuration	Write	Write	
Connectivity Management	Write	Write	Read
Job Monitor	Write	Write	
Log Management	Write	Write	Write
Maintenance	Write	Write	
Map	Write	Write	Read
Network Element List	Write	Write	Write
Northbound Management	Write	Read	Read
Performance Manager	Write	Read	
Reporting	Write	Read	
Scheduler	Write	Read	
Supervision	Write	Write	Read
Topology	Write	Write	Read
WatchDog	Write		
OMC3 - bts	Write	Write	Read

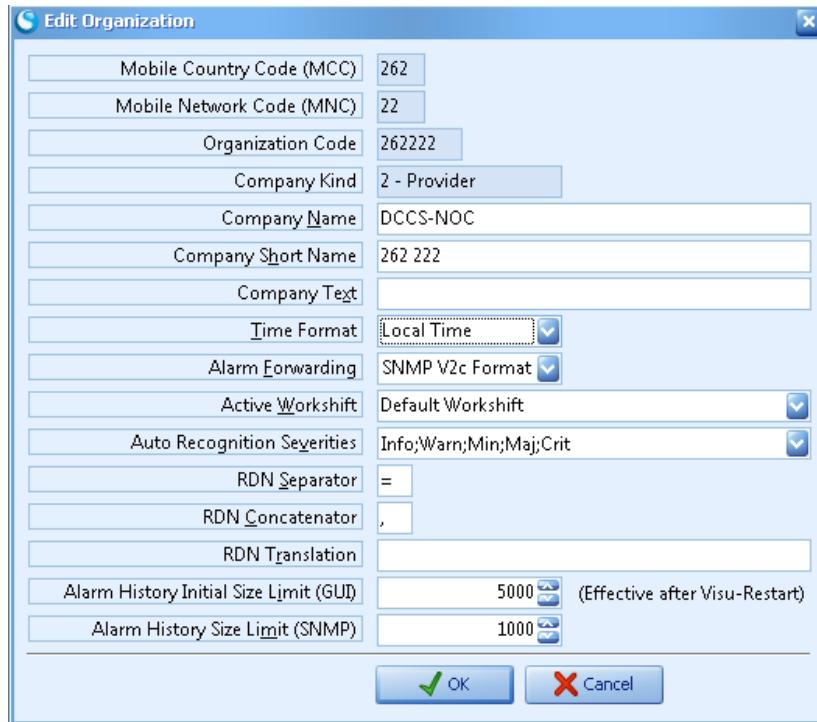
Roles Overview:

- List of access rights for all user accounts
- Insert new roles
- Edit existing roles



Organization Overview:

- List of all included organizations
- Predefine SNMP alarm forwarding formats



Edit Organizations:

- Setup for SNMP alarm forwarding per organization



Modem Management:

- Discover available modems
- Manage modem groups
- Predefine profiles:
 - RAS-in Profiles
 - NE CS Profiles
 - NE WEB Profiles
 - NE PS Profiles
 - SMSC Profiles

Additional functionalities:

- Init modem
- Reset modem
- Get wireless status
- Disconnect modem

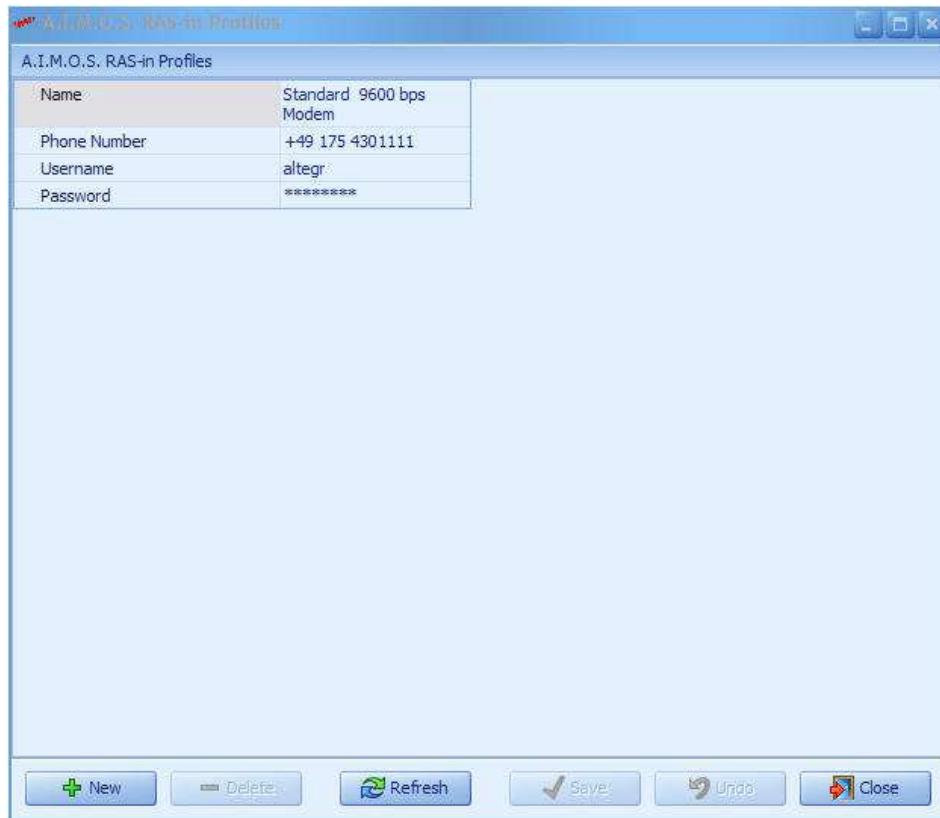


Note:

SMS modem has to be used exclusively for SMS communication. Do not mix it up with incoming or outgoing.

Modem Groups:

- Assign modems to one or different modem groups
- You can assign more than one modem to one modem group

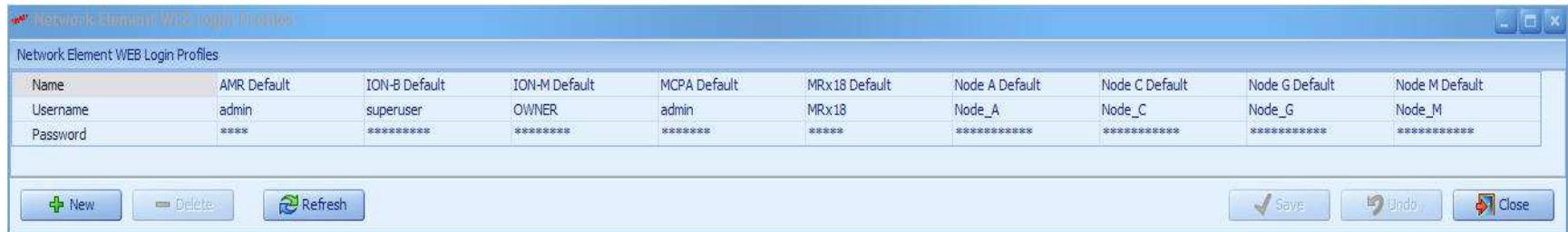


RAS-in Profiles:

- Predefine phone number, username and password for incoming connections

NE WEB Login Profiles:

- Predefine username and password for web login



NE CS Profiles:

- Predefine username and password for CS connections





NE PS Profiles:

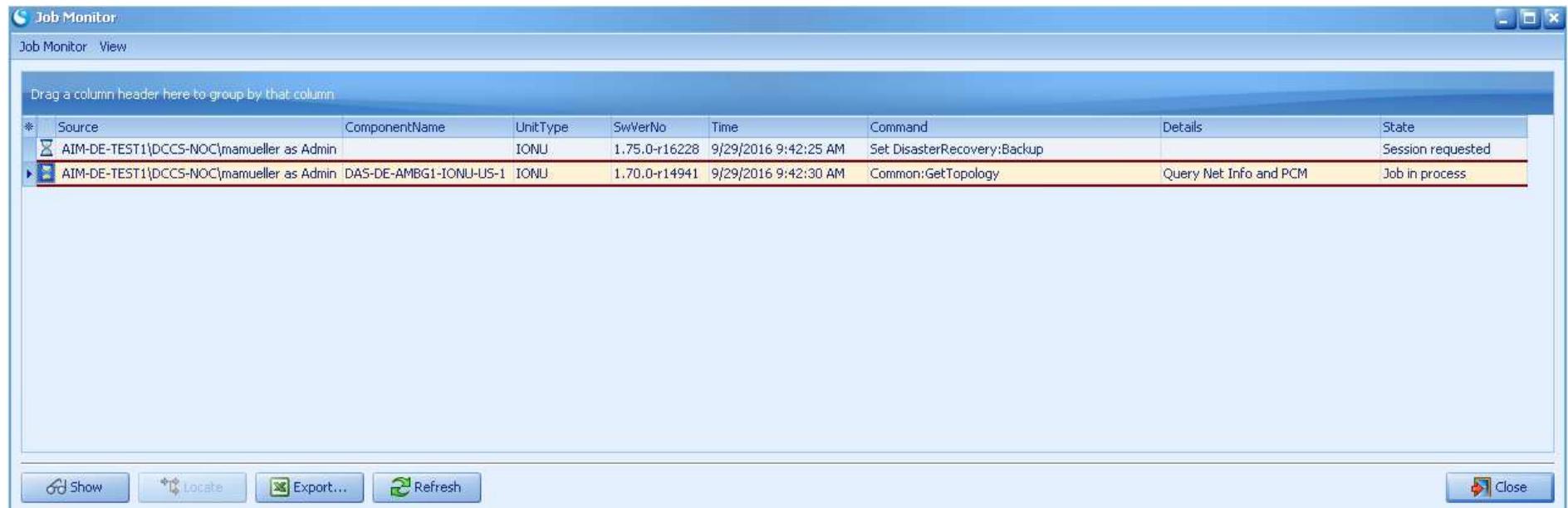
- Define network parameters for PS communication



SMS Profiles:

- Define SMS service center number for SMS communication

Note: SMS modem has to be used exclusively for SMS communication.



The screenshot shows a Windows application window titled "Job Monitor". The window has a standard title bar with icons for minimize, maximize, and close. Below the title bar is a menu bar with "Job Monitor" and "View" options. The main area is a grid-based table with the following columns: Source, ComponentName, UnitType, SwVerNo, Time, Command, Details, and State. There are two rows of data:

Source	ComponentName	UnitType	SwVerNo	Time	Command	Details	State
AIM-DE-TEST1\DCCS-NOC\mamueller as Admin	IONU	1.75.0-r16228	9/29/2016 9:42:25 AM	Set DisasterRecovery:Backup			Session requested
AIM-DE-TEST1\DCCS-NOC\mamueller as Admin	DAS-DE-AMBG1-IONU-US-1	IONU	1.70.0-r14941	9/29/2016 9:42:30 AM	Common:GetTopology	Query Net Info and PCM	Job in process

At the bottom of the window are several buttons: "Show", "Locate", "Export...", "Refresh", and "Close".

Job Monitor:

- Shows all active jobs
- Shows details like current state of the job

Log Manager - Complete Log

Log Manager View

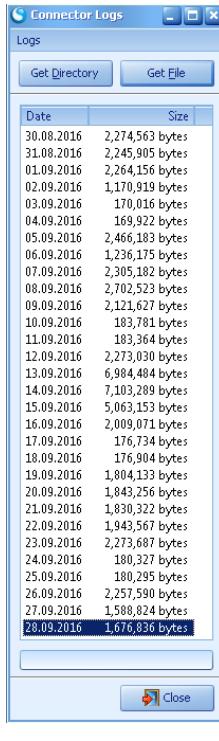
Active Auto Scroll Log Files Log Profiles Prev Anomaly Next Anomaly

Drag a column header here to group by that column

* Timestamp	Message	Severity	Component Name	Thread Name	Direction	Log Kind
9/29/2016 9:40:33 AM.752	To 172.24.255.142:39161: PDUType Response Id 1264806669 Error (0/0) Varbinds 6 sysUpTime.0 (TASN1_Timeticks) 1415081 snmpTrapOID.0 (TASN1_ObjID) heartbeatEvent sysName.0 (TASN1_OctetString) Node A alarmTrapCounter.0 (TASN1_Counter32) 119 connAgentUID.0 (TASN1_OctetString) 00.d0.ac.e1.a7.51 alarmSummary.0 (TASN1_Integer) 5	Info		Trap Handler SNMP	SB Out	Communication
9/29/2016 9:40:33 AM.752	Processing Trap heartbeatEvent from 172.24.255.142:39161	Info		Trap Handler SNMP		Program Condition
9/29/2016 9:40:33 AM.752	TriggerHeartbeatReceived(00.d0.ac.e1.a7.51,true) is being queued	Info	Node A Tetra Support	Trap Handler SNMP		Program Condition
9/29/2016 9:40:33 AM.752	Supervision timer of approx. 720 seconds (re-)initialized for OMC=1,NODA=8 (00.d0.ac.e1.a7.51)	Info	Node A Tetra Support	Heartbeat Supervisor		Program Condition
9/29/2016 9:40:33 AM.815	A heartbeat was triggered, stored in the database and the supervision timer was newly started for OMC=1,NODA=8 (00.d0.ac.e1.a7.51).	Info	Node A Tetra Support	Heartbeat Supervisor		Program Condition

Log Manager:

- A.I.M.O.S. Connector Log file
- Excel® export functionality implemented



Connector Logs:

- Get complete directory of all log files
- Get log file per day (csv) as zip-file



Log Profiles:

- Select depth of logging

Note:

- For logging of one dedicated NE right click in NE tree on it and select 'logging enabled'

Network Element List



Network Element List

Select a View: General Data - Connectivity

Drag a column

* NE No., SDN

1 OMC

193 OMC

293 OMC

96 OMC

194 OMC

97 OMC

266 OMC

300 OMC

247 OMC

248 OMC=1,IONE=1,CAN=1,EPOI=1

301 OMC=1,MC=2,SRMU=12,RU=1,EU=1

305 OMC=1,MC=2,SRMU=13

306 OMC=1,MC=2,SRMU=13,RU=1

294 OMC=1,IONE=1,CAN=1,CAT=21

307 OMC=1,MC=2,SRMU=13,RU=1,EU=1

249 OMC=1,IONE=1,CAN=1,P5U=0

208 OMC=1,MC=1,BSR=1,BLU=5,BRU=1

209 OMC=1,MC=1,BSR=1,BLU=6,BRU=1

210 OMC=1,MC=1,BSR=1,BLU=7,BRU=1

299 OMC=1,MC=2,SRMU=12

211 OMC=1,MC=1,BSR=1,BLU=7,BRU=2

73 OMC=1,NODA=1

74 OMC=1,MC=1

75 OMC=1,MC=1,ASY=64

76 OMC=1,MC=1,PDU=1

77 OMC=1,MC=1,BSR=1

78 OMC=1,MC=1,BSR=1,BLU=2

79 OMC=1,MC=1,BSR=1,BLU=3

80 OMC=1,MC=1,BSR=1,BLU=5

General Data - Connectivity

General Data - All Network Elements

Configuration Data - Node M

Configuration Data - Node G

Configuration Data - Node C

Configuration Data - Node A

Configuration Data - Node A Slot

Configuration Data - Node A Group

Configuration Data - Node A Sub-Band

Configuration Data - Node A System Calibration

Configuration Data - SMS Network Element

Configuration Data - MRX18 Segment

Configuration Data - ION-M User

Configuration Data - ION-M MU OTRX

Configuration Data - ION-M MU OTRX Amplifier

Configuration Data - ION-M Remote Unit

Component Name Location Trap Info Modem Group Name Modem Name Connectivity Sync Age 5NMPv3 Enabled

DE-AMBG1-IONM4-1 localhost DAS-DE-AMBG1-IONM4-1 7/19/2016 3:16:34 PM

DE-AMBG1-NodeM2143-1 AMBG Support LAB DAS-DE-AMBG1-NodeM2143-1 9/29/2016 9:29:06 AM

DE-AMBG1-IONM4-1 DAS-DE-AMBG1-IONM4-1

DE-AMBG1-NodeG935EP-1 AMBG Support Lab DAS-DE-AMBG1-NodeG935EP-1 8/1/2016 2:29:16 PM

localhost 7/29/2016 8:38:28 AM

DE-AMBG1-IONM-EU-1 Training room DAS-DE-AMBG1-IONM-EU-1

G1-ION-E-1 AMBG1-ION-E-1

AMBG1-ION-E-1 AMBG1-ION-E-1

DAS-DE-AMBG1-IONM-EU-1 DAS-DE-AMBG1-IONM-EU-1

DAS-DE-AMBG1-IONB-1 DAS-DE-AMBG1-IONB-1

DAS-DE-AMBG1-IONB-1 DAS-DE-AMBG1-IONB-1

DAS-DE-AMBG1-IONB-1 DAS-DE-AMBG1-IONB-1

DAS-DE-AMBG1-IONM-EU-1 DAS-DE-AMBG1-IONM-EU-1

DAS-DE-AMBG1-IONB-1 DAS-DE-AMBG1-IONB-1

DAS-DE-AMBG1-NodeAM-1 DAS-DE-AMBG1-NodeAM-1 7/7/2016 2:34:16 PM

DAS-DE-AMBG1-IONB-1 DAS-DE-AMBG1-IONB-1 12/7/2015 3:15:51 PM

DAS-DE-AMBG1-IONB-1 DAS-DE-AMBG1-IONB-1

DAS-DE-AMBG1-IONB-1 DAS-DE-AMBG1-IONB-1

DAS-DE-AMBG1-IONB-1 DAS-DE-AMBG1-IONB-1

DAS-DE-AMBG1-IONB-1 DAS-DE-AMBG1-IONB-1

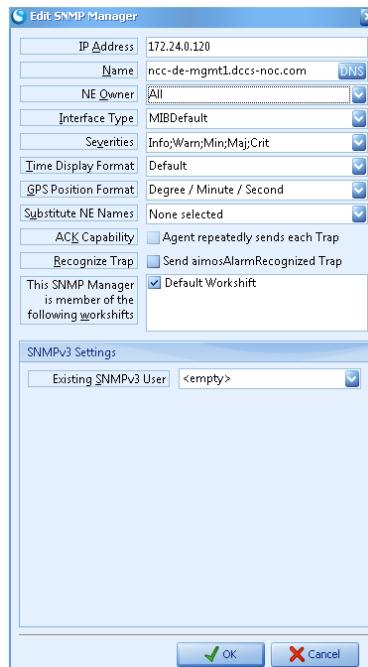
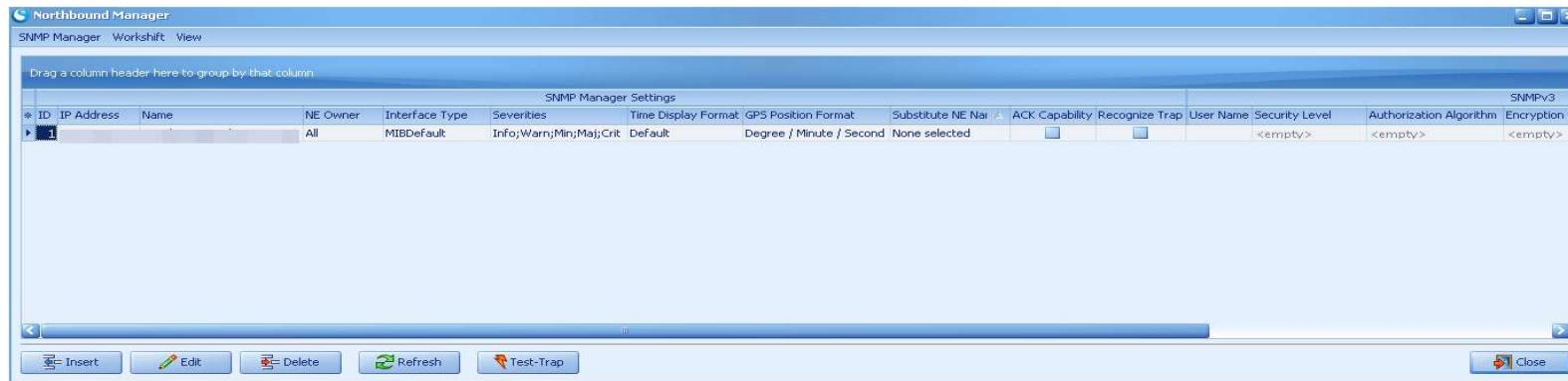
DAS-DE-AMBG1-IONB-1 DAS-DE-AMBG1-IONB-1

DAS-DE-AMBG1-IONB-1 DAS-DE-AMBG1-IONB-1

Show in Tree Locate Export... Refresh Close

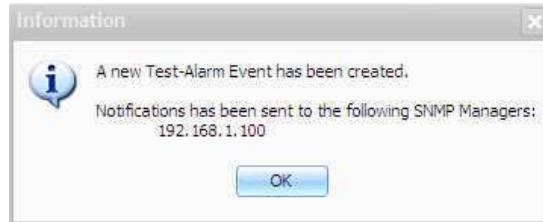
Network Element List:

- installed units
- sub units
- phone numbers
- IP addresses
- SW versions
- ION-M user
- Excel® export



Edit SNMP Manager:

- Setup of SNMP alarm forwarding interface
- IP address of SNMP trap receiver



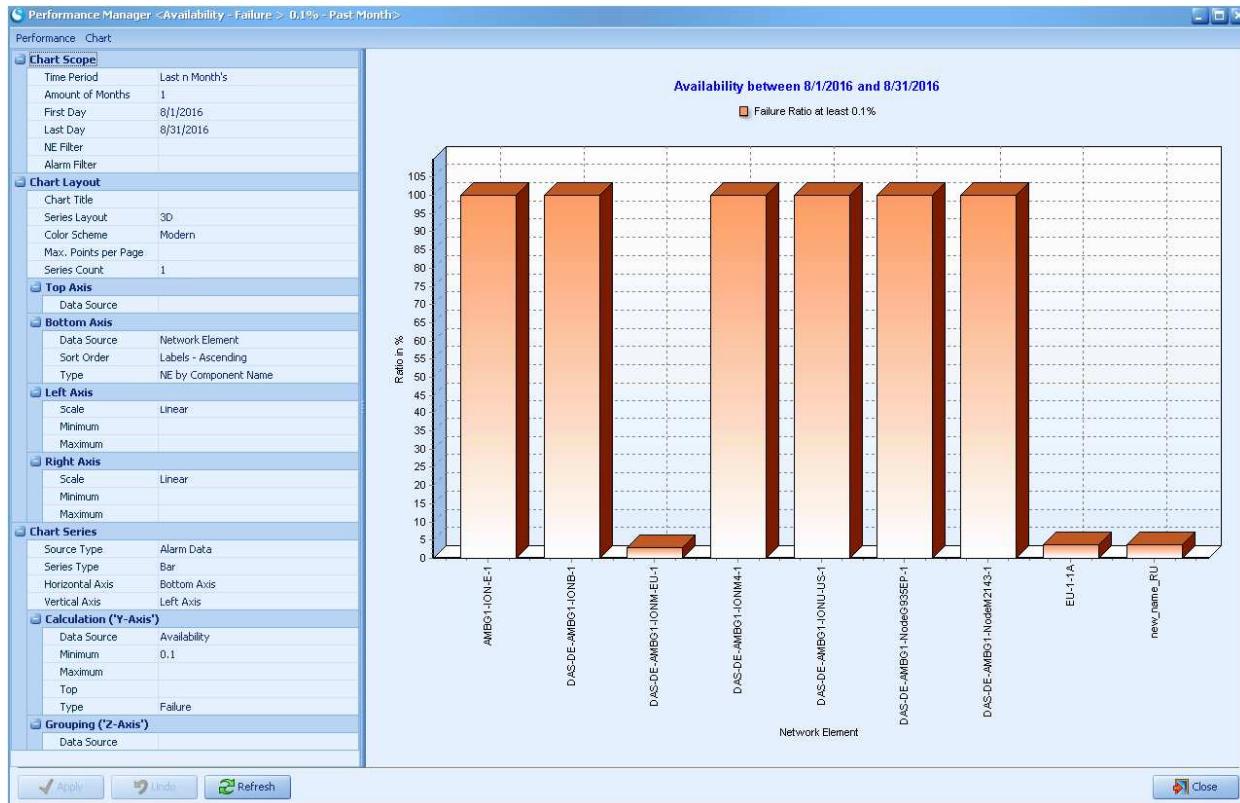
Test Trap:

- To check connectivity between A.I.M.O.S. and SNMP trap receiver



Test Trap clear event:

- Sends Test Trap clear event to SNMP trap receiver



Performance Manager:

- Optional tool for graphical analysis of performance and alarm data
- Charts can be generated automatically and can be sent by email

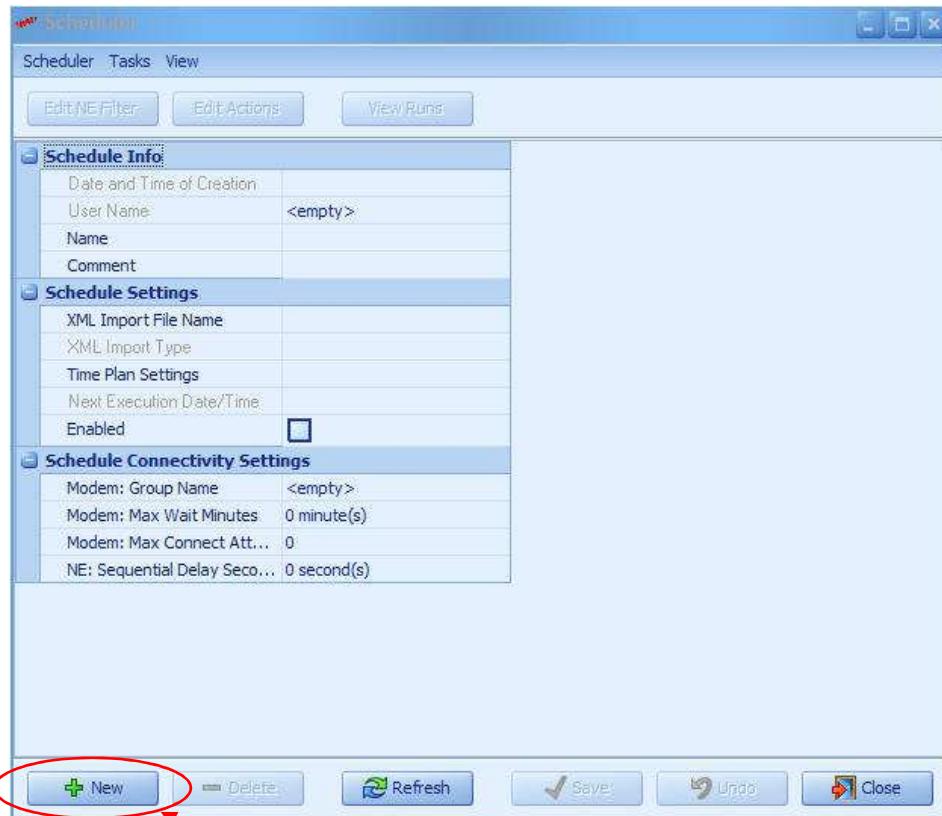


Customization of A.I.M.O.S.:

- Connectivity Pages
- Scheduler
- Severity Icons
- Alarm Settings
- Other Settings

Note:

The settings of this tool are effective for all NE's.



define new schedule

Scheduler (optional):

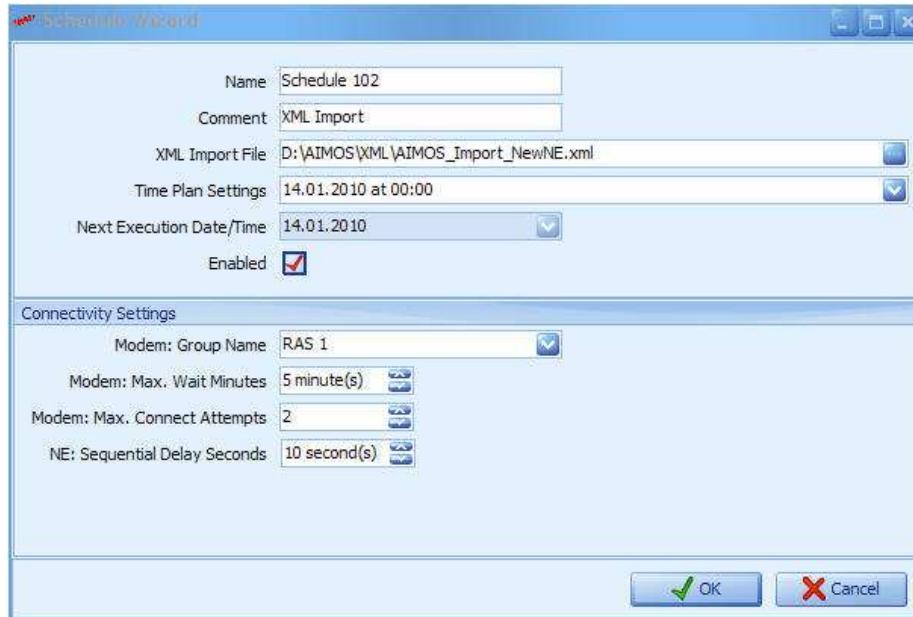
- Schedule Info
- Schedule Settings
- Schedule Connectivity Settings



Schedule Wizard:

- Select XML Import File and set Time Plan

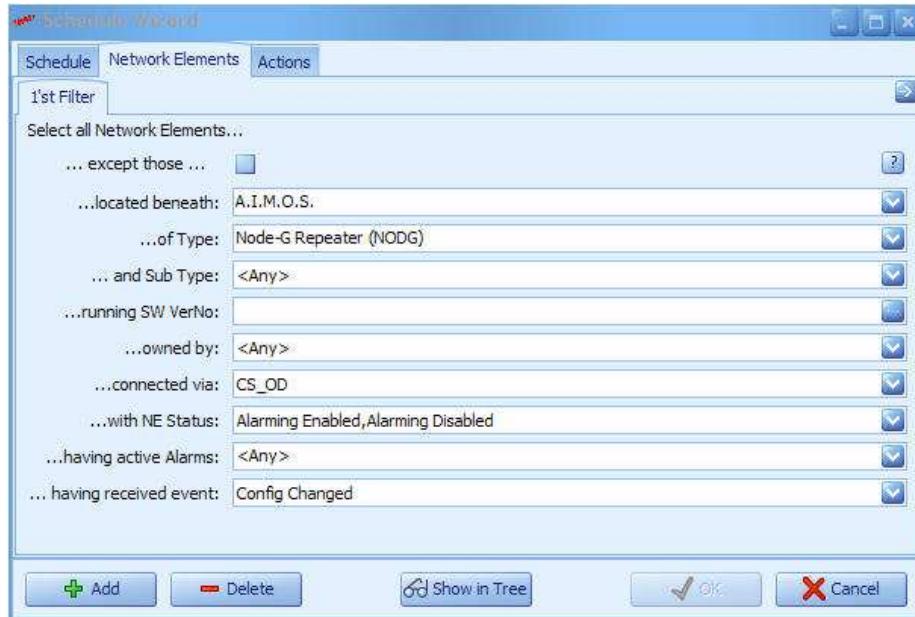
Note: XML file import is **optional**.



Connectivity Settings:

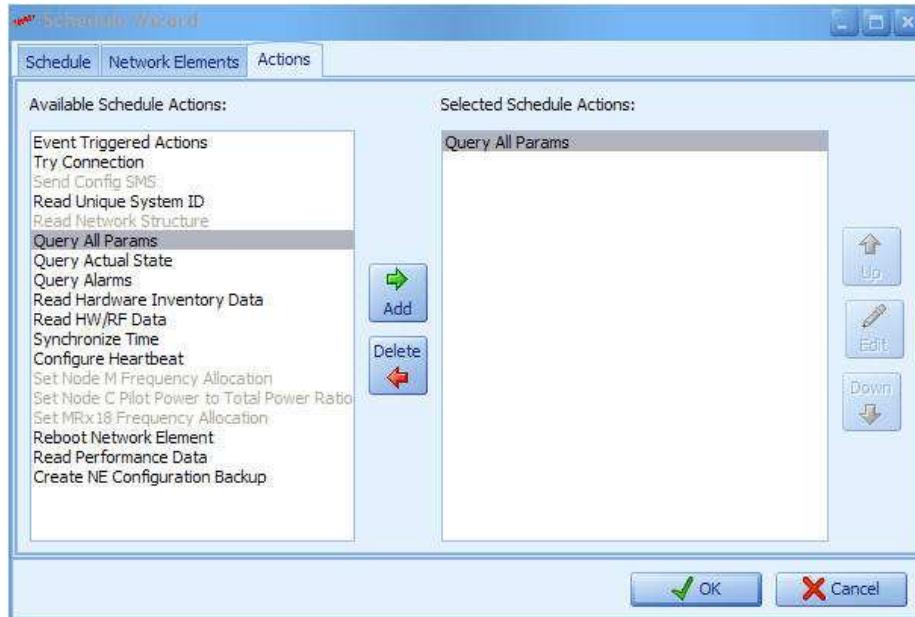
- Select Modem Group for CS

Note: Connectivity setup is necessary for CS only. PS works by default.



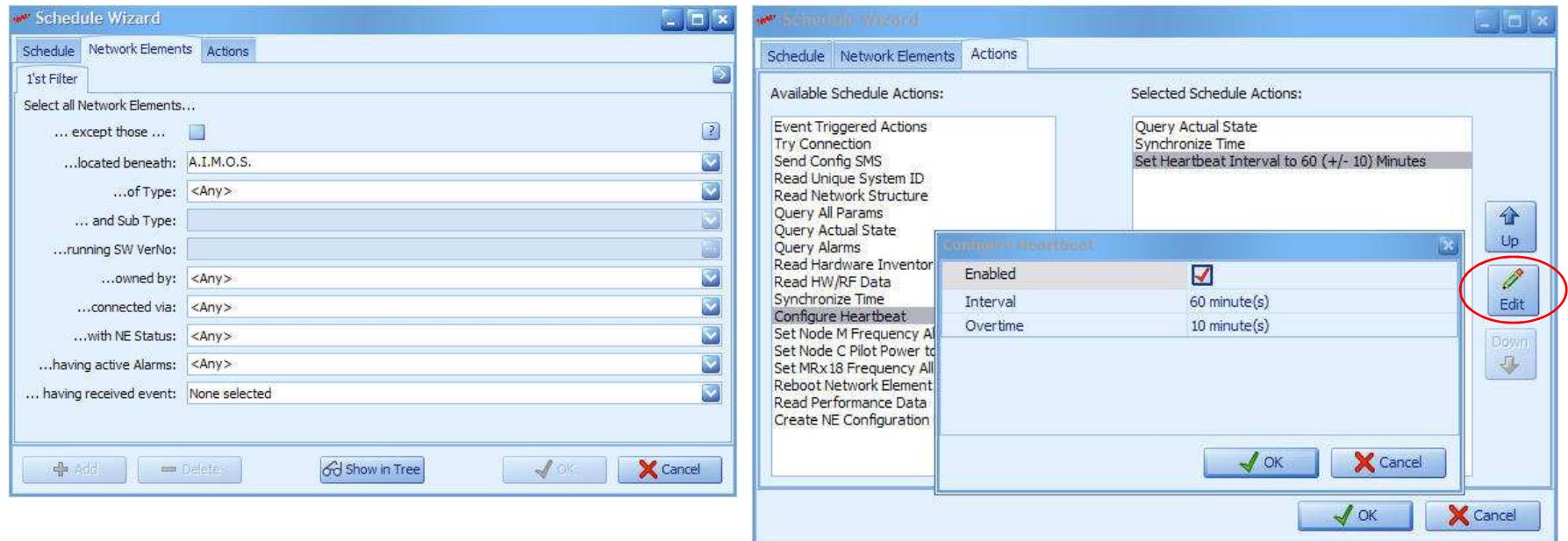
Network Elements Filter:

- Select network elements for scheduled actions



Network Elements Actions:

- Select an action for selected NE's

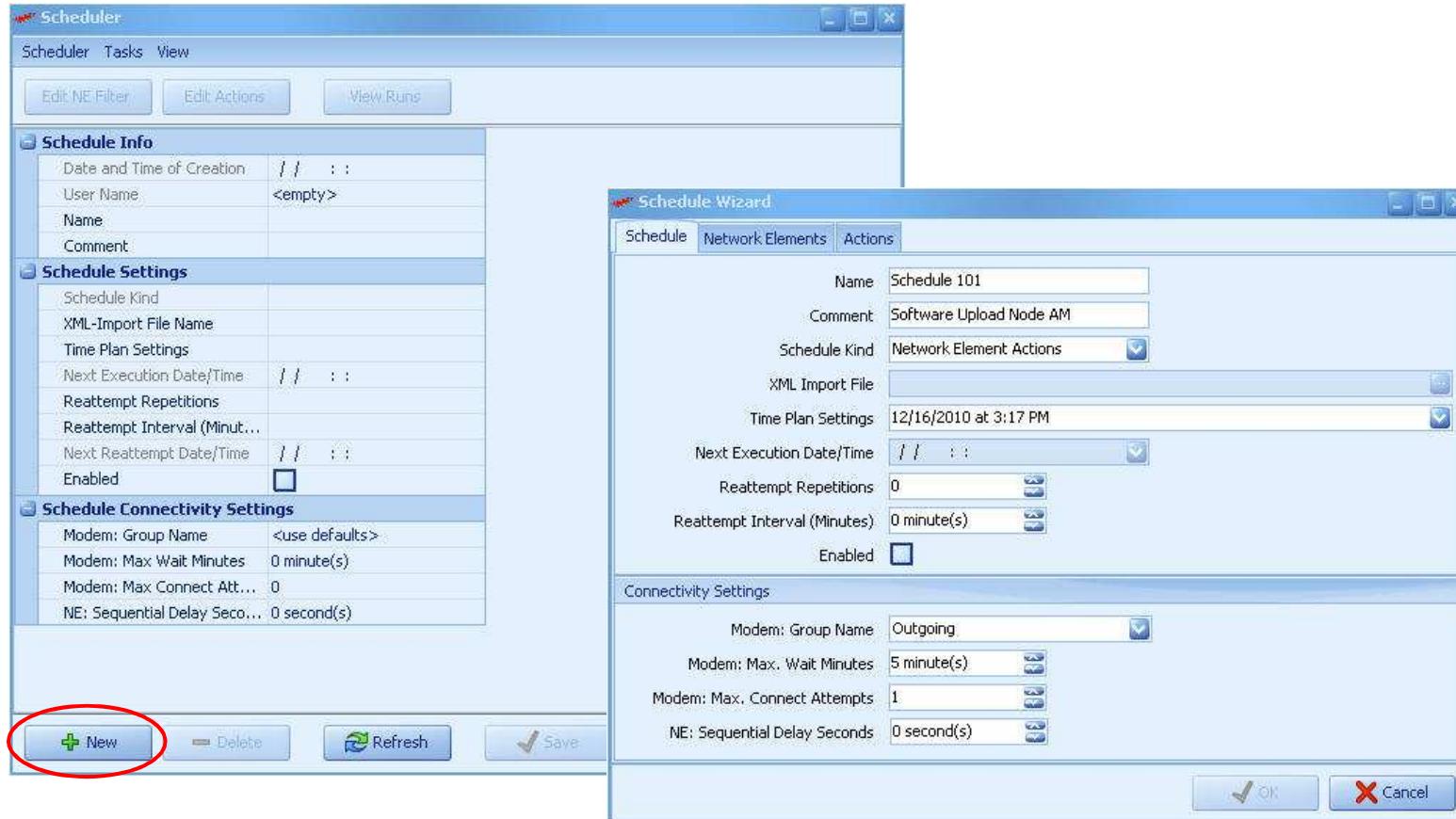


Network Elements Actions:

- You can define more than one action for each schedule

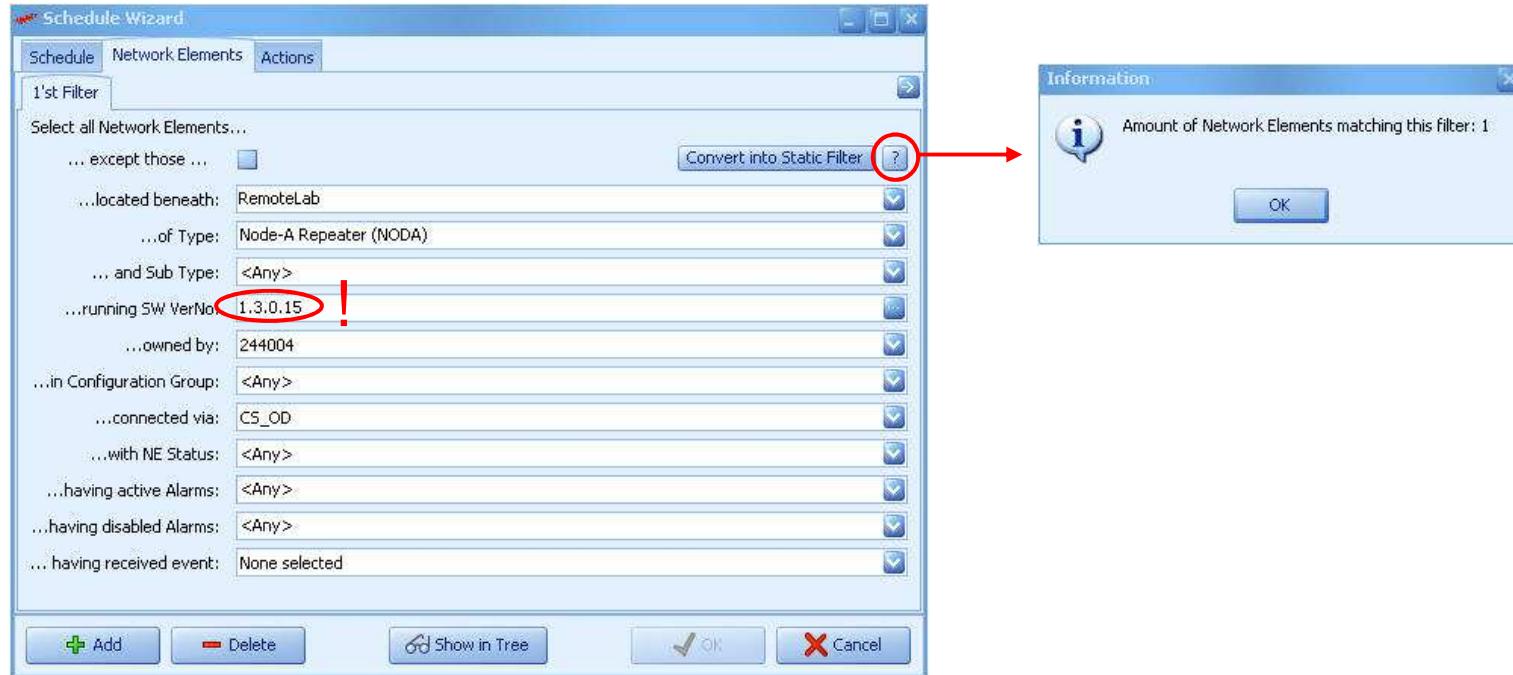
Note: Some actions must to be configured with **Edit**.

Scheduler – Software Update



Software Upload with Scheduler on Node_AM

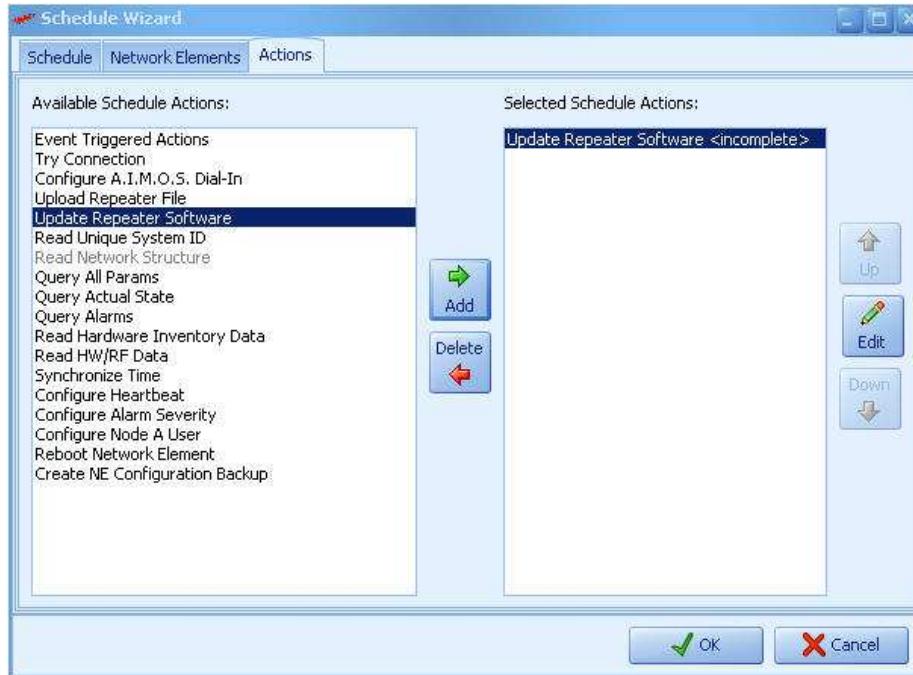
- New Schedule



Software Upload with Scheduler on Node_AM

- Select Network Elements
- Current SW version is important for upload file!

Scheduler – Software Update



- Just *Upload* of software
- *Activation* of uploaded software
- *Upload and Activation* of software

Software Upload with Scheduler on Node_AM

- Define action “Update Repeater Software”



Note:

The new software (.zip file) must be copied here

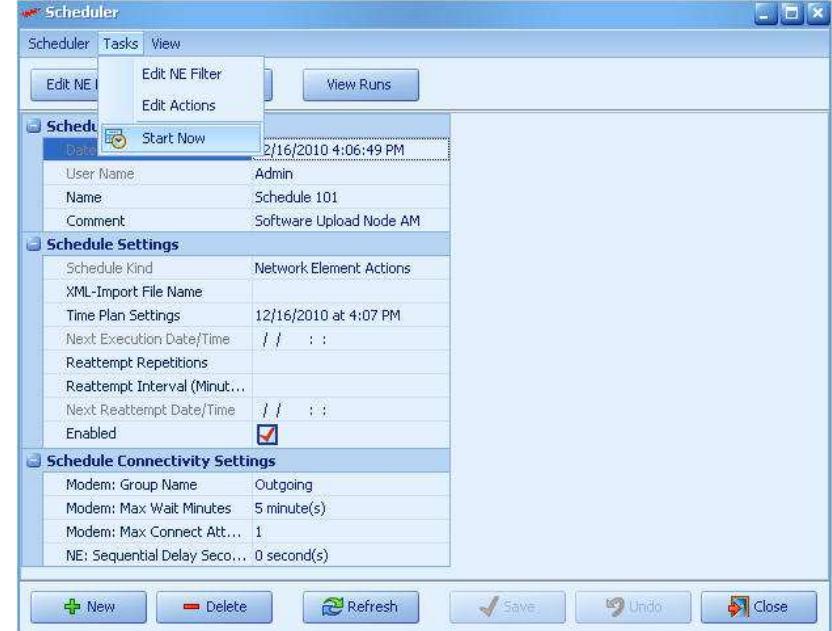
<V2.80.x:

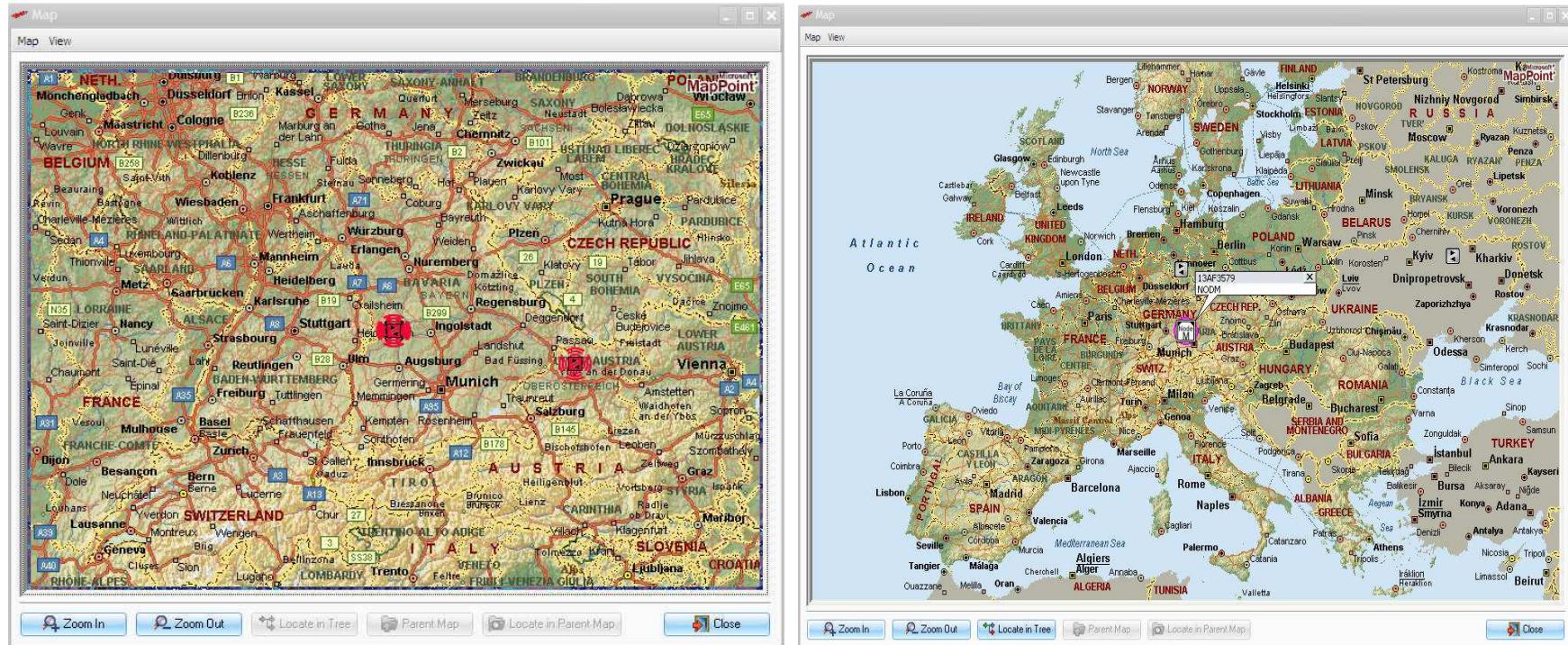
%ProgramFiles%\Andrew\A.I.M.O.S.\UploadFiles\NodA\

>V2.80.x:

%PUBLIC%\Documents\AIMOS Files\UploadFiles\NodA\

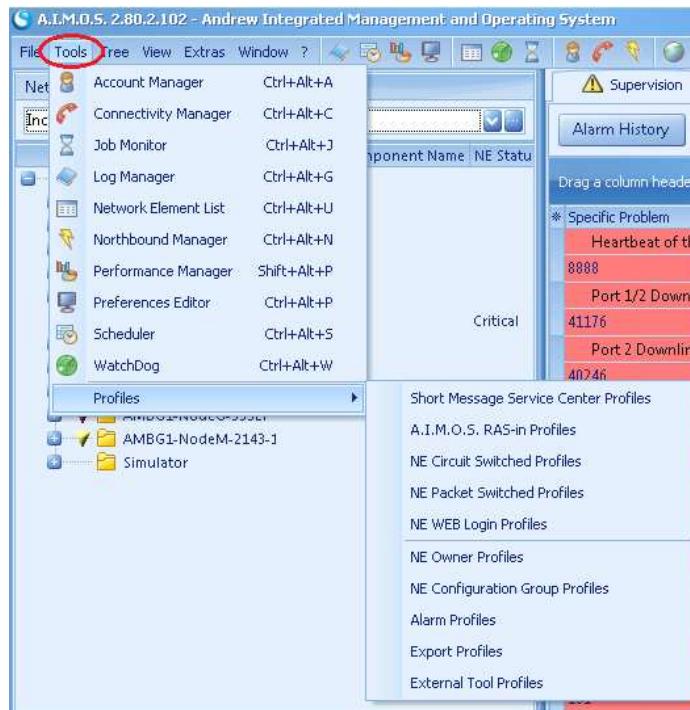
You can start the schedule manually
or time scheduled.





Map feature (optional):

- Interface for Microsoft® MapPoint 2006/2009/2010/2011/2013



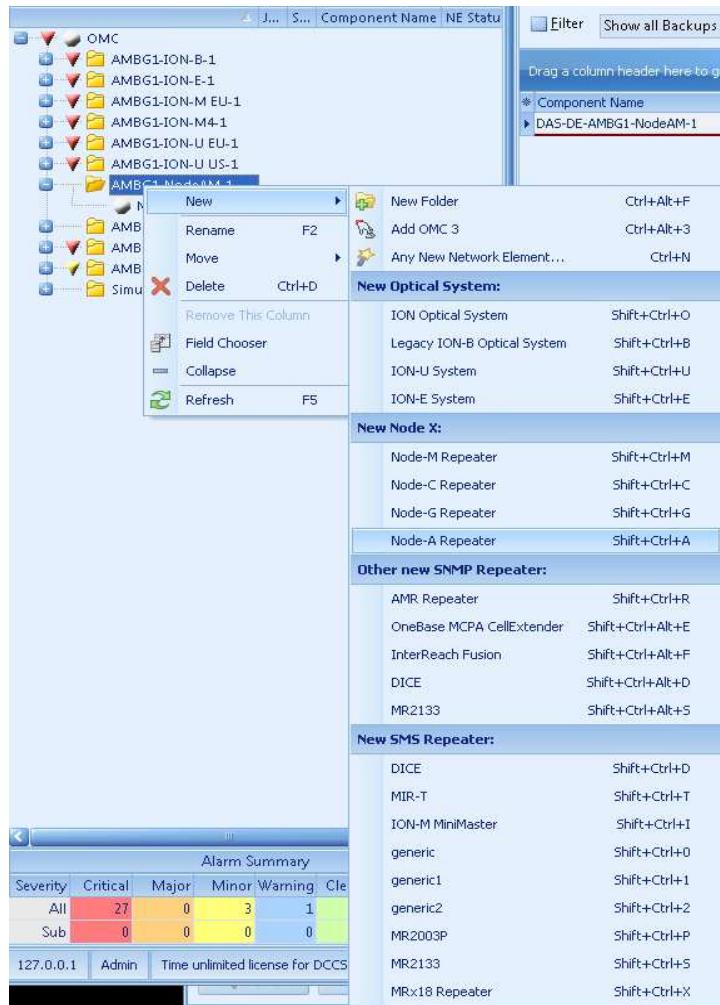
Profiles:

- Predefine profiles to save time for recurring data
- Set your individual alarm profiles for analysis in Performance Manager
- Set the SMS Center number for SMS controlled repeater

NE Integration - Andrew Wireless Solutions

To integrate a NE into A.I.M.O.S., make sure that a connection from A.I.M.O.S. to the NE is possible.

- via LAN
 - or
- via Modem CS/PS/SMS



- Ctrl+N Ctrl+N and select corresponding NE

OR

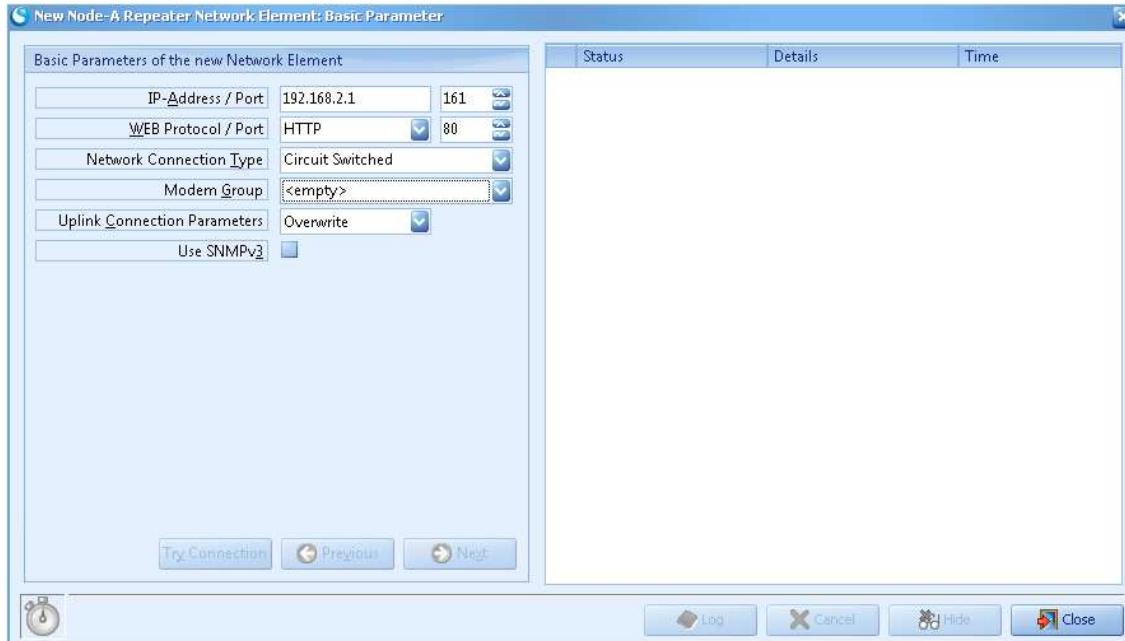
- Right click on OMC
(or folder) => New => Node-A Repeater

OR

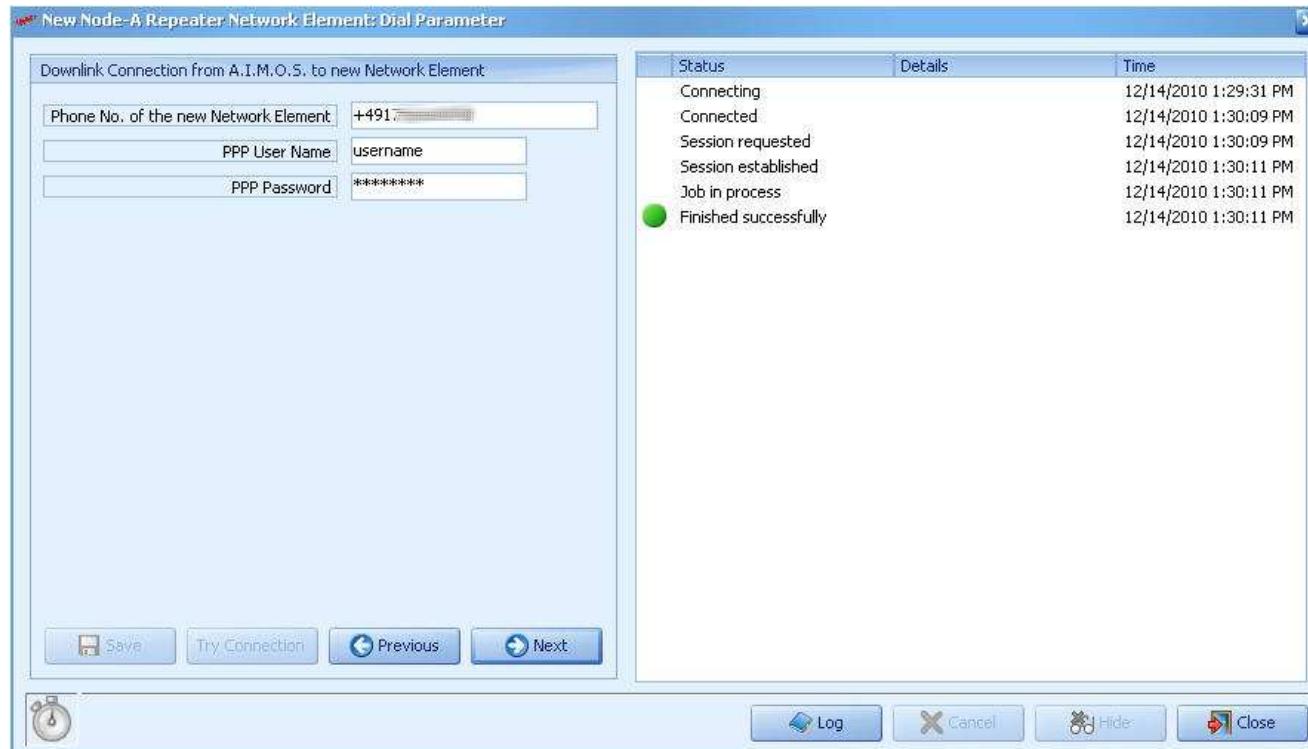
- ~~Menu Bar => Tree => New => Node-A Repeater~~

OR

- Shift+Ctrl+A for Node-A Repeater



- enter *IP address* of the Node-A/A+/AM (default): 192.168.2.1
- enter *IP port* (default): 161
- select *Network Connection Type* and *Modem Group*
- **overwrite/keep already existing UL connection parameters**



- *Save and Try Connection*
- *Finished successfully*
- *Next*

NE Integration Node A/A+/AM



- *Get configuration*
- *Finished successfully*

The image displays two side-by-side windows titled "New Node-A Repeater Network Element: Query All". Both windows have a "Network Element Information" panel on the left and a "Status" table on the right.

Top Window (Left):

- Network Element Information panel:

 - Unique System ID
 - Network Structure
 - Hardware Inventory Data
 - Parameter Settings
 - Current State Values
 - Active Alarms

- Buttons: "Get" and "Previous".
- Icon: A stopwatch icon.

Top Window (Right):

Status	Details	Time
Connected		12/14/2010 1:33:06 PM
Session established		12/14/2010 1:33:06 PM
Job in process	Get Version Info	12/14/2010 1:33:06 PM
Job in process	Get Heartbeat Config	12/14/2010 1:33:07 PM
Job in process	Get Config	12/14/2010 1:33:09 PM
Job in process	Query Connectivity	12/14/2010 1:33:39 PM
Job in process	User Texts	12/14/2010 1:33:48 PM
Job in process	Alarm Severities	12/14/2010 1:33:54 PM

Bottom Window (Left):

- Network Element Information panel:

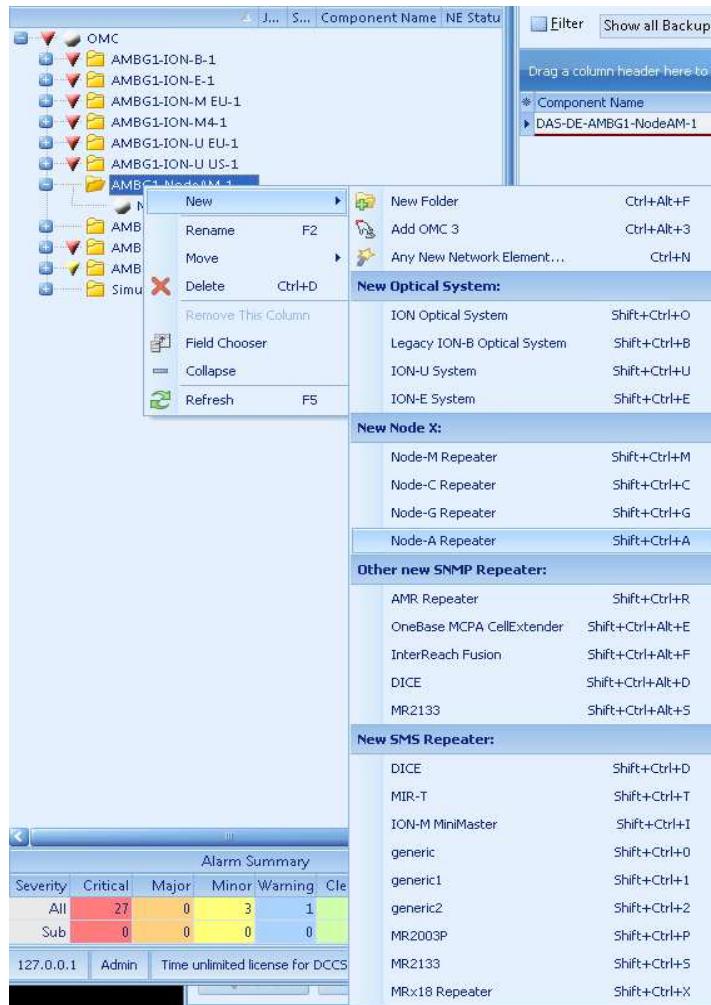
 - Unique System ID
 - Network Structure
 - Hardware Inventory Data
 - Parameter Settings
 - Current State Values
 - Active Alarms

- Buttons: "Get" and "Previous".
- Icon: A stopwatch icon.

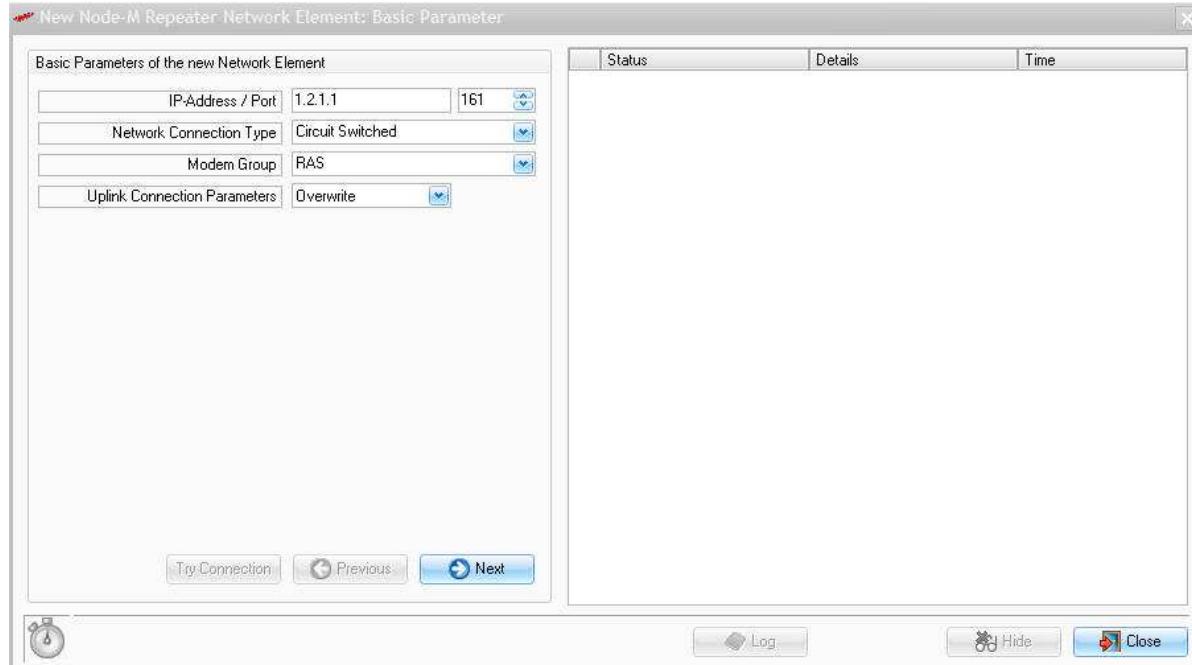
Bottom Window (Right):

Status	Details	Time
Connected		12/14/2010 1:34:50 PM
Session established		12/14/2010 1:34:50 PM
Job in process	Query Active Alarms	12/14/2010 1:34:50 PM
Finished successfully		12/14/2010 1:34:55 PM

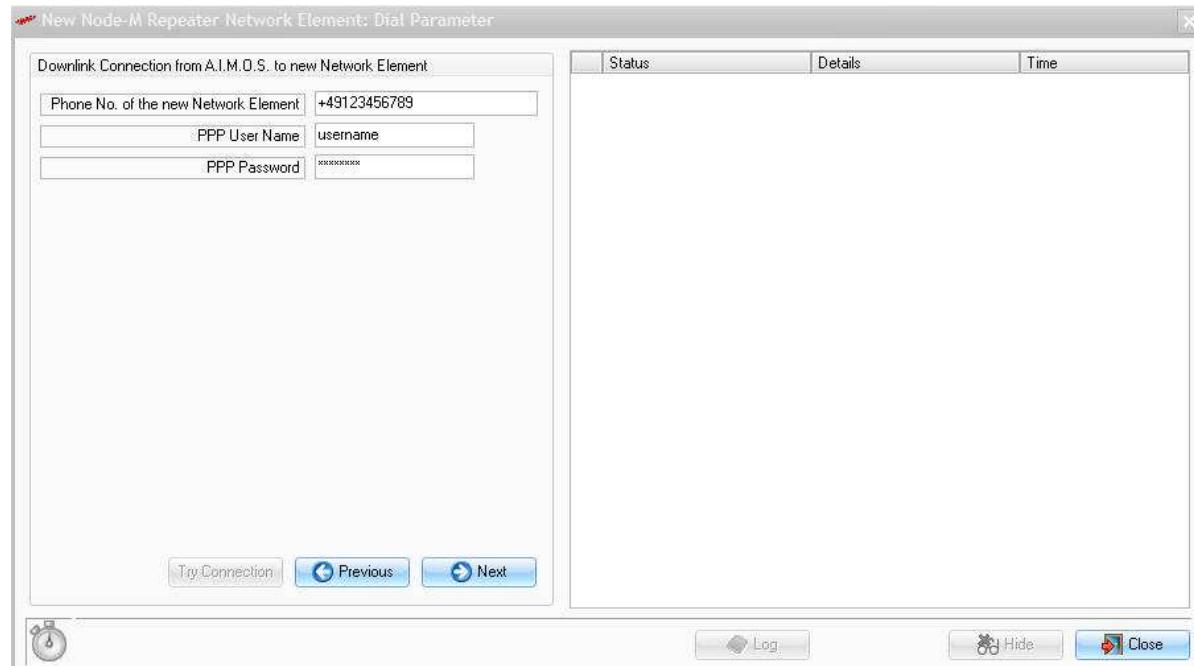
Buttons at the bottom right of the bottom window: Log, Cancel, Hide, Close.



- Ctrl+N and select corresponding NE
- OR
- Right click on OMC (or folder) => New => Node-M/C/G Repeater
- OR
- Menu Bar => Tree => New => Node-M/C/G Repeater
- OR
- Shift+Ctrl+M for Node-M
 - Shift+Ctrl+C for Node-C
 - Shift+Ctrl+G for Node-G

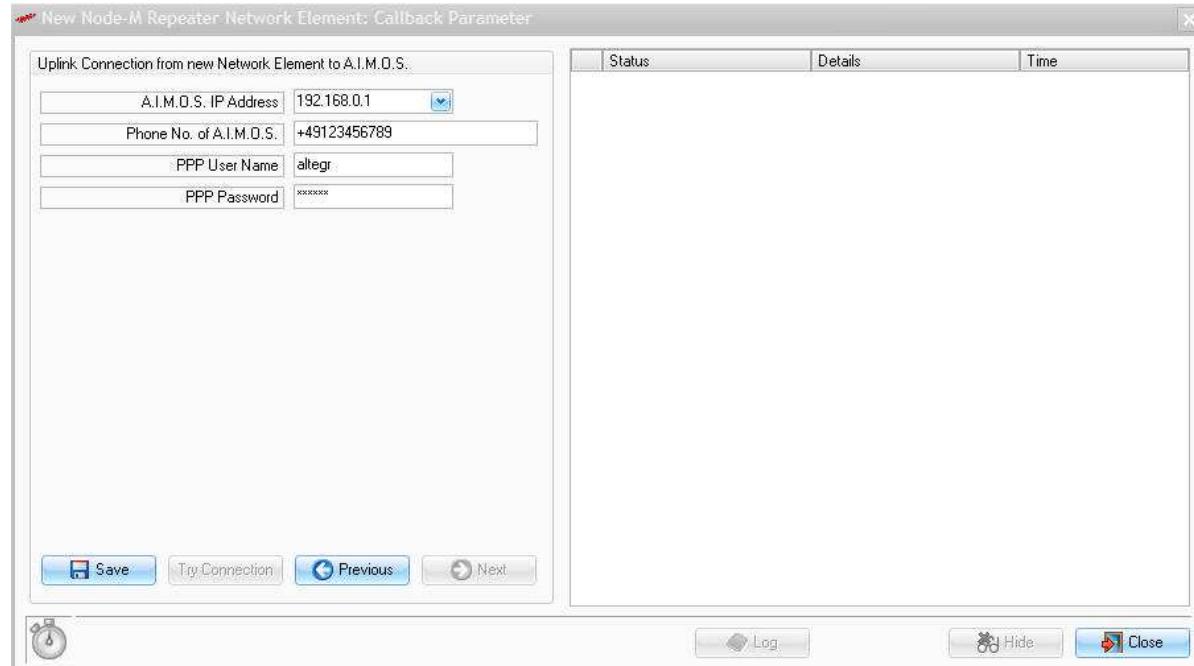


- enter *IP address* of the Node-M/C (default): 1.2.1.1
- enter *IP port* (default): 161
- select *Communication Group*
- **overwrite/keep already existing UL connection parameters**

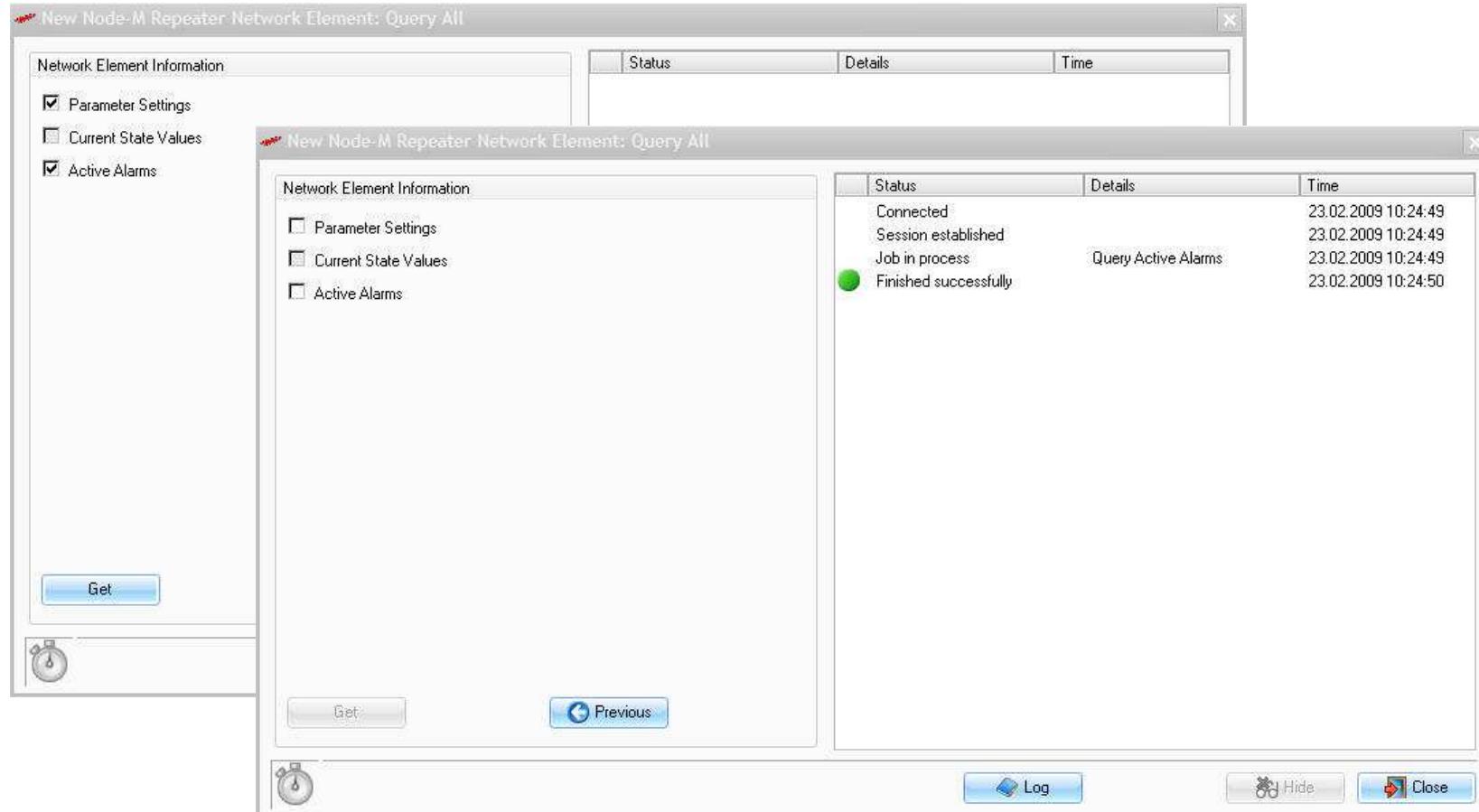


- enter *phone no.* of new network element
- enter *PPP User Name*: **username**
- enter *PPP Password*: **password**

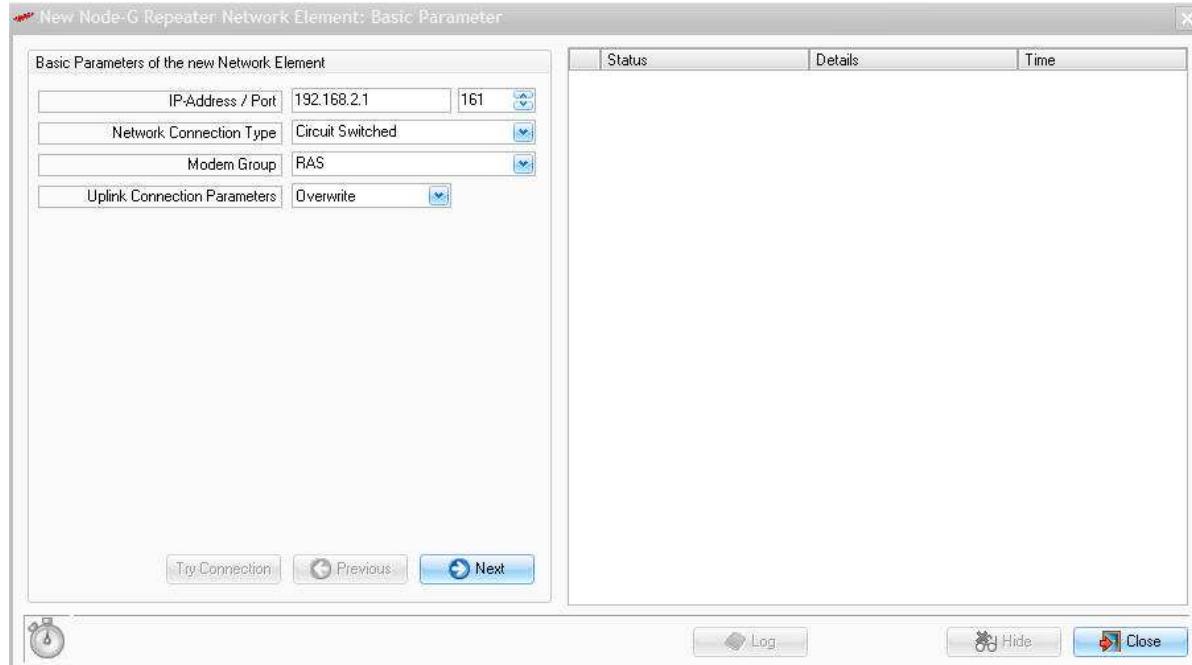
NE Integration Node M/C



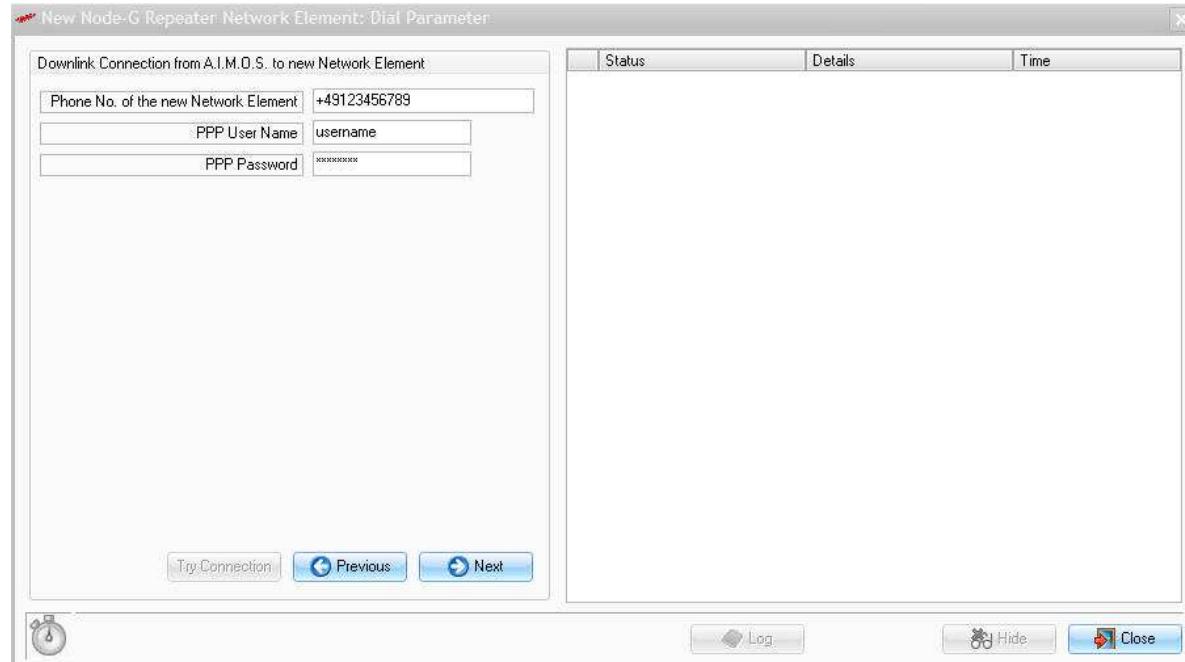
- enter *A.I.M.O.S. IP address*
- enter *A.I.M.O.S. phone no.*
- enter *PPP username/password*



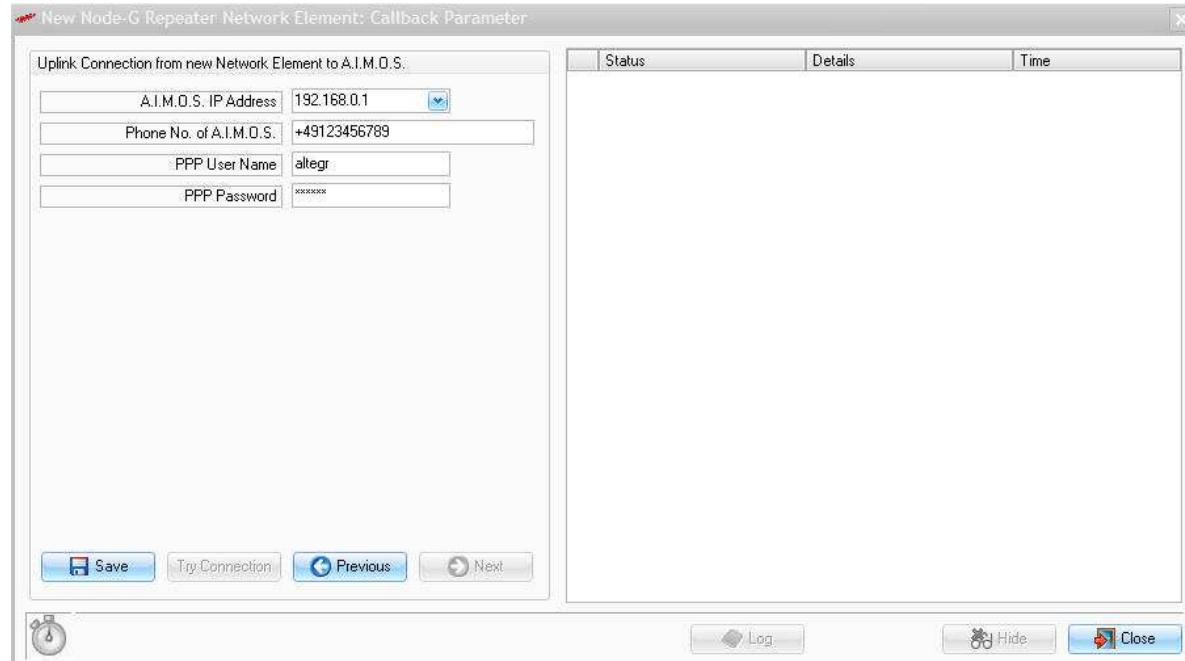
- get network element information



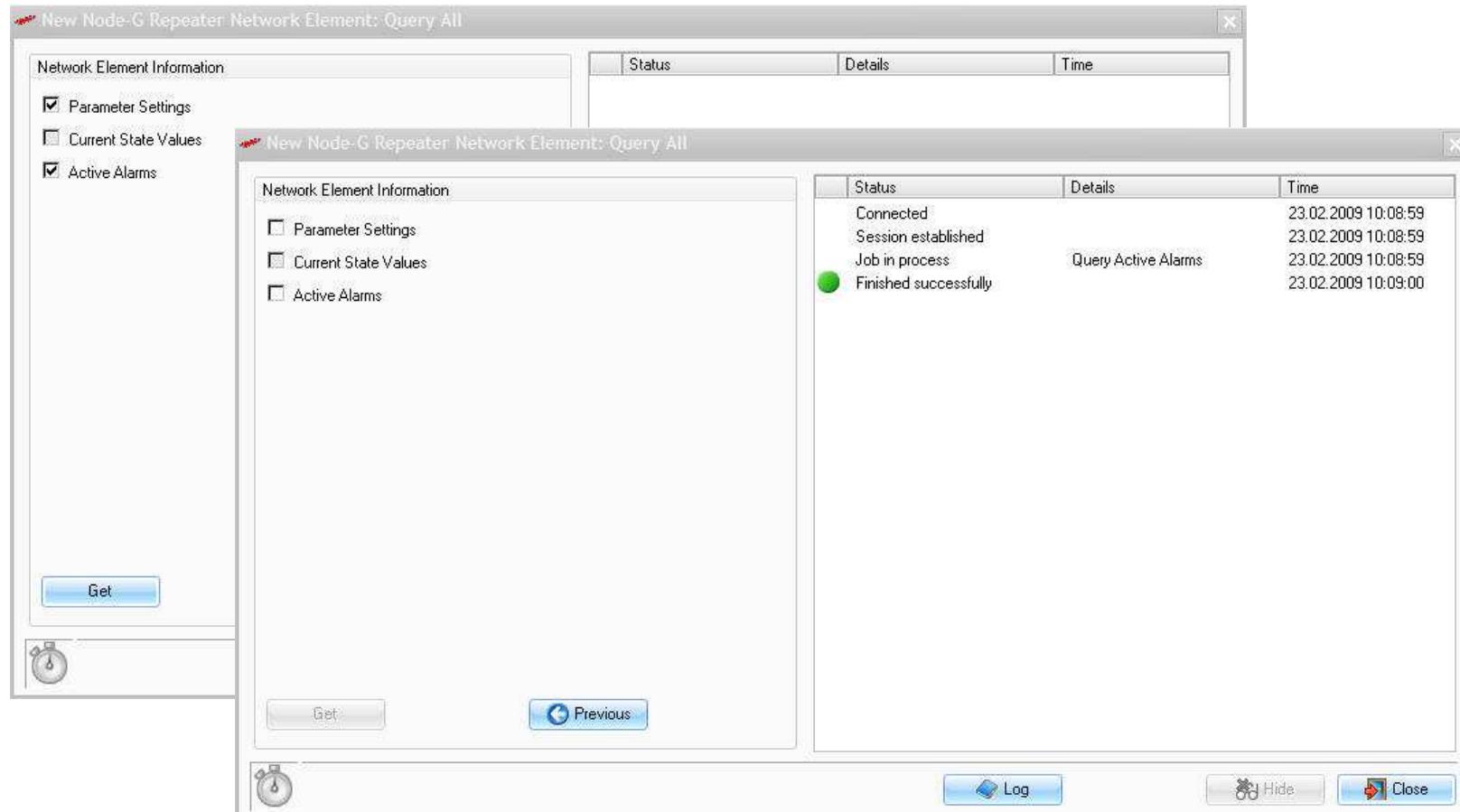
- enter *IP address* of the NodeG (default): 192.168.2.1
- enter *IP port* (default): 161
- select *Communication Group*
- **overwrite/keep already existing UL connection parameters**



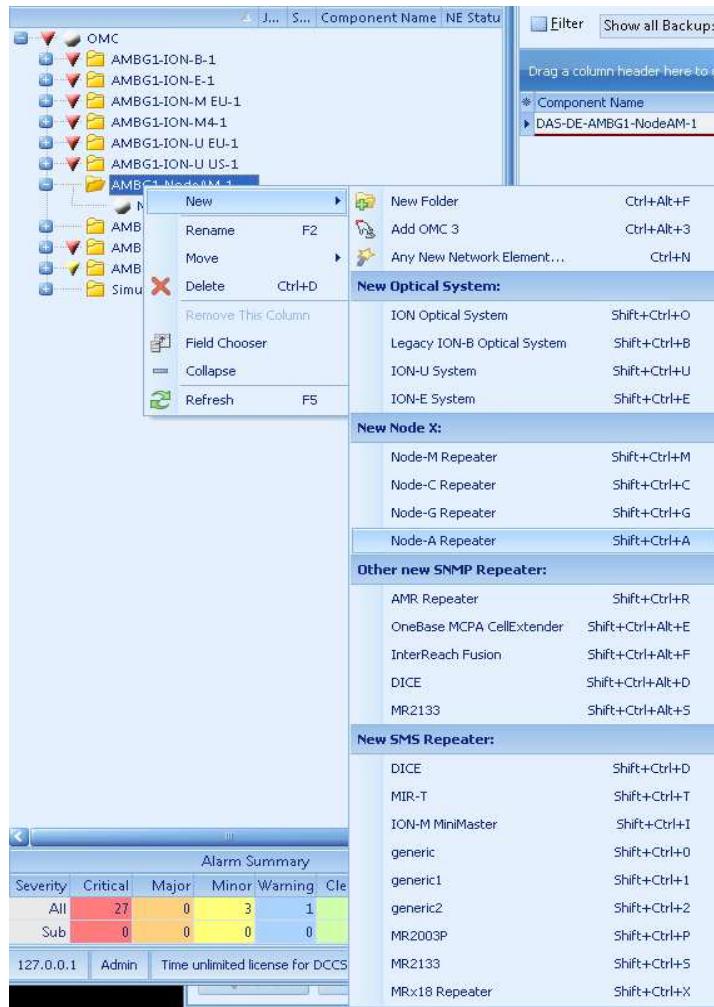
- enter *phone no.* of new device
- enter *PPP User Name*: **username**
- enter *PPP Password*: **password**



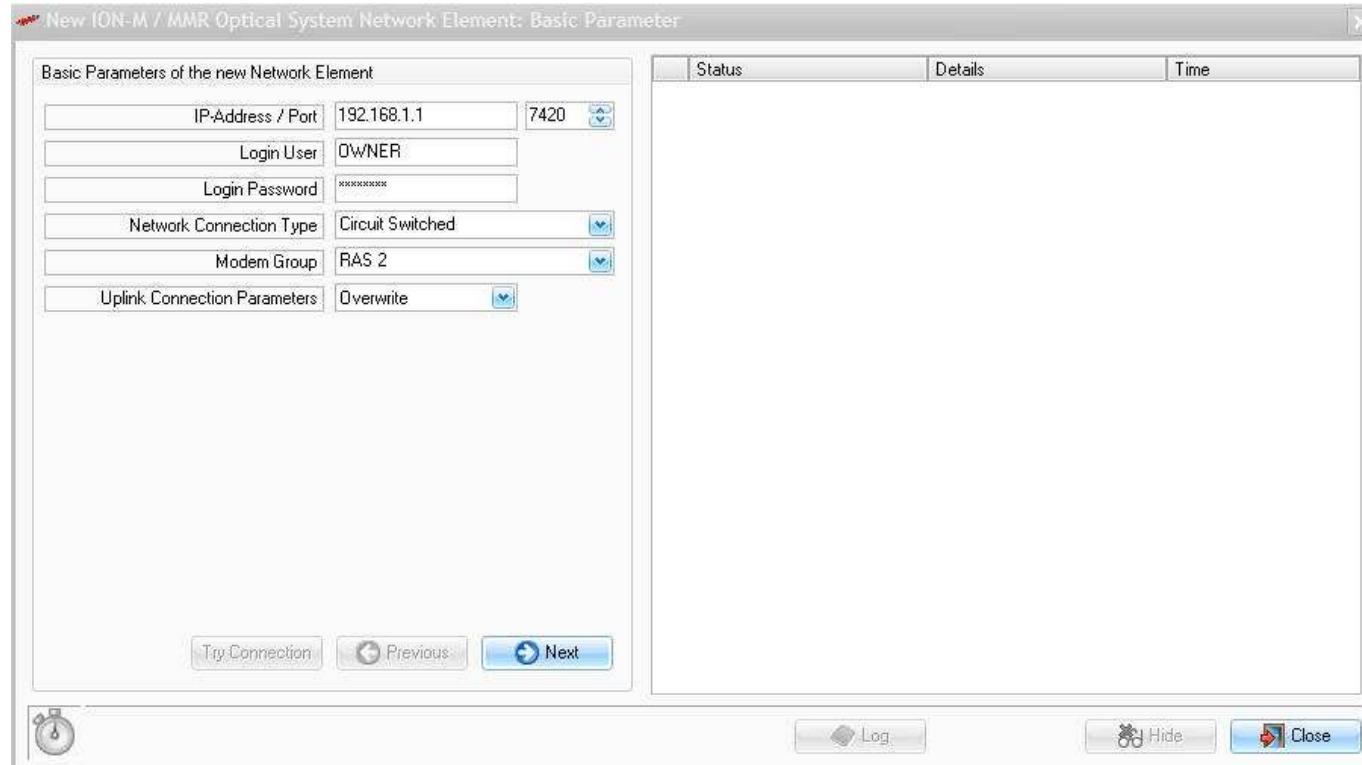
- enter *A.I.M.O.S. IP address*
- enter *A.I.M.O.S. phone no.*
- enter *PPP username/password*



- get network element information



- Ctrl+N and select corresponding NE
- OR
- Right click on OMC (or folder) => New => ION Optical System
- OR
- Menu Bar => Tree => New => ION Optical System
- OR
- Shift+Ctrl+O for ION Optical System

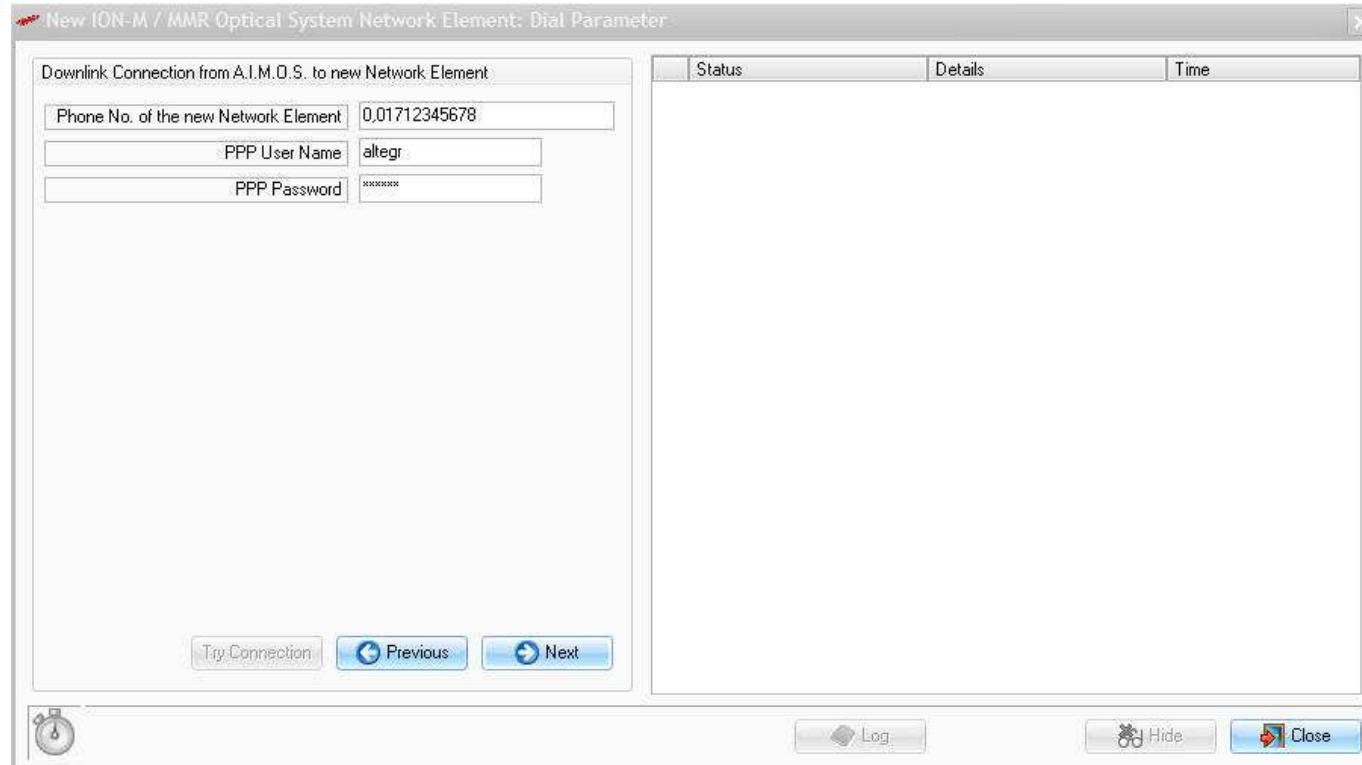


- enter *IP-Address* of ION-M system (default): 192.168.1.1
- enter *Port*: 7420

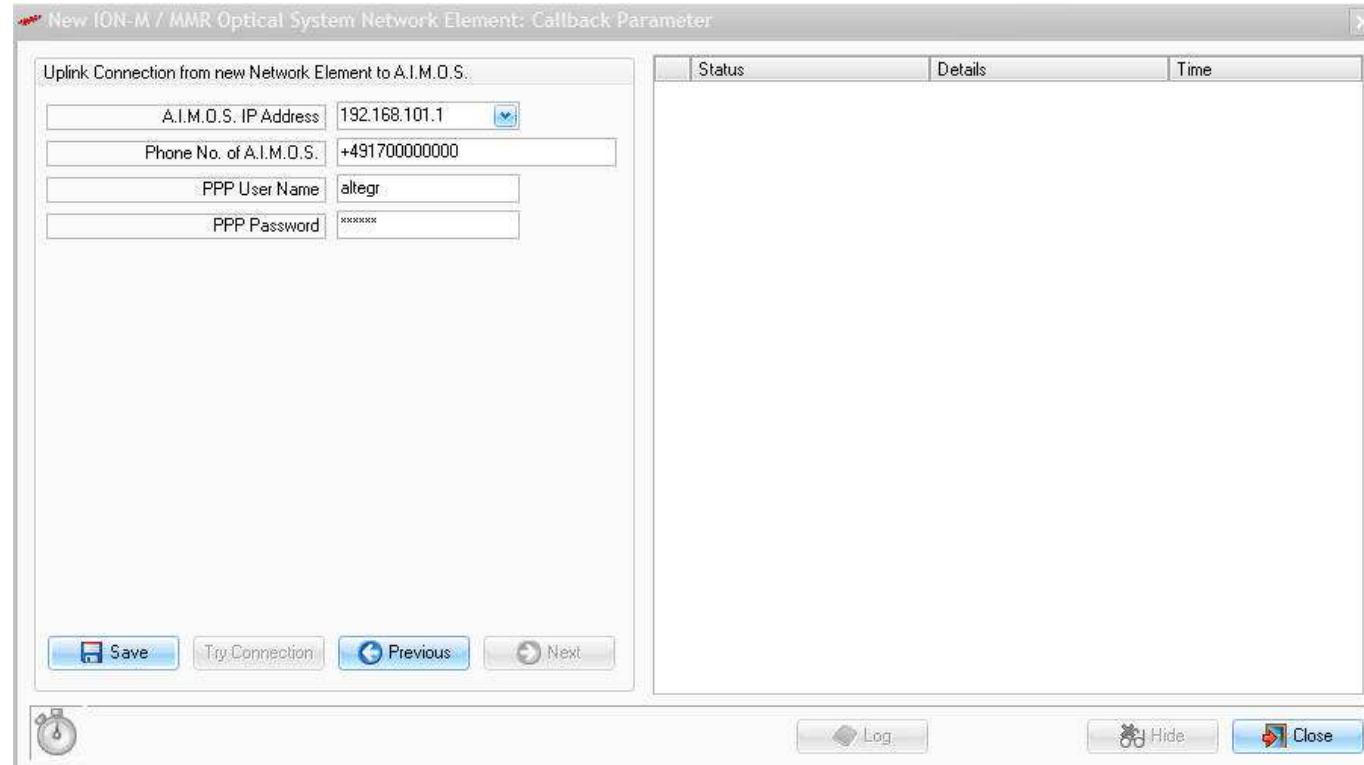
- enter *Login User* (default): owner
- enter *Login Password* (default): Apwd4own
- select *Network Connection Type*: Circuit Switched
- select *Modem Group*: RAS
- select *Uplink Connection Parameters*: Overwrite

mmrUser			Factory Setting of Network and Dial-up Connections				
SW Setting		Custom-Specific Adaption is Possible	Use is Mandatory	Custom-Specific Adaption is Possible	Use is Mandatory	Custom-Specific Adaption is Possible	Use is Mandatory
No. of Account ¹⁾	Role	Login Name	Name of Loopback Adapter ²⁾	IP Address of Loopback Adapter ³⁾	Name of mmrDialInUser ^{1) 3)}	Dial-in Password ³⁾	Name of Dial-up Connections ¹⁾
1	Owner	OWNER	Local_IP1	192.168.1.1	mmrDialInUser1	Apwd4di1	MODEM1
2		USER1	Local_IP2	192.168.1.11	mmrDialInUser2	Apwd4di2	MODEM2
3		USER2	Local_IP3	192.168.1.21	mmrDialInUser3	Apwd4di3	MODEM3
4		USER3	Local_IP4	192.168.1.31	mmrDialInUser4	Apwd4di4	MODEM4
Additional Users ⁴⁾		Additional... ⁴⁾					
5	User	USER4	Local_IP5	192.168.1.41	mmrDialInUser5	Apwd4di5	MODEM5
...	
n	User	USERn	Local_IPn	192.168.1.n1	mmrDialInUsern	Apwd4din	MODEMn

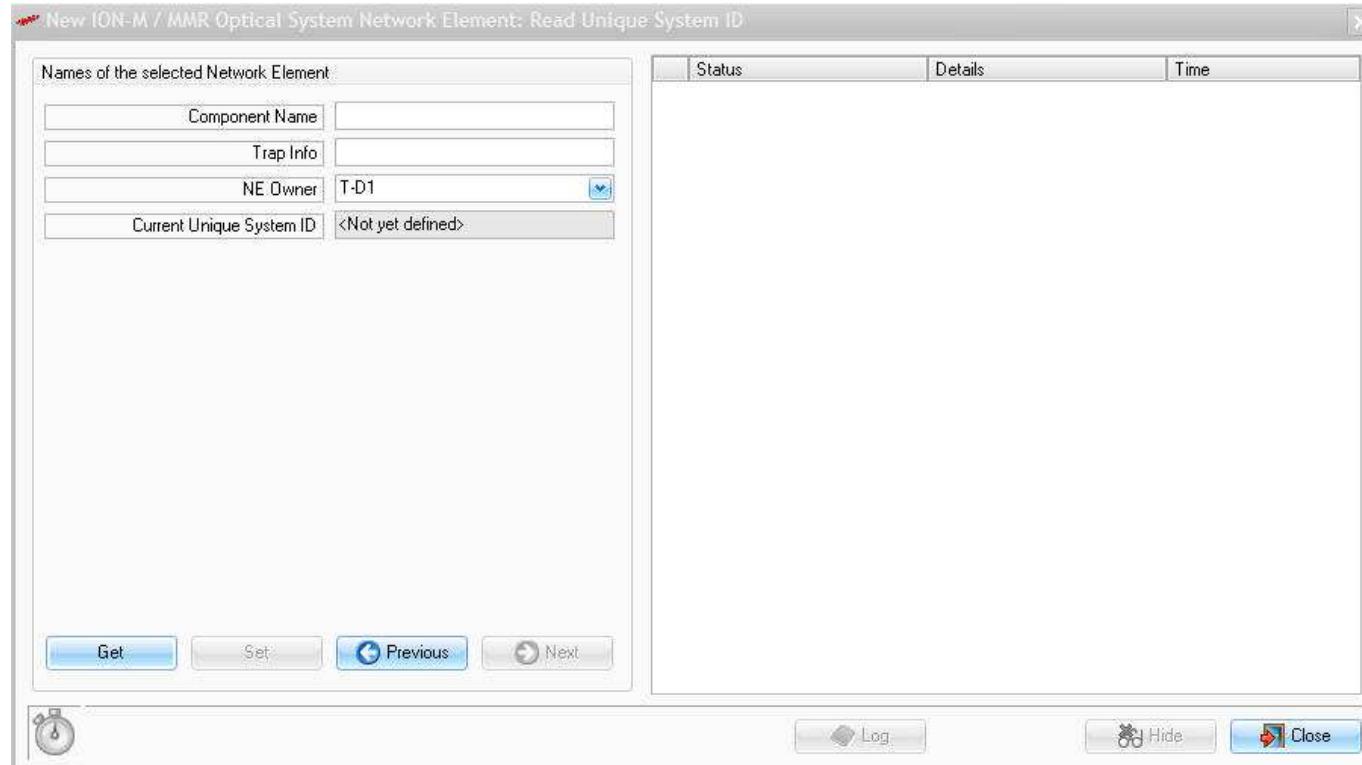
¹⁾ The numbers of the accounts are allocated to the numbers in the name of the loopback adapters, the name of the mmrDialInUsers and Dial-up Connections. For that reason these names are preset.
²⁾ Exemplary for MMR-system 1 => IP address is 192.168.1.x.
³⁾ Not with V2.4.x, only since V2.5.0. For backward compatibility the 'old' dial-in user altegr/altegr still exists and is supported.
⁴⁾ If necessary, see manual Network and Dial-up Connections Setup.



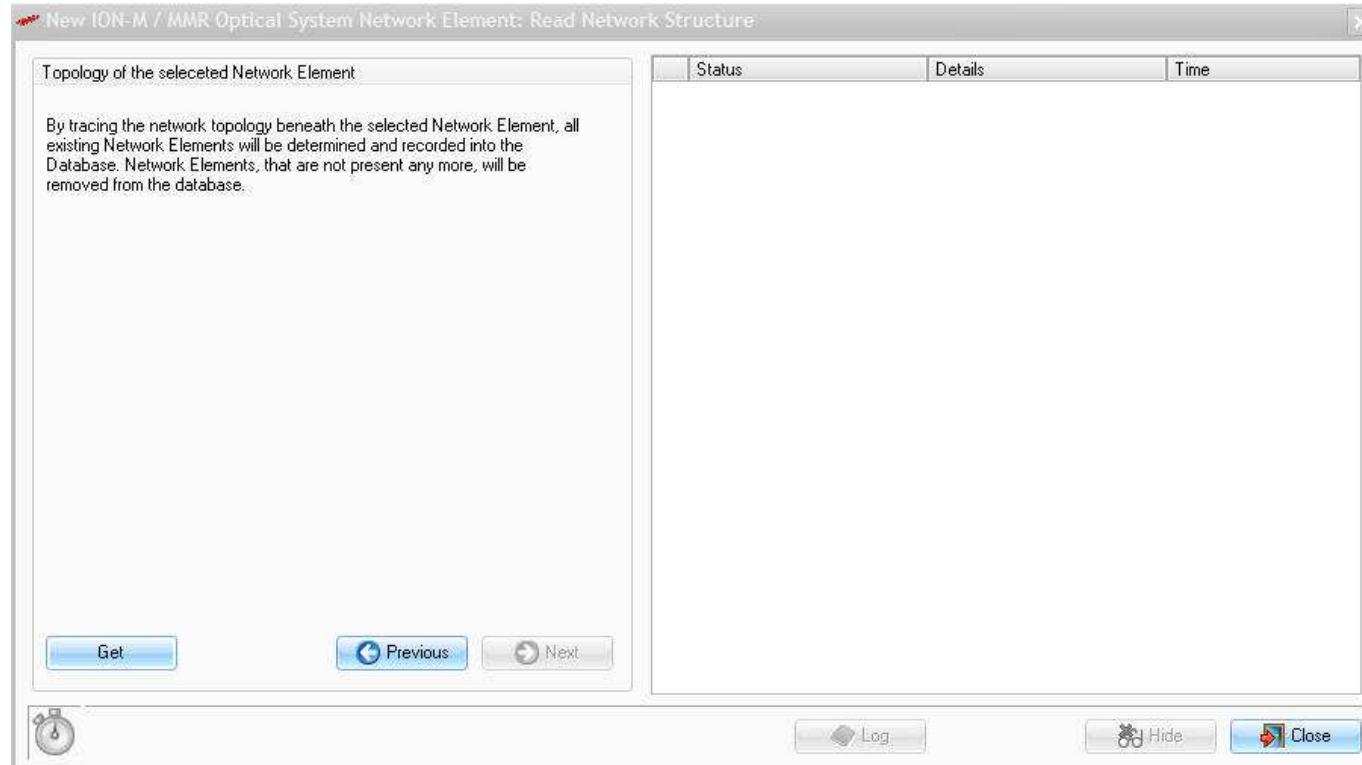
- enter *Phone No. of the new Network Element*: +4912345678
- enter *PPP User Name* (default): **altegr**
- enter *PPP Password* (default): **altegr**



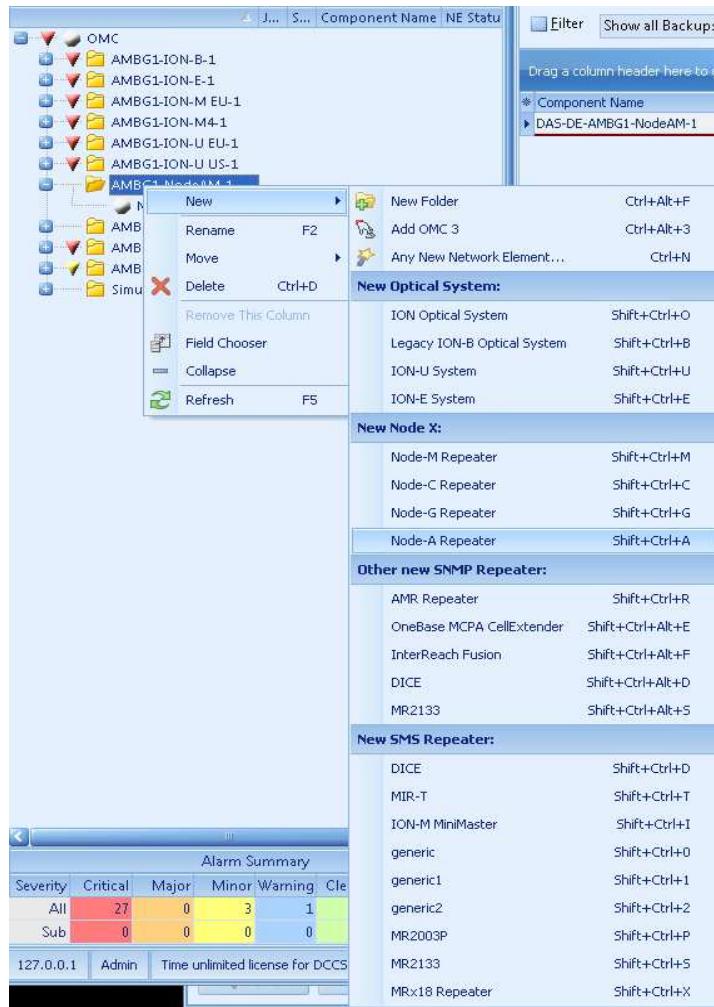
- enter *A.I.M.O.S. IP Address* and *Phone No. of A.I.M.O.S.*
- enter *PPP User Name* (default): **altegr**
- enter *PPP Password* (default): **altegr**



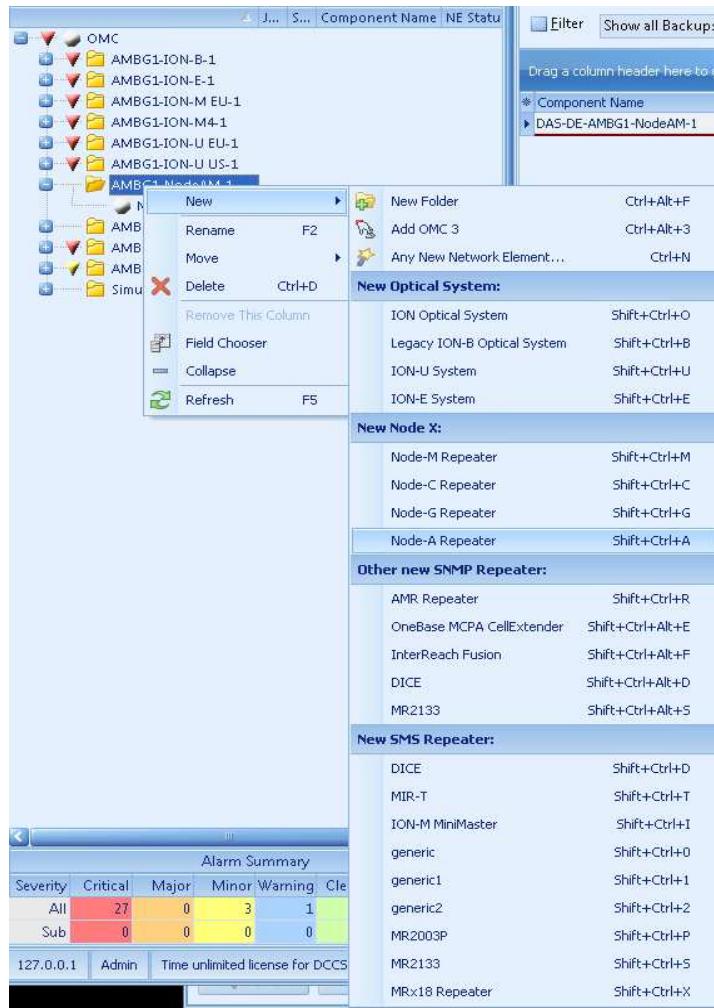
- enter *Component Name*
- enter *Trap Info* → SNMP trap name



- get Topology of the selected Network Element

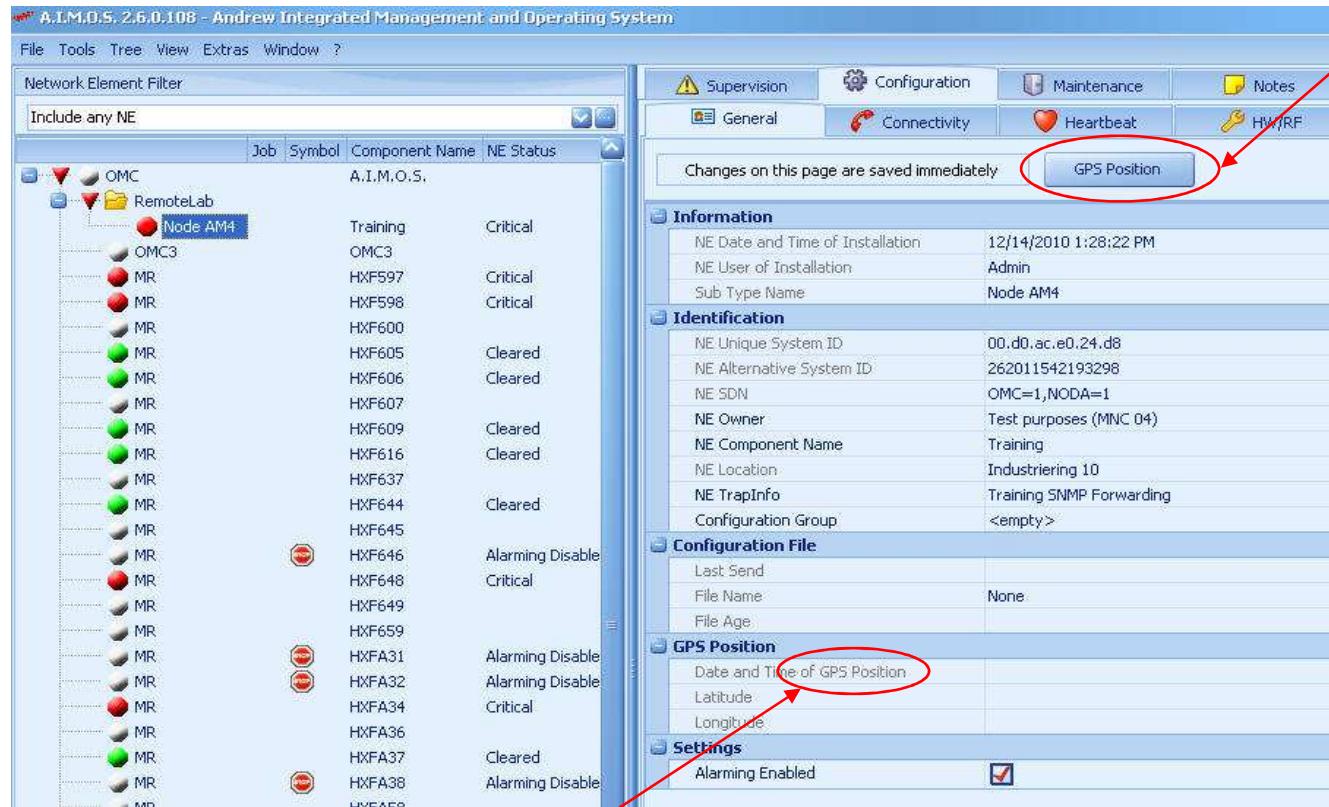


- Ctrl+N and select corresponding NE
OR
- Right click on OMC
(or folder) => New => ION U/E System
OR
- Menu Bar => Tree => New => ION U/E System
- Shift+Ctrl+U for ION-U System
- Shift+Ctrl+E for ION-E System



- Ctrl+N and select corresponding NE
- OR
- Right click on OMC (or folder) => New => InterReach Fusion
- OR
- Menu Bar => Tree => New => InterReach Fusion
- OR
- Shift+Ctrl+Alt+F for InterReach Fusion

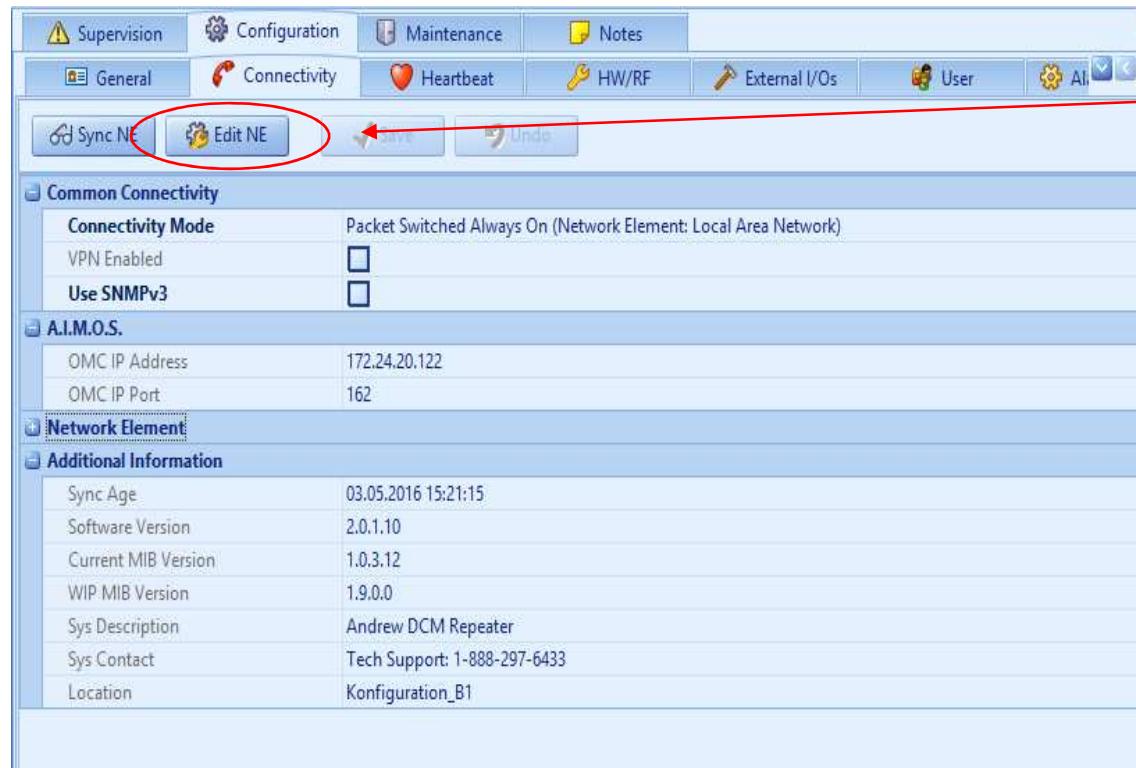
Management Interface - Andrew Wireless Solutions



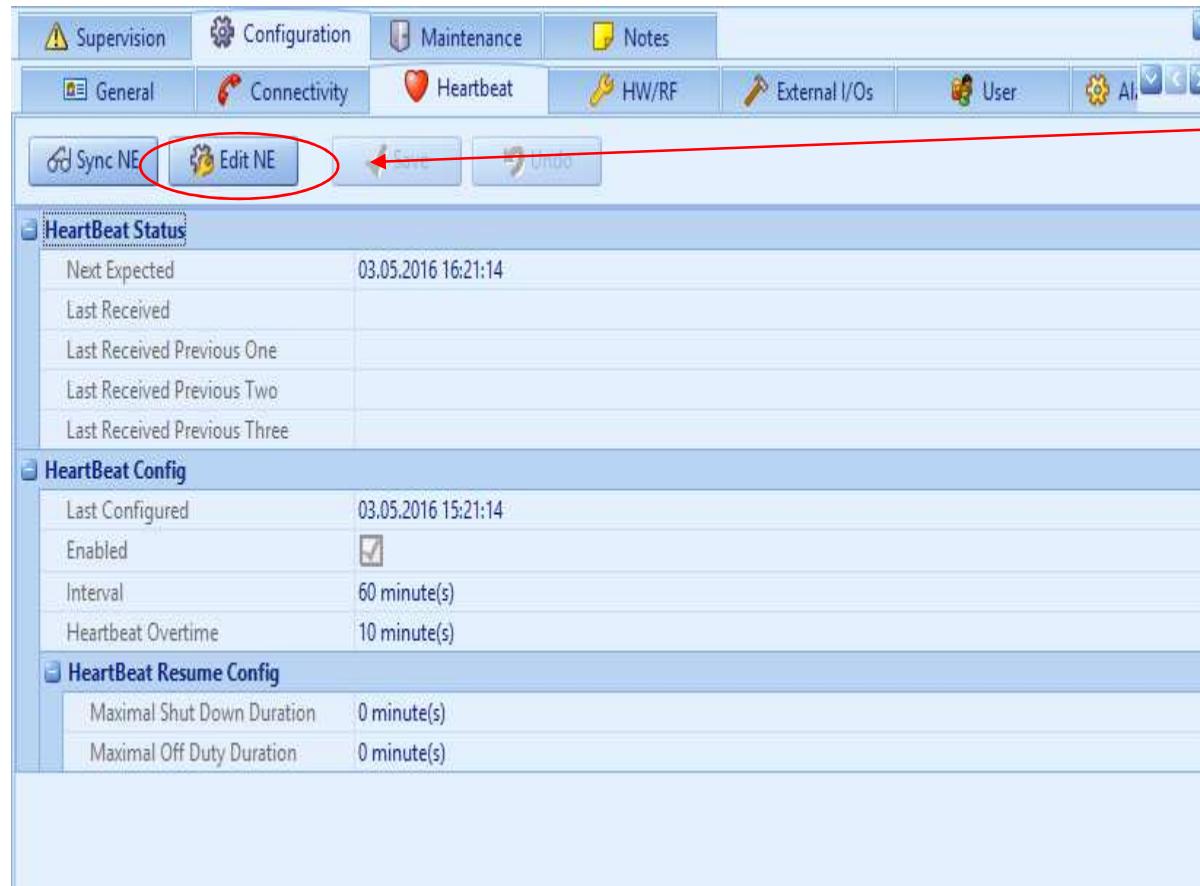
Get current
GPS Position

Note:

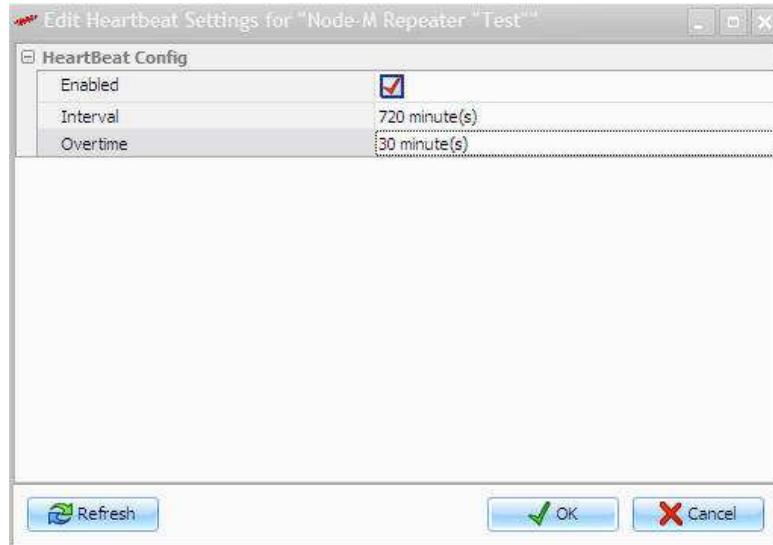
Only Node AM supports GPS Position



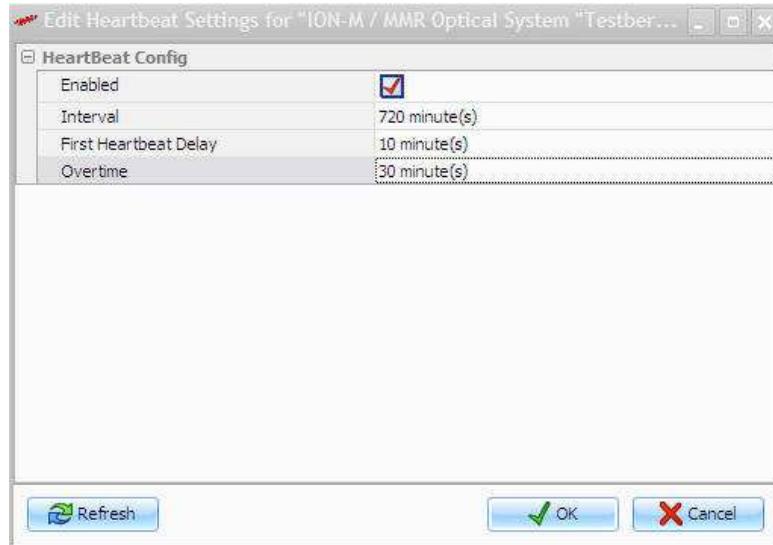
Edit NE to modify the Connectivity Parameters



Edit NE to modify the Heartbeat Parameters



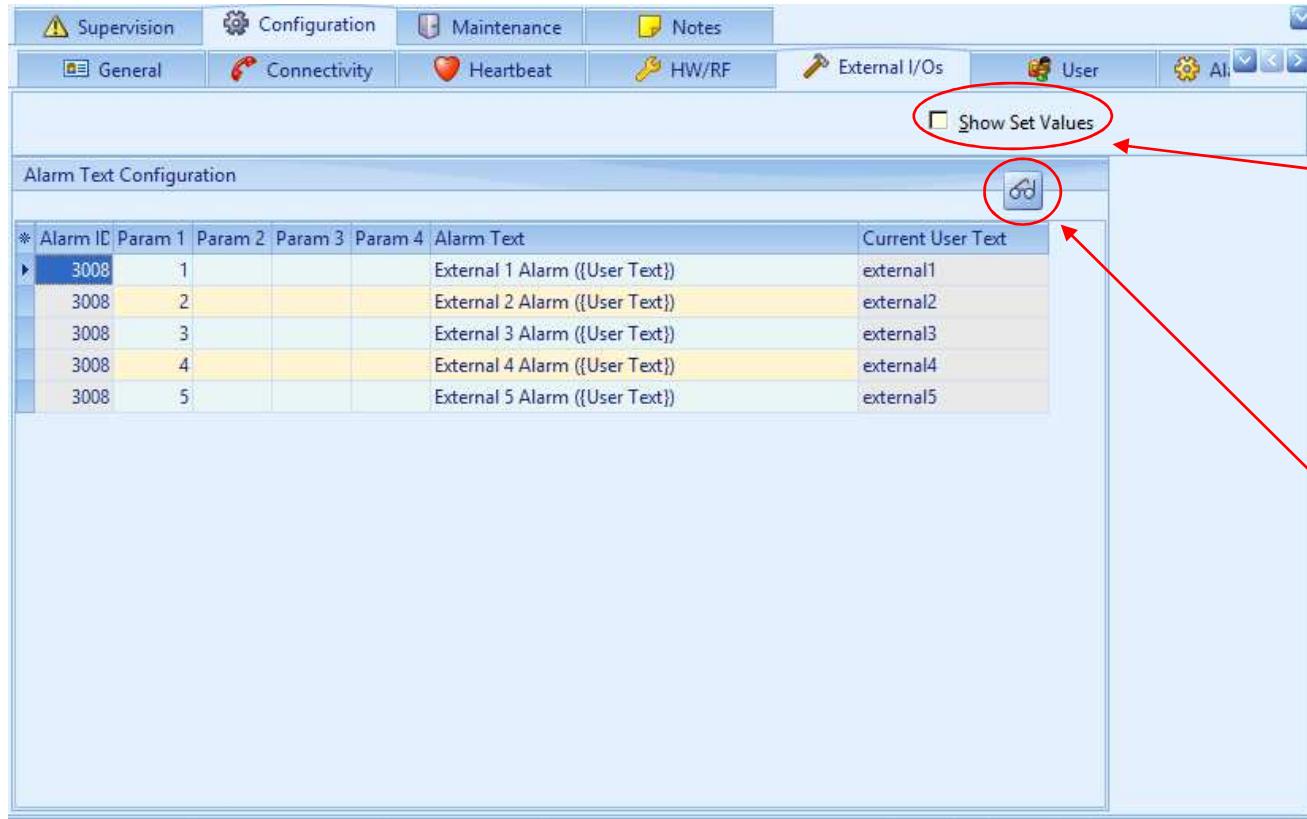
- Heartbeat Interval and Overtime are depends on modem resources
- Click on *OK* to contact unit and store data



- Heartbeat Interval and Overtime are depends on Modem Resources
- *First Heartbeat Delay*: Heartbeat test interval (usually a short test interval to check once communication between NE and A.I.M.O.S. incoming connection)
- Click on *OK* to contact unit and store data

The screenshot shows the A.I.M.O.S. Configuration Management software interface. The top navigation bar includes tabs for Supervision, Configuration, Maintenance, Notes, General, Connectivity, Heartbeat, HW/RF (which is currently selected), External I/Os, User, and Admin. Below the tabs are sub-tabs: System Configuration, Group Configuration, Sub-Band Configuration, and System Calibration. The main content area displays the Network Element Settings section, which includes checkboxes for Minimize Fan Speed, Enable Fast AGC (which is checked), Enable VSWR, Max Operational Temperature (set to 55 °C), Disable Repeater, Add Post-Duplexer Losses, Enable GPS-Based Configuration, and Filtering Capability (FPGA Load) set to Wideband only. There are also sections for Filtering Capability, Slot Information, and Slot Settings.

Edit NE to modify the
HW / RF Parameters



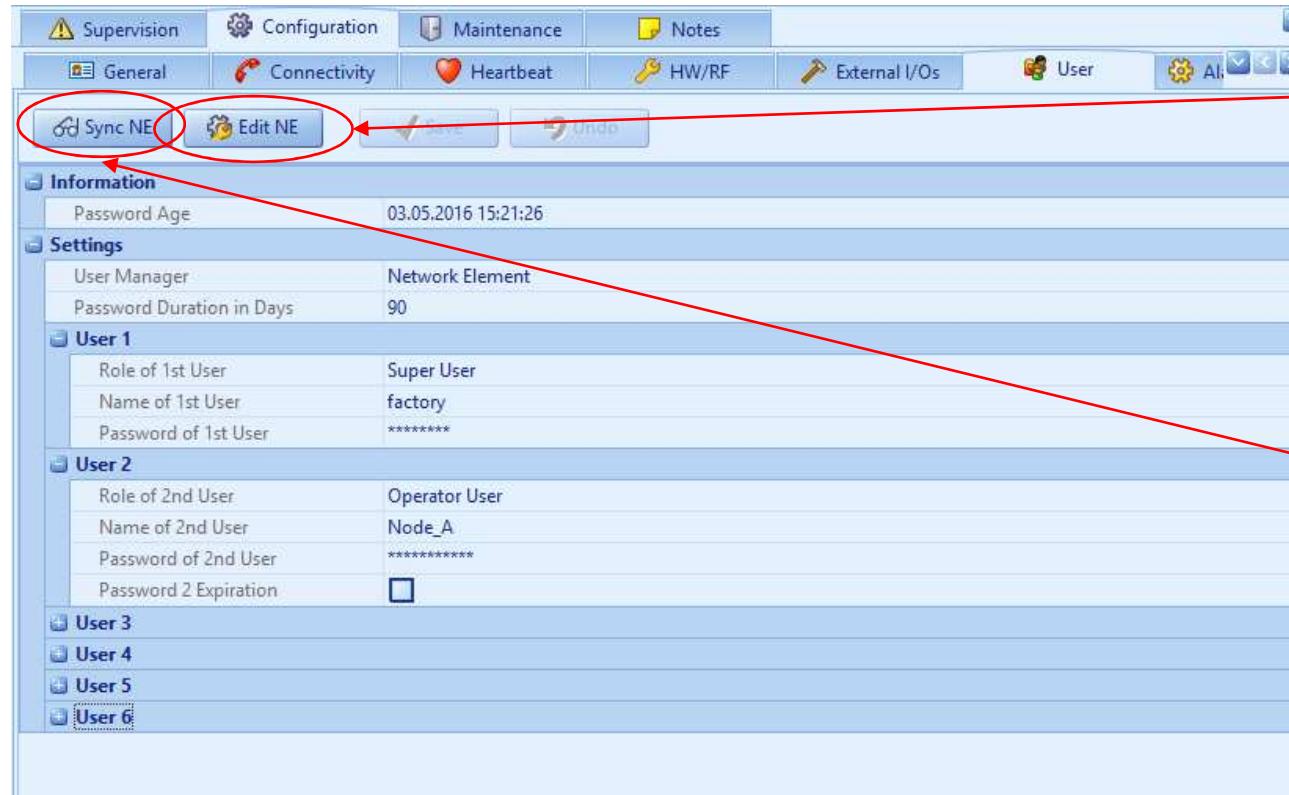
The screenshot shows a software interface for managing external I/O settings. At the top, there is a toolbar with various icons: Supervision, Configuration, Maintenance, Notes, General, Connectivity, Heartbeat, HW/RF, External I/Os (which is the active tab), User, and Ali. Below the toolbar is a section titled "Alarm Text Configuration" containing a table with the following data:

* Alarm ID	Param 1	Param 2	Param 3	Param 4	Alarm Text	Current User Text
3008	1				External 1 Alarm {{User Text}}	external1
3008	2				External 2 Alarm {{User Text}}	external2
3008	3				External 3 Alarm {{User Text}}	external3
3008	4				External 4 Alarm {{User Text}}	external4
3008	5				External 5 Alarm {{User Text}}	external5

At the top right of the configuration window, there is a checkbox labeled "Show Set Values" with a red circle around it and a red arrow pointing to it from the text "Show Set Values to modify the External I/O Settings". Below the table, there is a small blue button with a white "cd" icon, also circled with a red arrow and labeled "Press to Sync the External I/O Settings".

Show Set Values to
modify the External
I/O Settings

Press to Sync the
External I/O Settings



Edit NE to modify the User Settings

Press to Sync the User Settings

A.I.M.O.S. Configuration Management – Alarm Settings



Screenshot of the A.I.M.O.S. Configuration Management interface showing the Alarm Settings screen.

The top navigation bar includes: Supervision, Configuration, Maintenance, Notes, HW/RF, External I/Os, User, Alarm Settings (selected), Web, and NE Image.

The sub-navigation tabs are: Alarm Severities (selected) and Alarm Thresholds.

A red circle highlights the "Show Set Values" checkbox in the toolbar above the table.

A red circle highlights the "Sync" button (refresh icon) in the table header.

Specific Problem	Alarm ID	Alarm Text Example	Actual Severity	Actual Latency
5730	3008	External 4 Alarm {{User Text}}	minor	0 minutes
5760	3008	External 5 Alarm {{User Text}}	minor	0 minutes
7500	3500	VPN Connection Failure	critical	
8310	3025	GPS Failure	critical	0 minutes
8311	3028	GPS Accuracy Low	disabled	0 minutes
9000	3000	Power Supply Communication Failure	warning	
9001	3001	Power Supply Temperature Alarm	warning	
9003	3002	Power Supply Voltage Failure	critical	
9020	3007	Main Board SW Compatibility Alarm	critical	
9022	3006	Main Board HW Failure	critical	
9022	3019	User Interface 1 HW Failure	major	
9022	3020	User Interface 2 HW Failure	major	
9026	3003	Modem Communication Failure	warning	
9030	3021	DL VSWR Failure	disabled	0 minutes
9033	3004	Ventilation Failure {{reason}}	minor	
9633	999	Test Alarm	minor	0 minutes

Show set Values to
modify the Alarm
Severity Settings

Press to Sync the
Alarm Severity Settings

A.I.M.O.S. Configuration Management – Alarm Settings

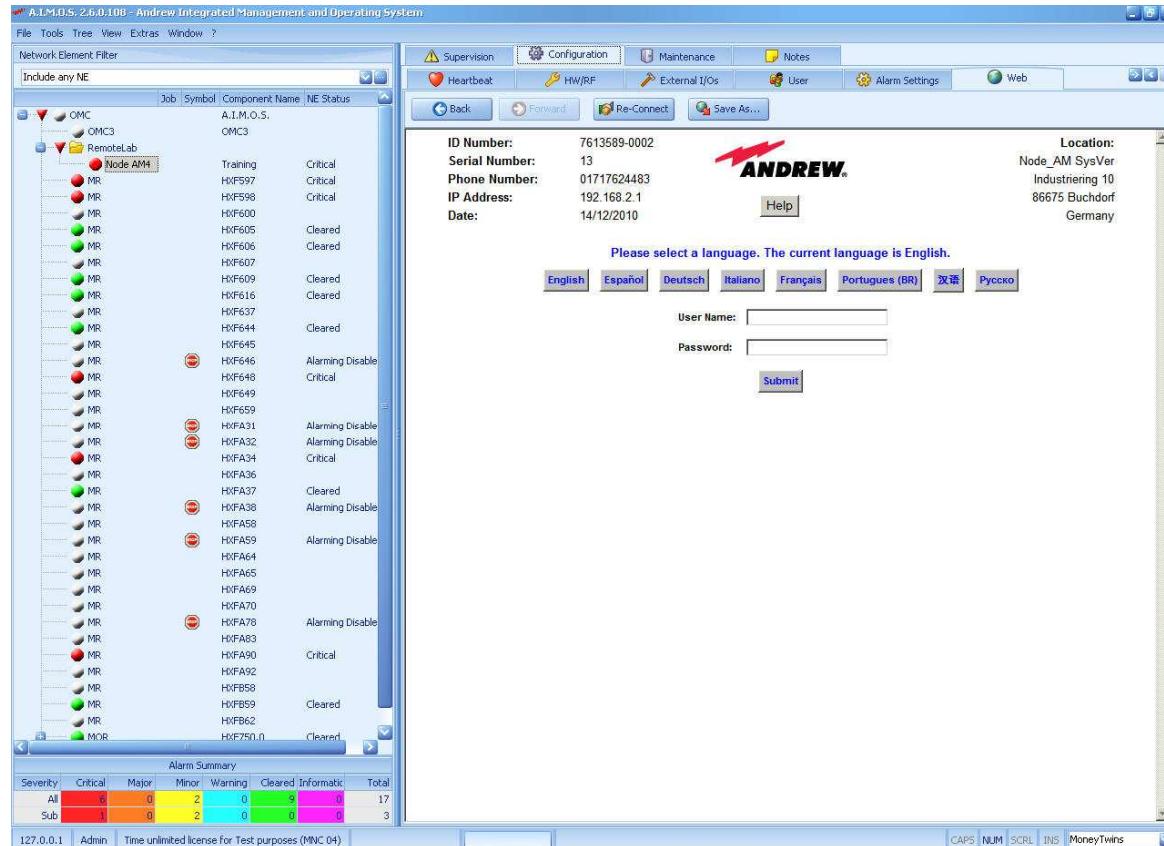


The screenshot shows the 'Alarm Thresholds' tab selected in the navigation bar. The main area displays a table of alarm thresholds with columns for Alarm ID, Description, and Current Threshold. The 'Show Set Values' checkbox is circled in red, and a red arrow points from it to the text 'Show set Values to modify the Alarm Threshold Settings'. Another red circle highlights the sync button in the toolbar, with a red arrow pointing from it to the text 'Press to Sync the Alarm Threshold Settings'.

Alarm ID	Description	Current Threshold
3008	External 1 Threshold (1)	ActiveLow
3008	External 2 Threshold (2)	ActiveLow
3008	External 3 Threshold (3)	ActiveLow
3008	External 4 Threshold (4)	ActiveLow
3008	External 5 Threshold (5)	ActiveLow
3009	DL RSSI MIN Threshold (1)	-95 dBm
3009	DL RSSI MIN Threshold (3)	-95 dBm
3009	DL RSSI MIN Threshold (4)	-140 dBm
3009	DL RSSI MIN Threshold (5)	-95 dBm
3009	DL RSSI MIN Threshold (8)	-140 dBm
3009	DL RSSI MAX Threshold (1)	-20 dBm
3009	DL RSSI MAX Threshold (3)	-20 dBm
3009	DL RSSI MAX Threshold (4)	-30 dBm
3009	DL RSSI MAX Threshold (5)	-20 dBm
3009	DL RSSI MAX Threshold (8)	-30 dBm
3010	UL RSSI MAX Threshold (1)	-95 dBm

Show set Values to
modify the Alarm
Threshold Settings

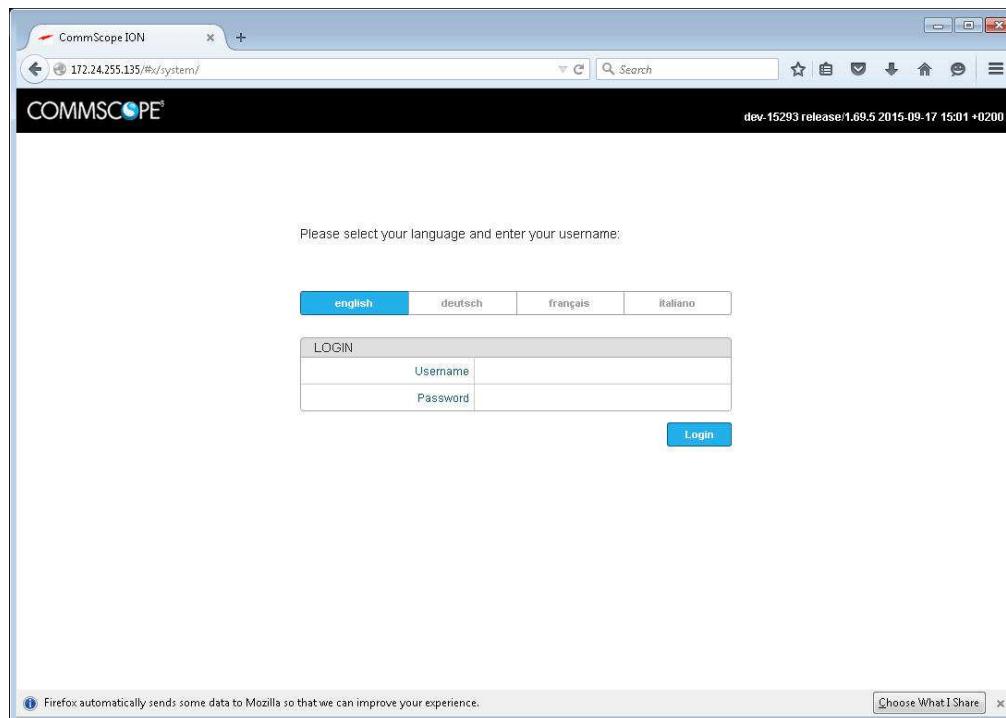
Press to Sync the
Alarm Threshold
Settings



Web Interface:

User Name: **Node_A**

Password: **Golden_Node**



Please select your language and enter your username:

english	deutsch	français	italiano
---------	---------	----------	----------

LOGIN	
Username	test
Password	*****

Login

- Username: **test**
- Password: **test**

- Mozilla Firefox supports the web access to the system. Type in the LAN IP address into the address bar of the browser

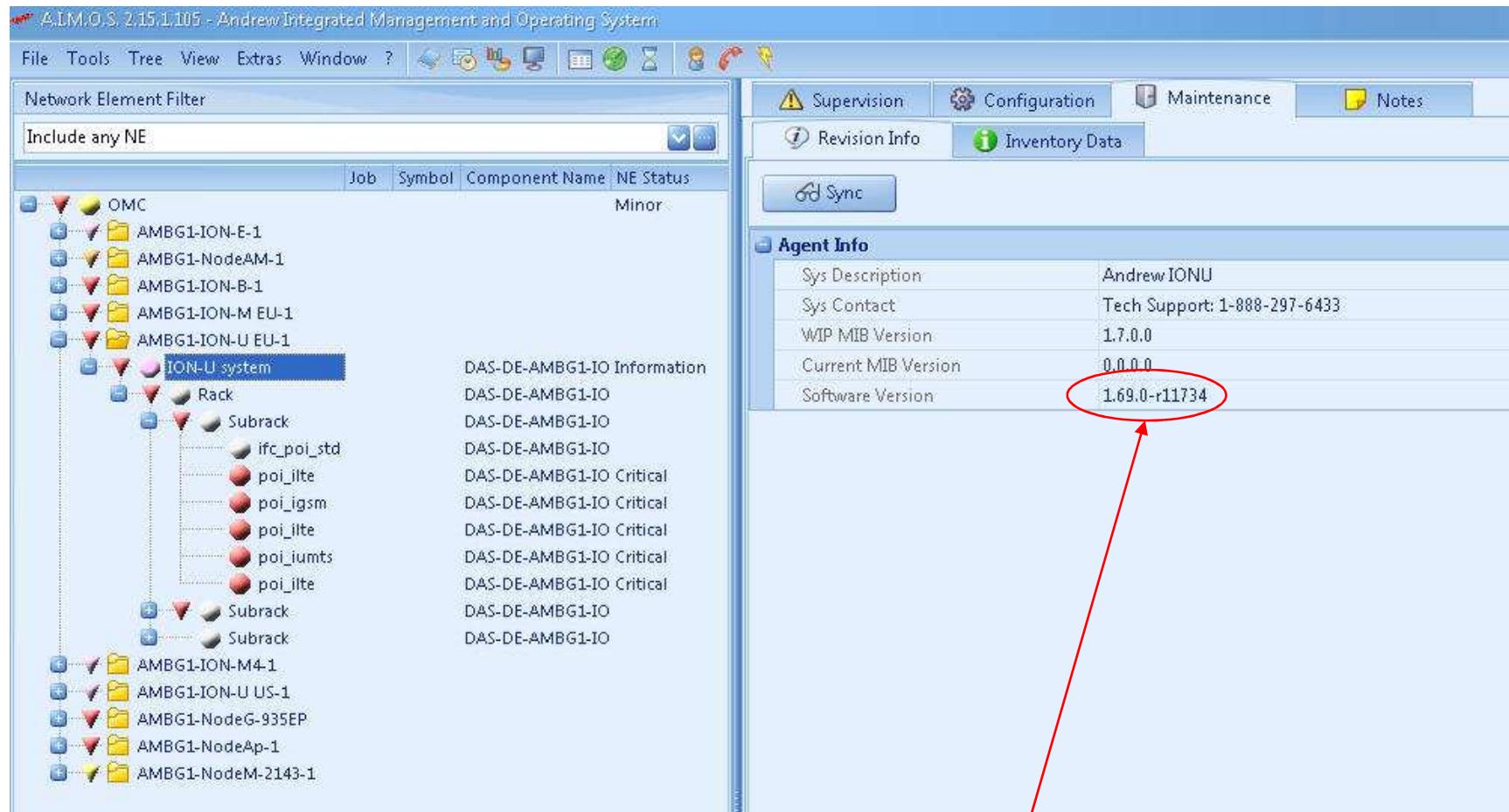
Note: There is no web button in AIMOS for ION-U web access. You can open an external browser using context menu > Network Element Operations > Open WEB Page in > Select installed Browsers



Remove Image to
Delete the saved
picture

Save to File to create a
new Image File
from the stored
Picture

Load from File to save
a new Picture into
AIMOS database

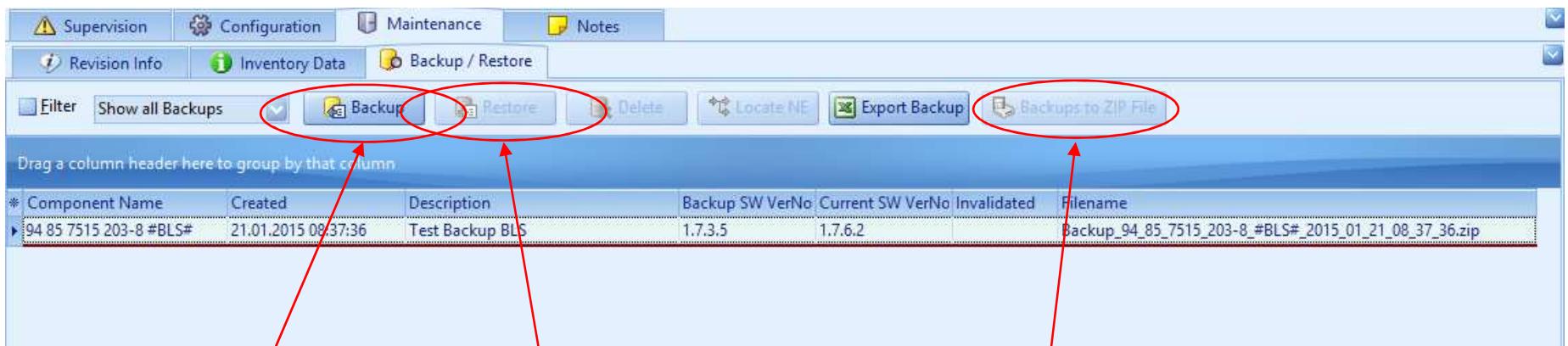


- Revision Info shows the installed software version

* Component Name	NE Type Name	Reported	Reported State	Outdated	Outdated Status	Module Type	ID Number	Serial Number	Description	Software Version	Software Id
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			14 - IO-Board	7641375-01	292	IFC - Standard	1.2.0.2	7658070-02
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			29 - Leveling Utility	7634525-01	20000020	i-POI 8/8 active	1.8.0.3	7652810-08
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			29 - Leveling Utility	7634526-01	20000129	i-POI 9-G active	1.8.0.3	7652810-08
DAS-DF-AMR61-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			24 - Leveling Utility	7634531-01	20000035	i-POI 18/18	1.8.0.3	7652810-08
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			29 - Leveling Utility	7634531-01	20000223	i-POI 21-U	1.8.0.3	7652810-08
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			29 - Leveling Utility	7634506-02	20000111	i-POI 26/26 active	1.8.0.3	7652810-08
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			14 - IO-Board	7658895-00	0455082092	dsMR	1.1.0.8	7652715-01
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			16 - RCM 161 MMB RU	7658884-01	433	SMX 8x4	1.0.5.3	7677072-00
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			16 - RCM 161 MMB RU	7658884-01	581	SMX 8x4	1.0.5.3	7677072-00
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			16 - RCM 161 MMB RU	7657752-00	517	ZC 8x8	1.0.4.4	7660290-00
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			16 - RCM 161 MMB RU	7657752-00	607	ZC 8x8	1.0.4.4	7660290-00
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			18 - Optical Interface Unit	7645470-01	25	OTRX H/F	1.2.0.6	7692329-02
RU-1A	HPRU	6/15/2015 12:25:18 PM	new/added			9 - Highest Assembly Unit (=Housings)	7663065-0001	30	ION-U H 9/18P/21P/26 ...	1.69.0-r11727	sc
EU-1-1A	HPEU	6/15/2015 12:25:18 PM	new/added			9 - Highest Assembly Unit (=Housings)	7681488-0001	21	ION-EU H 8/8P/26... 1.2.0.1	1.2.0.1	7676640-02
DAS-DE-AMBG1-IONU...	SLOT	6/15/2015 12:25:18 PM	new/added			3 - Power Supply Units	7640681-00	541	PDU	1.1.0.2	7640807-01

Inventory Data gives an overview about all modules in the system with e.g.:

- Serial number
- Software Version
- ...

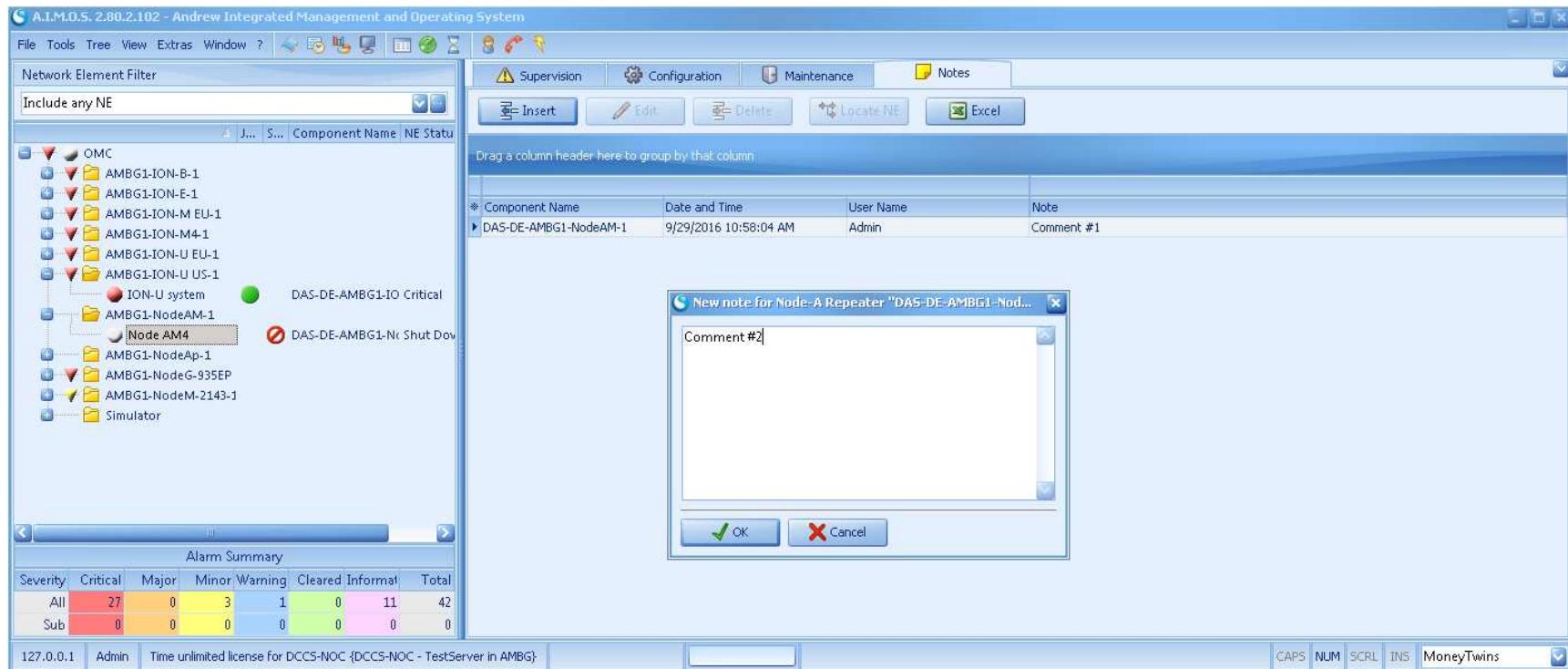


Create a new
NE Backup

Restore
NE Backup

Save NE Backup to
ZIP File

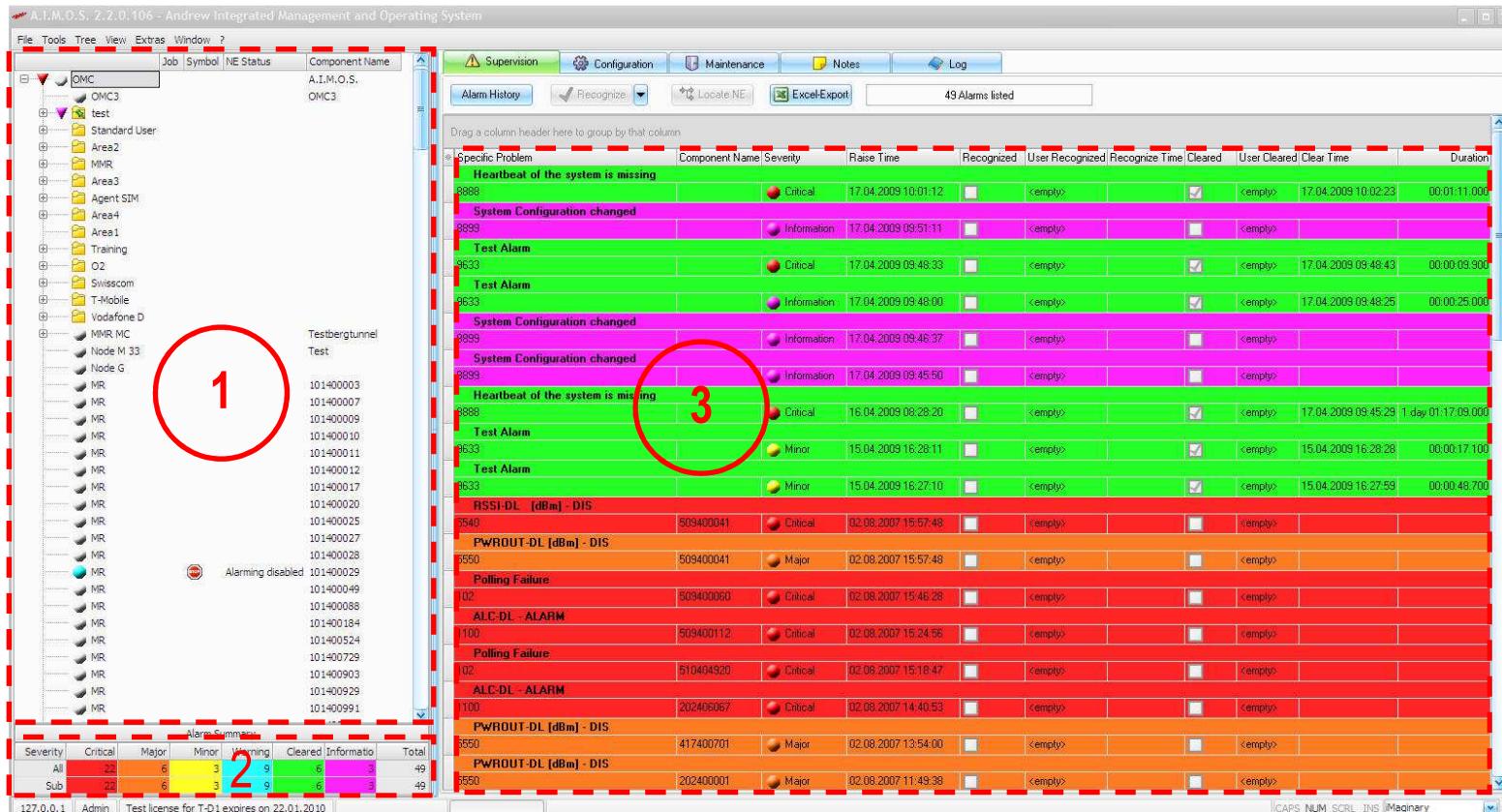
A.I.M.O.S. Notes Tab



Notes:

- e.g. responsible person, contact information or maintenance scheduler

Supervision - Andrew Wireless Solutions

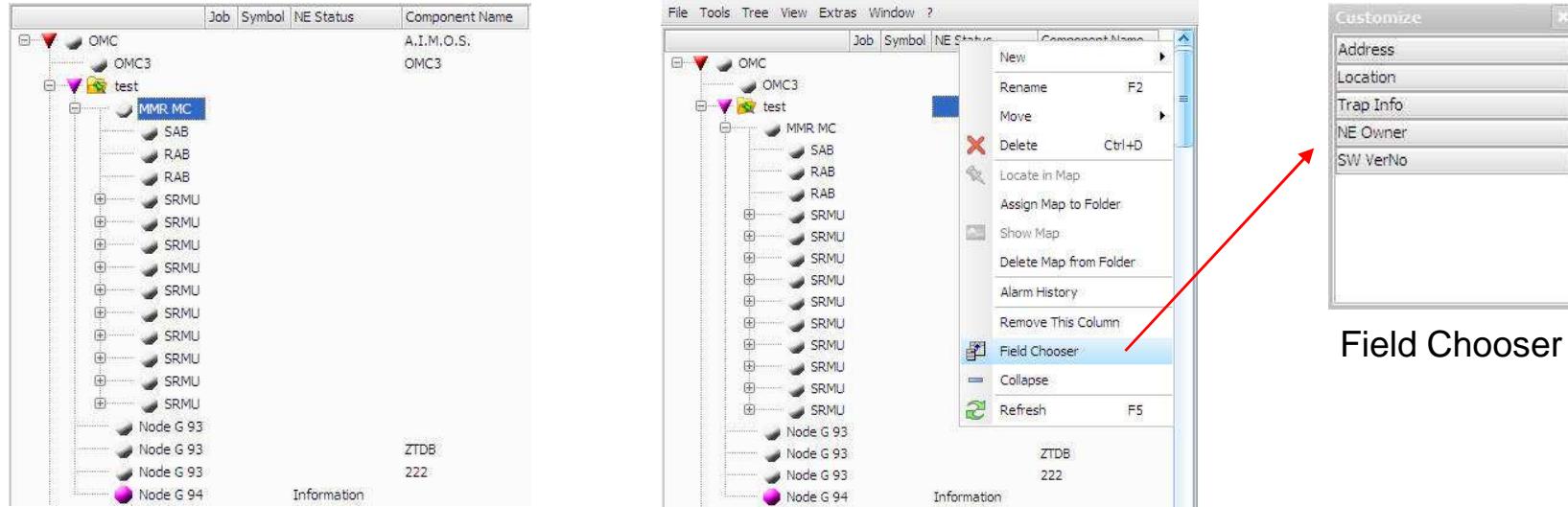


Alarm visualization:

1: Tree view

2: Alarm status window

3: Supervision monitor



Field Chooser

Tree view:

- Show all in A.I.M.O.S. and OMC3 integrated NE

Customize view:

- Right click on upper row and select Field Chooser
- Drag and drop fields

Alarm Summary							
Severity	Critical	Major	Minor	Warning	Cleared	Information	Total
All	22	6	3	9	6	3	49
Sub	0	0	0	0	6	3	9



Alarm status window

Tools shortcut

The screenshot shows a supervision monitor interface with the following components:

- Top Bar:** Includes tabs for Supervision, Maintenance, Notes, and Log, along with buttons for Alarm History, Recognize, Locate NE, and Excel-Export.
- Middle Bar:** Shows "9 Alarms listed" and a message "Drag a column header here to group by that column".
- Table:** Displays a list of alarms with columns for Specific Problem, Component Name, Severity, Raise Time, Recognized, User Recognized, and Recognize Time. The table contains several entries, many of which are grouped by category (e.g., "Heartbeat of the system is missing", "System Configuration changed", "Test Alarm").

Supervision monitor

Supervision Configuration Maintenance Notes Log

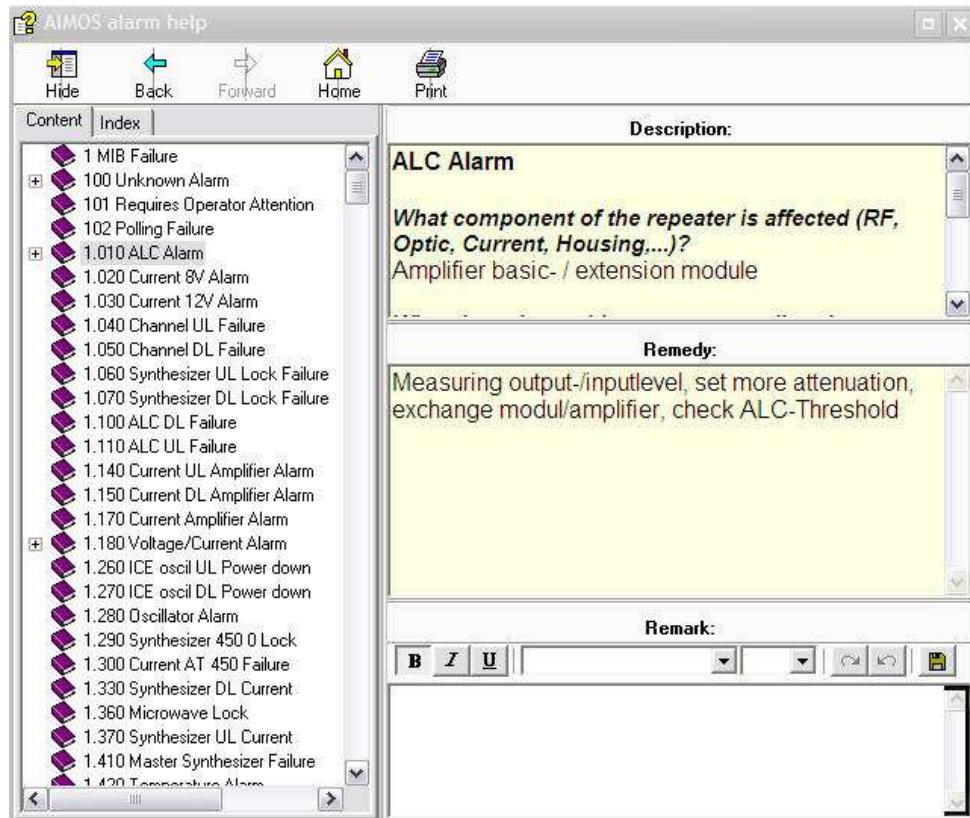
Alarm History Recognize Locate NE Excel-Export 49 Alarms listed

Drag a column header here to group by that column

Specific Problem	Component Name	Severity	Raise Time	Recognized	User Recognized
Heartbeat of the system is missing			17.04.2009 10:01:12	<input type="checkbox"/>	<empty>
8888	Locate NE		17.04.2009 09:51:11	<input type="checkbox"/>	<empty>
System Configuration changed	Select All	Ctrl+A	17.04.2009 09:48:33	<input type="checkbox"/>	<empty>
8899	Locate NE		17.04.2009 09:48:33	<input type="checkbox"/>	<empty>
Test Alarm	Recognize All		17.04.2009 09:48:33	<input type="checkbox"/>	<empty>
9633	Locate NE		17.04.2009 09:48:33	<input type="checkbox"/>	<empty>
Test Alarm	Recognize		17.04.2009 09:48:33	<input type="checkbox"/>	<empty>
9633	Locate NE		17.04.2009 09:48:00	<input type="checkbox"/>	<empty>
System Configuration changed	Manual Clear		17.04.2009 09:48:00	<input type="checkbox"/>	<empty>
8899	Locate NE		17.04.2009 09:48:37	<input type="checkbox"/>	<empty>
System Configuration changed	Manual Delete		17.04.2009 09:48:37	<input type="checkbox"/>	<empty>
8899	Audible Alarm Notifications		17.04.2009 09:45:50	<input type="checkbox"/>	<empty>
Heartbeat of the system is missing	Alarm Help	F1	17.04.2009 09:45:50	<input type="checkbox"/>	<empty>

Note: All NE's have an *alarm rise* and *alarm clear* event.

There is no need to *clear* or *delete* any alarm manually.



A.I.M.O.S. alarm help:

- By pressing button F1 alarm help pop up

The screenshot shows the A.I.M.O.S. AlarmHistory interface with 669 alarms listed. The main window has tabs for Main and View, and buttons for Select All, Manual Delete, Locate, Excel Export, Refresh, and a search field for Raise Time since. The data grid includes columns for Alarm Text, Specific Problem, Component Name, Severity, Raise Time, User Recognized, and Rec. The second window, titled 'Alarm History', shows a list of specific problems with their details. An arrow points from the top right of the main window to the 'Alarm History' tab in the second window.

Specific Problem	Description	Count
Heartbeat of the system is missing	8888	1
System Configuration changed	8899	10
Test Alarm	9633	2
System Configuration changed	8899	1

Alarm History:

- Overview about all cleared and recognized alarms
- To clear up history (optional Excel Export first) mark old alarms and delete



Filter Builder:

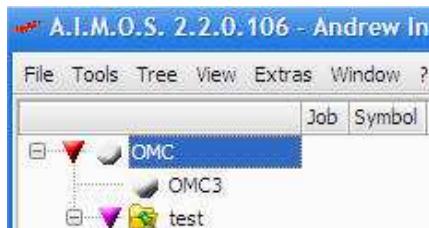
- Filter can get defined to manage the history
- Combinations of different conditions are possible
- Save and load filter conditions

The screenshot shows the A.I.M.O.S. software interface with the 'Supervision' tab selected. Below it, the 'Alarm Settings' tab is also selected. A message at the top states: "Changes on this page are saved immediately". Under the heading "Alarm Representation", there are four configuration items:

Audible Alarm Notification	<No Alarm Sound>
Show Alert Box	Always
Show Alert Cause	Any new alarm
Show Alarm List in Severity Colors	<input checked="" type="checkbox"/>

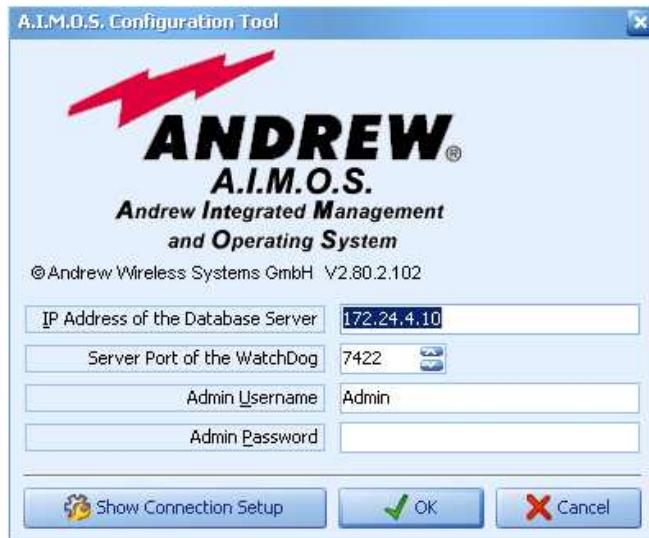
Alarm Settings:

- General alarm settings of A.I.M.O.S.



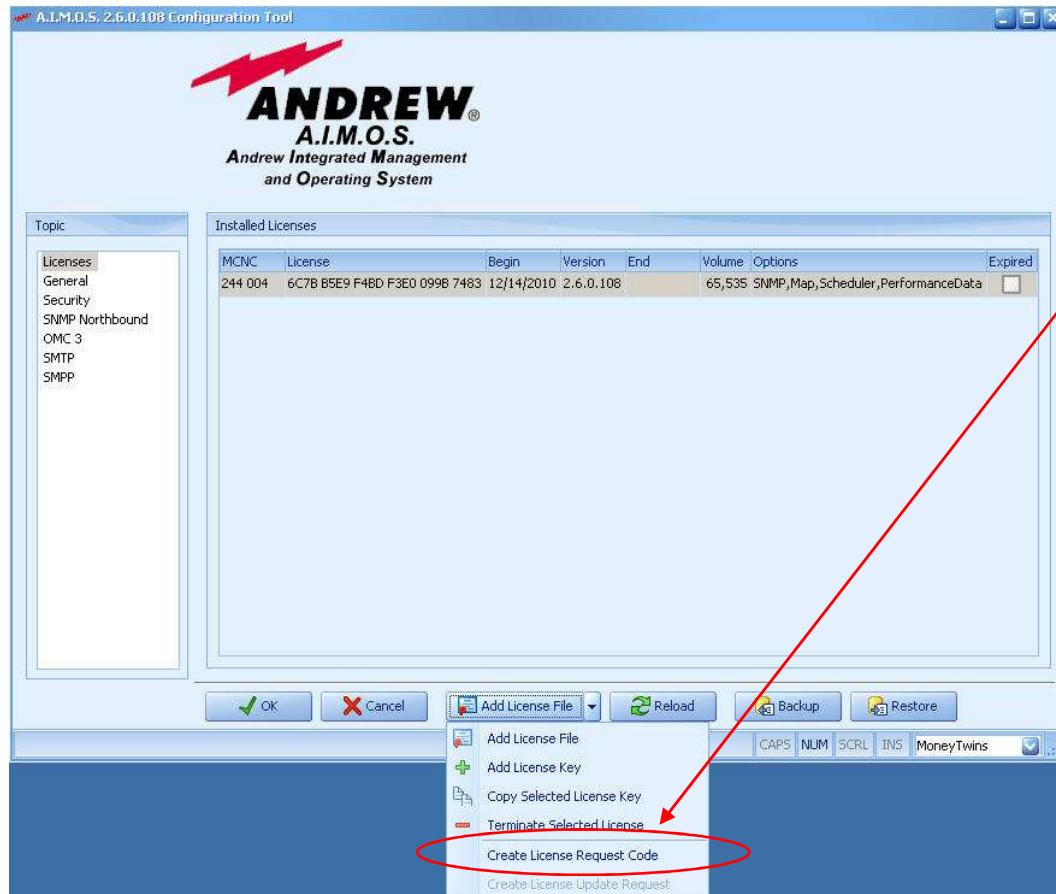
Note: OMC must be marked to select Alarm Settings.

Server Configuration - Andrew Wireless Solutions



A.I.M.O.S. Configuration Tool:

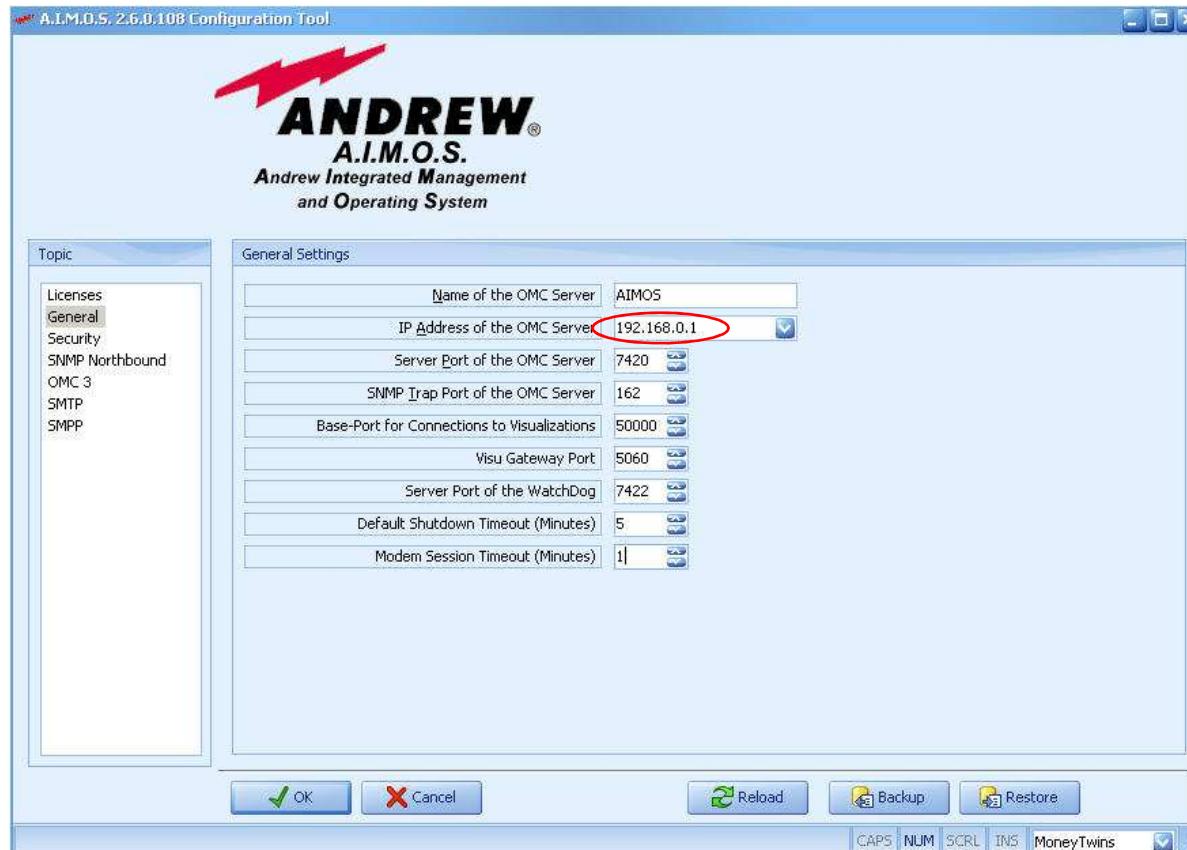
- IP Address: 127.0.0.1 (local host, if client and server is on the same machine)
- Server Port: 7422 (default)
- Username: Admin (default)
- Passwort: start (default)



Create License Request Code:
License Request Code
is needed to request full license

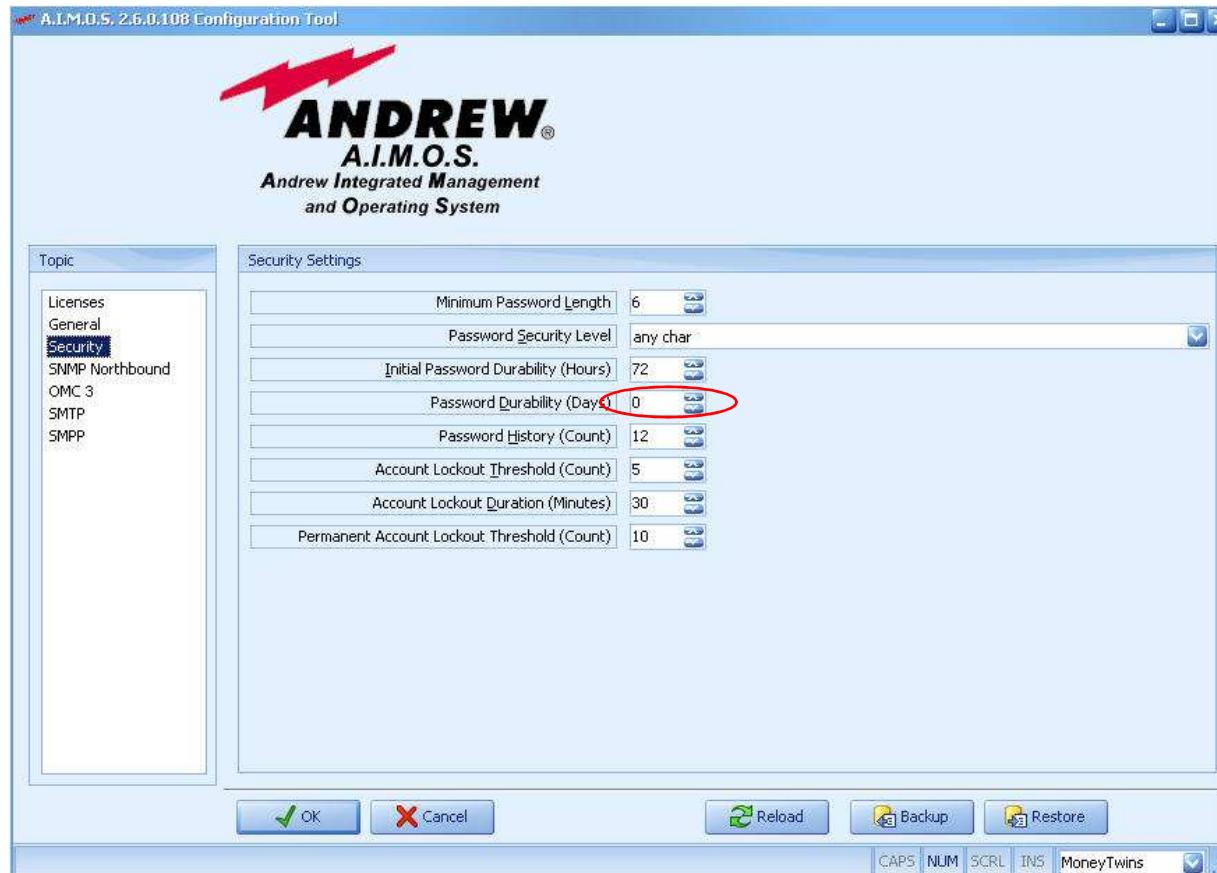
Note: Since A.I.M.O.S. V2.12
no License Request Code
is needed





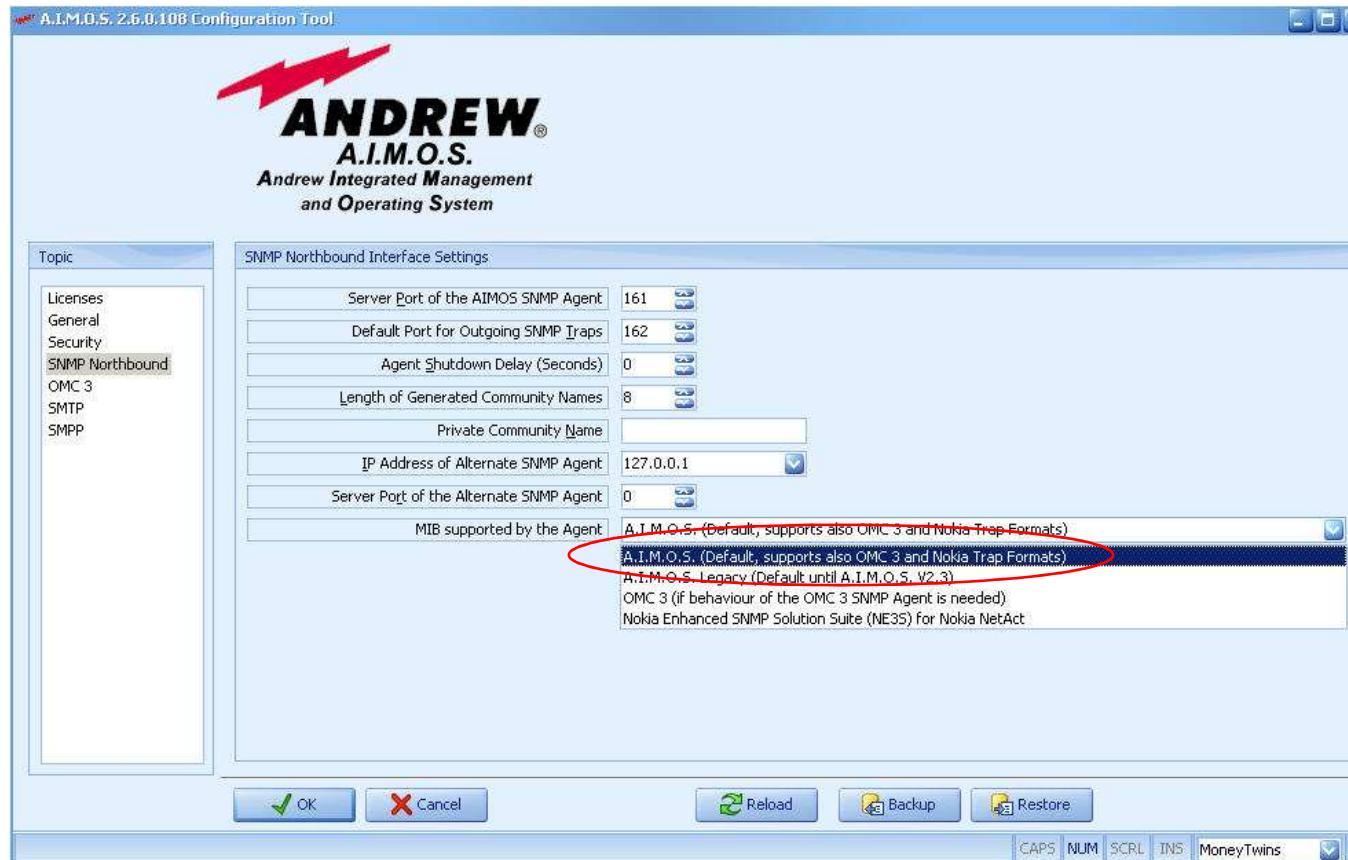
IP address of RAS service (incoming)

Default: 192.168.0.1

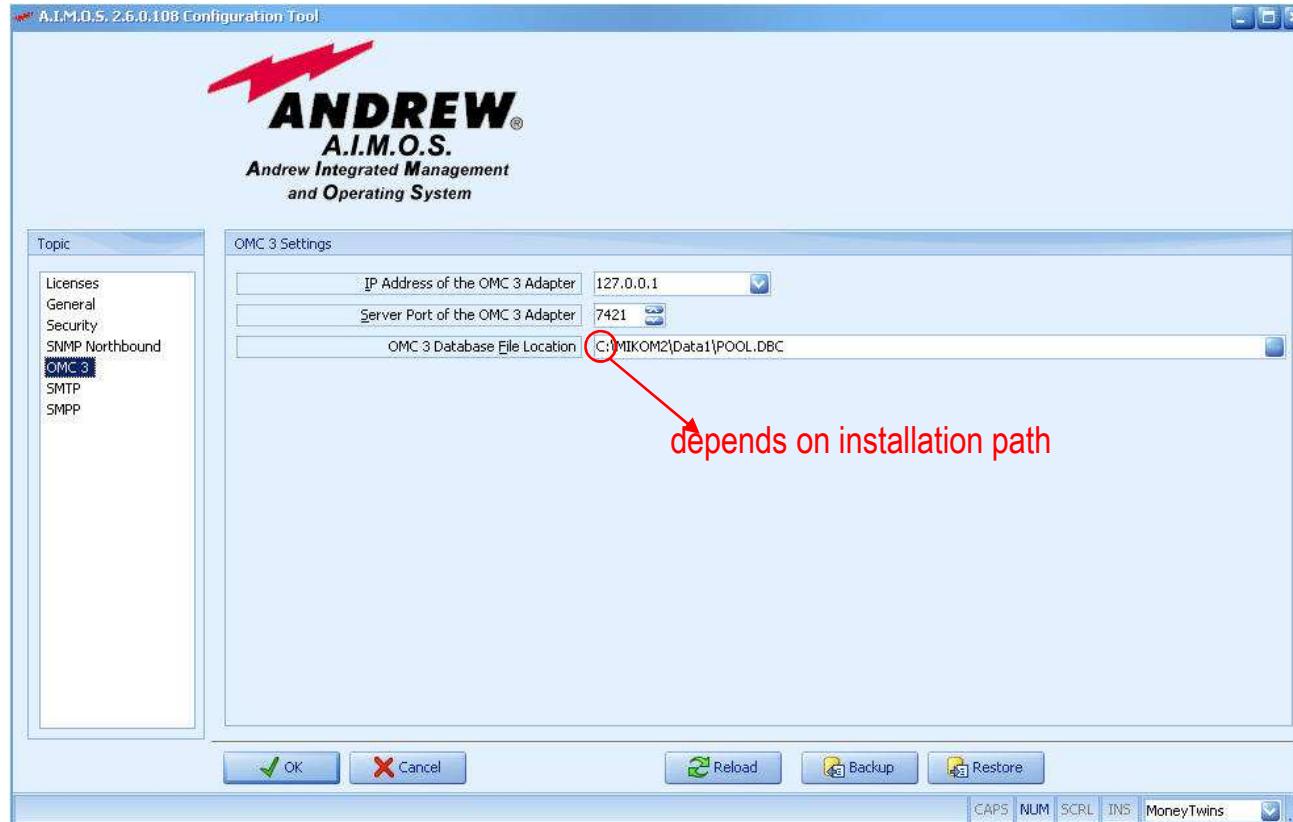


Note: Password Durability = 0 means never expires

A.I.M.O.S. Server Configuration – Northbound COMMSCOPE®



- Select MIB which is supported by umbrella system. restart services



- IP address of the OMC 3 Adapter:
127.0.0.1 (if OMC 3 is located on the same machine)



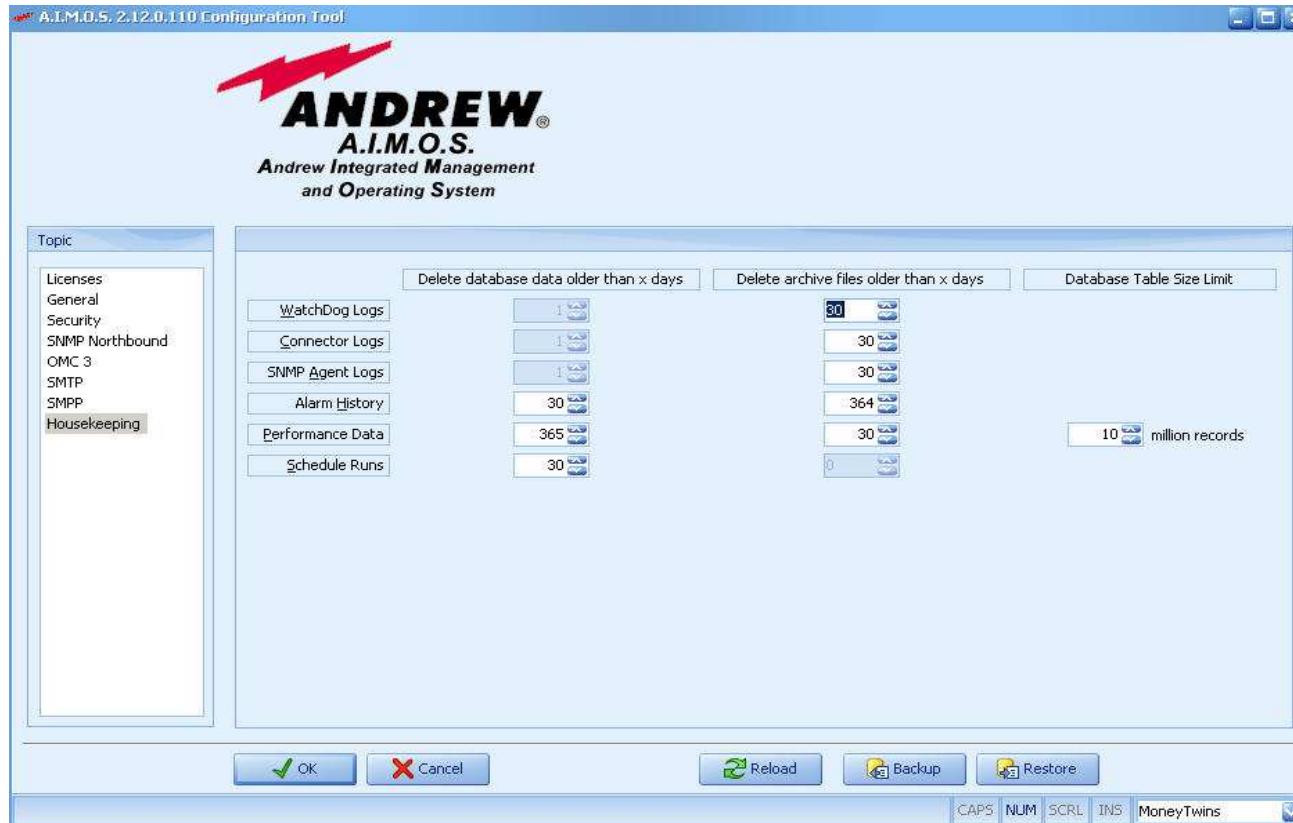
Alarming via SMTP:

- Definition of mail receiver for all alarms



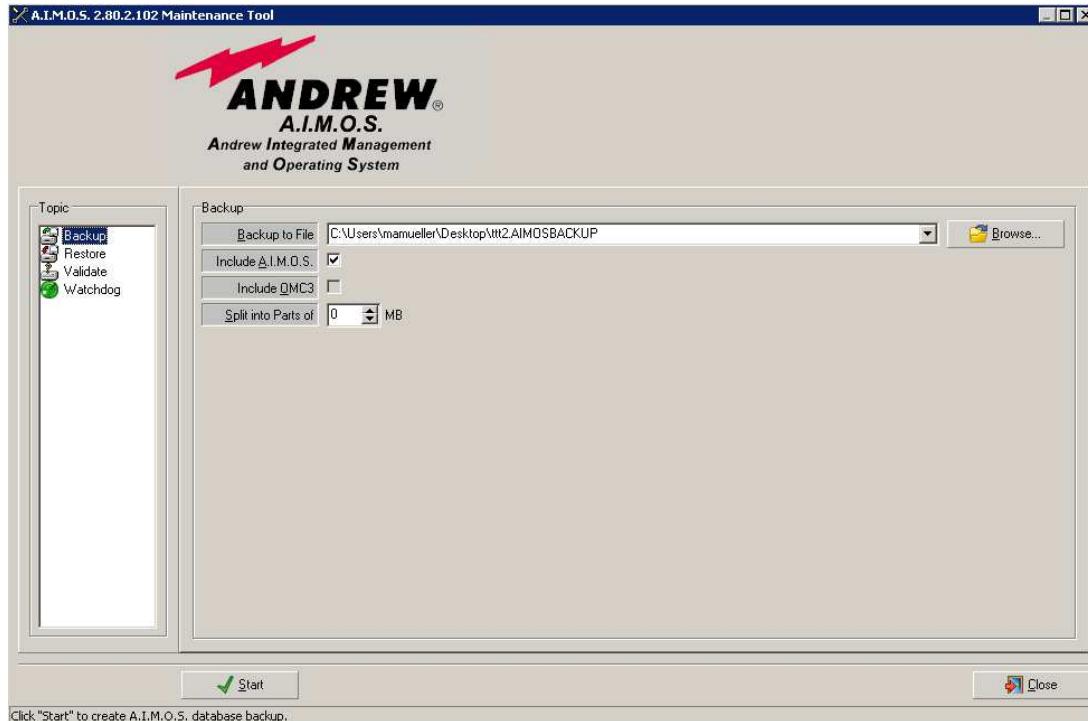
Short Message Peer to Peer protocol SMPP (V3.4):

- SMSC must provide a SMPP account → SMPP client



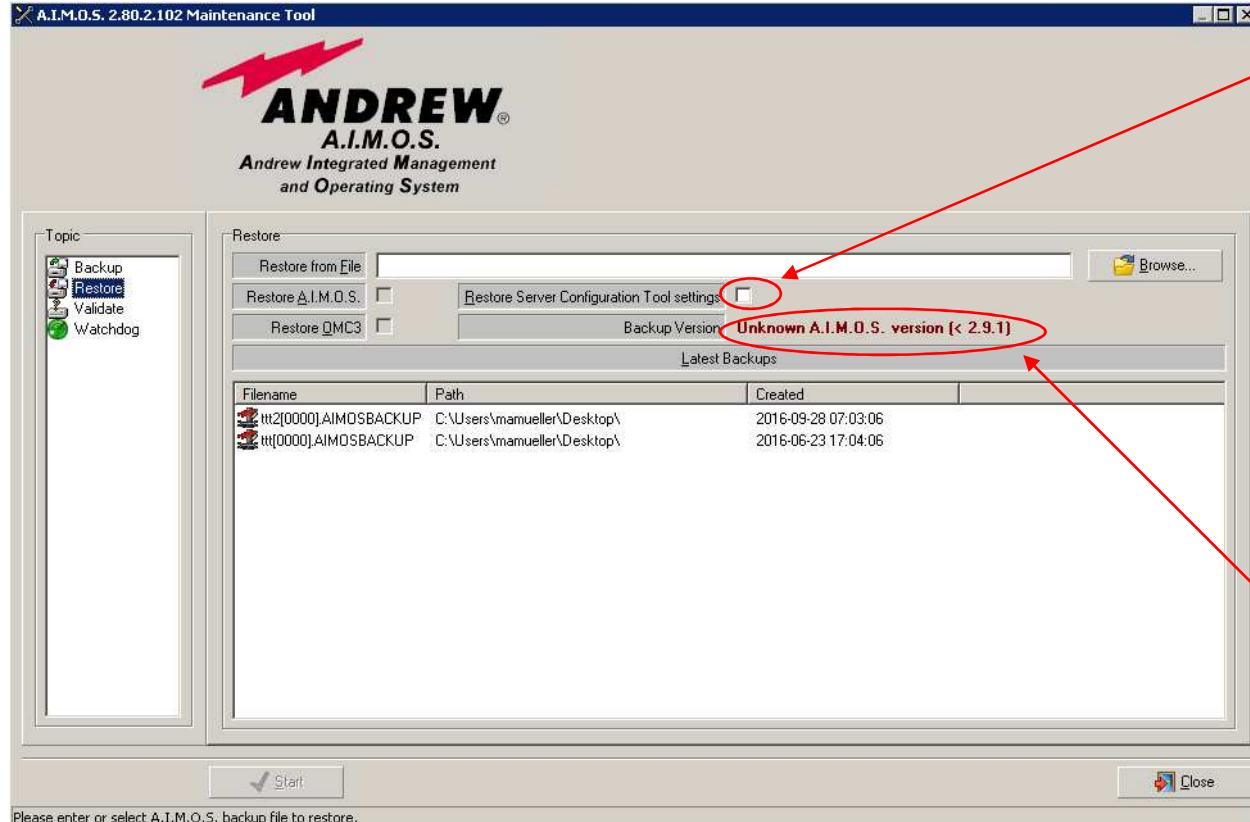
- Automatic deletion of database data and archive files
- Limitation of database size

Server Maintenance - Andrew Wireless Solutions



Backup:

- Select Path where the zip file should be stored
- Choose A.I.M.O.S. and/or OMC 3 database for backup
- Split the backup file into parts of X MB (*0MB for one single file*)



Restore:

- Restore of A.I.M.O.S. and/or OMC 3 database

Important:

Restore Registry
only if backup is from
the same machine.

Note:

Since A.I.M.O.S. V2.9.1:
Name A.I.M.O.S.BACKUP

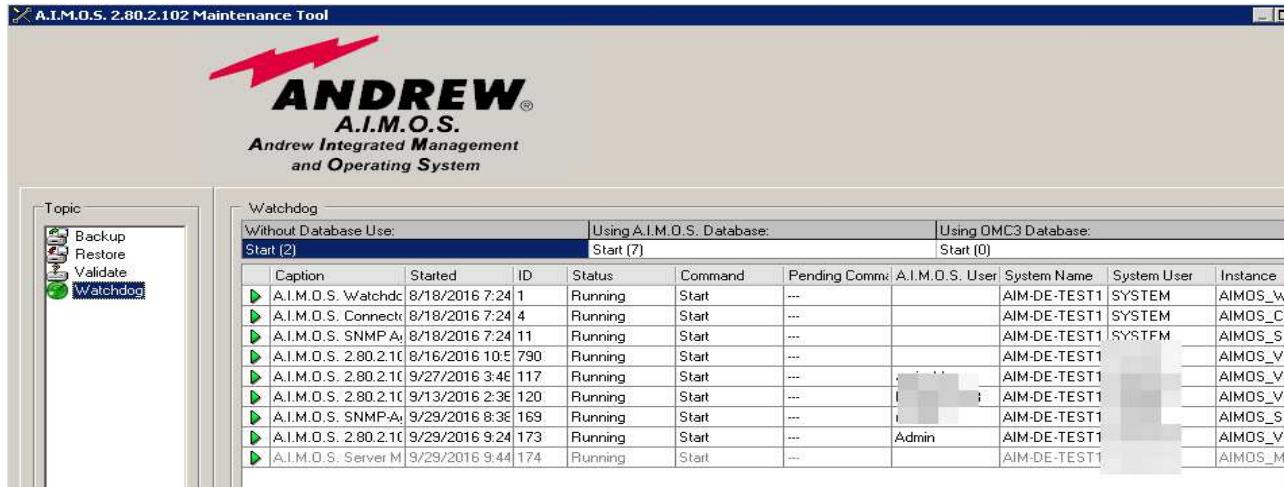
Important:

Backup Version must
match exactly with
A.I.M.O.S. server
version.



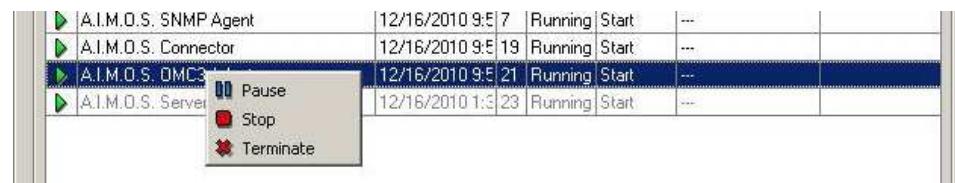
Validate:

- Validate A.I.M.O.S. and/or OMC 3 database



WatchDog service:

- Manage A.I.M.O.S. dependent services and OMC3 applications

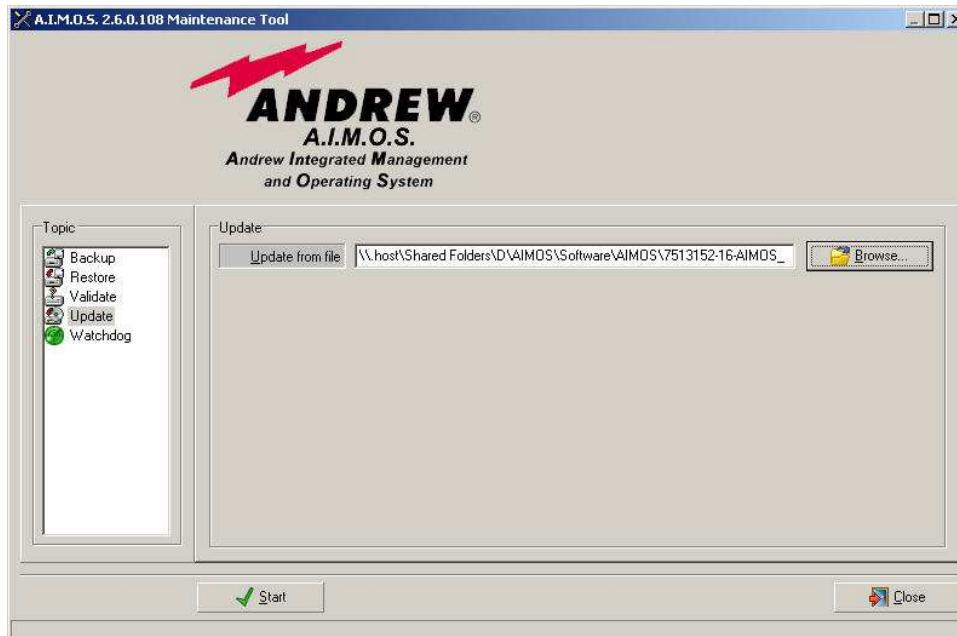


- Pause service
- Stop service
- Terminate service

Update:

Update A.I.M.O.S. server application. Please read manual first! .zip file required

- > V2.12.0 must be updated to V2.12.0.110 using Maintenance Tool
- V2.12.0 - V2.15.0 must be updated to V2.15.1.105 using Maintenance Tool

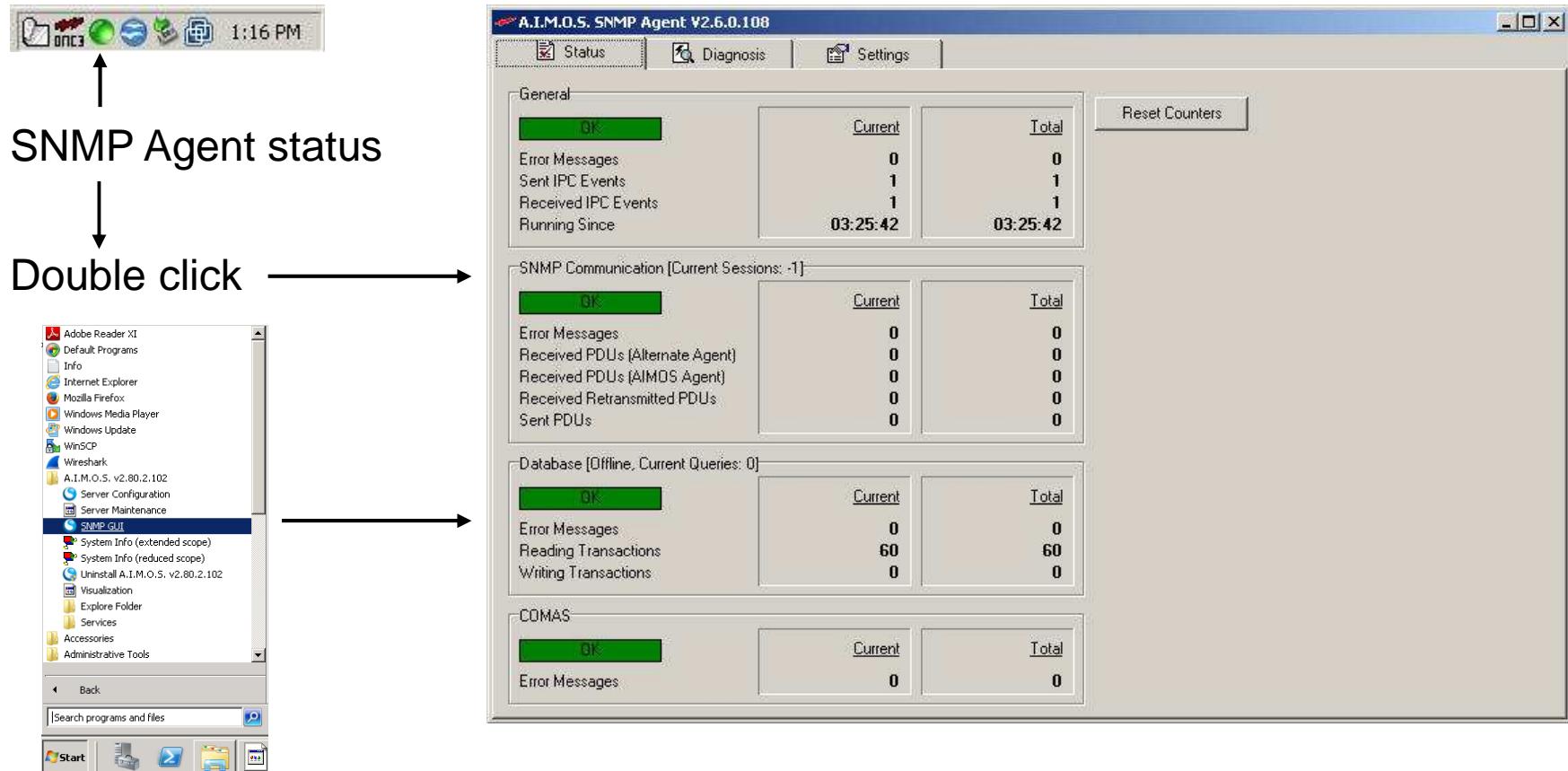


- V2.15.1.102 can be updated to V2.80.x and higher by executing AIMOS_Setup.exe

A.I.M.O.S. Log files - Andrew Wireless Solutions

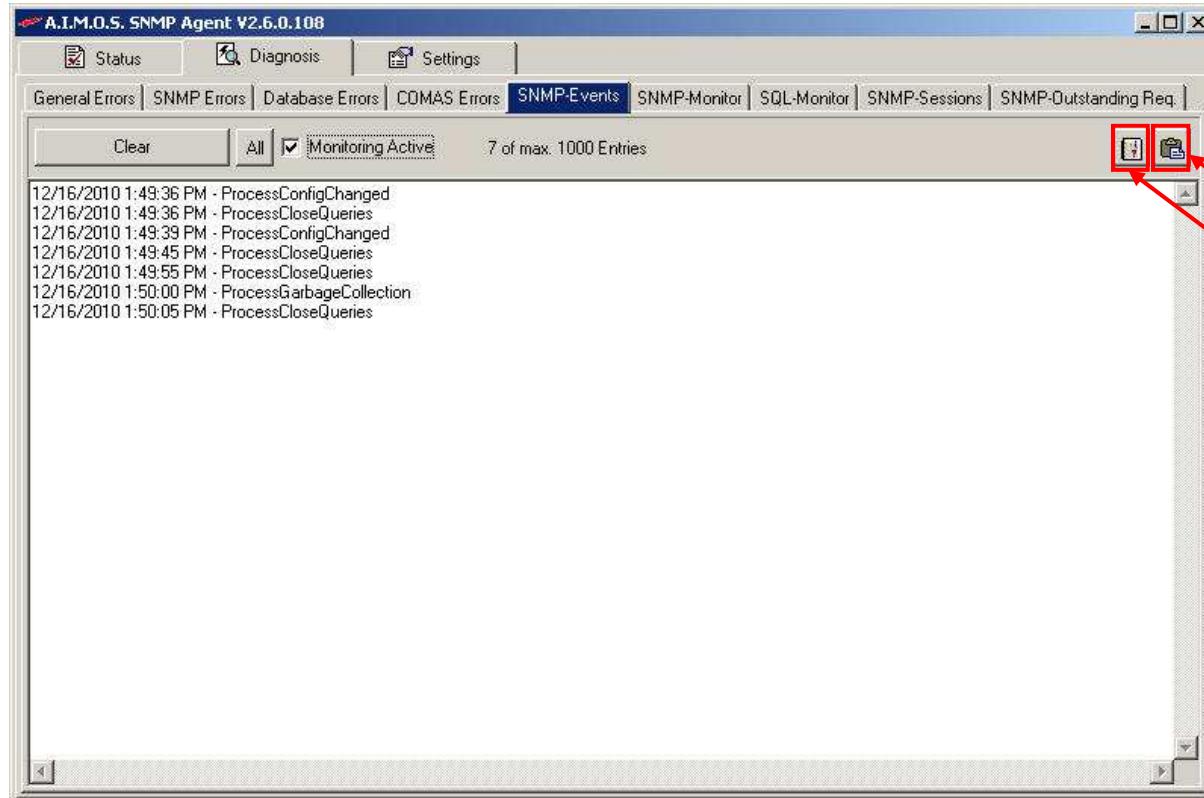
A.I.M.O.S. Server Log – SNMP Agent Status

COMMSCOPE®



SNMP Agent:

- Status of SNMP Agent, green = ok

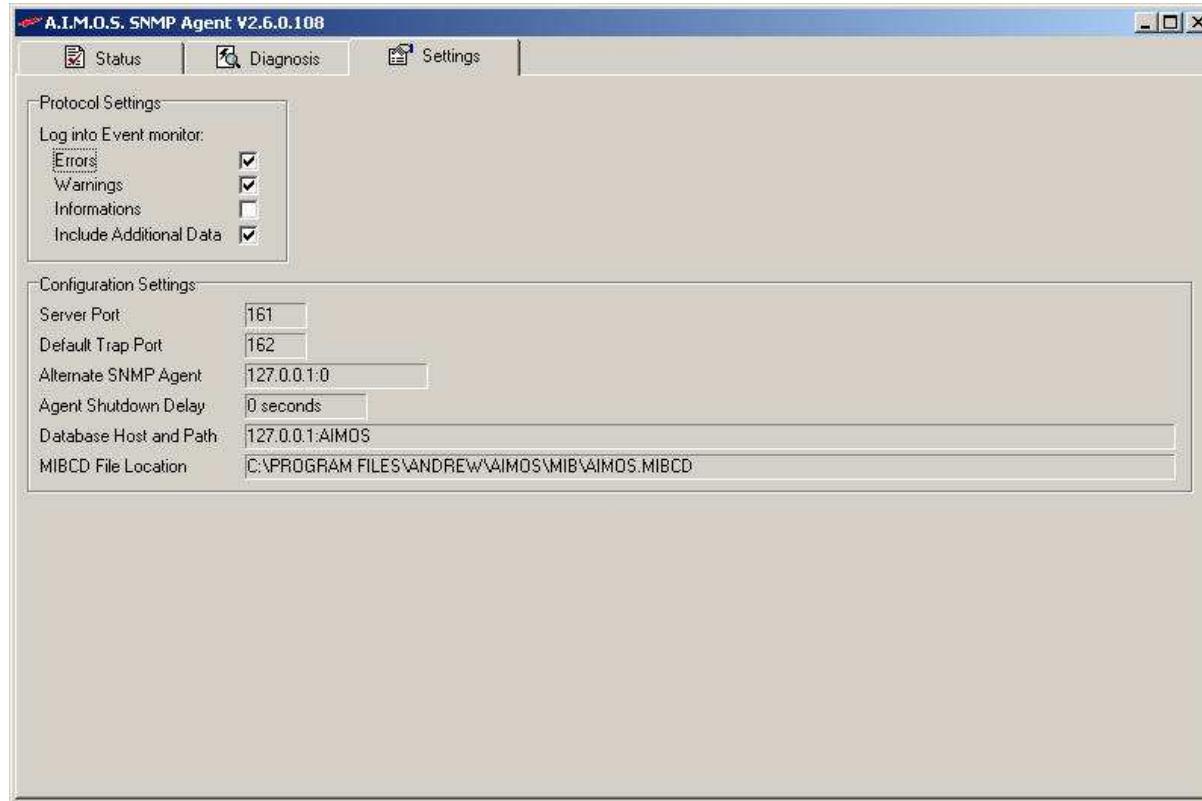


Link to Event Viewer
Copy text to clipboard

SNMP Agent diagnosis:

- Diagnosis and management of SNMP log files

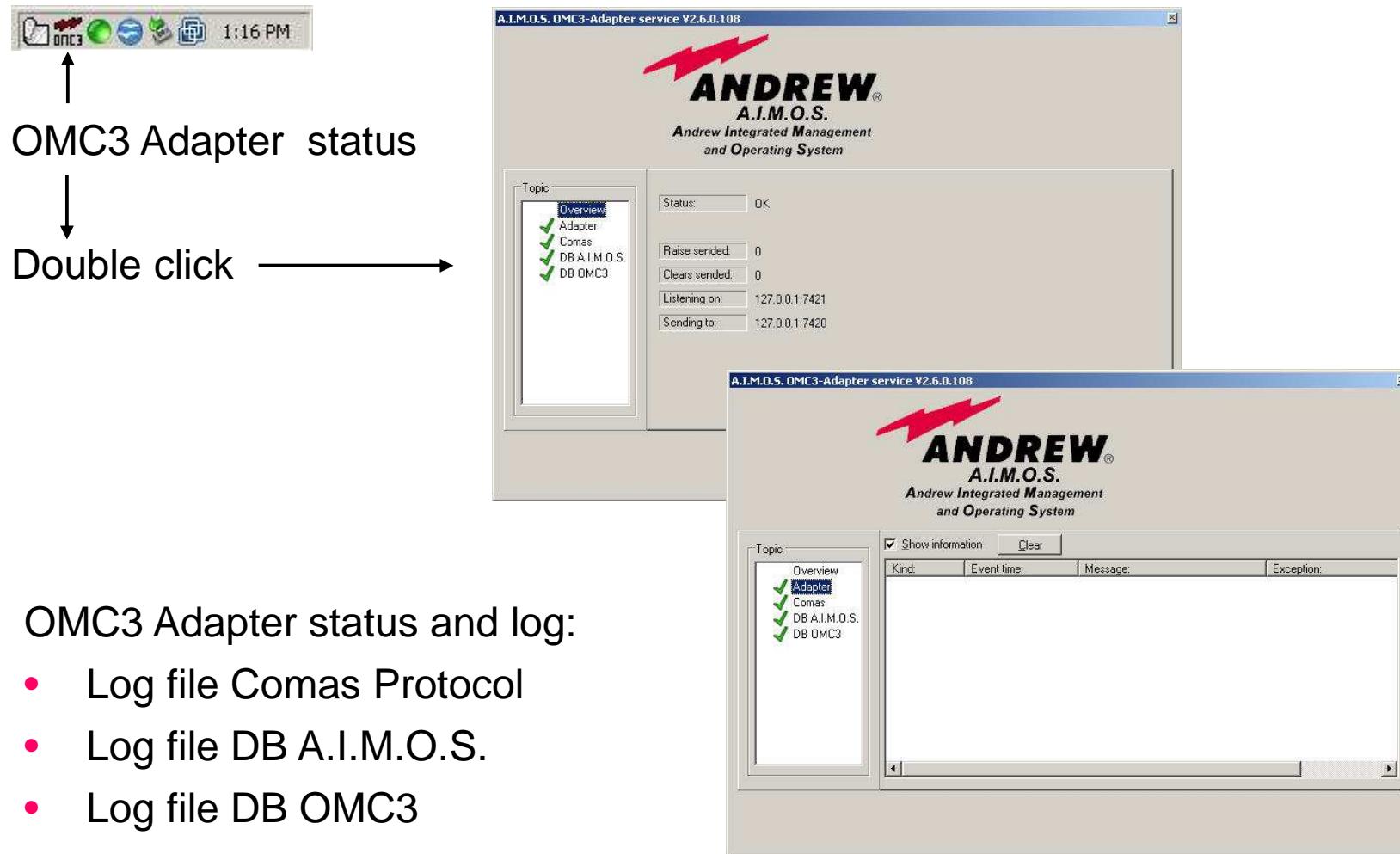
A.I.M.O.S. Server Log – SNMP Agent settings



SNMP Agent Log settings:

- Protocol settings

A.I.M.O.S. Server Log – SNMP Agent settings



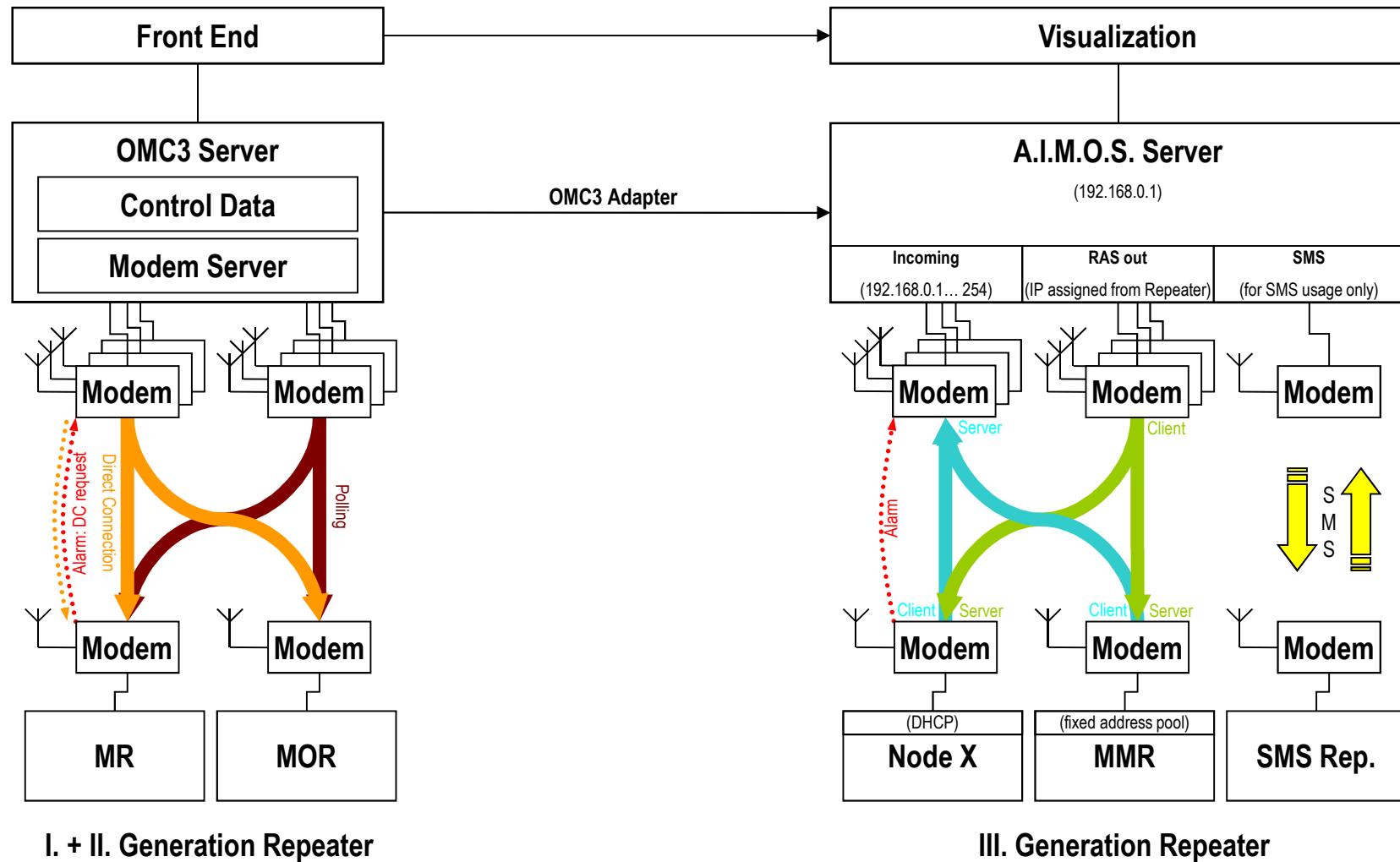


A.I.M.O.S. System Information:

- Creates detailed Log File for trouble shooting

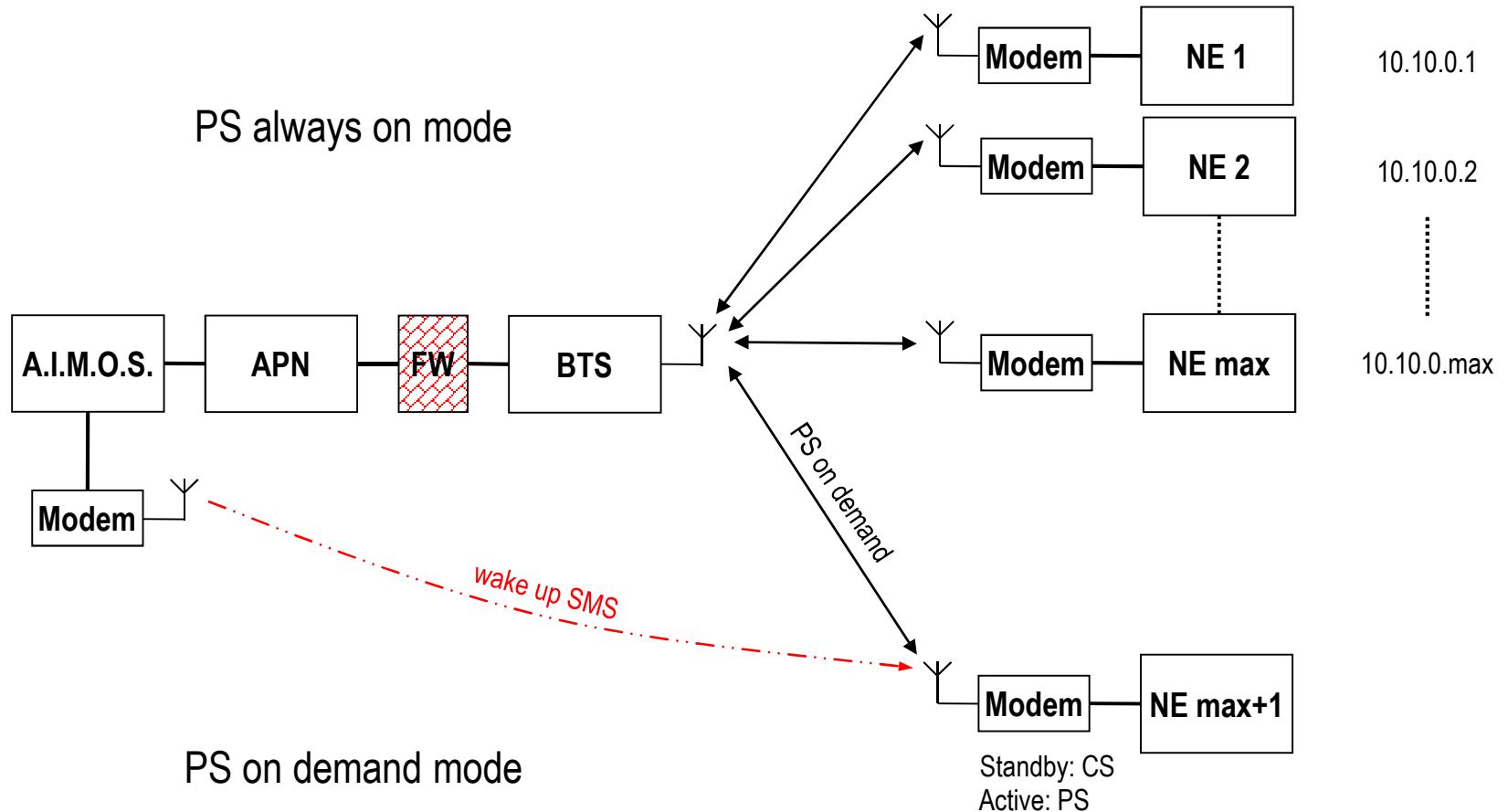
Connectivity - Andrew Wireless Solutions

A.I.M.O.S. Circuit Switch Connectivity

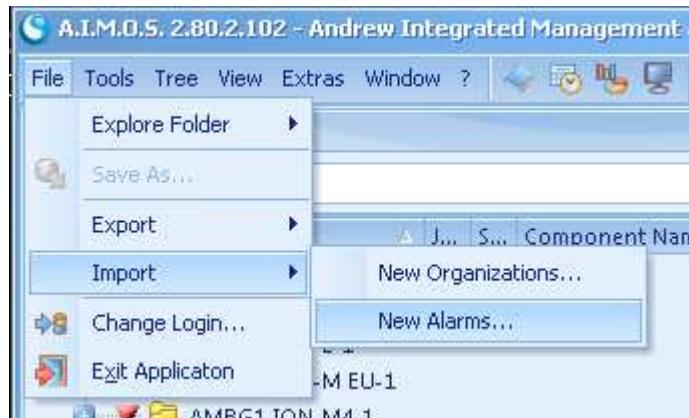


A.I.M.O.S. Packet Switch Connectivity

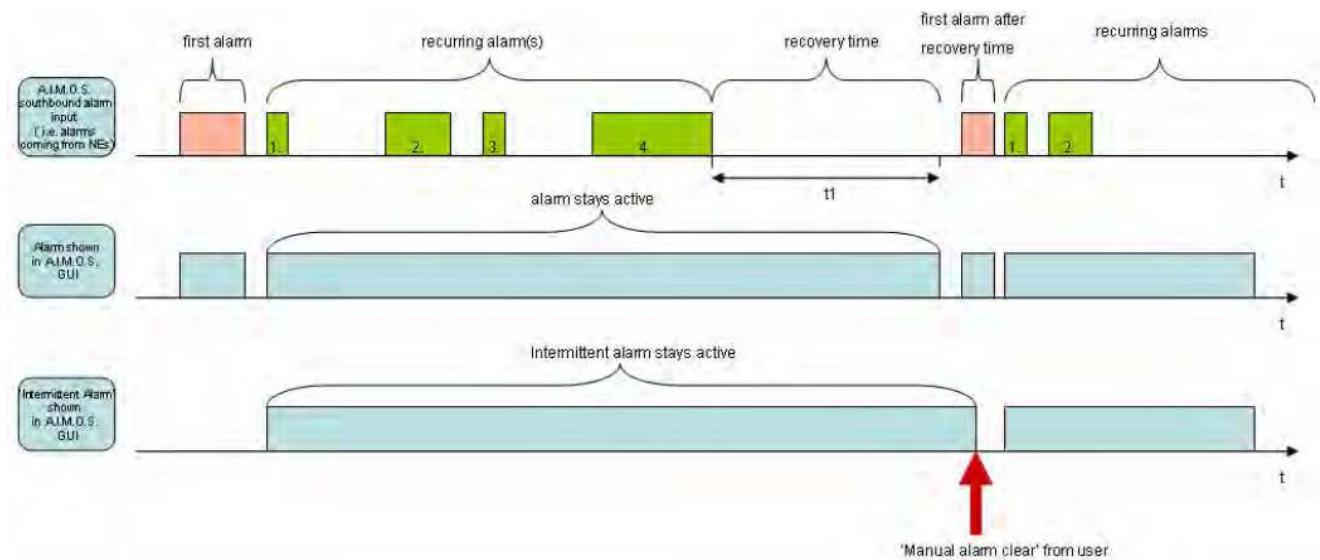
COMMSCOPE®

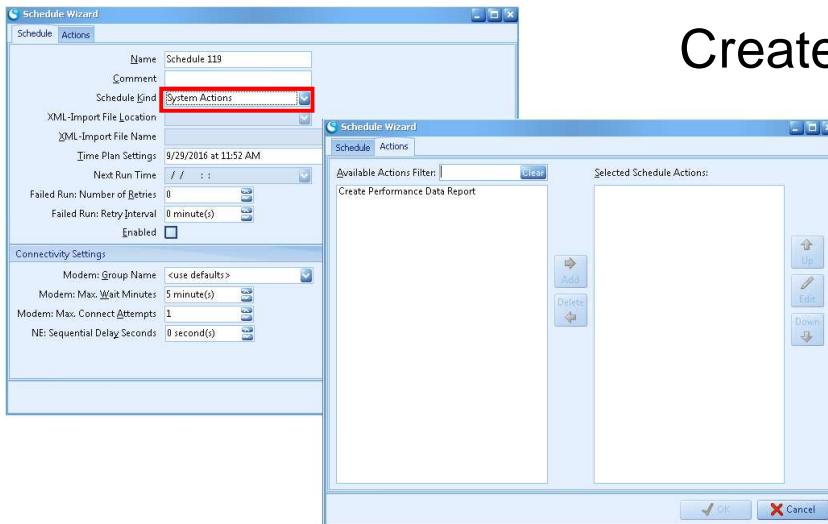


Advanced - Andrew Wireless Solutions



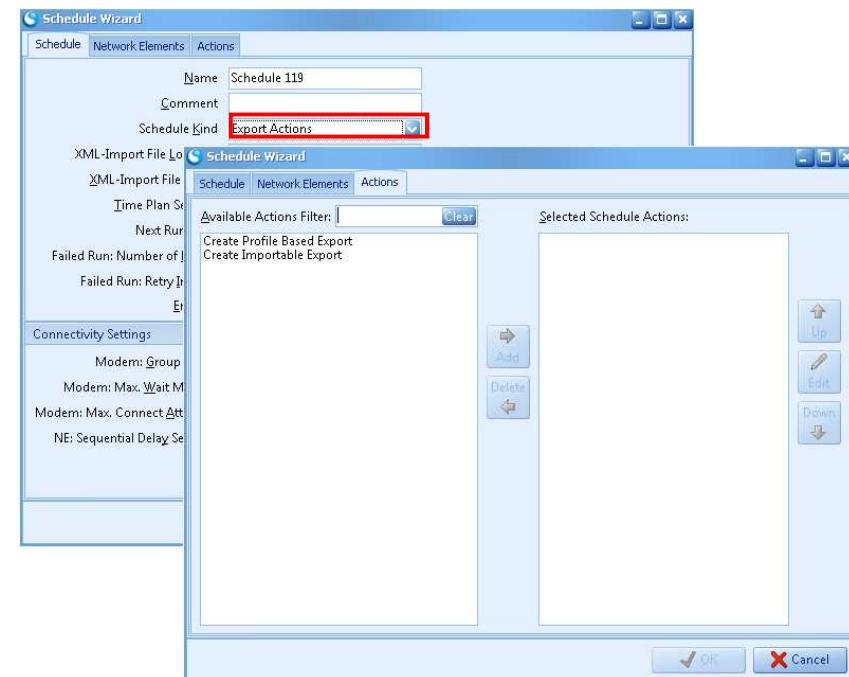
System Intermittent Alarm





Create Performance Data Report

It is possible to create chart periodically and sent it via email or store it on HDD

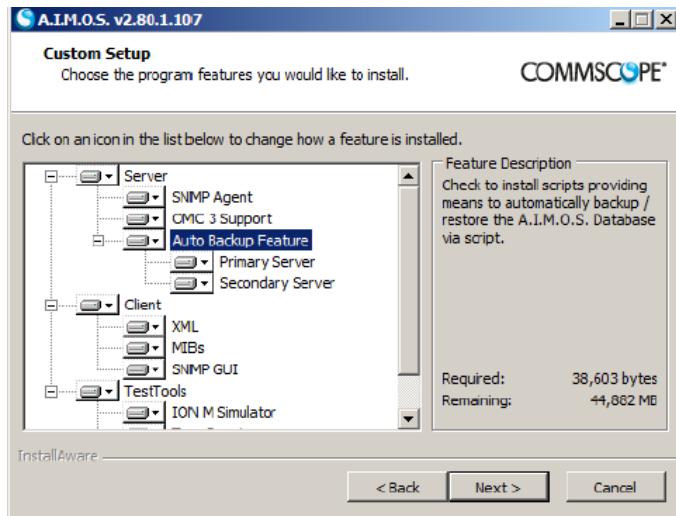


Create Profile Based Export

It is possible to export periodically data from database (xml or xls)

Create Importable Export

It is possible create XML file with configuration data



Autobackup/Autorestore Function

- Available with V2.80.x and higher
- Backup only & Cold Standby possible

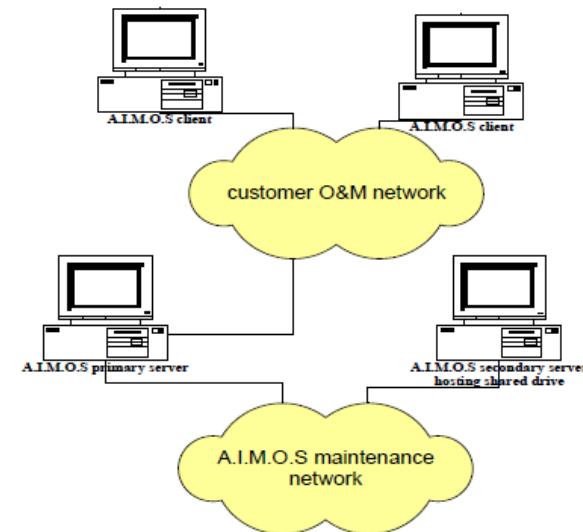


figure 2-4 A.I.M.O.S. cold standby configuration

How can we help you?

