8. SNMP IPv6 for ATS

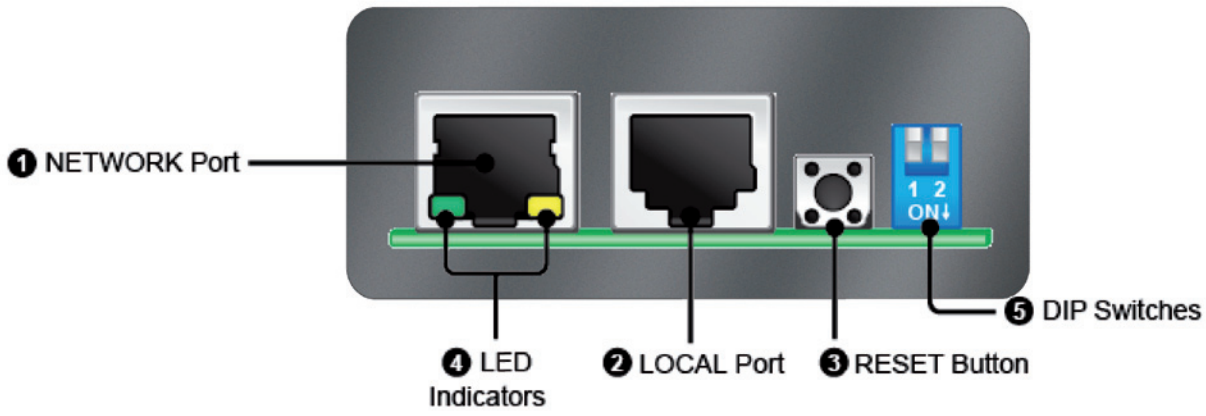
8.1 Introduction of SNMP IPv6 for ATS

The SNMP IPv6 for ATS, hereafter referred to as SNMP IPv6, is built in the ATS and is a device that provides an interface between the ATS and a network. It communicates with the ATS, acquires its information and remotely manages the ATS via a network system. The SNMP IPv6 supports public protocols including SNMP and HTTP. You can effortlessly configure this SNMP IPv6 using a network system and easily obtain your ATS's status and manage your ATS via the SNMP IPv6.

8.2 SNMP IPv6 Features

- **Network ATS management**
  Allows remote management of the ATS from any workstation through Internet or Intranet.
- **Remote ATS monitoring via SNMP & HTTP**
  Allows remote monitoring of the ATS using SNMP NMS, Delta MIB (Management Information Base) or a Web Browser.
- **ATS and system function configuration from any client (password protected)**
  Sets the ATS and system parameters through a Web Browser.
- **Event logs & metering data keeping**
  Provides a history data of the ATS's power events, power quality and status.
- **Other features and supported protocols include:**
  - User notification via SNMP Traps and e-mail
  - Network Time Protocol
  - Telnet configuration
  - BOOTP / DHCP
  - HTTPS, SSH, SFTP and SNMPv3 security protocols
  - RADIUS (Remote Authentication Dial In User Service) login and local authentication
  - Remote event log management through syslog
  - IPv6 Ready Logo certified (ID 02-C-000624).

8.3 Front view of SNMP IPv6



8. SNMP IPv6 for ATS

8.4 Console Management

You can manage the SNMP IPv6 through the "LOCAL" port. Please use an RJ45 to DB9 cable to connect the SNMP IPv6's "LOCAL" port and your workstation's COM port. Make sure both of the DIP switches are set to the OFF position (normal mode).The baud-rate of the workstation's COM setting should be 2400 bps.

Web Card Main Menu

```
+========================+
|   Web Card Main Menu   |
+========================+
Web Card Version 01.12.03
MAC Address 00-30-ab-26-b1-b4
[1].User Manager
[2].TCP/IP Setting
[3].Network Parameter
[4].Time Server
[5].Soft Restart
[6].Reset All To Default
[d].Device Communication
[z].Exit Without Save
[0].Save And Exit

Please Enter Your Choice =>
```

User Manager

```
+========================+
|      User Manager      |
+========================+
RADIUS
[1].RADIUS Auth:Disable
[2].Server:
[3].Secret:
[4].Port:       1812
----------------
Local Auth
    Administrator
[5].Account:    admin
[6].Password:   ********
[7].Limitation: Only in This LAN
    Device Manager
[8].Account:    device
[9].Password:   ********
[a].Limitation: Only in This LAN
    Read Only User
[b].Account:    user
[c].Password:   ********
[d].Limitation: Allow Any
[0].Back To Previous Menu

Please Enter Your Choice =>
```

TCP / IP Setting

```
+========================+
|     TCP/IP Setting     |
+========================+
[1].IPv4 Address:       10.0.10.8
[2].IPv4 Subnet Mask:   255.255.255.0
[3].IPv4 Gateway IP:    10.0.10.254
[4].IPv4 DNS or WINS IP:10.0.10.254
[5].DHCPv4 Client:      Enable
[6].IPv6 Address:       ::
[7].IPv6 Prefix Length: 0
[8].IPv6 Gateway IP:    fe80::226:5aff:fecc:fda1
[9].IPv6 DNS IP:        ::
[a].DHCPv6:             Disable
[b].Host Name(NetBIOS): INSIGHTPOWER
[c].System Contactor:
[d].System Location:
[e].Auto-Negotiation:   Enable
[f].Speed:              100M
[g].Duplex:             Full
[h].Status Stable:      3
[i].Telnet Idle Time:   60 Seconds
[0].Back To Previous Menu

Please Enter Your Choice =>
```

Network Parameter

```
+========================+
|   Network Parameter    |
+========================+
[1].HTTP Server:        Enable
[2].HTTPS Server:       Enable
[3].Telnet Server:      Enable
[4].SSH/SFTP Server:    Enable
[5].FTP Server:         Disable
[6].Syslog:             Disable
[7].HTTP Server Port:   80
[8].HTTPS Server Port:  443
[9].Telnet Server Port: 23
[a].SSH Server Port:    22
[b].FTP Server Port:    21
[c].Syslog Server1:
[d].Syslog Server2:
[e].Syslog Server3:
[f].Syslog Server4:
[g].SNMP Get,Set Port:  161
[0].Back To Previous Menu

Please Enter Your Choice =>
```

8. SNMP IPv6 for ATS

Time Server

```
+========================+
|       Time Server      |
+========================+
[1].Time Selection:     SNTP
[2].Time Zone:          +8 hr
[3].1st Time Server:    172.16.1.86
[4].2nd Time Server:
[5].Manual Date:        07/01/2011 (MM/DD/YYYY)
[6].Manual Time:        09:02:10 (hh:mm:ss)
[0].Back To Previous Menu

Please Enter Your Choice =>
```

Soft Restart

```
+========================+
|   Web Card Main Menu   |
+========================+
Web Card Version 01.12.03
MAC Address 00-30-ab-26-b1-b4
[1].User Manager
[2].TCP/IP Setting
[3].Network Parameter
[4].Time Server
[5].Soft Restart
[6].Reset All To Default
[d].Device Communication
[z].Exit Without Save
[0].Save And Exit

Please Enter Your Choice => 5


The Web Card Will Restart.
Are You Sure? [Y]es/[N]o =>
```

Device Communication

You can enter the ATS Command Mode below by selecting Device Communication.

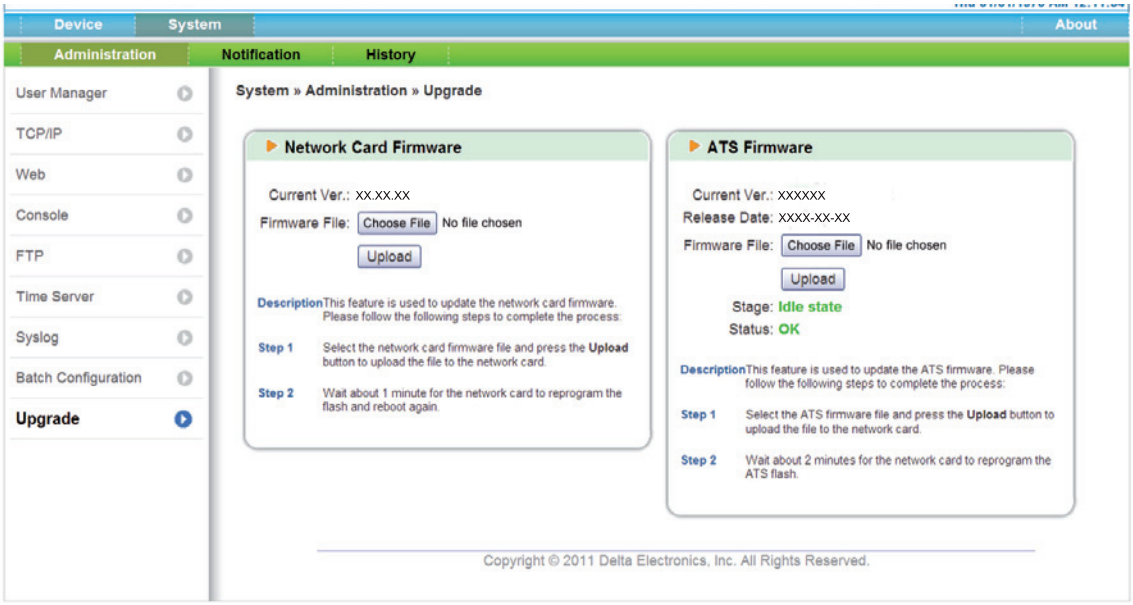
```
ATS> Vs1
216.8
ATS> Vs2
217.9
ATS> Iout
8.1
ATS> Vout
217.1
ATS> Vbp2s
180.0
ATS> Vbs2p
180.0
ATS> Tdp2s
12.0
ATS> Tds2p
12.0
ATS> TempF
96
ATS> TempC
36
ATS> Age
1075878
ATS> Time
13:37:24 07/18/2011
ATS> XCount
4402
ATS> Prefer
S1
ATS> DevID
12345678901234567890
ATS> Serial

ATS> Tprev1
13:35:16 07/18/2011
ATS> Event1
0x0029
ATS> Log
10
ATS> Log 1
13:35:16 07/18/2011 0x0029
ATS>

ATS> SetDevID 1234567890abcdefghijklmn

ATS> DevID
12345678901234567890
ATS> SetDevID 1234567890abcdefghij

ATS> DevID
1234567890abcdefghij
ATS>
```

8. SNMP IPv6 for ATS

8.5 Upgrade

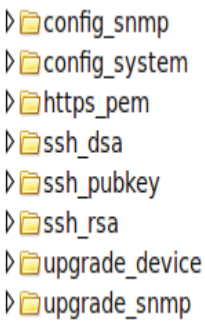
- **Upgrade via Web**

You can upgrade the SNMP IPv6's firmware or the ATS's firmware through the SNMP IPv6 for ATS Web (please see the following figure). The SNMP IPv6 will restart after finishing self-upgrade. If you upload the ATS's firmware to the Web, you can see the ATS's firmware upgrade progress from the Web.



- **Upgrade via FTP/ SFTP**

You can also upgrade the SNMP IPv6's firmware or the ATS's firmware by using FTP or SFTP program. Make sure you upload correct images to upgrade_snmp when upgrading SNMP IPv6's firmware, and upload correct images to upgrade_device when upgrading the ATS's firmware.



8.6 ATS Command Settings

Command	Description	Parameter	Response
TempF	Report internal ATS fahrenheit temperature.		#
TempC	Report internal ATS celsius temperature.		#
Age	Report internal ATS age.		#
Time	Report present time.		hh:mm:ss MM/DD/YYYY
XCount	Report number of times that ATS has transferred.		#
Serial	Report the unit's serial number.		<Device serial string>
DevID	Report the unit's device ID.		<Device ID string>
Prefer	Report the preferred source.		S1 or S2
Sens	Report the sensitivity.		hi or low
Mode	Report the operation mode.		Initialization Diagnosis Off S1 S2 Safe Fault
Vout	Report the output voltage.		#.#
Iout	Report the output current.		#.#
Vs1	Report the primary voltage.		#.#
Vs2	Report the secondary voltage.		#.#
Fs1	Report the primary frequency.		#.#
Fs2	Report the secondary frequency.		#.#
Vtp2s	Report the primary to secondary trip voltage.		#.#
Vts2p	Report the secondary to primary trip voltage.		#.#
Vbp2s	Report the primary to secondary brownout voltage.		#.#
Vbs2p	Report the secondary to primary brownout voltage.		#.#
Tdp2s	Report the recover time of transfer from primary to secondary.		#.#
Tds2p	Report the recover time of transfer from secondary to primary.		#.#
Mvs1	Report the max voltage of comparing cycles for primary AC blackout.		#.#
Mvs2	Report the max voltage of comparing cycles for secondary AC blackout.		#.#
Mts1	Report the max time of comparing cycles for primary AC blackout.		#.#
Mts2	Report the max time of comparing cycles for secondary AC blackout.		#.#

8. SNMP IPv6 for ATS

8.6 ATS Command Settings

Command	Description	Parameter	Response
Log	Report the event code and time of prior transfers.	1 ~ 10	hh:mm:ss MM/DD/YYYY 0x#
Tprev[1..9]	Report the time of prior transfer/event. Tprev1 is the most recent time.		hh:mm:ss MM/DD/YYYY
Event[1..9]	Report the event code for prior transfer. Event1 is the most recent event.		0x#
ClearLog	Clear event log.		
SetTime	Set the present time.	hh:mm:ss [MM/DD/YYYY]	
SetDate	Set the present date.	MM/DD/YYYY	
SetPrefer	Set the preferred source.	1 or 2	
SetDevID	Set the unit device ID.	<20 characters> alphanumeric only	
SetVtp2s	Set the primary to secondary trip voltage.	165.0 ~ 175.0	
SetVts2p	Set the secondary to primary trip voltage.	165.0 ~ 175.0	
SetVbp2s	Set the primary to secondary brownout voltage.	180.0 ~ 264.0	
SetVbs2p	Set the secondary to primary brownout voltage.	180.0 ~ 264.0	
SetTdp2s	Set the recover time of transfer from primary to secondary.	12.0 ~ 1800.0	
SetTds2p	Set the recover time of transfer from secondary to primary.	12.0 ~ 1800.0	
SetMvs1	Set the max voltage of comparing cycles for primary AC blackout.	30 ~ 50	
SetMvs2	Set the max voltage of comparing cycles for secondary AC blackout.	30 ~ 50	
SetMts1	Set the max time of comparing cycles for primary AC blackout.	2.0 ~ 4.0	
SetMts2	Set the max time of comparing cycles for secondary AC blackout.	2.0 ~ 4.0	

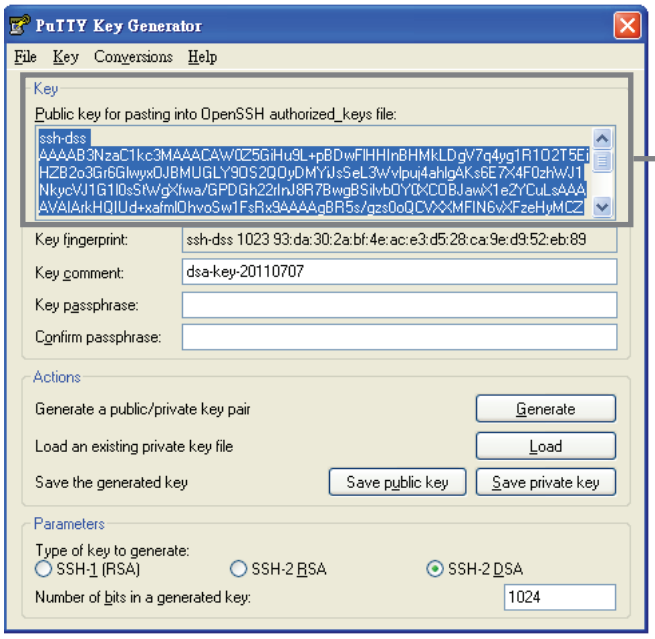
8.7 Key Generation for SSH

- **For Linux**

1. Please download and install OpenSSH from http://www.openssh.org.
2. Launch shell and enter the following command to create your own keys.
   Please ignore it when prompted to provide passphrase.
   DSA Key:ssh-keygen –t dsa
   RSA Key:ssh-keygen –t rsa
3. Upload DSA and RSA key files on the web.

- **For Windows**

1. Please download and install PuTTY from http://www.putty.org.
2. Run **puttygen.exe** from the installed directory.
3. Select **SSH-2 RSA** from the Parameters area and click **Key** → **Generate key pair** to generate an RSA key.
4. Select **Conversions** → **Export OpenSSH Key** and assign a file name to the RSA key.
   Please ignore it when prompted to provide key passphrase.
5. Select **SSH-2 DSA** from the Parameters area and select **Key** → **Generate key pair** to generate a DSA key.
6. Select **Export OpenSSH Key** from **Conversions** and assign a file name to the DSA key.
   Please ignore it when prompted to provide key passphrase.
7. Upload the DSA and RSA key files to the web.



Please copy the context of public key here and paste it into a key file.