Serial Ports Server
Reference Manual

version 1.2

Conventions

To help with the reading of this reference manual, we will use the following conventions :

Bold : ACS commands. Only commands are displayed in bold font, not parameters.

Italic : Commands parameters and examples values are displayed in italic font.

```
Text box
```
All text typed during an ACS session

GRAY
Commands syntax

CONTENTS

AUDIT

Definition

Audit administration (Administrator only)

Syntax

```
AUDIT SHOW
AUDIT ADD <SYSLOG | TRAP> <REMOTE IP> <LEVEL> <TYPE>
AUDIT ADD <CONSOLE | BUFFER> <LEVEL> <TYPE>
 LEVEL : <WARNING | NOTICE | INFO | DEBUG>
 TYPE  : <AUTH | SYSTEM | ASYNC | NET | ALL>
AUDIT DELETE <SYSLOG | TRAP> <REMOTE IP> <LEVEL> <TYPE>
AUDIT DELETE <CONSOLE | BUFFER> <LEVEL> <TYPE>
AUDIT START
AUDIT STOP
AUDIT VIEW
AUDIT LAST [<NB LINES>]
```

Description

These commands enable you to create, display and delete audits

To display the list of created audits, enter :

```
ROOT>> audit show
```

To create an "**auth**" audit on a remote machine, type :

```
ROOT>> audit add syslog 192.168.1.120 warning auth
```

The machine *192.168.1.120* will display audit thanks to its syslogd daemon. You can replace the **syslog** option by the **trap** option if you want to display the audit with the trap daemon..

The audit levels are

warning	Minimum (displaying of errors messages).
notice	Like **warning** level but there are messages about ACS's activity.
info	Like **notice** level with more detailed messages about the running process.

warning	Minimum (displaying of errors messages).
debug	All existing messages with maximum details.

The audit types are :

auth	Messages about authentication.
system	Messages about system parameters (DHCP, RADIUS, save, ...).
async	Messages about asynchronous ports.
net	Messages about network.
all	All preceeding types.

To create an **async** audit on your console, enter :

```
ROOT>> audit add console info async
```

To send a **system** audit in a file, type :

```
ROOT>> audit add buffer info system
```

To display all the audit file, type :

```
ROOT>> audit view
```

If you want to display the last fiftheen lines, enter,:

```
ROOT>> audit last 15
```

To delete created audits, type :

```
ROOT>> audit delete syslog 192.168.1.120 warning auth
ROOT>> audit delete console info async
ROOT>> audit delete buffer info system
```

To stop audits but not delete them, type :

```
ROOT>> audit stop
```

To start audits stopped with the **audit stop** command or after rebooting of the ACS, enter
:

```
ROOT>> audit start
```

DHCP

Definition

Managment of DHCP client and DHCP relay (Administrator only)

Syntax

DHCP CLIENT MODE < DHCP | BOOTP | NONE>
DHCP CLIENT SERVER < SERVER IP ADDRESS >
DHCP CLIENT SHOW
DHCP CLIENT TIMEOUT < TIMEOUT IN SECONDS >
DHCP RELAY ENABLE < YES | NO >
DHCP RELAY <SERVER1 | SERVER2> < IP ADDRESS >

Description

The **dhcp relay** commands enables you to define and activate the DHCP relay option. If your DHCP server has an IP address of 192.168.1.1, the command will be the following :

```
ROOT>> dhcp relay server1 192.168.1.1
```

To enable the DHCP relay, enter :

```
ROOT>> dhcp relay enable yes
```

To disable the DHCP relay, enter :

```
ROOT>> dhcp relay enable no
```

The **dhcp client mode** command enables you to select the DHCP client mode.

To activate ACS's DHCP client, enter the following command :
```
ROOT>> dhcp client mode dhcp
```

To activate the BOOTP client only, enter

```
 ROOT>> dhcp client mode bootp
```

Then, to disable DHCP (or BOOTP) client, just type this command :

```
ROOT>> dhcp client mode none
```

In default configuration, The ACS boots in DHCP client mode.

Two others commands enables that can change the DHCP configuration.

The **dhcp client server** command enables you to setup a particular DHCP server for the ACS. For example, if you want to define the *192.168.10.1* machine as the DHCP server for your ACS, just type the following command :

```
ROOT>> dhcp client server 192.168.10.1
```

In default configuration, the ACS broadcasts its DHCP request to all servers (*255.255.255.255*).

The **dhcp client timeout** command enables you to change reply timeout. In default configuration, ACS waits for the DHCP server's reply for about 30 seconds.

To change this timeout to 60 seconds, enter :

```
ROOT>> dhcp client timeout 60
```

To display current DHCP client parameters, enter :

```
ROOT>> dhcp client show
```

DOMAIN

Definition

DNS and hosts tables confirmation (Administrator only)

Syntax

```
DOMAIN SHOW
DOMAIN ADD <HOST NAME> <IP ADDRESS>
DOMAIN DELETE <HOST NAME>
DOMAIN HOSTNAME <ACS HOST NAME>
DOMAIN SERVER <SERVER1 | SERVER2> <IP ADDRESS>
DOMAIN SUFFIX <DOMAIN SUFFIX>
```

Description

The administrator uses this command to maintain a name and IP address matching table, to give the address of a DNS server and to setup a domain suffix .
To check if a name matches with an IP address, ACS firstly consults its internal hosts table. If it does not find this host, it asks the primary DNS server. If it does not answer back, ACS asks the secondary DNS server.

To add a host name *myhost*, enter :

```
ROOT>> domain add myhost.comany.com 166.7.13.25
```

To see current parameters, enter :

```
ROOT>> domain show
```

To delete a host name, enter :

```
ROOT>> domain delete jupiter
```

If the host name you want to assign to your ACS is *mynname*, enter

```
ROOT>> domain hostname myname
```

If your domain suffix name is *company.com* enter :

```
ROOT>> domain suffix comany.com
```

To define domain name server(s), enter :

```
ROOT>> domain server server1 166.72.4.10
ROOT>> domain server server2 166.72.5.10
```

EXIT

Definition

Closing an ACS shell

Syntax

EXIT

Description

This command enables the user to exit from the ACS shell. If there is at least one Telnet session active, this command is ignored.

```
ACS> exit
---------- Port 7  logout at 10:20:35 Oct 22 1993 ----------
```

This command has the same effect as <Ctrl-D>.

See also

LOGOUT

HELP

Definition

Shows all ACS commands or a specific command syntax.

Syntax

HELP [<COMMAND>]

Description

This command gives a command syntax. If you enter any invalid syntax, the help facility will automatically prompt you with the correct syntax.

To see all ACS commands, you can enter :

```
ACS> help

AUDIT     DOMAIN        EXIT      HELP
IFCONFIG  LOGOUT        NETSTAT   PASSWD
PING      RESET         ROUTE     SAVE
SERIAL    SNMP          SYSTEM    TEST
TIME      TRACEROUTE
```

If you need to know the syntax for the **exit** command, you should enter :

```
ACS> help exit
EXIT
```

The ? is an equivalent for **help** command.

IFCONFIG

Definition

Configuration and displaying of network interface parameters (Administrator only)

Syntax

IFCONFIG SHOW
IFCONFIG BROADCAST <INTERFACE> <BROADCAST ADDRESS>
IFCONFIG IP <INTERFACE> <IP ADDRESS>
IFCONFIG MTU <INTERFACE> <MTU SIZE>
IFCONFIG NETMASK <INTERFACE> <MASK VALUE>

Description

This command enables the administrator to configure the ACS network parameters.
These parameters must be correctly established before making the network connection.

To view all the ACS interfaces, you can enter :

```
ROOT>> ifconfig show
eth0      Ethernet   HWaddr 00:A0:65:01:62:80
          addr:192.168.1.251  Bcast:200.1.1.255 Mask:255.255.255.0
          receive  packets:3692 errs:0 drop:0 fifo :0 frame:0
          transmit packets:225 errs:0 drop:0 fifo :0 colls:0
```

"eth0" for ETHERNET interface

To configure the ACS IP Address, enter :

```
ROOT>> ifconfig ip eth0 166.72.12.6
```

To set the network mask at 0xFFFFFF, enter :

```
ROOT>> ifconfig netmask eth0 255.255.255.0
```

To set the ACS Ethernet maximum transfer unit **(MTU)** at 1500, enter :

```
ROOT>> ifconfig mtu eth0 1500
```

To set the ACS broadcast adress at 166.72.12.255, enter :

```
ROOT>> ifconfig broadcast eth0 166.72.12.255
```

See also

ROUTE

LOGOUT

Definition

Closing an ACS shell.

Syntax

LOGOUT

Description

This command enables the user to exit from the ACS shell. If there is at least one Telnet session active, this command is ignored.

```
ACS> logout
```

See also

EXIT

MUX

Definition

Mux mode managment (Administrator only).

Syntax

```
MUX SYNC <YES | NO> [PORTS LIST]
MUX FLUSH <YES | NO> [PORTS LIST]
MUX KEEPALIVE [INTEGER] [PORTS LIST]
MUX IP [REMOTE IP ADDRESS] [PORTS LIST]
MUX PORT [REMOTE ASYNC. PORT] [PORTS LIST]
MUX DCDREDIRECT <NONE | DTR | RTS | DTR_RTS> [PORTS LIST]
MUX DSRREDIRECT <NONE | DTR | RTS | DTR_RTS> [PORTS LIST]
MUX CTSREDIRECT <NONE | DTR | RTS | DTR_RTS> [PORTS LIST]
MUX SHOW  [PORTS LIST]
MUX DELAY [INTEGER] [PORTS LIST]
MUX TRIGGER [INTEGER] [PORTS LIST]
MUX DEFAULTRTS <YES | NO> [PORTS LIST]
MUX DEFAULTDTR <YES | NO> [PORTS LIST]
MUX DEBUG <YES | NO> [PORTS LIST]
```

Description

These commands enable you to setup ACS ports in mux mode.
There are 2 different mux modes:

- TCP mux mode.
- UDP mux mode.

Options shared by both modes :

To synchronise data and signals, type :

```
ROOT>> mux sync yes 1
```

If this option is enabled (yes), you must define the signals redirection rules.

To redirect the DCD signal to the DTR signal, enter :

```
ROOT>> mux dcdredirect dtr 1
```

To redirect the DCD signal to the RTS signal, enter :

```
ROOT>> mux dcdredirect rts 1
```

To redirect the DCD signal on both DTR and RTS signals, type :

```
ROOT>> mux dcdredirect dtr_rts 1
```

To stop redirection of the DCD signal, use the following command :

```
ROOT>> mux dcdredirect none 1
```

To redirect the DSR signal on the DTR signal, type :

```
ROOT>> mux dsrdredirect dtr 1
```

To redirect the DSR signal on the RTS signal, use the following command :

```
ROOT>> mux dsrdredirect rts 1
```

To redirect the DSR signal on both DTR and RTS signals, enter :

```
ROOT>> mux dsrdredirect dtr_rts 1
```

To stop redirection of the DSR signal, enter :

```
ROOT>> mux dsrdredirect none 1
```

To redirect the CTS signal on the DTR signal, enter :

```
ROOT>> mux ctsredirect dtr 1
```

To redirect the CTS signal on the RTS signal, use the following command :

```
ROOT>> mux ctsredirect rts 1
```

To redirect the CTS signal on both DTR and RTS, enter :

```
ROOT>> mux ctsredirect dtr_rts 1
```

To stop redirection of the CTS signal, enter :

```
ROOT>> mux ctsredirect none 1
```

The following command enables you to setup a remote ACS IP address. Example with remote ACS *192.168.2.1* :

```
ROOT>> mux ip  192.168.2.1 1
```

The **mux port** command enables you to setup port number of the remote ACS. For example, if port number 2 of remote ACS must receive the connection :

```
ROOT>> mux port 2 1
```

To show the mux options of port 1,type the following command :

```
ROOT>> mux show 1
```

To set the RTS signal to on, enter :

```
ROOT>> mux defaultrts yes 1
```

To set the DTR signal to on, type :

```
ROOT>> mux defaultdtr yes 1
```

The following command enables you to trace in audit all data that forwards a mux port.

```
ROOT>> mux debug yes 1
```

WARNING : when this option is enabled, the audit size increases very fast. Be carfull when you use this command.

Options of TCP mux mode :

Flush = yes. Flush buffers when you close a mux port.
Flush = no. Waits for I/O buffers to be empty before closing a port.

Example :

```
ROOT>> mux flush yes 1
```

To check every 30 seconds if 'raw' server is 'alive', enter :

```
ROOT>> mux keepalive 30 1
```

This test increases network traffic. You should disable this option (0 seconds) if the network link betwen 'mux' client and 'raw' server is not permanent.

Options of UDP mux mode :

To define a delay of 100 micro-seconds between data reception from remote equipment and data transmission to the serial port, enter :

```
ROOT>> mux delay 100 1
```

This delay allows you to cancel latency generated by the TCP/IP network and to copy as best as possible initial delay between each character or signal state.

This delay can be used during all communication or can be triggered by a signal state. In this case, this delay is not applied when there is no more data to send to the port.
Each signal state is represented by an integer.

Permanent	0
DTR_ON	1
DTR_OFF	16
RTS_ON	2
RTS_OFF	32
DTR_ON & RTS_ON	3
DTR_ON & RTS_OFF	17
DTR_OFF & RTS_ON	18
DTR_OFF & RTS_OFF	48

To define RTS_ON state as the trigger for mux delay, enter the following command :

```
ROOT>> mux trigger 2 1
```

To come back to a permanent delay, type :

```
ROOT>> mux trigger 0 1
```

See also

SERIAL IOFLOW, SERIAL MODE

NETSTAT

Definition

Displaying of network statistics.

Syntax

NETSTAT ALL
NETSTAT ICMP
NETSTAT IP
NETSTAT UDP
NETSTAT TCP

Description

This command displays the network state. You can thus monitor statistics for each network layer, find network problems or optimize network performance. Administrator can use this function to check any ACS configuration parameters.

See also

PING, TRACEROUTE

NETSTAT ICMP

Definition

Displaying of network ICMP status

Syntax

NETSTAT ICMP

Description

```
ACS> netstat icmp
Icmp:
    InMsgs          13      InErrors        0       InDestUnreachs      13
    InTimeExcds     0       InParmProbs     0       InSrcQuenchs        0
    InRedirects     0       InEchos         0       InEchoReps          0
    InTimestamps    0       InTimestampRe   0       InAddrMasks         0
    InAddrMaskReps  0       OutMsgs         13      OutErrors           0
    OutDestUnreach  13      OutTimeExcds    0       OutParmProbs        0
    OutSrcQuenchs   0       OutRedirects    0       OutEchos            0
    OutEchoReps     0       OutTimestamps   0       OutTimestampReps    0
    OutAddrMasks    0       OutAddrMaskRe   0
```

InErrors	Number of ICMP messages with specific errors (bad length...).
InDestUnreachs	Number of ICMP "destination unreachable" messages received.
InTimeExcds	Number of ICMP "Time Exceeded" messages received.
InParamProbs	Number of ICMP "parameter problem" messages received.
InSrcQuenchs	Number of ICMP "source quench" messages received.
InRedirects	Number of ICMP redirect "messages" received.
InEchos	Number of ICMP "echo request" messages received.
InEchoReps	Number of ICMP "echo reply" messages received.
InTimestamps	Number of ICMP "timestamp request" messages received.

InTimestampReps	Number of ICMP "timestamp reply" messages received.
InAddrMasks	Number of ICMP "address mask request" messages received.
InAddrMaskReps	Number of ICMP "address mask reply" messages received.
OutMsgs	Number of ICMP send messages attempted to send.
OutErrors	Number of ICMP cannot be sent due to ICMP internal problems.
OutDestUnreachs	Number of ICMP " destination unreachable" messages sent.
OutTimeExcds	Number of ICMP "exceed time" messages sent.
OutParmProbs	Number of ICMP "parameter problem" messages sent.
OutSrcQuenchs	Number of ICMP "source quench" messages sent.
OutRedirects	Number of ICMP "redirection" messages sent.
OutEchos	Number of ICMP "echo" messages sent.
OutEchoReps	Number of ICMP "echo reply" messages sent.
OutTimestamps	Number of ICMP "timestamp request" messages sent.
OurTimestampReps	Number of ICMP "timestamp reply" messages sent.
OutAddrmasks	Number of ICMP "address mask request" messages sent.
OutAddrMaskReps	Number of ICMP " address mask reply" messages sent.

NETSTAT IP

Definition

Displaying of Network IP status

Syntax

NETSTAT IP

Description

```
ACS> netstat ip
Ip:
 Forwarding       1     DefaultTTL       64        InReceives     2421
 InHdrErrors      0     InAddrErrors     0         ForwDatagrams  0
 InUnknownProtos 0      InDiscards       0         InDelivers     1968
 OutRequests     560    OutDiscards      0         OutNoRoutes    0
 ReasmTimeout     0     ReasmReqds       0         ReasmOKs       0
 ReasmFails       0     FragOKs          0         FragFails      0
 FragCreates      0
```

OutNORoutes	Number of datagrams not sent by the IP protocol. The corresponding route was not found inside the routing table.
Forwarding	1:IP routing 2:No IP routing
DefaultTTL (Time-To-Live)	Default Time To Live
InReceives	Number of received datagrams (including defects datagrams)
InHdrErrors	Number of datagrams received with no IP header errors
InAddrErrors	Number of datagrams received with no valid destination address
ForwDatagrams	Number of datagrams received and discarded with wrong IP address
InUnknownProtos	Number of datagrams received and discarded for unknown protocol
InDiscards	Number of datagrams received and discarded for unknown reasons

InDelivers	Number of datagrams received successfully and delivered to IP user-protocols (ICMP,TCP,...).
OutRequests	Number of datagrams supplied to IP protocol from high level protocols (ICMP, TCP,...)
OutDiscards	Number of datagrams transmitted and discarded for unknown reasons
ReasmTimeouts	Maximum time allocated to receive fragments before reassemble
ReasmReqds	Number of IP fragments unable to reassemble
ReasmOKs	Number of IP fragments reassembled with success
ReasmFails	Number of errors detected by the IP reassemble algorithm
FragOKs	Number of IP fragments reassembled with success
FragFails	Number of IP fragments that have been discarded because they needed to be framented at this entity, but could not be done.
FragCreates	Number of IP fragments that have been generated as a result of fragmentation at this entity.

NETSTAT UDP

Definition

Displaying of the network UDP status

Syntax

NETSTAT UDP

Description

```
ACS> netstat udp
Udp:
InDatagrams         13    NoPorts          13    InErrors          0
OutDatagrams        26
```

InDatagrams	Number of datagrams received and transmitted to the high level protocol
NoPorts	Number of datagrams received without any application on the destination port.
InErrors	Number of datagrams received, but not delivered for reasons other than the lack of an application at the destination port.
OutDatagrams	Number of UDP datagrams sent.

NETSTAT TCP

Definition

Displaying of network TCP status

Syntax

NETSTAT TCP

Description

```
ACS> netstat tcp
Tcp:
  RtoAlgorithm    1     RtoMin           0        RtoMax         0
  MaxConn         0     ActiveOpens      3        PassiveOpens   0
  AttemptFails    0     EstabResets      0        CurrEstab      3
  InSegs          2079  OutSegs          2271     RetransSegs    0
```

RtoAlgorithm	Algorithm used. 1 : Retransmit time-other 2 : Constant 3 : MIL-STD-1778 4 : Van Jacobson
RtoMin	Minimum delay for retransmission
RtoMax	Maximum delay for retransmission
MaxConn	Maximum connections
Active opens	Number of TCP connections opened.
PassiveOpens	Number of TCP connections closed.
AttempFails	Number of times, TCP connections failed.
EstabResets	Number of active resets.
CurrEstabs	Number of active connections
InSegs	Number of defective segments received, included defect segments.
OutSegs	Number of segments received, excluding retransmit segments
RetransSegs	Number of segments retransmitted.

NETSTAT ALL

Definition

Displaying of all network statistics

Syntax

NETSTAT ALL

Description

This command displays all network statistics. It is an equivalent for all preceeding **netstat** commands.

```
ACS> netstat all
```

PASSWD

Definition

Modification of the administrator password (Administrator only).

Syntax

PASSWD

Description

This command enables administrator to change his password.

```
ROOT>> passwd
New Password> XXXXXXX
Re-enter Password> XXXXXXX
```

PING

Definition

Sends ICMP ECHO_REQUEST to a remote host.

Syntax

PING <<DOMAIN NAME> | <IP ADDRESS>>

Description

The **ping** command is generally present on all systems supporting the TCP/IP protocol. It is a basic tool to solve problems of system connection. It enables the IP path between two hosts to be checked. In practice, an echo request is sent from one" host to another. One can then insure on the one hand that the echo is sent back, on other hand that time of reply is "good enough".

```
ACS> ping alice
PING alice.decision.fr (200.1.1.28): 56 data bytes
64 bytes from 200.1.1.28: icmp_seq=0 ttl=32 time=5.1 ms
64 bytes from 200.1.1.28: icmp_seq=1 ttl=32 time=3.0 ms
64 bytes from 200.1.1.28: icmp_seq=2 ttl=32 time=3.0 ms
64 bytes from 200.1.1.28: icmp_seq=3 ttl=32 time=3.0 ms
64 bytes from 200.1.1.28: icmp_seq=4 ttl=32 time=2.9 ms

--- alice.decision.fr ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 2.9/3.4/5.1 ms
```

See also

NETSTAT, TRACEROUTE

RESET

Definition

Reset some ACS components (Administrator only).

Syntax

RESET DOMAIN
RESET NET [INTERFACE]
RESET SERIAL <ALL | <PORT LIST>>

Description

To reset ports 3 and 4, type :

```
ROOT>> reset serial 3 4
```

To reset network layer, use the following command :

```
ROOT>> reset net
```

To reset eth0 interface, enter :

```
ROOT>> reset net eth0
```

To reset Host table, enter :

```
ROOT>> reset domain
```

ROUTE

Definition

Edition and displaying of routing table (Administrator only)

Syntax

ROUTE SHOW
ROUTE STATIC
ROUTE ADD NET <INTERFACE> <DEFAULT | <IP ADDRESS>> <GATEWAY IP>
<NETMASK IP>
ROUTE ADD HOST <INTERFACE> <IP ADDRESS> <GATEWAY IP>
ROUTE DELETE <DEFAULT | <IP ADDRESS>>

Description

This function enables the administrator to display and edit the ACS routing table.
Available interface name is *eth0*.

To display static routing table, you can enter :

```
ROOT>> route static
Kernel routing table
Destination      Gateway          Netmask          Type      Iface
192.168.1.0      0.0.0.0          255.255.255.0     net       eth0
192.168.2.0      192.168.1.30     255.255.255.0     net       eth0
```

In the example above, the second line of the table tells ACS that the *192.168.2.0* machine can be reached via the *192.168.1.30* gateway:

```
ROOT>> route add net eth0 192.168.2.0 192.168.1.30 255.255.255.0
```

If the gateway IP address has a value of *0.0.0.0*, the IP address affected to ACS Ethernet interface will be used.

To display the dynamic routing table, enter

```
ROOT>> route show
Kernel routing table
Destination      Gateway          Netmask          Type    Iface    Use
192.168.1.0      0.0.0.0          255.255.255.0     net     eth0     10
192.168.2.0      192.168.1.30     255.255.255.0     net     eth0     1
```

To add a host to the table, enter :

```
ROOT>> route add host eth0 192.168.1.20 255.255.255.255
```

To delete the *192.168.2.0* destination route, enter :

```
ROOT>> route delete 192.168.2.0
```

To define a default route, the target must have a value of *0.0.0.0*. The keyword **default** is also accepted. Example :

```
ROOT>> route add net eth0 0.0.0.0 192.168.1.1 0.0.0.0
```

Target	Network or targeted host IP address
Gateway	Gateway IP address
Netmask	Sub-network mask
Use	Number of packets transmitted (Iface)
Iface	Name of the interface: eth0 : Ethernet

See also

IFCONFIG

SAVE

Definition

Save configuration in flash memory (Administrator only).

Syntax

SAVE

Description

Administrator must issue this command to save the new configuration in Flash-Eprom.

```
ROOT>> save
Status: done.
Ok!

ROOT>>
```

SERIAL

Definition

Setup and displaying of asynchronous ports parameters (Administrator anly)

Syntax

```
SERIAL CSIZE <5 | 6 | 7 | 8> <ALL | <PORTS LIST>>
SERIAL FLOWCTRL <NONE | SOFT | HARD | SOFTHARD> <ALL | <PORTS LIST>>
SERIAL IOFLOW <ALL | <PORTS LIST>>
SERIAL LINECTRL <LOCAL | MODEM> <ALL | <PORTS LIST>>
SERIAL MODE <MUX | MUX_DG | PPP | PRINTER | RAW | RTELNET | TERM> <ALL |
<PORTS LIST>>
SERIAL PARITY <NONE | EVEN | ODD> <ALL | <PORTS LIST>>
SERIAL CONFIG <ALL | <PORTS LIST>>
SERIAL STATUS <ALL | <PORTS LIST>>
SERIAL SHOW <ALL | <PORTS LIST>>
SERIAL SPEED <110 | .. | 115200 | 230400 | 460800> <ALL | <PORTS LIST>>
SERIAL STOPB <1 | 2> <ALL | <PORTS LIST>>
```

Description

Serial commands enable you to configure all serial ports parameters. These commands are explained above.

SERIAL CONFIG

Definition

Displays all port parameters (Administrator only).

Syntax

SERIAL CONFIG <ALL | <PORTS LIST>>

Description

This command enables to display all port parameters.

To see port 5 parameters

```
ROOT>> serial config 5
```

See Also

SERIAL SHOW, SERIAL STATUS

SERIAL CSIZE

Definition

Edition of data width (Administrator only).

Syntax

SERIAL CSIZE <5 | 6 | 7 | 8> <ALL | <PORTS LIST>>

Description

This parameter enables you to set the data width. Possible values are 5,6,7 and 8 bits.

To define a data *with 8 bits* on all ports, you can enter

```
ROOT>> serial csize 8 all
```

SERIAL FLOWCTRL

Definition

Selects flow control mode (Administrator only)

Syntax

SERIAL FLOWCTRL <SOFT | HARD | SOFTHARD | NONE> <ALL | <PORTS LIST>>

Description

```
ROOT>> serial flowctrl soft 5
```

SERIAL IOFLOW

Definition

Trace all data that going through a port (administrator only).

Syntax

SERIAL IOFLOW <ALL | <PORTS LIST>>

Description

To display all data received and transmitted through port 1, enter :

```
ROOT>> serial ioflow 1
```

See also

MUX

SERIAL LINECTRL

Definition

Management of the DCD signal (Administrator only).

Syntax

SERIAL LINECTRL <LOCAL | MODEM> <ALL | <PORTS LIST>>

Description

Determines if ACS must look after the DCD signal.
If you define a port in **local** control, ACS will not look after the DCD signal state.
On the other hand in **modem** control, ACS will display login only if the DCD is active.
When a user has succeeded to logon normally, if the DCD signal becomes inactive, ACS will close all opened sessions on this port. Use **linectrl modem** when you connect a modem to the port.

```
ROOT>> serial linectrl modem 3
```

SERIAL MODE

Definition

Define asynchronous ports working mode (Administrator only).

Syntax

SERIAL MODE < MUX | MUX_DG | RAW> <ALL | <PORTS LIST>>

Description

To connect passive equipment to port 7, enter :

```
ROOT>> serial mode raw 7
```

To set a client port in mux mode, enter :

```
ROOT>> serial mode mux 3
```

To set a server port in mux mode, enter :

```
ROOT>> serial mode raw 1
```

To set a port in UDP mux mode, enter :

```
ROOT>> serial mode mux_dg 2
```

See also

MUX

SERIAL PARITY

Definition

Define asynchronous port parity (Administrator only).

Syntax

SERIAL PARITY <NONE | EVEN | ODD> <ALL | <PORTS LIST>>

Description

This command enables you to define the port parity.

Possible values are *even*, *odd* and *none.* Example :

```
ROOT>> serial parity even 6
```

SERIAL RS485

Definition

Enable to setup a port in RS485 mode (Administrator only).

Syntax

SERIAL RS485 <YES | NO> <ALL | <PORTS LIST>>

Description

If your ACS provides RS422/485 ports, all these ports are set in mode RS422 mode
(**serial rs485** = no).
To use these ports in RS485 mode, use the **serial rs485** command. Example :

```
ROOT>> serial rs485 yes 1
```

SERIAL SHOW

Definition

Displays usual port characteristics (Administrator only)

Syntax

SERIAL SHOW >ALL | <PORTS LIST>>

Description

This command displays usual configuration parameters of selected port(s). These parameters are utilisation mode, speed, flow control, DCD managment (local or modem), data width, parity, stop bit, associated modem form, TCP port number and timeout.

To display ports 1 and 2 parameters, enter :

```
ROOT>> serial show 1 2
Port Mode Speed     FlowCtrl LineCtrl  Cs  Par. Stop Modem  Rtelnet
---------------------------------------------------------------------
1    term 9600      soft     local     8   none 1           2001
2    ppp  115200    hard     modem     8   none 1           2002
```

See also

SERIAL CONFIG, SERIAL STATUS

SERIAL SPEED

Definition

Define asynchronous port's speed (Administrator only).

Syntax

SERIAL SPEED <110 | .. | 115200 | 230400 | 460800> <ALL | <PORTS LIST>>

Description

This parameter is the port to the port baud rate. Possible values are :
*110 150 300 600 1200 1800 2400 4800 9600 19200 38400 57600 115200
230400 460800*

Example :

```
ROOT>> serial speed 19200 6
```

If entered from a terminal with no port number specification, it is the connected port baud rate that is modified. You will therefore have to adjust the terminal baud rate.

With option all, the parameter is used on all ports :

```
ROOT>> serial speed 19200 all
```

SERIAL STATUS

Definition

Displaying of the ports state (Administrator only).

Syntax

SERIAL STATUS <ALL | <PORTS LIST>>

Description

This command displays current state port parameters. These parameters are working mode (term, ppp, ...), connection state (waiting, printing, ...), login name, start session time and signals state (CD, RTS, CTS, DTR, DSR).

To display status information of ports 1 and 2, enter :

```
ROOT>> serial status 1 2
Port Mode   Status   Username   Hostname StartTime CD RTS CTS DTR DSR
----------------------------------------------------------------------
1     raw
2     mux_dg
```

See also

SERIAL CONFIG, SERIAL SHOW

SERIAL STOPB

Definition

Configuration of stop bit for a port (Administrator only).

Syntax

SERIAL STOPB <1 | 2> <ALL | <PORTS LIST>>

Description

This function defines the port number of stop bits.

```
ROOT>> serial stopb 1 all
```

SNMP

Definition

SNMP managment - Simple Network Management Protocol (Adminnistrator only)

Syntax

SNMP CONTACT <ADMINISTRATOR NAME>
SNMP LOCATION <ADMINISTRATOR ADDRESS>
SNMP MANAGER <IP ADDRESS>
SNMP NAME <PRODUCT NAME>
SNMP PRIVATE <PRIVATE STRING>
SNMP PUBLIC <PUBLIC STRING>
SNMP SHOW

Description

To define information about administrator, use the following commands :

```
ROOT>> snmp contact admin
Ok!
ROOT>> snmp location "réseau admin"
Ok!
```

To allow a particular machine to send SNMP requests enter :

```
ROOT>> snmp manager 192.168.1.20
```

Only the *192.168.1.20* machine will be able to send SNMP requests to your ACS.

You can change ACS's SNMP name with the following command :

```
ROOT>> snmp name ACS
```

SNMP allows two different levels of access commands, private level and public level. Each level is identified by a key. To change the private level's key, enter :

```
ROOT>> snmp private private-key
```

The default key is private.

To change the public level's key, enter :

```
ROOT>> snmp public public-key
```

The default key is public.

The **snmp show** command enables you to display current SNMP parameters :

```
ROOT>> snmp show
```

SYSTEM

Definition

Displaying and setup of system parameters (Administrator only)

Syntax

```
SYSTEM SHOW
SYSTEM CONFIG PATH <STORAGE PATH>
SYSTEM CONFIG SERVER <STORAGE SERVER IP ADDRESS>
SYSTEM CONFIG LOAD
SYSTEM CONFIG STORE
SYSTEM FACTORY
SYSTEM PROMPT <"PROMPT STRING">
SYSTEM REBOOT
SYSTEM RIP <YES | NO>
SYSTEM UPDATE  <SERVER NODE NAME | IP ADDRESS>  <FILE NAME>
SYSTEM UPGRADE <RAW>
```

Description

The **system show** command displays all system parameters :

```
ROOT>> system show
```

The system **config path**, **system config server**, **system config store** and **system config load** commands respectively enable to ACS configuration saving file, host IP address where is this file, execute a save operation and restore your configuration. Example :

```
ROOT>> system config path "/etc/ACS.cfg"
ROOT>> system config server 192.168.1.10
ROOT>> system config store
```

The machine where the file is saved must have a TFTP server.

To restore the configuration, enter :

```
ROOT>> system config load
```

You can change the prompt with the next command :

```
ROOT>> system prompt "COMPANY Name"
```

To reboot your ACS, execute the following command :

```
ROOT>> system reboot
```

To retore ACS factory configuration, enter :

```
ROOT>> system factory
```

To activate RIP option, enter :

```
ROOT>> system rip yes
```

ACS updating and upgrading are carried out through the TFTP protocol. You have to indicate to your ACS the TFTP server address and the name of the file (firmware) to download.

To update your ACS, pass in mono-user mode with the following command :

```
ROOT>> system monouser
```

 and enter :

```
ROOT>> system update 192.168.1.1 /tmp/update-xc4000-3.4r1
```

To increase the max number of usable RemoteCOM ports, enter :

```
ROOT>> system upgrade raw
```

ACS will require a password before validate the upgrading operation. Contact us to get a valid password.

TEST

Definition

Runs a terminal test.

Syntax

TEST

Description

This function allows a user to check if the terminal configuration suits the ACS port configuration.
This test continually displays a list of characters.
Use the <CTRL-C> sequence to stop this test.

Example :

```
ACS> test
!"#$%&'()*+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`ab
cdefghijklmno
!"#$%&'()*+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`ab
cdefghijklmno
"#$%&'()*+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abc
defghijklmnoá!
#$%&'()*+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcd
efghijklmnoá!"
$%&'()*+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcde
fghijklmnoá!"#
%&'()*+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdef
ghijklmnoá!"#$
&'()*+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefg
hijklmnoá!"#$%
'()*+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefgh
ijklmnoá!"#$%&
()*+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghi
jklmnoá!"#$%&'
)*+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghij
klmnoá!"#$%&'(
*+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijk
lmnoá!"#$%&'()
+,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijkl
mnoá!"#$%&'()*
```

```
,-./0123456789á:á;á?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijkl
```

TIME

Definition

Displaying and configuring of time and date.

Syntax

```
TIME [<MM/DD/YY>] [<HH:MM:SS>]
TIME FREQUENCY <BOOT | HOUR | DAY | MONTH>
TIME GMT <-12 .. 12>
TIME NETBNAME <NETBIOS SERVER NAME>
TIME PROTOCOL <DAYTIME | TIME | NETBIOS | NONE>
TIME SERVER <IP ADDRESS>
TIME SHOW
```

Description

This command allows to consult current time and to change it.

```
ROOT>>time 12/25/95 12:00:00

ACS>time
Monday 12:00:10 Dec 25 1995
```

Thanks to the following set of commands, you can also set ACS's time and date using a network server :

Set server IP address with the following command :

```
ROOT>> time server 192.168.1.120
```

Only root can edit time.

Thanks to the **time protocol** command, you can choose which protocol to use. Several protocols are available : **None** (deactivated), **Daytime** (Unix), **Time** (Unix) or **Netbios** (Windows).

Example on a Unix server :

```
ROOT>>time protocol daytime
```

This is a local time of the server.

```
ROOT>> time protocol time
```

This is the GMT time. To set time in function of ACS localisation, you must use the **time gmt** command.

Example on a Windows system :

```
ROOT>> time protocol netbios
```

You must also enter the Netbios name of the Windows server help with the following command :

```
ROOT>> time netbname winname
```

This is the GMT time. To set time in function of ACS localisation, you must use the **time gmt** command.

The **time gmt** command enables you to set the number of hours between your localisation and the Greenwich Meridian. Example :

```
ROOT>> time gmt 2
```

To set the delay between each call to the server, you can use the **time frequency** command. Available options are *Boot* (at ACS's boot), *Hour*, *Day* or *Month*.

Example :

```
ROOT>> time frequency  hour
```

To display current time parameters, type :

```
ROOT>> time show
```

TRACEROUTE

Definition

Displays route used by a frame to reach destination.

Syntax

TRACEROUTE <<DOMAIN NAME> | <IP ADDRESS>>

Description

The **traceroute** command enables you to show route used by a frame to reach destination. All gateways are displayed.

```
ROOT>> traceroute 194.2.168.1
```

See also

NETSTAT, PING