MI-ETH
Reference Manual

version 1.2

Conventions

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

Bold : The MI-ETH 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 MI-ETH 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 | PRINTER | SYSTEM | ISDN | PPP | ASYNC | SYNC | NET |
FIREWALL | 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 **lsyslog** option by the **trap** option if you want to display on audit with trap daemon..

The audit levels are

warning	Minimum (displaying of errors messages).
notice	Like **warning** level but there is messages about MI-ETH's activity.
info	Like **notice** level with more detailled messages about running process.

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

The audit types are :

auth	Messages about authentication.
printer	Messages about lpd daemon.
system	Messages about system parameters (DHCP, RADIUS, save, ...).
isdn	Messages about isdn connections.
ppp	Messages about PPP negociation.
async	Messages about asynchronous ports.
sync	Messages about synchronous ports.
net	Messages about network.
firewall	Messages about Firewall.
all	All preceeding types.

To create a **ppp** audit on your console, enter :

```
ROOT>> audit add console info ppp
```

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 previous fifthteen 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 ppp
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 reboot of the MI-ETH, enter :

```
ROOT>> audit start
```

AUTOCFG

Definition

Automatic configuration (Administrator only).

Syntax

AUTOCFG INTERNET

Description

This command enables you to easily setup the "ISDN account sharing" mode.

To set up this mode, enter :

```
ROOT>> autocfg internet
```

Then, just enter asked parameters (The MI-ETH IP address, Internet login and password, two B channels bundling).

CLOSE SESSION

Definition

Telnet sessions

Syntax

CLOSE SESSION <ALL | <SESSION NO.>> <ALL | <PORT NO.>>

Options **All** and **Port No** are administrator only.

Description

Use this command to close any active Telnet session.

If an administrator wants to close all Telnet session, he can enter :

```
ROOT>> close session all
```

If a user wants to close their first session, they can enter :

```
MI-ETH> close session 1
```

If an administrator wants to close all connections of port 2, they can enter :

```
ROOT>> close session all 2
```

See also

SERIAL SESSION

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 the MI-ETH'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 the DHCP (or BOOTP) client, just type this command :

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

In default configuration, the MI-ETH boots in DHCP client mode.

Two others commands enables you to modify DHCP client configuration.

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

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

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

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

To change this timeout to 60 seconds, enter :

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

To display the current DHCP client parameters, enter :

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

DIALER

Definition

Dialer forms administration (Administrator only).

Syntax

DIALER SHOW [NAME]
DIALER ADD <NAME>
DIALER DELETE <NAME>
DIALER COMMENT <NAME> <"COMMENT">
DIALER DEST <NAME> <DESTINATION IP>
DIALER MASK <NAME> <MASK IP>
DIALER PPP <NAME> <PPP NAME>
DIALER PHONENB <NAME> <PHONE NUMBER>
DIALER SCRIPT <NAME> <"SCRIPT STRING">
DIALER PERMANENT <NAME> <YES | NO>

Description

To create a dialer form named **out**, enter :

```
ROOT>> dialer add out
```

To delete the **out** form, type :

```
ROOT>> dialer delete out
```

To display the **out** form, enter :

```
ROOT>> dialer show out
```

To add comments to the form, type :

```
ROOT>> dialer comment out "Here are my comments"
```

To select the destination IP address, enter :

```
ROOT>> dialer dest out 192.168.1.0
```

The dialer destination IP Adress is used to select the dialer form .The MI-ETH compares the

IP address he wants to join and dialer forms's Destination IP Address. When the MI-ETH finds the good IP address, it selects this dialer form for the call.

To select the mask IP address of the Destination IP, enter :

```
ROOT>> dialer mask out 255.255.255.0
```

To link a ppp form named **dial-out** to the **out** dialer form, type :

```
ROOT>> dialer ppp out dial-out
```

To select the phone number that will be called, enter

```
ROOT>> dialer phonenb out 0251454556
```

To define a connection script, you just have to type :

```
ROOT>> dialer script out "entrez ici le script"
```

To use this form on a permanent link, enter :

```
ROOT>> dialer permanent out yes
```

See also

PPP, SYNC

DOMAIN

Definition

DNS and host table confirmation (Administrator only)

Syntax

DOMAIN SHOW
DOMAIN ADD <HOST NAME> <IP ADDRESS>
DOMAIN DELETE <HOST NAME>
DOMAIN HOSTNAME <MI-ETH 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,the MI-ETH first consults its internal hosts table. If it does not find this host, it asks the primary DNS server. If it does not answer back, the MI-ETH asks the secondary DNS server.

To add a host name *myhost*, enter :

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

To see the 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 MI-ETH is *myname*, enter

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

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

```
ROOT>> domain suffix company.com
```

To define the 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 MI-ETH shell

Syntax

EXIT

Description

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

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

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

See also

LOGOUT

FINGER

Definition

Display information about remote users

Syntax

FINGER <USER>
FINGER <USER@HOST> [@HOST-1@HOST-2...@HOST-N]
FINGER @HOST [@HOST-1@HOST2.....@HOST-N]

Description

This command is used to display information about users. You can display all user names on a remote host, or a particular user on the specified host.
This command uses the standard TCP/IP FINGER protocol. FINGER command reports users logged names, log on time, idle time, and TTY port number.

To see all users on a server named *servername*, you can enter :

```
MI-ETH> finger @servername
[server.suffix.fr]
Login   Name           Tty  Idle Login Time   Office
Office  Phone
Marc    DUPOND         p0   1    Jan 26 16:51 [ chewie ]
root    root           p1        Jan 26 16:53 [ luke ]
```

To check if *username marc* has opened a session on the *servername* you can enter :

```
MI-ETH> finger marc@servername
[server.suffix.fr]
Login: marc                             Name: Marc DUPOND
Directory: /home/marc                   Shell: /bin/tcsh
On since Fri Jan 26 16:51 (   ) on ttyp0, idle 0:08, from chewie
No Mail.
No Plan.
```

See also

WHO

HELP

Definition

Shows all the MI-ETH commands or a specific command syntax.

Syntax

HELP [<COMMAND>]

Description

This command give a command syntax. If you enter any invalid syntax, the help facility would also automatically prompt you with the correct syntax.

To see all the MI-ETH commands, you can enter :

```
MI-ETH> help

AUDIT    AUTOCFG  CLOSE  DIALER    DOMAIN
EXIT     FINGER   HELP   IFCONFIG  ISDN
LOCK     LOGOUT   MODEM  NETSTAT   PASSWD
PING     PPP      PPTP   RESET     RLOGIN
ROUTE    SAVE     SERIAL SNMP      SYNC
SYSTEM   TEST     TELNET TIME      TRACEROUTE
USER     WHO
```

If a user needs to know the syntax of the **close** command, he should enter :

```
MI-ETH> help close
CLOSE SESSION [ ALL | <Session No.>] [ ALL | <Port No.> ]
```

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

IFCONFIG

Definition

Configuration and displaying of the 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 MI-ETH network parameters. These parameters must be correctly established before making the least network connection.

To view all the MI-ETH 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 MI-ETH IP Adress, 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 MI-ETH Ethernet maximum transfer unit **(MTU)** at 1500, enter :

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

To set the MI-ETH broadcast adress at 166.72.12.255, enter :

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

See also

ROUTE

ISDN

Definition

(User « root » only) Administration ISDN forms.

Syntax

ISDN SHOW [NAME]
ISDN STATUS <CHANNEL LIST | ALL>
ISDN ADD <NAME>
ISDN BIND <NAME> <YES | NO>
ISDN BINDNB <NAME> <BIND CHANNEL NUMBER>
ISDN CALLBACK <NAME> <OFF | IN | OUT>
ISDN CBDELAY <NAME> <CALLBACK DELAY>
ISDN COMMENT <NAME> <" COMMENTS ">
ISDN DIAL <NAME>
ISDN DIALMAX <NAME> <DIAL MAX PER TRY>
ISDN EXCLUSIVE <NAME> <YES | NO>
ISDN HANGUP <NAME>
ISDN <INCOMING1 | INCOMING2 | INCOMING3> <NAME> <PHONE NUMBER>
ISDN THRESH <NAME> <START SLAVE THRESHOLD>
ISDN LOCAL <NAME> <LOCAL PHONE IDENT.>
ISDN OUTGOING <NAME> <OUTGOING PHONE NUMBER>
ISDN PPP <NAME> <PPP NAME>
ISDN SECURITY <NAME> <YES | NO>
ISDN SLAVENB <NAME> <SLAVE NUMBER>
ISDN SLAVEDELAY <NAME> <DELAY TO CONNECT / DISCONNECT SLAVE>
ISDN TIMEOUT <NAME> <IDLE TIMEOUT>

Description

These commands enable you to create, erase and change ISDN form parameters. Theses forms are used during an ISDN call.

To create an ISDN form, use the following command :

```
ROOT>> isdn add isd-fiche
```

To erase all parameters of a form named *isd-fiche,* enter *:*

```
ROOT>> isdn delete isd-fiche
```

To display the list of created forms or all parameters of a particular form, enter :

```
ROOT>> isdn show
Isdn                Comment
------------------------------------------------------------------
isd-fiche

ROOT>> isdn show isd-fiche
```

To display the B channels state, enter :

```
ROOT>> isdn status all
Ch  Status    Phone    Isdn    Usernam  Start time  Input   Output
------------------------------------------------------------------
1  outgoing 0251525356 isd-fiche paul                186      80
2  offline                                           0        0
```

To manually bring ug an ISDN interface, enter :

```
ROOT>> isdn dial isd-fiche
```

To manually stop an ISDN interface connection, enter :

```
ROOT>> isdn hangup isd-fiche
```

To add comments to a form, type :

```
ROOT>> isdn comment isd-fiche "Fiche ISDN exemple"
```

To activate a link between an ISDN form and a particular channel, type :

```
ROOT>> isdn bind isd-fiche yes
```

To choose the linked channel, enter :

```
ROOT>> isdn bindnb isd-fiche 2
```

To make this link exclusive, type :

```
ROOT>> isdn exclusive isd-fiche yes
```

To activate the Callback in, out or to stop it, enter :

```
ROOT>> isdn callback isd-fiche in
ROOT>> isdn callback isd-fiche out
ROOT>> isdn callback isd-fiche off
```

The following command enables you to set Callback delay (in seconds) :
MI-ETH waits for this delay before calling back

```
ROOT>> isdn cbdelay isd-fiche 20
```

To select the number of call retries, enter :

```
ROOT>> isdn dialmax isd-fiche 3
```

To define the local phone of your S0 interface, enter :

```
ROOT>> isdn local isd-fiche 5060
```

CAUTION : According to EuroISDN standard, only the four last numbers are sent to the MI-ETH by the SO interface. You must enter only these four numbers in the command. Example : If your S0 interface is connected on **0251825060** phone number, you must enter **5060** as **isdn local** command parameters.

To define an outgoing phone, enter :

```
ROOT>> isdn outgoing isd-fiche 0251457835
```

To associate a PPP form to the ISDN form, use the following command :

```
ROOT>> isdn ppp isd-fiche ppptest
```

To enable a secured incoming call, enter :

```
ROOT>> isdn security isd-fiche yes
```

To enter one (or many) of the three allowed incoming phone calls, enter :

```
ROOT>> isdn incoming1 isd-fiche 251457835
ROOT>> isdn incoming2 isd-fiche 251478965
ROOT>> isdn incoming3 isd-fiche 240258741
```

CAUTION : According to the EuroISDN standard, the first zero of the incoming phone is not sent by the TNR. Example : if the incoming phone number is **0251526341,** you must enter **251526341.**

To define the number of slave channels, enter :

```
ROOT>> isdn slavenb isd-fiche 1
```

To define saturation threshold (in bps) of this interface, enter

```
ROOT>> isdn thresh isd-fiche 56000
```

To select the starslave delay, enter :

```
ROOT>> isdn slavedelay isd-fiche 10
```

Note : If we take values defined in the last three commands examples, the slave channel will be opened when the saturation threshold will reach 56000 bps more during 10 seconds. In the same way, the slave channel will be closed if this threshold goes back under 56000 bps during 10 seconds.

The following command enables you to select idle timeout (ibn seconds) :

```
ROOT>> isdn timeout isd-fiche 180
```

See also

PPP

LOCK

Definition

Locks a connected terminal.

Syntax

LOCK

Description

This command allows the user to disable access to a port. After the user has entered the **lock** command, the MI-ETH will ask the user for their password as shown below :

```
MI-ETH> lock
Password>
Re-enter Password>
```

After entering this command, the MI-ETH will disable all keyboard input until the terminal is unlocked with the right password.

```
Lock Password>
```

LOGOUT

Definition

Closing an MI-ETH shell.

Syntax

LOGOUT

Description

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

```
MI-ETH> logout
```

See also

EXIT

MODEM

Definition

Modem forms administration (Administrator only)

Syntax

MODEM SHOW [NAME]
MODEM ADD <NAME>
MODEM DELETE <NAME>
MODEM COMMENT <NAME> <"COMMENT">
MODEM INIT <NAME> <INIT STRING>
MODEM DIAL <NAME> <DIAL STRING>

Description

To create a modem form named *md56k*, enter :

```
ROOT>> modem add mod56k
```

To display a modem forms list, enter :

```
ROOT>> modem show
```

To display all parameters of the *mod56k* modem form, enter *:*

```
ROOT>> modem show mod56k
```

To erase the *mod56k* modem form, enter :

```
ROOT>> modem delete mod56k
```

To add your comments to a form, type :

```
ROOT>> modem comment mod56k "modem 56000 bps"
```

To define the modem init string, enter :

```
ROOT>> modem init mod56k at&k3%c3
```

To define the dial string, enter :

```
ROOT>> modem dial mod56k atd
```

See also

SERIAL MODEM, SERIAL TIMEOUT

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 the MI-ETH 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 to 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 to the DTR signal, type :

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

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

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

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

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

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

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

To redirect the CTS signal to 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 MI-ETH IP address. For example with remote MI-ETH *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 MI-ETH. Example if port number 2 of the remote MI-ETH must receive the connection :

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

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

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

To set RTS signal on, enter :

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

To set DTR signal 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, audit size increases very fast. Be careful 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 increase 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 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 the statistics of each network layer, find network problems or optimize network performance.
Administrator can use this function to check any MI-ETH configuration parameter.

See also

PING, TRACEROUTE

NETSTAT ICMP

Definition

Displaying of network ICMP status

Syntax

NETSTAT ICMP

Description

```
MI-ETH> 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

```
MI-ETH> 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 no 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 the 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

```
MI-ETH> 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

```
MI-ETH> 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 time, TCP connections failed.
EstabResets	Number of active reset.
CurrEstabs	Number of active connections
InSegs	Number of defective segments received, included defect segments.
OutSegs	Number of segments received, excluded 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.

```
MI-ETH> netstat all
```

PASSWD

Definition

Modification of the administrator password (Administrator only).

Syntax

PASSWD

Description

This command enables administrators to change their 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 you to check the IP path between two hosts. In practice, an echo request is sent from a "A" host to a "B" host. One can then ensure on the one hand that the echo is sent back, and on the other hand that time of reply is "good enough".

```
MI-ETH> 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

PPP

Definition

PPP forms administration (Administrator only)

Syntax

PPP SHOW [NAME]
PPP ADD <NAME>
PPP DELETE <NAME>
PPP COMMENT <NAME> <"COMMENT">
PPP SECURITY <NAME> <NONE | PAP | CHAP>
PPP AUTHNAME <NAME> <AUTHENTIFICATION NAME>
PPP PASSWORD <NAME> <AUTHENTIFICATION PASSWORD>
PPP LOCAL <NAME> <LOCAL IP ADDRESS>
PPP REMOTE <NAME> < REMOTE IP ADDRESS>
PPP MASK <NAME> <MASK IP ADDRESS>
PPP PROXY <NAME> <YES | NO>
PPP ROUTE <NAME> <YES | NO | DEFAULT>
PPP ASYNCMAP <NAME> <ASYNCMAP>
PPP MRU <NAME> <MAX RECEIVE UNIT>
PPP MTU <NAME> <MAX TRANSMIT UNIT>
PPP COMP <NAME> <NONE | BSD>

Description

These commands enable administrator to configure PPP forms

```
ROOT>> ppp add ppp-out
```

To erase the *ppp-out* form, enter :

```
ROOT>> ppp delete ppp-out
```

To display PPP forms list or parameters of a particular form, enter :

```
ROOT>> ppp show
Ppp       Comment
-------------------------------------------------------------------
dial-out
```

```
ROOT>> ppp show dial-out
```

To add comments to a form, enter :

```
ROOT>> ppp comment dial-out "commentaires de la fiche"
```

To activate PAP or CHAP authentification for an incoming call, enter :

```
ROOT>> ppp security dial-out pap
ROOT>> ppp security dial-out chap
```

To define the login, enter :

```
ROOT>> ppp authname dial-out toto
```

The MI-ETH will reply to a pap or chap authentication request with this login.

To define the password, enter :

```
ROOT>> ppp password dial-out titi
```

To define the local IP address, type :

```
ROOT>> ppp local dial-out 192.168.1.50
```

To define the remote IP address, type :

```
ROOT>> ppp remote dial-out 192.168.1.60
```

To define the mask *255.255.255.255,* type :

```
ROOT>> ppp mask dial-out 255.255.255.255
```

To activate the proxy ARP function, enter :

```
ROOT>> ppp proxy dial-out yes
```

To activate dynamic routing, use the following command :

```
ROOT>> ppp route dial-out yes
```

To activate the default routing, use the following command :

```
ROOT>> ppp route dial-out default
```

To define asyncmap value, enter :

```
ROOT>> ppp asyncmap dial-out 200A0000
```

To define mru value, enter :

```
ROOT>> ppp mru dial-out 1500
```

To define mtu value, enter :

```
ROOT>> ppp mtu dial-out 1000
```

To activate BSD compression, enter :

```
ROOT>> ppp comp dial-out bsd
```

See also

DIALER, ISDN, PPTP, SERIAL MODE, SERIAL PPP, SYNC, USER

PPTP

Definition

PPTP forms administation (Administrator only).

Syntax

PPTP SHOW [NAME]
PPTP ADD <NAME>
PPTP DELETE <NAME>
PPTP COMMENT <NAME> <"COMMENT">
PPTP ENABLE <NAME> <YES | NO>
PPTP PPP <NAME> <PPP NAME>
PPTP SERVER <NAME> <SERVER IP ADDRESS>
PPTP STATUS

Description

These commands enable you to set up PPTP forms used to establish PPTP connections.

To create a PPTP form called *pptp-test,* type :

```
ROOT>> pptp add pptp-test
```

To erase the form *pptp-test*, you can type :

```
ROOT>> pptp delete pptp-test
```

To display a list of PPTP forms or characteristics of one of them, use following command :

```
ROOT>> pptp show
Pptp          Comment
------------------------------------------------------------------
pptp-test

ROOT>> pptp show pptp-test
```

To add comments to a form, enter :

```
ROOT>> pptp comment pptp-test "my form comments"
```

To define the PPTP server IP Adress, enter :

```
ROOT>> pptp server pptp-test 10.0.0.1
```

To define the name of the associated PPP form, enter :

```
ROOT>> pptp ppp pptp-test ppp-adsl
```

This form contains all PPP parameters to setup a tunneling PPP connection.

To start (or stop) the PPTP form on the next reset, you must set **Enable** parameter to yes (to no). Example :

```
ROOT>> pptp enable pptp-test no
```

To enable the MI-ETH to automatically restart a PPTP connection when the connection is interrupted:

```
ROOT>> pptp permanent pptp-test yes
```

To display the PPTP connections state, use the following command :

```
ROOT>> pptp status
Pptp       Server    State
pptp-test  10.0.0.1  connected
```

Possible states are : connected, progress, stopped.

See also

PPP, RESET

RESET

Definition

Reset some of the MI-ETH components (Administrator only).

Syntax

RESET DOMAIN
RESET ISDN [ISDN NAME]
RESET NET [INTERFACE]
RESET SERIAL <ALL | <PORT LIST>>
RESET PPTP [PPTP NAME]
RESET SYNC <ALL | <PORT LIST>>

Description

To reset ports 3 and 4, type :

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

To reset the network layer, use the following command :

```
ROOT>> reset net
```

To reset the eth0 interface, enter :

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

To reset the isdn layer, enter :

```
ROOT>> reset isdn
```

To reset an isdn interface named *isd-form*, enter :

```
ROOT>> reset isdn isd-form
```

To reset the PPTP layer, enter :

```
ROOT>> reset pptp
```

To reset a PPTP interface named *pptp-form*, enter :

```
ROOT>> reset pptp pptp-fiche
```

To reset the Host table, enter :

```
ROOT>> reset domain
```

To reset the synchronous port 1, enter :

```
ROOT>> reset sync 1
```

RLOGIN

Definition

Rlogin connection

Syntax

RLOGIN [USER <USER NAME>] <<DOMAIN NAME> | <IP ADDRESS>>

Description

This command enables the user to make a RLOGIN connection to the specified host.
In a RLOGIN connection, the MI-ETH sends the user name to the remote host. Once the connection is established, the remote host waits for the password. Default remote login name is the same you have on the MI-ETH. If you want to change this user name, it will be necessary to define it thanks to the user option.

To make a RLOGIN connection to the host machine named SS10, you can type :

```
MI-ETH> rlogin SS10
Welcome to Sun Solaris UNIX SVR4 ....
password:
```

To make a RLOGIN connection to the host machine 166.4.32.10 with *sammy* as user name, you can enter :

```
MI-ETH> rlogin user sammy  166.4.32.10
Welcome to AT&T UNIX SVR4 ....
password:
```

See also

TELNET

ROUTE

Definition

Edition and displaying of the 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 administrator to display and edit the MI-ETH routing table.
Available interface names are *eth0* and ISDN form names.
A special interface named *appp* enables to trigger a PPP dial-OUT connection on an asynchronous port (see user manual).

To display a 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 the MI-ETH 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 the MI-ETH 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 an 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 ppp[n] : asynchronous PPP appp : virtual interface isdn form : ISDN interface

See also

IFCONFIG

SAVE

Definition

Save configuration in flash memory (Administrator only).

Syntax

SAVE

Description

Administrators 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 AUTOUSER <AUTO-USER NAME | NONE> <ALL | <PORTS LIST>>
SERIAL CSIZE <5 | 6 | 7 | 8> <ALL | <PORTS LIST>>
SERIAL ERASE <KEY> <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 LOCALECHO <YES | NO>
SERIAL LOCALFLOW <YES | NO>
SERIAL MODE <MUX | MUX_DG | PPP | PRINTER | RAW | RTELNET | TERM> <ALL | <PORTS LIST>>
SERIAL MODEM <MODEM NAME | NONE> <ALL | <PORTS LIST>>
SERIAL NLMAP <YES | NO> <ALL | <PORT LIST>>
SERIAL PARITY <NONE | EVEN | ODD> <ALL | <PORTS LIST>>
SERIAL PPP <PPP NAME | NONE> <ALL | <PORTS LIST>>
SERIAL QUICK <YES | NO> <ALL | <PORTS LIST>>
SERIAL RTELNET <2001 .. 2016> <ALL | <PORTS LIST>>
SERIAL CONFIG <ALL | <PORTS LIST>>
SERIAL SESSION <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>>
SERIAL <TELINBIN | TELOUTBIN> <YES | NO> <ALL | <PORT LIST>>
SERIAL TERMTYPE <TERMINAL TYPE> <ALL | <PORTS LIST>>
SERIAL TIMEOUT <TIMEOUT IN SECONDS> <ALL | <PORTS LIST>>
SERIAL WELCOME <YES | NO> <ALL | <PORTS LIST>>
SERIAL WELCOMESTR <"WELCOME STRING"> <ALL | <PORTS LIST>>

Description

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

SERIAL AUTOUSER

Definition

Automatically opens a session under the name of a determined user (Administrator only).

Syntax

SERIAL AUTOUSER <AUTO-USERNAME | NONE> <ALL | <PORTS LIST>>

Description

This command enables a user to connect without having to enter his name and his eventual password.
For example, after issuing this command, Paul will not have to enter his user name on his online terminal connected to the MI-ETH port number six.

```
ROOT>> serial autouser paul 6
```

This command can be cancelled in this way :

```
ROOT>> serial autouser none 6
```

See also

USER

SERIAL CONFIG

Definition

Displays all port parameters (Administrator only).

Syntax

SERIAL CONFIG <ALL | <PORTS LIST>>

Description

This command enables you 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 *width of 8 bits* on all ports, you can enter

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

SERIAL ERASE

Definition

Define erase key for a port (Administrator only).

Syntax

SERIAL ERASE <^KEY> <ALL | <PORTS LIST>>

Description

To set *CTRL+H* as erase key on port 5, enter :

```
ROOT>> serial erase ^H 5
```

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 passes 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 the MI-ETH must look after the DCD signal.
If you define a port in **local** control, the MI-ETH will not look after the DCD signal state.
On the other hand in **modem** control, the MI-ETH will display login only if the DCD is active.
Moreover, when a user has succeeded to logon normally, if the DCD signal becomes inactive, the MI-ETH 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 LOCALECHO

Definition

Configuration of Telnet echo (Administrator only).

Syntax

SERIAL LOCALECHO <YES | NO>

Description

This command enables you to setup the characters echo during a Telnet session. The default parameter is yes but the telnet server will usually change this parameter.

If you want to receive an echo of typed characters before their transmission, enter :

```
ROOT>> serial localecho yes
```

If you do not want to receive an echo of typed characters before their transmission, enter :

```
ROOT>> serial localecho no
```

See also

SERIAL LOCALFLOW, TELNET

SERIAL LOCALFLOW

Definition

Enables to force the local flow control during a Telnet session (Administrator only).

Syntax

SERIAL LOCALFLOW <YES | NO>

Description

When a Telnet session starts, the Telnet server usually force the Telnet client to use flow control managed on the MI-ETH port. Some UNIX or VMS servers do not force local flow control to client. In this case, you just have to force it with the following command :

```
ROOT>> serial localflow yes
```

See also

SERIAL LOCALECHO, TELNET

SERIAL MODE

Definition

Define the asynchronous ports working mode (Administrator only).

Syntax

SERIAL MODE < MUX | MUX_DG | PPP | PRINTER | RAW | RTELNET | TERM> <ALL | <PORTS LIST>>

Description

To connect a terminal on port 5, enter :

```
ROOT>> serial mode term 5
```

To connect a passive device on port 7, enter :

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

To establish a PPP connection with a modem on port 6, enter :

```
ROOT>> serial mode ppp 6
```

To establish a Relnet connection on port 8, enter :

```
ROOT>> serial mode rtelnet 8
```

To connect a printer on port 4, enter :

```
ROOT>> serial mode printer 4
```

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, PPP, SERIAL NLMAP

SERIAL MODEM

Definition

Assign a modem form to an asynchronous port (Administrator only)

Syntax

SERIAL MODEM <MODEM NAME> <ALL | <PORTS LIST>>

Description

Each form provides commands necessary to achieve a modem connection.
The modem setting up occurs at each port initialization (reboot, reset or deconnection). If it fails, the MI-ETH repeats this action every 20 seconds.

If an online modem on port 5 is a *US Robotics* type and if the appointed form is *usrpro56*, enter :

```
ROOT>> serial modem usrpro56 5
```

See also

MODEM

SERIAL NLMAP

Definition

Managment of line feed by the MI-ETH during printing.

Syntax

SERIAL NLMAP <YES | NO> <ALL | <PORT LIST>>

Description

Some printers do not manage correctly the line feed. In this case, your documents will be printed with a “stairs effect”. To resolve this problem, enable the line feed managment by your MI-ETH :

```
ROOT>> serial nlmap yes 2
```

See also

SERIAL MODE

SERIAL PARITY

Definition

Define asynchronous port parity (Administrator only).

Syntax

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

Description

This command enables to define the port parity.

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

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

SERIAL PPP

Definition

Associate a PPP form to a port (Administator only)

Syntax

SERIAL PPP <PPP NAME | NONE> <ALL | <PORTS LIST>>

Description

This command enables you to associate a PPP form to a port. Example :

```
ROOT>> serial ppp out 5
```

See also

PPP

SERIAL QUICK

Definition

Enables you to start a new MI-ETH session immediately (Administrator only).

Syntax

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

Description

By default, all ports are configured in **serial quick yes**.
If the port is in **serial quick no**, the user will have to press the ENTER key before opening a MI-ETH session. Example :

```
ROOT>> serial quick no 2
```

SERIAL RS485

Definition

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

Syntax

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

Description

If your MI-ETH 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 RTELNET

Definition

Select TCP port number associated to a port (Administrator only).

Syntax

SERIAL RTELNET <2001 .. 2016> <ALL | <PORTS LIST>>

Description

A Telnet session can be opened on an asynchronous port that is confgured in Rtelnet mode (See user manual).
Each port is associated to a different TCP port number. The default TCP port numbers are ‘20nn’ (where nn is corresponding to the MI-ETH port number).

You can define a new TCP port number with the following command :

```
ROOT>> serial rtelnet 2001 2
```

Only TCP port numbers 2001 to 2016 can be used.
If the same TCP port number is associated to a single asynchronous port, Telnet session will open on the first free asynchronous port.

SERIAL RTELRAW

Definition

Enable or disable telnet negociation on a port.

Syntax

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

Description

When you join an MI-ETH port set in rtelnet mode, this port launches a telnet négociation. This is default setting (**serial rtelraw** = no).
To disable this negociation and join the port in TCP, you just have to use the following command (example with port 2) :

```
ROOT>> serial rtelraw yes 2
```

SERIAL SESSION

Definition

Displays the Telnet sessions state (Administrator only)

Syntax

SERIAL SESSION <ALL | <PORTS LIST>>

Description

This command displays in sessions state on a port. These sessions can be closed, active or stopped. IP address displayed is the one of the destination host.

To see the sessions state on ports 1,2 and 3, enter :

```
ROOT>> serial session 1 2 3
Port Status1   Host1          Status2   Host2     Status3   Host3
-------------------------------------------------------------------
 1   active1    192.168.1.16  closed 0.0.0.0      closed    0.0.0.0
 2   stopped    192.168.1.1   active 192.168.1.19 closed    0.0.0.0
 3   closed     0.0.0.0       closed  0.0.0.0     closed    0.0.0.0
```

See also

CLOSE SESSION, TELNET

SERIAL SHOW

Definition

Displays usual port characteristics (Administrator only)

Syntax

SERIAL SHOW >ALL | <PORTS LIST>>

Description

This command displays usual configuration parameters of a selected port(s). These parameters are in 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    dialin 2002
```

See also

SERIAL CONFIG, SERIAL STATUS

SERIAL SPEED

Definition

Define the asynchronous port's speed (Administrator only).

Syntax

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

Description

This parameter is used to set the port's 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 of 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    term  shell   root              10:42:12
2    term  login
```

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 number of stop bits on a port.

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

SERIAL TELINBIN

Definition

Setting of the data reception from a Telnet server to a Telnet client (Administrator only).

Syntax

SERIAL TELINBIN <YES | NO> <ALL | <PORT LIST>>

Description

The **serial telinbin** command enables you to define if the data reception from a Telnet server must be filtred (seven bits) or not (eight bits).

The default parametrer is eight bits (yes) :

```
ROOT>> serial telinbin yes all
```

See also

SERIAL TELOUTBIN, TELNET

SERIAL TELOUTBIN

Definition

Setting of the data reception from a Terminal to a Telnet client (Administrator only)..

Syntax

SERIAL TELOUTBIN <YES | NO> <ALL | <PORT LIST>>

Description

The **serial telinbin** command enables you to define whether the data reception from a Telnet server must be filtred (seven bits) or not (eight bits).

The right parameter, in most case, is seven bits (no). It is mandatory if you want a Telnet client to translate control key codes :

```
ROOT>> serial teloutbin no all
```

See also

SERIAL TELINBIN, TELNET

SERIAL TERMTYPE

Definition

Definition of emulation type (Administrator only)

Syntax

SERIAL TERMTYPE <TERMINAL TYPE> <ALL | <PORTS LIST>>

Description

```
ROOT>> serial termtype wyse50 2
```

Beared emulations are :
ansi, vt300, vt320, vt200, vt220,vt100, wyse50, wyse60, wyse100, wyse350, wyse120, wyse 150 et wyse370.
If the emulation type entered does not belong to the list above, it will be stocked in spite of it. This type can be exported in case of a Telnet session.

See also

TELNET

SERIAL TIMEOUT

Definition

Defines time range during which the DCD signal can be deasserted before the software will disconnect the port (Admnistrator only).

Syntax

SERIAL TIMEOUT <TIMEOUT IN SECONDS> <ALL | <PORT LIST>>

Description

If no data commutes via a port during a lapse of time, the MI-ETH stops DTR signal this port. If a modem is connected on this port, this will end the current communication.

Example :

```
ROOT>> serial timeout 180 3
```

See also

MODEM

SERIAL WELCOME

Definition

Enable you to display a welcome banner (Administrator only).

Syntax

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

Description

Your MI-ETH can display a welcome banner when somebody connects to a port. This command enables you to activate or deactivate this option.

To disable this option on ports 1 and 3, enter :

```
ROOT>> serial welcome no 1 3
```

See also

SERIAL WELCOMESTR

SERIAL WELCOMESTR

Definition

Definition of welcome banner text (Admnistrator only)

Syntax

SERIAL WELCOMESTR <"WELCOME STRING"> <ALL | <PORTS LIST>>

Description

This command enables you to change the welcome banner text. It is possible to define different message for each port.

```
ROOT>> serial welcomestr "Welcome to ACS Server" all
```

See also

SERIAL WELCOME

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 the 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 MI-ETH.

You can change the MI-ETH's SNMP name with the following command :

```
ROOT>> snmp name MI-ETH
```

SNMP allows two different access levels of 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
```

SYNC

Definition

Synchronous ports administration (Administrator only)

Syntax

SYNC PPP <<PPP NAME> | NONE> <ALL | <PORT LIST>>
SYNC LINECTRL <LOCAL | MODEM> <ALL | <PORT LIST>>
SYNC SHOW <ALL | <PORT LIST>>
SYNC SPEED <9600 | 19200 | 38400 | 64K | 128K | 256K | 512K | 1024K | 2048K> <ALL | <PORT LIST>>

Description

To associate a PPP form to a synchronous port, enter :

```
ROOT>> sync ppp sync-ppp 1
```

To select line control mode used on a synchronous port (**local** or **modem**), enter :

```
ROOT>> sync linectrl local 1
```

The default line control mode is **modem.** To display the status of synchronous ports, enter :

```
ROOT>> sync show all
Port Status Master  Speed   PPPName  StartTime  LineCtrl    CD
1    ppp    no      (9600)  sync-ppp 12:35:12   modem       *
```

Status is the current state of the port : waiting or ppp (connected).

Master indicates if the MI-ETH generates the clock signal or not. In case of connection through synchronous modems, the MI-ETH does not generate the clock signal.

Speed is displayed in brackets in case of connection through synchronous modems. Real speed is the speed of modems.

CD indicates state of the DCD signal.

To set the synchronous port speed, enter :

```
ROOT>> sync speed 128k 6
```

See also

PPP, DIALER

SYSTEM

Definition

Displaying and setup of the 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 RADIUS AUTH <SERVER NODE NAME | IP ADDRESS>
SYSTEM RADIUS ACCOUNT <SERVER NODE NAME | IP ADDRESS>
SYSTEM RADIUS AUTHPORT <TCP PORT NO. OF AUTHENTIC. SERVER>
SYSTEM RADIUS ACCTPORT <TCP PORT NO. OF ACCOUNTING SERVER>
SYSTEM RADIUS AUTHTIMEOUT <AUTHENTIC. SERVER REQUEST TIMEOUT>
SYSTEM RADIUS ACCTTIMEOUT <ACCOUNTING SERVER REQUEST TIMEOUT>
SYSTEM RADIUS AUTHRETRIES <AUTHENTIC. SERVER REQUEST RETRIES>
SYSTEM RADIUS ACCTRETRIES <ACCOUNTING SERVER REQUEST RETRIES>
SYSTEM RADIUS SECRET <KEY>
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 you to configure the saving file, host IP address where the file is, 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 "DECISION Europe"
```

To activate the RADIUS Authentification server, enter :

```
ROOT>> system radius auth 192.168.5.10
```

To activate the RADIUS Accounting serve, enter :

```
ROOT>> system radius account 192.168.5.11
```

To define TCP ports numbers *1812* and *1813* as RADIUS servers ports, enter the commands :

```
ROOT>> system radius authport 1812
Ok!
ROOT>> system radius acctport 1813
Ok!
```

You can modify the reply timeout (in seconds) of the servers :

```
ROOT>> system radius authtimeout 5
Ok!
ROOT>> system radius accttimeout 5
Ok!
```

If the MI-ETH does not receive any answer before this timeout delay, the MI-ETH send a request two more times. You can modify this number :

```
ROOT>> system radius authretries 10
Ok!
ROOT>> system radius acctretries 5
Ok!
```

The RADIUS protocol encryptes the password to make them unreadable in an IP request. You must define a secret encrypt key. This secret must be the same as the RADIUS secret.

```
ROOT>> system radius secret pswd
```

To reboot your MI-ETH, execute the following command :

```
ROOT>> system reboot
```

To restore the MI-ETH factory configuration, enter :

```
ROOT>> system factory
```

To activate RIP option, enter :

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

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

To update your MI-ETH, 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
```

The MI-ETH will require a password before validate the upgrading operation. Contact us to get a valide password.

TELNET

Definition

Opens a TELNET session

Syntax

TELNET <<DOMAIN NAME> | <IP ADDRESS>> [<TCP PORT NO>]

Description

This command allows you to start a TELNET session.
The TELNET protocol allows you to open a session on a remote host through the network.

When you enter :

```
MI-ETH> telnet seville
```

The screen is re-initialized and the next page is displayed :

```
Trying 200.1.1.20...

(seville.decision.fr) (ttyp0)


seville login: marc
Last login: Fri Feb  2 10:26:01 from 200.1.1.11
seville:~>
```

You can return to your MI-ETH session with the ALT-F1 sequence keys.
TCP port is the TCP port number of the remote host. Default value is 23.
Up to three TELNET sessions are available on a port.

See also

SERIAL LOCALECHO, SERIAL LOCALFLOW, SERIAL SESSION, SERIAL TELINBIN, SERIAL TELOUTBIN, SERIAL TERMTYPE, RLOGIN, USER

TEST

Definition

Runs a terminal test.

Syntax

TEST

Description

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

Example :

```
MI-ETH> 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[\]^_`abcdefghijklm
noá!"#$%&'()*+
```

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

MI-ETH>time
Monday 12:00:10 Dec 25 1995
```

Thanks to the following set of commands, you can also set the MI-ETH'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 the used protocol. 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 the local time in function of the MI-ETH 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 to help with the following command :

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

This is the GMT time. To set time in function of the MI-ETH 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 delaly between each call to the server, you can use the **time frequency** command. Available option are *Boot* (at MI-ETH's boot), *Hour*, *Day* or *Month*.

Example :

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

To display the current time parameters, type :

```
ROOT>> time show
```

TRACEROUTE

Definition

Displays the route used by a frame to reach destination.

Syntax

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

Description

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

```
ROOT>> traceroute 194.2.168.1
```

See also

NETSTAT, PING

USER

Definition

Administration of user accounts (Administrator only).

Syntax

USER SHOW [USER NAME]
USER ADD <USER NAME> <PASSWORD>
USER DELETE <USER NAME>
USER COMMENT <USER NAME> <"COMMENT">
USER IN <USER NAME> <YES | NO>
USER OUT <USER NAME> <YES | NO>
USER CALLBACK <USER NAME> <NONE | STATIC | DYNAMIC>
USER CALLBACKNB <USER NAME> <1 | 2 | 3> <CALLBACK PHONE NUMBER>
USER AUDIT <USER NAME> <YES | NO>
USER NETADDR <USER NAME> <IP ADDRESS FOR PPP>
USER NETMASK <USER NAME> <IP MASK FOR PPP>
USER TELNETADDR <USER NAME> <1 | 2 | 3> <IP ADDRESS>
USER TELNETPORT <USER NAME> <1 | 2 | 3> <TCP PORT>

Description

To display the user list, enter :

```
ROOT>> user show
```

To create a user named *paul* with the password *paswd,* enter the following command :

```
ROOT>> user add paul paswd
```

To erase this user, type :

```
ROOT>> user delete paul
```

The following command enables you to add comments to the form :

```
ROOT>> user comment paul ''commentaires inscrits ''
```

To permit dial-in connections to the user *paul,* enter :

```
ROOT>> user in paul
```

To permit dial-out connections to the user paul, enter :

```
ROOT>> user out paul
```

To activate **static** or **dynamic callback**, use the following commands.

```
ROOT>> user callback paul static
ROOT>> user callback paul dynamic
```

In static callback, the MI-ETH will call the first phone number from the Callback List (see **callbacknb**). In dynamic callback, the MI-ETH will callback the user if they call from a phone number of the Callback List.
If the '*' character appears in the first field of the CallBack List, the user can call from any phone number.

To disable Callback, enter :

```
ROOT>> user callback paul none
```

To define the first number of the Callback List, enter :

```
ROOT>> user callbacknb paul 1 0251323232
```

To define the second number of the Callback List, enter :

```
ROOT>> user callbacknb paul 2 0251323232
```

To define an audit for the user paul, enter

```
ROOT >> user audit paul yes
```

To enable the personnal IP address (during a PPP connection) for a user, use the following command :

```
ROOT>> user netaddr paul 192.168.1.50
```

To define the IP mask of this address :

```
ROOT>> user netmask paul 255.255.255.0
```

To set up an automatic Telnet session to a particular host, use the following command :

```
ROOT>> user telnetaddr 192.168.1.19
```

To define a Telnet session to port (23 for example), enter :

```
ROOT>>user telnetport paul 23
```

See also

PPP, TELNET, SERIAL AUTOUSER

WHO

Definition

Show the list of the connected users.

Syntax

WHO
WHO AM I

Description

This command allows you to know who is currently connected to your MI-ETH.

```
MI-ETH>who
2         pierre          10:02:50  Nov  12
5         vincent         09:10:24  Nov  12
10        paul            16:02:30  Nov  11
NET       root            11:02:30  Nov  12

MI-ETH> who am i  10 :23:10  Nov 12
10        paul
```

See also

FINGER