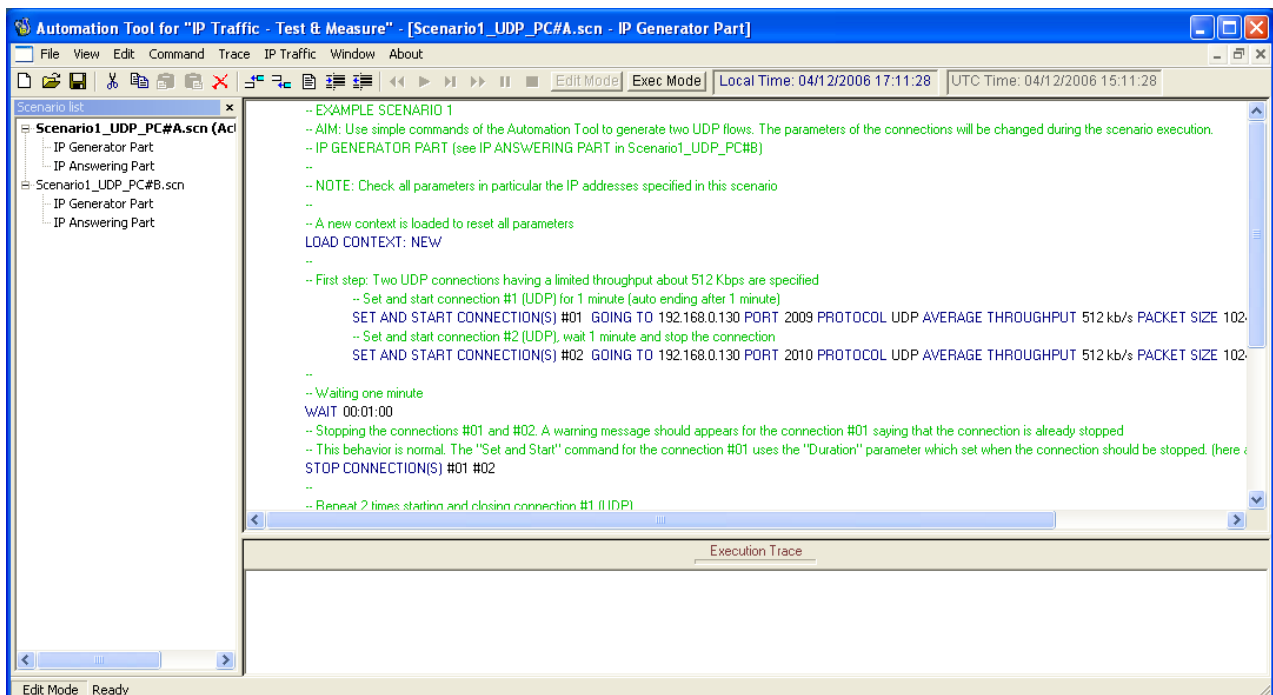


Version 1.8

Automation Tool for IP Traffic – Test & Measure

Add-on to automate operations with
IP Traffic – Test & Measure software



User Guide

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This guide allows discovering the Automation Tool for IP Traffic - Test & Measure software and is not an exhaustive user manual.

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PART 0 Preface

0.1 Minimum System Requirements

To appropriately operate **Automation Tool for IP Traffic – Test & Measure** or **Automation Tool for IP Traffic**, you need the following minimum system requirements:

- Windows Seven, 8, 10, Windows Server 2008 and more.
- Pentium processor with 512 MB memory
- 1024 x 768 display
- 25 MB free hard disk space

0.2 Technical Support

ZTI Communications Technical Support can assist you with all your technical problems from installation to troubleshooting. Before contacting our Technical Support, please read the relevant sections of the product documentation and the “Read Me First” file.

Before contacting our technical support, make sure you record the following information:

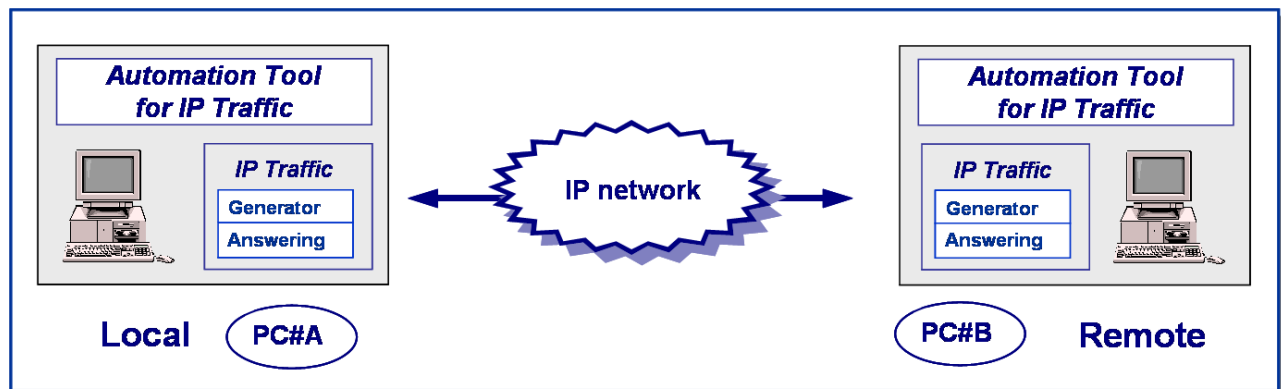
- Product name and version.
- Demo version or licensed product.
- System configuration.
- Problem details: settings, error messages...
- If the problem is persistent, give the details of how to create the problem.

You can contact Technical Support by:

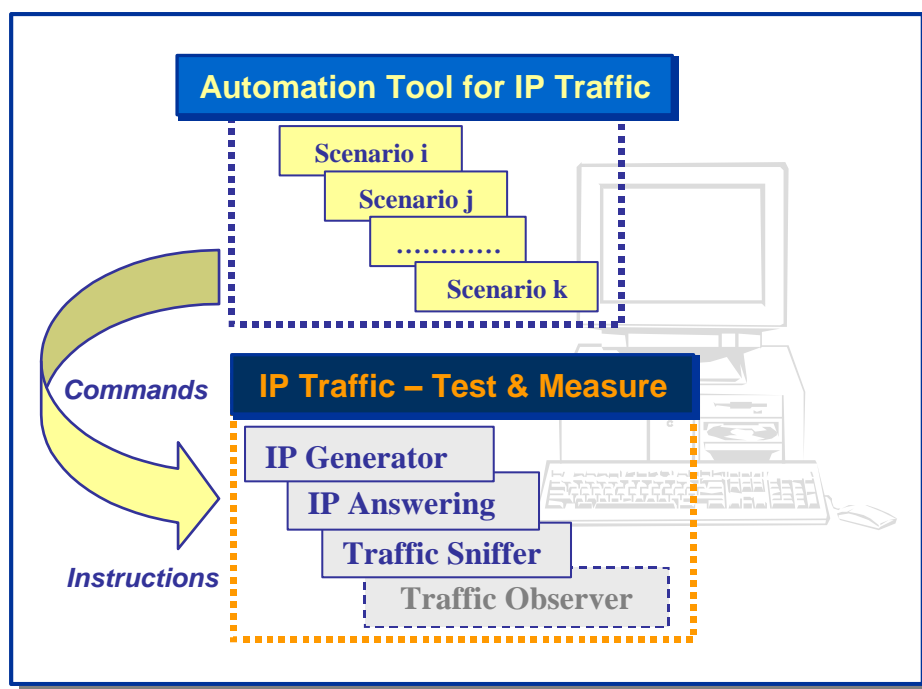
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PART 1 Product Overview

Automation Tool for IP Traffic is an add-on tool for the **IP Traffic – Test & Measure** software.



This tool allows controlling **IP Traffic - Test & Measure** by using a scenario.



This Automation Tool is based on the notion of **scenario**. A scenario is a succession of commands and instructions.

A Command is used to parameter and/or to activate a function of the **IP Traffic - Test & Measure** application, for example: The 'Start Receiver' Command is equivalent by pressing manually the 'Start receiving traffic' button in the 'IP Answering – Parameters + Statistics' tab on the **IP Traffic - Test & Measure** application.

An Instruction is used by the Automation Tool to realize a specific treatment: for example, 'Wait 10 seconds'.

Note: a maximum of 20 scenarios can be opened at the same time.

A scenario is composed of two entities:

- The **IP Generator part** to pilot the 'IP Generator' module of the **IP Traffic - Test & Measure** application
- The **IP Answering part** to pilot the 'IP Answering' module of the **IP Traffic - Test & Measure** application

The description of each command or [instruction](#) is shown in PART 5.

Commands and Instructions for the 'IP Generator' part	Commands and Instructions for the 'IP Answering' part
Comments Load Context Download Remote file Repeat End Repeat Launch External Application Register Statistics Select interface Select Columns Set File Mode Parameters Set Time Device Parameters Set Sniffer Parameters Set Specific Parameters Set and Start Connection(s) Start Automatic Mode Enable Statistics Export Start Sniffer Stop All Connections Stop Automatic Mode Stop Connection(s) Disable Statistics Export Stop Scenario Stop Sniffer Wait	Comments Load Context Download Remote file Repeat End Repeat Launch External Application Register Statistics Select interface Select Columns Set Connections(s) Set File Mode Parameters Set Time Device Parameters Set Sniffer Parameters Set Specific Parameters Start Receiver Enable Statistics Export Start Sniffer Stop Receiver Disable Statistics Export Stop Scenario Stop Sniffer Wait

An example of scenario is displayed below, with the following configuration:

- PC#A is acting as the 'Local' machine with the scenario file:
'Scenario1_UDP_PC#A.scn'
- PC#B is acting as the 'Remote' machine with the scenario file:
'Scenario1_UDP_PC#B.scn'

Note: by double-clicking on a scenario file, the automation tool starts and opens the corresponding scenario file.

Contents of the **Scenario1_UDP_PC#A.scn** file

IP Generator Part

Scenario File: Scenario1_UDP_PC#A.scn - IP Generator Part

```
-- EXAMPLE SCENARIO 1
-- AIM: Use simple commands of the Automation Tool to generate two UDP flows. The
parameters of the connections will be changed during the scenario execution.
-- IP GENERATOR PART (see IP ANSWERING PART in Scenario1_UDP_PC#B)
--
-- NOTE: Check all parameters in particular the IP addresses specified in this scenario
--
-- A new context is loaded to reset all parameters
LOAD CONTEXT: NEW
--
-- First step: Two UDP connections having a limited throughput about 512 Kbps are
specified
    -- Set and start connection #1 (UDP) for 1 minute (auto ending after 1 minute)
    SET AND START CONNECTION(S) #01 GOING TO DestinationAddress PORT 2009 PROTOCOL UDP
    AVERAGE THROUGHPUT 512 kb/s PACKET SIZE 1024 bytes TOS 00 DURATION 00:01:00
    -- Set and start connection #2 (UDP), wait 1 minute and stop the connection
    SET AND START CONNECTION(S) #02 GOING TO DestinationAddress PORT 2010 PROTOCOL UDP
    AVERAGE THROUGHPUT 512 kb/s PACKET SIZE 1024 bytes TOS 00
--
-- Waiting one minute
WAIT 00:01:00
-- Stopping the connections #01 and #02. A warning message should appears for the
connection #01 saying that the connection is already stopped
-- This behavior is normal. The "Set and Start" command for the connection #01 uses the
"Duration" parameter which set when the connection should be stopped. (here after one
minute)
STOP CONNECTION(S) #01 #02
--
-- Repeat 2 times starting and closing connection #1 (UDP)
REPEAT 2 TIME(S)
    -- This is useful in a loop in order to let time to the processes or connections
of the previous loop to be released
    WAIT 00:00:10
    -- In the case below, the data size is set to 1024 bytes and the inter packet
delay is set to 50 ms.
    -- By using a data size and an inter packet delay, you can also defined a
connection having a limited throughput
    -- This connection should generate data with a throughput close to 16 Kb/s
    SET AND START CONNECTION(S) #01 GOING TO DestinationAddress PORT 2009 PROTOCOL UDP
    PACKET SIZE 1024 bytes INTERPACKETDELAY 50 ms TOS 00
    -- By using the wait command, the duration of a connection can be also specified.
    Easier to change the duration in one place when many connections are specified
    WAIT 00:00:30
    STOP ALL CONNECTIONS
END REPEAT
```

IP Answering Part

Scenario File: Scenario1_UDP_PC#A.scn - IP Answering Part

Empty

Contents of the **Scenario1_UDP_PC#B.scn** file

IP Answering Part

Scenario File: Scenario1_UDP_PC#B.scn - IP Answering Part

```
-- EXAMPLE SCENARIO 1
-- AIM: Use simple commands of the Automation Tool to generate two UDP flows.
-- The parameters of the connections are changed during the scenario execution.
-- IP ANSWERING PART (see IP GENERATOR PART in Scenario1_UDP_PC#A)
--
-- A new context is loaded to reset all parameters
LOAD CONTEXT: NEW
--
-- The configuration of the IP Answering part is very simple
-- First step : specify the port numbers, the protocol and the receiver working
mode
SET CONNECTION(S) #01  PORT 2009 PROTOCOL UDP MODE Absorber
SET CONNECTION(S) #02  PORT 2010 PROTOCOL UDP MODE Absorber
--
-- Second step : Start the IP Answering
START RECEIVER
-- The automation stopped the execution of the scenario but the IP Answering is
still running
-- In this case, it is not necessary to wait the end of scenario based on PC#A
--
```

IP Generator Part

Scenario File: Scenario1_UDP_PC#B.scn - IP Generator Part

Empty

To execute the scenario **Scenario1_UDP_PC#A.scn**, please proceed as follows:

- The **IP Traffic - Test & Measure** and **IP Traffic - Test & Measure** software are running on PC#A and PC#B.
- First, the 'Scenario1_UDP_PC#B.scn' file is loaded on PC#B (Remote) and started.
- Second, the 'Scenario1_UDP_PC#A.scn' file is loaded on PC#A (Local).
- Then create in the HOSTS file ([WINDOWS DIRECTORY]/System32/Drivers/etc/), the entry "DestinationAddress" specifying the IP address corresponding to the address of your PC#B (192.168.0.51 is the address of the PC#B we took as example) as shown below:

```
# Copyright (c) 1993-1999 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#       102.54.94.97       rhino.acme.com           # source server
#       38.25.63.10       x.acme.com              # x client host
127.0.0.1    localhost
192.168.0.51 DestinationAddress
```

- You can then execute this scenario on PC#A

Remark

Several scenario examples are provided with **Automation Tool for IP Traffic** with 2 files for each example.

Example #1: 2 UDP connections from PC#A to PC#B

- Scenario1_UDP_PC#A.scn (for PC#A)
- Scenario1_UDP_PC#B.scn (for PC#B)

Example #2: 2 TCP connections from PC#A to PC#B

- Scenario2_TCP_PC#A.scn (for PC#A)
- Scenario2_TCP_PC#B.scn (for PC#B)

Example #3: 16 TCP connections from PC#A to PC#B

- Scenario3_LaunchAllProcesses_PC#A.scn (for PC#A)
- Scenario3_LaunchAllProcesses_PC#B.scn (for PC#B)

Example #4: Carry out unannounced tests to measure the bandwidth (upload and download)

- For PC#A
 - Scenario4_Link_BandwidthPerformances_PC#A.scn
 - Scenario4_ContextFile_PC#A.Ctx: context file used by the scenario of the PC#A
 - LaunchScenario4_PC#A.bat: batch file to launch the software and start the scenario execution
- For PC#B
 - Scenario4_Link_BandwidthPerformances_PC#B.scn (for PC#B)
 - Scenario4_ContextFile_PC#B.Ctx: context file used by the scenario of the PC#B
 - LaunchScenario4_PC#B.bat: batch file to launch the software and start the scenario execution

Example #5: Generation of a TCP connection using the Automatic mode to test the network availability

- Scenario5_Network_Availability_PC#A.scn
- Scenario5_ContextFile_PC#A.Ctx: used by the scenario of the PC#A
- Scenario5_Network_Availability_PC#B.scn

Example #6: Performances measures for Fast Ethernet Networks

- Scenario6_FastEthernetPerformancesTests_PC#A.scn (for PC#A)
- Scenario6_FastEthernetPerformancesTests_PC#B.scn (for PC#B)

Example #7: Performances measures for Gigabit Networks

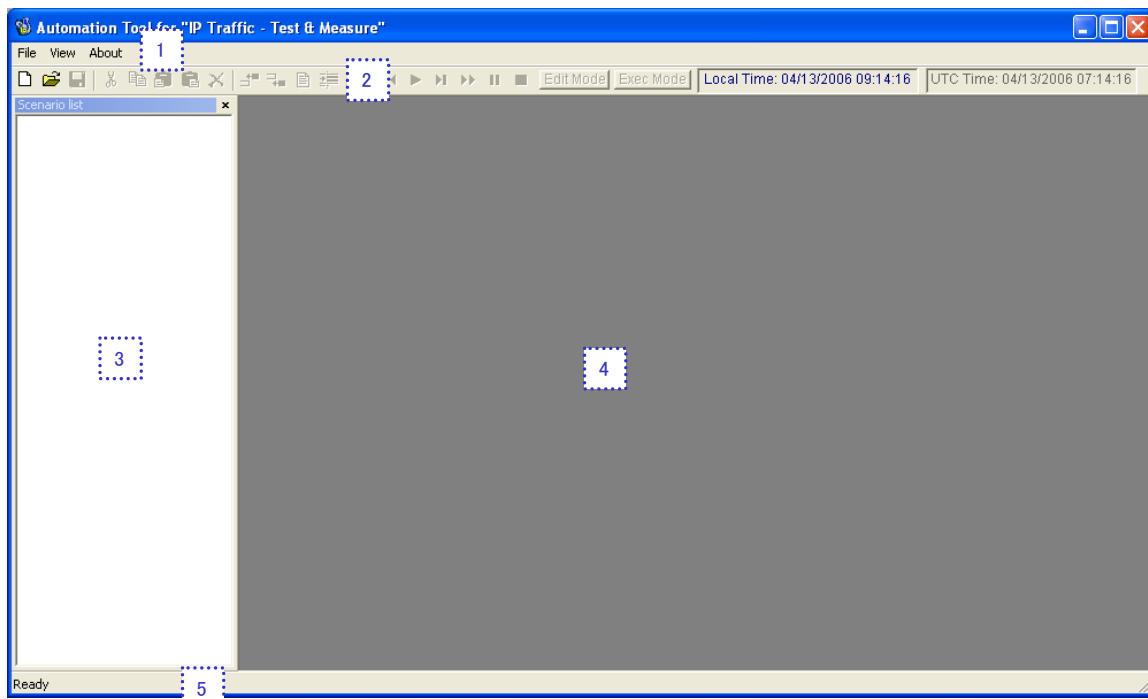
- Scenario7_GigabitPerformancesTests_PC#A.scn (for PC#A)
- Scenario7_GigabitPerformancesTests_PC#B.scn (for PC#B)
- Scenario7_ContextFile.Ctx: context to use on the both side to set the **IP Traffic - Test & Measure** buffers to 40 000 bytes.

To execute these scenarios, proceed as described above, by creating an entry into the HOSTS file.

PART 2 Graphical User Interface

2.1 Main Window

When the Automation Tool is started, the following main window is displayed:



Automation Tool for IP Traffic - Main Window

This main window is composed of four areas:

Area 1: the **Menu Bar**

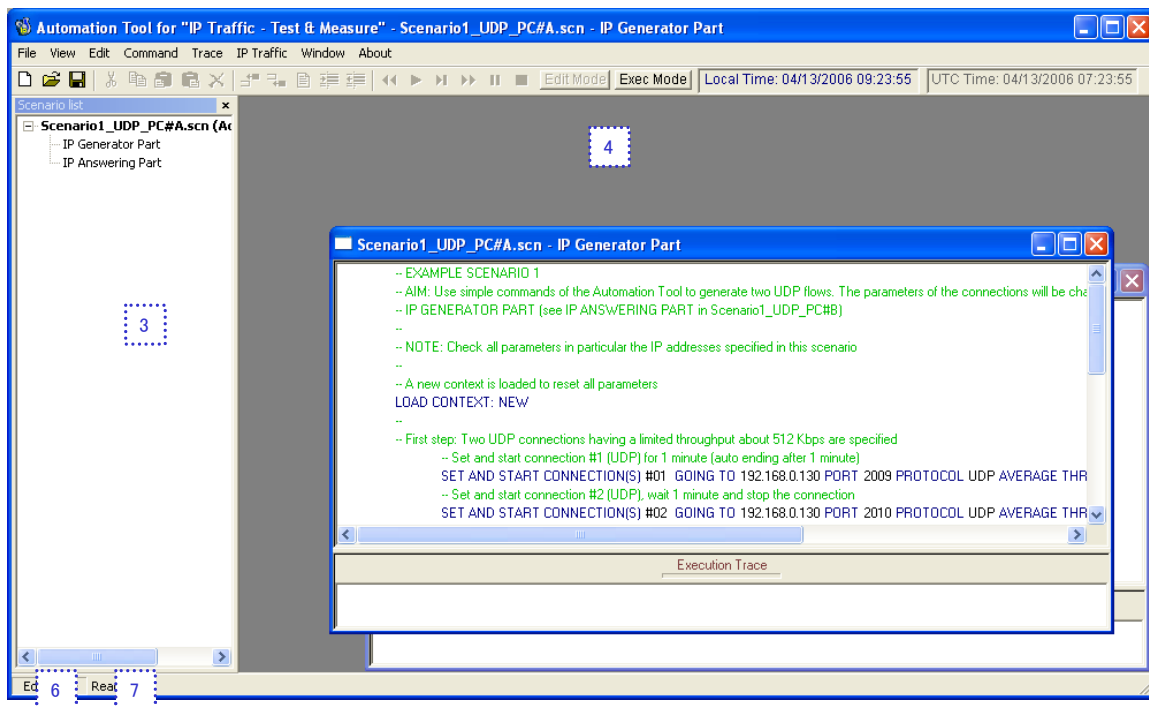
Area 2: the **Tool Bar**

Area 3: to display the list of opened scenarios

Area 4: working area used for editing and running a scenario

Area 5: the **Status Bar** is composed of two fields used for displaying information. The first field indicates the scenario's working mode: Edit mode or Exec mode. The second field is used for contextual help information.

When a scenario is opened, the information is displayed in the areas 3 and 4 as shown below and the Menu Bar is enriched:



A scenario is composed of 2 parts (area 3) displayed in two different windows (area 4):

- the 'IP Generator' part,
- and the 'IP Answering' part.

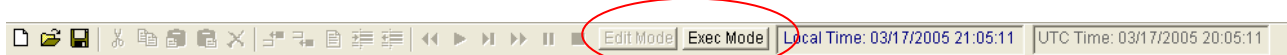
The status bar is also subdivided in two horizontal zones (area 6 and 7):

- Area 6: Edit zone
- Area 7: Execution zone

Two operating modes are available:

- Edit mode: to create, edit, modify and delete a scenario.
- Exec mode: to run a scenario

You switch from one mode to the other one by using the buttons 'Edit Mode' or 'Exec Mode' located in the **Tool Bar**:



2.2 Menu Description

The items of the Menu Bar vary depending if a scenario is opened or not.

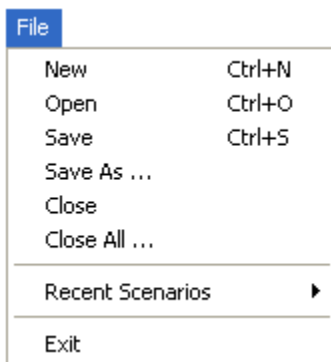
When you launch this tool or if no scenario is opened, the following items are displayed:

File View About

When one or more scenarios are opened, the Menu Bar is enriched to display the following items:

File View Edit Command Trace IP Traffic Window About

2.2.1 File Menu



2.2.1.1 File/New

This command opens a new default scenario composed of two parts: Sender and Receiver.

2.2.1.2 File/Open

The “Open” command allows opening a scenario file (.SCN file), which contains a previously saved scenario.

2.2.1.3 File/Save

The “Save” command allows saving all the lines defined by the user in the opened scenario file.

2.2.1.4 File/Save as

This command allows saving all the parameters and commands defined in a scenario file defined by the user (.SCN file).

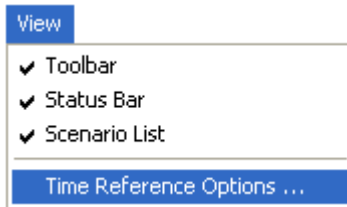
2.2.1.5 File/Recent Contexts

This command allows opening a scenario file previously loaded. The 6 most recent scenario files are shown in the list.

2.2.1.6 File/Exit

This command allows quitting the “Automation Tool for IP Traffic”. A confirmation message box is then displayed and a message box will ask you to save or not changes made to the opened scenarios for each modified scenario.

2.2.2 View Menu



2.2.2.1 View/Toolbar

By clicking this item, the Toolbar is displayed or hidden.

2.2.2.2 View/Status Bar

By clicking this item, the Status Bar is displayed or hidden.

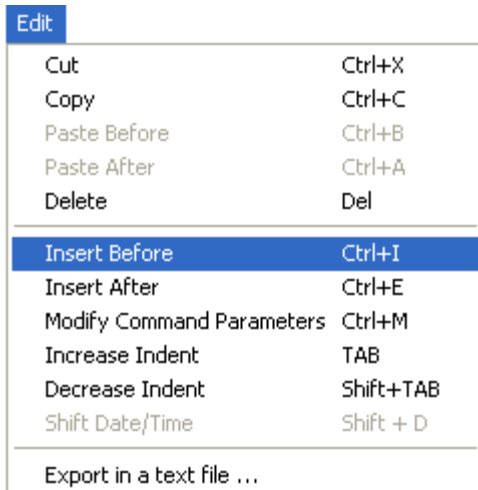
2.2.2.3 View/Scenario List

By clicking this item, the Scenario List is displayed or hidden.

2.2.2.4 View/Time Reference Options ...

By clicking this item, the time reference can be selected. In function of the selection, the Date/Time information including in the scenario will be interpreted using the local time or the machine time (UTC).

2.2.3 Edit Menu



The items of this menu are only available in the “Edit Mode”.

2.2.3.1 Edit/Cut

Cuts selected lines in a scenario

2.2.3.2 Edit/Copy

Copies selected lines of a scenario

2.2.3.3 Edit/Paste Before

Pastes the previously copied lines before the selected line in the scenario

2.2.3.4 Edit/Paste After

Pastes the previously copied lines after the selected line in the scenario

2.2.3.5 Edit/Delete

Deletes the selected lines in the scenario

2.2.3.6 Edit/Insert Before

Inserts a new command or instruction before the selected line

2.2.3.7 Edit/Insert After

Inserts a new command or instruction after the selected line

2.2.3.8 Edit/Modify Command Parameters

Modifies the selected line of the scenario

2.2.3.9 Edit/Increase Indent

Increases indentation of the selected line

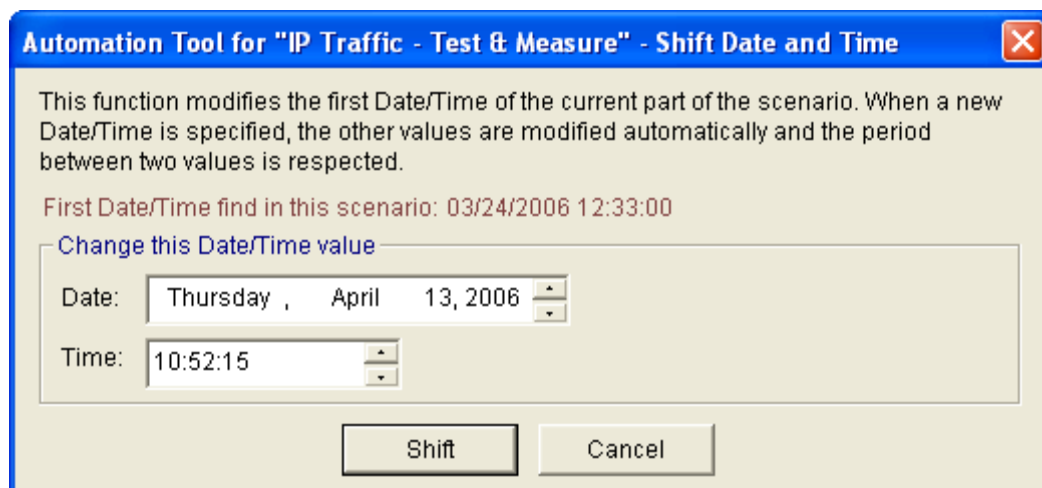
2.2.3.10 Edit/Decrease Indent

Decreases indentation of the selected line

2.2.3.11 Edit/Shift Date/time

By using this function, you can modify and shift the Date/time for all commands and instructions of a scenario.

In the example below, the local Date/Time has been previously defined (View/Options ... menu) and the first command or instruction with a date is based on: 03/24/2006 12:33:00.



You can define for example a new date & time: 04/13/2006 10:52:15 and then press the 'Shift' button. So, the first command or instruction of the scenario with a date/time will refer to this new value, and automatically all others commands and instructions with a date/time will be updated with this new basis.

2.2.3.12 Edit/Export in a text file ...

Opens a dialog box to save in a file the lines of the selected part of a scenario (.TXT format)

2.2.4 Command Menu

Command	
Rewind	F7
Run	F5
Step by step	F11
Go	F5
Pause	F4
Stop	F3

The items of this menu are only available in the “Exec Mode”.

2.2.4.1 Command/Rewind

Sets the execution point of the scenario to the first line

2.2.4.2 Command/Run

Runs the active scenario (Sender and Receiver parts)

2.2.4.3 Command/Step by Step

Executes the lines of the scenario step by step for the active window (Sender Part or Receiver Part)

2.2.4.4 Command/Go

This command can be used after a step by step execution.

2.2.4.5 Command/Pause

Stops the execution of the scenario after the current line being executed

2.2.4.6 Command/Stop

Stops the execution of the scenario, it doesn't stop **IP Traffic - Test & Measure**.

2.2.5 Trace Menu

Trace	
Clear Scenario Trace	
Clear IP Generator Part Trace	
Clear IP Answering Part Trace	
Save Scenario Trace	
Save IP Generator Part Trace	
Save IP Answering Part Trace	
Trace Saving Options ...	

The items of this menu are enabled in the “Exec Mode”. The “Trace Saving Options ...” item is always enabled.

2.2.5.1 Trace/Clear Scenario Results

Clears the results of the execution in the 'Execution Results' zone for the IP Generator Part and the IP Answering Part.

2.2.5.2 Trace/Clear IP Generator Part Results

Clears the results of the execution in the 'Execution Results' zone for the IP Generator Part exclusively

2.2.5.3 Trace/Clear IP Answering Part Results

Clears the results of the execution in the 'Execution Results' zone for the IP Answering Part exclusively

2.2.5.4 Trace/Save Scenario Results

Saves the results of the execution in a file (.TXT format) for the IP Generator Part and the IP Answering Part

2.2.5.5 Trace/Save IP Generator Part Results

Saves the results of the execution in a file (.TXT format) for the IP Generator Part exclusively

2.2.5.6 Trace/Save IP Answering Part Results

Saves the results of the execution in a file (.TXT format) for the IP Answering Part exclusively

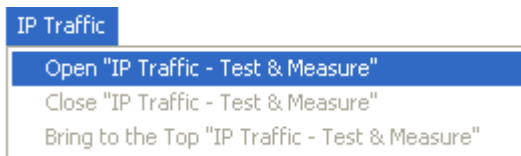
2.2.5.7 Trace/Trace Saving Options

Saves the results while executing a scenario in one or two files (.TXT format) and you can define the periodicity of this automatic saving process

The screenshot shows a dialog box titled "Automation Tool for 'IP Traffic - Test & Measure' - Trace Saving Options". It has a blue title bar with a close button (X) in the top right corner. The dialog contains the following elements:

- A checked checkbox labeled "Activate Automatic Save".
- Two radio button options for saving traces:
 - Automatically save Trace in one File**: This option is selected. It includes a text field labeled "Trace File:" and a "Browse" button.
 - Automatically save Trace in two Files**: This option is unselected. It includes two text fields: "IP Generator Trace:" and "IP Answering Trace:", each with its own "Browse" button.
- A text field labeled "Periodic save Trace (seconds):" with the value "1" entered.
- A "Note:" section with a text box containing the message: "Automatic Save is started when you launch the scenario and is halted when you stop the scenario."
- At the bottom, there are "OK" and "Cancel" buttons.

2.2.6 IP Traffic Menu



This menu is used to start (Open ...) and stop (Close) manually the **IP Traffic - Test & Measure** application.

2.2.6.1 IP Traffic/Open

Starts manually and open the **IP Traffic - Test & Measure** application (if already not launched).

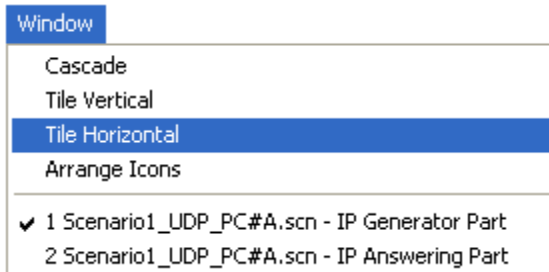
2.2.6.2 IP Traffic /Close

Stops and closes the **IP Traffic - Test & Measure** application.

2.2.6.3 IP Traffic /Bring to the top

Brings to the top the **IP Traffic - Test & Measure** main window.

2.2.7 Window Menu



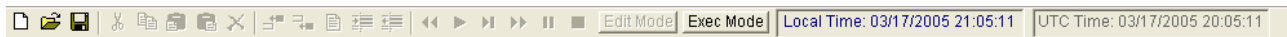
This menu is used to arrange the opened windows for the scenarios displayed on the right part with different methods:

- Cascade
- Tile vertical
- Tile horizontal
- Arrange icons (when the windows are iconized)

2.2.8 About Menu

Displays the version number and copyright of the **Automation Tool for IP Traffic** application.

2.3 Tool Bar Description



The tool bar is composed of icons, buttons and information zones.

Description of the objects from left to right:

- Create a new scenario
- Open a scenario file
- Save the active scenario in a file

- Cut the selection
- Copy the selection
- Paste before (the current line)
- Paste after (the current line)
- Delete the selected line(s)

- Insert before (the current line)
- Insert after (the current line)
- Modify (the current line)
- Increase indent (the selected lines)
- Decrease indent (the selected lines)

- Rewind (the execution mark is at the top of the scenario)
- Run the scenario
- Run the scenario step by step
- Go (after a step by step execution)
- Pause
- Stop

- Edit Mode button
- Exec Mode button

- Local time (current time of the machine)
- UTC time (absolute time)

PART 3 Using the Automation Tool

3.1 Create and Edit a Scenario

Step 1: File/New

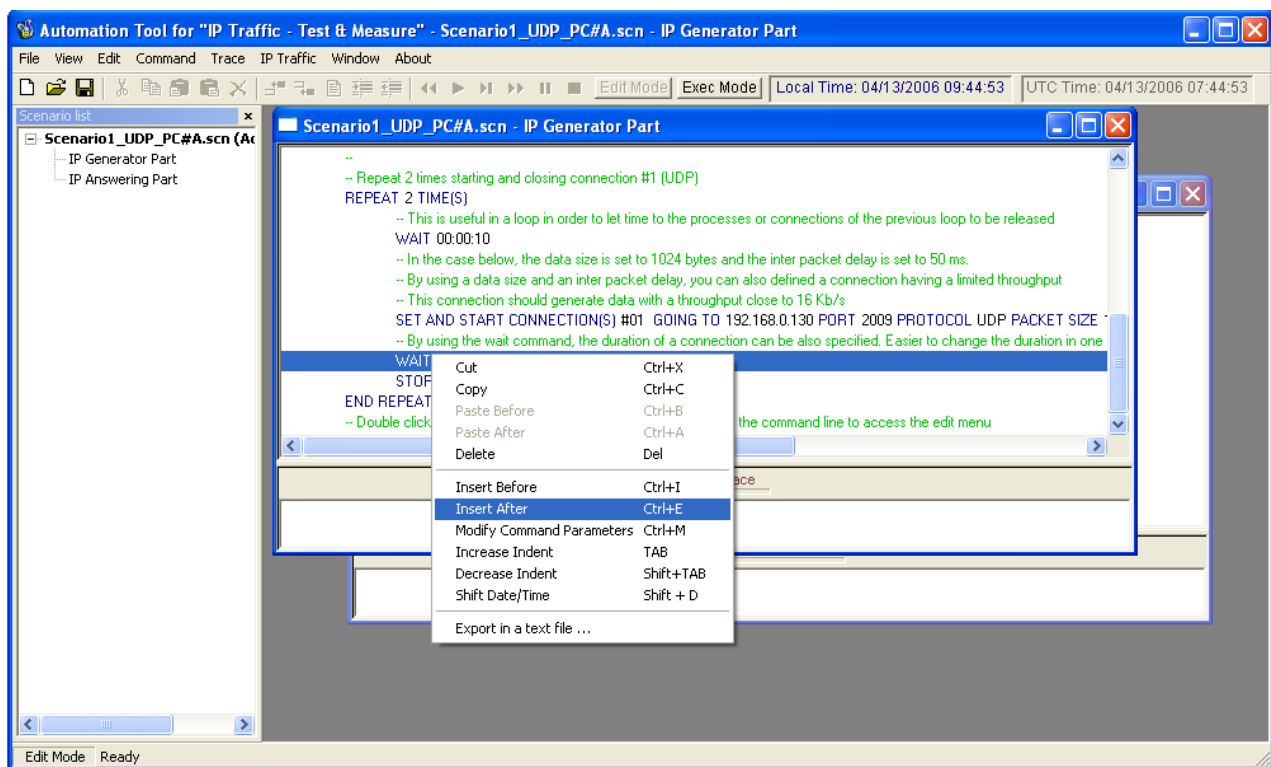
Step 2: Select the window: IP Generator Part or IP Answering Part

Step 3: Double click on the line 'Double click here to insert a new command line'. A window is displayed to insert a command or instruction.

Step 4: Select the command or instruction you want to insert and fill in the parameters, and then click OK.

Step 5: Add new command or instruction lines to the scenario with a double click or a right click on the line 'Double click here to insert a new command line or right click on the command line to access the edit menu'

In the example below, a right click on a command line opens a menu with different options:



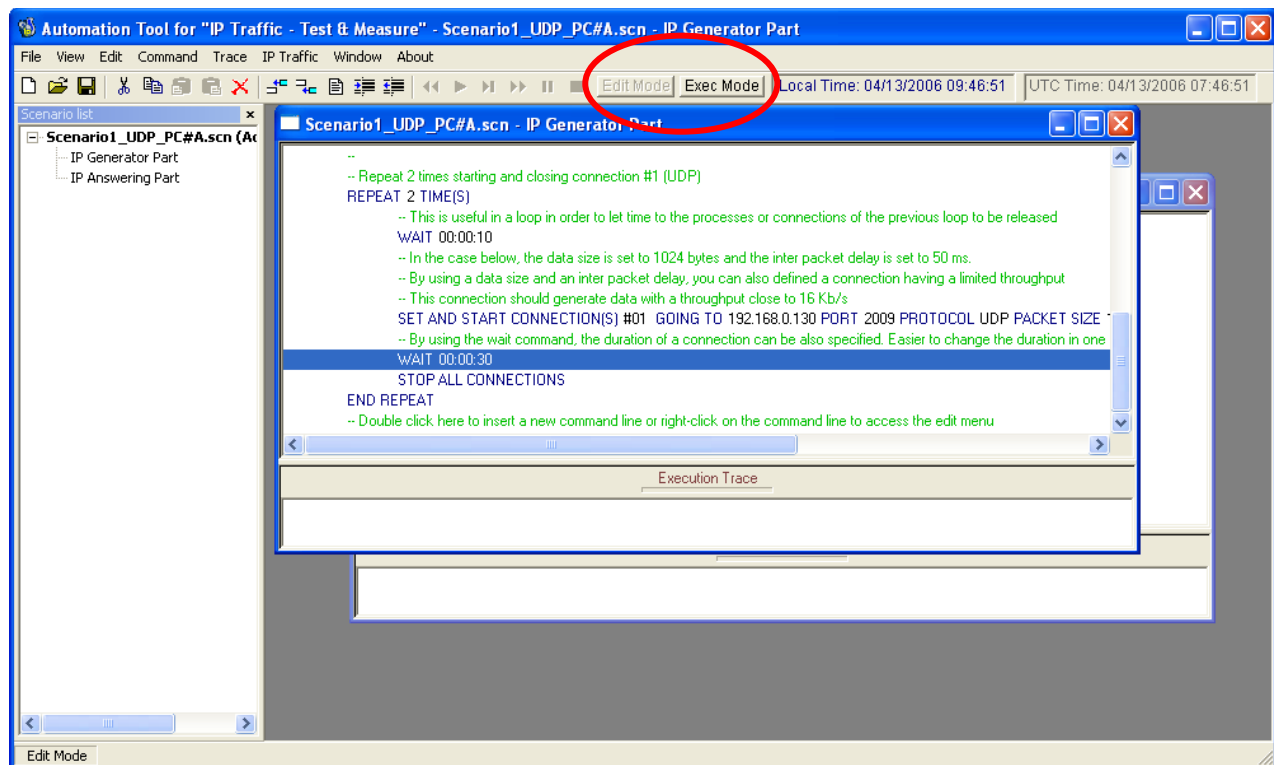
Step 6: Save this new scenario in a scenario file (with the extension .SCN) by using the menu File/Save as ...

You can modify a line of the scenario in the 'Edit Mode' by double clicking on the line.

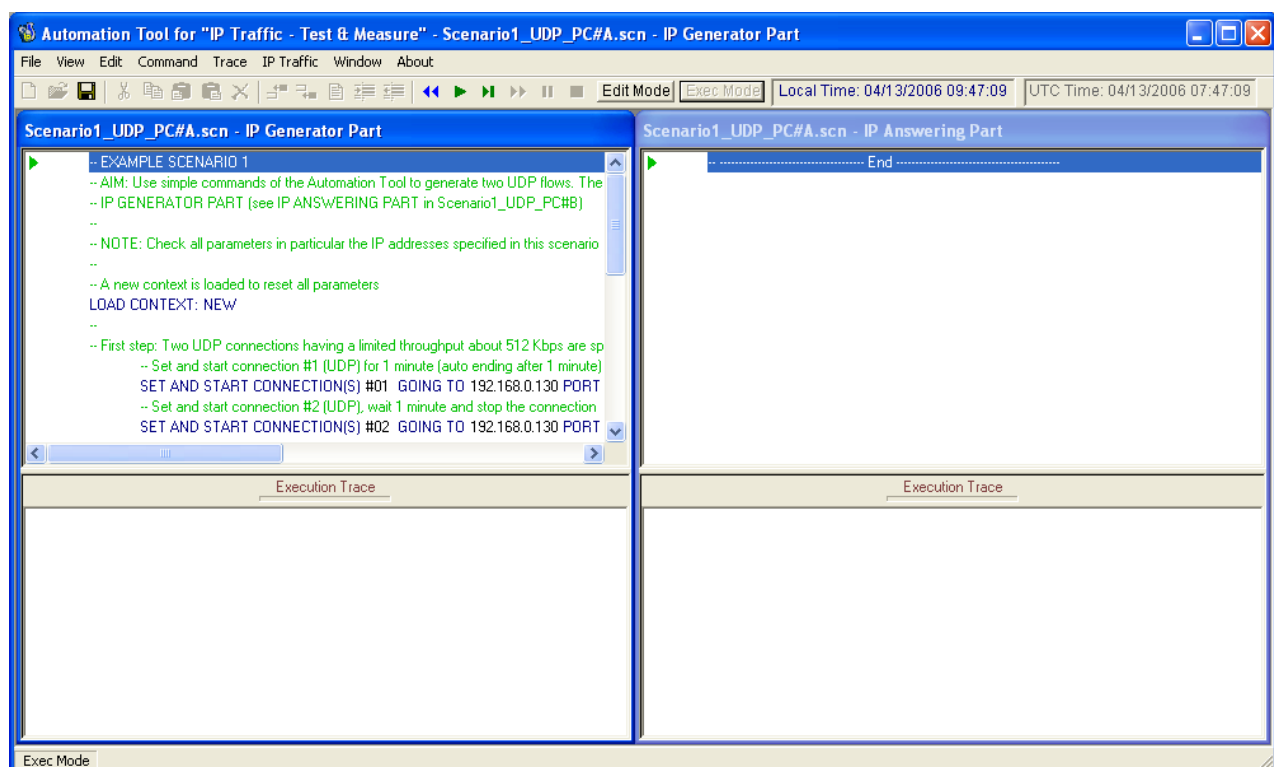
Important note: the UTC Time (or the Local Time) is the reference for the Date/Time specified in the Wait command and for the execution results of the scenario. The Date/Time reference can be changed by using the menu item "View > Time Reference Options".

3.2 Run a Scenario

To run a scenario, switch to the 'Exec Mode' by pressing the button "Exec Mode" in the Tool Bar.



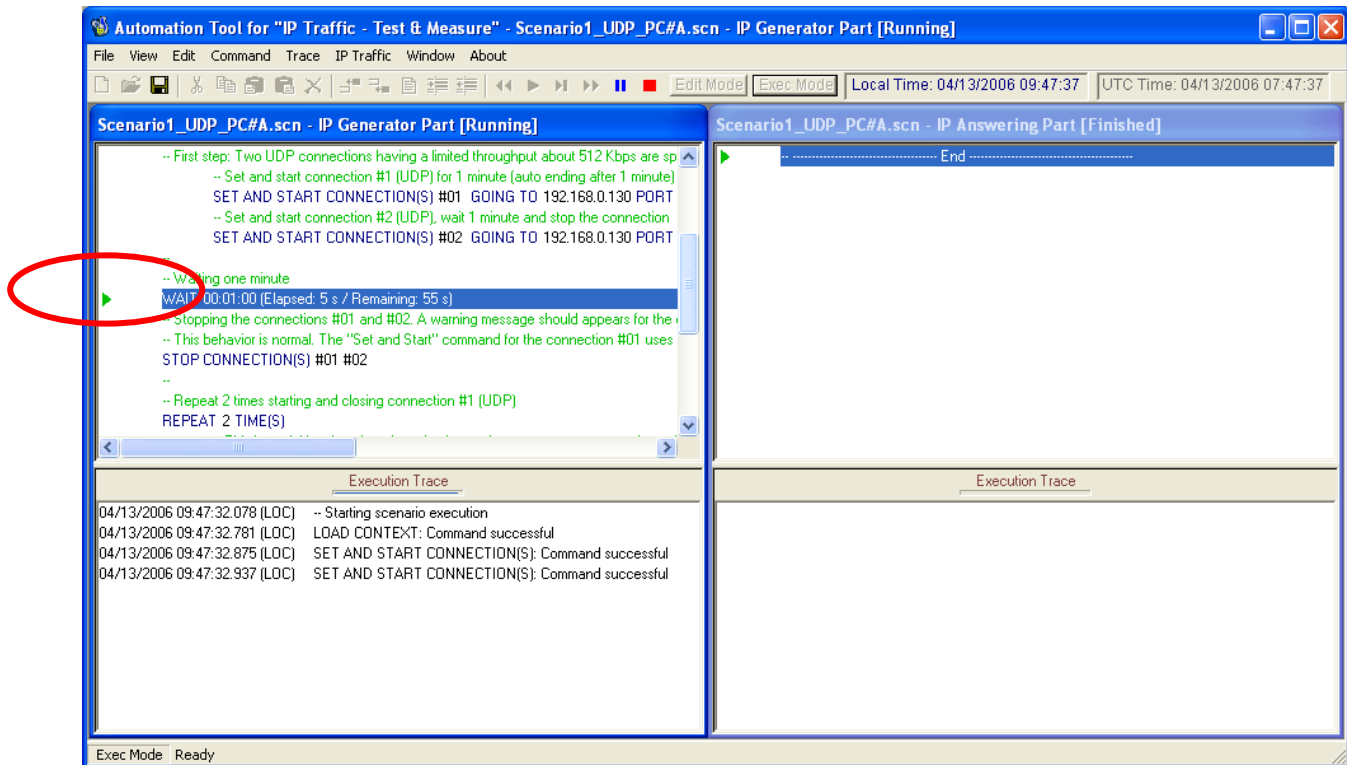
Then the "IP Generator Part" and the "IP Answering Part" of the scenario are displayed in two windows as follows:



You can switch to the 'Edit Mode' by pressing the 'Edit Mode' button in the Tool Bar. To execute the scenario, you can use the commands available in the 'Command' menu or the buttons in the tool bar.

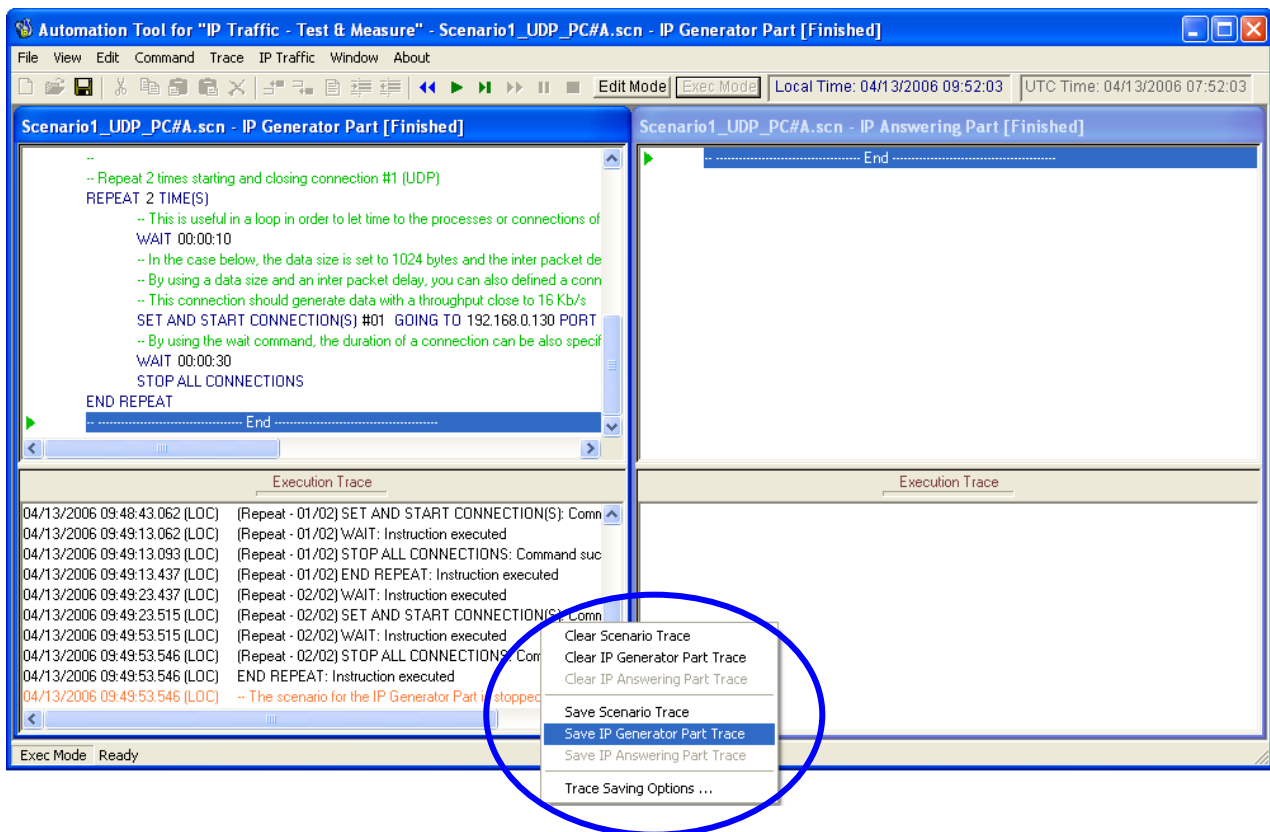


When the scenario is running, the symbol ► indicates the command being executed and the 'Execution Results' zone is filled with the result of each command or instruction.



Note: if the button "Stop" is pressed before the end of the scenario, all processes launched of IP Traffic - Test & Measure are stopped (IP Generator, IP Answering and Traffic Sniffer processes)

When the execution of the scenario is ended, you can right click in the 'Execution Results' zone to clear and save the displayed results.



PART 4 Command Line Parameters

The **Automation Tool for IP Traffic** software can be started by using a command line with parameters.

4.1 General Rule

Parameters should be separated from the application name by a space. The application name of **Automation Tool for IP Traffic** is "Aut_IPTraff.exe". Under Windows, the application name is not case sensitive.

4.2 Start the Automation Tool for IP Traffic and Launch a Scenario

The scenario filename is a set of commands and instructions for **IP Traffic - Test & Measure**. This set can be saved in a file and reloaded later.

The command line parameter to start the **Automation Tool for IP Traffic**, load and launch a scenario: **-START**

Syntax: **-START:filename**

Where filename may be:

C:\temp\scenario1.scn or

"C:\Program Files\IP Traffic\scenario1.scn". The " symbol is necessary to use spaces in filenames or directories.

There in NO space between the parameter –START: and the filename.

Example:

Aut_IPTraff –START:"C:\Program Files\IP Traffic\Scenario1_UDP_PC#B.scn"

4.3 Stop the Automation Tool for IP Traffic and IP Traffic - Test & Measure

There is only one command line parameter to stop the execution of the scenario and then stop the **IP Traffic - Test & Measure** and the **Automation Tool for IP Traffic** software.

Syntax: **-STOP**

Example:

Aut_IPTraff –STOP



Under Windows Vista, you must have the administrator rights to be able to execute the "Aut_IPTraff.exe –STOP" command.

PART 5 Commands and Instructions of a Scenario

Commands and instructions for the 'IP Generator' part	Commands and instructions for the 'IP Answering' part
Comments Load Context Download Remote file Repeat End Repeat Launch External Application Register Statistics Select interface Select Columns Set and Start Connection(s) Set File Mode Parameters Set Time Device Parameters Set Sniffer Parameters Set Specific Parameters Start Automatic Mode Enable Statistics Export Start Sniffer Stop All Connections Stop Automatic Mode Stop Connection(s) Disable Statistics Export Stop Scenario Stop Sniffer Wait	Comments Load Context Download Remote file Repeat End Repeat Launch External Application Register Statistics Select interface Select Columns Set Connections(s) Set File Mode Parameters Set Time Device Parameters Set Sniffer Parameters Set Specific Parameters Start Receiver Enable Statistics Export Start Sniffer Stop Receiver Disable Statistics Export Stop Scenario Stop Sniffer Wait

A specific window is attached to a command or [instruction](#) (an instruction has no action on **IP Traffic - Test & Measure**). A command or [instruction](#) is composed of 3 parts:

- <The command or Instruction name> : Description
- <List of parameters> [may be null]
- <Comments> [optional]

5.1 Commands and Instructions for the 'IP Generator' Part

Description	List of parameters	Comments
Comments		This instruction is used to add comments into the scenario file. It is also used to insert blank line between two commands if necessary.
Download Remote File	File name to download Remote IP address Remote port Local File name Delete the remote file after the end of the downloading	This command overwrites the previous parameters set on IP Traffic.
Load Context	New context Context file	This command loads only the parameters of the corresponding part (here IP Generator part). No general parameters are loaded by this command (the throughput sampling period, the refresh time, ... for example). This is very useful to load parameters on the Generator which are not available with the Automation Tool commands (RTT option, TTL field for example)
Repeat	Counter = number of iterations	When a scenario is running, if the scenario contains a "REPEAT" instruction, the number of iteration realized is displayed in the 'Execution Results' zone. This information is written before the result of the commands or instructions included into this iteration.
End repeat		This flag marks the end of the iteration
Launch External Application	Command Line	This command allows launching an external application. For example, this can start an application which can create a synthesis of the statistics generated during the tests session.
Register Statistics	Filename Connections to export (#1 to #16) Parameters to export (Throughput, packet throughput, data sent, data received, packet sent, packet received, volume to send, remaining volume, sequence numbering errors, Round Trip Time, Maximum Round Trip Time, Minimum Round Trip Time, Jitter) Include the RTT summary of all connections Include the IP Generator Activity statistics.	This command overwrites the previous parameters set on IP Traffic.

Select Interface	Connections concerned (#1 to #16) Local IP Address	This command offers the possibility to select the interface to use to generate data. The local IP address should be specified. By this way the network card is automatically selected and all packets generated for this connection will have as source address, the IP address specified.
Select Columns	Available Columns Selected Columns	This command is used to select the columns which will be displayed on the statistics tabs on IP Traffic during the scenario execution.
Set File Mode Parameters	File Rule (Overwrite or Rename)	This command allows specifying the behavior of IP Traffic when a file (statistics file, captured traffic file, ...) exists already. By choosing the "Rename" option, the old file is kept and a new file is created adding to the filename the date/time of its creation.
Set Time Device Parameters	Time Device Type (GNSS Receiver or Network Time Server) Communication Port (GNSS Receiver) Save GPS location and periodicity (GNSS Receiver) Set the NTP Time Server IP address (Network Time Server) Wait Synchronization and Timeout value	This command overwrites the previous parameters set on IP Traffic.
Set Sniffer Parameters	File name Option to capture only header	This command allows only specifying the captured traffic filename. To use specific filters or NICs, the "Load Context" command should be used.
Set Specific Parameters	Refresh time for GUI display Throughput sampling period	This command allows setting these two general parameters. Be careful when using it. When they are specified on both side (i.e. IP Generator and IP Answering parts), the parameters set on the first part will be overwrite by the parameters set on the other part.
Set and Start Connection(s)	Connections to set (#1 to #16) Destination IP address or Hostname Port Protocol (TCP, UDP or none) TOS field Data size (in bytes) Inter Packet Delay (in millisecond) Average throughput per connection Volume per connection (expressed in Bytes, KBytes, MBytes, GBytes, Pkt i.e. packets) Duration	This command can be used only by selecting connection number. The other parameters can be set into a context file and loads by using the "Load Context" command. No need to specify all parameters.
Start Automatic Mode		This command switches from the IP Generator mode to Automatic and then starts it.

Enable Statistics Export		This command starts the statistics export process. The process is active until the command "Desactivate Statistics Export" is found. The rules for Start and Stop the export processes are different when using IP Traffic without the Automation Tool. More details are available on the IP Traffic User Guide.
Start Sniffer		
Stop All Connections		This command sends the order to stop all connections and return immediately. If the next command starts one of the connections concerned by the "Stop All Connections", it could be failed because the connection is still running for the moment. Add a "WAIT" command after this command to be sure that all connections are really stopped.
Stop Automatic Mode		
Stop Connection(s)	Connections to stop (#1 to #16)	This command sends the order to stop all connections and return immediately. If the next command starts one of the connections concerned by the "Stop Connection(s)", it could be failed because the connection is still running for the moment. Add a "WAIT" command after this command to be sure that all connections are really stopped.
Disable Statistics Export		
Stop Scenario		This command stops the IP Generator part execution without disturbing the IP Answering Part. This is very useful to disable one side when the scenario uses the both.
Stop Sniffer		
Wait	Date and/or Time (UTC or Local) Period: number of days and duration Duration (HH:MM:SS)	When a scenario is running, the "Wait" instruction shows the elapsed and the remaining time during its execution.

5.2 Commands and Instructions for the 'IP Answering' Part

Description	List of parameters	Comments
Comments		See previous comments
Download Remote File	File name to download Remote IP address Remote port Local File name Delete the remote file after the end of the downloading	See previous comments
Load Context	New context Context file	See previous comments
Launch External Application	Command Line	See previous comments
Repeat	Counter = number of iterations	See previous comments
End repeat		See previous comments
Register Statistics	Filename Max size (in KB) Connections to export (#1 to #16) Parameters to export (Throughput, packet throughput, data sent, data received, packet sent, packet received, sequence numbering errors, Data not echoed) Include the IP Answering Activity statistics.	See previous comments
Select Interface	Connections concerned (#1 to #16) Local IP Address	This command offers the possibility to select the interface to use to receive data. The local IP address should be specified. By this way the network card is automatically selected and all packets can be received on this connection if they have as destination address, the IP address specified.
Select Columns	Available Columns Selected Columns	See previous comments

Set File Mode Parameters	File Rule (Overwrite or Rename)	See previous comments
Set Time Device Parameters	Time Device Type (GNSS Receiver or Network Time Server) Communication Port (GNSS Receiver only) Save GPS location and periodicity (GNSS Receiver) Set the NTP Time Server IP address (for Network Time Server) Wait Synchronization and Timeout value	See previous comments
Set Specific Parameters	Refresh time for GUI display Throughput sampling period	See previous comments
Set Sniffer Parameters	File name Option to capture only header	See previous comments
Set Connection(s)	Connections to set (#1 to #16) Destination IP address or Hostname Port Protocol (TCP, UDP or none)	This command can be used only by selecting connection number and one of the other parameters. The other parameters can be set into a context file and loads by using the "Load Context" command. No need to specify all parameters.
Start Receiver		
Enable Statistics Export		See previous comments
Start Sniffer		
Stop Receiver		
Disable Statistics Export		
Stop Scenario		This command stops the IP Answering part execution without disturbing the IP Generator Part. This is very useful to disable one side when the scenario uses the both.
Stop Sniffer		
Wait	Date and/or Time (UTC or Local) Period: number of days and duration Duration (HH:MM:SS)	See previous comments