

# K1297-G20

## Starter Tour

This Guided Tour illustrates the K1297-G20 workflow and tells you the basic steps to configure and process measurements.

1

Configuration  
and Protocol Setup

Emulation and Simulation  
Composing

2

Monitoring and Evaluating  
the Tests

3

# Configuration and Protocol Setup

Overview

Configure Hardware

Configure Sources

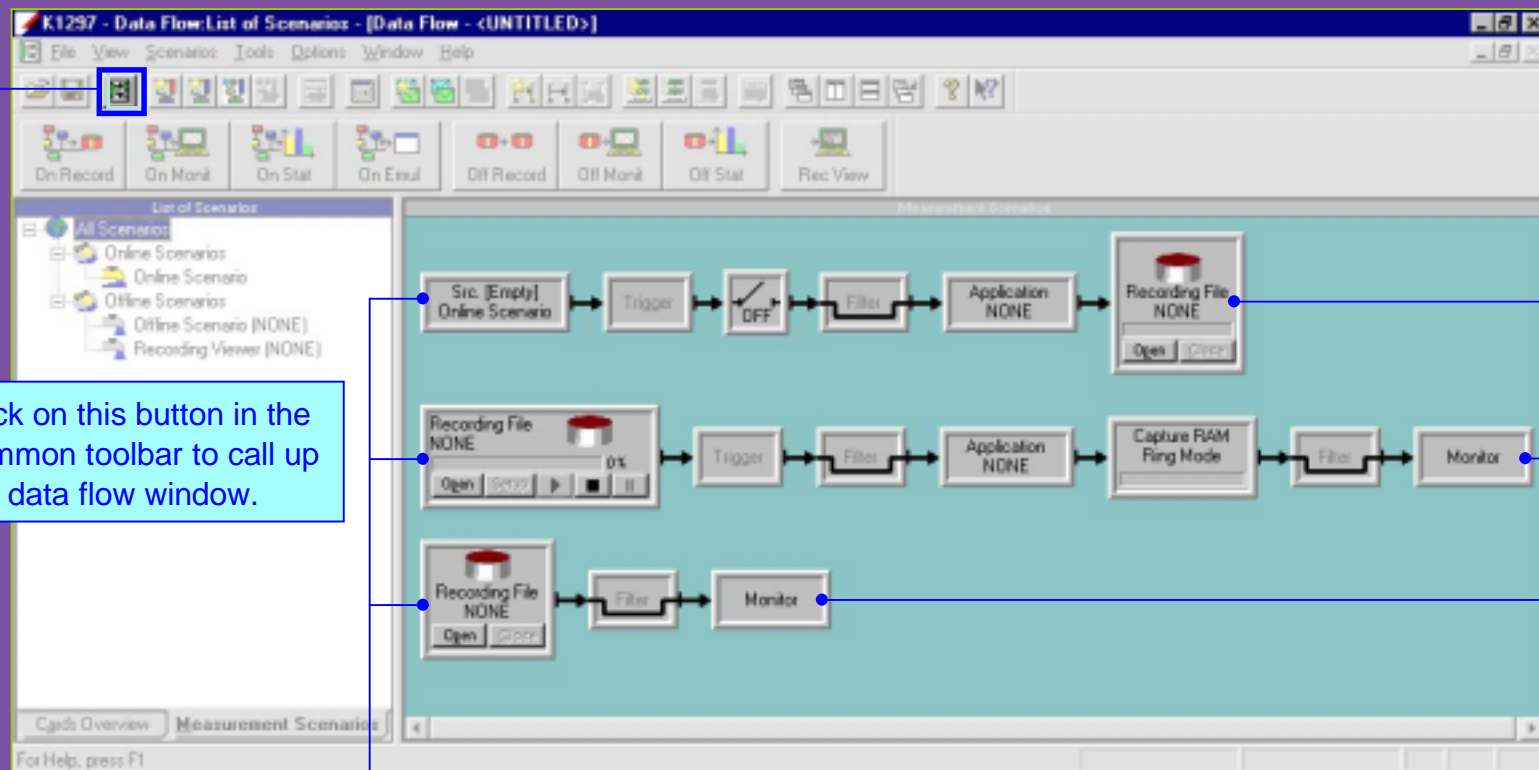
Configure Measurement Scenarios

Exit

**Configuration:** To carry out measurements you have to Configure data sources and data sinks and the criteria for evaluation in the »Data Flow Window«. All configuration Settings can be made outgoing from here.

In general, measurements are configured in the following order:

1. Configure hardware
2. Configure sources
3. Configure measurement scenarios



Click on this button in the common toolbar to call up the data flow window.

Data Sources

Data Sinks

1

# Configuration and Protocol Setup

Overview

Configure Hardware

Configure Sources

Configure Measurement Scenarios

Exit

**Select Cards** Configure hardware in the »Cards Overview« pane of the »Data Flow Window« by selecting a card. Depending on your measurement task you have to set up monitoring ports or simulation ports.

The screenshot displays the 'Data Flow List of Scenarios' window. On the left, the 'Tester Overview' tree shows a hierarchy of hardware components: 'W-BERL100 #0', 'AP-1 Board #0', 'PRIME:E1 #1' (with sub-items A, C, E, G), and 'DS1/E1 #2' (with sub-items A, C, E, G). The main area shows three card slots: 'AP-1/Ethernet #0', 'PRIME:E1 #1', and 'DS1/E1 #2'. The 'PRIME:E1 #1' card is selected, and its ports are labeled: 'PCM 30/E1', 'S1HA', 'S1HB', 'S1HC', 'S1HD', 'S1HE', 'S1HF', 'S1HG', 'S1HH', 'S1HI', 'S1HJ', 'S1HK', 'S1HL', 'S1HM', 'S1HN', 'S1HO', 'S1HP', 'S1HQ', 'S1HR', 'S1HS', 'S1HT', 'S1HU', 'S1HV', 'S1HW', 'S1HX', 'S1HY', 'S1HZ'. Two callout boxes point to 'Monitoring Ports' and 'Simulation Ports' on the card. At the bottom, a 'Ports Setup...' button is highlighted with a callout: 'Click to open »Ports Setup« dialog.' The 'Cards Overview' pane at the bottom left is circled in red.

»Tester Overview« displays the current configuration settings of installed cards and ports

»Cards Overview« displays all installed cards and ports which can be configured

1

# Configuration and Protocol Setup

Overview

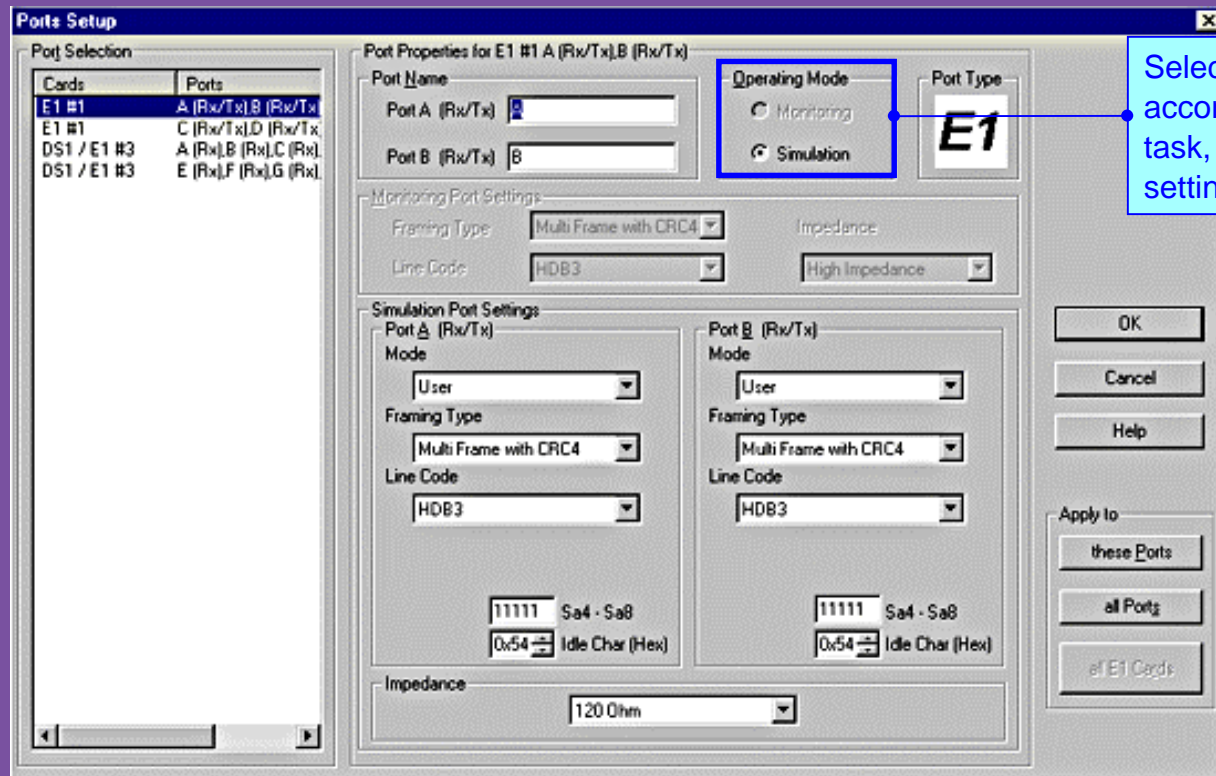
Configure Hardware

Configure Sources

Configure Measurement Scenarios

Exit

**Set up Ports:** In the »Ports Setup« dialog you configure the ports from which data will be received during measurement. For each interface module the dialog offers individual setup options. This example shows the »Ports Setup« dialog of the E1 module (PRIME) which supports simulation / emulation and monitoring tasks.



Select »Operation Mode« according to your measurement task, here: Simulation. Monitoring settings are disabled now.

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# Configuration and Protocol Setup

Overview

Configure Hardware

Configure Sources

Configure Measurement Scenarios

Exit

**Configure Source:** Configure data sources in the »Measurement Scenarios« pane of the »Data Flow Window«. Each data source consists of one or more logical links. A logical link is a channel with an assigned protocol stack and a specified channel decoding method (level 2 method). It is also possible to write online data in a recording file for later evaluation.

The screenshot shows the 'Data Flow List of Scenarios' window. The left pane shows a tree view of scenarios, including 'Online Scenarios' and 'Offline Scenarios'. The main area displays a flow diagram for an 'Online Scenario' with the following components: 'Src [Empty] Online Scenario', 'Trigger', 'OFF' (switch), 'Filter', 'Application NONE', and 'Recording File NONE'. A callout box points to the 'Src' component with the text 'Click to set up logical links of an online data source.' Below this, a second callout box points to the 'Recording File' component with the text 'Recording File: gardemo.d5'. A third callout box points to the 'Filter' component with the text 'Logical links with assigned protocol stacks [\* .stk]'. At the bottom of the window, the 'Measurement Scenarios' tab is highlighted.

## 1 Online Data Source (Source):

An online data source provides data that are received at the actual configured ports.

## 2 Offline Data Source (Recording File):

An offline data source is based on data that have been stored in a recording file. The logical links that have been configured during recording are referenced in the file.

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# Configuration and Protocol Setup

Overview

Configure Hardware

Configure Sources

Configure Measurement Scenarios

Exit

**Set up Logical Links:** In the »Logical Link Setup« dialog you configure the logical links from which data should be received for online measurement tasks.

Select link type according to your measurement task, here: Simulation. Logical links can be handled single or as pair. Example: For simulation tasks you should create a link pair to evaluate the bidirectional exchange of data with an Implementation under Test (IUT).

The scenarios list shows the sources which can be configured.

Configured logical links in the source of the selected scenario.

Assign logical link to the card and port from which data will be received or to which data will be sent.

Select protocol stack. This defines the interpretation rules for the processing of the received data in the monitor branches.

Define the logical link settings according to the hardware prerequisites. The level 2 method settings determine which timeslots are available. Example: HDLC for MTP-based messages.

1

# Configuration and Protocol Setup

Overview

Configure Hardware

Configure Sources

Configure Measurement Scenarios

Exit

**Assign Protocol Stacks:** A protocol stack contains the interpretation rules for the processing of measurement data for monitoring branches. A number of predefined protocol stacks for measurements in various networks are provided with the K1297-G20. If necessary you can change existing stacks or build new ones in the »Protocol Stack Editor«. For more information refer to the section 3 of this tour »Monitoring and Evaluating the Tests«.

The screenshot shows the K1297 software interface. The title bar reads 'K1297 - Data Flow List of Scenarios - [Data Flow - C:\K1297\src\src7\ntp3.s]'. The interface is divided into several sections:

- Toolbar:** Located at the top, it contains various icons for file operations and scenario management. A red box highlights a specific icon (a document with a plus sign) and a callout box points to it with the text: 'Click on this button in the common toolbar, if you want to open a protocol stack in the »Protocol Stack Editor«.'
- List of Scenarios:** A tree view on the left side. It is expanded to show 'Online Scenario' and 'Offline Scenario'. Under 'Online Scenario', two items are listed: '1 A (Tx) 16\1 A (Rx) 16 [wf97sup.stk] [wf97sup.stk]' and '1 B (Tx) 16\1 B (Rx) 16 [ss\_ich.stk] [ss\_ich.stk]'. Under 'Offline Scenario', four items are listed: '[1] A (Rx) 17 -64 [gsm2p\_e.stk]', '[1] A (Rx) 16 -64 [gsm2p\_e.stk]', '[1] B (Rx) 17 -64 [gsm2p\_e.stk]', and '[1] B (Rx) 16 -64 [gsm2p\_e.stk]'. A red box highlights the first two items under 'Online Scenario'.
- Measurement Scenario Flowchart:** The main area on the right shows a flowchart for a measurement scenario. It starts with 'Src. [Configured] Online Scenario', followed by a 'Trigger' block, then a series of 'OFF' blocks, a 'Filter' block, an 'Application NONE' block, and finally a 'Recording File NONE' block. Below this, there are more 'OFF' blocks, another 'Filter' block, 'Application NONE' block, and 'Capture RAM Ring Mode' block. At the bottom, there are buttons for 'Setup', 'View', 'Reset', and 'Apply'. A red box highlights the 'Recording File NONE' block.

## Protocol Stacks

The »List of Scenarios« gives an overview which protocol stacks are currently assigned to the logical links of a source.

1

# Configuration and Protocol Setup

Overview

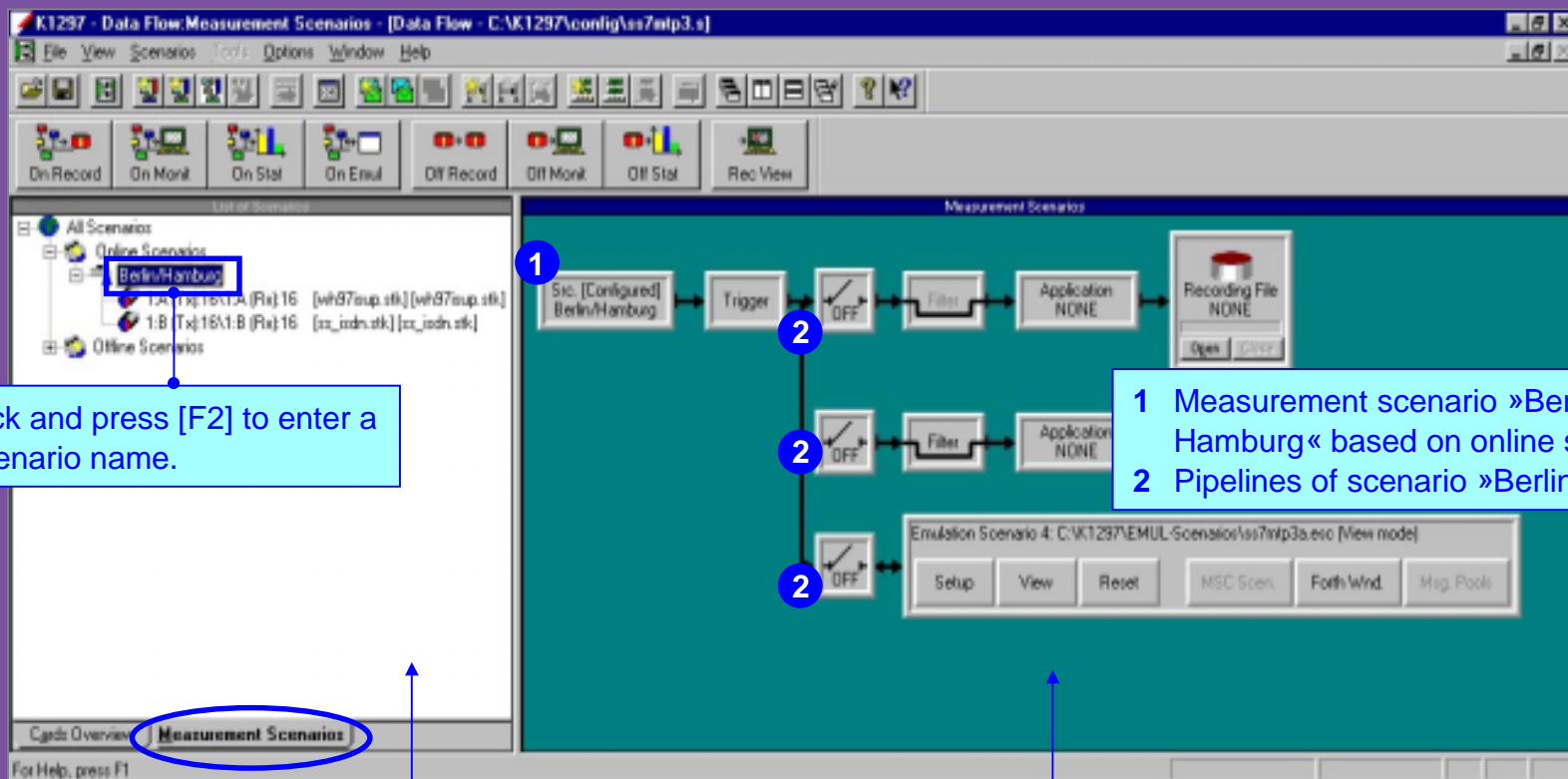
Configure Hardware

Configure Sources

Configure Measurement Scenarios

Exit

**Configure Scenario:** After you have configured the hardware and data sources you configure the measurement scenarios. This is done in the »Measurement Scenarios« pane of the »Data Flow Window«. A measurement scenario bundles all measurement tasks that should be executed on a single data source. Measurement tasks are represented by pipelines. Various pipelines can be assigned to one source to carry out different measurements on the received data.



Click and press [F2] to enter a scenario name.

1 Measurement scenario »Berlin/Hamburg« based on online source  
2 Pipelines of scenario »Berlin/Hamburg«

1  
»List of Scenarios« displays all configured measurement scenarios and their data sources

»Measurement Scenarios« displays the pipelines which are assigned to the measurement scenarios



# Configuration and Protocol Setup

Overview

Configure Hardware

Configure Sources

Configure Measurement Scenarios

Exit

**Assign Pipelines:** You can carry out several measurements on one data source. This is represented by pipeline branches. If a measurement is running, the corresponding pipeline branch is highlighted, here: the monitor pipeline.

Click to add a pipeline or a pipeline branch to a measurement scenario.

Click on this button to start or stop the online measurement.

**Pipeline with Three Branches**  
The received data of the source »Berlin/Hamburg«:  
1 can be recorded,  
2 viewed in the Monitor Window,  
3 used to carry out an emulation / simulation scenario.

1

# Configuration and Protocol Setup

Overview

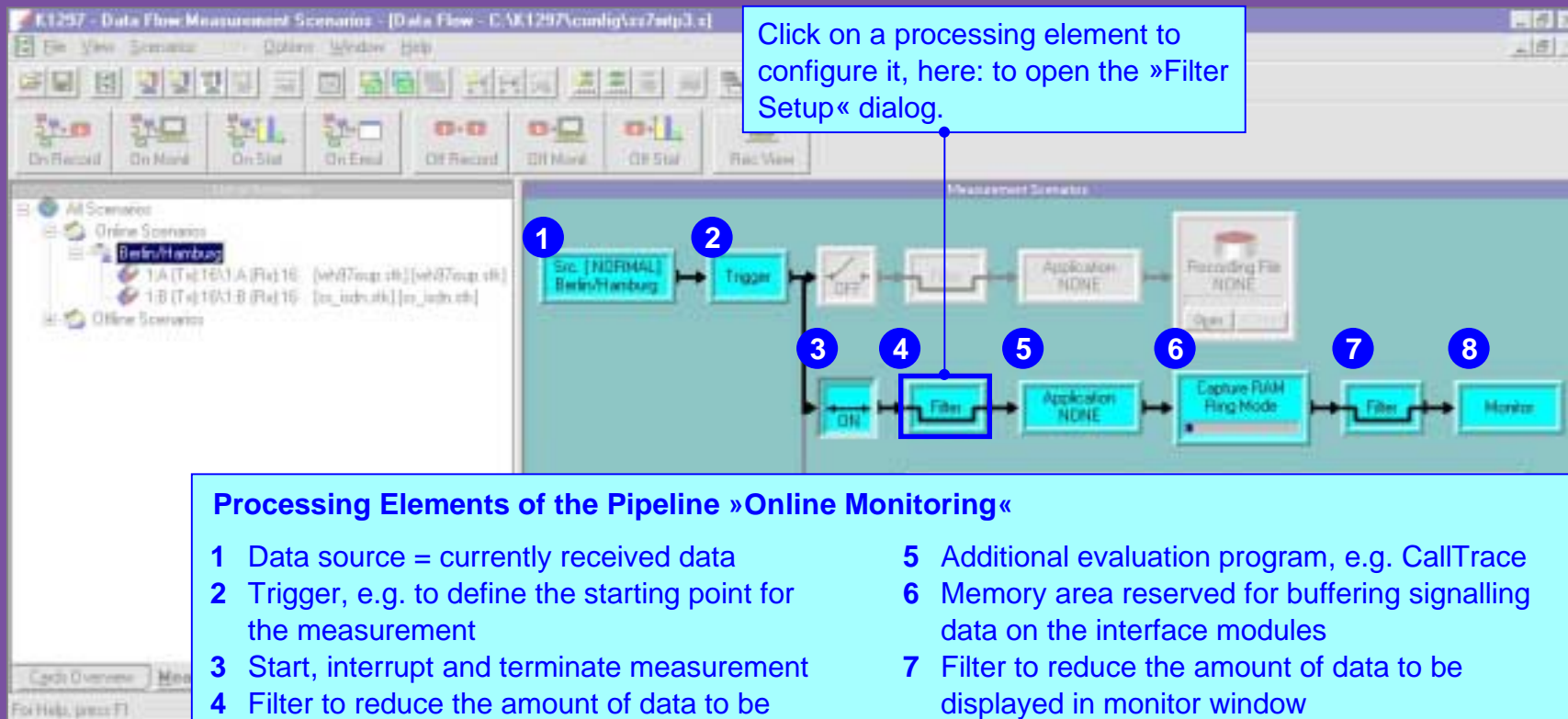
Configure Hardware

Configure Sources

Configure Measurement Scenarios

Exit

**Configure Processing Elements:** Each pipeline contains all modules which are necessary to process a measurement. These modules are called processing elements. The processing elements of a pipeline represent the data source and data sink of a measurement. They also provide the criteria for receiving and evaluating data.



# Emulation and Simulation Composing

Overview

Configuration Emulation Scenario

Customized Programming

Exit

## Emulation / Simulation Concept

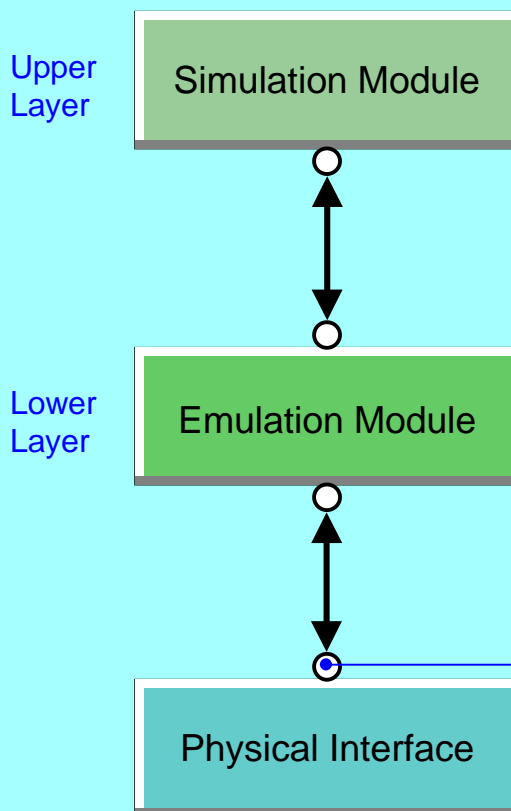
To build a working communication instance, a combination of communication layers is bound together in an emulation stack.

The emulation stack visualizes the protocol layers with the characteristics loaded / idle / active / error / warning.

Additional information to the emulation stack, such as parameters, stack or LLA make up an emulation scenario.

Within an emulation scenario SAPs (Service Access Points) of different layers are linked to establish communication.

## Emulation Scenario



## Simulations

They are designed to execute simulation tasks, such as a call generator or a MSC.

## Emulations

Simulations normally rely on the services of lower layers. These services are realized with emulations.

## SAP

The upper SAP of the lower layer is connected to the lower SAP of the higher layer.

# Emulation and Simulation Composing

Overview

Configuration Emulation Scenario

Customized Programming

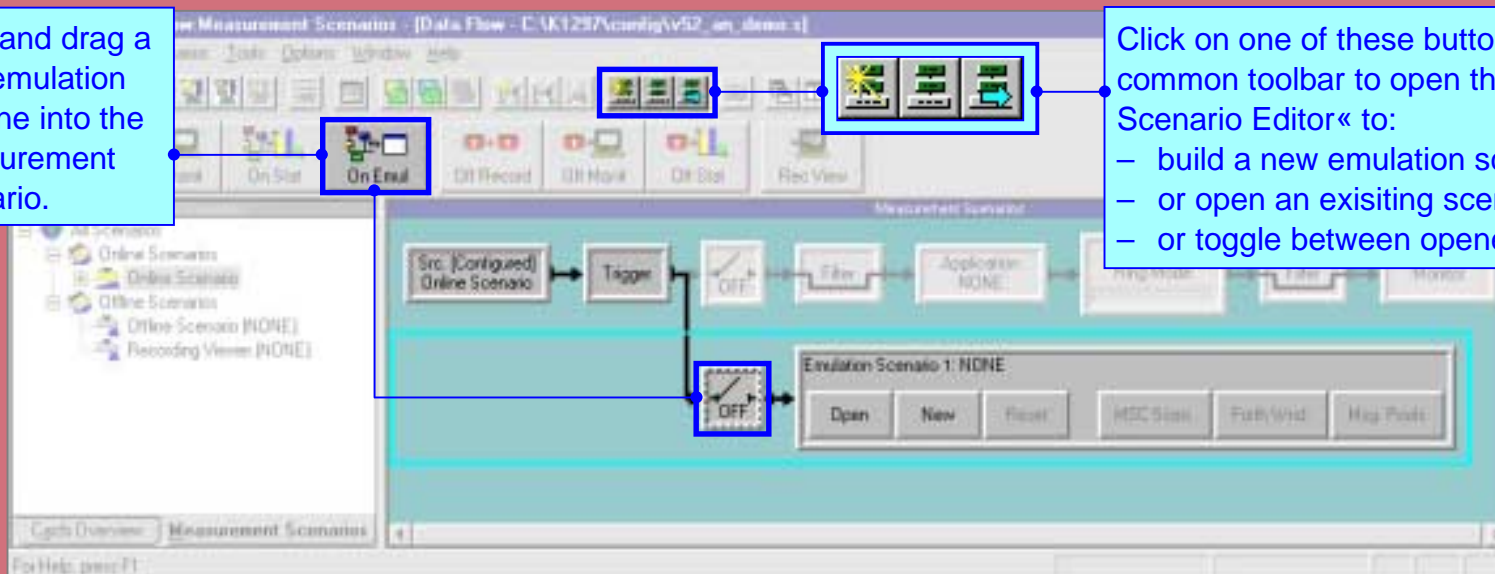
Exit

**Emulation Scenarios:** An emulation scenario is represented by an emulation pipeline in the »Data Flow Window«. The scenario can be edited in the »Emulation Scenario Editor«.

Click and drag a new emulation pipeline into the measurement scenario.

Click on one of these buttons in the common toolbar to open the »Emulation Scenario Editor« to:

- build a new emulation scenario
- or open an existing scenario
- or toggle between opened scenarios.



# Emulation and Simulation Composing

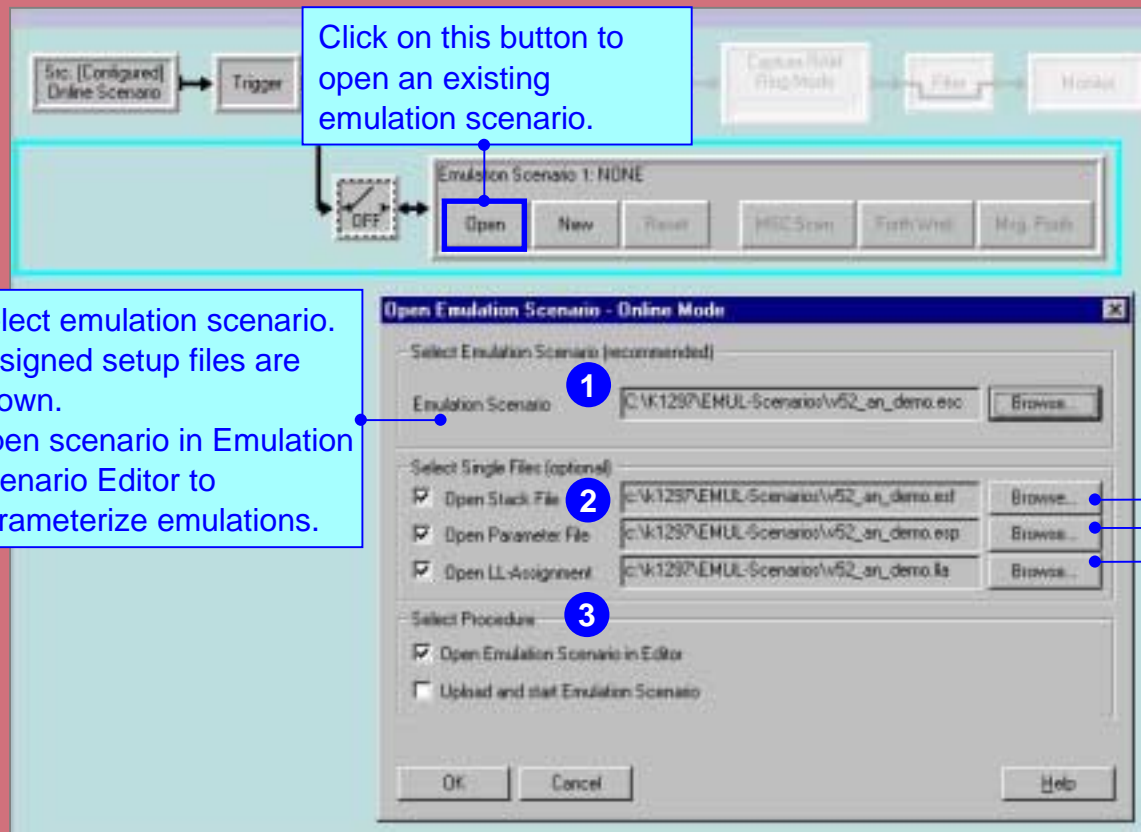
Overview

Configuration Emulation Scenario

Customized Programming

Exit

**Open Emulation Scenarios:** An emulation scenario consists of simulation or emulation instances. It contains all settings required for running emulations / simulations. With the help of Makro Files (\*.esm) you can define actions which will be performed with every restart of the scenario. You can also determine the order of the configuration.



Click on this button to open an existing emulation scenario.

- 1 Select emulation scenario.
- 2 Assigned setup files are shown.
- 3 Open scenario in Emulation Scenario Editor to parameterize emulations.

The emulation stack file (\*.esf) describes which emulations are used in the scenario and the connections between them.

All of the items in an emulation stack can be parameterized individually. These settings are stored in a parameter file (\*.esp).

The currently applied link settings are stored in a logical link assignment file (\*.lla).

# Emulation and Simulation Composing

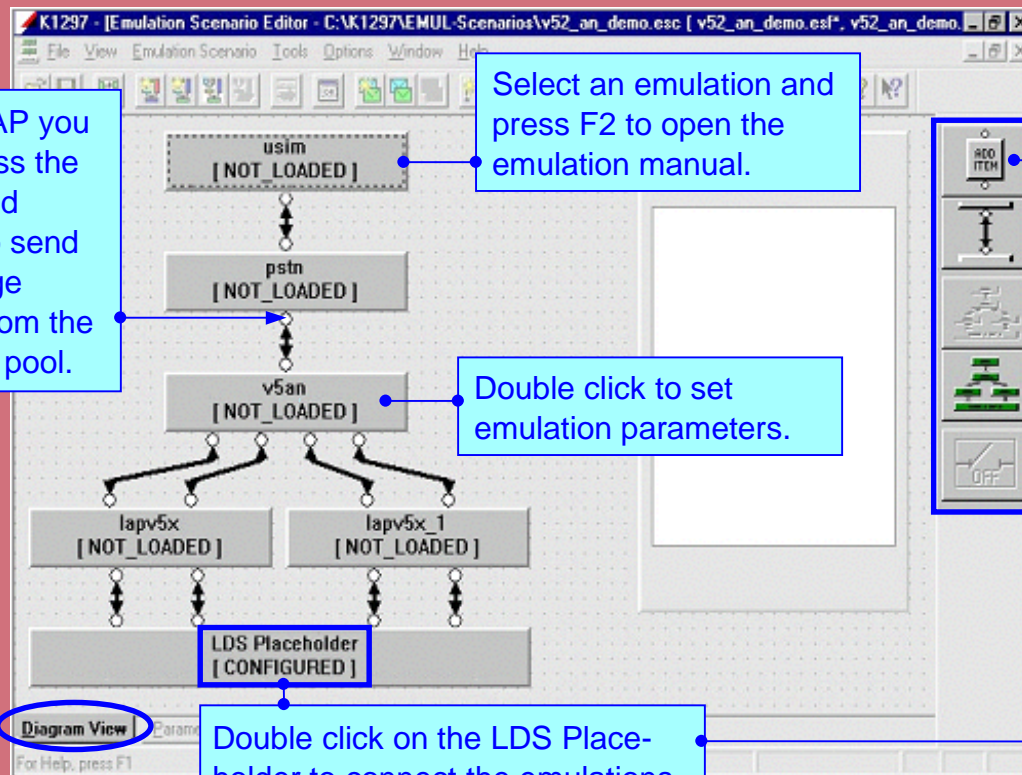
Overview

Configuration Emulation Scenario

Customized Programming

Exit

**Configure Emulation Stack:** The »Emulation Scenario Editor« displays the structure of the emulation stack in the »Diagram View«. The lines illustrate the communication flow between them, the circles represent the Service Access Points (SAPs). To carry out the emulations / simulations a hardware connection must be established. The emulation stack contains the »LDS Placeholder« which represents the logical links from which data were received.



Via an SAP you can access the quick send feature to send a message directly from the message pool.

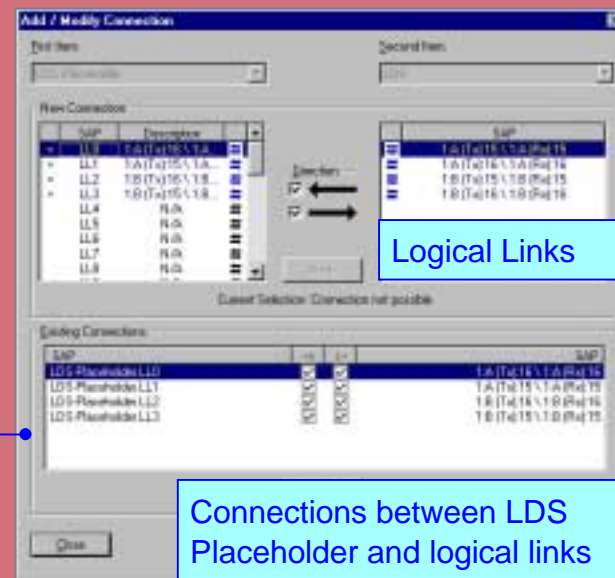
Select an emulation and press F2 to open the emulation manual.

Double click to set emulation parameters.

Use the buttons in the ESE toolbar to edit, upload and start emulation scenario.

Diagram View

Double click on the LDS Placeholder to connect the emulations with the logical links of the data source.



Logical Links

Connections between LDS Placeholder and logical links

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# Emulation and Simulation Composing

Overview

Configuration Emulation Scenario

Customized Programming

Exit

**Set up Emulation Parameters:** In the »Parameter View« of the »Emulation Scenario Editor« you set the communication parameters that are relevant for your test, such as addresses or timeouts.

The screenshot shows the 'Emulation Scenario Editor' window. On the left is a tree view of the scenario structure, including folders for 'Stack', 'MBS', 'Users', and 'Statistics'. The 'Users' folder is expanded, showing 'User[1]' through 'User[10]'. A callout points to 'User[1]' with the text: 'Select the parameter of emulation / simulation you want to set up, here: User (1) in »usim« (user simulation)'. The main area displays a list of parameters for 'Dial Digit String'. A callout points to the 'DIAL' button next to the 'Dial Digit String' parameter: 'Click button to start action.'. Another callout points to the 'Value' column of the parameter list: 'Set up the parameter's values here.'. A third callout points to the 'OFF' switch on the right side of the interface: 'After you have set all values: 1 upload stack to measurement cards 2 close switch to start the scenario'. At the bottom, a callout points to the 'Parameters View' tab: 'Parameter explanations'. The 'Parameters View' tab is circled in blue at the bottom of the window.

| Name                   | Value       | Statistic |
|------------------------|-------------|-----------|
| State                  | OPERATIONAL | N/A       |
| Calling number         |             |           |
| Pdpclid                |             |           |
| Display                |             |           |
| Hook State             | ON          |           |
| Ringing                |             |           |
| Running Timer          |             |           |
| Manual Cal Mode        |             |           |
| Start Scenario         |             |           |
| Call Scenario          |             |           |
| Stop Scenario          |             |           |
| Start Automatic calls  |             |           |
| Stop Automatic calls   |             |           |
| Statistics             |             |           |
| Outgoing call attempts |             |           |
| Incoming calls         |             |           |
| Cal Scenario Counter   |             |           |
| Reset Statistics       |             |           |

Properties of the Parameter : Dial Digit String  
Type : Actions [ DIAL ]  
Access : Read / Write - Value modification is only allowed after Upload !  
Comment : Press to dial digit string  
Current value: DIAL  
Default value: DIAL

2

# Emulation and Simulation Composing

Overview

Configuration Emulation Scenario

Customized Programming

Exit

**Control Emulation State:** When the emulation scenario is running, the »Emulation Scenario Editor« can be used as a control center and for evaluation.

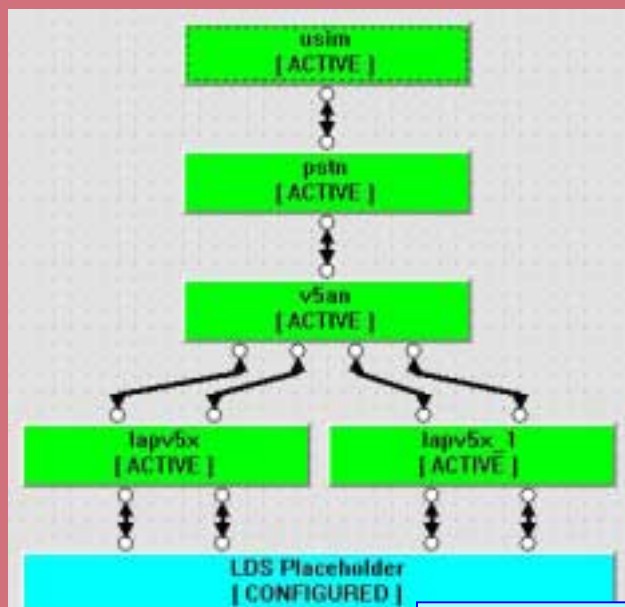


Diagram View

Control the emulation state in the »Diagram View«. If all items are active and green, the emulations are running successfully.

| Name                   | Value | Sta... |
|------------------------|-------|--------|
| Outgoing call attempts | 0     | YES    |
| Incoming calls         | 0     | YES    |
| Total calls            | 0     | NO     |
| Reset Counter          | RESET | N/A    |

Properties of the Parameter : Outgoing call attempts  
Type : Numerical value from 0 to 2147483647  
Access : Read only - Value modification is not allowed !  
Comment : Number of outgoing call attempts per hour of all users  
Current value: 0 = 0x00000000  
Default value: 0 = 0x00000000

Parameter View

In the »Parameter View« you can analyze the test data statistically.

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# Emulation and Simulation Composing

Overview

Configuration Emulation Scenario

Customized Programming

Exit

**Message Building System:** The »Message Building System« allows you to compile and code messages and store them in a message pool. These message pools are used in other program modules, for example in the »Emulation Scenario Editor« or the »Message Sequence Chart Editor«. The protocol layers available in a message pool are determined by the protocol stack connected to the message pool.

Click on one of these buttons in the common toolbar to:

- build a new message pool,
- open an existing pool,
- toggle between opened pools.

The MBS toolbar provides functions to display the pool contents and to create messages.

| Name                         | Type         | Sub-Type                       | Coding-Mode | Comment |
|------------------------------|--------------|--------------------------------|-------------|---------|
| CR_1                         | TX-Message   | CR                             | Correct     |         |
| DT2_1                        | TX-Message   | DT2                            | Correct     |         |
| RLSD_1                       | TX-Message   | RLSD                           | Correct     |         |
| CC_1                         | RX-Message   | CC                             | Correct     |         |
| RLC_1                        | RX-Message   | RLC                            | Correct     |         |
| WR Source_Local_Reference_1  | Variable     | Octet Numeric(3 Byte)(3 Bytes) |             |         |
| WR Send_Sequence_Number_1    | Variable     | Numeric(7 Bits)                |             |         |
| WR Receive_Sequence_Number_1 | Variable     | Numeric(7 Bits)                |             |         |
| WR More_Data_Indicator_1     | Variable     | Bit Field(1 Bit)               |             |         |
| WR Source_Local_Reference_2  | Variable     | Octet Numeric(3 Byte)(3 Bytes) |             |         |
| MTP3_START                   | TX-Primitive | upperOMTP3_BIND_REQ            |             |         |
| TX-CR                        | TX-Primitive | upperOMTP3_UDAT_REQ            |             |         |
| TX-RLSD                      | TX-Primitive | upperOMTP3_UDAT_REQ            |             |         |
| RX-CC                        | RX-Primitive | upperOMTP3_UDAT_IND            |             |         |
| RX-RLC                       | RX-Primitive | upperOMTP3_UDAT_IND            |             |         |
| TX-DT2                       | TX-Primitive | upperOMTP3_UDAT_REQ            |             |         |
| WR apcb                      | Variable     | Byte String(4 Bytes)           |             |         |
| WR spca                      | Variable     | Byte String(4 Bytes)           |             |         |
| RX-AK                        | RX-Primitive | upperOMTP3_UDAT_IND            |             |         |
| AK_1                         | RX-Message   | AK                             | Correct     |         |
| WR Receive_Sequence_Number_2 | Variable     | Numeric(7 Bits)                |             |         |
| WR apcb-store                | Variable     | Byte String(4 Bytes)           |             |         |

Select protocol.

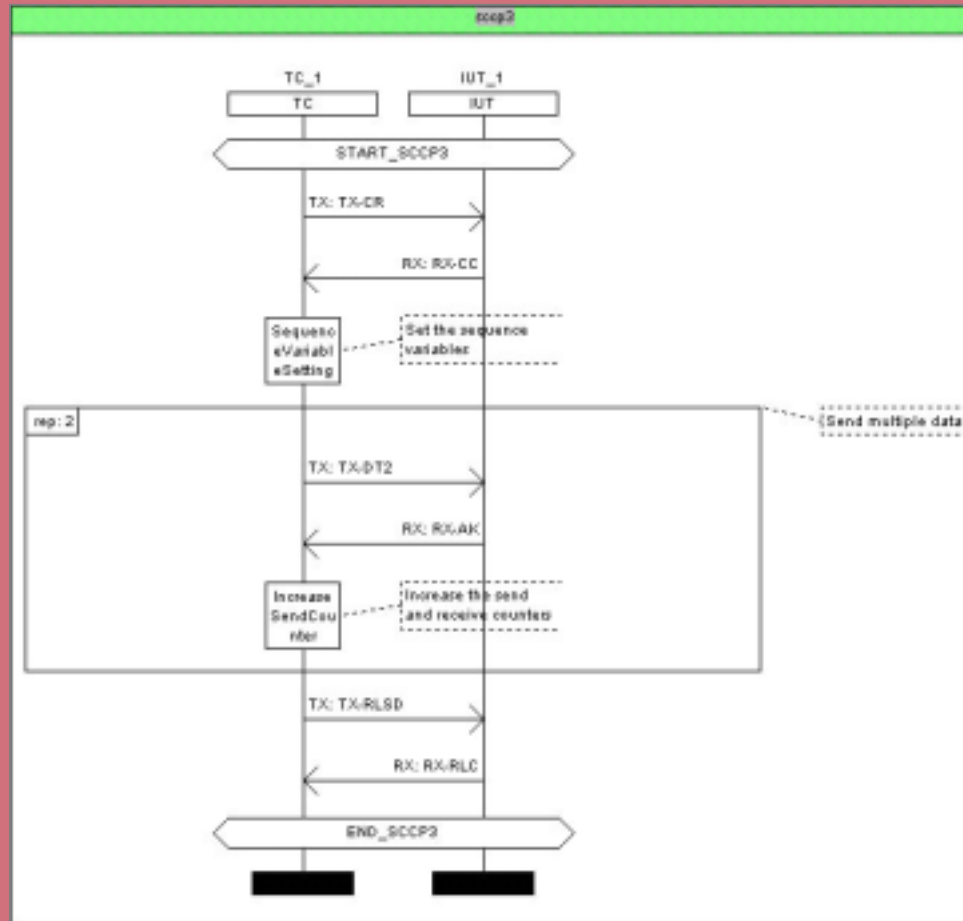
Add messages.

## Simulation Composing with MSC and Other Programming Tools:

The graphic »Message Sequence Chart Editor« enables the creation of message sequences. You can determine protocol processes and the message interchange between communication instances and save them in a »MSC scenario«.

With the »Portable FORTH Environment (PFE)« and a FORTH interpreter you can run FORTH scripts that you have written yourself or with the help of the MSC.

Instead of FORTH, you can also use the »C-Application Programming Interface« to create your own emulations or simulations.



Example: Message Sequence Chart

# Monitoring and Evaluating the Tests

Overview

Monitor

Protocol  
Stack Editor

Triggers

Filters

Applications

Statistics

Recording

Exit

**Monitoring and Evaluation:** In the »Monitor Window« you can view the protocol data flow during a measurement. In addition you can use other evaluation tools to interpret data, e.g. filters, applications or statistics. Use the monitor to control, if the incoming data »fits« to your measurement task. For example, the monitor of some applications or emulations displays text messages indicating whether a predefined state has been reached. Messages displayed can be copied into an MBS message pool for own measurements, if the same protocol stack is used for the creation of the message pool.

Click on this button in the common toolbar to call up the monitor window or to toggle between opened monitor windows.

| Time             | Type              | S. Peer | S. PID | S. Port | D. Peer | D. PID   | D. Port |
|------------------|-------------------|---------|--------|---------|---------|----------|---------|
| 00:00:00.400.217 | [1] R (MS)161:-84 | HSP-C2  | HSH    | SDCP    |         |          |         |
| 00:00:00.400.217 | [1] R (MS)161:-84 | HSP-C2  | HSH    | SDCP    | ST1     | RTAP_HSH | RTSC    |
| 00:00:00.400.402 | [1] R (MS)161:-84 | HSP-C2  | HSH    | SDCP    | ST1     | RTAP_HSH | BELENS  |
| 00:00:00.400.402 | [1] R (MS)161:-84 | HSP-C2  | HSH    | SDCP    | ST1     | RTAP_HSH | BELEMP  |
| 00:00:00.401.929 | [1] R (MS)161:-84 | HSP-C2  | HSH    | SDCP    | ST1     | RTAP_HSH | CLSN    |
| 00:00:00.402.878 | [1] R (MS)161:-84 | HSP-C2  | HSH    | SDCP    | ST1     | RTAP_HSH | CLSNP   |
| 00:00:00.402.878 | [1] R (MS)161:-84 | HSP-C2  | HSH    | SDCP    | ST1     | RTAP_HSH | CLSN    |
| 00:00:00.402.878 | [1] R (MS)161:-84 | HSP-C2  | HSH    | SDCP    | ST1     | RTAP_HSH | CLSNP   |
| 00:00:00.402.878 | [1] R (MS)161:-84 | HSP-C2  | HSH    | SDCP    | ST1     | RTAP_HSH | CLSN    |

```
MSU Structure (18 bytes)
-----
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 00 | 07 | 00 | 01 | 00 | 20 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
```

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# Monitoring and Evaluating the Tests

Overview

Monitor

Protocol Stack Editor

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The screenshot shows the 'Monitor - Online Scenario - [LIVE]' window. At the top, there is a toolbar with buttons for 'Live Mode', 'Freeze Mode', 'Next Zoom', and 'Zoom'. Below the toolbar is a pipeline diagram with components: 'Trigger', 'Filter', 'Application NONE', 'Capture/Post Reg Mode', 'Filter', and 'Monitor'. The main area is divided into three panes: 1. 'Short View' (top): A table of captured packets with columns for Time, Frame, P. Prot, R. HSR, R. Prot, R. HSR, A. Prot, and A. HSR. 2. 'Frame View' (middle): A detailed view of a selected packet, showing fields like 'Message Signal Unit', 'Backward Sequence Number', 'Forward Sequence Number', 'Length Indicator', 'Service Indicator', etc. 3. 'Packet View' (bottom): A hex dump of the selected packet's data. The status bar at the bottom shows '0000:00:00:00:00:00' and 'Zoom 2.1x'.

You can view data simultaneously as it is received (LIVE) or freeze the display (FREEZE) for further processing. Using the ZOOM function, you can display all messages for a single connection.

Pipeline the data are evaluated from.

1 Short View

The monitor panes display the data at different resolution levels:

- 1 »Short View« lists the data packets (frames) in short form.
- 2 »Frame View« decodes the protocol parameters of the frame selected in short view.
- 3 »Packet View« displays the values of a parameter selected in frame view.

2 Frame View

3 Packet View

The monitor status bar displays short information on selected frames.

Monitor Window

Press F2 to open the Protocol Assistant for the selected protocol.

3

# Monitoring and Evaluating the Tests

Overview

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Protocol Stack Editor

Triggers

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Exit

**Protocol Stack Editor:** When configuring sources you assign protocol stacks to determine the interpretation rules for measurement. During a measurement it may be necessary to change an assigned stack, for example if the decoded data in the monitor window don't contain test-related information.

Click on one of these buttons in the common toolbar to:

- build a new protocol stack,
- open an existing stack,
- toggle between opened stacks.

Click on one of these buttons in the protocol stack editor toolbar to add, delete, configure protocols.

1 Stack View

2 Layer View

Click on the tabs to switch between the windows. Use the »Diagram Window« to build or edit a stack, use the »Tree Window« for a quick stack overview.

Click on one of these buttons in the common toolbar to:

- build a new protocol stack,
- open an existing stack,
- toggle between opened stacks.

- 1 »Stack View« displays the stack structure. Items (protocols) and their relations can be viewed as a diagram or as a tree.
- 2 »Layer View« displays parameter information on selected protocols, here: MTP-L2.

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# Monitoring and Evaluating the Tests

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**Triggers:** You can use a trigger to start an action when a certain state or when a certain event occurs, this means when a defined trigger condition is fulfilled. The settings of a trigger always refer to the data source of the respective pipeline. Depending on the trigger configuration, the trigger conditions apply to the entire pipeline or to individual branches.

Click on the Trigger element in the corresponding pipeline.

The »Trigger Configuration« dialog shows the current trigger settings.

| Conditions   | Relations | Actions   |
|--|-----------|---|
| <input checked="" type="checkbox"/> Condition 1: Detect IAM        |           | 1 Close Recording Pipeline                                  |
| <input checked="" type="checkbox"/> Condition 2: Recording Time=1h |           | 2 Enable Trigger Condition 2                                |
|  |           | <input checked="" type="checkbox"/> Open Recording Pipeline |

Set up trigger conditions...

...and trigger actions.

Show all relations

New Condition Delete Condition Edit Condition Rename Condition

New Action Delete Action Edit Action Rename Action

Enable the whole trigger

OK Cancel Help



# Monitoring and Evaluating the Tests

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**Applications:** Additional applications can be looped into measurements. These applications provide problem-based analyses of signaling data. Applications can display the interpretation of the data either in a separate window, in the statistics tool »RealChart« or as text messages in the Monitor.

Click on the Application element in the corresponding pipeline.

Select the application you want to include into your measurement.

**Example:** »CallTrace« is a protocol specific application which provides functions for tracing one or more calls. The results are output in the »Monitor Window« together with the data frames displayed there.



# Monitoring and Evaluating the Tests

Overview

Monitor

Protocol  
Stack Editor

Triggers

Filters

Applications

Statistics

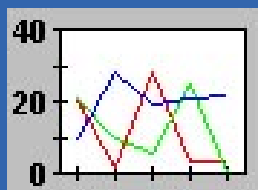
Recording

Exit

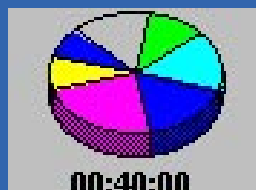
**Statistics / RealChart:** The »Statistics« allows to evaluate and graphically display received data in real time. The separate program »RealChart« displays this data in various views. Some results of applications can also be output to a file and then evaluated in RealChart.



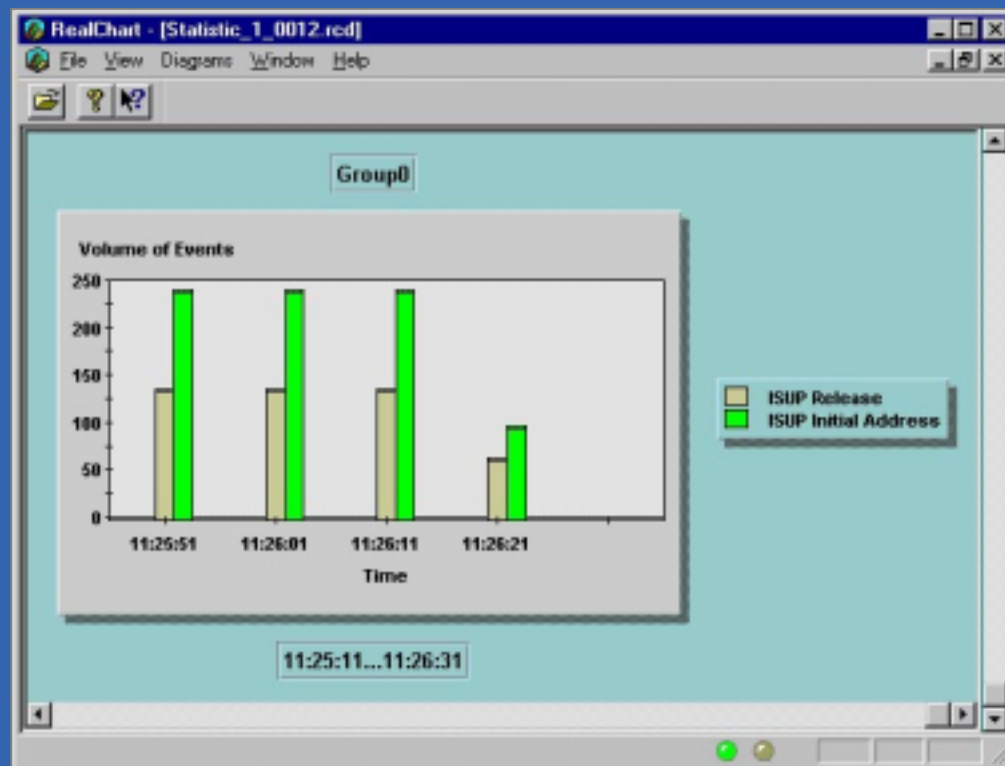
Click on the Statistics element in the corresponding pipeline.



Line Chart



Pie Chart



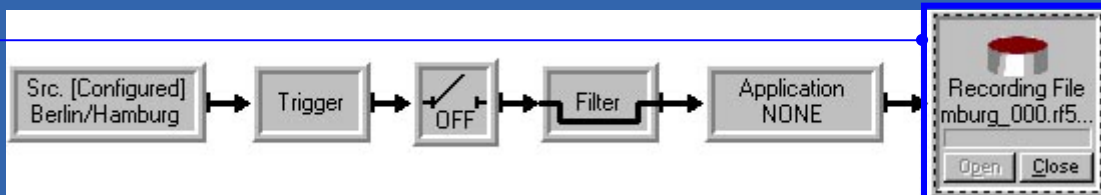
Data Display in RealChart, here: Bar Chart

# Monitoring and Evaluating the Tests

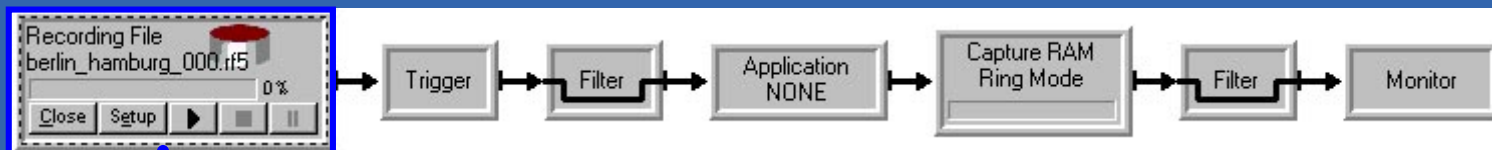
|          |         |                       |          |         |              |            |           |      |
|----------|---------|-----------------------|----------|---------|--------------|------------|-----------|------|
| Overview | Monitor | Protocol Stack Editor | Triggers | Filters | Applications | Statistics | Recording | Exit |
|----------|---------|-----------------------|----------|---------|--------------|------------|-----------|------|

**Recording Data:** A delayed interpretation, for example of long-term measurements, is made possible by the recording of measurement data. The recording can be played in again and evaluated at a later point of time.

Click on the Write Recording File element to set up the recording options.



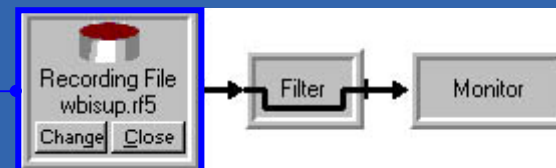
Pipeline »Online Recording«



Example: Evaluation of recorded data via the pipeline »Offline Monitoring«

Click on the Playback Recording File element to select recording file and set up the playback options.

Click on the Record Viewer element for viewing the contents of a recording file in the monitor window.



Pipeline »Record Viewer«

# K1297-G20 Tour

**End**

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You find additional information in ...

**the K1297-G20 Online Help**

**the K1297-G20 How to's**

**the K1297-G20 User Manual**