
PCO-Tracing for TC-Gen (an introduction)

Tracing for TCGen ...

General Overview

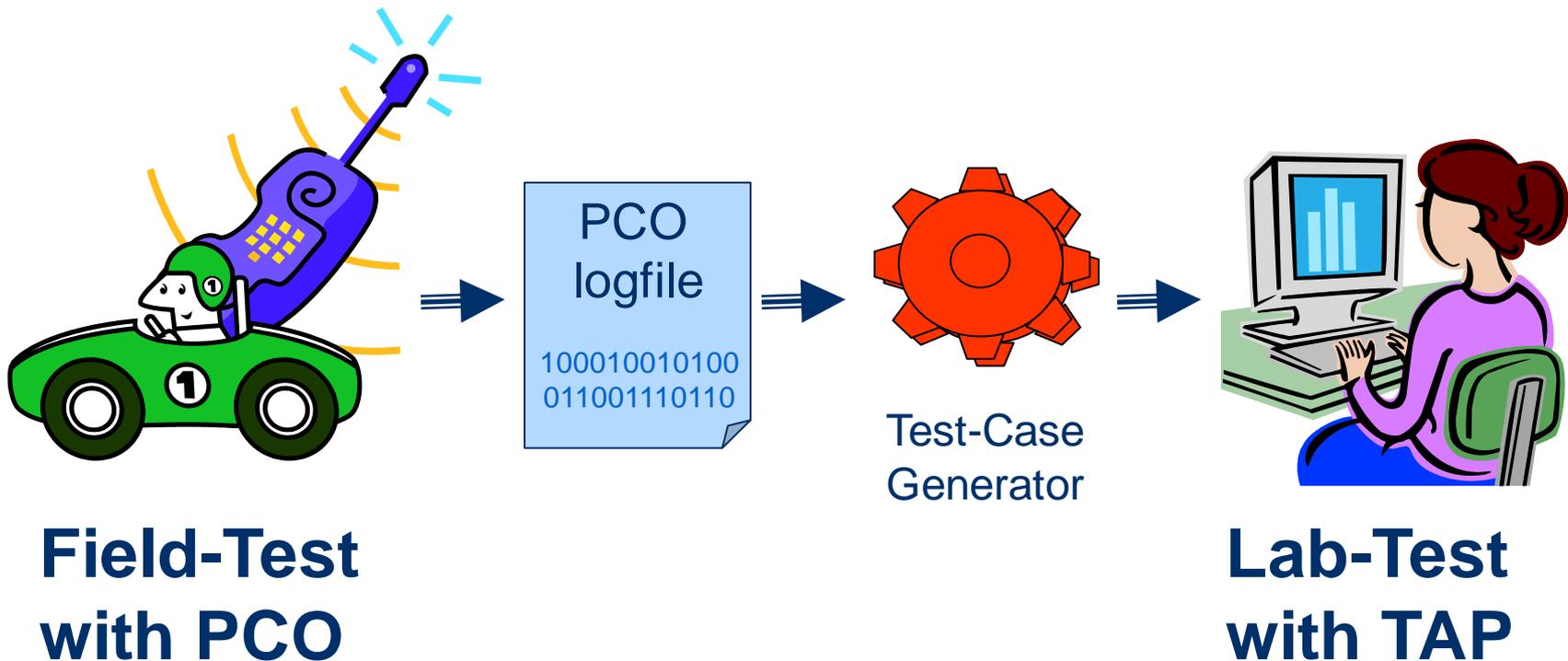
Duplicating Primitives

Logging

GUI-Integration

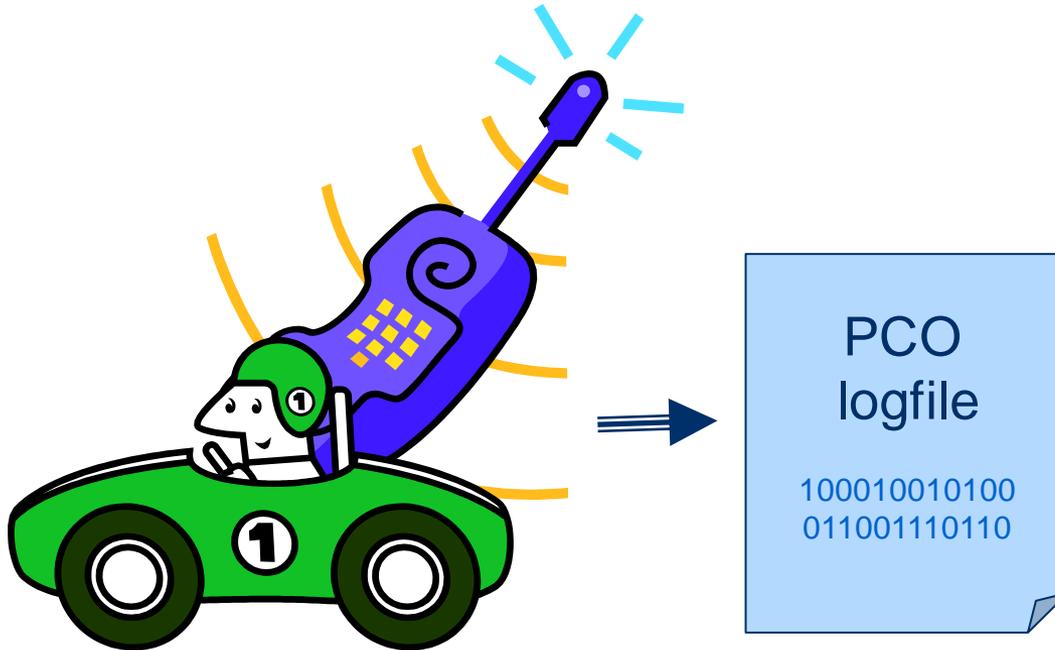
Tracing for TCGen ... *general overview*

- The final goal is:
 - ⇒ to generate new test cases
 - ⇒ ... using logged life data from field tests



Tracing for TCGen ... *general overview*

- Today you'll learn how to create suitable PCO logfile



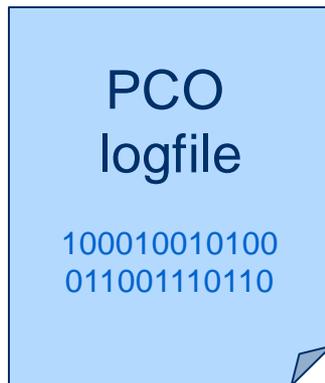
**Field-Test
with PCO**

Tracing for TCGen ... *general overview*

- What is a PCO logfile ?

⇒ a binary File named „xxx.pco“

⇒ ... containing information about sent primitives



main.svc - Live data stream

File Edit View Server Target Tools Help

Cfg Set DSAMPL Str2Ind Path: p:\lg23m__out__ No str2

T	Time	Snd	Name	Rcv	Content
	05454621 ms	PL	MPH_MEASUREME...	RR	0F 00 2C 2C 00 00 00 00 00 00 01 00 96 0
	05458858 ms	PL	MPH_MEASUREME...	RR	0F 00 2B 2B 00 00 00 00 00 00 01 00 96 0
	05459592 ms	PL	D_SYS_INFO_13	RR	00 00 00 00 00 00 00 01 01 02 01 01 03 0

Element	Value	Cleartext
MPH_MEASUREMENT_IND	OPC: 0x1701	
arfcn (channel number)	0F 00	GSM 900 without extensi...
rx_lev_full (received field stren...)	2B	
rx_lev_sub (received field stre...)	2B	
rx_qual_full (received quality)	00	received quality
rx_qual_sub (received quality)	00	
dtx (discontinuous transmission)	00	DTX is not used
otd (timing advance)	00 00	timing advance
valid (valid flag)	01	
fn_offset (TDMA Frame Offset)	96 03	
ncells (neighbour cell measur...)	06 00 11 00 4D 02 13 00 7C 00 66 00 1C 00 1B ...	<Sub structure>
no_of_ncells (Number of n...)	06	
arfcn (channel number)	11 00 4D 02 13 00 7C 00 66 00 1C 00	<Array>
rx_lev (received field stren...)	1B 1E 1D 06 06 08	<Array>
bsic (base station identifca...)	1F 1F 18 1A 18 1A	<Array>
time_alignmt (timing alignm...)	D0 04 00 00 D1 04 00 00 D1 04 00 00 D8 0C 00 ...	<Array>
frame_offset (frame offset)	79 6E 29 00 79 6E 29 00 79 6E 29 00 1D EA 03 ...	<Array>
gprs_sync (specifies sync resul...)	00	normal GSM behaviour
D_SYS_INFO_13		
msg_type (Message Type)	00	
si13_rest_oct (SI 13 Rest Octe...)	00 00 00 01 01 02 01 01 03 00 00 01 (9*00) 01 ...	<Sub structure>
si13_info (SI 13 Info)	01 02 01 01 03 00 00 01 (9*00) 01 03 01 04 01 ...	<Sub structure>

Ready CCDDATA-Ver.: 1.6.1 2 entries selected

Tracing for TCGen ...

General Overview

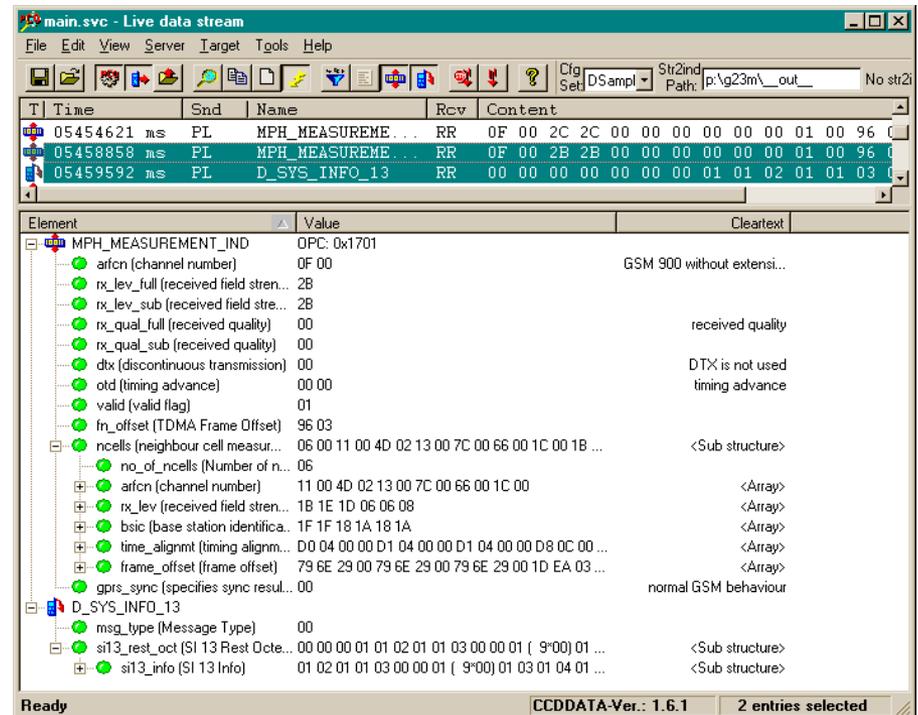
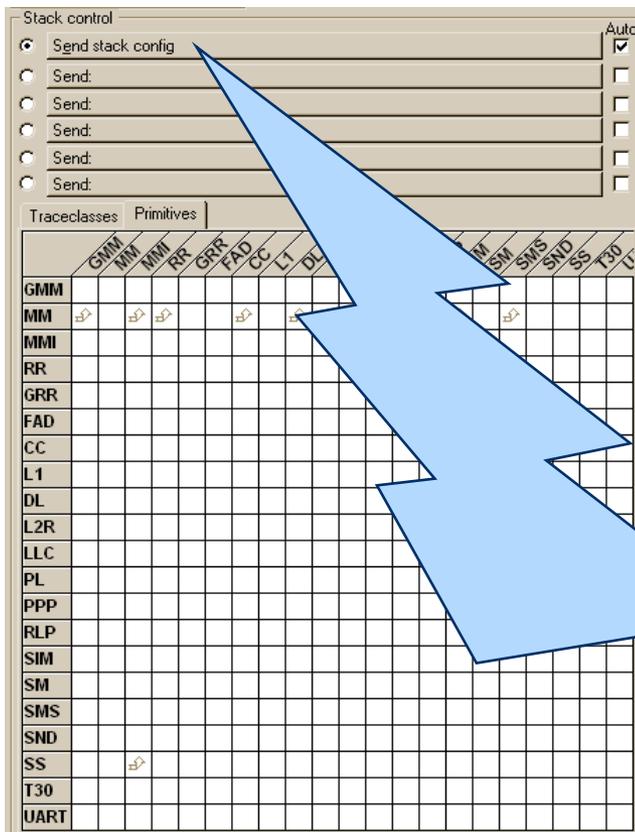
Duplicating Primitives

Logging

GUI-Integration

Tracing for TCGen ... *duplicating primitives*

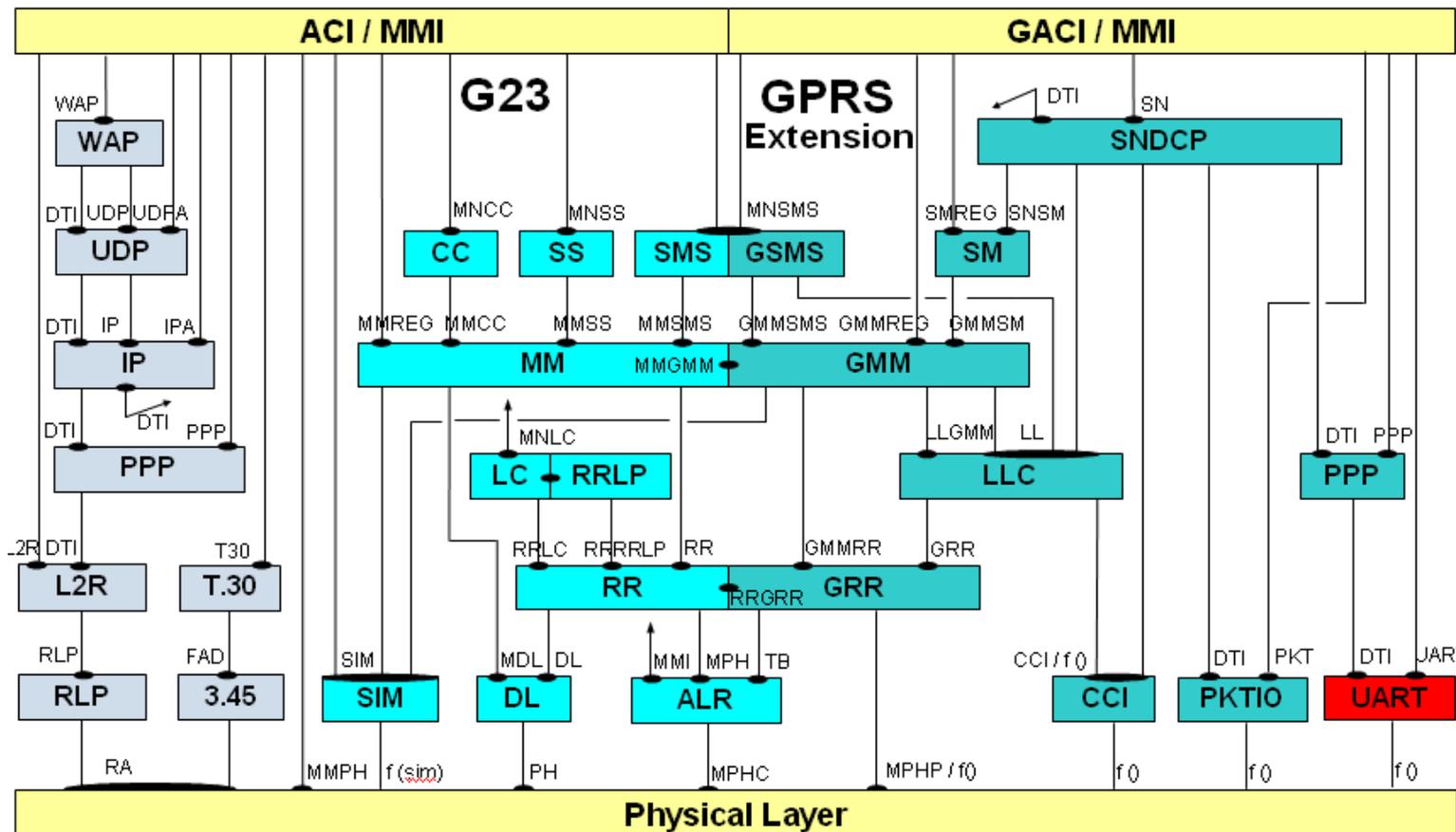
- As a first step primitive duplication has to be requested:
 - ⇒ by setting up the primitive matrix in PCO controller
 - ⇒ ... and sending the configuration to the PS



⇒ connected viewers will show immediate results

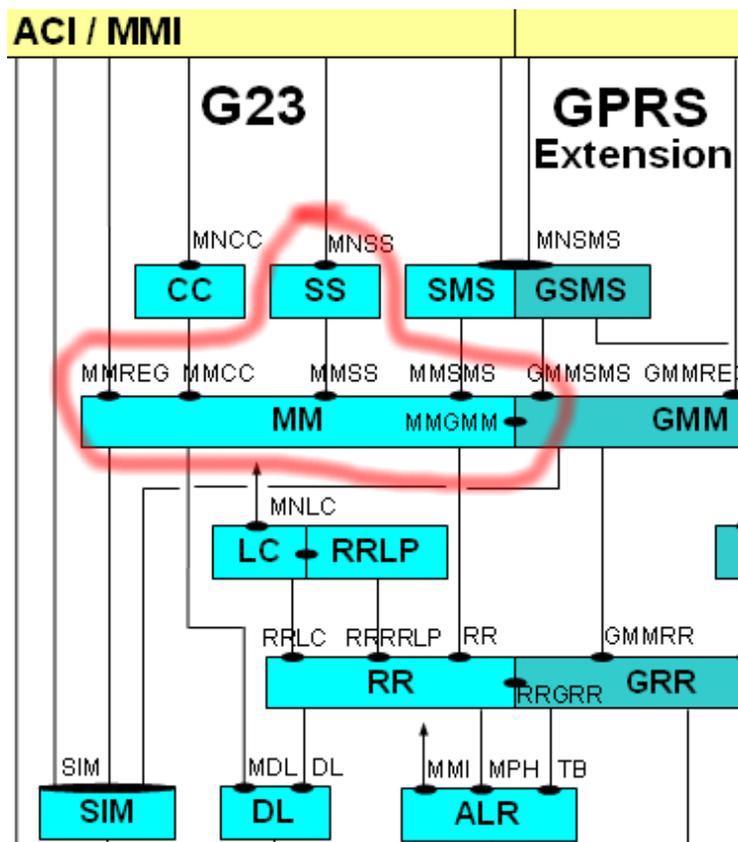
Tracing for TCGen ... *duplicating primitives*

- What has to be configured in the matrix ?
 - ⇒ depends on which entities shall be observed ... e.g. MM & SS
 - ⇒ ... and the existing SAP's ... e.g. for the GPRS protocol stack:



Tracing for TCGen ... *duplicating primitives*

- To observe MM and SS ...
 - ⇒ all „outer“ SAP's have to be identified
 - ⇒ ... and selected in the matrix



Traceclasses	Primitives																		
	GMM	MM	MMI	SS	RR	GRR	FAD	CC	L1	DL	L2R	LLC	PL	PPP	RLP	SIM	SM	SMS	
GMM	⇒																		
MM	⇒	⇒		⇒			⇒		⇒							⇒		⇒	
MMI	⇒		⇒																
SS		⇒																	
RR	⇒																		
GRR																			
FAD																			
CC	⇒																		
L1																			
DL	⇒																		
L2R																			
LLC																			
PL																			
PPP																			
RLP																			
SIM	⇒																		
SM																			
SMS	⇒																		
SND																			

Tracing for TCGen ... *duplicating primitives*

- Since CCDDATA version 1.6.x (GPF 15) ...
 - ⇒ PCO is provided with information about existing entities and their SAPs
 - ⇒ therefore only meaningful checkboxes are enabled in the matrix
- Furthermore ...
 - ⇒ via the matrix context menu the observation of specific entities can easily be configured

Traceclasses		Primitives																		
		GMM	MM	MMI	SS	RR	GRR	FAD	CC	L1	DL	L2R	LLC	PL	PPP	RPL	SIM	SM	SMS	S'
GMM																				
MM																				
MMI																				
SS																				
RR																				
GRR																				
FAD																				
CC																				
L1																				
DL																				
L2R																				
LLC																				

The diagram illustrates the process of configuring entity observation. It starts with a context menu over the matrix table, where the 'Observe...' option is selected. This opens the 'Entity Observation' dialog box. In this dialog, a list of entities is shown, with 'MM' and 'SS' currently selected. The dialog also includes 'OK' and 'Cancel' buttons. An arrow indicates that after configuration, the matrix table is updated to show checkboxes in the cells corresponding to the selected entities (GMM, MM, MMI, SS, RR, and CC).

Tracing for TCGen ...

General Overview

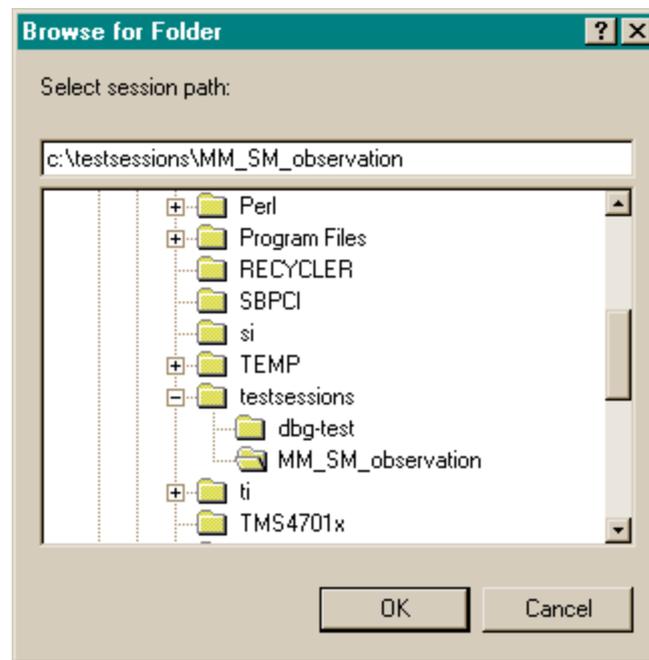
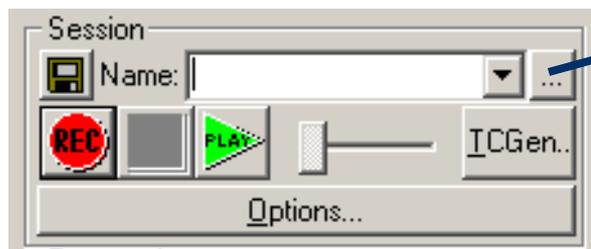
Duplicating Primitives

Logging

GUI-Integration

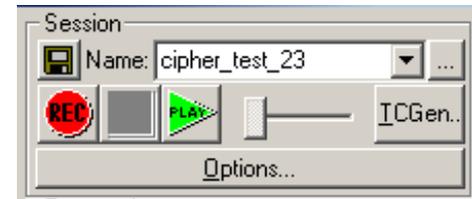
Tracing for TCGen ... *logging*

- During the second step, the logging
 - ⇒ ... a meaningful named PCO logfile will be created
- At first a directory has to be selected
 - ⇒ ... where the sessions shall be stored



Tracing for TCGen ... *logging*

- Now a session name has to be provided
 - ⇒ ... preferable self explaining 😊
- ... and the logging can begin
 - ⇒ ... by pressing the „REC“ord-button
- Every received trace and primitive
 - ⇒ ... will now be stored into the PCO logfile (cipher_test_23.pco)
 - ⇒ (the ASCII-traces are not needed for TCGen later on)
- When the session is over
 - ⇒ ... „STOP“ will close the .pco file
 - ⇒ “c:\testsessions\MM_SM_observation\cipher_test_23.pco“ can be forwarded to other testers for TCGen processing



Tracing for TCGen ...

General Overview

Duplicating Primitives

Logging

GUI-Integration

Tracing for TCGen ... *GUI-integration*

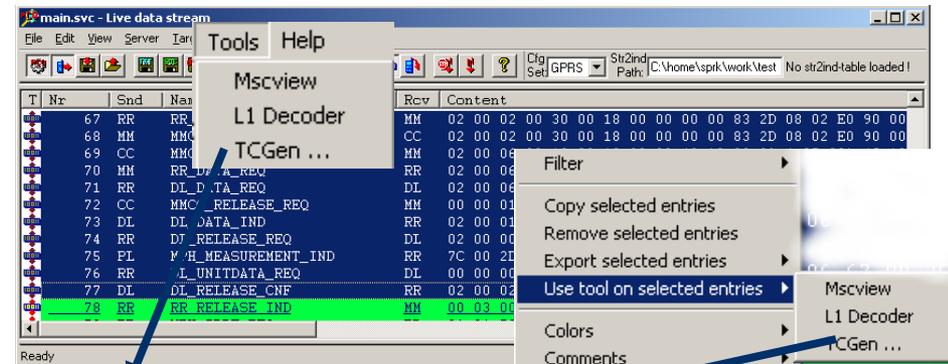
- There are two ways to call TCGen directly through the PCO GUI:

⇒ Via the PCO-Controller



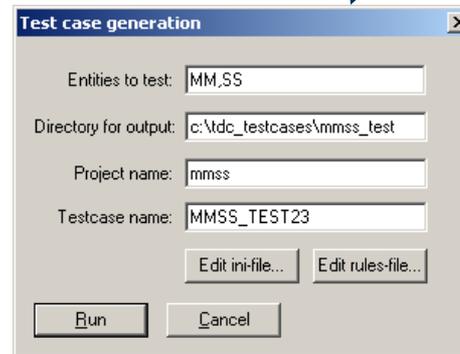
⇒ In this case all entries of the selected .pco-file will be taken into account

⇒ Via a PCO-Standard-Viewer



⇒ In this case either all entries visible in the current viewer ...

⇒ or all selected entries will be taken into account



- In both cases ...

- ⇒ the other parameters to TCGen have to be filled into the edit fields
- ⇒ ini-file and rules-file of TCGen may be opened and edited via the buttons
- ⇒ the „Run“-button will start the generation

Thank for your patience !