ITU - Telecommunication Standardization Sector   **Temporary Document SAxx-E**

STUDY GROUP 10   **Original: English**

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Question: 9 (MSC)

SOURCE: RAPPORTEUR

TITLE: PARAMETERS ON TIMERS

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Abstract

The MSC Language lacks a very important feature, namely the possibility to add parameters on timers. Parameters on timers are supported directly in some languages (like in SDL) or can be found in programming interfaces in most operation systems. Since MSC is a trace language it should have the possibility to express execution traces with real word timers.

Semantically parameters on timers do not differ at all from parameters on messages (to self). The only difference is that the possibility of the reception of the signal is delayed. (see also Minutes of Q9 meeting, Berlin 9807, The Rapporteur's investigation " timers (set, reset, time out) considered similar to messaging, for corroboration on the thesis that timers should have parameters).

Proposed Grammar change

Concrete textual grammar
<set> ::=   **set** <u>timer</u> name> [**,** <u>timer instance</u> name>] [(<<u>duration</u> name>)] <end>
<set> ::=   **set** <u>timer</u> name> [**,** <u>timer instance</u> name>] [(<<u>duration</u> name>)] [: (<parameter list>)] <end>

Concrete graphical grammar

<timer set area1> ::=
    <set symbol> *is associated with* <<u>timer</u> name> [(<<u>duration</u> name>)]
    is attached to <instance axis symbol>
    [*is attached to* {<set-reset symbol>
	<reset symbol2>	<timeout symbol3> }]

<timer set area2> ::=   <set-reset symbol> *is associated with* <<u>timer</u> name> [(<<u>duration</u> name>)]   *is attached to* <instance axis symbol>

is attached to <set symbol>
[*is attached to* { <reset symbol2> | <timeout symbol3> }]

<timer reset area1> ::=

<reset symbol1> *is associated with* <u>timer</u> name> [(<u>duration</u> name>)]
is attached to <instance axis symbol>

<timer reset area2> ::=

<reset symbol2> *is associated with* <u>timer</u> name> [(<u>duration</u> name>)]
is attached to <instance axis symbol>
is attached to { <set symbol> | <set-reset symbol> }

<timeout area1> ::=

<timeout symbol> *is associated with* <u>timer</u> name> [(<u>duration</u> name>)]
is attached to <instance axis symbol>

<timer set area1> ::=

<set symbol> *is associated with* <u>timer</u> name> [(<u>duration</u> name>)] <mark>[(<parameter list>)]</mark>
is attached to <instance axis symbol>
[*is attached to* {<set-reset symbol> | <reset symbol2> | <timeout symbol3> }]

<timer set area2> ::=

<set-reset symbol> *is associated with* <u>timer</u> name> [(<u>duration</u> name>)]
<mark>[(<parameter list>)]</mark>
is attached to <instance axis symbol>
is attached to <set symbol>
[*is attached to* { <reset symbol2> | <timeout symbol3> }]

<timer reset area1> ::=

<reset symbol1> *is associated with* <u>timer</u> name> [(<u>duration</u> name>)]
<mark>[(<parameter list>)]</mark>
is attached to <instance axis symbol>

<timer reset area2> ::=

<reset symbol2> *is associated with* <u>timer</u> name> [(<u>duration</u> name>)]
<mark>[(<parameter list>)]</mark>
is attached to <instance axis symbol>
is attached to { <set symbol> | <set-reset symbol> }

<timeout area1> ::=

<timeout symbol> *is associated with* <u>timer</u> name> [(<u>duration</u> name>)]
<mark>[(<parameter list>)]</mark>
is attached to <instance axis symbol>