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Part 1: TTCN‑3 Core Language

**ETSI Standard**

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### 22.3.5 The Raise operation

Exceptions are raised with the **raise** operation.

***Syntactical Structure***

*Port* "." **raise** "(" *Signature* "," *TemplateInstance* ")"

[ **to** *Address* ]

NOTE 1: *Address* may be an *AddressRef*, a list of *AddressRef*-s or "**all component**".

***Semantic Description***

The **raise** operation is used to raise an exception.

NOTE 2: The relation between an accepted call and a **raise** operation cannot always be checked statically. For testing it is allowed to specify a **raise** operation without an associated **getcall** operation.

The value part of the **raise** operation consists of the signature reference followed by the exception value.

Exceptions are specified as types. Therefore the exception value may either be derived from a template conforming to the template(value) restriction or be the value resulting from an expression (which of course can be an explicit value). The optional type field in the value specification to the **raise** operation shall be used in cases where it is necessary to avoid any ambiguity of the type of the value being sent.

Exceptions to one or more **call** operations may be sent to one, several or all peer entities connected to the addressed port. This can be specified in the same manner as described in clause 22.2.1. This means, the argument of the **to** clause of a **raise** operation is for unicast exceptions the address of one receiving entity, for multicast exceptions a list of addresses of a set of receivers and for broadcast exceptions the **all component** keywords.

In case of one-to-one connections, the **to** clause may be omitted, because the receiving entity is uniquely identified by the system structure.

***Restrictions***

In addition to the general static rules of TTCN‑3 given in clause 5 and shown in table 15, the following restrictions apply:

a) An exception shall only be raised at a procedure-based port. An exception is a reaction to an accepted procedure call the result of which leads to an exceptional event.

b) The type of the exception shall be specified in the signature of the called procedure. The type definition of the port shall include in its list of accepted procedure calls the name of the procedure to which the exception belongs.

c) A **to** clause shall be present in case of one-to-many connections.

d) *AddressRef* shall be of type **address**, **component** or of the type provided in the address declaration of the port type of the port instance referenced in the **raise** operation. No *AddressRef* shall contain the special value **null** at the time of the operation.

e) Applying a **raise** operation to an unmapped or disconnected port shall cause a test case error.

f) The *TemplateInstance* shall conform to the template(value) restriction (see section 15.8).

***Examples***

 MyPort.**raise**(MySignature, MyVariable + YourVariable - 2);

 // Raises an exception with a value which is the result of the arithmetic expression

 // at MyPort

 MyPort.**raise**(MyProc, **integer**:5}); // Raises an exception with the integer value 5 for MyProc

 MyPort**.raise**(MySignature, "My string") **to** MyPartner;

 // Raises an exception with the value "My string" at MyPort for MySignature and

 // send it to MyPartner

 MyPort**.raise**(MySignature, "My string") **to** (MyPartnerOne, MyPartnerTwo);

 // Raises an exception with the value "My string" at MyPort and sends it to MyPartnerOne and

 // MyPartnerTwo (i.e. multicast communication)

 MyPort**.raise**(MySignature, "My string") **to** **all component**;

 // Raises an exception with the value "My string" at MyPort for MySignature and sends it

 // to all entites connected to MyPort (i.e. broadcast communication)