

AskemosDVM

The Askemos virtual machine follows the semantics of pi-calculus. This design style has been widely found beneficial for instance in Hardware (especially FPGA) Design and the Erlang programming system.

A place of the Askemos DVM executes process step[?] when it receives a message. A reply function

reply = function(place, message)

is computed for each step, where

reply

an aggregate denoting the answer the process step yields to the incoming *message*. The programmer used to traditional operating system terms might think of the reply element content as a list all those system calls which the function needs to complete and which might modify values.

function

Step response, a two-ari function defined by the ActionDocument.

message

A read only accessor to the aggregate denoting the current input.

place

A r/o (read type request) or r/w (write type request) accessor to the aggregate denoting "this" place. Often called "me".

The input area (message and place) and the output area (reply) each are described as an xml document, and the function is defined as an XSLT transformation.

These process step[?] are executed by several physical machines in parallel and a byzantine agreement over the value of the reply is required for the step to be actually performed.

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1. A place in this virtual machine can be understood as the container of an arrow (See John Hughes, Generalising Monads to Arrows) or a continuation which is evaluated in steps[?].
 2. Read more at LtU: mondas for beginners and a collection of monad links.
 3. Looks like PiDuce implements quite a simillar processing paradigm.
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