

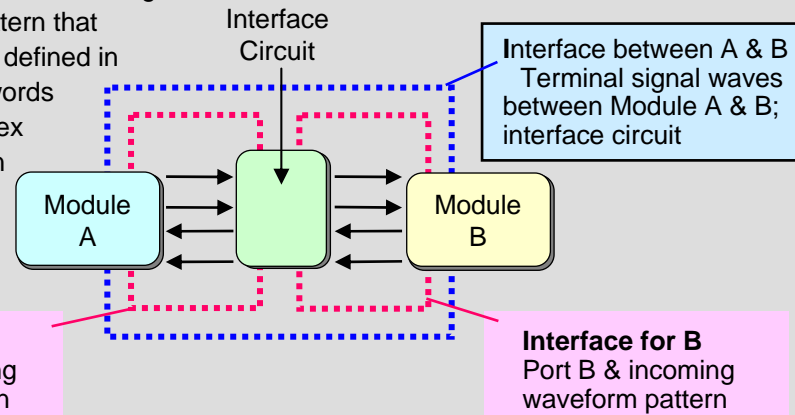
2002/1/23 Release

## Collaborative research on interface specification methodology for improving the efficiency of IP based system LSI design

- For standardization of interface specification language & the reduction of design verification time -

### 【What is IP interface specification?】

Information defining the method of connecting the IP, and type of waveform pattern that can be received. Generally, it is defined in paper-based documents using words and diagrams to describe complex signal changes. Occasionally, an ambiguous description leads to misunderstanding by a designer resulting in design flaws.



### Example of language developed

As well as signal line specification, signal change specification is also accurately defined

```
interface FullHandshake;
port;
input.clock    clk;
input.control  cmd;
input.control  req;
output.control ack;
inout.data[31:0] dat;
endport
word;
read{D} : RR+ RA(D);
write{D}: WR(D)+ WA(D);
endword
```

The Central Research Laboratory of Hitachi, Ltd., Fujitsu Laboratories Ltd. and Fujitsu Ltd. have commenced collaborative research on system LSI design technology to create a design environment where a LSI designer can easily re-use IP (Intellectual Property). A computer-readable language and system LSI design methodology for defining IP interface specifications will be researched and developed. To facilitate the use of this language within the industry, the language specifications will be made available free at <http://koigakubo.hitachi.co.jp/~sl/cwl/html/en/index.htm> from February by the 3 companies.