BSRMission Keyword

CJ Clark, Intellitech Corp.

For IEEE 1149.1/JTAG WG Review
Standard TDR interface for IP blocks

Standard signals

SI (TDI)  
SO (TDO)  
TCK  
Shift_<TDR>  
Capture_<TDR>  
Update_<TDR>  
<TDR>_RESET*

TDR Characteristics "type"

NOPI  
NOPO  
NOUPD  
MON  
PULSE0/PULSE1  
SHARED

SHARED indicates TDR is using flops shared with mission mode circuitry. Shifting through SHARED TDRs cannot be done in mission mode without affecting operation.
All instructions set the mux on b-s cells to '1' or '0'

User Defined Instructions access user defined TDRs

These also set the mux to mission or test mode
package tempmon is
  use std_1149_1_2012.all;

attribute REGISTER_FIELDS of XYZ_TEMP : entity is
  "TEMPTDR[14] ( " &
  "(TempMon[14] IS (13 DOWNTO 0) BSRMISSION ) "&
  ");"
end tempmon;

# vendor supplied reg to temp conversion
ipDLLevel 1 -version STD_IEEE_1149_1_2012
iProcGroup XYY_TEMP

proc Reg2Temp { $regval $CorF } {
  ...
  ...
}

# this proc returns a temperature and
# high level warnings could be specified
iProc -export -noninvasive temp-check { } {
  iRead TempMon
  iApply
  set val [iGet TempMon]
  # convert reg value to temperature in celsius
  set temp [Reg2Temp $val CEL]
  if {temp > 70} {
    puts "Temperature is excessive $temp"
  }
  return temp
}
4 TDRs accessed by 4 instructions
TDRs separated by instruction control of test/mission mode