

## COVERGROUP WITH VARIABLE FROM SVA LOCAL VARIABLE

Module variable framelength updated from within sequence\_match\_item using a function

```
event cg_trig;
bit clk, SOP, EOP;
bit [3:0] framelength;

function void trigger_cg (input int length);
    variable 'cnt '
        framelength = length;
    -> cg_trig;    // Trigger Covergroup Sampling
endfunction

property SOP_2_EOP;
    @(posedge clk) $rose(SOP) |-> Detect_EOP;
endproperty
assert property (SOP_2_EOP) ;

sequence Detect_EOP;
    int cnt;
    @(posedge clk)
    (1, cnt = 1) ##1
    (1, cnt++)[*0:$] ##1
    ($rose(EOP), $display("TIME:%0t cnt is %0d ", $time, cnt), trigger_cg(cnt)) ##0
    (1, $display(" framelength is %0d ", framelength));
endsequence

/*covergroup frame @(cg_trig); // SEE different options below
    coverpoint framelength; // Generated 16 Auto bins !!
endgroup */

covergroup frame @(Detect_EOP.triggered); // SEE different options below
    coverpoint framelength; // Generated 16 Auto bins !!
endgroup
```

## Simulation results with sequence\_name.triggered as covergroup trigger

### Unexpected results

Name	Class Type	Coverage	Goal	% of Goal	Status	Included	Merge_instances	Get_inst_coverage	Comm
/Cov_Trigger		6.25%							
TYPE frame		6.25%	100	6.25%		✓		auto(0)	
CVP frame::framelength		6.25%	100	6.25%		✓			
INST \Cov_Trigger/inst		6.25%	100	6.25%		✓		0	
CVP framelength		6.25%	100	6.25%		✓			
bin auto[0]		9	1	100.00%		✓			
bin auto[1]		0	1	0.00%		✓			
bin auto[2]		0	1	0.00%		✓			
bin auto[3]		0	1	0.00%		✓			
bin auto[4]		0	1	0.00%		✓			
bin auto[5]		0	1	0.00%		✓			
bin auto[6]		0	1	0.00%		✓			

  

```

sequence Detect_EOP;
  int cnt;
  @(posedge clk)
  (1, cnt = 1, $display(" 1st cnt at %0t ", $time)) ##1
  (1, cnt++)[*0:$] ##1
  ($rose(EOP), $display("TIME:%0t cnt is %0d ", $time, cnt), trigger_cg(cnt)) ##0
  (1, $display(" framelength is %0d ", framelength));
endsequence
  
```

  

```

/*covergroup frame @(cg_trig) ; // line 15
  coverpoint framelength ; // Generated 16 Auto bins !!
endgroup */

covergroup frame @(Detect_EOP.triggered);
  coverpoint framelength; // Generated 16 Auto bins !!
endgroup

function void trigger_cg (input int length); // input Arg. Same type as Actual
  $display(" Within function trigger_cg ");
  framelength = length;
  $display(" Within function trigger_cg, framelength is %0d ", framelength);
  -> cg_trig; // Trigger Covergroup Sampling
endfunction
  
```

6.25% Recursive Mod

## Simulation results with sequence\_name as covergroup trigger

### Unexpected results

Name	Class Type	Coverage	Goal	% of Goal	Status	Included	Merge_instances	Get_inst_coverage	Comment
/Cov_Trigger		6.25%							
TYPE frame		6.25%	100	6.25%		✓		auto(0)	
CVP frame::framelength		6.25%	100	6.25%		✓			
INST \Cov_Trigger/inst		6.25%	100	6.25%		✓			0
CVP framelength		6.25%	100	6.25%		✓			
bin auto[0]		9	1	100.00%		✓			
bin auto[1]		0	1	0.00%		✓			
bin auto[2]		0	1	0.00%		✓			
bin auto[3]		0	1	0.00%		✓			
bin auto[4]		0	1	0.00%		✓			
bin auto[5]		0	1	0.00%		✓			
bin auto[6]		0	1	0.00%		✓			
bin auto[7]		0	1	0.00%		✓			

  

```

sequence Detect_EOP;
| int cnt;
| @(posedge clk)
| (1, cnt = 1, $display(" 1st cnt at %0t ", $time)) ##1
| (1, cnt++)[*0:$] ##1
| ($rose(EOP), $display("TIME:%0t cnt is %0d ", $time, cnt), trigger_cg(cnt)) ##0
| (1, $display(" framelength is %0d ", framelength));
endsequence

covergroup frame @(Detect_EOP) ; // line 11
  coverpoint framelength ; // Generated 16 Auto bins !!
endgroup

/* covergroup frame @(Detect_EOP.triggered);
  coverpoint framelength; // Generated 16 Auto bins !!
endgroup */

function void trigger_cg (input int length); // input Arg. Same type as Actual Arg
  $display(" Within function trigger_cg ");
  framelength = length;
  $display(" Within function trigger_cg, framelength is %0d ", framelength);
  //-> cg_trig; // Trigger Covergroup Sampling
endfunction

```

## Simulation results with event trigger from function as covergroup trigger

### Expected results

Name	Class Type	Coverage	Goal	% of Goal	Status	Included	Merge_instances	Get_inst_coverage	Comment
/Cov_Trigger		6.25%							
TYPE frame		6.25%	100	6.25%	✓		auto(0)		
CVP frame::framelength		6.25%	100	6.25%	✓				
INST \Cov_Trigger/Inst		6.25%	100	6.25%	✓			0	
CVP framelength		6.25%	100	6.25%	✓				
bin auto[0]		0	1	0.00%	✓				
bin auto[1]		0	1	0.00%	✓				
bin auto[2]		0	1	0.00%	✓				
bin auto[3]		0	1	0.00%	✓				
bin auto[4]		0	1	0.00%	✓				
bin auto[5]		1	1	100.00%	✓				
bin auto[6]		0	1	0.00%	✓				
bin auto[7]		0	1	0.00%	✓				
bin auto[8]		0	1	0.00%	✓				

```

sequence Detect_EOP;
  int cnt;
  @(posedge clk)
  (1, cnt = 1, $display(" 1st cnt at %0t ", $time)) ##1
  (1, cnt++)[*0:$] ##1
  ($rose(EOP), $display("TIME:%0t cnt is %0d ", $time, cnt), trigger_cg(cnt)) ##0
  (1, $display(" framelength is %0d ", framelength));
endsequence

covergroup frame @(cg_trig) ; // line 15
  coverpoint framelength ; // Generated 16 Auto bins !!
endgroup

/* covergroup frame @(Detect_EOP.triggered);
  coverpoint framelength; // Generated 16 Auto bins !!
endgroup */

function void trigger_cg (input int length); // input Arg. Same type as Actu
  $display(" Within function trigger_cg ");
  framelength = length;
  $display(" Within function trigger_cg, framelength is %0d ", framelength);
  -> cg_trig; // Trigger Covergroup Sampling
endfunction

```