

# Mantis 3525 : property\_statement should not be part of property\_expr

## Motivation

As stated in the Mantis description, the current BNF allows inserting “;” in the middle of property expressions. In addition, even if the direct effect is corrected as proposed in the Mantis, an even more serious problem still exists:

Due to the following circular dependency

```
property_expr ::=
  ....
  | property_statement
  | ...
```

And

```
property_statement ::=
  property_expr ;
  | ...
```

The following is an example of an unexpected legal property\_expr:

```
a ##1 b; or c; until d
```

The proposal for correcting this double anomaly makes the placement of “;” uniformly at the end of the property\_statement\_spec in property\_declaration.

### **NOTE: This introduces one backward incompatibility:**

In the original formulation, if the top-level property expressions is *case – endcase*, there would be no “;” at the end of the property\_statement\_spec.

In the proposed formulation, “;” is optional regardless the kind of the top-level property operator.

Similarly, in property\_case\_item there is now an optional “;” after property\_expr.

Also, the required “;” in sequence\_declaration after sequence\_expr becomes optional to align with the use of “;” in property\_declaration.

## (1800-12-0002-DRFT-p1800-systemverilog-d5.pdf)

### Clause 16.8, page 354

#### Replace

```
sequence_expr ;  
endsequence [ : sequence_identifier ]
```

#### With

```
sequence_expr [ ; ]  
endsequence [ : sequence_identifier ]
```

Note to the editor: Changed “;” after sequence\_expr to be optional.

### Clause 16.12, page 391

#### Replace

```
property_declaration ::=  
  property property_identifier [ ( [ property_port_list ] ) ] ;  
  { assertion_variable_declaration }  
  property_statement_spec  
  endproperty [ : property_identifier ]
```

#### With

```
property_declaration ::=  
  property property_identifier [ ( [ property_port_list ] ) ] ;  
  { assertion_variable_declaration }  
  property_statement_spec [ ; ]  
  endproperty [ : property_identifier ]
```

Note to the editor: Added an optional semi-colon after property\_statement\_spec.

### Clause 16.12, page 392

#### Replace

```
property_statement_spec ::=  
  [ clocking_event ] [ disable iff ( expression_or_dist ) ] property_statement  
property_statement ::=  
  property_expr ;  
  | case ( expression_or_dist ) property_case_item { property_case_item } endcase  
  | if ( expression_or_dist ) property_expr [ else property_expr ]  
property_case_item ::=  
  expression_or_dist { , expression_or_dist } : property_statement
```

```

| default [ : ] property_statement
property_expr ::=
sequence_expr
| strong ( sequence_expr )
| weak ( sequence_expr )
| ( property_expr )
| not property_expr
| property_expr or property_expr
| property_expr and property_expr
| sequence_expr |-> property_expr
| sequence_expr ||=> property_expr
| property_statement

```

## With

```

property_statement_spec ::=
[ clocking_event ] [ disable iff ( expression_or_dist ) ] property_statement property_expr
property_statement ::=
property_expr ;
case ( expression_or_dist ) property_case_item { property_case_item } endcase
if ( expression_or_dist ) property_expr [ else property_expr ]
property_case_item ::=
expression_or_dist { , expression_or_dist } : property_statement
default [ : ] property_statement
property_expr ::=
| strong ( sequence_expr )
| weak ( sequence_expr )
| ( property_expr )
| not property_expr
| property_expr or property_expr
| property_expr and property_expr
| sequence_expr |-> property_expr
| sequence_expr ||=> property_expr
| property_statement
| if ( expression_or_dist ) property_expr [ else property_expr ]
| case ( expression_or_dist ) property_case_item { property_case_item } endcase

```

## Insert after the end of property\_xpr

```

property_case_item ::=
expression_or_dist { , expression_or_dist } : property_expr [ ; ]
| default [ : ] property_expr [ ; ]

```

## Clause 16.12.16, page 410 , Syntax 16-19 Replace

```

property_statement ::=
...
| case ( expression_or_dist ) property_case_item { property_case_item } endcase
...
//from A.2.10

```

## With

```
property_statement ::= _____ //from A.2.10  
property_expr ::= //from A.2.10  
...  
| case ( expression_or_dist ) property_case_item { property_case_item } endcase  
...
```

## Annex A.2.10, page 1133

## Replace

```
property_declaration ::=  
  property property_identifier [ ( [ property_port_list ] ) ] ;  
  { assertion_variable_declaration }  
  property_statement_spec  
  endproperty [ : property_identifier ]
```

## With

```
property_declaration ::=  
  property property_identifier [ ( [ property_port_list ] ) ] ;  
  { assertion_variable_declaration }  
  property_statement_spec [ ; ]  
  endproperty [ : property_identifier ]
```

Note to the editor: Added an optional semi-colon after property\_statement\_spec.

## Replace

```
property_statement_spec ::=  
  [ clocking_event ] [ disable iff ( expression_or_dist ) ] property_statement  
property_statement ::=  
  property_expr ;  
  | case ( expression_or_dist ) property_case_item { property_case_item } endcase  
  | if ( expression_or_dist ) property_expr [ else property_expr ]  
property_case_item ::=  
  expression_or_dist { , expression_or_dist } : property_statement  
  | default [ : ] property_statement  
property_expr ::=  
  sequence_expr  
  | strong ( sequence_expr )  
  | weak ( sequence_expr )  
  | ( property_expr )  
  | not property_expr  
  | property_expr or property_expr  
  | property_expr and property_expr  
  | sequence_expr -> property_expr  
  | sequence_expr => property_expr
```

| property\_statement

## With

```
property_statement_spec ::=
  [ clocking_event ] [ disable iff ( expression_or_dist ) ] property_statement property_expr
property_statement ::=
  property_expr
  | case ( expression_or_dist ) property_case_item { property_case_item } endcase
  | if ( expression_or_dist ) property_expr [ else property_expr ]
property_case_item ::=
  expression_or_dist { , expression_or_dist } : property_statement
  | default [ : ] property_statement
property_expr ::=
  | strong ( sequence_expr )
  | weak ( sequence_expr )
  | ( property_expr )
  | not property_expr
  | property_expr or property_expr
  | property_expr and property_expr
  | sequence_expr |-> property_expr
  | sequence_expr ==> property_expr
  | property_statement
  | if ( expression_or_dist ) property_expr [ else property_expr ]
  | case ( expression_or_dist ) property_case_item { property_case_item } endcase
```

## AnnexA.2.10, page 133

### Insert after the end of property\_expr

```
property_case_item ::=
  expression_or_dist { , expression_or_dist } : property_expr [ ; ]
  | default [ : ] property_expr [ ; ]
```

## Annex A.2.10, page 1134

### Replace

```
sequence_declaration ::=
  sequence sequence_identifier [ ( [ sequence_port_list ] ) ] ;
  { assertion_variable_declaration }
  sequence_expr ;
  endsequence [ : sequence_identifier ]
```

## With

```
sequence_declaration ::=  
    sequence sequence_identifier [ ( [ sequence_port_list ] ) ] ;  
    { assertion_variable_declaration }  
    sequence_expr [ ; ]  
    endsequence [ : sequence_identifier ]
```

Note to the editor: Changed “;” after sequence\_expr to be optional.