

**Release Notes
ATLAS Compiler
Version 03.23.06 (20050915)
15 September 2005**

1 Overview

The following describes an overview of changes included within version 20050915 (3.23.6) of the following ATLAS compiler(s)

CASS / RT

and version 20050915 (3.23.6) of the following ATLAS support tools:

None

1.1 Enhancements

1.1.1 CEM Driver Access to Ports Used

1.2 Problem Reports

05-025

2.0 Detailed Description

2.1 Enhancements

2.1.1 CEM Driver Access to Ports Used

Situations arise in the implementation of CEM drivers where it is desirable to have some knowledge of which ATLAS ports are used in a specific statement prior to the Connect action. A common example is the use of *sense* lines, i.e. ports SENSE-HI and SENSE-LO with a DC power supply. If those ports are used then it is likely necessary to have that information available in the Setup action. This release of the subject ATLAS compilers provides a means of specifying ports of interest and determining when they are used.

Procedure

- Add the modifier PORTS to the lexical database file modifier as follows:

(MSG_MC ++ LST_MC) PORTS;

i.e. It is of type MSGCHAR (MSG_MC) and can have multiple values (LST_MC).
- Add the modifier PORTS to the lexical database file nounsmod as follows:

```

begin PSEUDO COMMON MODIFIERS;
MODIFIERS :
...
PORTS;
...
end_unit;

```

i.e. The modifier PORTS can be used with all nouns.

- In the lexical database file ports, flag all ports of interest with the property SHO_PC (ESTS users ESP_PC) as follows:

```

define PORTS lexrul = PORTRULE ... ;
...
    HI;
...
    S3;
    S4;
(SHO_PC) SENSE-HI;
(SHO_PC) SENSE-LO;
...
end_unit;

```

- Add the modifier **ports** to the device database functions. i.e. begin FNC, which use one or more of the flagged ports and for which it is necessary to determine when the port is used.

Example

```

begin DEV DSCP1 using DCPS1;
begin FNC = 1;
source dc signal;
cnx    hi DCPS1-HI, lo DCPS1-LO;
       sense-hi DCPS1-SENS-HI, sense-lo DCPS1-SENS-LO;
control
    {
        voltage range ...;
        current max ...;
        ports;
    }
end;
...
end;

```

- The CEM driver can access that parameter in the manner that is conventional for MSGCHAR list parameters, as follows:

CEM Wizard Parameter

```
int doDCPS1_1_Setup (... , PCHAR * pPRTS, int nCntPRTS, ...
```

The parameter nCntPRTS will show the number of the flagged ports that were encountered, zero if none were used. The port strings can be obtained, as follows:

```
for (int i = 0; i < nCntPRTS, i ++)  
    {  
        PCHAR _port = pPRTS[i];  
        ...
```

The port *strings* will be the port names used in ATLAS as **lower case**.

Hand coded Parameter

```
DATUM * pPRTSDatum = GetDatum(M_PRTS, K_SET);  
int      nCntPRTS = 0;  
if (pPRTSDatum && (DatTyp(pPRTSDatum) == TXTV))  
    {  
        nCntPRTS = DatCnt(pPRTSDatum);  
        for (int i = 0; i < nPRTS; i ++)  
            {  
                char * _port = GetTXTDatVal(pPRTSDatum, i);
```

2.2 Problem Reports

2.2.1 05-025 CONN Variable Use Within Procedures

If a *program* or *module* included two or more procedures that contained instances of identical CNX fields that used procedure parameters as CONN variables the Signal Resource Allocator would generate path triplets for the second and subsequent CNX fields identical to the first.

Example:

```
BEGIN, ATLAS PROGRAM 'XXX'                                $  
...  
DEFINE, 'A', PROCEDURE ('HI-PIN', 'LO-PIN')             $  
...  
VERIFY, (RES INTO 'MEAS'), ...  
    CNX HI 'HI-PIN' LO 'LO-PIN'                         $  
END, 'A'                                                $  
...  
DEFINE, 'B', PROCEDURE ('HI-PIN', 'LO-PIN')             $  
...  
VERIFY, (RES INTO 'MEAS'), ...  
    CNX HI 'HI-PIN' LO 'LO-PIN'                         $  
END, 'B'                                                $  
...  
E    $
```

```
100 PERFORM, 'A', J1, X1          $
...
200 PERFORM, 'B', J2, X2          $
TERMINATE, 'XXX'                  $
```

When the PERFORM, 'B' occurs at statement 200 then the paths connected for the VERIFY statement in that procedure were those previously connected for the VERIFY statement in procedure, 'A', i.e. HI to J1 and LO to X1 and not the requested paths HI to J2 and LO to X2.

The problem has been corrected in this release of the ATLAS Compiler.