MCR10217
azm apte Request Shows the Year as * And Fumbles hh:mm:ss
Revision 1.0

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1 Problem Description

Ticket #307 describes an issue with the `azm apte` request, which shows the year in the time of the last state change as `*`, and the fields of the time without padding:

```
State:     running at 12/24/* 13:5:57.486967
```

1.1 Cause

`amu_print_$apte` decodes `apte.state_change_time` with `decode_clock_value_$date_time` and prints the parts with

```
          call ioa_ ("State:^- ^a at ^d/^d/^a ^d:^d:^d.^d", process_st (fixed (apte.state,
              3)),
                    month,dom,mod(year,100),hour,min,sec,msec);
```

The year is a number but is printed with `^a`, which `ioa_` shows as `*`; `^d` does not pad, so 13:05 appears as `13:5`; and the last field, called `msec`, is in fact microseconds.

2 Proposed Fix

The time is formatted with `date_time_$format` and the standard `iso_long_date_time` keyword:

```
          call ioa_ ("State:^- ^a at ^a", process_st (fixed (apte.state, 3)),
              date_time_$format ("iso_long_date_time", apte.state_change_time, "", ""));
```

which prints, for example,

```
State:     running at 2021-12-24 13:05:57.486967 pst
```

The decode_clock_value_$date_time call is kept, so that an invalid clock value in a damaged dump is still reported by the existing message instead of being given to date_time_$format. A declaration of date_time_$format is added. This is the only place in bound_amu_ that prints a date this way.

A compare_ascii comparison of the current and proposed amu_print_.pl1 is shown below:

```
cpa [lpn amu_print_.pl1] ==

Inserted in B:
B52      dcl  date_time_$format      entry (char(*), fixed bin(71), char(*), char(*))
    returns (char(250) var);
Preceding:
A52      dcl  get_line_length_$switch entry (ptr, fixed bin (35)) returns (fixed bin);


A351              else do;
A352                 call ioa_ ("State:^- ^a at ^d/^d/^a ^d:^d:^d.^d", process_st (fixed
    (apte.state, 3)),
A353                              month,dom,mod(year,100),hour,min,sec,msec);
Changed by B to:
B352              else do;                                        /* decode_clock_value_ only
    checks the clock  */
B353                                                              /*  value; date_time_$format
    gives a 4-digit  */
B354                                                              /*  year and padded fields
    (ticket 307).      */
B355                 call ioa_ ("State:^- ^a at ^a", process_st (fixed (apte.state, 3)),
B356                      date_time_$format ("iso_long_date_time", apte.state_change_time,
    "", ""));

Comparison finished: 2 differences, 9 lines.
```

3 Documentation

No documentation changes.

4 Test

1. In azm, select a dump and use apte -run, apte -all and apte N: the State line shows a complete, padded date and time with a four-digit year.
2. An APTE whose state change time is zero or invalid (if one can be found or made in a test dump) still gives the "While getting time for apte" message.

5 Files Changed

`bound_amu_.s.archive`	`amu_print_.pl1`
`bound_amu_.archive`	`amu_print_` (recompiled)
`>tools`	`bound_amu_` (rebound)

6 Version History

2026-11-24	1.0	Initial version of the MCR.