

MCR10135

Fix `out_of_bounds` Condition in ISOLTS When Reporting Test Errors

Revision 1.1

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June 27, 2023

1 Problem Description

When ISOLTS encounters an error while running a test, it has error handling to parse the isolts error log and possibly display error information on the `error_output` stream. In some cases, such as when executing test `ps945`, it gets an `out_of_bounds` condition while attempting its error handling. This makes it impossible to continue running subsequent tests, or to find out the current test case error. The error occurs because the code attempts to index into a string at positions that exceed the bounds of the string.

Ticket <https://multics-trac.swenson.org/ticket/207> describes this issue.

2 Proposed Fix

The code that causes the `out_of_bounds` condition to be raised is trying to remove a leading newline character. The proposed fix is to use the `ltrim` and `rtrim` PL/1 builtin functions to strip the NL characters. These builtin functions are safe against strings that are too short to contain the stripped string.

The `compare_ascii` output below shows the full change:

```
cpa [lpn isolts_err_log_pl1] ==

A78      dcl (addr, addrel, fixed, floor, length, null, ptr, substr, rel, rtrim, unspec)
        builtin;
Changed by B to:
B78      dcl (addr, addrel, fixed, floor, length, ltrim, null, ptr, substr, rel, rtrim,
        unspec) builtin;

A404      if substr (out_str, length (out_str), 1) = NL then /* if trailing
        newline... */
```

```

A405             out_str = substr (out_str, 1, length (out_str) - 1); /* get rid
of it */
A406             if substr (out_str, 1, 1) = NL then          /* if leading newline... */
A407                 out_str = substr (out_str, 2);          /* get rid of it */
Changed by B to:
B404             out_str = rtrim(ltrim(out_str, NL), NL); /* remove leading and
trailing NLs */

```

Comparison finished: 2 differences, 7 lines.

3 Documentation

No changes to documentation are necessary.

4 Test

Run the entire ci-kit test, which in turn runs isols over all tests. Also, invoke test `ps945`, which should no longer get an `out_of_bounds` condition raised.

5 Version History

2023-06-17	1.0	Initial version of the MCR.
2023-06-27	1.1	Updated fix based on review comments.