

Subject: MCR-10044, Fix edit_proj cutoff handling

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Introduction

edit_proj is the sysadmin tool used to edit a project's definition in the sat (system administrator table). Among its editing capabilities, it allows manipulation of a project's cutoff. The cutoff is a date after which logins to the project are no longer permitted. The tool displays the current cutoff date and allows changing the cutoff date.

Problem

When using "edit_proj" to display/edit project cutoffs, years are displayed using 2-digits. Here is an example:

```
edit_proj Guest cutoff
Cutoff date:          12/31/18  0000.0  pst  Mon
```

Fortunately, the program accepts 4-digit years on input. However, there is an ambiguity on output, for years, such as 99. Is that 1999 or 2099?

Proposed Changes

The 2-digit years are displayed because edit_proj (actually edit_proj_), like most programs, uses date_time_ to convert Multics date/time fields to a character string. date_time_ uses a builtin, standard, documented format string, which specifies 2-digit years.

```
multics_date_time
^my/^dm/^yc  ^Hd^99v.9MH ^xxxxza^xxxda
```

It is not practical to update the default format string, because many programs would break. While those programs that break because of inadequate storage being allocated for the returned string from date_time_ could easily be fixed, there are many of them. Additionally, there are lots of programs whose output would be rendered difficult to read or mis-aligned were this default date time format changed.

The proposed change for edit_proj_'s handling of cutoff dates is to change it to use date_time_\$format, where a custom date-time string can be specified. While there are many built-in date-time format strings that exist today, none of them is identical to the existing default format string, but specifies a 4-digit year. While it might be reasonable to use another already-implemented, standard date time format, iso_date_time, its representation is so drastically different from the current format that this might be considered too disruptive. Also, iso_date_time doesn't include the day-of-the-week.

Here is an example of the output produced, using `iso_date_time`:

```
2018-01-17 11:23:17 pst
```

The proposed change for `edit_proj` is to add a custom format string:

```
^my/^dm/^9999yc ^Hd^99v.9MH ^xxxxza^xxxda
```

This will result in `edit_proj` output like this:

```
edit_proj Guest cutoff  
Cutoff date:          12/31/2018 0000.0 pst Mon
```

`edit_proj_` already correctly supports parsing a 4-digit year in lots of different formats. So if the user changes the cutoff value by entering, say:

```
12/31/2018
```

or

```
12/31/2018 0000
```

or

```
2019-12-31
```

these are correctly processed. So no change to `edit_proj_` is required in order to handle 4-digit year input.

A subsequent MCR may propose the addition of this augmented date/time format string to `date_time_$format`.

Testing of the Change

Testing of the change involves running `edit_proj` on various projects, examining the output and ensuring the input of 2 and 4-digit years works.

Bug Reference

- Reference URL of Multics Change Ticket: <http://multics-trac.swenson.org/ticket/93>

Documentation

No documentation changes are strictly necessary because none of the existing documentation describes the actual format of the cutoff date/time displayed by `edit_proj`.

Version History

Date	Revision	Author	Comment
2018-01-17	1.0	Eric Swenson	Initial version of MCR.