VistA Internationalization Project Group—CPRS Dates

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CPRS Dates

STILL A MESS!

Step-wise approach

- **Fix Dates in VistA first (much easier)**
  - DUZ("LANG")
  - Set Input, DD and FMTE nodes in Language file.
  - Fix FMTE^XLFDT

DUZ("LANG")

Language File Nodes

Lang file con't

```
/var/db/foia201805                                                    —    □    ×

UKOUTL ; OSE/SMH - Korean Language Utilities;Oct 23, 2018@15:29
 ;;0.0;NO PACKAGE;
 ;
FMTE(Y,%F) ; External Dates
 ; https://en.wikipedia.org/wiki/Date_and_time_notation_in_South_Korea
 ; But, in the end, I just followed what Windows does
 N %T,%R
 S %T="."_($E($P(Y,".",2)_"000000",1,7))
 S %R=1700+$E(Y,1,3)_"-"_$E(Y,4,5)_"-"_$E(Y,6,7)
 D TM^DILIBF
 Q %R
~
~
~
~
~
~
~
~
~
~
~
FMTE+4^UKOUTL                                             8,2              All
"/var/db/foia201805/r/UKOUTL.m" 11L, 357C
```
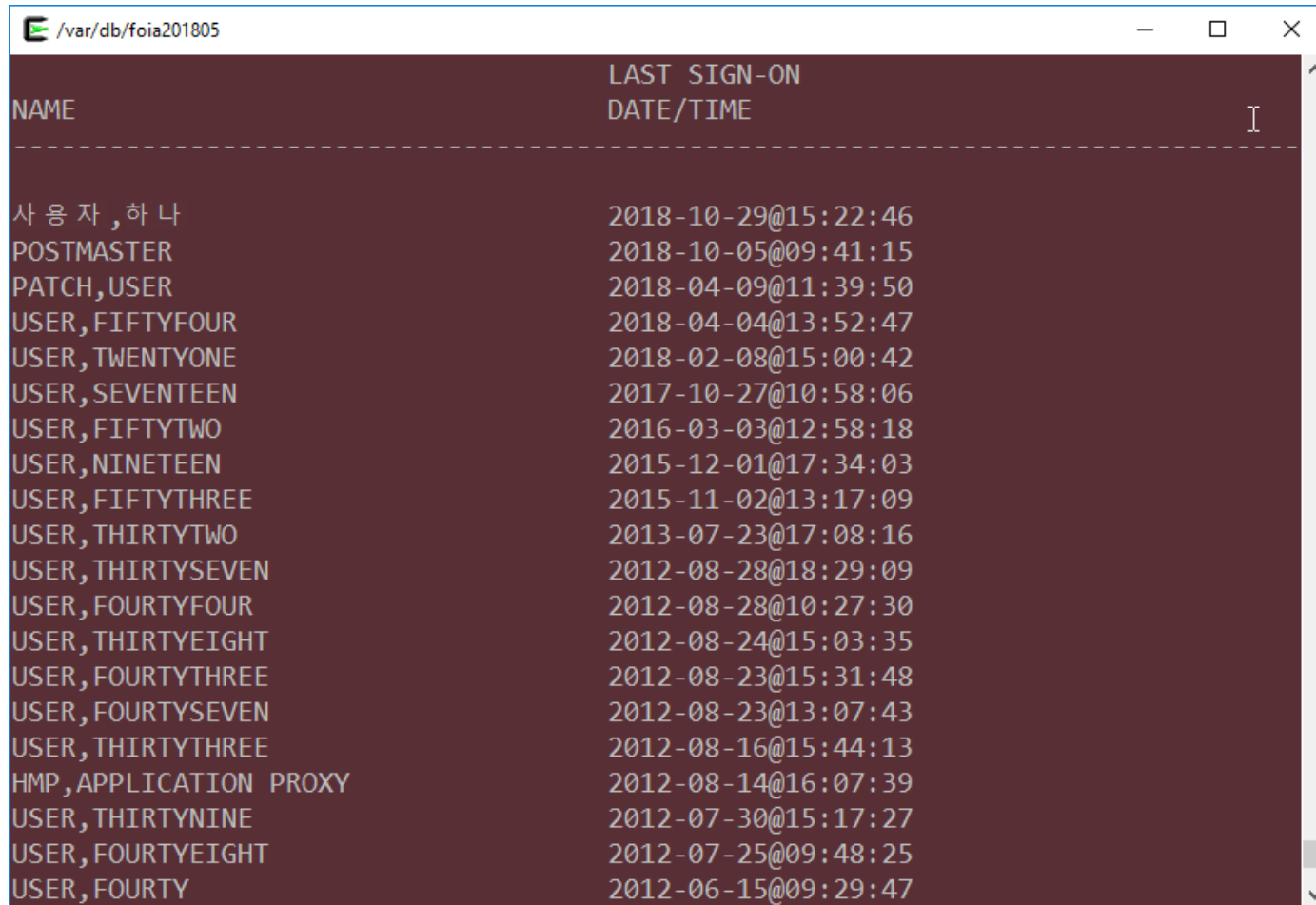
OSEHRA

6

XLFDT


```
 S %F=$G(%F,1) S Y=$$HTFM(%H,0) G T2
 ;
FMTE(Y,%F) ;FM to external
 Q:(Y<1000000)!(Y>9991231) Y ;Range Check
 N %T,%R S %F=$G(%F,1)
 ;Both HTE and FMTE come here.
T2 Q:($G(DUZ("LANG"))>1) $$OUT^DIALOGU(Y,"FMTE",%F) ; ose/smh - support for intl
>> dates
 S %T="."_$E($P(Y,".",2)_"000000",1,7)
 D FMT^XLFDT1 Q %R
 ;
FR(%V) ;Check FM in valid range
 Q (%V<1410102)!(%V>4141015.235959)
HR(%V) ;Check $H in valid range
 Q (%V<2)!(%V>99999)
 ;
FMTHL7(%P1) ;Convert FM date/time to HL7 format
 N %T Q:'$L(%P1) "" S %P1=+%P1 ;Make sure a cononic number
 I $$FR(%P1) Q -1 ;Check range
 S %T=$P(%P1,".",2),%P1=$P(%P1,".")
 I %T=24 S %P1=$$FMADD($P(%P1,".",1),%T="0000"
 S:%P1>1 %P1=%P1+17000000
T2^XLFDT                                                       62,1          34%
"/var/db/foia201805/r/XLFDT.m" 179L, 5994C
```
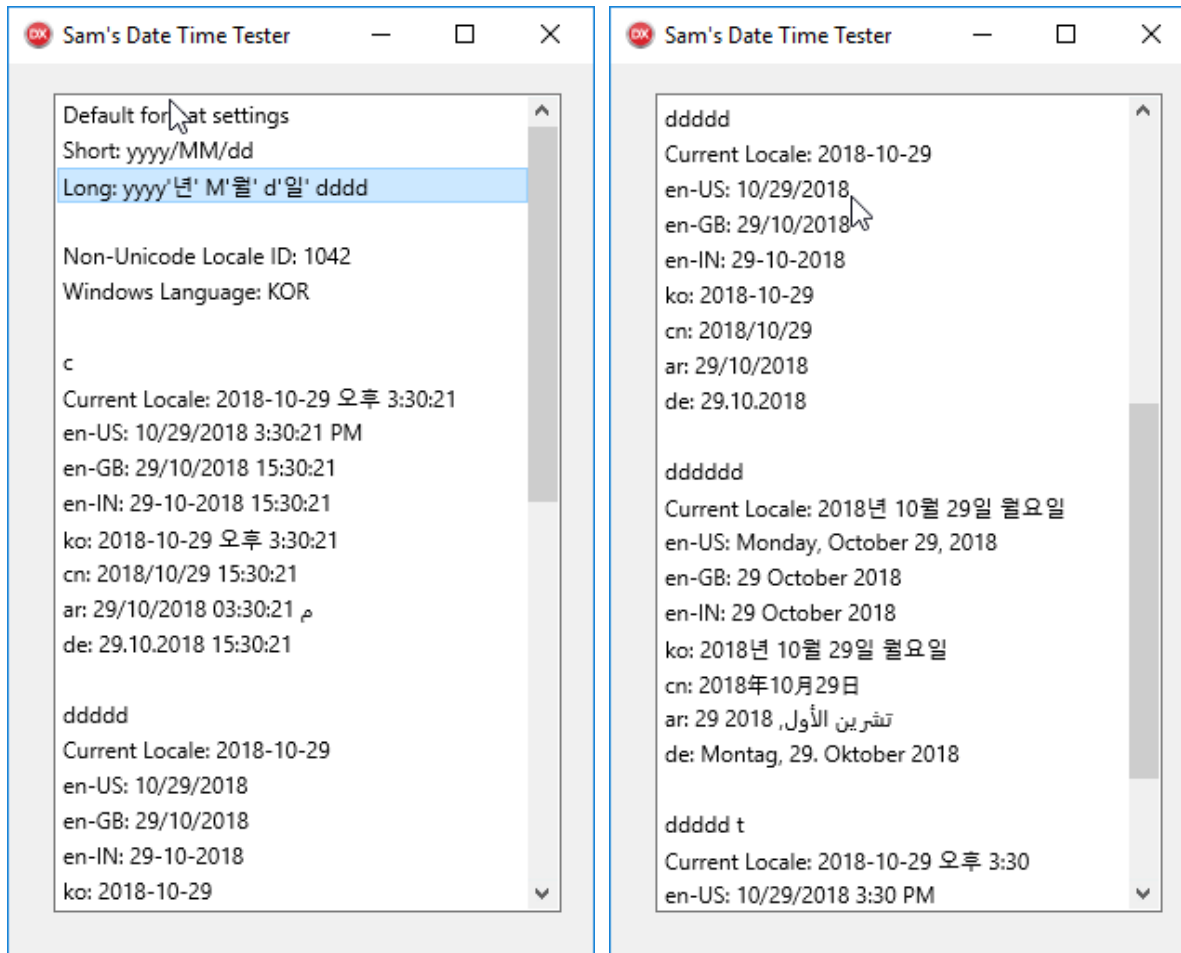
VistA Result 1


```
/var/db/foia201805                                                      —   □   ×

                                        LAST SIGN-ON
NAME                                    DATE/TIME                              I
---------------------------------------------------------------------------------

사용자,하나                              2018-10-29@15:22:46
POSTMASTER                              2018-10-05@09:41:15
PATCH,USER                              2018-04-09@11:39:50
USER,FIFTYFOUR                          2018-04-04@13:52:47
USER,TWENTYONE                          2018-02-08@15:00:42
USER,SEVENTEEN                          2017-10-27@10:58:06
USER,FIFTYTWO                           2016-03-03@12:58:18
USER,NINETEEN                           2015-12-01@17:34:03
USER,FIFTYTHREE                         2015-11-02@13:17:09
USER,THIRTYTWO                          2013-07-23@17:08:16
USER,THIRTYSEVEN                        2012-08-28@18:29:09
USER,FOURTYFOUR                         2012-08-28@10:27:30
USER,THIRTYEIGHT                        2012-08-24@15:03:35
USER,FOURTYTHREE                        2012-08-23@15:31:48
USER,FOURTYSEVEN                        2012-08-23@13:07:43
USER,THIRTYTHREE                        2012-08-16@15:44:13
HMP,APPLICATION PROXY                   2012-08-14@16:07:39
USER,THIRTYNINE                         2012-07-30@15:17:27
USER,FOURTYEIGHT                        2012-07-25@09:48:25
USER,FOURTY                             2012-06-15@09:29:47
```

VistA Result 2

Delphi Experimentation

Delphi/Windows Formats

- **Long Date Format**
- **Short Date Format**
- **To i18n CPRS, need to shoehorn dates into these formats—not a free for all**

CPRS Date Conversion Calls

- **FormatFMDateTime**
- **SetListFMDateTime**
  - Delegates to FormatFMDateTime
- **For the future: ALL dates are interpreted as numbers.**
  - , decimal is not accepted.

Conversion Strategy

Old Date Format	New Date Format
mm/dd/[yy]yy	ddddd (short date)
mmm/MMM dd, [yy]yy	dddddd (long date)
mm/dd/[yy]yy hh:nn	c (short date + long time)
mmm dd, yyyy hh:nn	dddddd hh:nn
Anything going to Fileman	yyyy/dd/mm@hh:nn[:ss]

- Redefine Long for US Locale to retain backwards compatibility
- For now, other locales get the same long and short format
  - I don't know any better; and I highly doubt the current CPRS design as it is all over the place.

ORDateBox

- **Prev, Callers set text representations of the date**
  - Need to set Timson version
- **Prev, Date validation logic relied on Delphi's rendering of the date text**
  - Changed to use the Timson date

Before

After

Lots of Places Crash

- **Current List**
  - Vitals
  - Problem List
    - Not related to Dates; unicode issue
  - Lab
  - Reports
- **Most crashes related to assumptions about parsing text dates.**

Next steps

- **Fix all crashes**
  - Vitals DLL will need to get compiled