



OSEHRA
Enabling Open Source in Government

VistA Internationalization Project Group—CPRS Dates

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OSEHRA
Enabling Open Source in Government

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")

```
/var/db/foia201805
Kernel Site Parameter edit
DOMAIN: DEMO.OSEHRA.ORG

DEFAULT # OF ATTEMPTS: 5          AGENCY CODE: EHR
DEFAULT LOCK-OUT TIME: 600
DEFAULT MULTIPLE SIGN-ON: YES    MULTIPLE SIGN-ON LIMIT:
DEFAULT AUTO-MENU: YES          DEFAULT AUTO SIGN-ON: Disabled
DEFAULT LANGUAGE: KOREAN
DEFAULT TYPE-AHEAD: YES
DEFAULT TIMED-READ (SECONDS): 300  BROKER TIMEOUT: 180

BYPASS DEVICE LOCK-OUT:
LIFETIME OF VERIFY CODE: 90      CCOW TOKEN TIMEOUT: 5400
DEFAULT INSTITUTION: PLATINUM    ASK DEVICE TYPE AT SIGN-ON: YES
AUTO-GENERATE ACCESS CODES:
AUTO-GENERATE VERIFY CODES:

COMMAND:                               Press <F1>H for help  Insert
```

Language File Nodes

```
/var/db/foia201805

Logged out at 2018-10-29 3:23:40 pm
FOIA201805>D ^DIQ

Output from what File: LANGUAGE//          (534 entries)
Select LANGUAGE:      KOREAN [ ] KO      KOR
Another one:
Standard Captioned Output? Yes//          (Yes)
Include COMPUTED fields: (N/Y/R/B): NO// - No record number (IEN), no Computed
Fields

ID NUMBER: 198                NAME: KOREAN
TWO LETTER CODE: KO           THREE LETTER CODE: KOR
SCOPE: Individual             TYPE: Living
DATE INPUT: S:$G(%DT)'["I" %DT=$G(%DT)_"I" G CONT^%DT
DATE/TIME FORMAT: S Y=$$FMTE^UKOUTL(Y,$G(%F))
DATE/TIME FORMAT (FMTE): S Y=$$FMTE^UKOUTL(Y,$G(%F))

Select LANGUAGE: :
```

Lang file con't

```

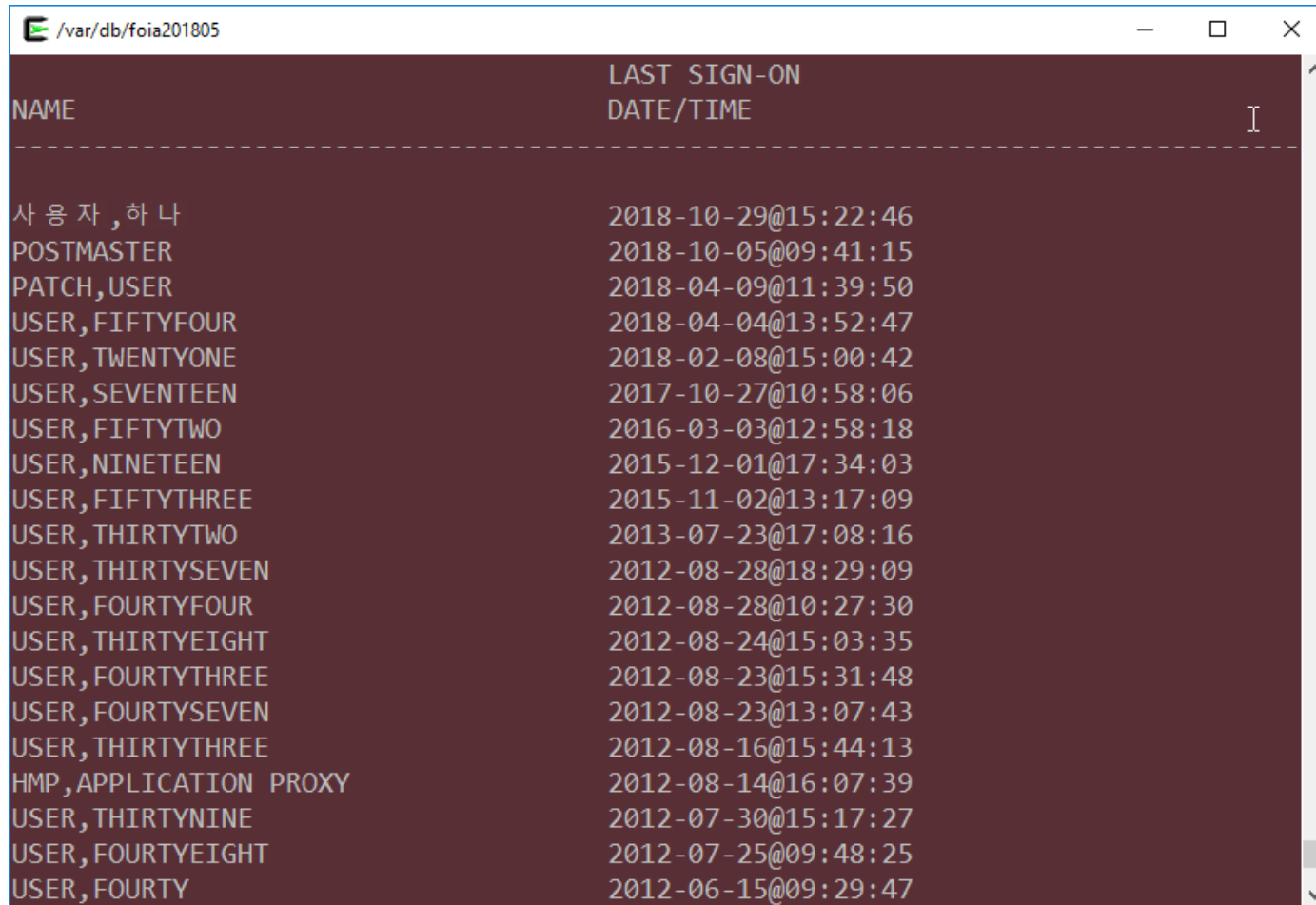
/var/db/foia201805
UKOUTL ; OSE/SMH - Korean Language Utilities;Oct 23, 2018@15:29
; ;0.0;NO PACKAGE;
;
FMTE(Y,%F) ; External Dates
; https://en.wikipedia.org/wiki/Date_and_time_notation_in_South_Korea
; But, in the end, I just followed what Windows does
N %T,%R
S %T="."_($E($P(Y,".",2)"000000",1,7))
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

```

XLFDT

```
/var/db/foia201805
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^XLFD1 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^XLFD1 62,1 34%
"/var/db/foia201805/r/XLFD1.m" 179L, 5994C
```

VistA Result 1



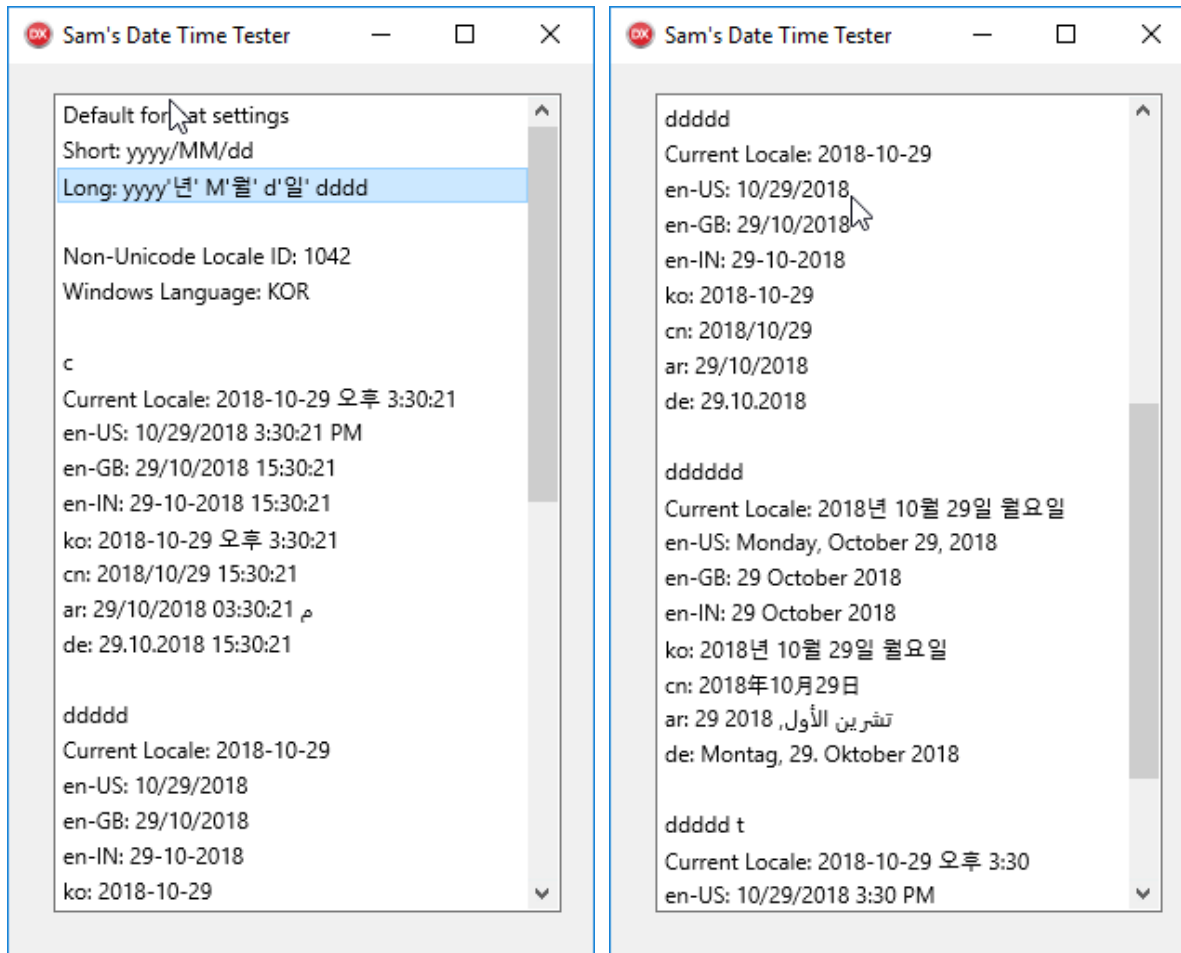
The screenshot shows a terminal window with the title bar "/var/db/foia201805". The window displays a table of user information. The table has two columns: "NAME" and "LAST SIGN-ON DATE/TIME". The data is as follows:

NAME	LAST SIGN-ON DATE/TIME
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

```
 /var/db/foia201805
Edit a Build                                     PAGE 1 OF 5
Name: XU*8.0*10004                               TYPE: SINGLE PACKAGE
-----
Name: XU*8.0*10004
Date Distributed: 2018-10-23
Description: +
Delete Routine after install
Environment Check Routine:                       Y/N:
Pre-Install Routine:                             Y/N:
Post-Install Routine: POST^XU810004             Y/N:
Pre-Transportation Routine:
-----
Exit      Save      Next Page      Previous Page      Refresh      Quit
Enter a COMMAND, or "^" followed by the CAPTION of a FIELD to jump to.
COMMAND:                                     Press <F1>H for help      Insert
```

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	dddd (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

The screenshot displays a medical software window titled "Vista CPRS in use by: Programmer,One (localhost)". The interface includes a menu bar (File, Edit, View, Action, Options, Tools, Help) and a header section with patient details: "EHMP,EIGHT (INPATIENT)", "3E S 3E-100-4", and "No PACT assigned at any VA location / (Inpatient) Attending: Programmer,One - (Inpatient) Provi".

The main content area is split into two panes. The left pane, titled "Last 100 Signed Notes (Total: 28)", shows a list of notes with dates and titles, such as "Jun 05,15 ADVANCE DIRECTIVE COMPL" and "Mar 19,15 ATTENDING NOTE ,NHCU, N". The right pane displays the content of a selected note: "Adm: 03/14/15 ATTENDING NOTE , NHCU, Nine Provider, MD (Mar 19,15@09:34)".

The note content includes:

- LOCAL TITLE: ATTENDING NOTE
- STANDARD TITLE: ATTENDING NOTE
- DATE OF NOTE: MAR 19, 2015@09:34
- ENTRY DATE: MAR 19, 2015@09:34
- AUTHOR: PROVIDER,NINE
- EXP COSIGNER:
- URGENCY: STATUS: COMPLETED

REASON FOR VISIT/CHIEF COMPLAINT:
Evaluation and management of chronic problem(s)

Patient was admitted to NHCU on 3/14/2015 for assistance with ADL's, management of sacral wound, pain control.

INTERVAL HISTORY:
s/p IED blast, B BKA, TBI. Patient uses wheel chair for mobility most of the time, resulting in a sacral wound. Pain control has improved with Methadone. Pt c/o constipation since most recent dosage increase. Last Bowel movement 2 days ago.

PHYSICAL EXAMINATION:
Temperature: 99 F [37.2 C] (03/14/2015 10:03)
Pulse: 76 (03/14/2015 10:03)
Respiration: 10 (03/14/2015 10:03)
BP: 132/78 (03/14/2015 10:03)
Pain: 3 (03/14/2015 10:03)
Height: 72 in [182.9 cm] (08/31/2014 14:05)
Weight: 192 lb [87.3 kg] (03/14/2015 10:03)

INTERVAL LABS:
CBC and Chem 7

ASSESSMENT & PLAN:
Wound care and position changes by nursing staff.
Increase use of prosthetics for mobility
Trapeze added to bed frame.
Docusate for constipation.

At the bottom, there are navigation tabs for "Cover Sheet", "Problems", "Meds", "Orders", "Notes", "Consults", "Surgery", "D/C Summ", "Labs", and "Reports".

After

VistA CPRS in use by: 사용자,하나 (127.0.0.1)

파일(F) 편집하다(E) View Action Options 도구들(T) 도움(H)

마우스,마키 (OUTPATIENT) 일반 의학 2018-10-29 15:45 No PACT assigned at any VA location /
 505-11-1155P 1955-11-11 (62) Provider: 사용자,하나

Flag VistaWeb Postings
 Remote Data AD

Last 100 Signed Notes (Total: 18) Visit: 08/21/18 ADVANCE DIRECTIVE, 일반 의학, 하나 사용자 (2018-08-21@11:55)

All signed notes

- 2018-10-29 SCI GENERAL NOTE, 일반 의학
- 2018-10-29 GENERIC CONSULT, 일반 의학
- 2018-10-29 GENERIC CONSULT, 일반 의학
- 2018-10-29 ADVANCE DIRECTIVE, 일반 의학
- 2018-09-08 의사 노트, 일반 의학, 하나 사용자
- 2018-09-06 의사 노트, 일반 의학, 하나 사용자
- 2018-09-05 의사 노트, 일반 의학, 하나 사용자
- 2018-09-05 의사 노트, 일반 의학, 하나 사용자
- 2018-09-05 의사 노트, 일반 의학, 하나 사용자
- 2018-09-05 의사 노트, 일반 의학, 하나 사용자
- 2018-09-05 ASI-ADDICTION SEVERITY INDE
- 2018-09-04 ASI-ADDICTION SEVERITY INDE
- 2018-09-04 ASI-ADDICTION SEVERITY INDE
- 2018-09-04 ASI-ADDICTION SEVERITY INDE
- 2018-09-04 ADVANCE DIRECTIVE, 일반 의학
- 2018-09-04 HT INTERVENTION NOTE, 일반
- 2018-08-21 ADVANCE DIRECTIVE, 일반 의학
- 2018-08-06 ADVANCE DIRECTIVE, 일반 의학

LOCAL TITLE: ADVANCE DIRECTIVE
 DATE OF NOTE: 2018-08-21@11:55 ENTRY DATE: 2018-08-21@11:56
 AUTHOR: 사용자,하나 EXP COSIGNER:
 URGENCY: STATUS: COMPLETED

BOOO BOO
 /es/ ONE USER
 SUPER DBA
 Signed: 08/21/2018 12:00

/ Templates
 New Note

표지 진단 의약품 명령 음표 문의 방전 요약 실험실 보고서

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