



# Web-Based R Reporting

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# Agenda

The Problem...  
The Strategy...  
Case Study: ModReport

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# An R Programmer



**Emails**

**Meetings**

**Documents**

**Presentations**

**Coffee**





# How to distribute?

Easy to use

Easy to update



# **Web-based Reporting Platform**



# Case Study ModReport





# Pharmacometrics

Model based approach to study  
the interactions between drugs  
and patients

```
PARAMETER: 0.1000E+00 0.1000E+00 0.1000E+00
0.1000E+00 0.1000E+00 0.1000E+00 0.1000E+00
0.1000E+00 0.1000E+00 0.1000E+00
0.1000E+00 0.1000E+00 0.1000E+00
GRADIENT: 0.1966E+08 0.1966E+08 0.1966E+08
0.1966E+08 0.1966E+08 0.1965E+08 0.1966E+08
0.1966E+08 0.2150E+03 0.1229E+03
-0.6323E+02 -0.5188E+02 0.5640E+03
ITERATION NO.: 3 OBJECTIVE VALUE: -
0.12497E+04 NO. OF FUNC. EVALS.: 10
CUMULATIVE NO. OF FUNC. EVALS.: 13
PARAMETER: 0.8379E-01 0.9210E+00 0.1140E+00
0.3827E+00 0.2442E+00 0.6915E+00 -0.1404E-01
-0.1765E-01 -0.3216E+00 -0.1377E+00
0.1066E+00 -0.4433E-01 -0.8550E+00
GRADIENT: 0.2991E+02 0.5615E+03 -0.1900E+02
-0.1728E+03 -0.4773E+02 -0.5936E+03 -0.3338E+03
-0.1233E+02 -0.1781E+02 0.2436E+03
-0.2031E+02 -0.4911E+02 0.1571E+03
ITERATION NO.: 6 OBJECTIVE VALUE: -
0.15803E+04 NO. OF FUNC. EVALS.: 19
CUMULATIVE NO. OF FUNC. EVALS.: 132
PARAMETER: -0.1010E+00 0.7791E+00 0.2492E+00
0.6099E+00 0.7155E+00 0.6917E+00 0.7982E+00
-0.3978E+00 -0.1283E+01 -0.1029E+01
0.2498E+00 0.1374E+00 -0.1648E+01
GRADIENT: 0.2728E+02 -0.5390E+02 -0.1505E+02
0.7018E+01 -0.1792E+02 -0.5981E+03 0.9122E+02
0.1179E+02 -0.1188E+03 -0.9582E+02
0.4064E+02 0.3338E+02 -0.1548E+03
ITERATION NO.: 9 OBJECTIVE VALUE: -
0.15925E+04 NO. OF FUNC. EVALS.: 20
CUMULATIVE NO. OF FUNC. EVALS.: 191
PARAMETER: -0.6187E+00 0.7701E+00 0.4405E+00
0.5918E+00 0.9914E+00 0.6946E+00 0.8166E+00
-0.9118E+00 -0.1224E+01 -0.1094E+01
0.1527E+00 0.2980E-01 -0.1591E+01
GRADIENT: 0.5552E+01 0.2724E+02 0.1261E+01
```

# NONMEM



# NONMEM Inputs Control File

Data source  
Data format  
Output data required  
Model

Parameter estimates  
User written Fortran code

...

```
$PROB This is the problem statement (like a title)

;This is a comment

$DATA ..\ADS\bas.csv IGNORE=C

$INPUT PROT PT ID TIME AMT RATE DV MDV CYC=DROP SGOT=DROP

$SUBROUTINE ADVAN3 TRANS1

$PK
"FIRST
"      COMMON/PRCOMG/ IDUM1, IDUM2, IMAX, IDUM4, IDUM5
"INTEGER IDUM1, IDUM2, IMAX, IDUM4, IDUM5
"IMAX=5000000
TVCL=THETA(1)
CL=TVCL*EXP(ETA(1))
TVK12=THETA(2)
K12=TVK12*EXP(ETA(2))
TVK21 = THETA(3)
BETA = 0.5* (K12+K21+K- (SQRT((K12+K21+K)**2-4*K21*K))) ;

$ERR
DEL = 0
IF (F.EQ.0) DEL=1
IPRED= F
W      = F + DEL
IRES = DV - IPRED
IWRES= IRES / W
Y = F+(W*EPS(1)) ; proportional error CCV

$THETA 0 FIXED          ;1 ~ CL (L/h)
$THETA (.01, .18, 2)    ;2 ~ K12 (h-1)
$THETA (.001, .05, 2)   ;3 ~ K21 (h-1)

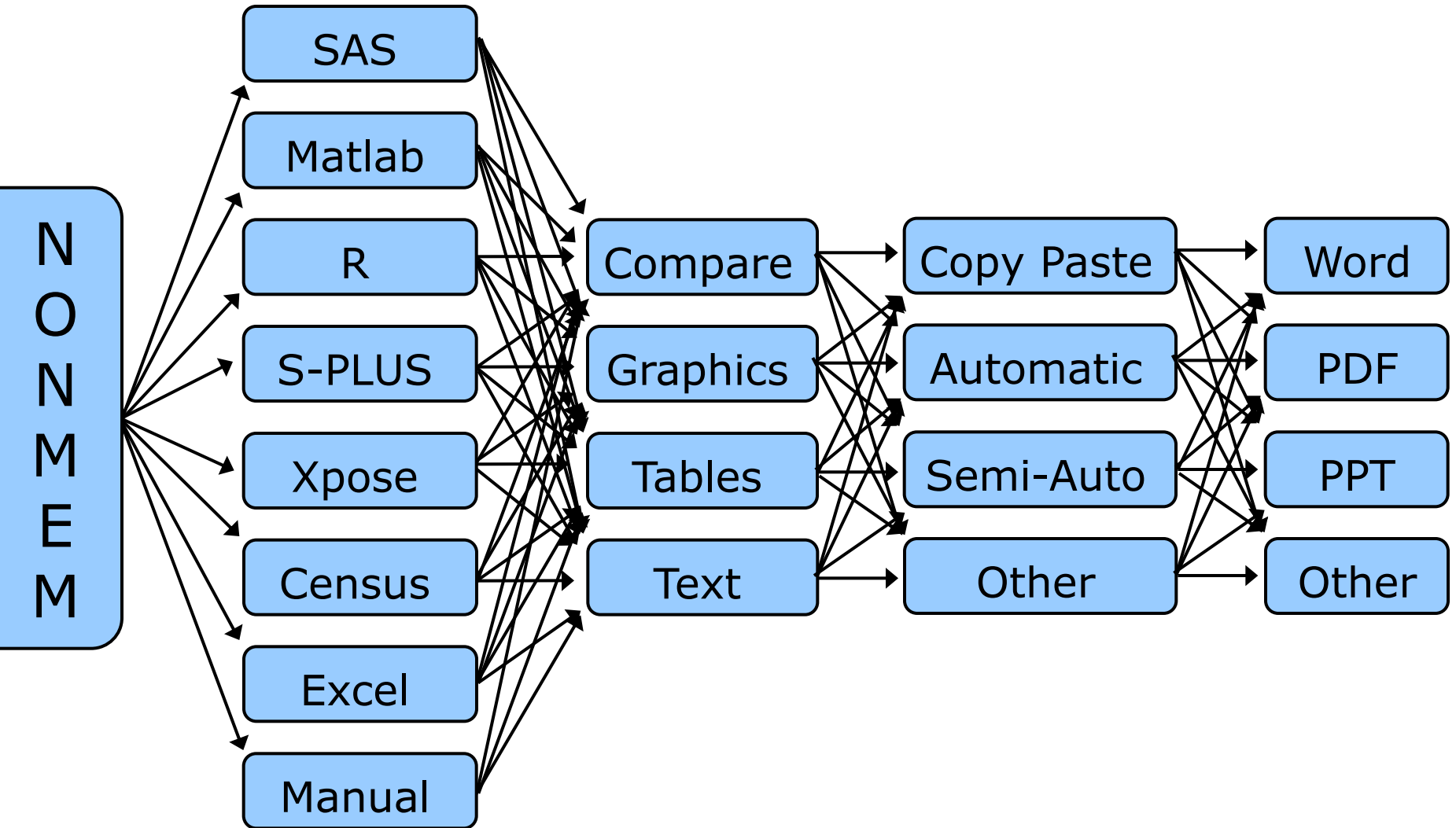
$OMEGA 0.325            ;1 ~IIV CL
$OMEGA 0.0 FIX          ;2 ~IIV K12
$OMEGA BLOCK(2) 0.575   ;3 ~IIV K21
          .124 0.148     ;4 ~IIV V1

$SIGMA .25 ; ~ prop Error

$EST SIGDIGITS=3 MAXEVALS=9999 POSTHOC NOABORT PRINT=5 MET

$TABLE ID DV TIME IPRED PRED WRES IWRES IRES CL V1 V2 Q VS
ETA1 ETA2 ETA3 ETA4 ONEHEADER NOPRINT FILE=TEB1ru01.fit
```

# Many Methods of Reporting





Standardise Reporting of NONMEM Models  
Enable Non-programmers  
Provide Traceability

Navigator Application - IE 6.0.2900.2180 SP2 (MSIE)

Address http://localhost:8080/PopPKPD/ul/views/taskoverview/taskOverview.jsf

**Navigator**

N:\data\Project\Task\here

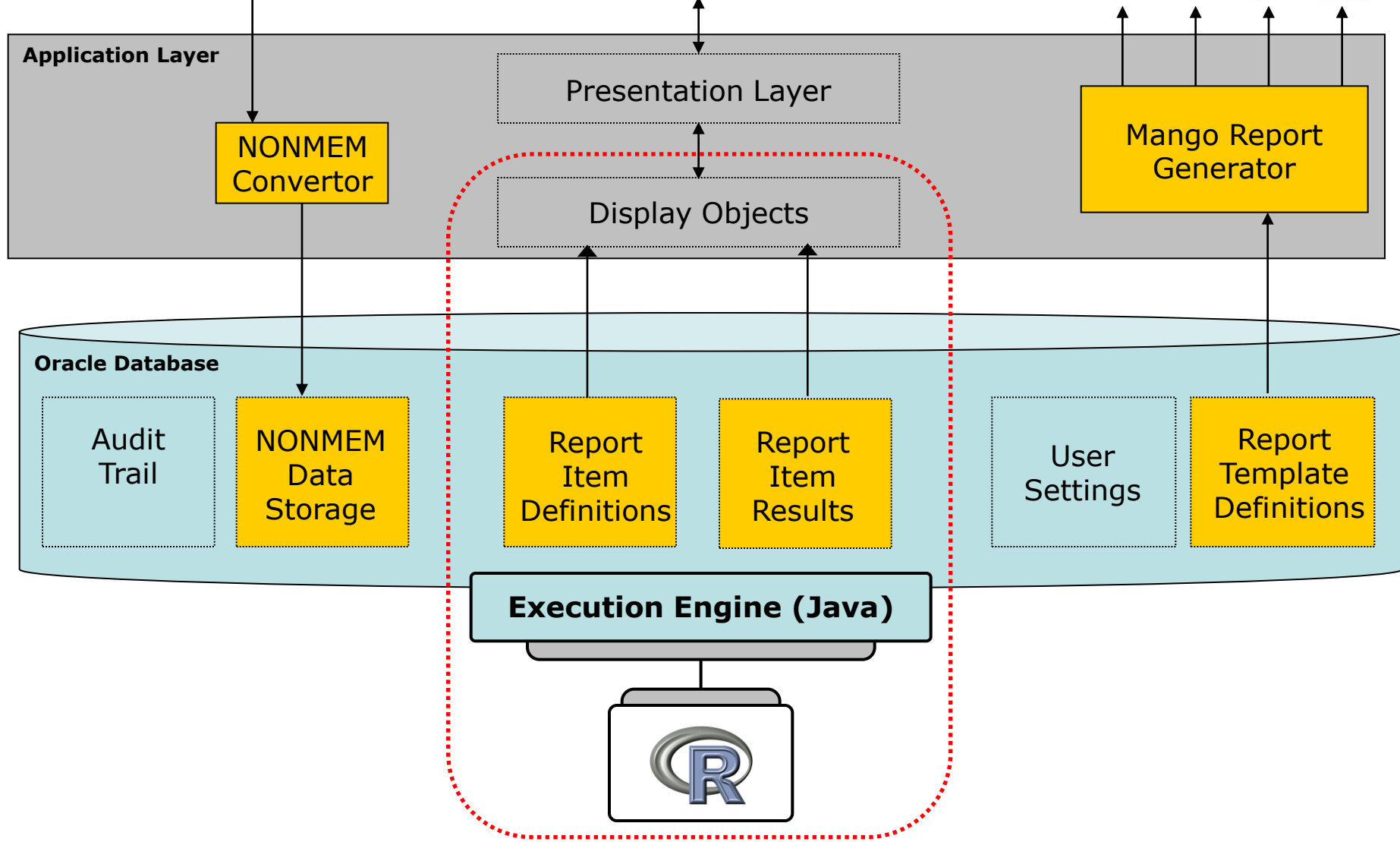
RUN NAME	DESCRIPTION	OBJ. FUNC.	DELTA. OBJ. FUNC.	MINIMIZATION
TEB1RU05	SimHercept: effect of SGPT on CL	16735.215	0.0	MINIMIZATION SUCCESSFUL
TEB1RU02	SimHercept: effect of age on CL	16733.887	-1.33	MINIMIZATION SUCCESSFUL
TEB1RU04	SimHercept: effect of TBIL on CL	16711.209	-22.7	MINIMIZATION SUCCESSFUL
TEB1RU03	SimHercept: effect of WT on CL	16691.814	-19.4	MINIMIZATION SUCCESSFUL
TEB1RU01	SimHercept: Basic run without covariates	16735.225	43.4	MINIMIZATION SUCCESSFUL

Task View

(T) New Tabular View

All | Pivotal | Deleted | Clear

- TEB1RU01
- TEB1RU02
- TEB1RU03
- TEB1RU04
- TEB1RU05



**Let's See it in Action!**

# In Summary ...

Unlocking Information

Enabling Easy Creation of  
Graphs and Tables from  
NONMEM Output

Easy to Use and Deploy





# Questions?



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