

2000

PC On the Graphic Simulation of Severe Accidents Using IBM PC

PC MELCOR TH PC
PC 가 TH TH

ABSTRACT

In this paper some methods of developing a graphical simulation system using IBM PC and MELCOR code were discussed. Most TH codes, which can calculate the severe accident phenomena parameters, are now running on workstations or supercomputers, to meet the complicated calculations. But the recent progress in computer engineering including personal computers make it possible to run TH codes in small microprocessor environments. Therefore we have surveyed some technical aspects in developing a severe accident graphical simulation system using IBM PC and MELCOR code. Especially noticing the complicated calculation results and the difficulties in obtaining continuous data due to the large data size, which are main defects of TH codes, we also surveyed the graphical methods to overcome these problems. The proposed methods are expected to play important roles in developing our graphic simulation system of severe accidents.

1.

TSC (Technical Support Center)

가

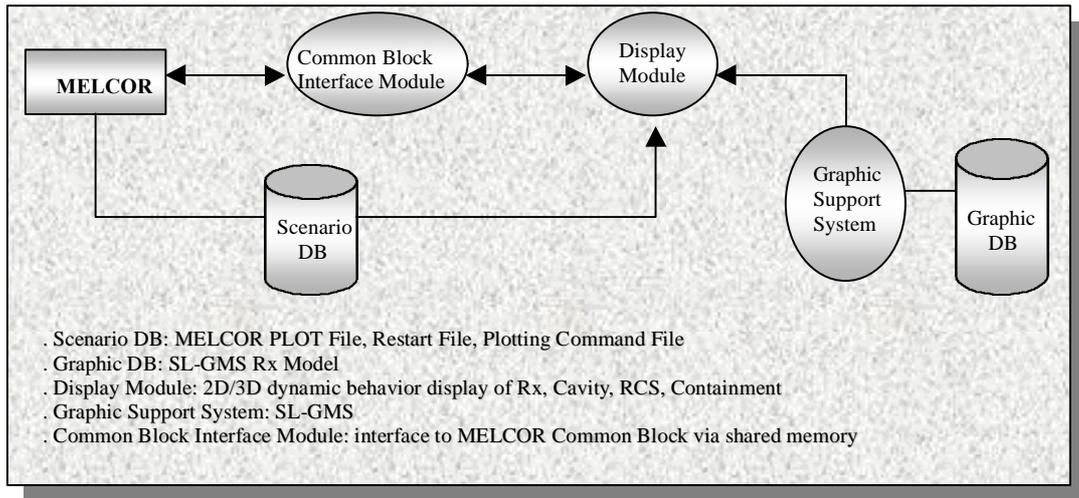
가

GRAAPH, EDF SIPA NPA GRS ATLAS[1], KEMA MAAP-
PC PC , KOPEC
PC , TH
PC MELCOR

2.

가
가 가
가 가 가
MELCOR 가 가
가 가
가 PC 가
PC 가 PC
TH 가
HISPLOT MELCOR 가
TH 가 TSC 가
PC 가 가 PC
1.83 PC MELCOR 가 PC
PC MELCOR C가 가 Lahey Fortran PC C

MELCOR
 가 , C
 MELCOR
 Fortran C,
 PC MELCOR
 CPU 가 1
 MELCOR



1. MELCOR Graphic Simulator Structure

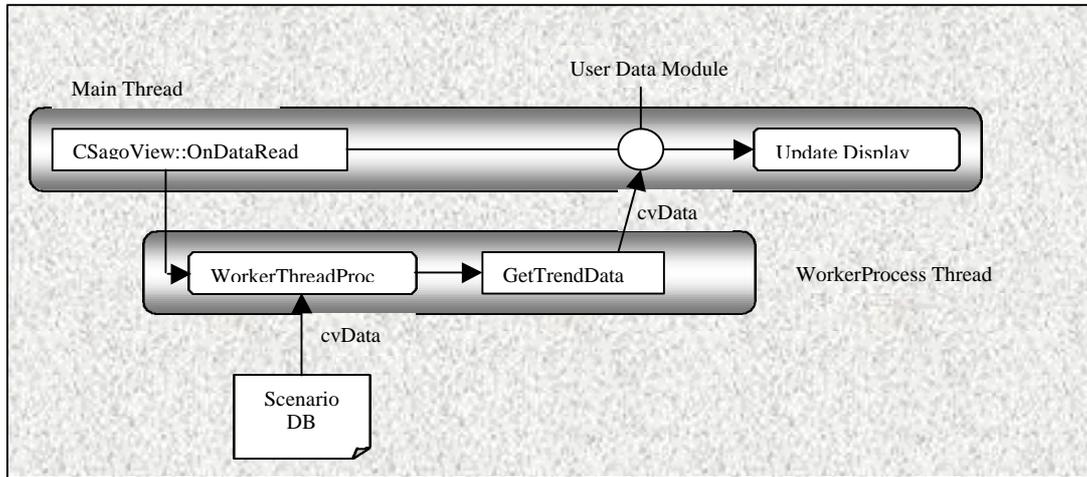
1 MELCOR Common Block Interface Module

가

3.

MELCOR MELCOR
 HISPLT MELCOR HISPLT
 Interactive input
 Lahey Fortran PC MELCOR
 Digital Fortran 6.0 MELCOR 1.8.3 PC
 MELCOR
 가 Digital Fortran
 가 MFC

2 가



2.

4.

MELCOR MELGEN MELCOR MELGEN

MELCOR MELCOR 가 가

MELCOR 가

MELCOR Fortran

MELCOR C MELCOR Fortran , MELCOR

 Mixed Programming MELCOR

 가 MELCOR MELCOR MELCOR

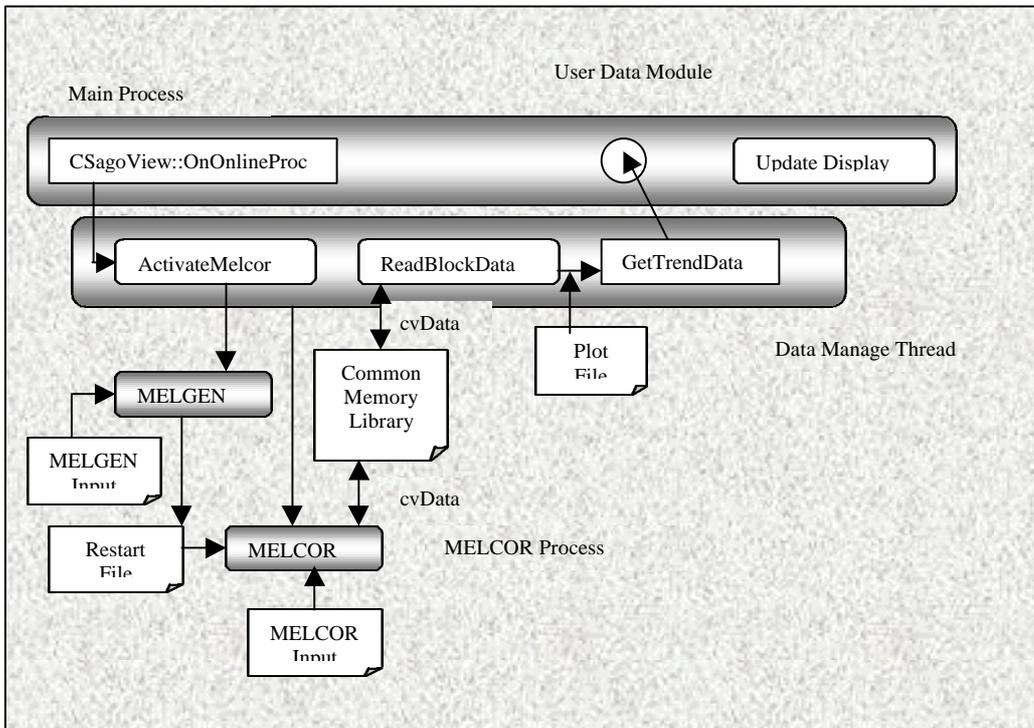
 MELCOR

 0xFFFFFFFF 가 DLL 가 가

MELCOR 가 가 MELCOR

가 , MELCOR
 가 .
 DLL
 . DLL 가
 가 4 가 2 가
 , DLL
 , DLL 가 가
 MELCOR
 , MCCI
 . MELCOR
 , MELCOR 가
 DB

3



3.

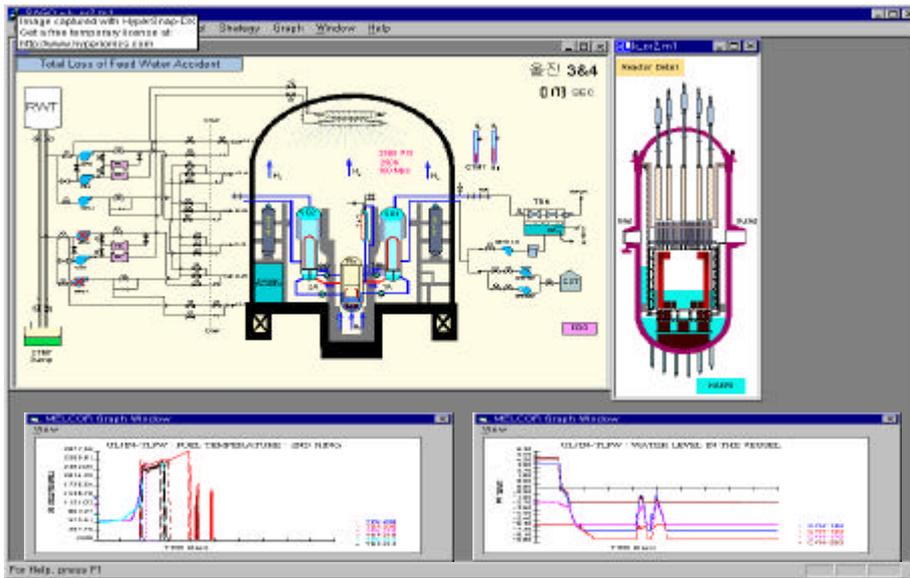
5.

SL-GMS
 . SL-GMS (SL Graphical Modeling System)
 C

SL-Draw

MELCOR
 , MCCI,
 / ,
 DB

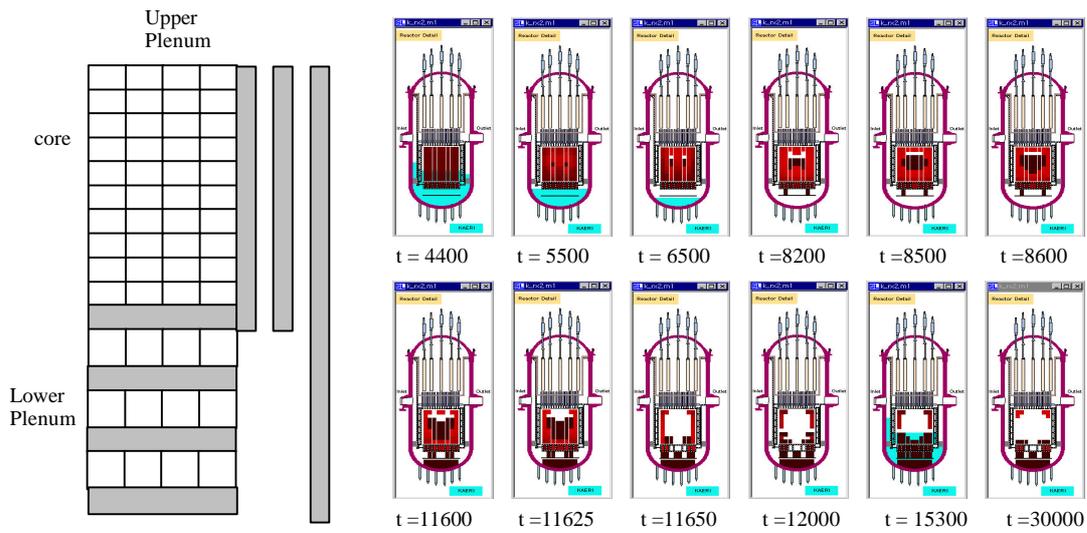
4 SL-GMS



4.

3,4 “ : Total Loss of Feed Water (TLOFW)” MELCOR
 CE(Combustion Engineering) 가 가 2
 가 , 765E4m³
 177 , 16x16 256
 , 2 2 가
 U 가 85,400 gal/min
 가 51m³ 가 가
 , PORV 가 , 1

2 Valve: SRV)가 5.77E6 kg/hr 가 SRV 가 2.85E5 kg/hr, (Safety Relief SRV 10 가 TLOFW 가 TLOFW 가 3,4 가 4000 가 5500 가 11650 11600 Vessel failure



5. TLOFW

6.

PC MELCOR
MELCOR

, SL-GMS

TH

, MELCOR
IBM PC NT

CPU

[]

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