

An Intelligent & Integrated V&V Environment Design for NPP I&C Software Systems

373-1

GUI 가 ,

Abstract

Nuclear Power Plant (NPP) is the safety critical system. Since, nuclear instrumentation and control (I&C) systems including the plant protection system play the brain part of human, nuclear I&C systems have an influence on safety and operation of NPP. Essentially, software V&V should be performed for the safety critical systems based on software. It is very important in the technical aspect because of the problems concerning license acquisitions. In this work, an intelligent and integrated V&V environment supporting the automation of V&V was designed. The intelligent and integrated V&V environment consists of the intelligent controller part, components part, interface part, and GUI part. These parts were integrated systematically, while taking their own independent functions.

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가 . CASE ,

CASE

CASE

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가 SAGA

[1], Siemens가

[2], AECL

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Sizewell B 가

SPACE

RDP

[3], Westinghouse가

가

VDM, Z, Petri Nets, Statecharts

SATEMATE, TeamWork

가

1990

3,4

Interposing Logic System
(DPPS)

5,6

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ABB-CE

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SSERAT

Statecharts

MSC

, NRL

SCR (Software Cost Reduction)

, Statecharts

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CASE(Computer Aided Software Engineering)

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CASE

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UML

CPN, SCR, StateCharts .

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3.3

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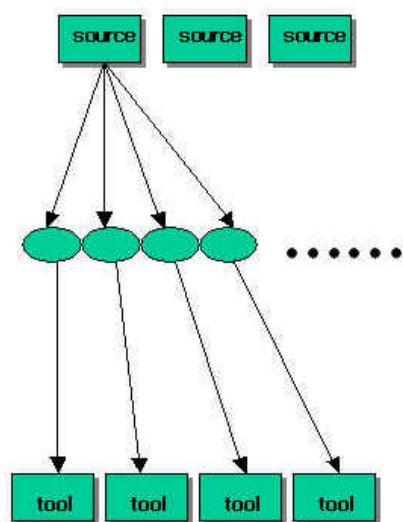
가

가 n 가 m 가 $n+m$ 가 $n*m$

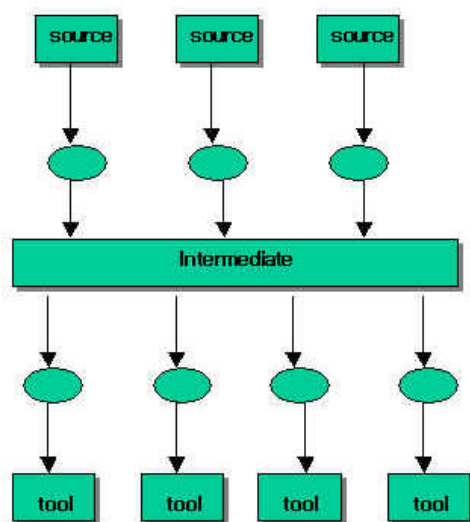
가

가

(frame)



Source = 3, tool = 4, translator = $3*4$



Source = 3, tool = 4, translator = $3+4$

2.

3.4 GUI

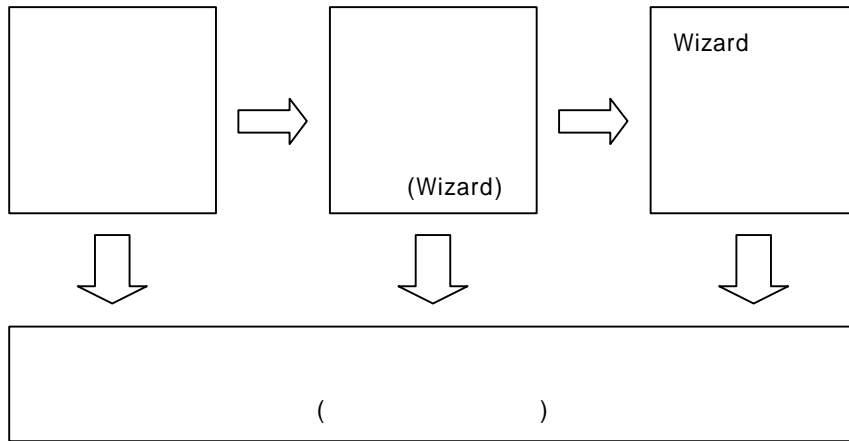
GUI

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GUI

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 (Wizard)
 GUI 가 가 가
 3



3. GUI

4.

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 SDS INNOVATOR . INNOVATOR SDS
 , SRI
 SAL(Symbolic Analysis Laboratory) , SAL intermediate
 language . SRI SAL 가
 theorem proof PVS
 theorem proof SAL

INNOVATOR SAL

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[1] , (II) : I&C Software V/V
DCS 가 , 1998

[2] Presentation on Instrumentation & Control, 8th-12th February, 1999

[3] , : ,
1996

[4] , CASE , 1992