SNAP Automated Testing Framework for RELAP5-3D DA

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Introduction

- Automated Testing Framework (ATF)
  - Available in SNAP via AVF plugin
  - Replaces legacy AVScripts which relied on Perl
  - Provides automated assessment and validation testing
- RELAP5-3D Developmental Assessment
  - Completely automated using SNAP AVF plugin
  - Greatly simplifies DA on each new code version
  - Easy to add/modify DA cases
  - Regression testing provides quick look at performance improvement/degradation

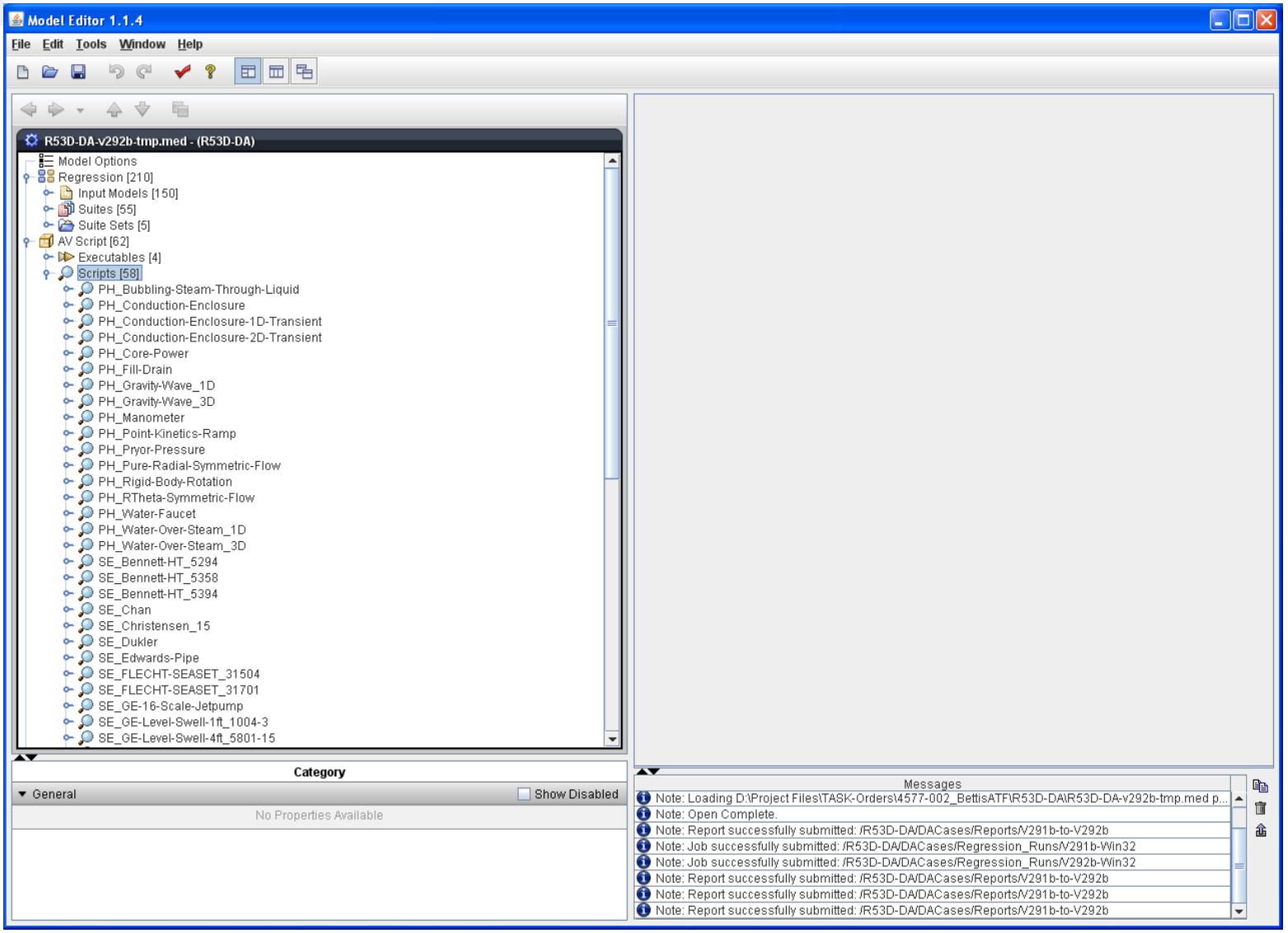
ATF Features

- Automated Assessment
  - Generates plots of key parameters
  - Version-to-version plots
  - Version-to-data plots
  - Time series plots, Axial plots, and Parametrics plots
  - Provides ACAP functionality for generating FOMs
- Regression Testing
  - Version-to-version comparison
  - Specify suites and suite sets for selective testing

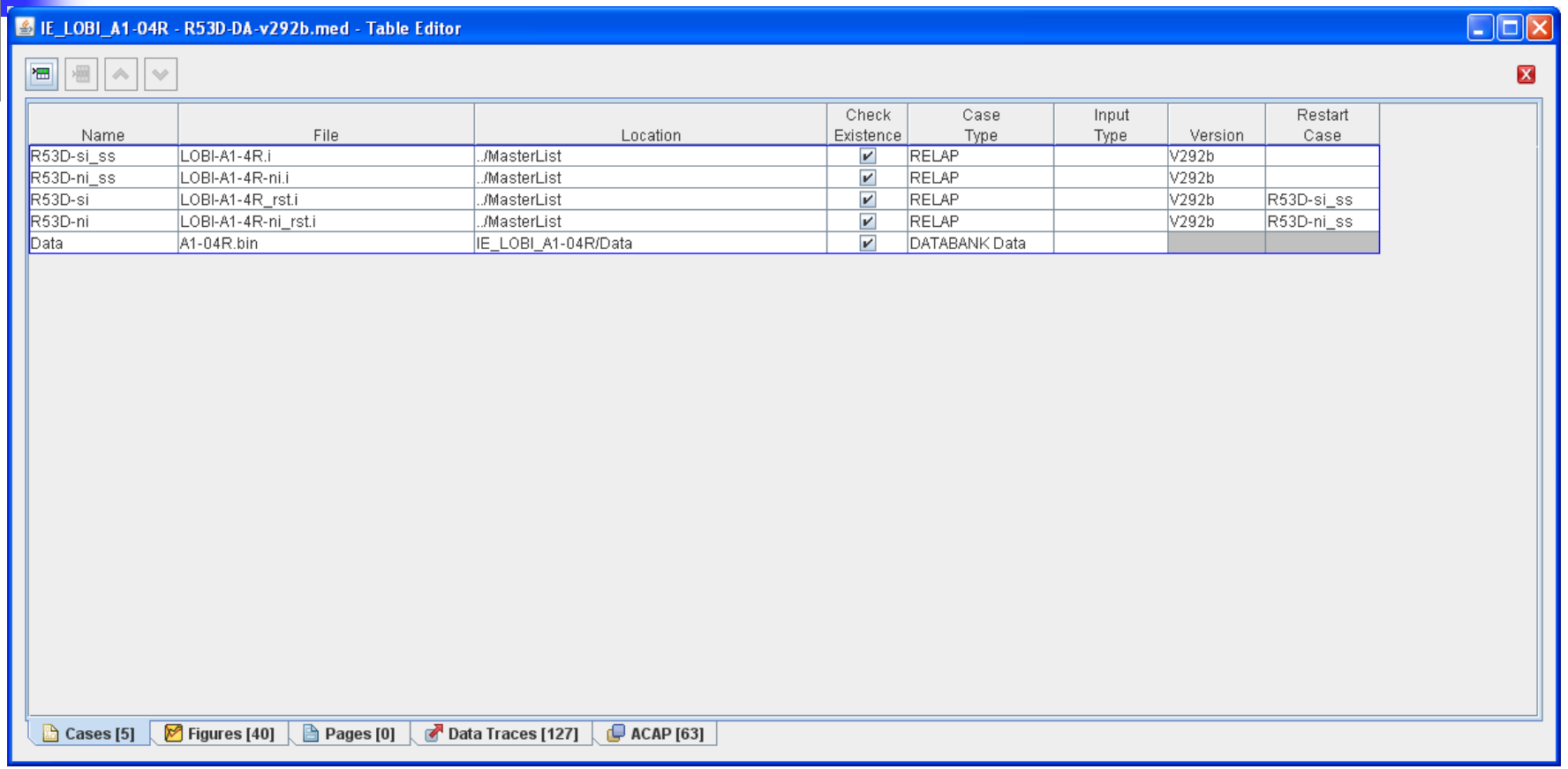
ATF Features (cont'd)

- Report Generation
  - Provides a quick summary of differences between two code versions
  - Produces comparison of key statistical data from the results of two user-selected code versions
    - CPU Time
    - End Time
    - Number of advancements
    - System mass & mass error
    - Etc.
  - Produces difference files from the two outputs

Assessment Jobs



Assessment Jobs



Assessment Jobs (cont'd)

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Name	Title	Sub-title	X-Axis Label	Y-Axis Label	Axis Scaling Type	
Figure-A	Core Power	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Power (MW)	Linear X,Y	[0.0, 4
Figure-B	Pressurizer Pressure	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Pressure (MPa)	Linear X,Y	[0.0, 1
Figure-C	Pressurizer Level	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Level (m)	Linear X,Y	[0.0, 0
Figure-D	Intact Loop Mass Flow Rate	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[0.0, 0
Figure-E	Broken Loop Mass Flow Rate	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[0.0, 6
Figure-F	Intact Loop Temperatures	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Fluid temperature (K)	Linear X,Y	[0.0, 0
Figure-G	Broken Loop Temperatures	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[0.0, 0
Figure-H	Feedwater Flow	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[0.0, 0
Figure-I	Feedwater Temperature	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Fluid temperature (K)	Linear X,Y	[0.0, 4
Figure-J	Steam Temperature	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Fluid temperature (K)	Linear X,Y	[0.0, 5
Figure-K	Secondary Side Pressure	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Pressure (MPa)	Linear X,Y	[0.0, 6
Figure-L	Accumulator Pressure	Comparison of Semi and Nearly with EXP Data (SS)	Time (s)	Pressure (MPa)	Linear X,Y	[0.0, 2
Figure-1	Broken Loop Pressure	Comparison of Semi and Nearly with EXP Data	Time (s)	Pressure (MPa)	Linear X,Y	[-10.0,
Figure-2	Intact Loop Pressure	Comparison of Semi and Nearly with EXP Data	Time (s)	Pressure (MPa)	Linear X,Y	[-10.0,
Figure-3	Pump-side Break Mass Flow Rate	Comparison of Semi and Nearly with EXP Data	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[-10.0,
Figure-4	Vessel-side Break Mass Flow Rate	Comparison of Semi and Nearly with EXP Data	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[-10.0,
Figure-5	Core Differential Pressure	Comparison of Semi and Nearly with EXP Data	Time (s)	Differential pressure (MPa)	Linear X,Y	[-10.0,
Figure-6	Accumulator Injection Flow Rate	Comparison of Semi and Nearly with EXP Data	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[-10.0,
Figure-7	Fluid Density at Accumulator Injection Point	Comparison of Semi and Nearly with EXP Data	Time (s)	Density (kg/m\S3\N)	Linear X,Y	[-10.0,
Figure-8	Fluid Temperature at Accumulator Injection Point	Comparison of Semi and Nearly with EXP Data	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0,
Figure-9	Lower Core Rod Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0,
Figure-10	Lower Core Rod Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0,
Figure-11	Mid-core Rod Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0,
Figure-12	Mid-core Rod Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0,
Figure-13	Mid-core Rod Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0,
Figure-14	Mid-core Rod Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0,
Figure-15	Upper Core Rod Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0,
Figure-16	Upper Core Rod Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0,
Figure-17	Core Inlet Density	Comparison of Semi and Nearly with EXP Data	Time (s)	Density (kg/m\S3\N)	Linear X,Y	[-10.0,
Figure-18	Intact Loops Steam Generator Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0,
Figure-19	Intact Loops Steam Generator Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0,
Figure-20	Broken Loop Steam Generator Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0,
Figure-21	Broken Loop Steam Generator Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0,
Figure-22	Broken Loop Steam Generator Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0,
Figure-23	Broken Loop Steam Generator Temperature	Comparison of Semi and Nearly with EXP Data	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0,
Figure-24	Heat Transfer Mode (Lower Level)	Comparison of Semi and Nearly with EXP Data	Time (s)	Heat transfer mode	Linear X,Y	[-10.0,
Figure-25	Heat Transfer Mode (Mid-Level)	Comparison of Semi and Nearly with EXP Data	Time (s)	Heat transfer mode	Linear X,Y	[-10.0,
Figure-26	Heat Transfer Mode (Mid-Level)	Comparison of Semi and Nearly with EXP Data	Time (s)	Heat transfer mode	Linear X,Y	[-10.0,
Figure-27	Heat Transfer Mode (Upper Level)	Comparison of Semi and Nearly with EXP Data	Time (s)	Heat transfer mode	Linear X,Y	[-10.0,
Figure-28	Flow Regime (Mid-Level (Level 6))	Comparison of Semi and Nearly with EXP Data	Time (s)	Flow regime	Linear X,Y	[-10.0,

Cases [5] | Figures [40] | Pages [0] | Data Traces [127] | ACAP [63]

Assessment Jobs (cont'd)

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	X-Axis Label	Y-Axis Label	Axis Scaling Type	Axis Bounds	Legend Location	Legend Length	Tick Marks	Viewport	Char Size	Symbol Size	Page Size
(SS)	Time (s)	Power (MW)	Linear X,Y	[0.0, 4.0, 500.0, 6.0]	W25.0, 5.95	4	[50.0, 100.0, 0.1, 0.5]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
(SS)	Time (s)	Pressure (MPa)	Linear X,Y	[0.0, 14.0, 500.0, 16.0]	W50.0, 15.95	4	[50.0, 100.0, 0.25, 0.5]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
(SS)	Time (s)	Level (m)	Linear X,Y	[0.0, 0, 500.0, 0]	W250.0, 3.0	4	[50.0, 100.0, 0.25, 0.5]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
(SS)	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[0.0, 0, 500.0, 0]	W100.0, 21.15	4	[50.0, 100.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
(SS)	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[0.0, 6.6, 500.0, 7.2]	W25.0, 7.15	4	[50.0, 100.0, 0.05, 0.1]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
(SS)	Time (s)	Fluid temperature (K)	Linear X,Y	[0.0, 0, 500.0, 0]	W25.0, 595.0	4	[50.0, 100.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
(SS)	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[0.0, 0, 500.0, 0]	W25.0, 595.0	4	[50.0, 100.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
(SS)	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[0.0, 0, 500.0, 0]	W25.0, 2.95	4	[50.0, 100.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
(SS)	Time (s)	Fluid temperature (K)	Linear X,Y	[0.0, 490.0, 500.0, 495.0]	W25.0, 494.9	4	[50.0, 100.0, 0.5, 1.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
(SS)	Time (s)	Fluid temperature (K)	Linear X,Y	[0.0, 550.0, 500.0, 560.0]	W25.0, 559.0	4	[50.0, 100.0, 1.0, 2.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
(SS)	Time (s)	Pressure (MPa)	Linear X,Y	[0.0, 6.4, 500.0, 6.7]	W25.0, 6.6	4	[50.0, 100.0, 0.05, 0.1]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
(SS)	Time (s)	Pressure (MPa)	Linear X,Y	[0.0, 2.6, 500.0, 2.801]	W25.0, 2.78	4	[50.0, 100.0, 0.05, 0.1]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Pressure (MPa)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.55, 0.8	4	[5.0, 10.0, 2.5, 5.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Pressure (MPa)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.55, 0.8	4	[5.0, 10.0, 2.5, 5.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[-10.0, -5.0, 60.0, 30.0]	0.55, 0.8	4	[5.0, 10.0, 2.5, 5.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.55, 0.8	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Differential pressure (MPa)	Linear X,Y	[-10.0, -0.02, 60.0, 0.1]	0.55, 0.8	4	[5.0, 10.0, 0.005, 0.02]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Mass flow rate (kg/s)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.75, 0.32	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Density (kg/m\S3\N)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.55, 0.8	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.69, 0.8	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0, 400.0, 60.0, 900.0]	0.55, 0.83	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0, 400.0, 60.0, 900.0]	0.55, 0.83	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0, 400.0, 60.0, 900.0]	0.55, 0.83	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0, 400.0, 60.0, 900.0]	0.55, 0.83	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0, 400.0, 60.0, 900.0]	0.55, 0.83	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0, 400.0, 60.0, 900.0]	0.55, 0.83	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0, 400.0, 60.0, 900.0]	0.55, 0.83	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Rod temperature (K)	Linear X,Y	[-10.0, 400.0, 60.0, 900.0]	0.55, 0.83	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Density (kg/m\S3\N)	Linear X,Y	[-10.0, 0.0, 60.0, 900.0]	0.48, 0.83	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.55, 0.8	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.55, 0.8	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.55, 0.8	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.55, 0.8	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.25, 0.5	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Fluid temperature (K)	Linear X,Y	[-10.0, 0, 60.0, 0]	0.55, 0.8	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Heat transfer mode	Linear X,Y	[-10.0, 0, 60.0, 0]	0.62, 0.8	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Heat transfer mode	Linear X,Y	[-10.0, 0, 60.0, 0]	0.62, 0.8	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Heat transfer mode	Linear X,Y	[-10.0, 0, 60.0, 0]	0.62, 0.4	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Heat transfer mode	Linear X,Y	[-10.0, 0, 60.0, 0]	0.62, 0.4	4	[5.0, 10.0, 50.0, 100.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5
	Time (s)	Flow regime	Linear X,Y	[-10.0, 0.0, 60.0, 15.0]	0.65, 0.8	4	[5.0, 10.0, 1.0, 5.0]	[0.14, 0.15, 1.25, 0.85]	0.95	0.7	11 x 8.5

Cases [5] | Figures [40] | Pages [0] | Data Traces [127] | ACAP [63]

Assessment Jobs (cont'd)

IE_LOBI_A1-04R - R53D-DA-v292b.med - Table Editor

Name	Case	Figure	Plot Type	X Variable	Y Variable	Legend String	Use SI Units	X Shift	Y Shift	Slope	Symb
Figure-A1	R53D-si_ss	Figure-A	Time		cntrlvar-22	Power (cntrlvar-22) (Semi)	✔	0.0	0.0	1.0E-6	Circle
Figure-A2	R53D-ni_ss	Figure-A	Time		cntrlvar-22	Power (cntrlvar-22) (Nearly)	✔	0.0	0.0	1.0E-6	Triangle U
Figure-B1	R53D-si_ss	Figure-B	Time		p-301070000	p-301070000 (Semi)	✔	0.0	0.0	1.0E-6	Circle
Figure-B2	R53D-ni_ss	Figure-B	Time		p-301070000	p-301070000 (Nearly)	✔	0.0	0.0	1.0E-6	Triangle U
Figure C1	R53D-si_ss	Figure-C	Time		cntrlvar-9	cntrlvar-9 (Semi)	✔	0.0	0.0	1.0	Circle
Figure C2	R53D-ni_ss	Figure-C	Time		cntrlvar-9	cntrlvar-9 (Nearly)	✔	0.0	0.0	1.0	Triangle U
Figure-D1	R53D-si_ss	Figure-D	Time		mflowj-101010000	mflowj-101010000 (Hot leg, Semi)	✔	0.0	0.0	1.0	Circle
Figure-D2	R53D-ni_ss	Figure-D	Time		mflowj-101010000	mflowj-101010000 (Hot leg, Nearly)	✔	0.0	0.0	1.0	Triangle U
Figure-D3	R53D-si_ss	Figure-D	Time		mflowj-107030000	mflowj-107030000 (Cold leg, Semi)	✔	0.0	0.0	1.0	Diamond
Figure-D4	R53D-ni_ss	Figure-D	Time		mflowj-107030000	mflowj-107030000 (Cold leg, Nearly)	✔	0.0	0.0	1.0	Triangle L
Figure-E1	R53D-si_ss	Figure-E	Time		mflowj-401010000	mflowj-401010000 (Hot leg, Semi)	✔	0.0	0.0	1.0	Circle
Figure-E2	R53D-ni_ss	Figure-E	Time		mflowj-401010000	mflowj-401010000 (Hot leg, Nearly)	✔	0.0	0.0	1.0	Triangle U
Figure-E3	R53D-si_ss	Figure-E	Time		mflowj-409020000	mflowj-409020000 (Cold leg, Semi)	✔	0.0	0.0	1.0	Diamond
Figure-E4	R53D-ni_ss	Figure-E	Time		mflowj-409020000	mflowj-409020000 (Cold leg, Nearly)	✔	0.0	0.0	1.0	Triangle L
Figure-F1	R53D-si_ss	Figure-F	Time		tempf-101010000	tempf-101010000 (Hot leg, Semi)	✔	0.0	0.0	1.0	Circle
Figure-F2	R53D-ni_ss	Figure-F	Time		tempf-101010000	tempf-101010000 (Hot leg, Nearly)	✔	0.0	0.0	1.0	Triangle U
Figure-F3	R53D-si_ss	Figure-F	Time		tempf-107010000	tempf-107010000 (Cold leg, Semi)	✔	0.0	0.0	1.0	Diamond
Figure-F4	R53D-ni_ss	Figure-F	Time		tempf-107010000	tempf-107010000 (Cold leg, Nearly)	✔	0.0	0.0	1.0	Triangle L
Figure-G1	R53D-si_ss	Figure-G	Time		tempf-401010000	tempf-401010000 (Hot leg, Semi)	✔	0.0	0.0	1.0	Circle
Figure-G2	R53D-ni_ss	Figure-G	Time		tempf-401010000	tempf-401010000 (Hot leg, Nearly)	✔	0.0	0.0	1.0	Triangle U
Figure-G3	R53D-si_ss	Figure-G	Time		tempf-409010000	tempf-409010000 (Cold leg, Semi)	✔	0.0	0.0	1.0	Diamond
Figure-G4	R53D-ni_ss	Figure-G	Time		tempf-409010000	tempf-409010000 (Cold leg, Nearly)	✔	0.0	0.0	1.0	Triangle L
Figure-H1	R53D-si_ss	Figure-H	Time		mflowj-210010000	mflowj-210010000 (Intact, Semi)	✔	0.0	0.0	1.0	Circle
Figure-H2	R53D-ni_ss	Figure-H	Time		mflowj-210010000	mflowj-210010000 (Intact, Nearly)	✔	0.0	0.0	1.0	Triangle U
Figure-H3	R53D-si_ss	Figure-H	Time		mflowj-710010000	mflowj-710010000 (Broken, Semi)	✔	0.0	0.0	1.0	Diamond
Figure-H4	R53D-ni_ss	Figure-H	Time		mflowj-710010000	mflowj-710010000 (Broken, Nearly)	✔	0.0	0.0	1.0	Triangle L
Figure-I1	R53D-si_ss	Figure-I	Time		tempf-213040000	tempf-213040000 (Intact, Semi)	✔	0.0	0.0	1.0	Circle
Figure-I2	R53D-ni_ss	Figure-I	Time		tempf-213040000	tempf-213040000 (Intact, Nearly)	✔	0.0	0.0	1.0	Triangle U
Figure-I3	R53D-si_ss	Figure-I	Time		tempf-713040000	tempf-713040000 (Broken, Semi)	✔	0.0	0.0	1.0	Diamond
Figure-I4	R53D-ni_ss	Figure-I	Time		tempf-713040000	tempf-713040000 (Broken, Nearly)	✔	0.0	0.0	1.0	Triangle L
Figure-J1	R53D-si_ss	Figure-J	Time		tempg-208010000	tempg-208010000 (Intact, Semi)	✔	0.0	0.0	1.0	Circle
Figure-J2	R53D-ni_ss	Figure-J	Time		tempg-208010000	tempg-208010000 (Intact, Nearly)	✔	0.0	0.0	1.0	Triangle U
Figure-J3	R53D-si_ss	Figure-J	Time		tempg-708010000	tempg-708010000 (Broken, Semi)	✔	0.0	0.0	1.0	Diamond
Figure-J4	R53D-ni_ss	Figure-J	Time		tempg-708010000	tempg-708010000 (Broken, Nearly)	✔	0.0	0.0	1.0	Triangle L
Figure-K1	R53D-si_ss	Figure-K	Time		p-208010000	p-208010000 (Intact, Semi)	✔	0.0	0.0	1.0E-6	Circle
Figure-K2	R53D-ni_ss	Figure-K	Time		p-208010000	p-208010000 (Intact, Nearly)	✔	0.0	0.0	1.0E-6	Triangle U
Figure-K3	R53D-si_ss	Figure-K	Time		p-708010000	p-708010000 (Broken, Semi)	✔	0.0	0.0	1.0E-6	Diamond
Figure-K4	R53D-ni_ss	Figure-K	Time		p-708010000	p-708010000 (Broken, Nearly)	✔	0.0	0.0	1.0E-6	Triangle L
Figure-L1	R53D-si_ss	Figure-L	Time		p-600010000	p-600010000 (Intact, Semi)	✔	0.0	0.0	1.0E-6	Circle
Figure-L2	R53D-ni_ss	Figure-L	Time		p-600010000	p-600010000 (Intact, Nearly)	✔	0.0	0.0	1.0E-6	Triangle U

Cases [5] | Figures [40] | Pages [0] | Data Traces [127] | ACAP [63]

Assessment Jobs (cont'd)

IE_LOBI_A1-04R - R53D-DA-v292b.med - Table Editor

X Variable	Y Variable	Legend String	Use SI Units	X Shift	Y Shift	Slope	Symbol	Symbol Fill	Symbol Skip	Line Style	Line Color	Line Width	Time	Axial Start Index	Axial Locations
	cntrlvar-22	Power (cntrlvar-22) (Semi)	☑	0.0	0.0	1.0E-6	Circle	☐	25	Solid	Blue	1.0			
	cntrlvar-22	Power (cntrlvar-22) (Nearly)	☑	0.0	0.0	1.0E-6	Triangle Up	☐	35	Solid	Red	1.0			
	p-301070000	p-301070000 (Semi)	☑	0.0	0.0	1.0E-6	Circle	☐	25	Solid	Blue	1.0			
	p-301070000	p-301070000 (Nearly)	☑	0.0	0.0	1.0E-6	Triangle Up	☐	35	Solid	Red	1.0			
	cntrlvar-9	cntrlvar-9 (Semi)	☑	0.0	0.0	1.0	Circle	☐	25	Solid	Blue	1.0			
	cntrlvar-9	cntrlvar-9 (Nearly)	☑	0.0	0.0	1.0	Triangle Up	☐	35	Solid	Red	1.0			
	mflowj-101010000	mflowj-101010000 (Hot leg, Semi)	☑	0.0	0.0	1.0	Circle	☐	20	Solid	Blue	1.0			
	mflowj-101010000	mflowj-101010000 (Hot leg, Nearly)	☑	0.0	0.0	1.0	Triangle Up	☐	25	Solid	Red	1.0			
	mflowj-107030000	mflowj-107030000 (Cold leg, Semi)	☑	0.0	0.0	1.0	Diamond	☐	30	Solid	Green	1.0			
	mflowj-107030000	mflowj-107030000 (Cold leg, Nearly)	☑	0.0	0.0	1.0	Triangle Left	☐	35	Solid	Brown	1.0			
	mflowj-401010000	mflowj-401010000 (Hot leg, Semi)	☑	0.0	0.0	1.0	Circle	☐	20	Solid	Blue	1.0			
	mflowj-401010000	mflowj-401010000 (Hot leg, Nearly)	☑	0.0	0.0	1.0	Triangle Up	☐	25	Solid	Red	1.0			
	mflowj-409020000	mflowj-409020000 (Cold leg, Semi)	☑	0.0	0.0	1.0	Diamond	☐	30	Solid	Green	1.0			
	mflowj-409020000	mflowj-409020000 (Cold leg, Nearly)	☑	0.0	0.0	1.0	Triangle Left	☐	35	Solid	Brown	1.0			
	tempf-101010000	tempf-101010000 (Hot leg, Semi)	☑	0.0	0.0	1.0	Circle	☐	20	Solid	Blue	1.0			
	tempf-101010000	tempf-101010000 (Hot leg, Nearly)	☑	0.0	0.0	1.0	Triangle Up	☐	25	Solid	Red	1.0			
	tempf-107010000	tempf-107010000 (Cold leg, Semi)	☑	0.0	0.0	1.0	Diamond	☐	30	Solid	Green	1.0			
	tempf-107010000	tempf-107010000 (Cold leg, Nearly)	☑	0.0	0.0	1.0	Triangle Left	☐	35	Solid	Brown	1.0			
	tempf-401010000	tempf-401010000 (Hot leg, Semi)	☑	0.0	0.0	1.0	Circle	☐	20	Solid	Blue	1.0			
	tempf-401010000	tempf-401010000 (Hot leg, Nearly)	☑	0.0	0.0	1.0	Triangle Up	☐	25	Solid	Red	1.0			
	tempf-409010000	tempf-409010000 (Cold leg, Semi)	☑	0.0	0.0	1.0	Diamond	☐	30	Solid	Green	1.0			
	tempf-409010000	tempf-409010000 (Cold leg, Nearly)	☑	0.0	0.0	1.0	Triangle Left	☐	35	Solid	Brown	1.0			
	mflowj-210010000	mflowj-210010000 (Intact, Semi)	☑	0.0	0.0	1.0	Circle	☐	20	Solid	Blue	1.0			
	mflowj-210010000	mflowj-210010000 (Intact, Nearly)	☑	0.0	0.0	1.0	Triangle Up	☐	25	Solid	Red	1.0			
	mflowj-710010000	mflowj-710010000 (Broken, Semi)	☑	0.0	0.0	1.0	Diamond	☐	30	Solid	Green	1.0			
	mflowj-710010000	mflowj-710010000 (Broken, Nearly)	☑	0.0	0.0	1.0	Triangle Left	☐	35	Solid	Brown	1.0			
	tempf-213040000	tempf-213040000 (Intact, Semi)	☑	0.0	0.0	1.0	Circle	☐	20	Solid	Blue	1.0			
	tempf-213040000	tempf-213040000 (Intact, Nearly)	☑	0.0	0.0	1.0	Triangle Up	☐	25	Solid	Red	1.0			
	tempf-713040000	tempf-713040000 (Broken, Semi)	☑	0.0	0.0	1.0	Diamond	☐	30	Solid	Green	1.0			
	tempf-713040000	tempf-713040000 (Broken, Nearly)	☑	0.0	0.0	1.0	Triangle Left	☐	35	Solid	Brown	1.0			
	tempg-208010000	tempg-208010000 (Intact, Semi)	☑	0.0	0.0	1.0	Circle	☐	20	Solid	Blue	1.0			
	tempg-208010000	tempg-208010000 (Intact, Nearly)	☑	0.0	0.0	1.0	Triangle Up	☐	25	Solid	Red	1.0			
	tempg-708010000	tempg-708010000 (Broken, Semi)	☑	0.0	0.0	1.0	Diamond	☐	30	Solid	Green	1.0			
	tempg-708010000	tempg-708010000 (Broken, Nearly)	☑	0.0	0.0	1.0	Triangle Left	☐	35	Solid	Brown	1.0			
	p-208010000	p-208010000 (Intact, Semi)	☑	0.0	0.0	1.0E-6	Circle	☐	20	Solid	Blue	1.0			
	p-208010000	p-208010000 (Intact, Nearly)	☑	0.0	0.0	1.0E-6	Triangle Up	☐	25	Solid	Red	1.0			
	p-708010000	p-708010000 (Broken, Semi)	☑	0.0	0.0	1.0E-6	Diamond	☐	30	Solid	Green	1.0			
	p-708010000	p-708010000 (Broken, Nearly)	☑	0.0	0.0	1.0E-6	Triangle Left	☐	35	Solid	Brown	1.0			
	p-600010000	p-600010000 (Intact, Semi)	☑	0.0	0.0	1.0E-6	Circle	☐	20	Solid	Blue	1.0			
	p-600010000	p-600010000 (Intact, Nearly)	☑	0.0	0.0	1.0E-6	Triangle Up	☐	25	Solid	Red	1.0			

Cases [5] | Figures [40] | Pages [0] | Data Traces [127] | ACAP [63]

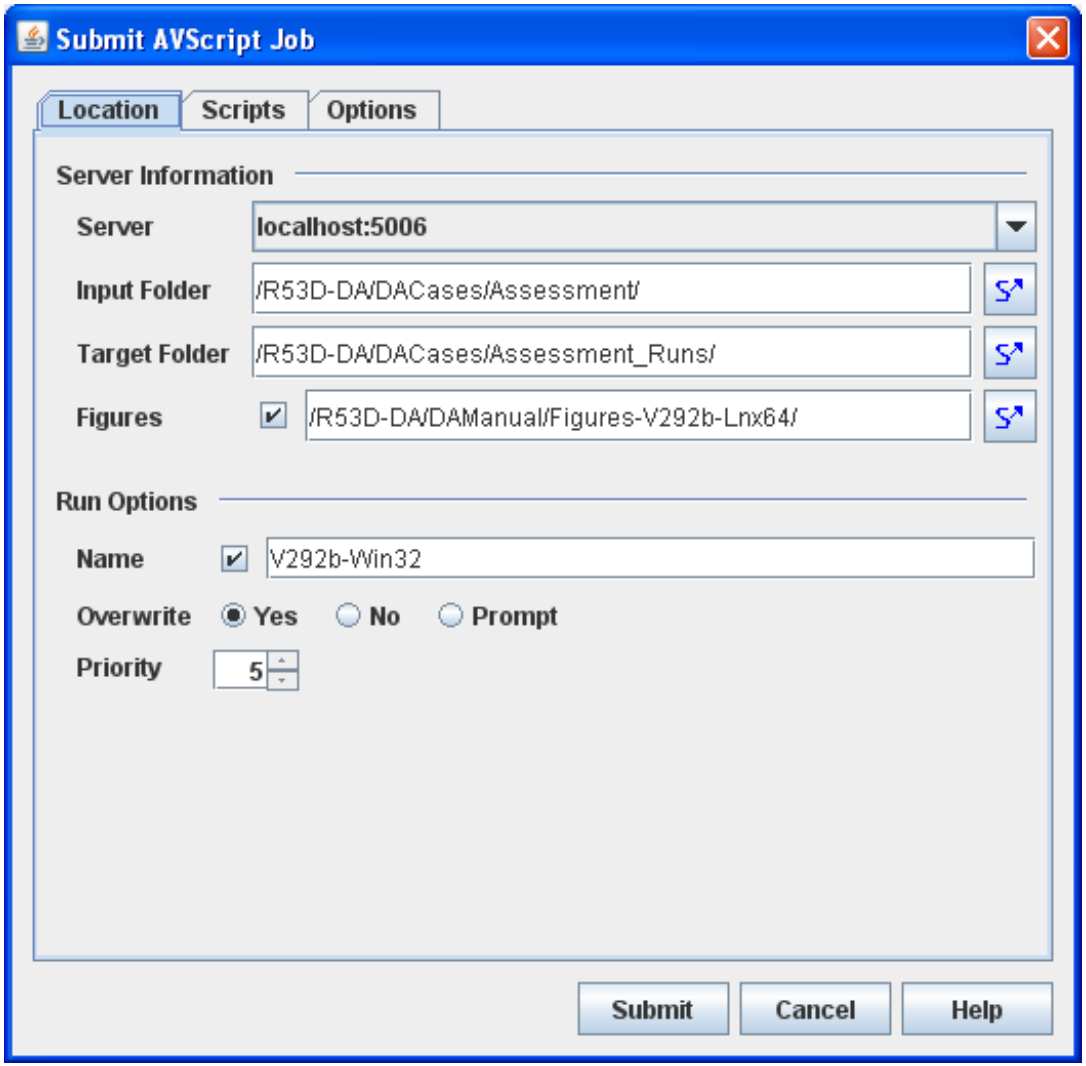
Assessment Jobs (cont'd)

IE_LOBI_A1-04R - R53D-DA-v292b.med - Table Editor

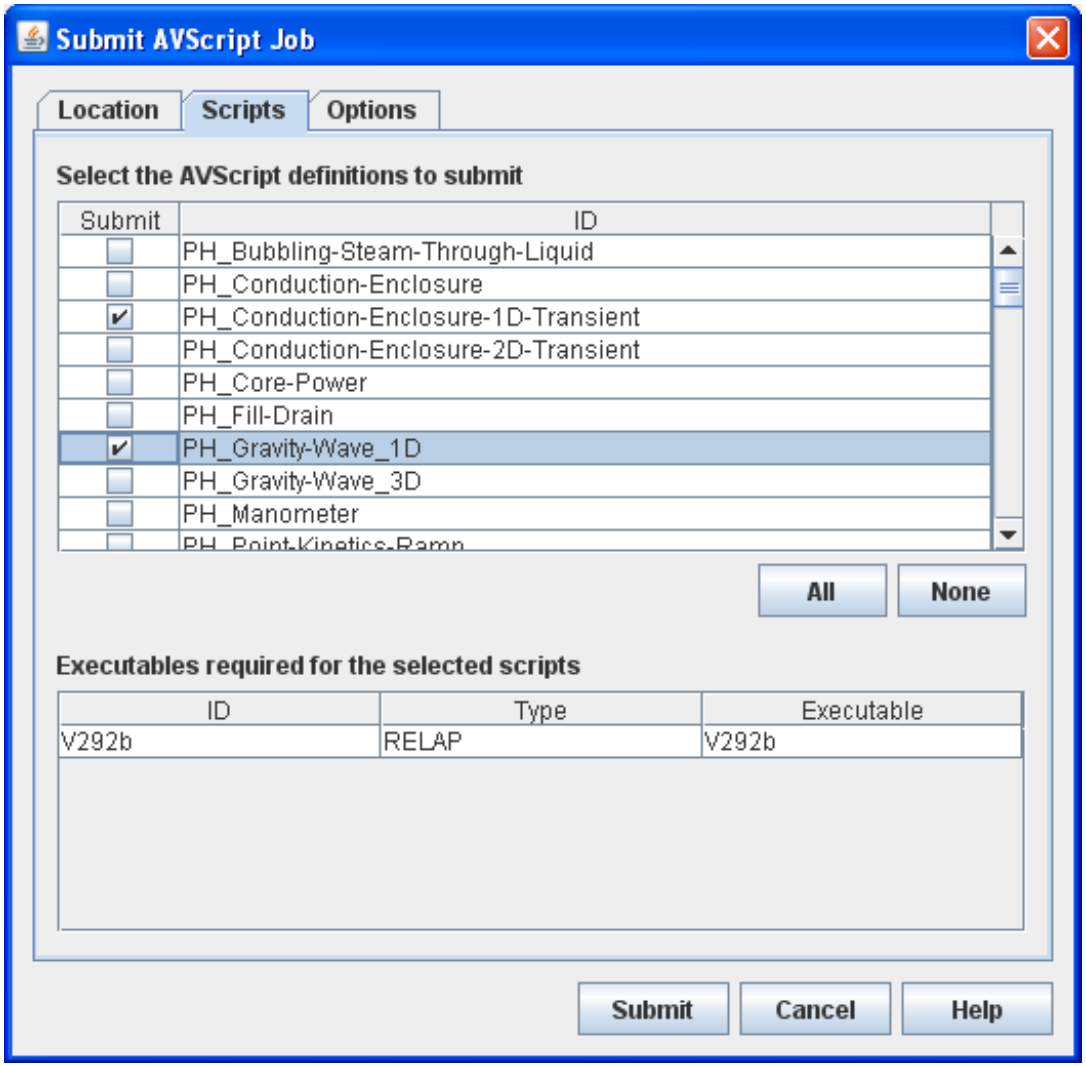
Name	Config File	Config Location	Base Data	Compared Data
FOMBLPressure_SemitoData	BLPressure_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-1c	[1] Figure-1a
FOMBLPressure_NearlytoData	BLPressure_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-1c	[1] Figure-1b
FOMBLPressure_SemitoNearly	BLPressure_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-1b	[1] Figure-1a
FOMILPressure_SemitoData	ILPressure_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-2c	[1] Figure-2a
FOMILPressure_NearlytoData	ILPressure_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-2c	[1] Figure-2b
FOMILPressure_SemitoNearly	ILPressure_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-2b	[1] Figure-2a
FOMPBMFlow_SemitoData	PBMFlow_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-3c	[1] Figure-3a
FOMPBMFlow_NearlytoData	PBMFlow_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-3c	[1] Figure-3b
FOMPBMFlow_SemitoNearly	PBMFlow_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-3b	[1] Figure-3a
FOMVBMFlow_SemitoData	VBMFlow_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-4c	[1] Figure-4a
FOMVBMFlow_NearlytoData	VBMFlow_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-4c	[1] Figure-4b
FOMVBMFlow_SemitoNearly	VBMFlow_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-4b	[1] Figure-4a
FOMCDPressure_SemitoData	CDPressure_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-5c	[1] Figure-5a
FOMCDPressure_NearlytoData	CDPressure_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-5c	[1] Figure-5b
FOMCDPressure_SemitoNearly	CDPressure_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-5b	[1] Figure-5a
FOMAIFlow_SemitoData	AIFlow_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-6c	[1] Figure-6a
FOMAIFlow_NearlytoData	AIFlow_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-6c	[1] Figure-6b
FOMAIFlow_SemitoNearly	AIFlow_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-6b	[1] Figure-6a
FOMFDensity_SemitoData	FDensity_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-7c	[1] Figure-7a
FOMFDensity_NearlytoData	FDensity_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-7c	[1] Figure-7b
FOMFDensity_SemitoNearly	FDensity_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-7b	[1] Figure-7a
FOMFTemperature_SemitoData	FTemperature_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-8c	[1] Figure-8a
FOMFTemperature_NearlytoData	FTemperature_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-8c	[1] Figure-8b
FOMFTemperature_SemitoNearly	FTemperature_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-8b	[1] Figure-8a
FOMLCRTemperature1_SemitoData	LCRTemperature1_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-9c	[1] Figure-9a
FOMLCRTemperature1_NearlytoData	LCRTemperature1_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-9c	[1] Figure-9b
FOMLCRTemperature1_SemitoNearly	LCRTemperature1_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-9b	[1] Figure-9a
FOMLCRTemperature2_SemitoData	LCRTemperature2_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-10c	[1] Figure-10a
FOMLCRTemperature2_NearlytoData	LCRTemperature2_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-10c	[1] Figure-10b
FOMLCRTemperature2_SemitoNearly	LCRTemperature2_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-10b	[1] Figure-10a
FOMMCRTemperature1_SemitoData	MCRTemperature1_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-11c	[1] Figure-11a
FOMMCRTemperature1_NearlytoData	MCRTemperature1_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-11c	[1] Figure-11b
FOMMCRTemperature1_SemitoNearly	MCRTemperature1_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-11b	[1] Figure-11a
FOMMCRTemperature2_SemitoData	MCRTemperature2_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-12c	[1] Figure-12a
FOMMCRTemperature2_NearlytoData	MCRTemperature2_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-12c	[1] Figure-12b
FOMMCRTemperature2_SemitoNearly	MCRTemperature2_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-12b	[1] Figure-12a
FOMMCRTemperature3_SemitoData	MCRTemperature3_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-13c	[1] Figure-13a
FOMMCRTemperature3_NearlytoData	MCRTemperature3_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-13c	[1] Figure-13b
FOMMCRTemperature3_SemitoNearly	MCRTemperature3_Semi_to_Nearly_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-13b	[1] Figure-13a
FOMMCRTemperature4_SemitoData	MCRTemperature4_Semi_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-14c	[1] Figure-14a
FOMMCRTemperature4_NearlytoData	MCRTemperature4_Nearly_to_Data_fom.cfg	IE_LOBI_A1-04R/AcapInputs	Figure-14c	[1] Figure-14b

Cases [5] | Figures [40] | Pages [0] | Data Traces [127] | ACAP [63]

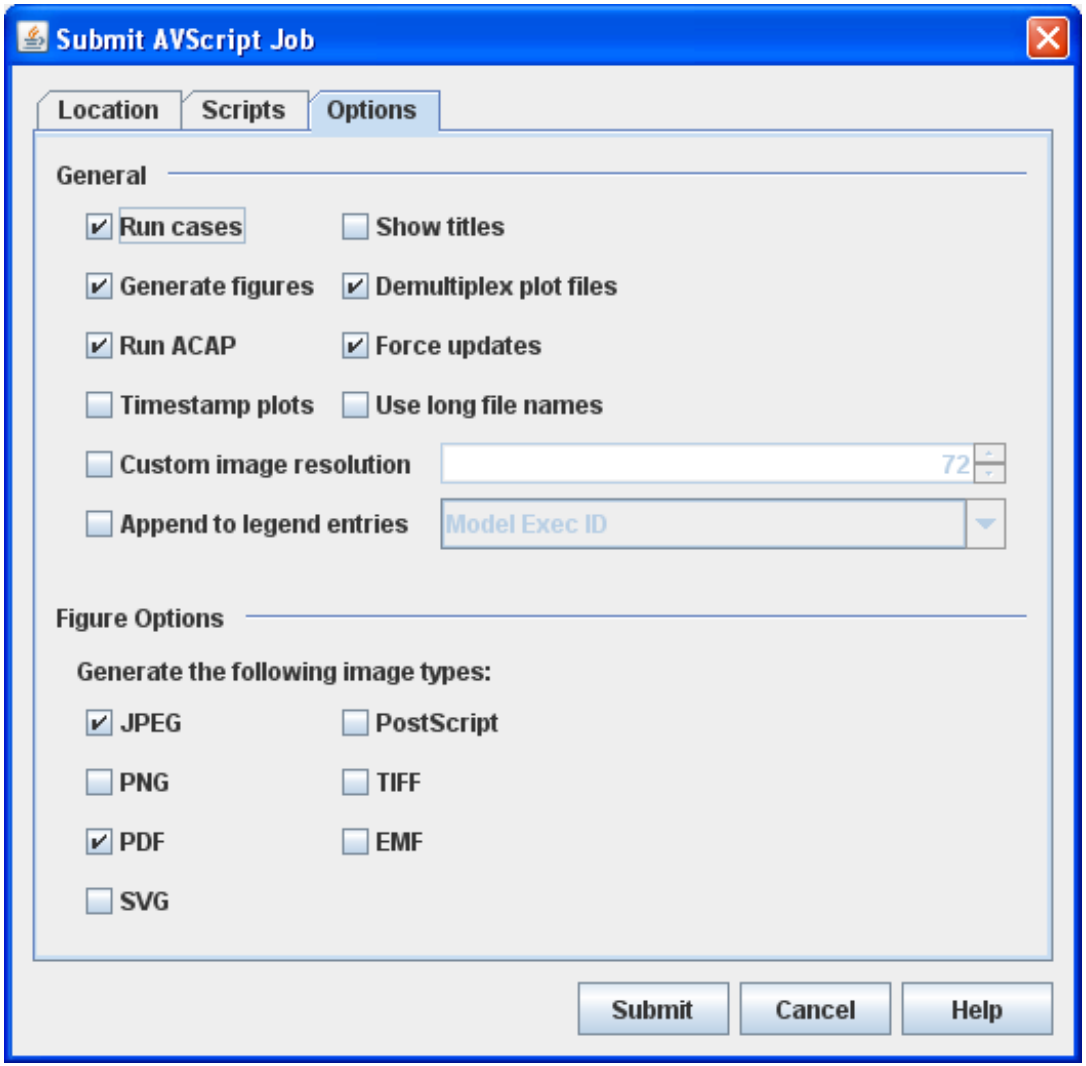
Assessment Jobs (cont'd)



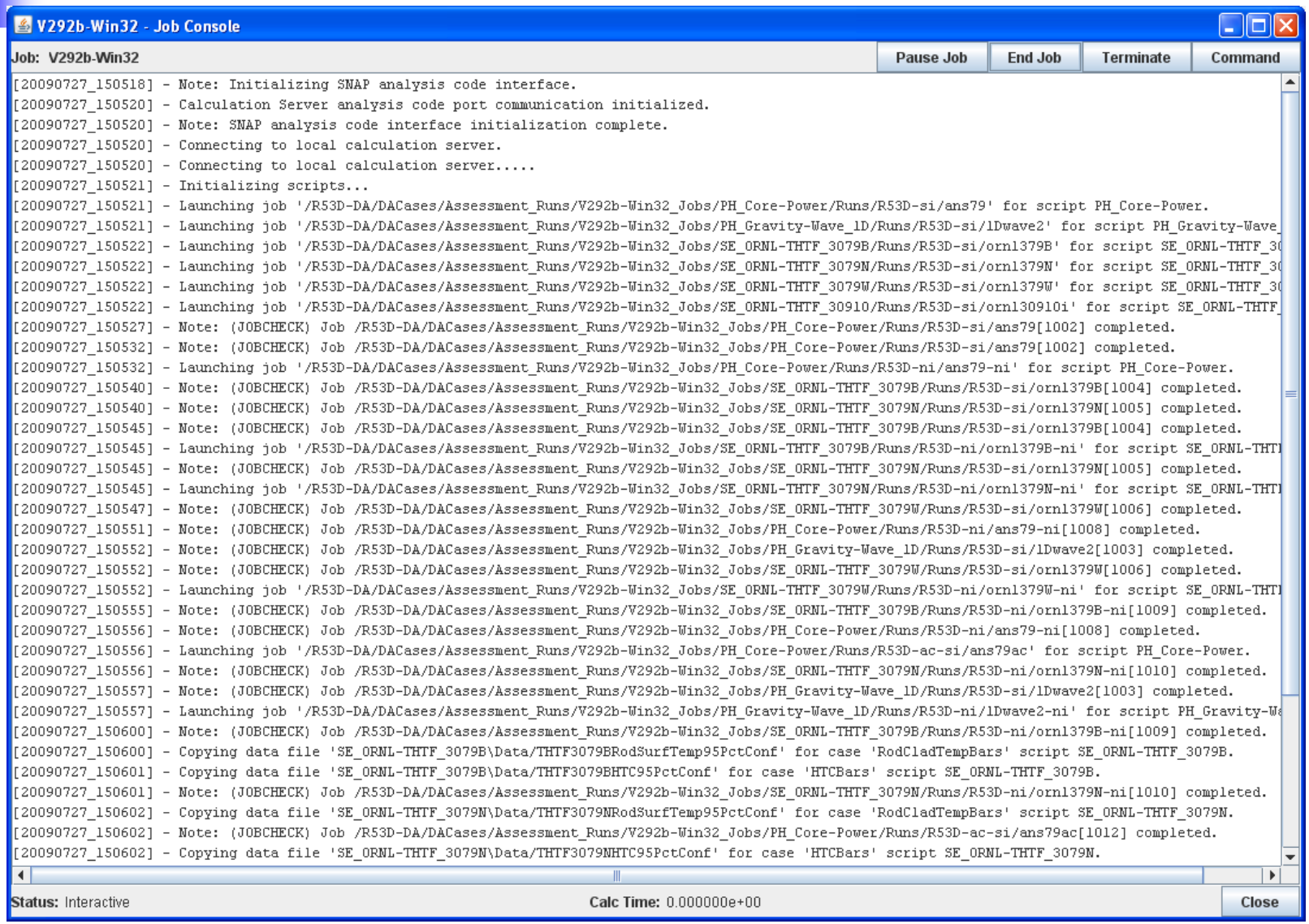
Assessment Jobs (cont'd)



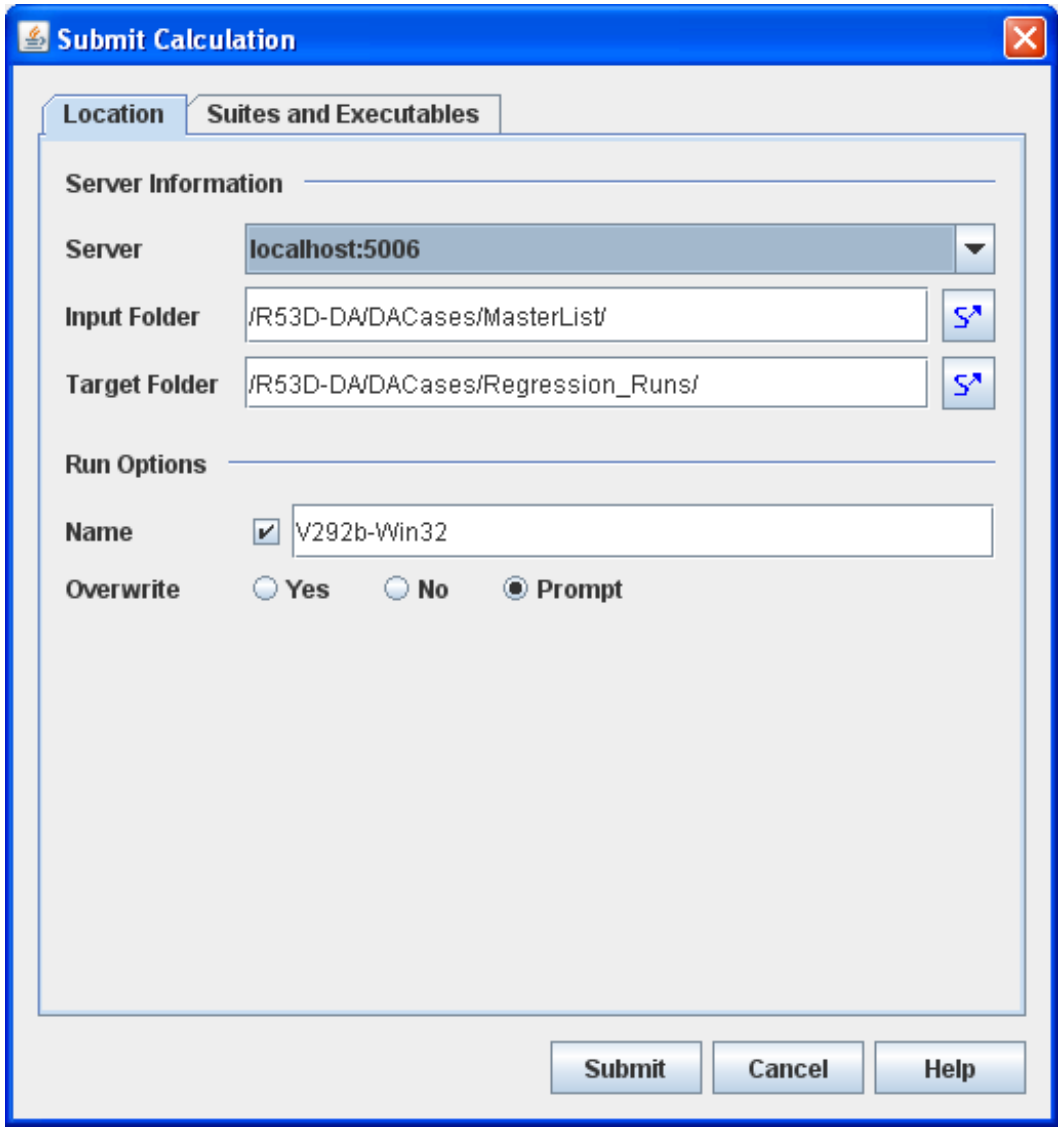
Assessment Jobs (cont'd)



Assessment Jobs (cont'd)



Regression Jobs



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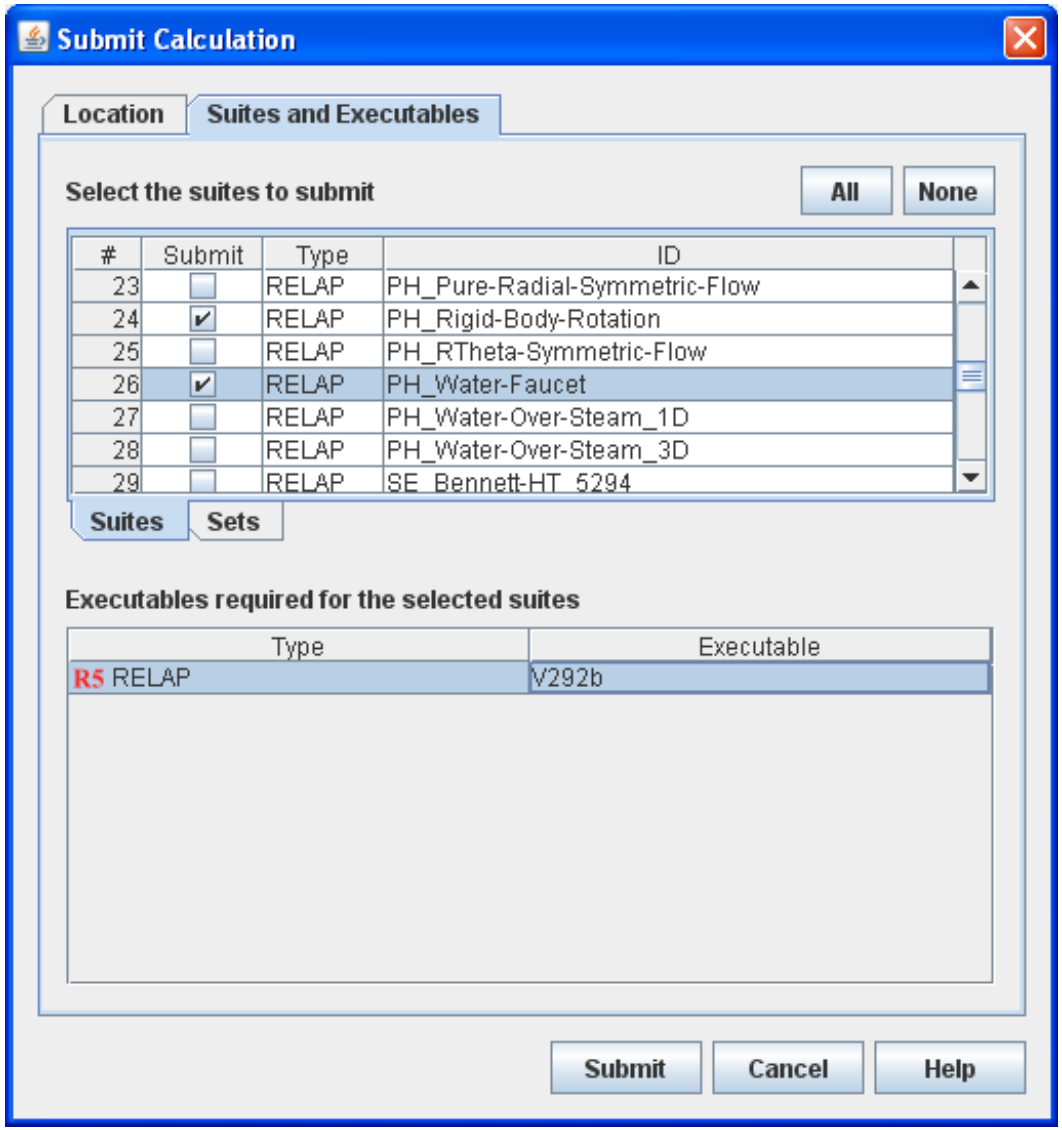
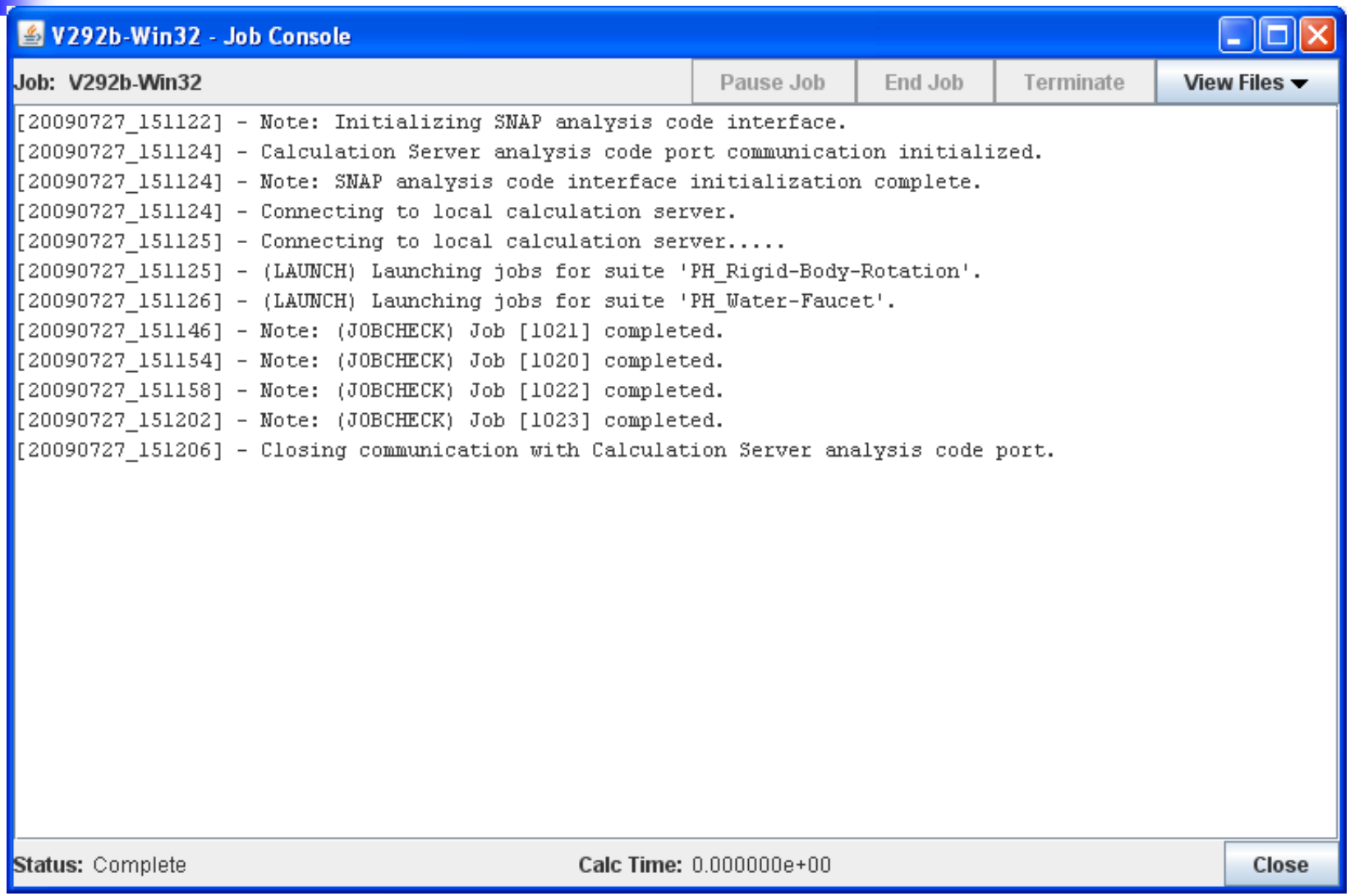
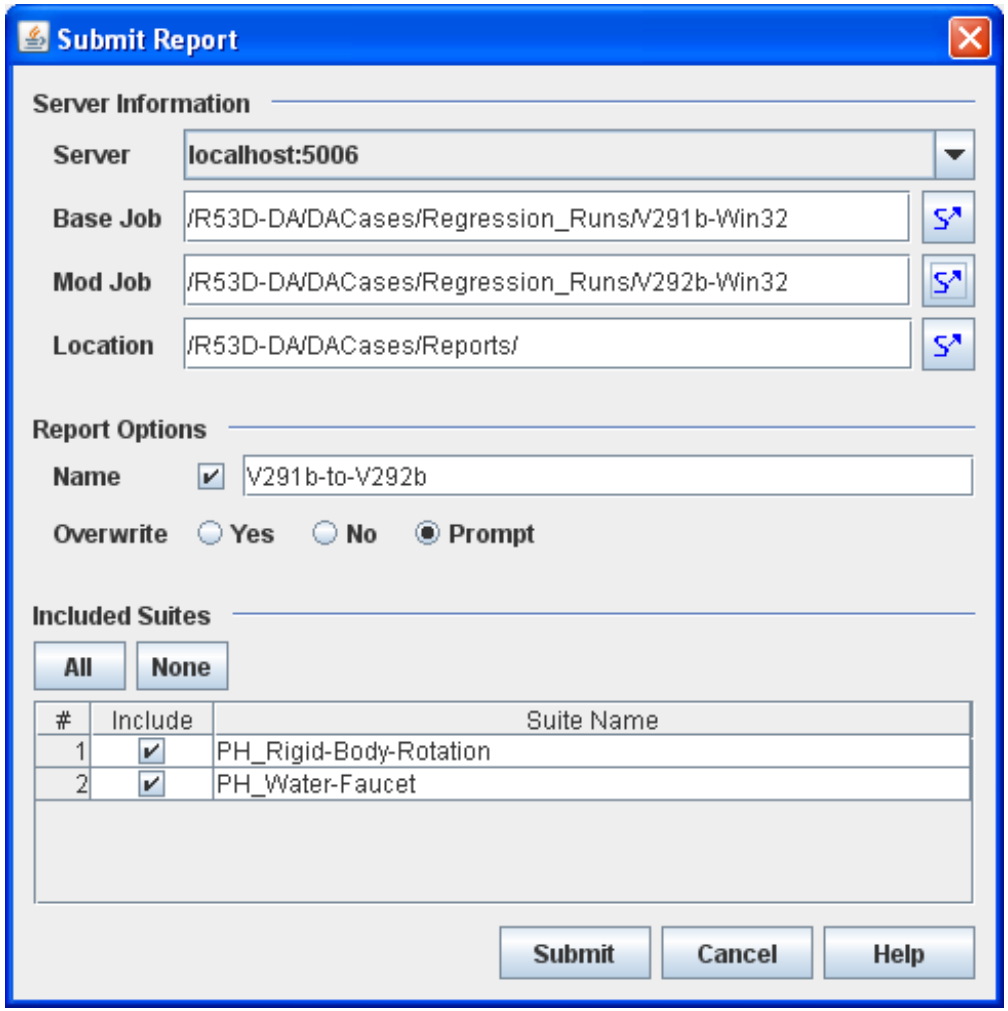


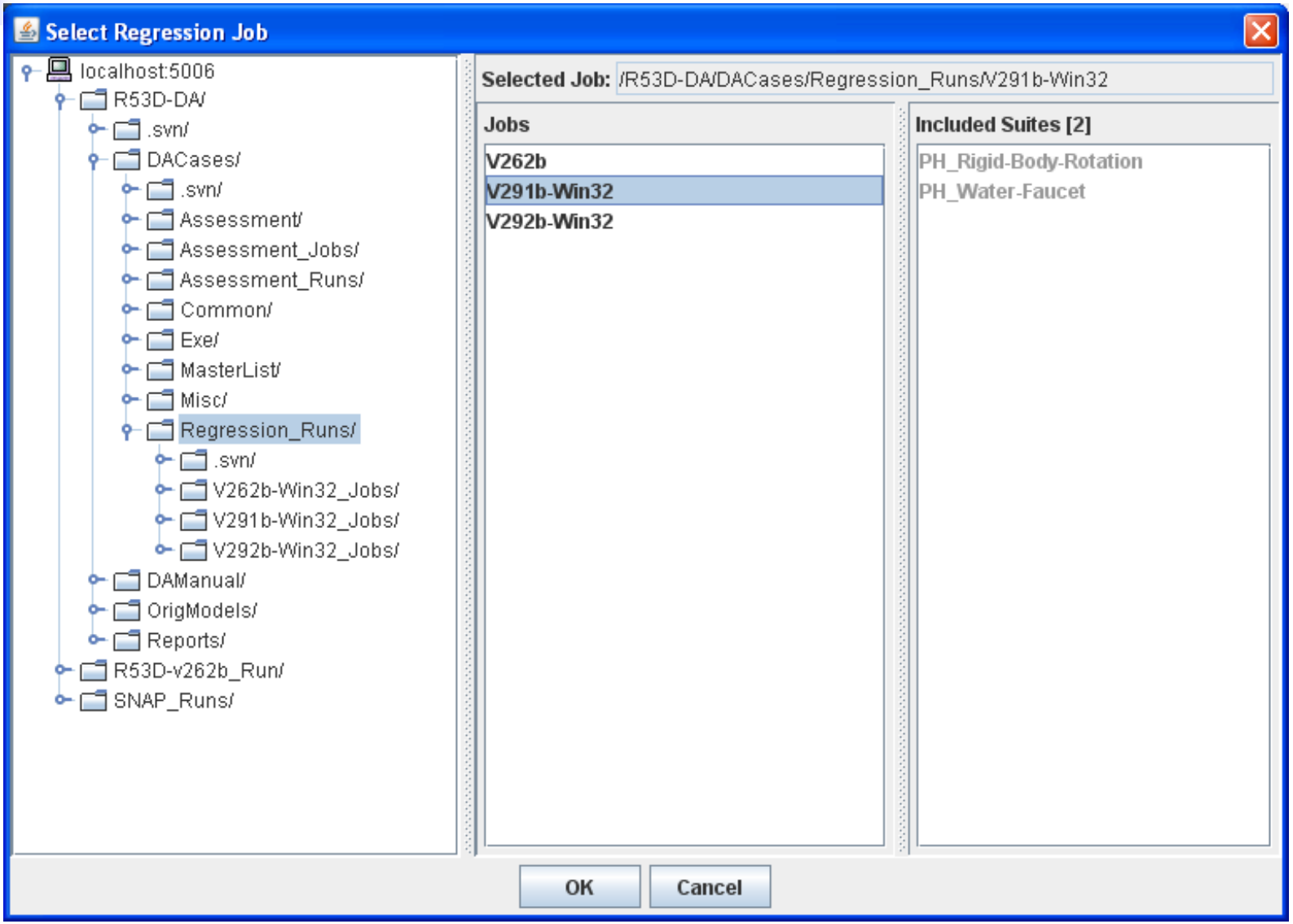
Regression Jobs



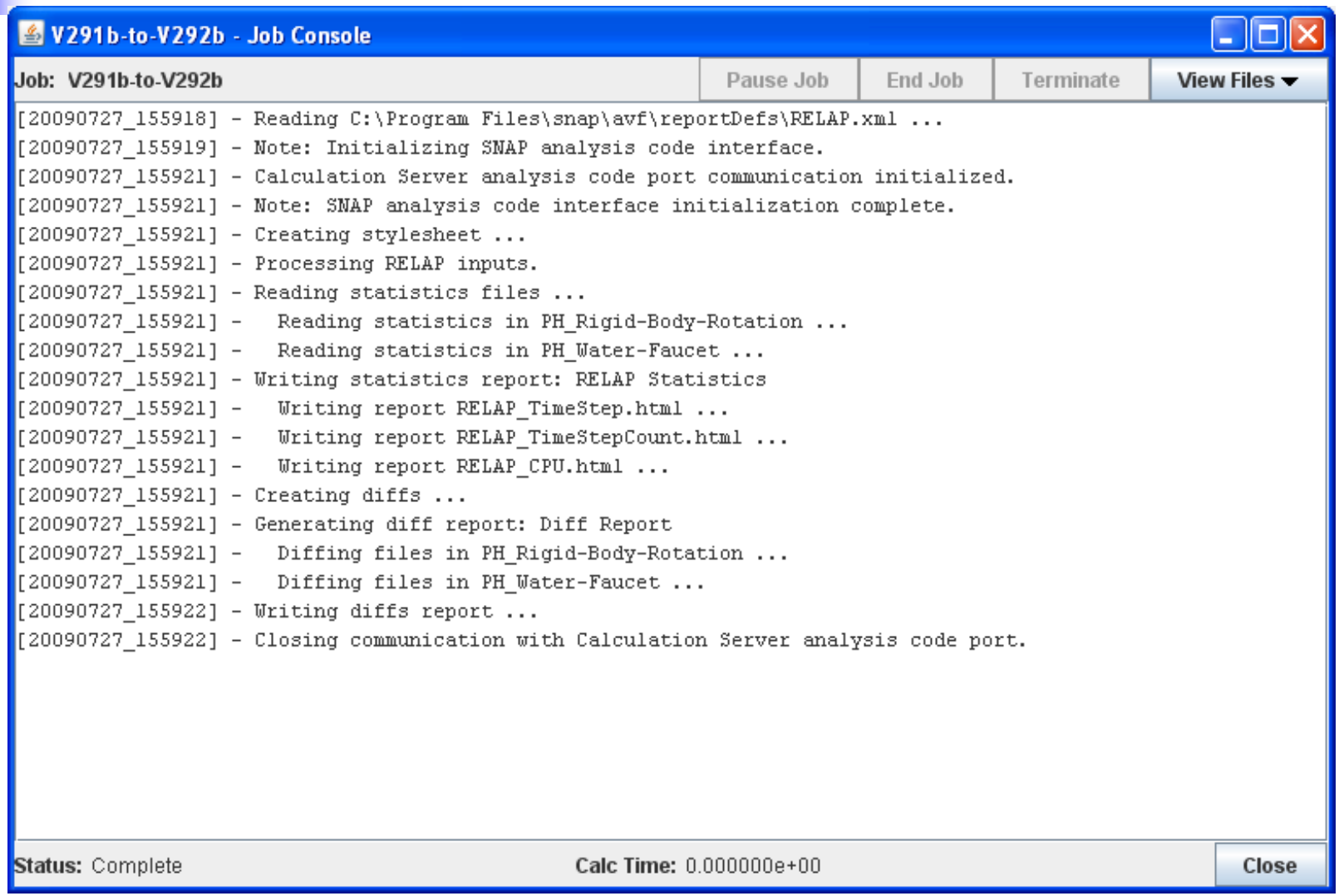
Report Jobs


Submit Report
Server Information
Server
localhost:5006
Base Job
/R53D-DA/DACases/Regression_Runs/V291b-Win32
Mod Job
/R53D-DA/DACases/Regression_Runs/V292b-Win32
Location
/R53D-DA/DACases/Reports/
Report Options
Name
V291b-to-V292b
Overwrite
Yes
No
Prompt
Included Suites
All
None
Include Suite Name
1 PH_Rigid-Body-Rotation
2 PH_Water-Faucet
Submit
Cancel
Help

Report Jobs


Select Regression Job
localhost:5006
R53D-DA/
.svn/
DACases/
.svn/
Assessment/
Assessment_Jobs/
Assessment_Runs/
Common/
Exe/
MasterList/
Misc/
Regression_Runs/
.svn/
V262b-Win32_Jobs/
V291b-Win32_Jobs/
V292b-Win32_Jobs/
DAManual/
OrigModels/
Reports/
R53D-v262b_Run/
SNAP_Runs/
Selected Job: /R53D-DA/DACases/Regression_Runs/V291b-Win32
Jobs
V262b
V291b-Win32
V292b-Win32
Included Suites [2]
PH_Rigid-Body-Rotation
PH_Water-Faucet
OK
Cancel

Report Jobs


V291b-to-V292b - Job Console
Job: V291b-to-V292b
Pause Job
End Job
Terminate
View Files
[20090727_155918] - Reading C:\Program Files\snap\avf\reportDefs\RELAP.xml ...
[20090727_155919] - Note: Initializing SNAP analysis code interface.
[20090727_155921] - Calculation Server analysis code port communication initialized.
[20090727_155921] - Note: SNAP analysis code interface initialization complete.
[20090727_155921] - Creating stylesheet ...
[20090727_155921] - Processing RELAP inputs.
[20090727_155921] - Reading statistics files ...
[20090727_155921] - Reading statistics in PH_Rigid-Body-Rotation ...
[20090727_155921] - Reading statistics in PH_Water-Faucet ...
[20090727_155921] - Writing statistics report: RELAP Statistics
[20090727_155921] - Writing report RELAP_TimeStep.html ...
[20090727_155921] - Writing report RELAP_TimeStepCount.html ...
[20090727_155921] - Writing report RELAP_CPU.html ...
[20090727_155921] - Creating diffs ...
[20090727_155921] - Generating diff report: Diff Report
[20090727_155921] - Diffing files in PH_Rigid-Body-Rotation ...
[20090727_155921] - Diffing files in PH_Water-Faucet ...
[20090727_155922] - Writing diffs report ...
[20090727_155922] - Closing communication with Calculation Server analysis code port.
Status: Complete
Calc Time: 0.000000e+00
Close

Report Jobs

RELAP Verification Test Results

Test description.

Base: **V291b-Win32** 4 tests executed
Mod: **V292b-Win32** 4 tests executed

Report date: **07/27/2009 - 03:59 PM**

Difference Result Summary

Report Name	Threshold	Tests	Tests with Differences
Diff Report	2.000 Kb	4	4

RELAP Statistics

Test Name	Tests	No Differences	Negative Difference	Positive Difference
Changes in End Time	4	4	0	0
Changes in Time Step Count	4	3	0	1
Changes in CPU Time	4	0	0	4

Report Jobs

Diff Report

Base: **V291b-Win32**, Mod: **V292b-Win32**

To be considered, diffs must meet or exceed a threshold of **2.000 Kb**.

Total number of tests diffed **4**
Total number of tests with significant differences **4**

Test Name	Test Suite	File Type	File Size	Base File	Mod File
rigidbody	PH_Rigid-Body-Rotation	out	39822	rigidbody.out	rigidbody.out
rigidbody-ni	PH_Rigid-Body-Rotation	out	13504	rigidbody-ni.out	rigidbody-ni.out
waterfaucet	PH_Water-Faucet	out	239688	waterfaucet.out	waterfaucet.out
waterfaucet-ni	PH_Water-Faucet	out	97498	waterfaucet-ni.out	waterfaucet-ni.out

Report Jobs

Changes in Time Step Count

Total number of time steps

Base: **V291b-Win32**, Mod: **V292b-Win32**

To be considered, differences must exceed a threshold of **0.000**

Total number of tests reported	**4**
Total number of tests with no significant difference	**3**
Total number of tests with negative differences	**1**
Total number of tests with positive differences	**0**

Test Name	Test Suite	Base Value	Mod Value	Difference	% Difference
waterfaucet.i	PH_Water-Faucet	1072.000	1000.000	-72.000	-6.716

Report Jobs

Changes in CPU Time

CPU time to run transient (initialization not counted)

Base: **V291b-Win32**, Mod: **V292b-Win32**

To be considered, differences must exceed a threshold of **100.000** or **5.000%** of the base value.

Total number of tests reported	**4**
Total number of tests with no significant difference	**0**
Total number of tests with negative differences	**4**
Total number of tests with positive differences	**0**

Test Name	Test Suite	Base Value	Mod Value	Difference	% Difference
rigidbody-ni.i	PH_Rigid-Body-Rotation	22.750	11.562	-11.188	-49.178
rigidbody.i	PH_Rigid-Body-Rotation	10.375	7.344	-3.031	-29.216
waterfaucet-ni.i	PH_Water-Faucet	1.500	1.000	-0.500	-33.333
waterfaucet.i	PH_Water-Faucet	1.422	1.063	-0.359	-25.276

Summary

- SNAP ATF environment greatly simplifies assessment and regression tasks
  - DA Manual plots easily generated
    - Code-to-code comparison plots
    - Code-to-data comparison plots
    - ACAP functionality for generating FOMs
  - Code-to-code comparisons quickly obtained
    - Regression analysis and report generation automated
- Latest SNAP Version (1.1.4)
  - AVF plugin (2.2.6)
  - RELAP plugin (3.2.0)