Introduction to PowerWorld Cruncher

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What is Cruncher?

- Python application using SimAuto; currently in beta development
- Provides ability to generate any number of cases at different time snapshots based on applying forecast data to a seed case
- Perform hourly, day ahead, and week ahead studies with minimal configuration
- Plot data drawn from multiple power flow cases

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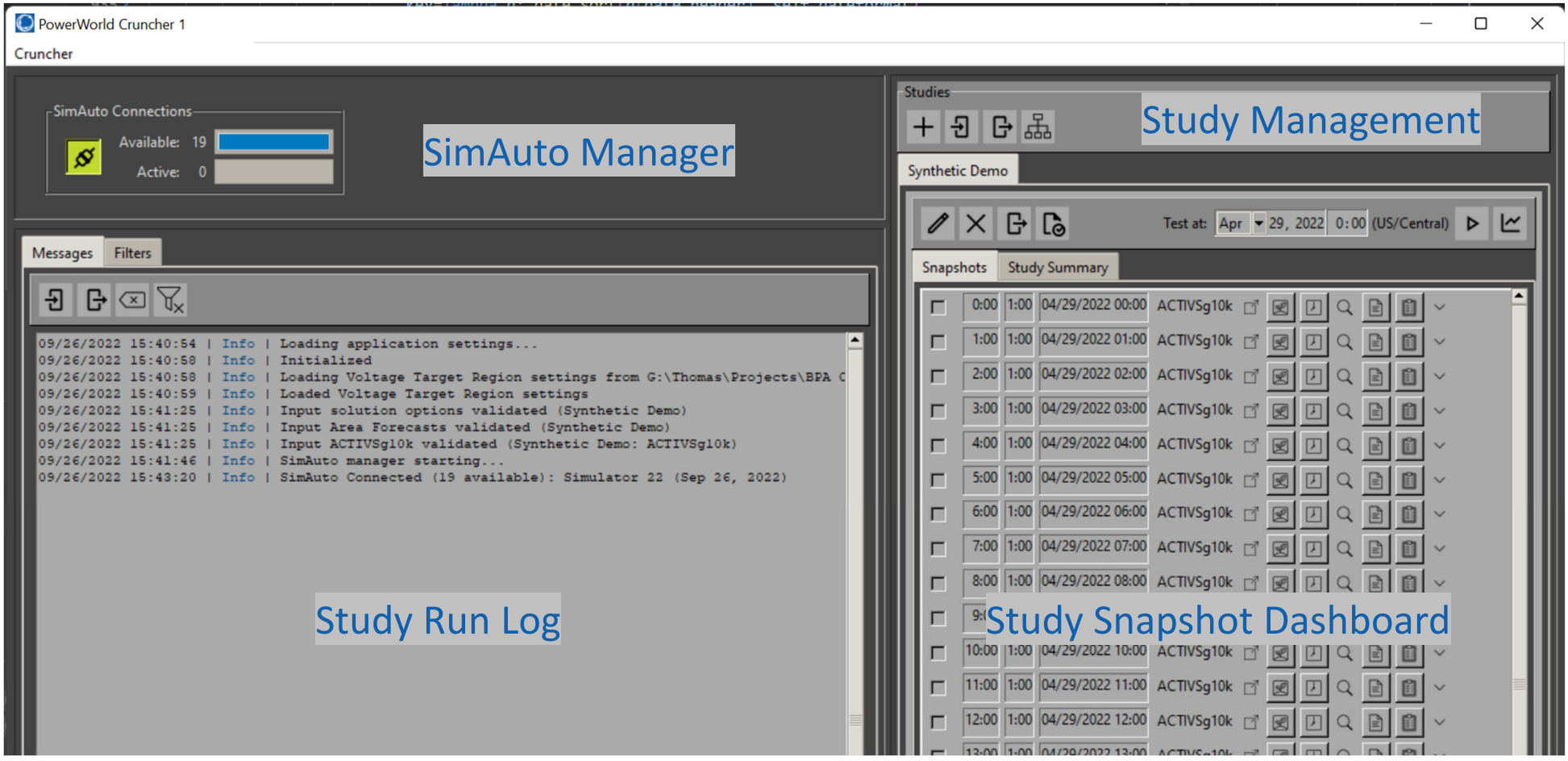
GUI



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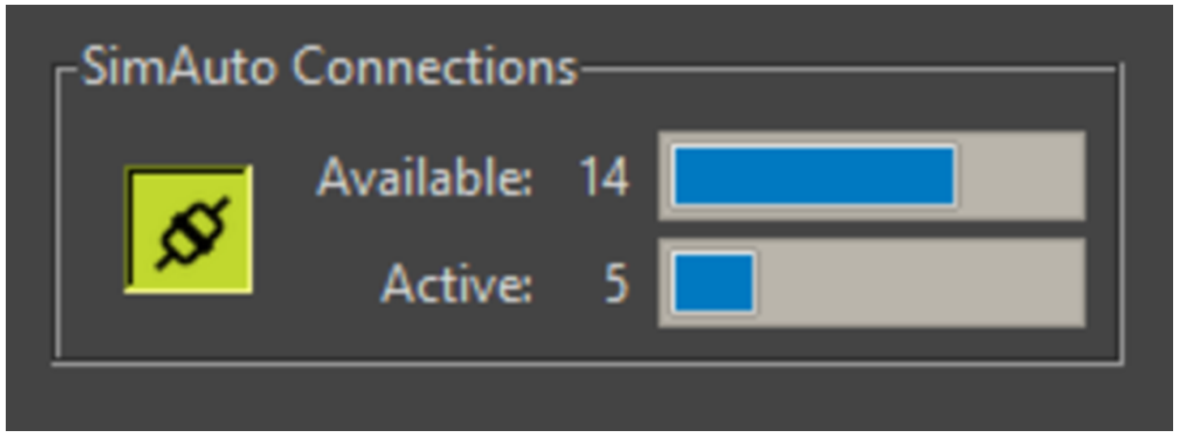
SimAuto Connection Manager

- Run as many parallel SimAuto processes as your hardware and licensing support



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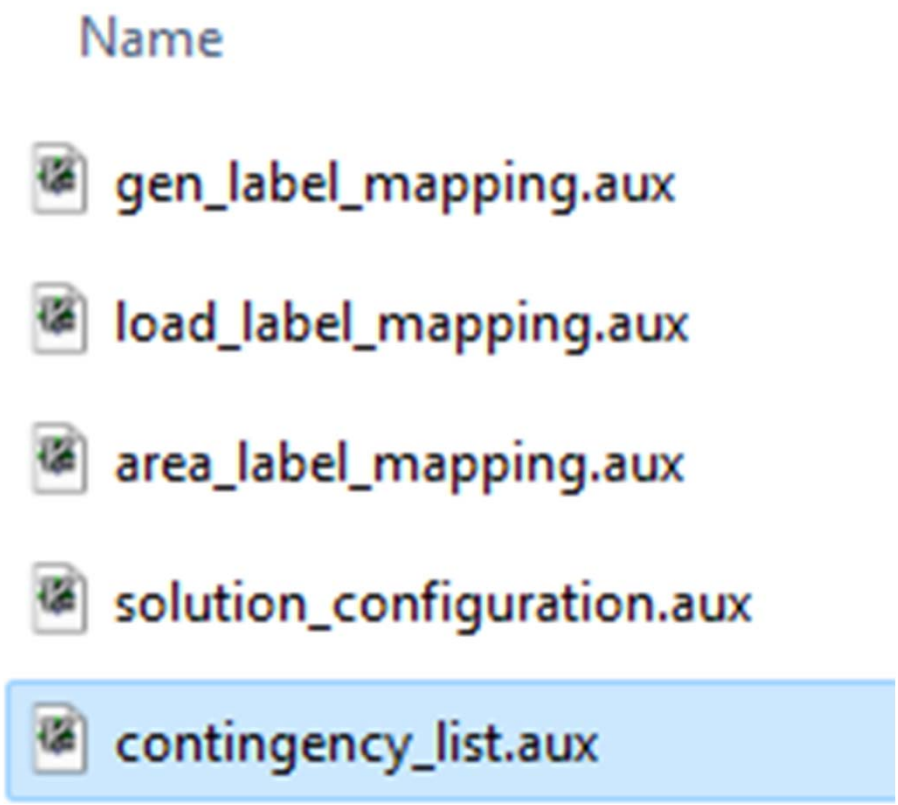
Configure Processing with AUX Files

- Standardize device labeling between seed cases
- Apply settings exported from Simulator
- Load Contingencies, RAS, filters, custom fields, etc



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Time Varying CSV Inputs

- Import timestamped forecast data for objects such as Gens, Loads, Areas, Injection Groups, etc

	A	B	C	D
1	<AREA>	EndDateTime	LoadMW	GenMW
2	AREA "1"	4/29/2022 1:00	16039.81	19143.15
3	AREA "1"	4/29/2022 2:00	15969.39	19168.99
4	AREA "1"	4/29/2022 3:00	15929.07	19516.45
5	AREA "1"	4/29/2022 4:00	15998.64	19477.52
6	AREA "1"	4/29/2022 5:00	15728.36	18553.05
7	AREA "1"	4/29/2022 6:00	15286.91	17608.96
8	AREA "1"	4/29/2022 7:00	14978.08	17059.06
9	AREA "1"	4/29/2022 8:00	14819.37	16688.32
10	AREA "1"	4/29/2022 9:00	14733.07	16536.29
11	AREA "1"	4/29/2022 10:00	14730.14	16608.24
12	AREA "1"	4/29/2022 11:00	14834.36	16876.72
13	AREA "1"	4/29/2022 12:00	15057.00	17678.99
14	AREA "1"	4/29/2022 13:00	15366.85	19020.79
15	AREA "1"	4/29/2022 14:00	15868.73	20213.11
16	AREA "1"	4/29/2022 15:00	16181.57	20793.96
17	AREA "1"	4/29/2022 16:00	16290.96	20913.28
18	AREA "1"	4/29/2022 17:00	16347.11	20888.87
19	AREA "1"	4/29/2022 18:00	16347.64	20764.28

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Snapshot Dashboard

- High level overview of current configuration
- Track snapshot processing progress
- Identify errors

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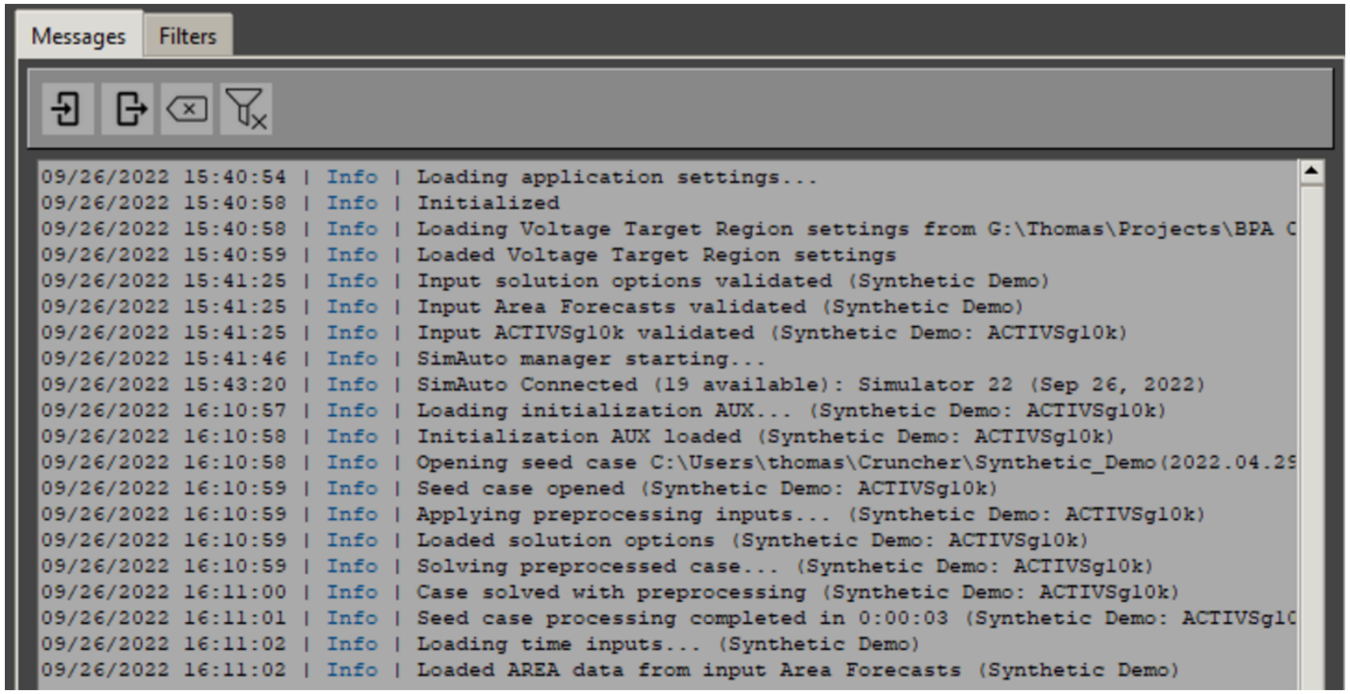
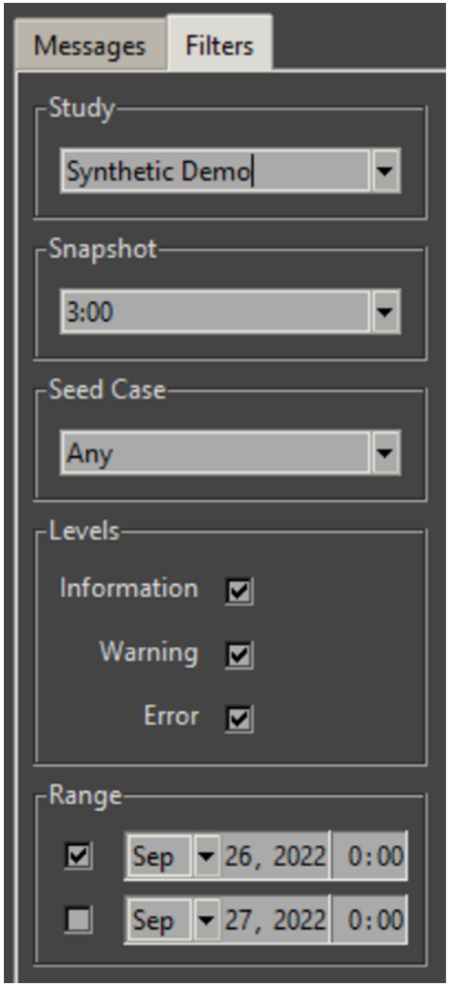
Cruncher Log

- Log allows filtering to focus in on individual build threads





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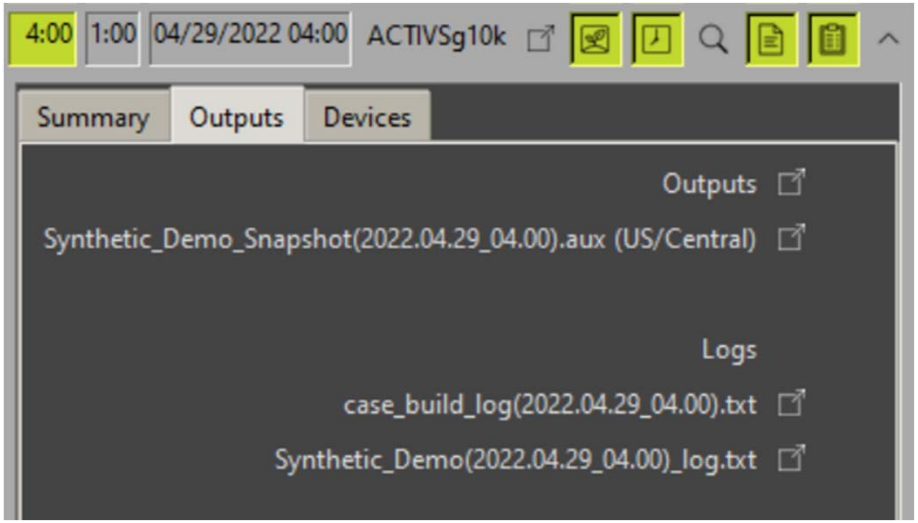
Outputs

- Output cases, logs, and custom AUX files
- Open cases in Simulator directly through Cruncher interface



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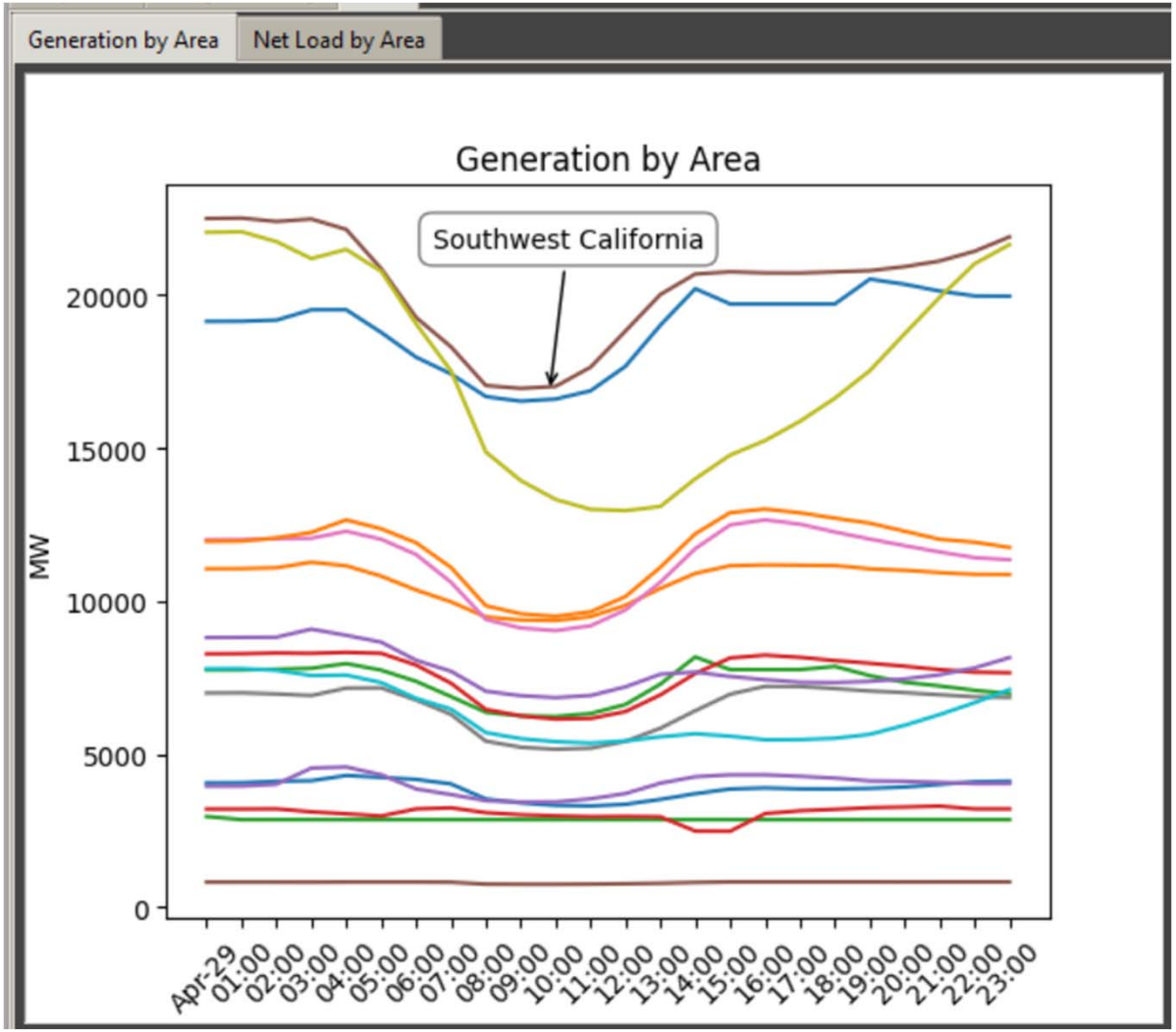
Plot Data Across Snapshots



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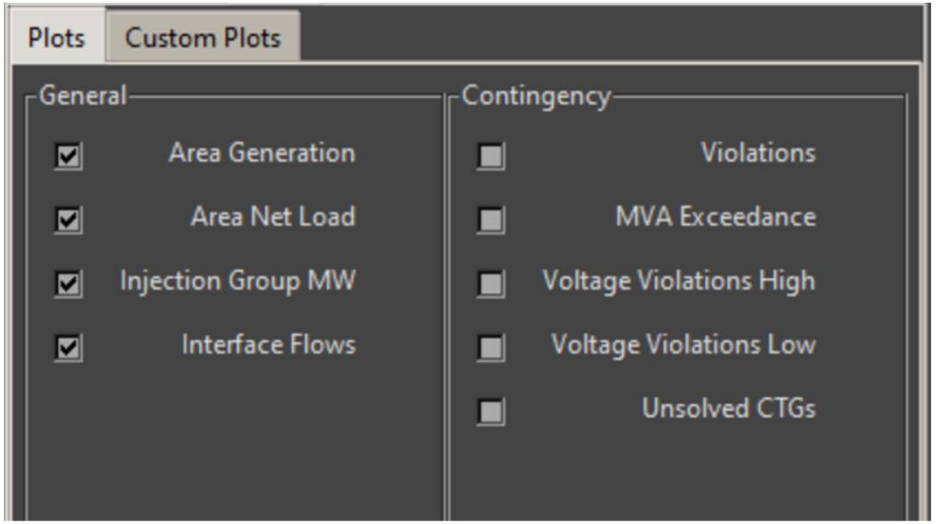
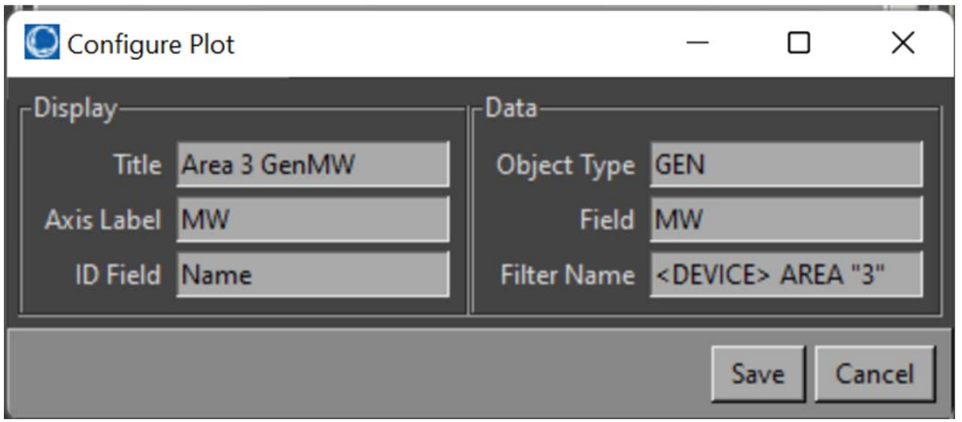
Plot Types

- Preconfigured types for quick plotting
- Custom plots allow the generation of highly specific plots through Custom Expressions and Advanced/Device Filters





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