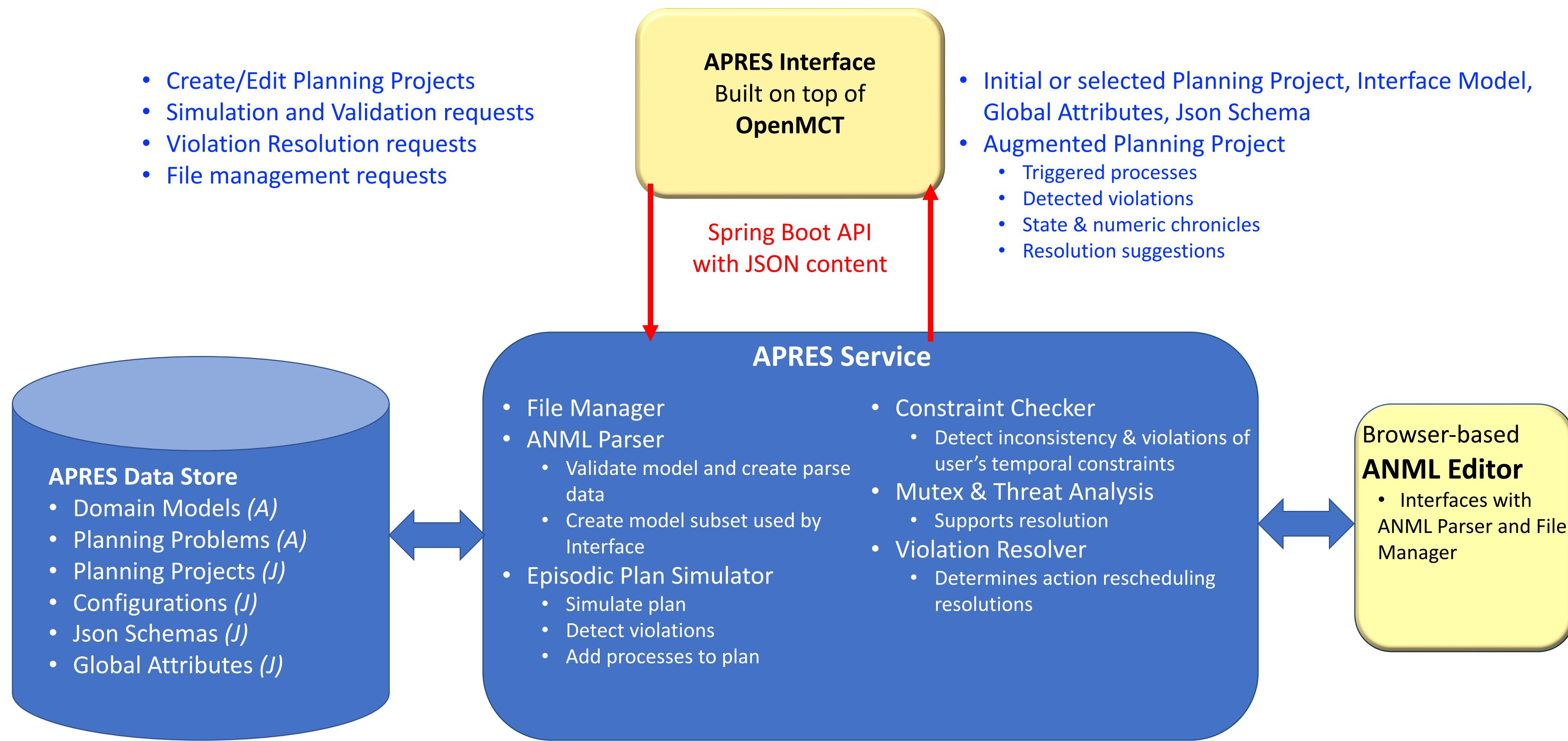


APRES Prototype Mission Planner System Demonstration

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Interface Layout

The screenshot shows the **APRES Service Operations** interface. On the left is the **Action Dictionary**, listing various actions like Traverse, DrillAuger, DrillUnStow, etc. The main area displays two types of timelines:

- Action/Process Timelines**: Shows scheduled events for different systems over time. For example, 'DrillUnStow' is shown for 'Drill_System' at 13:00, followed by 'auger1' and 'auger2' for 'PanCam_System' at 16:00 and 18:00 respectively, and 'DrillStow' at 21:00.
- Chronicle Timelines**: Shows historical events for systems like 'DrillArm_sys' and 'Drill(sys)'. It includes events like 'Unstowed' and 'Stowed' for 'DrillArm_sys', and 'Auger' and 'idle' for 'Drill(sys)'.

At the bottom, there are tabs for INITIAL ASSIGNMENTS, VIOLATIONS, CONSTRAINTS, RESOLUTIONS, and TABLES. The right side features an **INSPECT** panel for a selected object, showing properties like startTime, duration, and endTime.

Binary Constraint Editor

The screenshot shows the **CONSTRAINT EDITOR** window. It lists constraints for actions like DrillUnStow and DrillAuger, specifying timepoints A and B, relations, and temporal distances (e.g., Positive Temporal Distance of 24 hours, 60 minutes, and 60 seconds).

Unary Constraint Editor

The screenshot shows the **CONSTRAINT EDITOR** window for a unary constraint. It allows setting a specific timepoint, relation, and input time for the action 'DrillStow'.

Constraints Table

INITIAL ASSIGNMENTS	VIOLATIONS	CONSTRAINTS	RESOLUTIONS
Traverse2		Traverse2: end <= 2022-08-13T22:00:00.000Z	
DrillUnStow, DrillAuger		DrillAuger: start - DrillUnStow: end > 00:30:00	

Violations Table

INITIAL ASSIGNMENTS	VIOLATIONS	CONSTRAINTS	RESOLUTIONS
Time 2022-08-12T17:37:00.000Z	Type unsatisfied-condition	Violated Object auger2:NSS_sys == on	List of Violators ProblemDef:NSS_sys := off
2022-08-12T20:47:00.000Z	violated-condition	pan1:(DrillArm_sys)==(stowed) or (DrillArm_sys)==(unstowed)	DrillStow:DrillArm_sys := Stowing
2022-08-12T23:30:00.000Z	temporal-constraint	pan2:end <= 2022-08-12T18:00:00.000Z	pan2:end

Resolutions Table

INITIAL ASSIGNMENTS	VIOLATIONS	CONSTRAINTS	RESOLUTIONS
Action Name Traverse2	Original Start 2022-08-13T22:19:18.000Z	New Start	preview
HazCam_PwrOn2	2022-08-13T22:19:18.000Z	2022-08-13T20:08:22.000Z	✓
DrillCam_PwrOn1	2022-08-13T11:24:10.000Z	2022-08-13T10:21:01.000Z	✓