FUI Analysis

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Analysis Overview

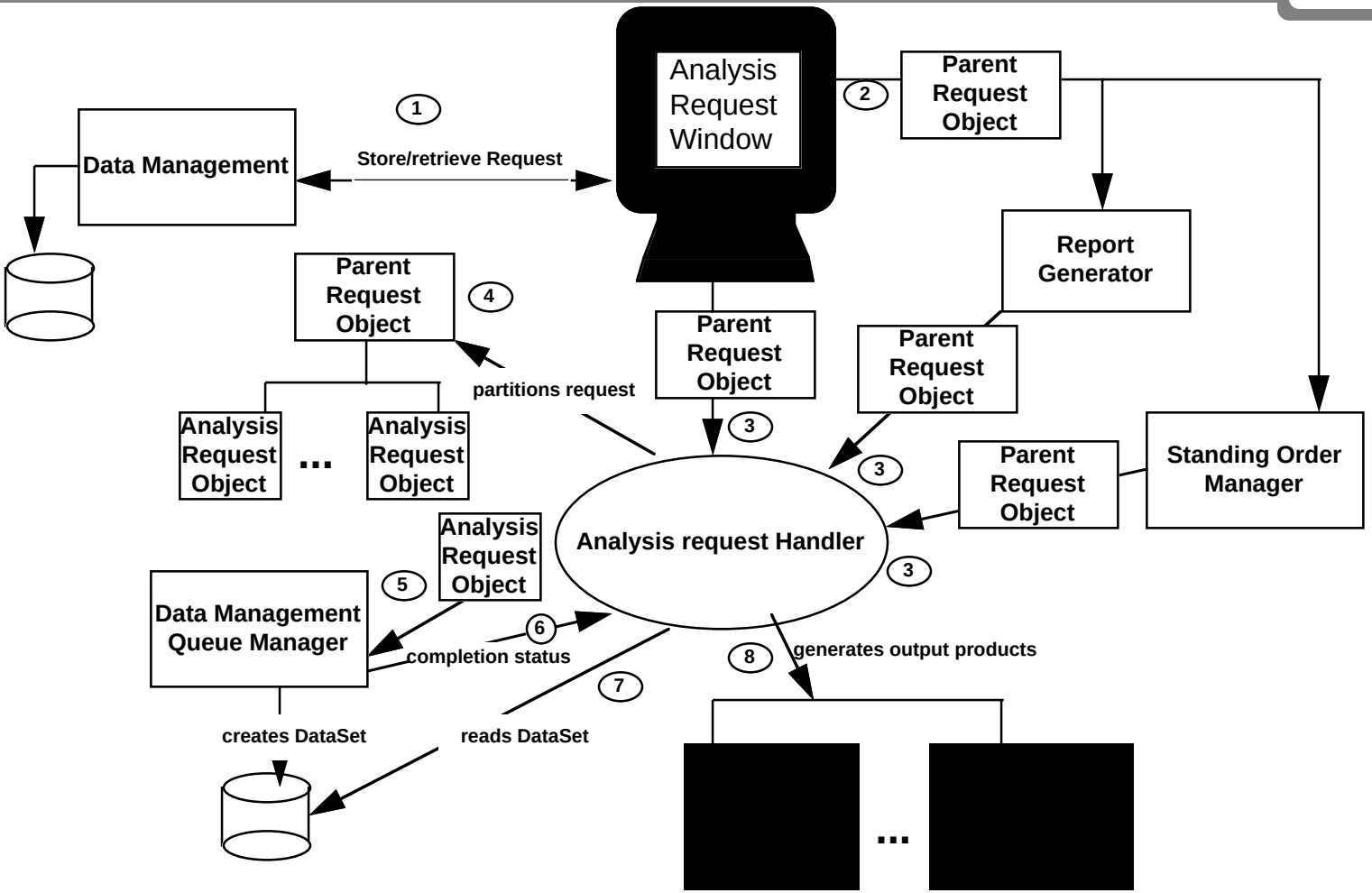
Analysis Request

- **Analysis Request Window**
- **Analysis Request Handler**
- **Analysis Format Window**

Algorithm Registration and Request

Standing Order Manager and Browser

Analysis Request Context



Analysis Request Context

1. Parent Request Object is created and stored at data management
2. Report requests are sent to Report Generator, Standing order requests are sent to Standing Order Manager
3. The Analysis Request Handler receives parent request from the Analysis Request Window, the Report Generator and the Standing Order Manager
4. The Analysis Request Handler partitions the request into analysis request objects
5. The Analysis Request Handler sends the analysis request object to the DMS queue manager
6. The Analysis Request Handler receives completion status from the DMS queue manager
7. The Analysis Request Handler reads the DataSet
8. The Analysis Request Handler generates selected output products

Analysis Request Window

Provides all the selection criteria for building an analysis request.

- **Specify standing order requests**
- **Select output products**
  - **Graph, info, table, carryout file**
- **Select existing request**
  - **Edit, delete, resubmit**
  - **Generate more output products using original dataset**
- **Select report requests**
- **Specify algorithm execution requests**
- **Specify statistics generation**

Utilizes a variety of pop-up dialogs to enable selections

- **Standing order time selections**
- **Format selections**
- **Telemetry parameter selections**

Analysis Request Window

Analysis Request

File **Help**

Request Name MyRequest

Request Status: New Request

Selected Times

Start Time	Stop Time
95/046 07:11:38	95/047 07:11:38

Selected Telemetry

Telemetry Point	Sampling Rate	Statistics
ACRCMD	All Data	60 secs
MITECATT	Changes Only	Daily
MITECATT	Every 5th	Off

Select Time **Standing Order** Select TLM

Product Views

☐ **Info** **Format** ☐ **Graph** **Format**

☐ **Table** **Format** ☐ **CarryOut File**

OK **Generate Report** **Cancel** **Help**

Analysis Request Window

Builds one object "FuAnParentRequest" to contain all request parameters

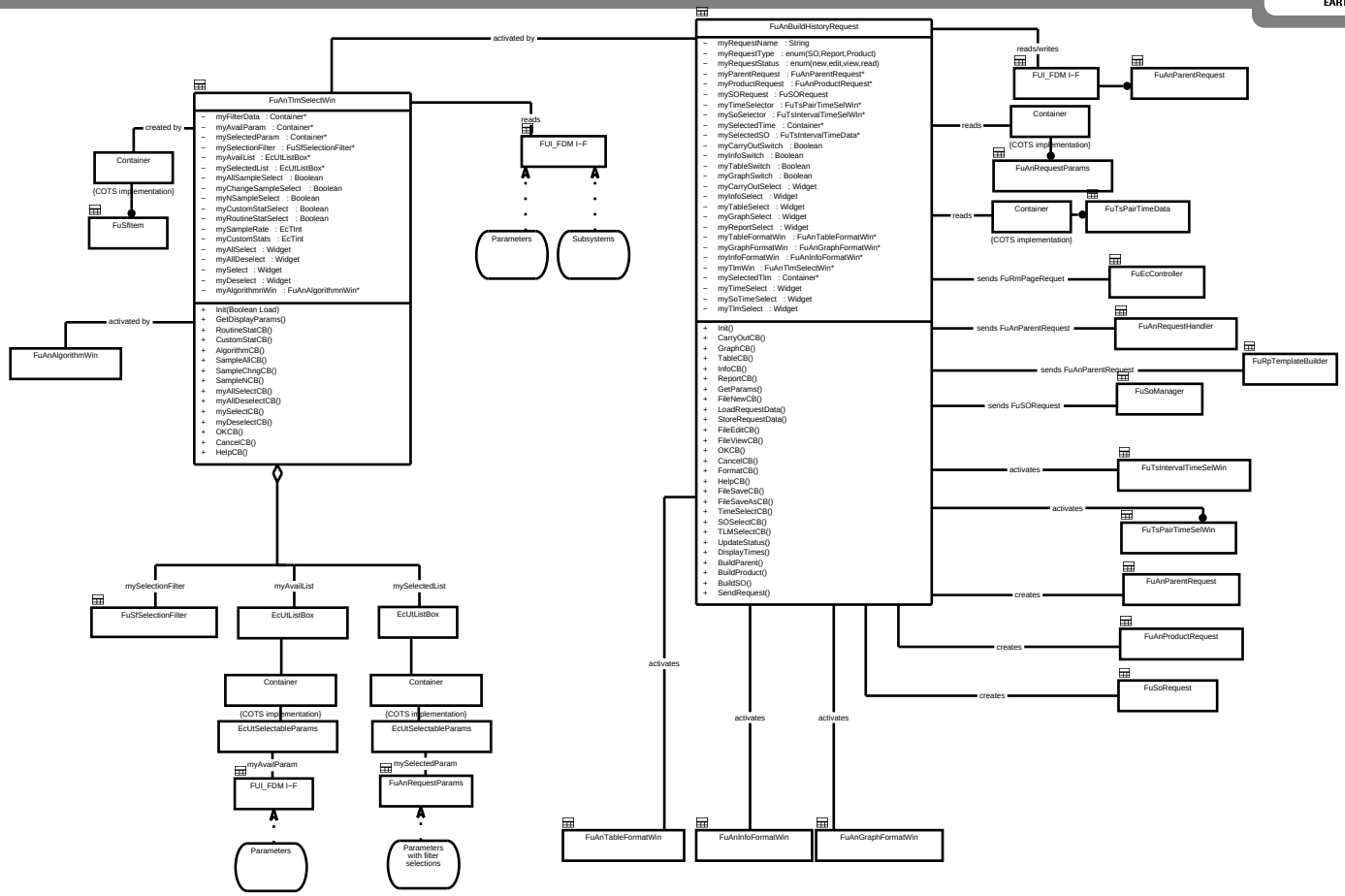
- **Telemetry parameter selections**
- **Algorithm selections**
- **Statistics selections**
- **Product format selections**

Handles passing of FuAnParentRequest object

- **Standing order manager**
- **Report generator**
- **Analysis request handler**
- **Data management**

Creator: mcampbel
CreationDate: 10/3/1995 10:47:5

Analysis Request Window Object Model



Analysis Request Handler

Designed to manage analysis requests

- **Partitions FuAnParentRequest based upon time selections**
- **Generates status**
  - **Maintains a queue of request status**
  - **Calculates % processing completed**
- **Generates output products**
  - **Applies format specifications**
  - **Applies output destinations (e.g., print, display)**

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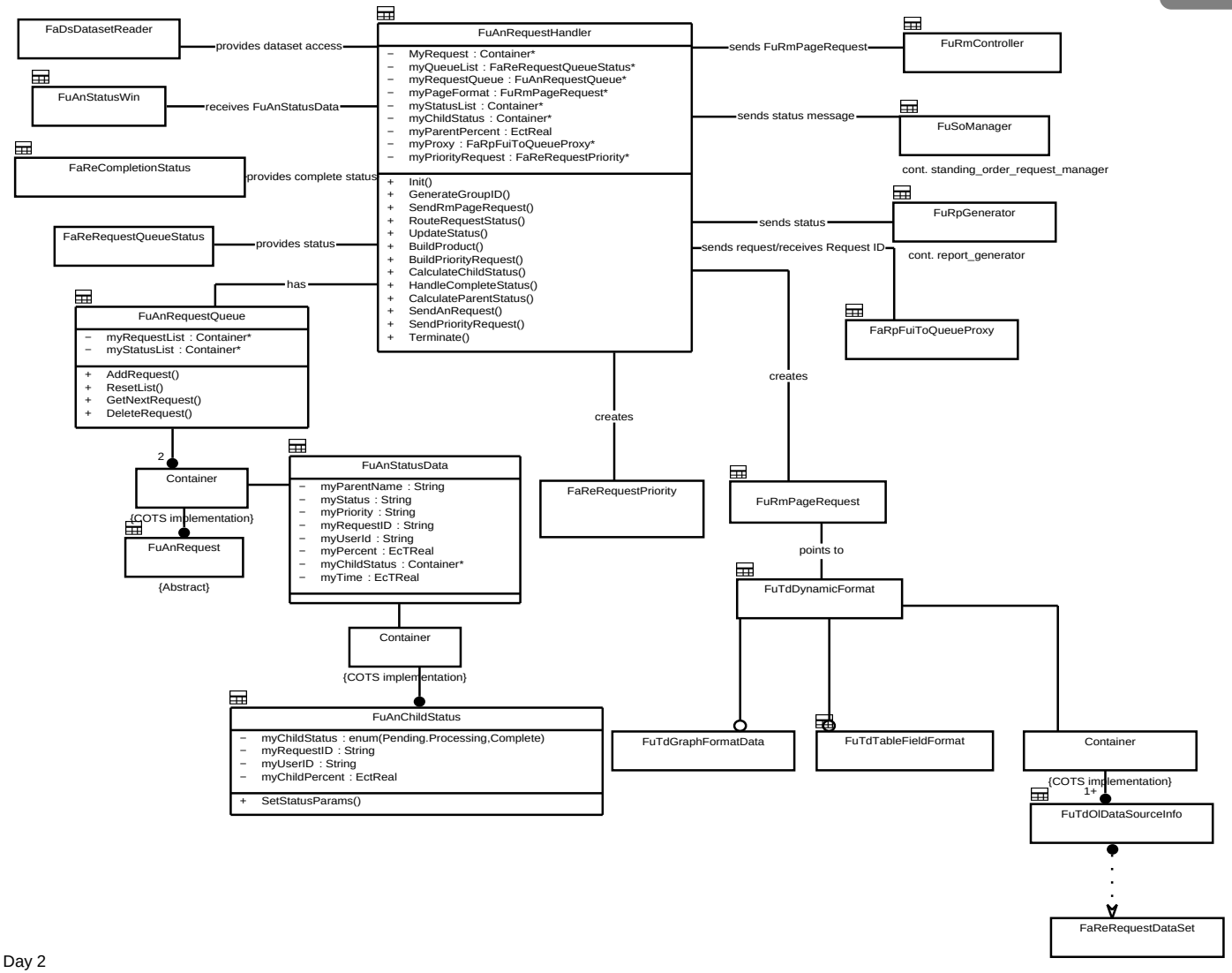
Creator: mcampbel
CreationDate: 10/3/1995 16:50:10

Analysis Request Handler Object Model



Analysis Format Window

Allows the user to generate output products in many views

- Data specifications are based upon existing dataset
  - Specify telemetry parameters
  - Specify time period
  - Specify X/Y axis, labels, line styles

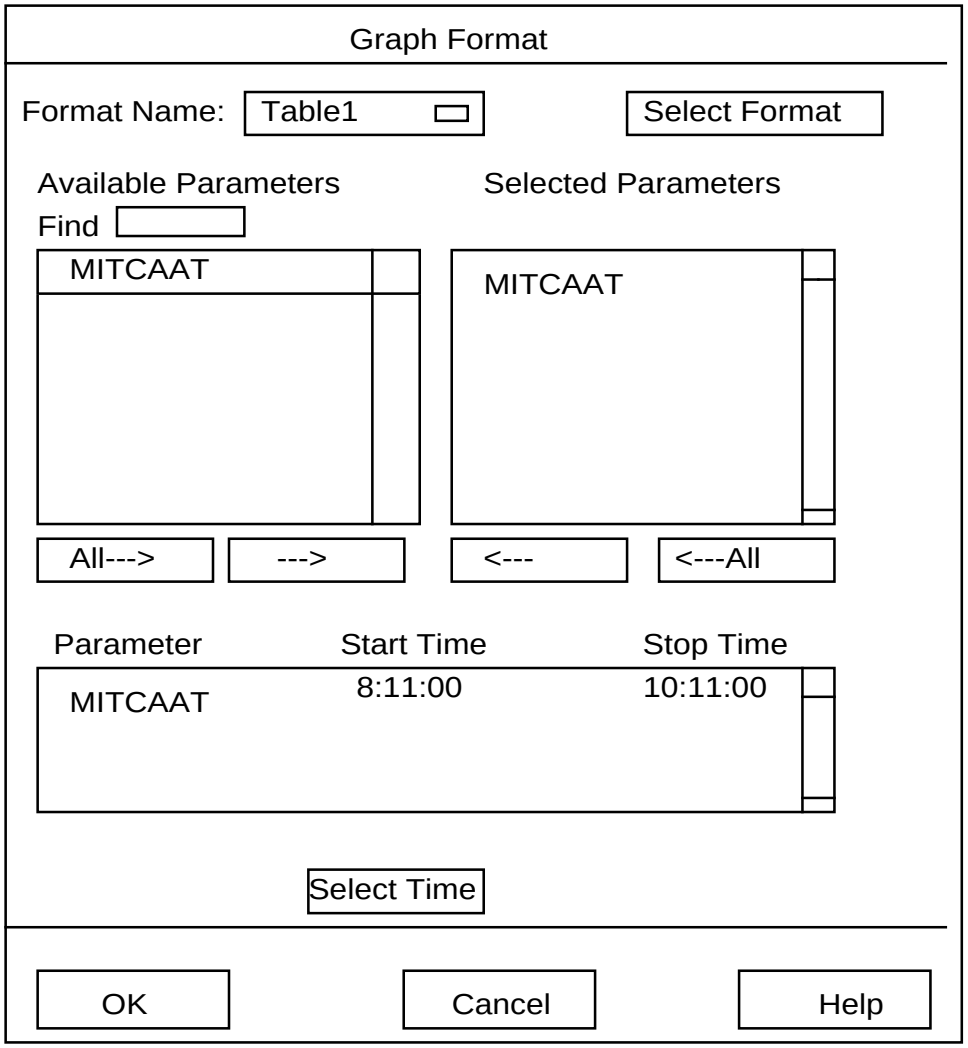
Produces an output product from a combination of multiple datasets

- Supports dataset overlay displays

Provides Numerical Analysis capabilities

- Curve fitting

Analysis Format Window



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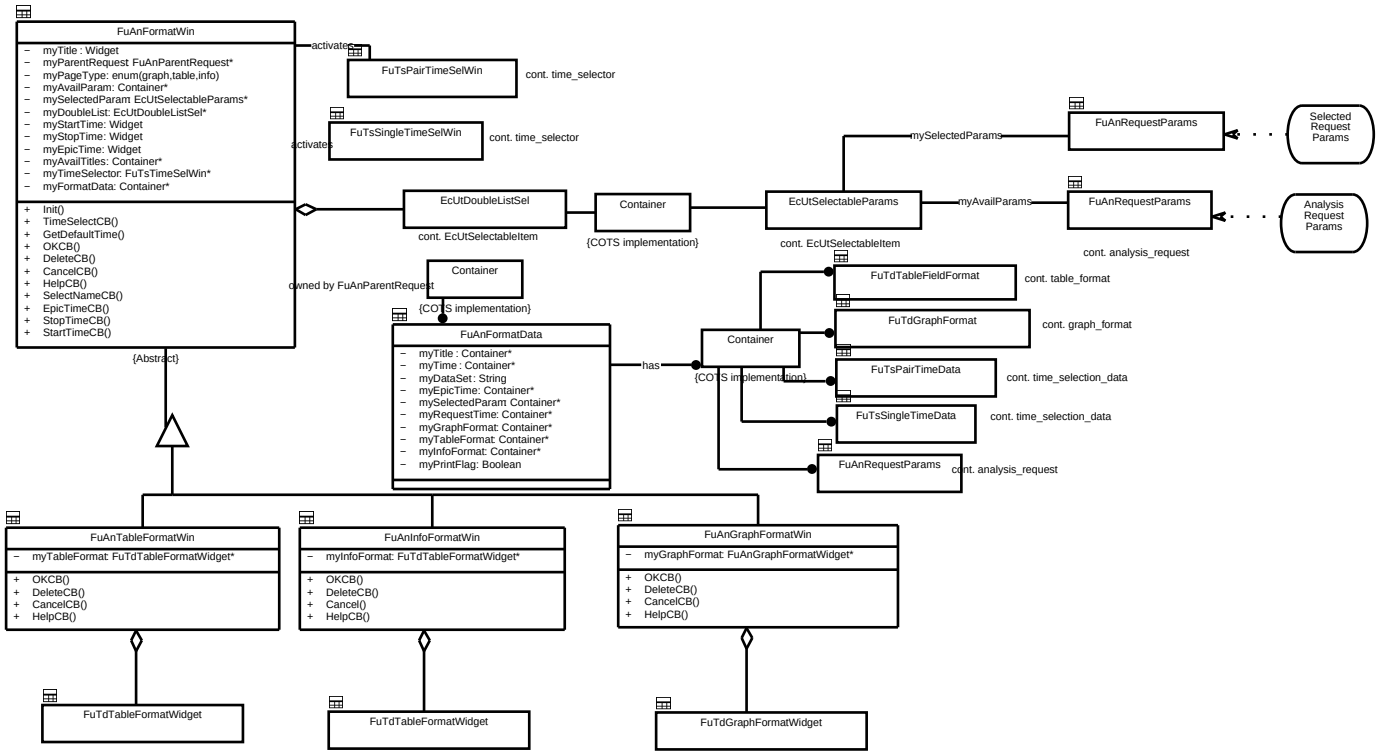
CreationDate: 10/3/1995 14:32:00

Analysis Format Object Model

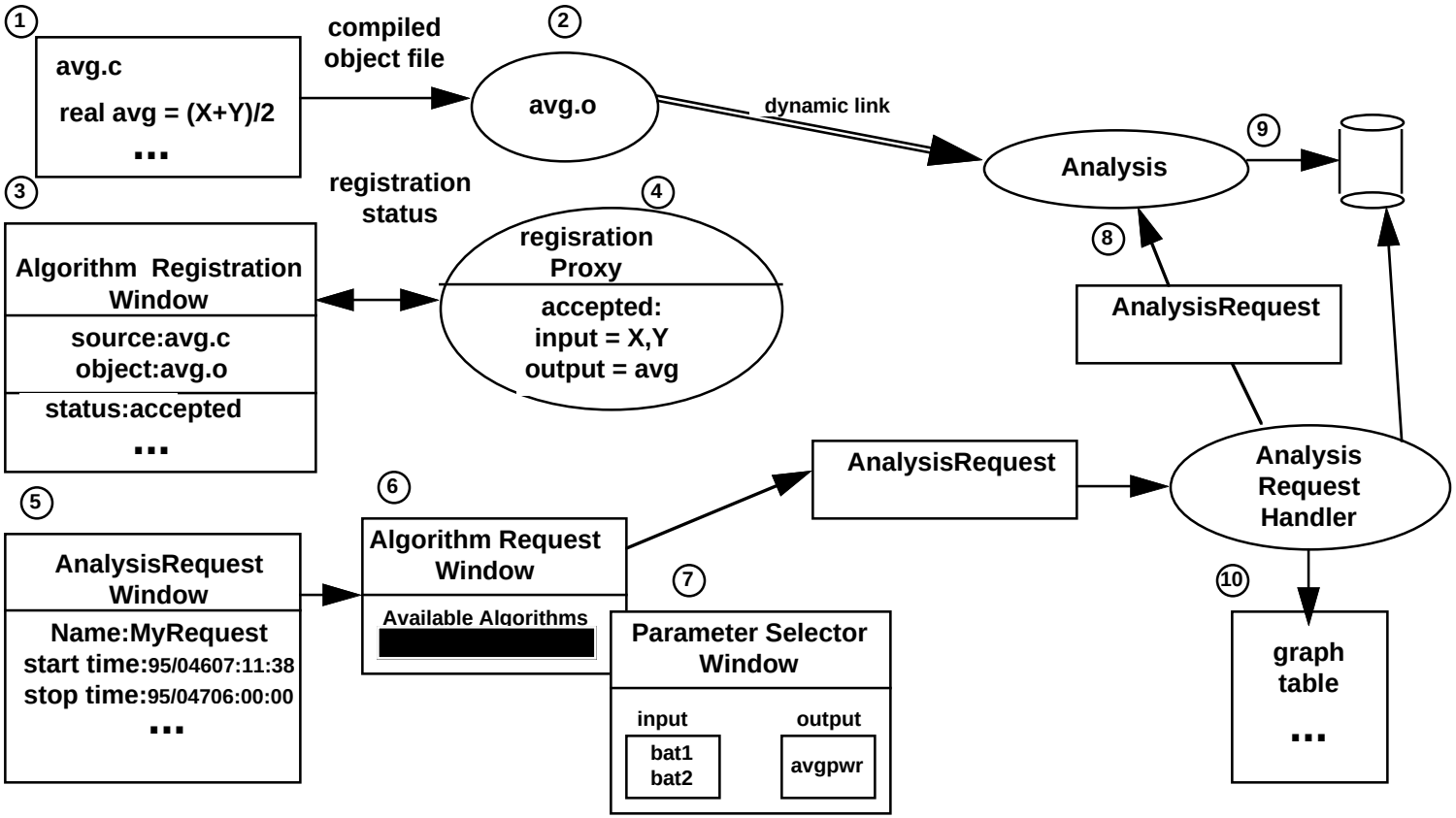


Algorithm Registration

Makes user defined algorithms available to all users

- **Users supply algorithm source file and object file name**
  - **Algorithms are written using C/C++ and compiled into an object file**
- **Registration proxy provides registration results and status**
  - **Checks and validates algorithm**
  - **Parses the input and output symbols**
  - **Provides an accept status or reject with reason**
- **Accepted algorithms are available from the Analysis Request Window**

Algorithm Context



Algorithm Context

1. User writes an algorithm in C code
2. User compiles the algorithm into an object file
3. User registers the algorithm using the Algorithm Registration Window
4. Registration Proxy validates the algorithm and provides status and results
5. User creates an analysis request in Analysis Request Window
6. User selects the algorithm in the Algorithm Request dialog
7. User specifies input/output parameters in the Parameter Selector dialog
8. The Analysis request Handler submits the analysis request
9. The Analysis process applies the user inputs to the algorithm and dynamically links and executes the algorithm
10. The algorithm results are displayed in the selected output products

Algorithm Registration Window

Algorithm Registration

Algorithm Name: Powersum

Source File Name: /home/jdoe/Powersum.C

Object File Name: /data/object/Powersum.o

Select File

Algorithmn Description:

There are 4 input values to this algorithm. Volt1 and Volt2 are AM-MISR-Power values. Volt3 and Volt4 are discreet values for the power subsystem. This algorithm outputs a summary of power (powersum) and the total voltage (ResultsVolts).

Registration Results

Input Symbols	Output Symbols
VoltA	TotalVolts
VoltB	PowerSum
VoltC	ResultsVolts
VoltD	

Register Status: Accepted

Register | Cancel | Help

Algorithm Request Window

Provides available algorithms for user selection

- Requests for algorithm execution is part of an analysis request

Provides access to algorithm source code

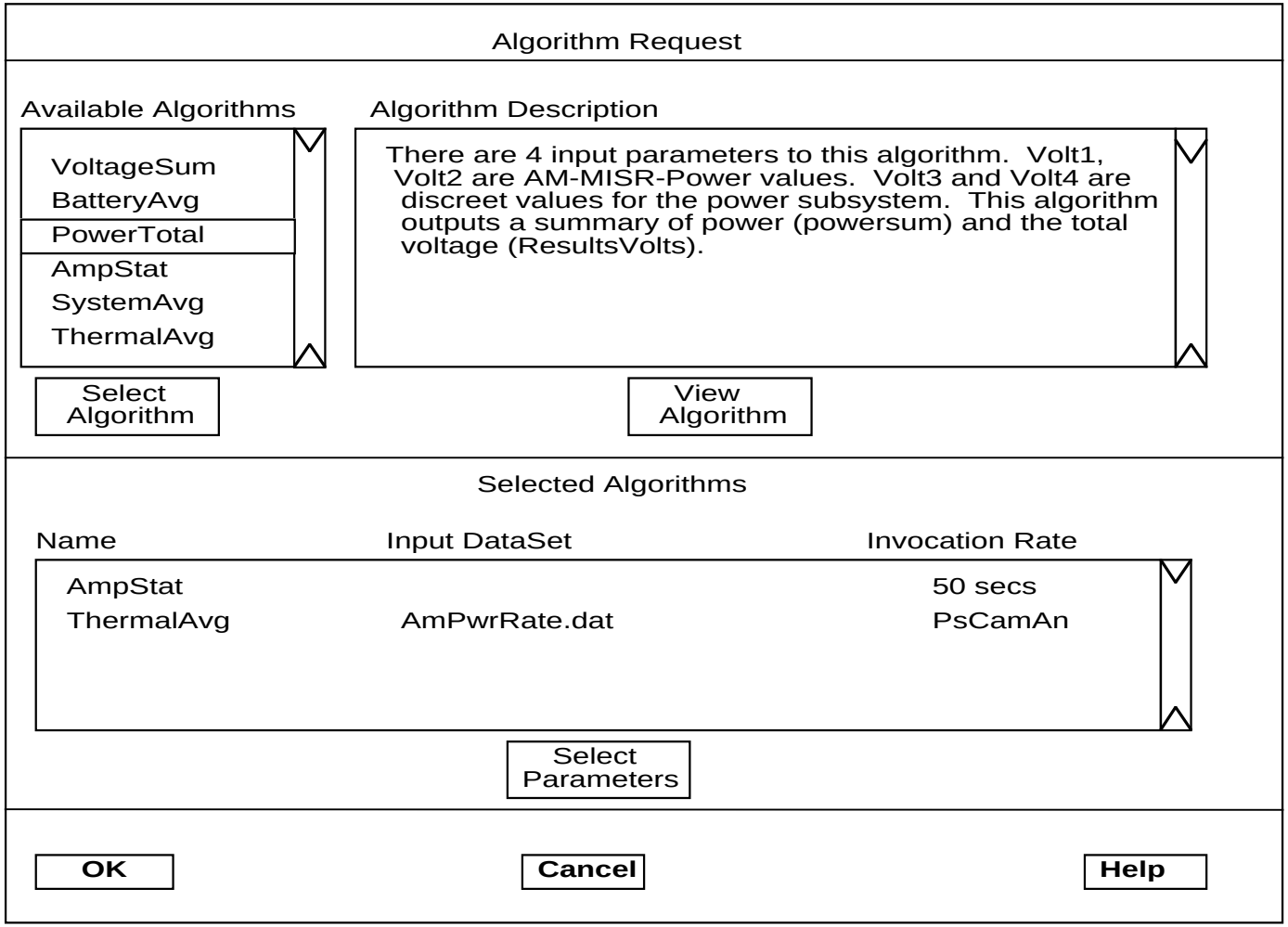
- Users have direct access to reviewing algorithm function

Provides algorithm input/output symbol selection capability

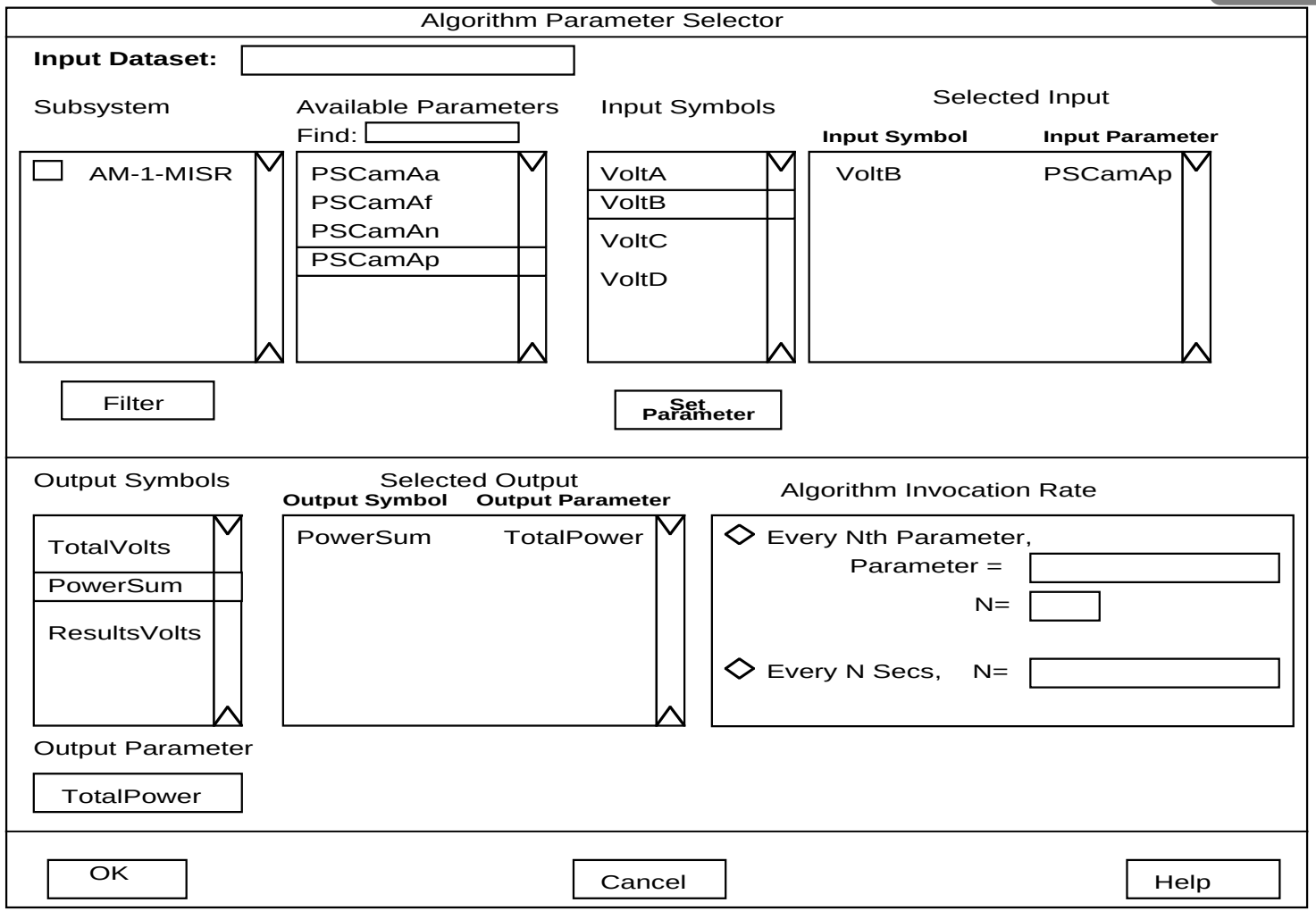
- Users can specify criteria for algorithm execution

Validates selection parameters

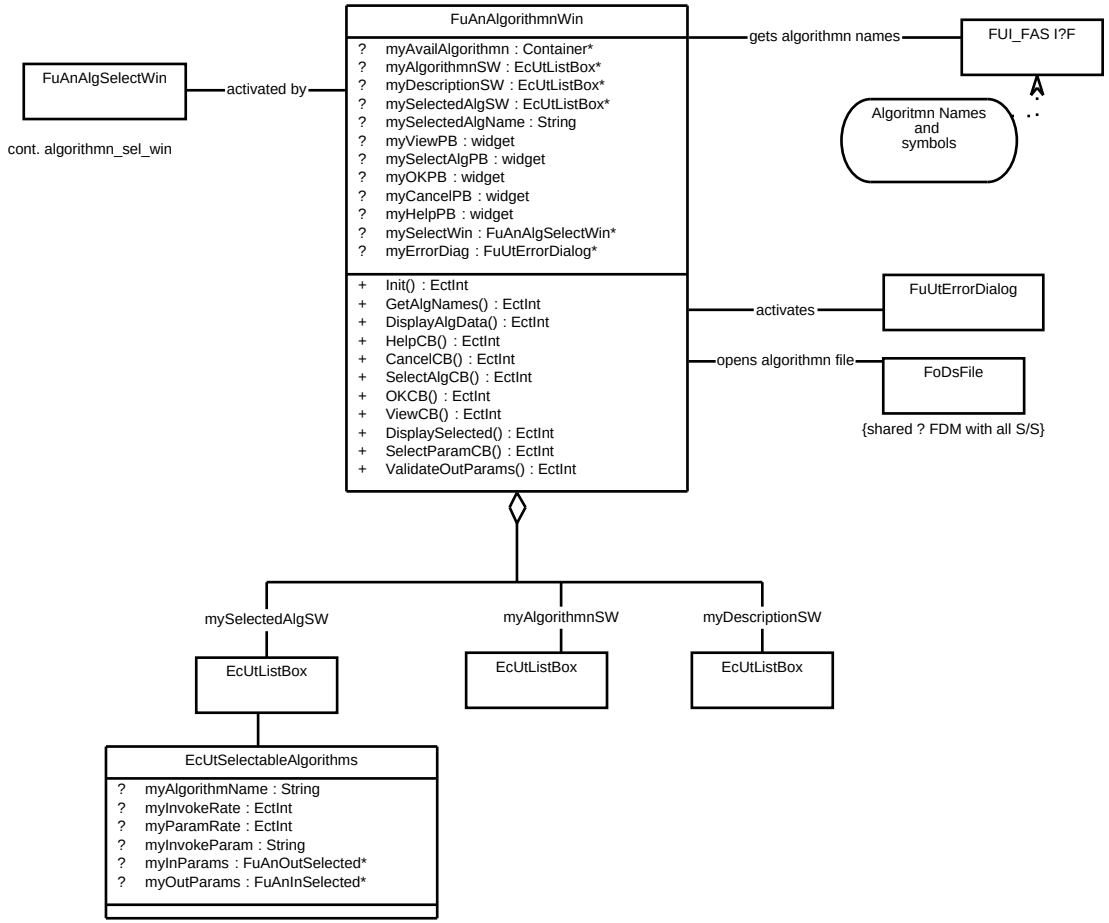
Algorithm Request Window



Algorithm Parameter Selector Window



Algorithm Request Object Model



Standing Order Manager

Automatically submits requests for processing

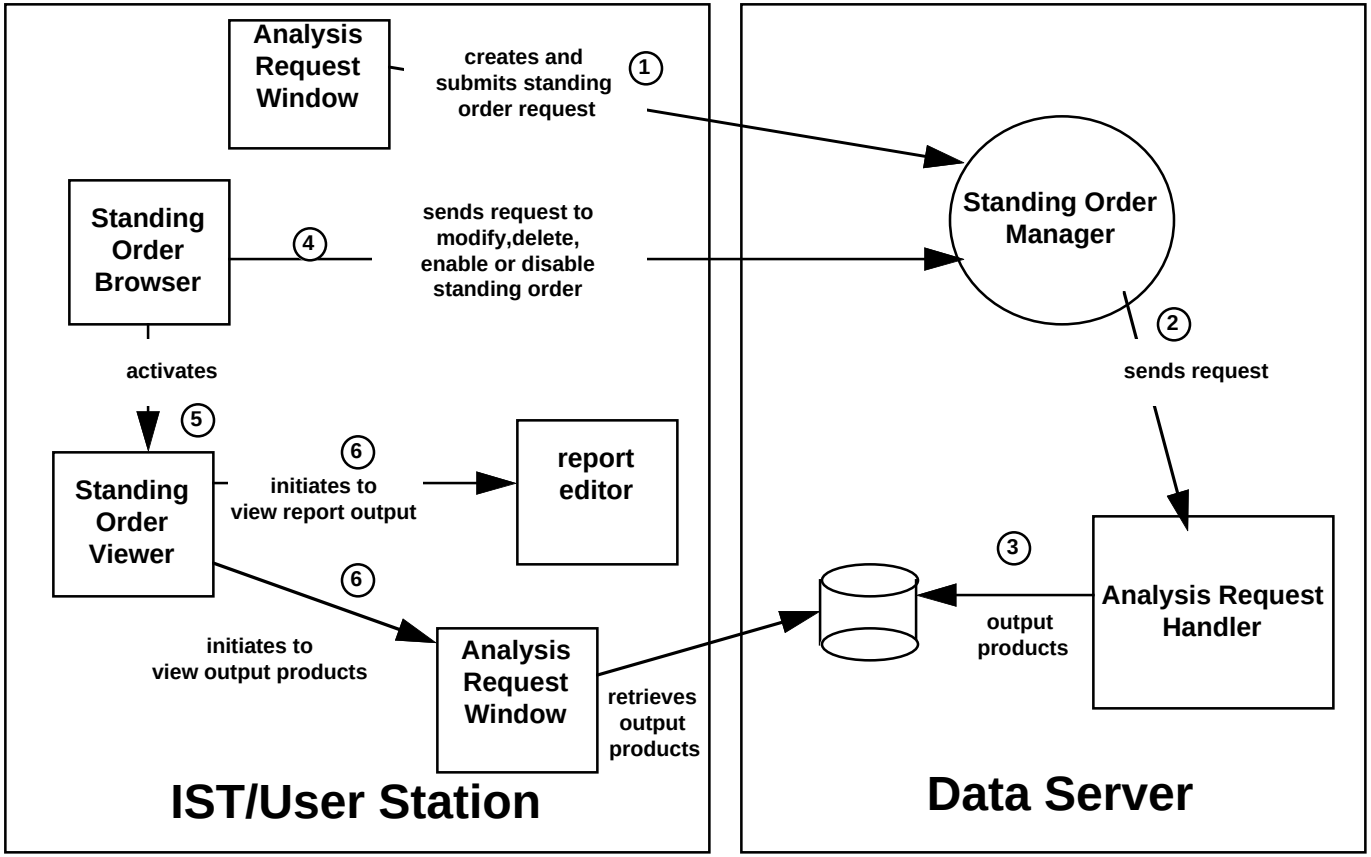
- Analysis requests sent to analysis request handler
- Report requests sent to the report generator

Maintains the execution times of analysis requests

Provides access to Standing Order Results

- Identifies output products and completion status
- Uses the Analysis Request Window for selecting non-report products
- Uses the Report template builder for selecting reports

Standing Order Context



Standing Order Context

1. The user creates and submits the standing order request from the Analysis Request Window
2. The Standing Order Manager receives the request and sends it to the Analysis Request Handler
3. The Analysis request Handler generates output products
4. The user views/changes the status of the standing order at the Standing Order Browser Window
5. The user activates the Standing Order Viewer to select standing order output products
6. The report products are displayed by the report editor and the other output products are displayed by the analysis request handler

Standing Order Browser

Features

- **User can control the execution of standing order requests**
  - **Enable/disable**
  - **Modify/delete**
- **Users can view all standing orders requests in the system**
- **Users can access standing order output products via the Analysis Request Window**

Standing Order Browser

Standing Order Browser

Sorted by User

Total standing order requests : 4

Product Status as: 95/097 10:00:00

User	Name	Next start time	Status	Activation Date	Ending Date	Frequency
JChung	dataRequest		Completed	95/095 10:00:00	95/096 10:00:00	every 1 day
JChung	graphRequest	95/105 15:00:00	Pending	95/105 15:00:00	95/113 15:00:00	every 7 days
RBroome	data		Disabled	95/102 10:00:00	95/150 10:00:00	every 5 days
VLiang	plotRequest	95/105 06:00:00	Pending	95/075 10:00:00	95/360 10:00:00	every 1 month

Modify | Enable | Disable | Delete | Products

Close | Refresh | Help