RADAC Function Draft

Inputs:
Radar Position
TM 6D State, Staging Events
Other
*Read Inputs

Validate Data Transfer:
Mode
Check sum/ Buffer size
Synchronization
Repeated Bits / Not noise
*Edit Invalid Data

Data Correction:
Biasing Error Removal
Refraction Correction
Differential Correction
* Estimate Error

Validate Data:
Impossible State Changes
Incompatible with other Sources
*Edit Invalid Data

Coordinate Transformation:
Common Earth Model
Common State Coordinates
Triangulation
*Data & Error Estimates

Check for Stage Change:
Stage Separations
Burns
Destruct
Changes in Acceleration
*Re-initialize filter for stage changes

Filter:
Individual Valid Sources
Composite Sources
Frequency Monitoring

Coordinate Transformation:
User Defined Formats
User Defined Coordinates
User Defined Earth Model

Future State:
Vacuum Impact Prediction
Debris Impact Prediction
Orbital Prediction

As Available Inputs:
Wind Data
Atmospheric Data

Best Select:
Precision
Accuracy
Latency
Availability
*Ordered List of Sources

Output:
Individual & Composite State
Future State
Error Estimates & Latency
User Defined Information

Setup:
Input Data Source & Vehicle Ids
Source Data Corrections
Source Coordinates & Earth Models
Output Coordinates & Earth Models
Possible Vehicle Dynamics
User Defined Functions

Operator:
Direct Operator Commands

Router:
Direct Data Flow

Close:
Clean Up

User Defined Functions:
For Each Software Component