

What is

NASA Langley **aero** **COMPASS** ?



Is the main product of the

MERCATOR

Project

to provide a

Managed Environment

for a

**Reliable Communication Architecture
to Organize Research**

So . . .

What is

NASA Langley **aero** **COMPASS** ?

is an integrated set of project/test-related tools and applications that are accessible via the web.

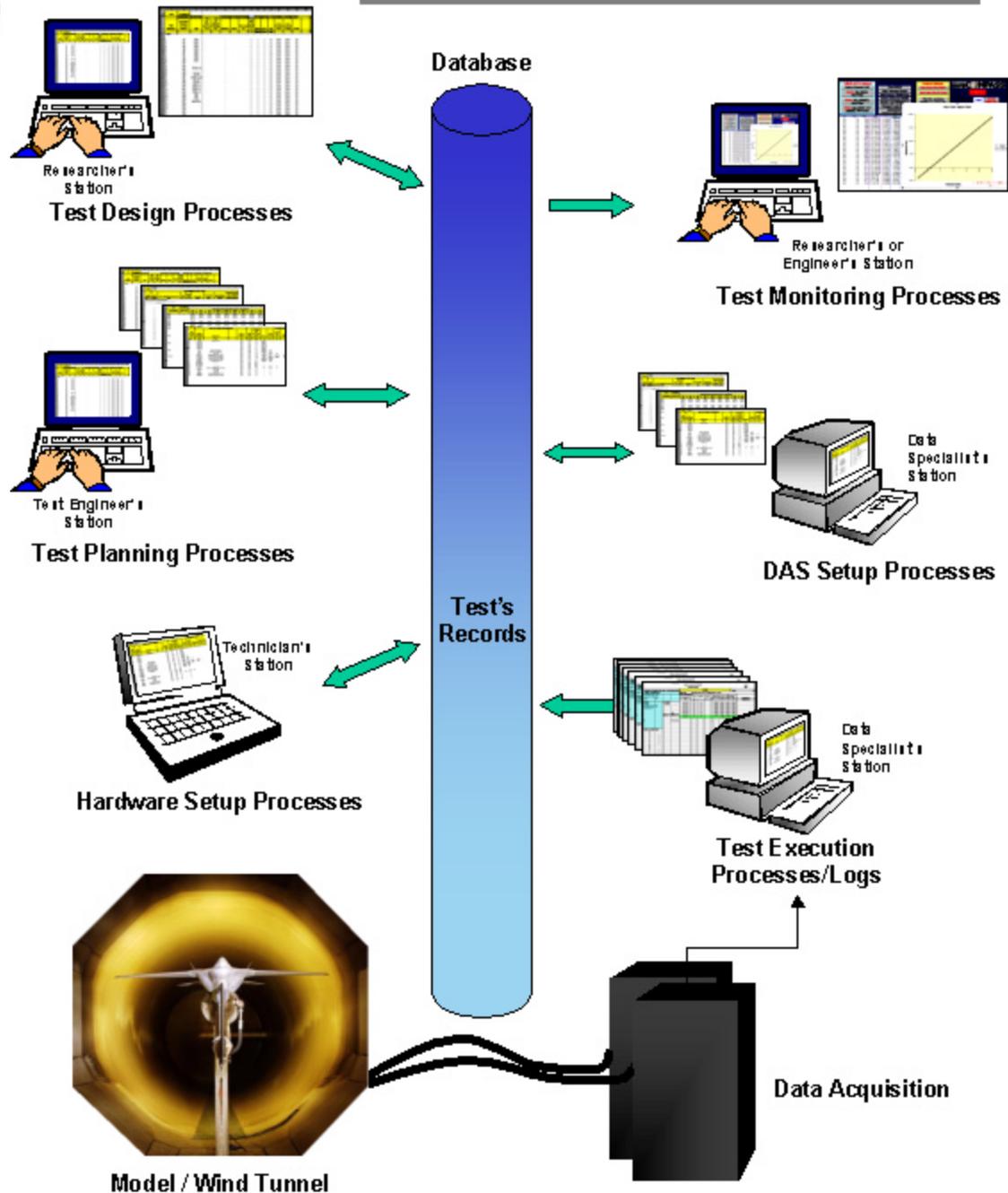
Via a common login, the web interface provides a convenient portal to a suite of integrated tools, test-related data, and information to support research.

A key feature is its Document Management System. This user-friendly system enables groups of users in the same (or different) geographic location to seamlessly share and manage a variety of document types and information.

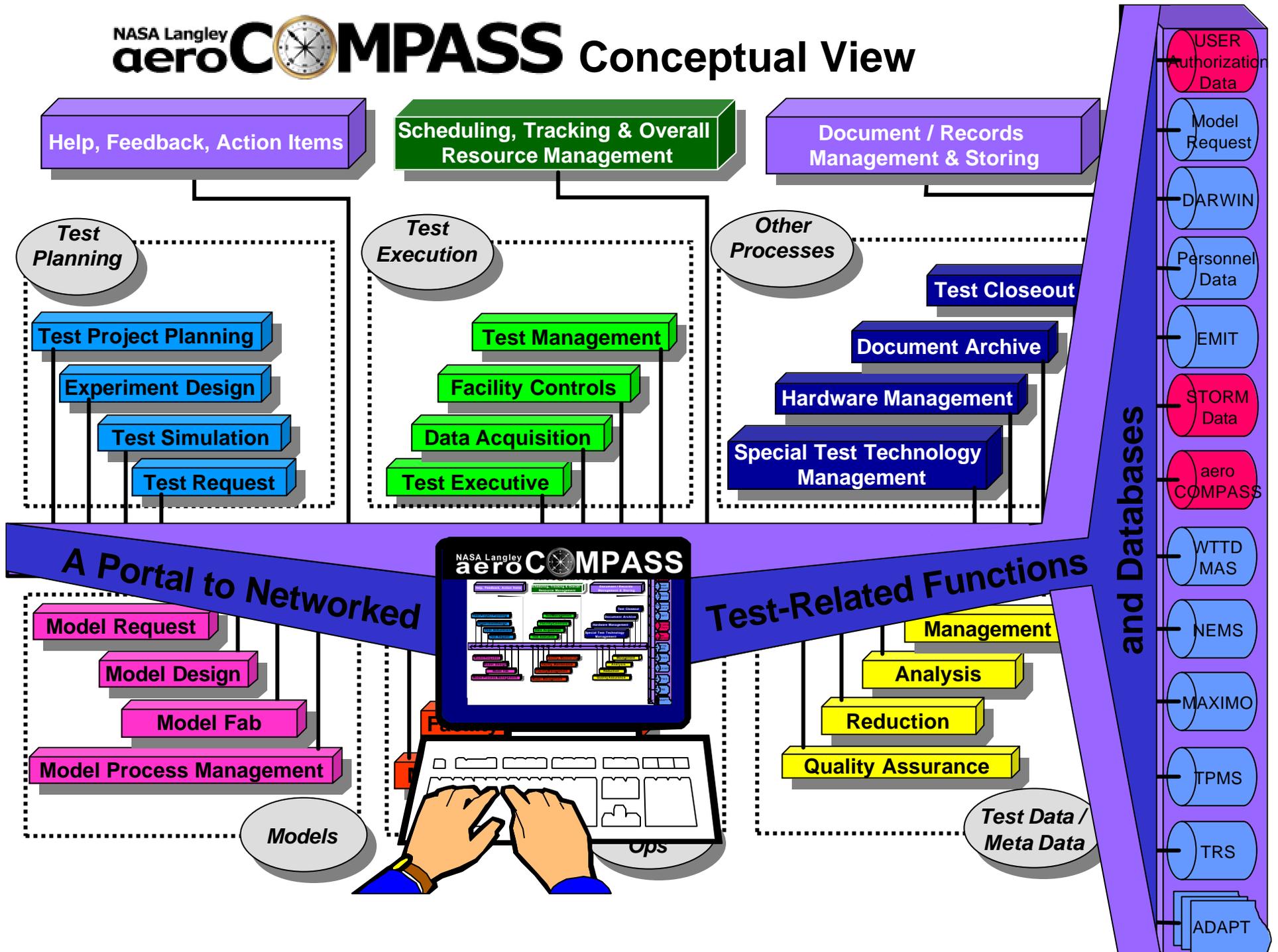
The heart of the system is a database shared by all integrated applications. The database fully supports client- and server-side applications that are part of the aeroCOMPASS suite.

Example: Test Process

Process Information Flow

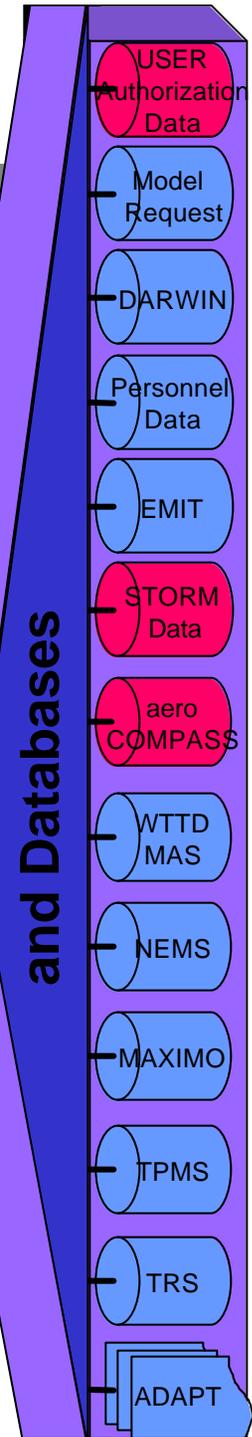
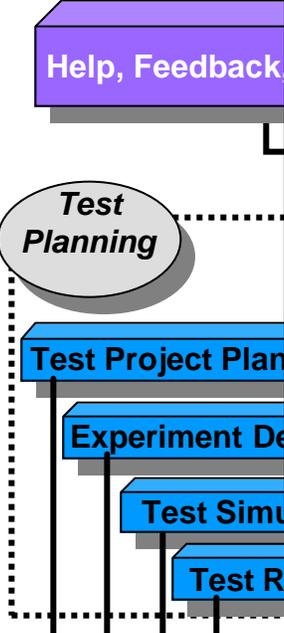


NASA Langley **aeroCOMPASS** Conceptual View

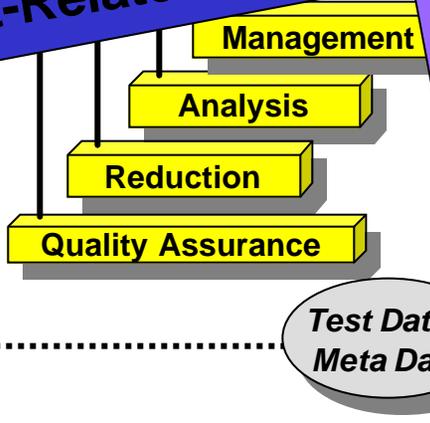
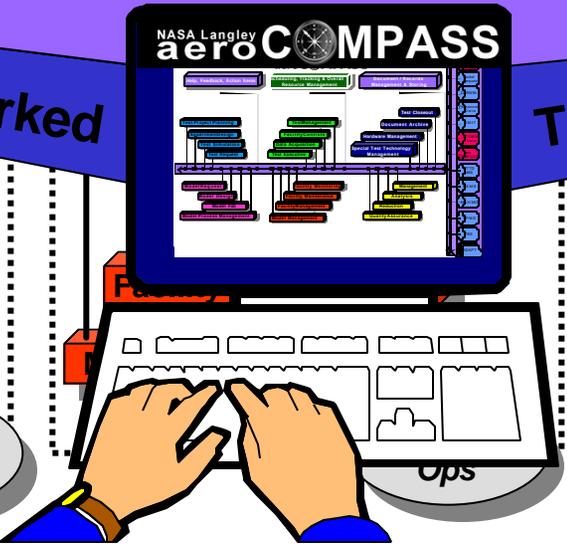
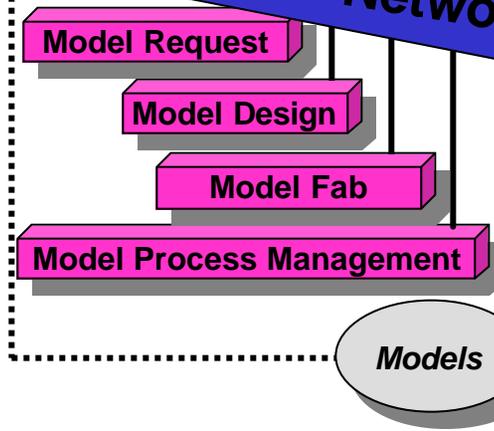


Provides:

- Interfaces between the User and the Applications and Databases required to perform his/her job.
- Databases and IO links for the applications for which no current central database exists, so that data required by other applications can have access to the data through the network.
- Interfaces for transmittal of data that resides in various databases to other applications that require the same data so that data entered once does not need to be re-entered.



A Portal to Networked Test-Related Functions





Who is on our team?



MERCATOR Team

AAAC- Aerodynamic, Aerothermodynamics, and Acoustics Competency

Sheri Hoadley (DAIMB/AAAC), Project Lead - Project management, application development

Tony Ingraldi (DAIMB/AAAC) - Application development and implementation, database model design,
Lead Software Design Engineer

Guy Kemmerly (DAIMB/AAAC) - Management interface design and support

Charles Fox (RFB/AAAC) - System requirements, application design and testing

SEC - Systems Engineering Competency

Cathy Cronin (DAIB/SEC) - IT application design, database model design, application development

Kerry Gough (DAIB/SEC) - IT application design, application development

Drew Hagemann (SECB/SEC) - Critical Chain Project Planning and scheduling

AAAC -

DAIMB - Data Acquisition and Information Management Branch

RFB - Research Facilities Branch

SEC-

DAIB - Data Analysis and Imaging Branch

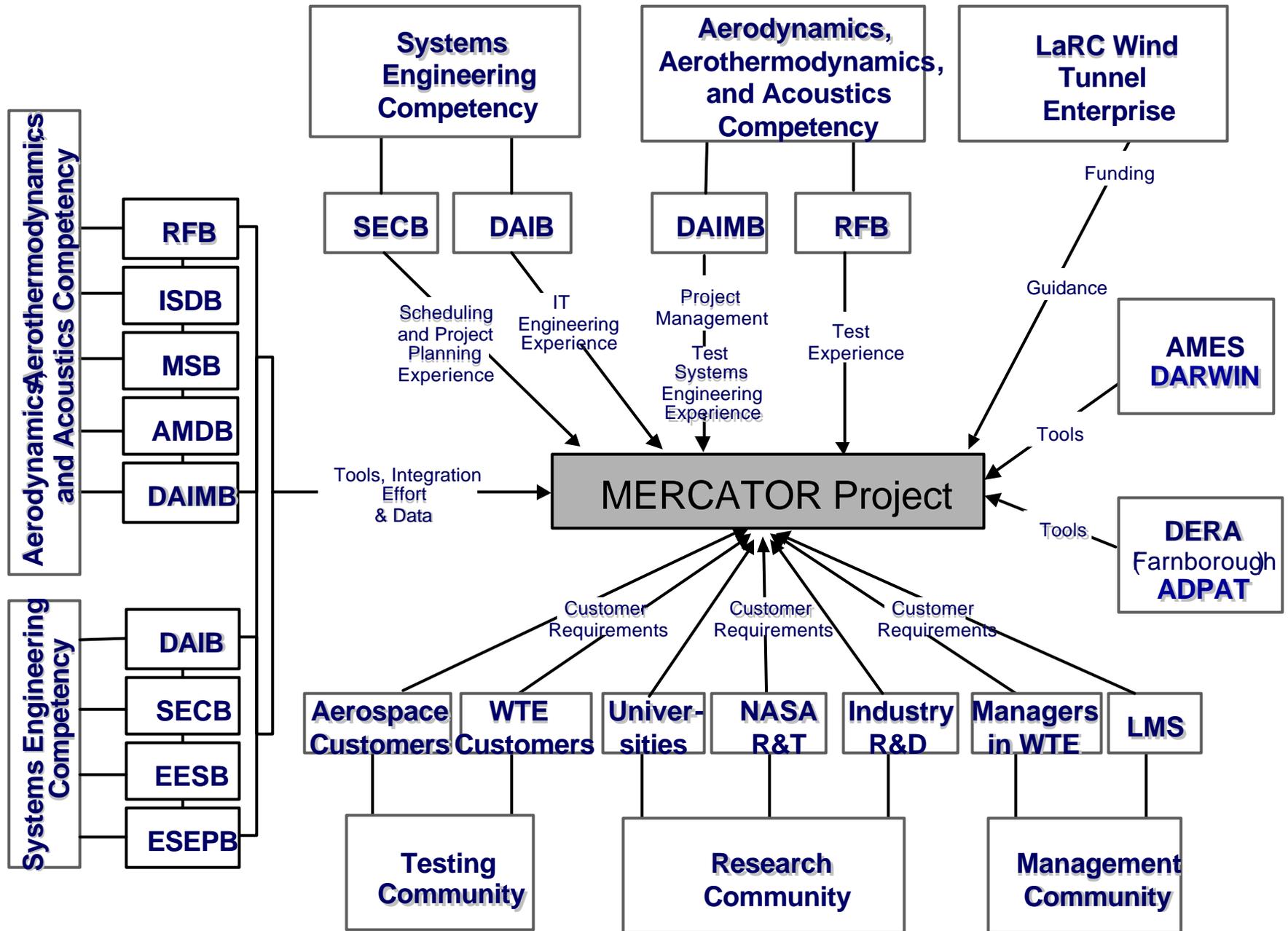
SECB - Systems Engineering and Control Branch

Who are our Partners?

Who has helped us develop

our Requirements?

Our Partners:



Questions asked before designing aeroCOMPASS:

What Test-Related Applications already exist ?

*To what function or part of the test process do
they relate?*

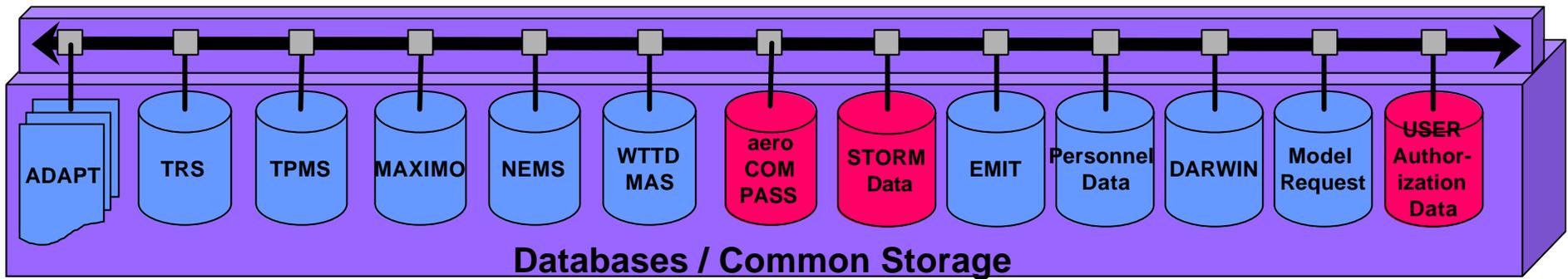
To what database do they relate ?

Existing Test-Related Applications and Databases

Desired Priority Order established by the MERCATOR Team

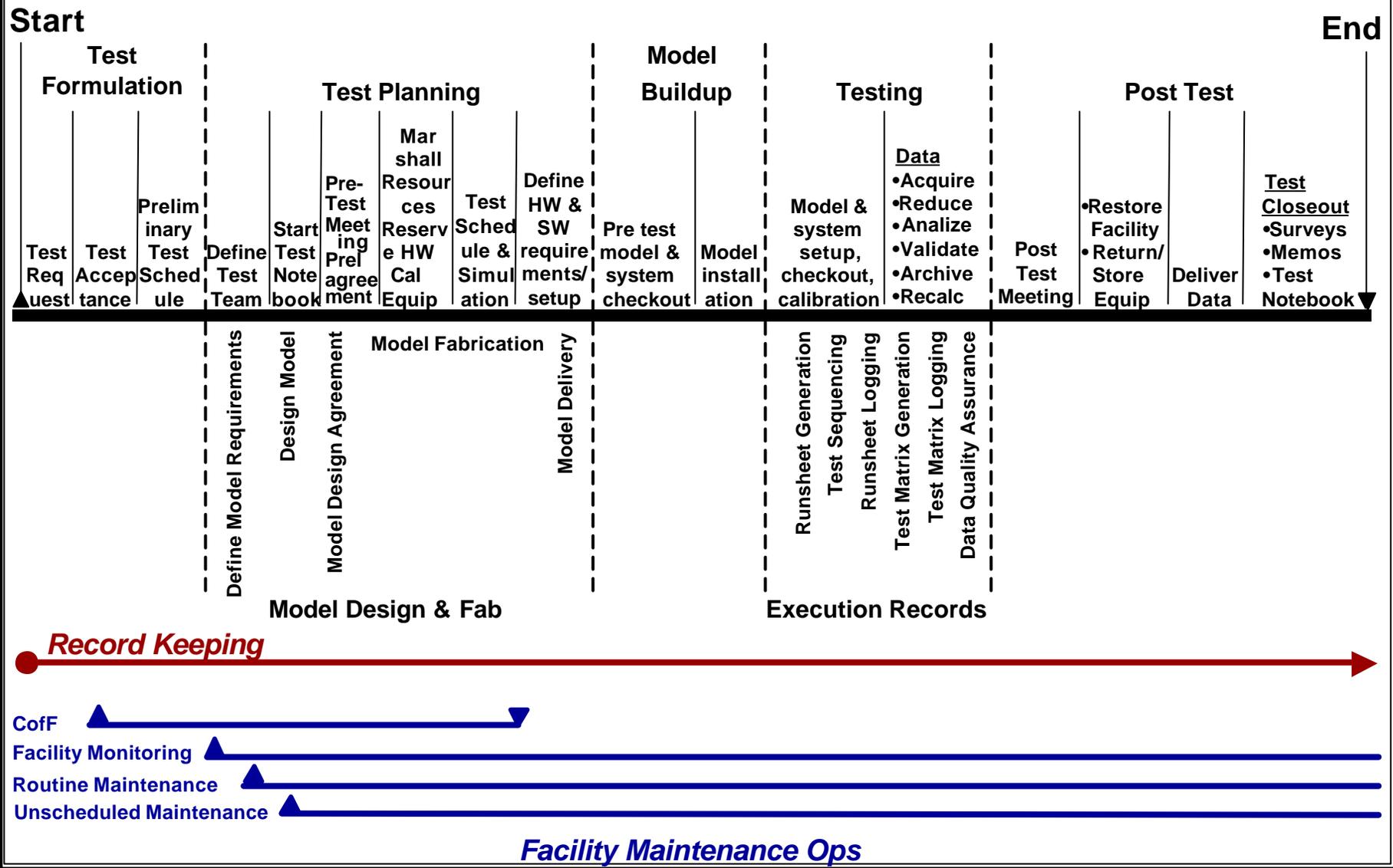
	Integ. Group	Project Name	Project Lead	Related Function	Current Database
1	1	Test Request System (TRS)	Tony Ingraldi	Test Planning	TRS
2	1	Test Process Management System (TPMS)	Kerry Gough	Test Planning	TPMS
3	1	Wind tunnel test process simulation	Dan Vairo	Test Planning	Access/Excel
4	± 2	Integrated Wind Tunnel Planning System (IWTPS)	Drew Hagemann	Scheduling & Test Planning	Project
5	± 2	Wind-Tunnel Data Quality Assurance (WTDQA)	Mike Hensch	Test Data/Meta Data	ADAPT
6	1	Book Builder (ADAPT)	Kennie Jones	Test Planning & Test Execution	Flat Files
7	1	Equipment Measurement Information Technology (EMIT)	Jim Walsh	Other Processes	EMIT
8	1	Data Acquisition System (DAS)	Frank Batts	Test Execution	DAS
9	1	Wind Tunnel Test Data Management and Archive System (WTTDMAS)	Cathy Cronin	Test Data/Meta Data & Other Processes	WTTDMAS
10	± 2	Development Aeronautics Revolutionizing Wind-tunnels with Intelligent systems for NASA (DARWIN)	Joan Walton	Test Data/Meta Data	DARWIN
11	1	Model Request System (MRS)	Drew Hope	Models	MRS
12	1	Tunnel Control and Automation (EPICS/ATS)	Steve Syrett/ Chuck Niles	Test Execution	none
13	1	Wind Tunnel Exit Questionnaire System (WTEQS)	Tony Ingraldi	Other Processes	WTEQS
14	2	MAXIMO	Willie Moore	Facility Ops	MAXIMO
15	2	Wall Interference Correction System (WICS)	Joel Everhart	Test Execution	none
16	2	Modern Design of Experiments (MDOE)	Dick DeLoach	Test Planning & Test Execution	
17	2	Virtual Tunnel	Rich Schwartz	Test Planning	
18	3	Global Surface Measurements (PSP & TSP)	Clifford Obara	Other Processes	
19	3	Projection Moire Interferometry (PMI)	Gary A. Fleming	Other Processes	
20	3	Doppler Global Velocimetry	James F. Mevers	Other Processes	

What Databases need to be included ?



***What Processes are actually involved
in the test cycle ?***

Processes in a Baseline Test-Cycle Scenario

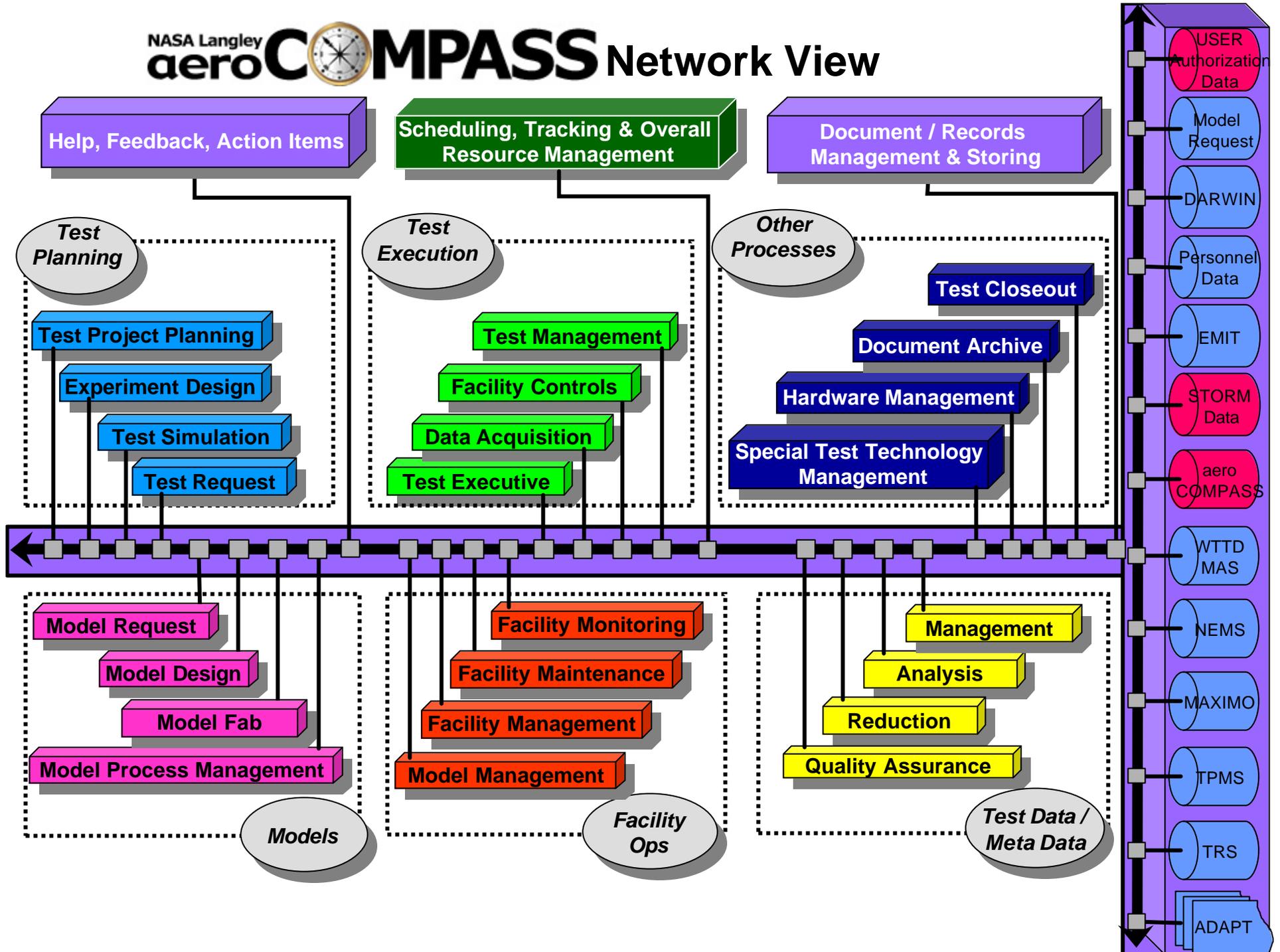


***How can the processes and databases
be networked ?***

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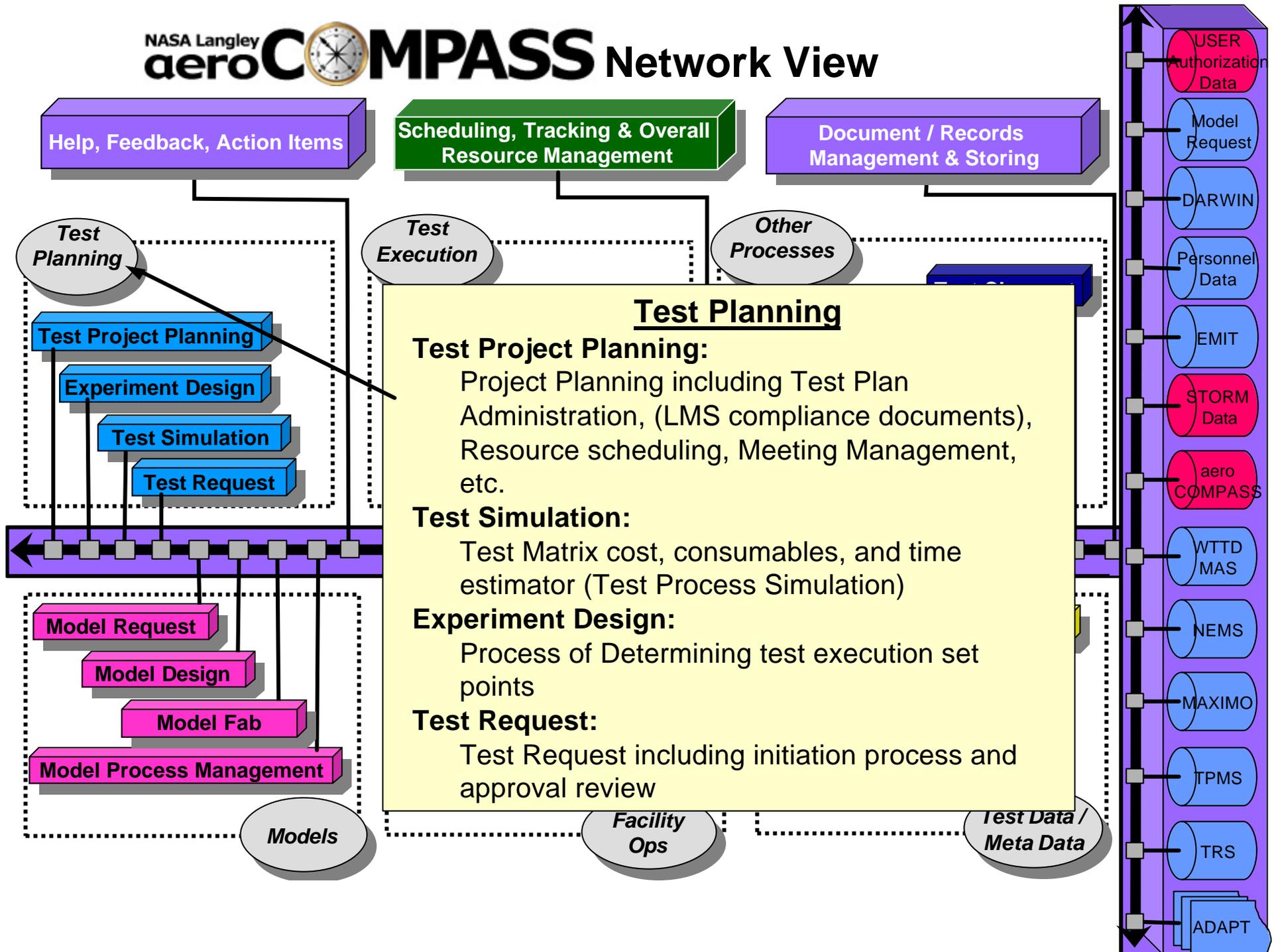
*Through database interconnectivity and web-based
interfaces as depicted in the next slide.*

NASA Langley **aeroCOMPASS** Network View

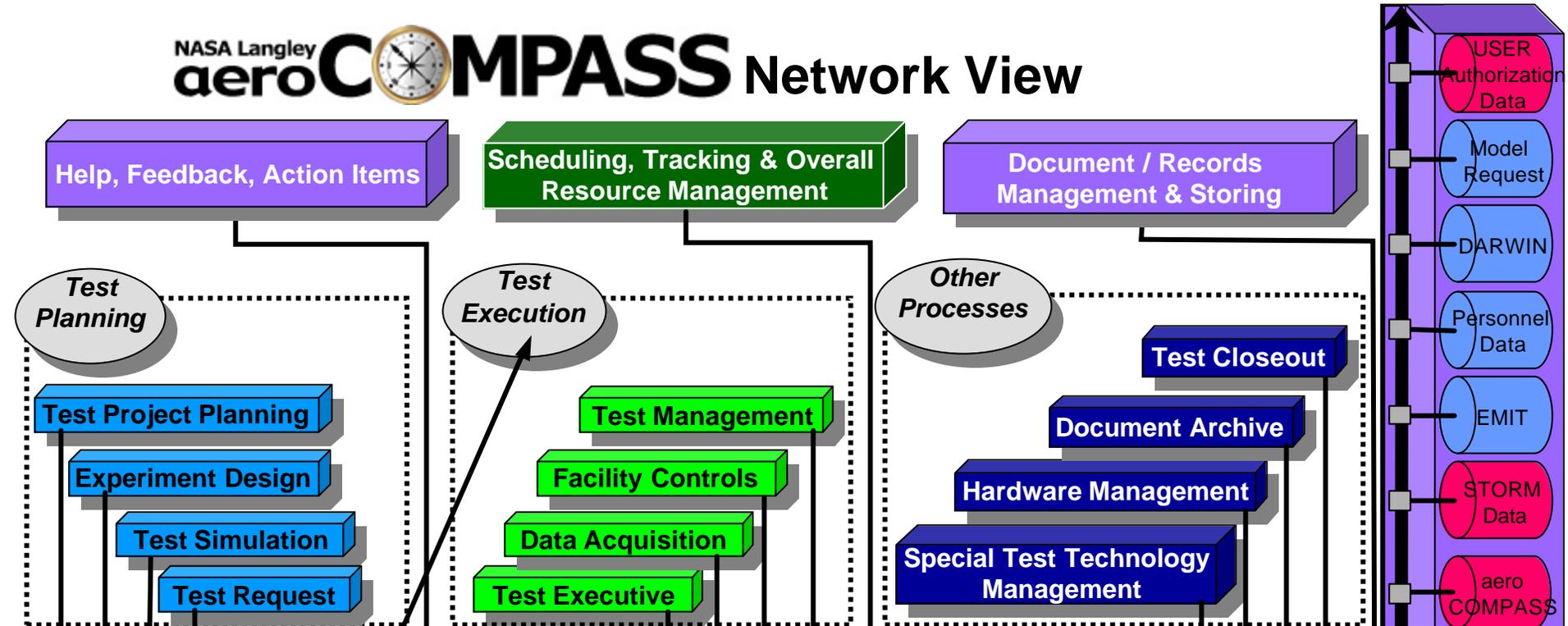


What are the processes ?

NASA Langley **aeroCOMPASS** Network View



NASA Langley  **COMPASS Network View**



Test Execution

Test Management:

Process of orchestrating all Test Operations/functions/checkout, during facility occupancy, may include automated processes, including model prep, testing, and closeout

Data Acquisition:

The process of acquiring measured data from instrumentation

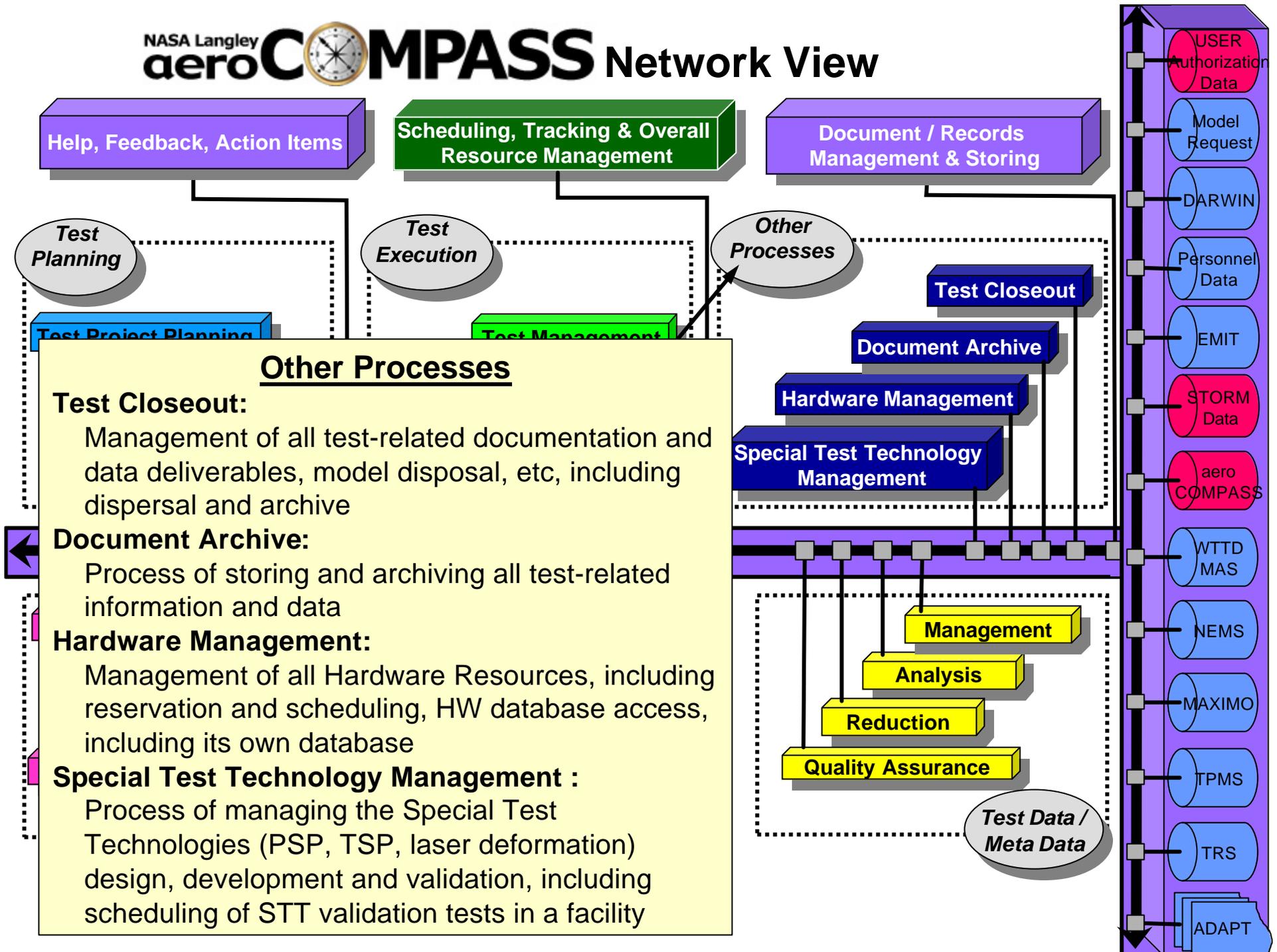
Facility Controls:

The system by which the tunnel is controlled during testing, including automated systems

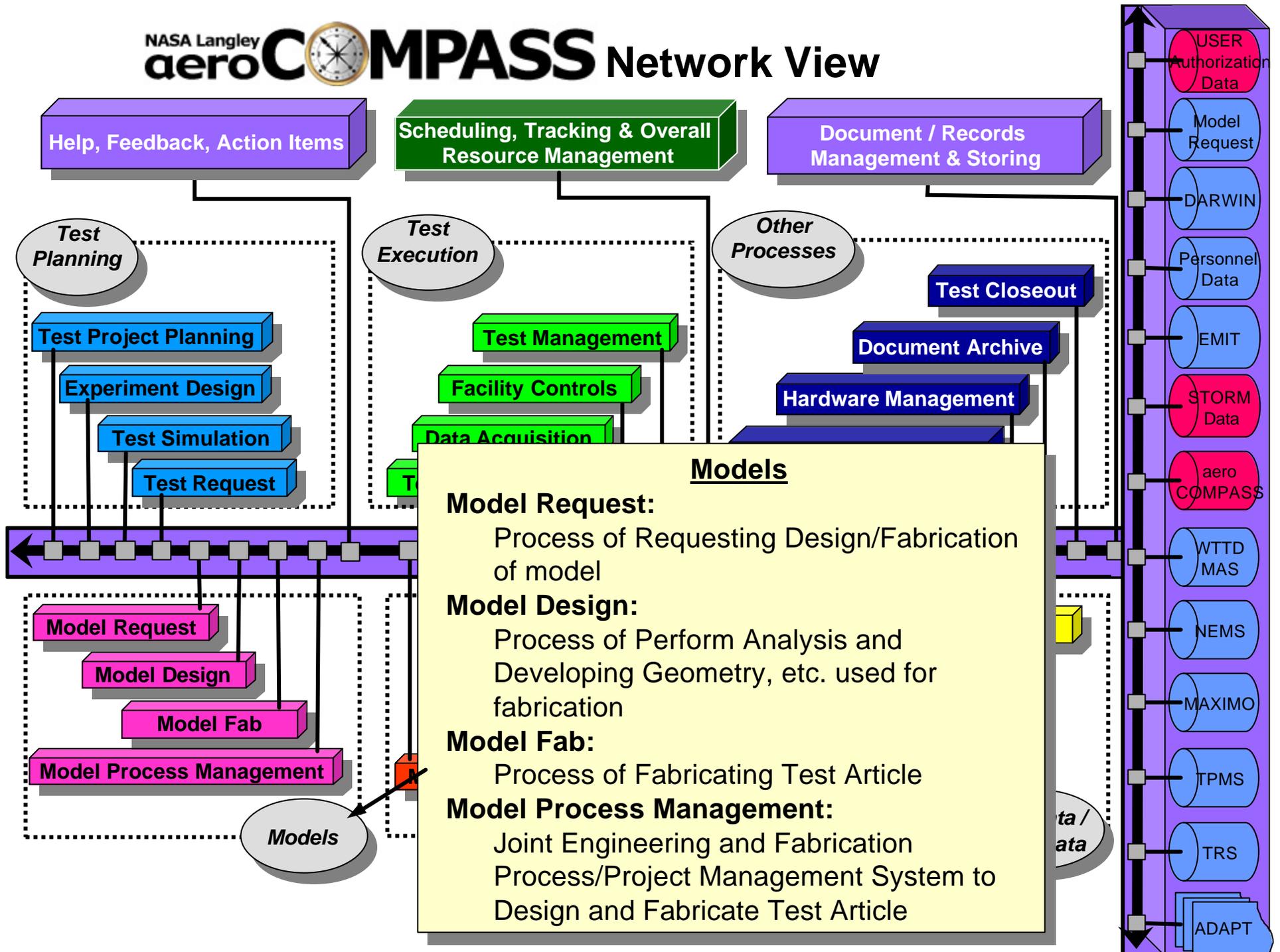
Test Executive:

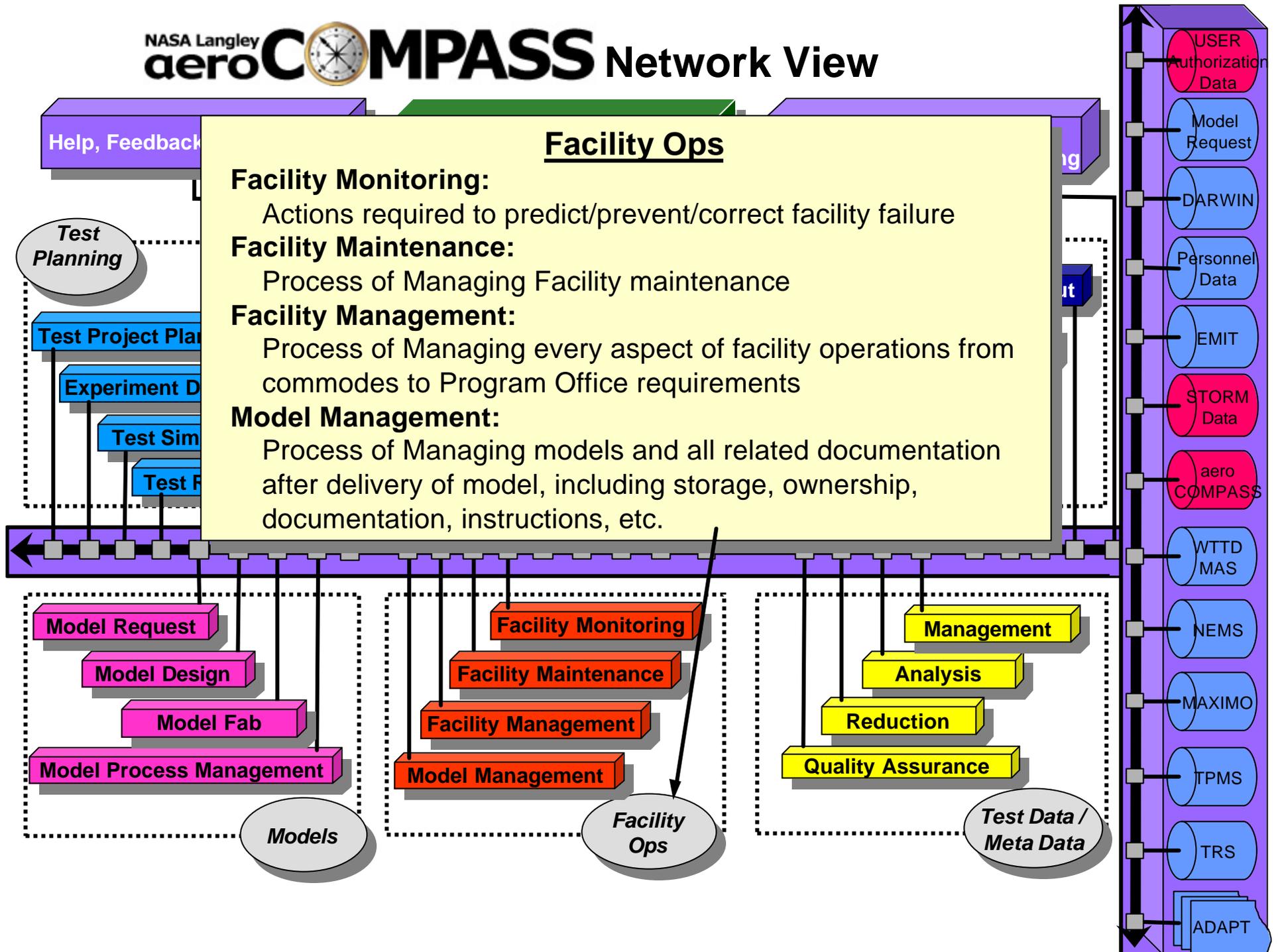
Process of orchestrating all Test Operations & Functions, during testing, which may include automated processes, working in conjunction with DAS and Controls

NASA Langley **aeroCOMPASS** Network View

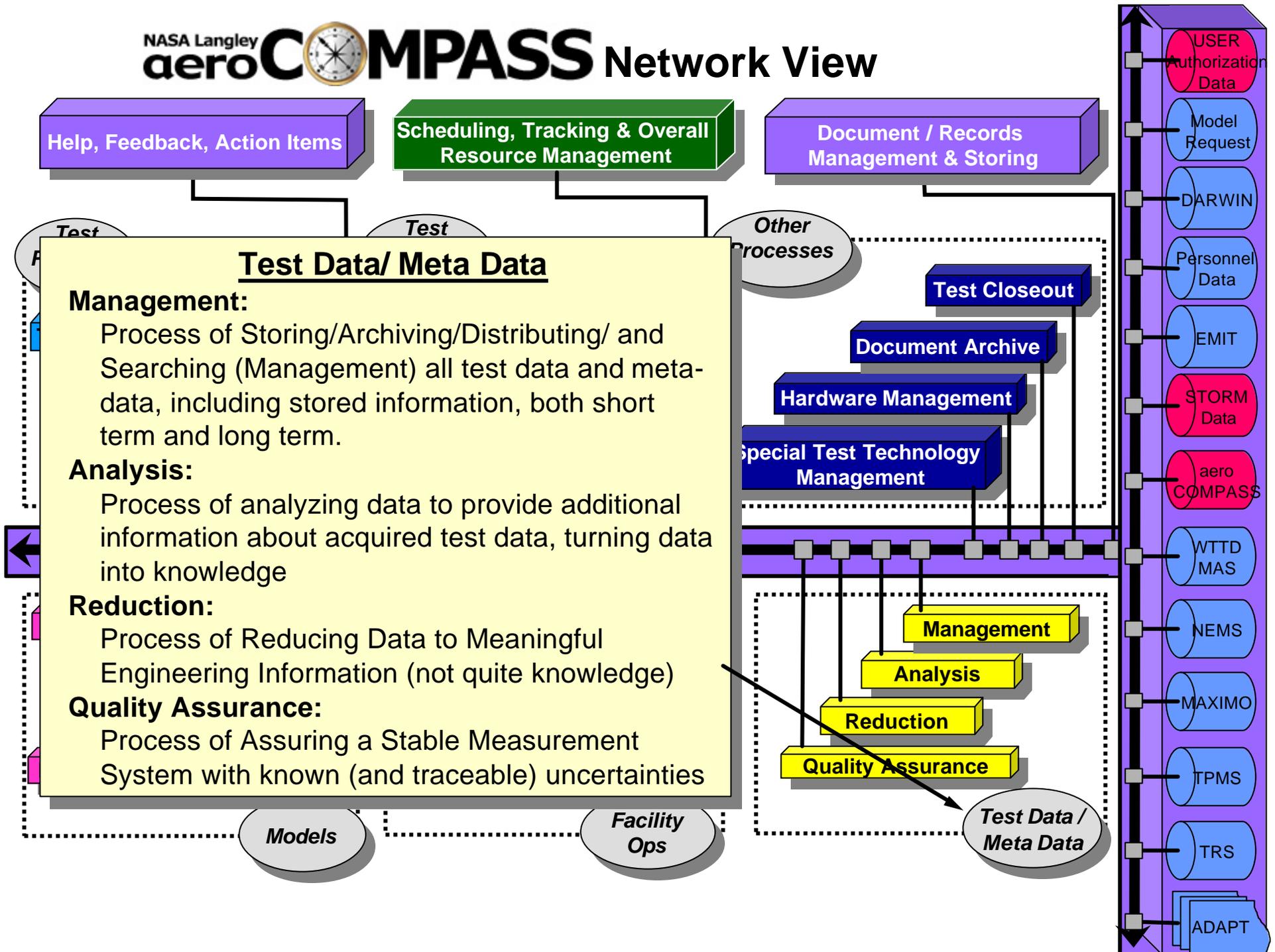


NASA Langley  **COMPASS Network View**

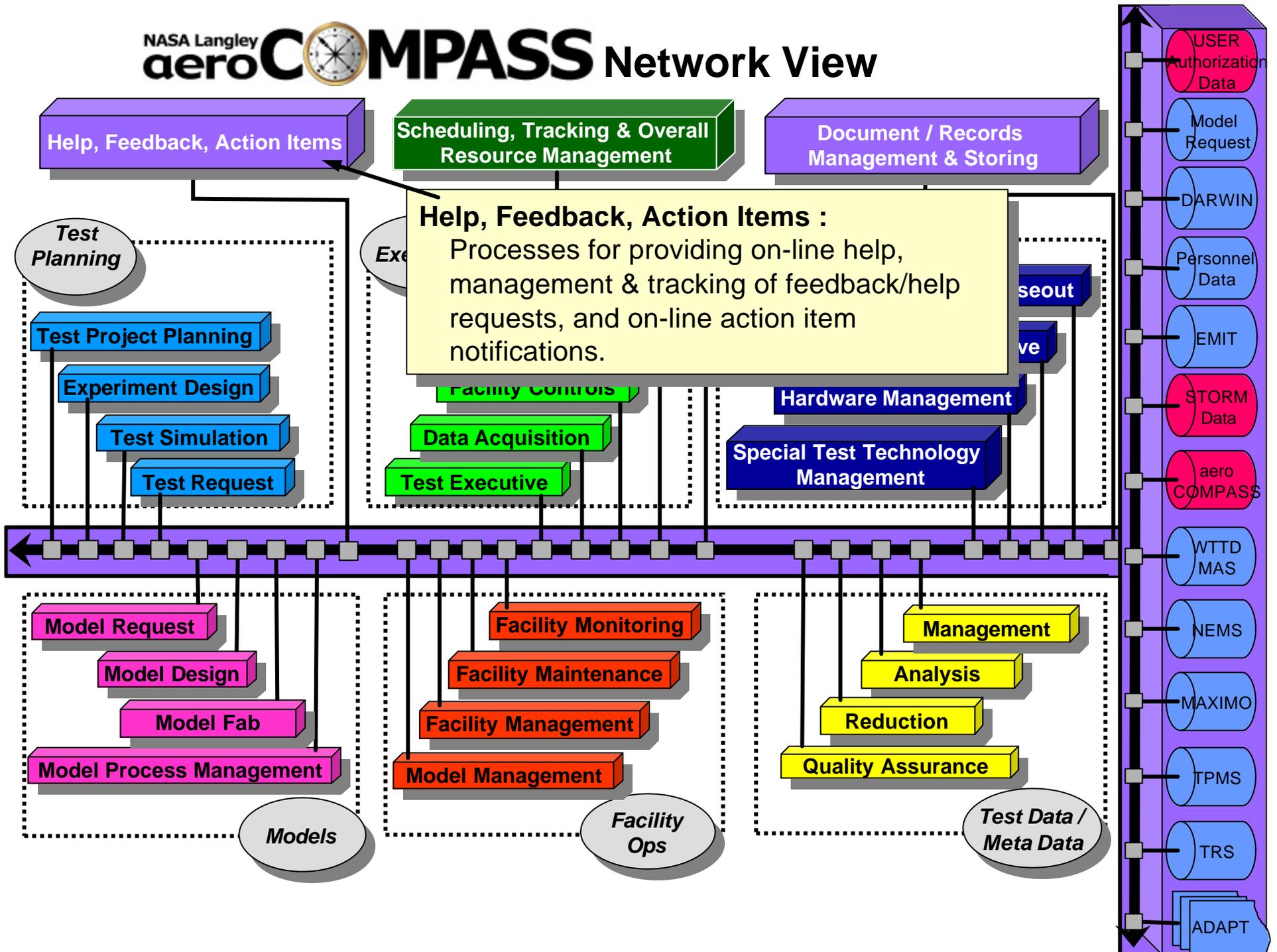




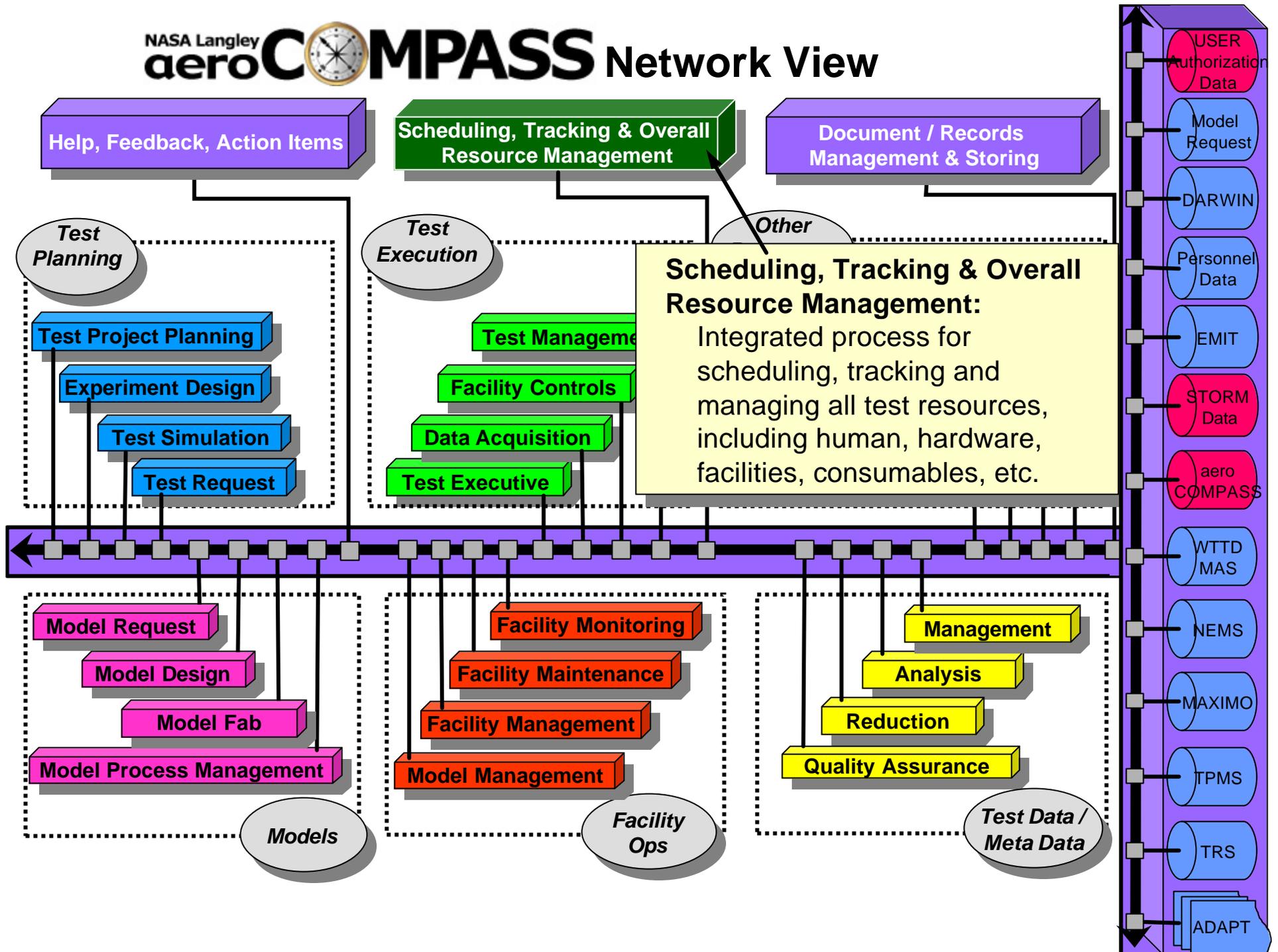
NASA Langley **aeroCOMPASS** Network View



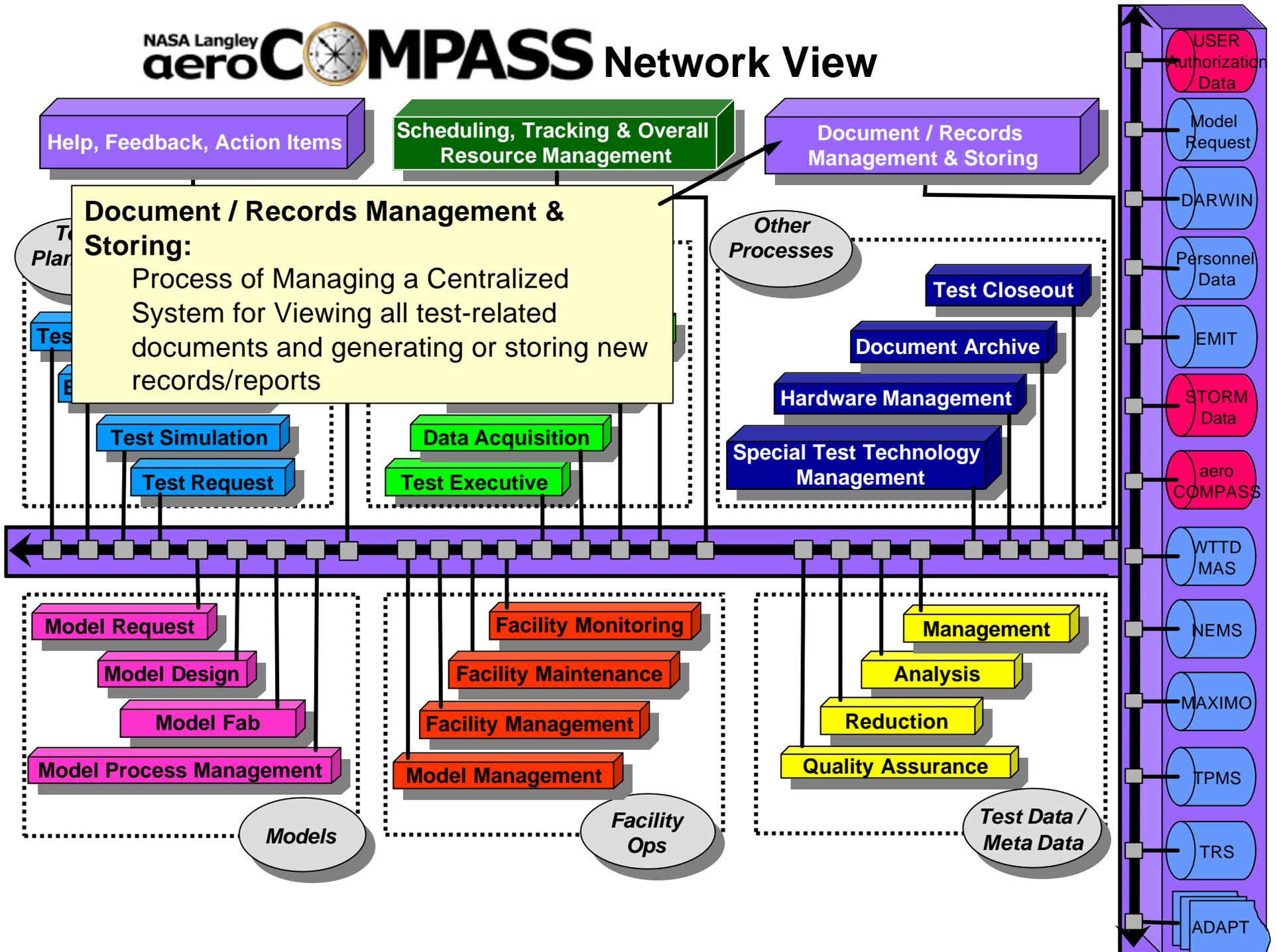
NASA Langley **aeroCOMPASS** Network View



NASA Langley **aeroCOMPASS** Network View



NASA Langley **aeroCOMPASS** Network View



For Phase I

What should have our initial focus ?

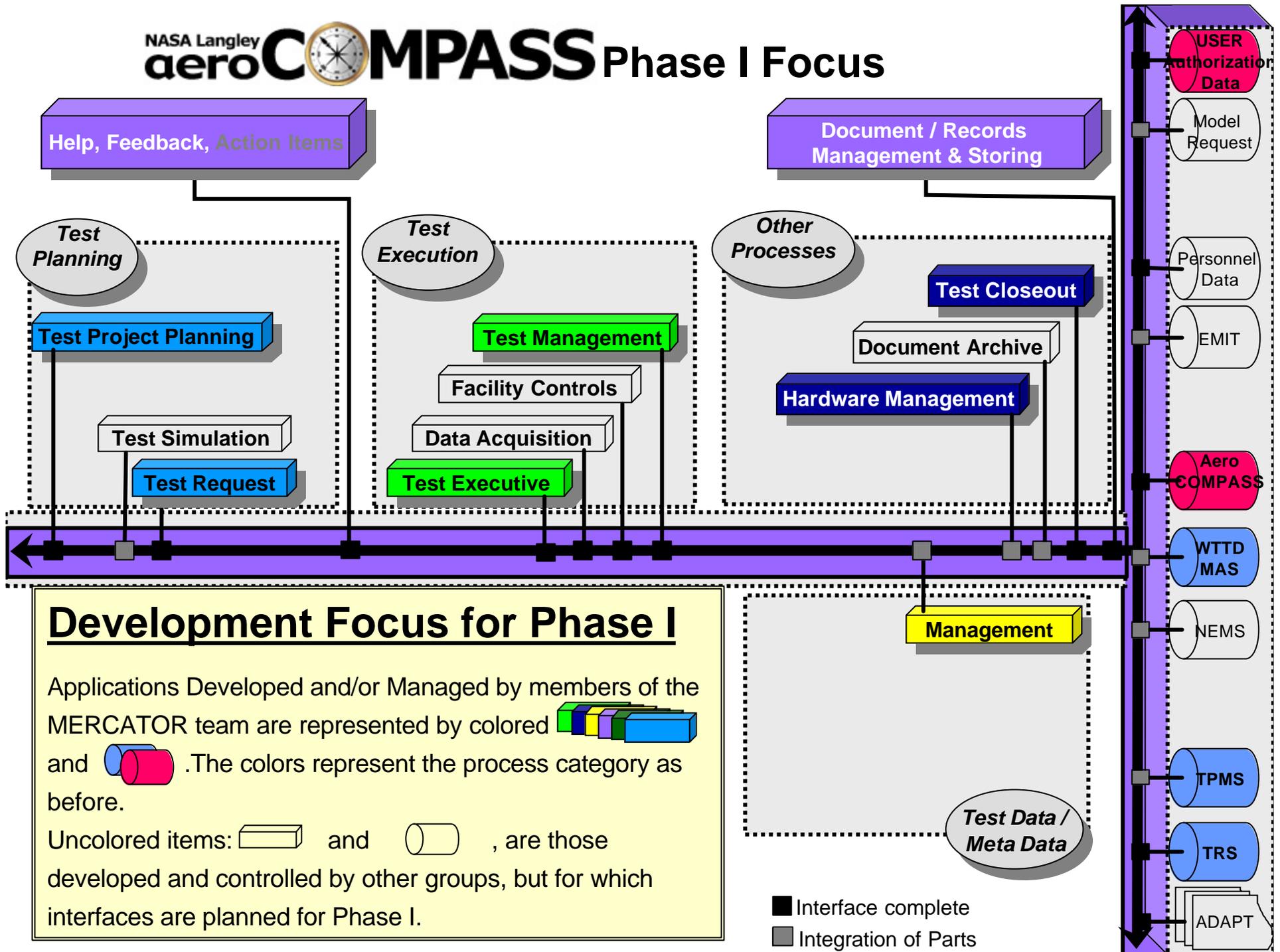
What can be most quickly integrated ?

What would help the most, initially, in

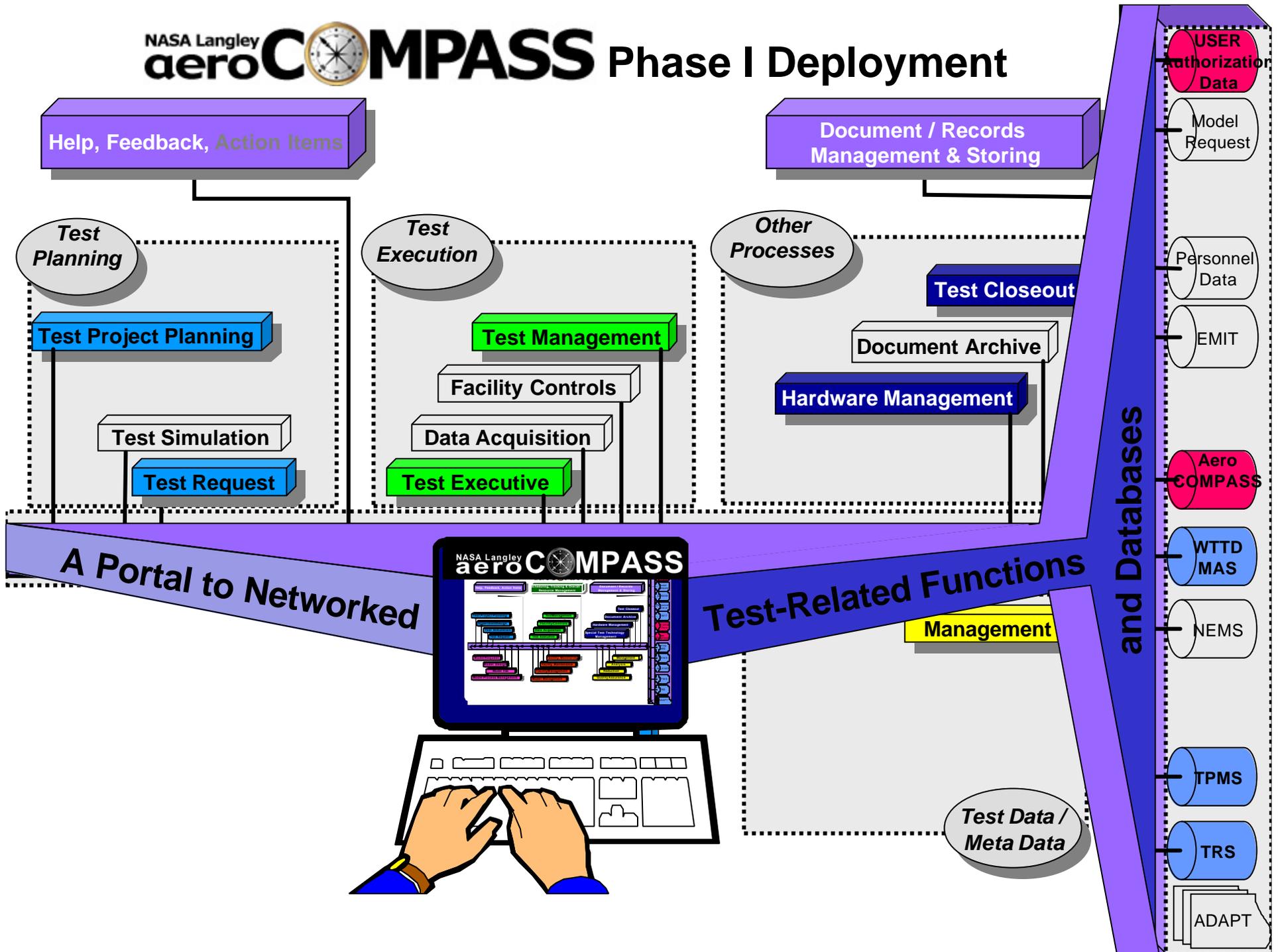
- reducing test-cycle time
- improving data quality ?

What must be included to make a useful integrated package?

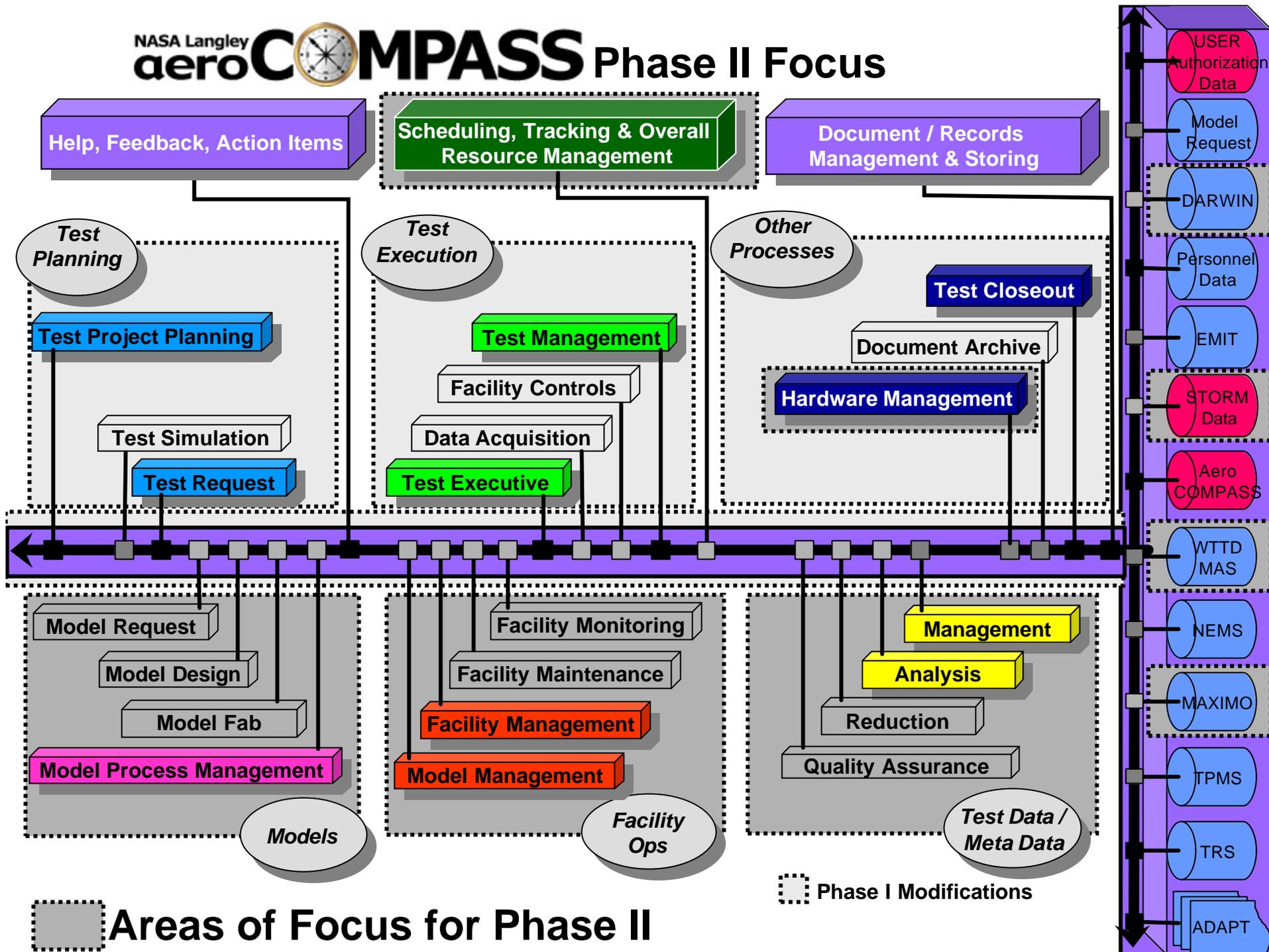
NASA Langley **aeroCOMPASS** Phase I Focus



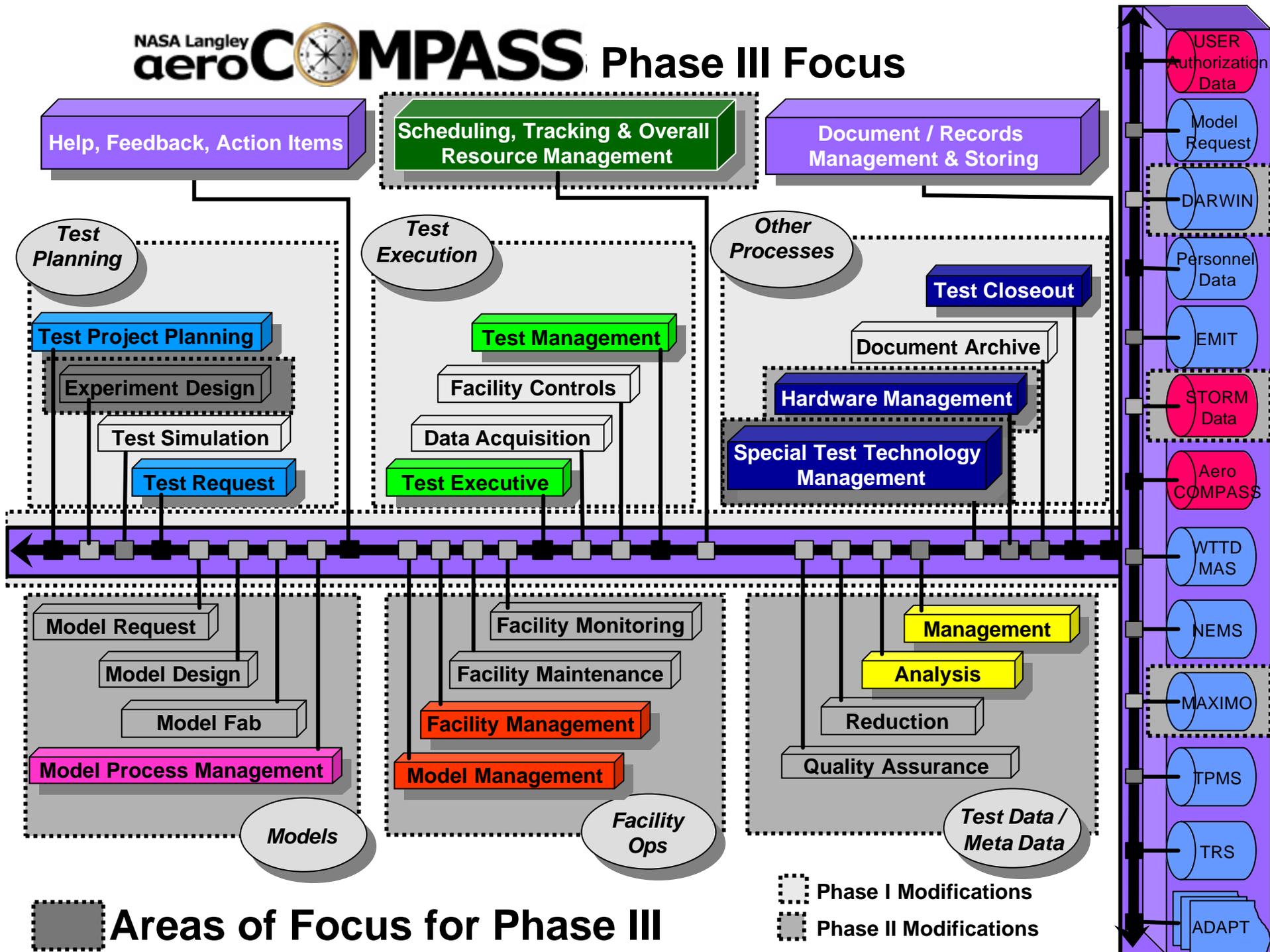
NASA Langley **aeroCOMPASS** Phase I Deployment



NASA Langley **aeroCOMPASS** Phase II Focus



NASA Langley **aeroCOMPASS** Phase III Focus



NASA Langley **aeroCOMPASS** Final Package - **Fall 2002**

