

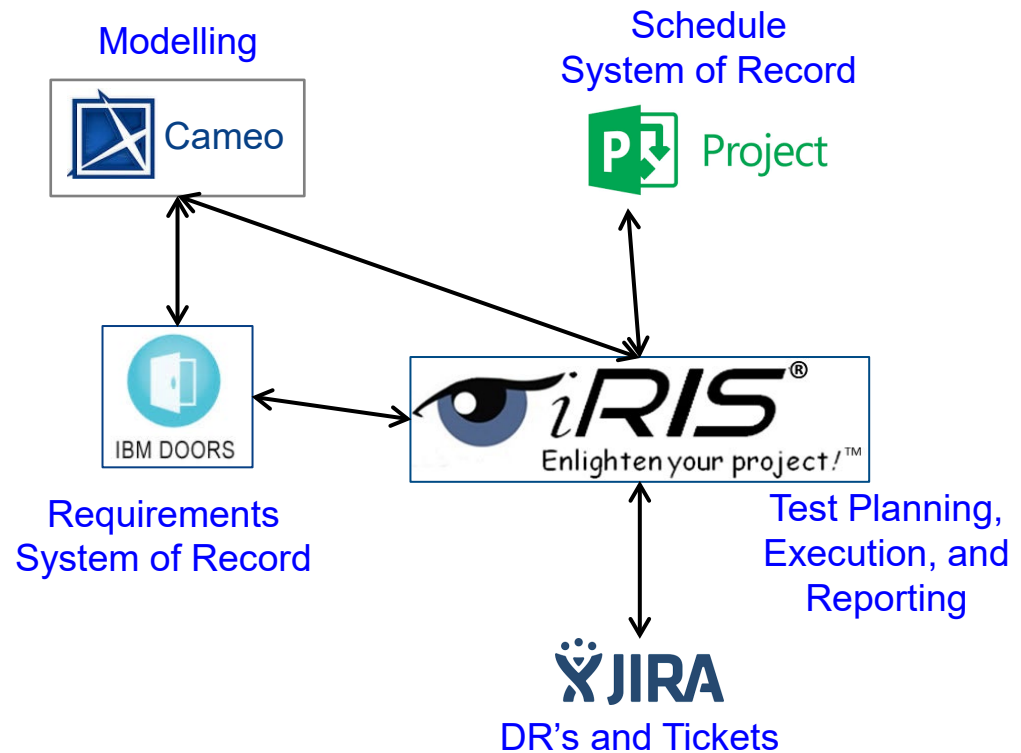


Module 1: iRIS Product Introduction

Celeris Systems Inc.
3335 E. Miraloma Ave., Suite 143
Anaheim, California 92806
www.celeris-systems.com/iris

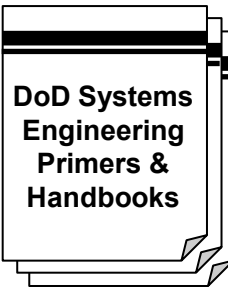
What is iRIS?

- iRIS is a software **platform** to:
 - Plan, execute, and report on a test program
 - Maintain linkage to the technical baseline
 - Integrate the test program with key program items like scheduling, requirements, workflow, discrepancies, and modeling and simulation
- iRIS allows you to do these things attached to the relational database instead of stove piped away in a standalone application

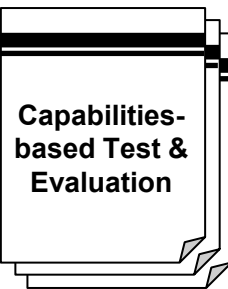


iRIS Designed for Compliance with Governing DoD Policy, Guidance & Instructions

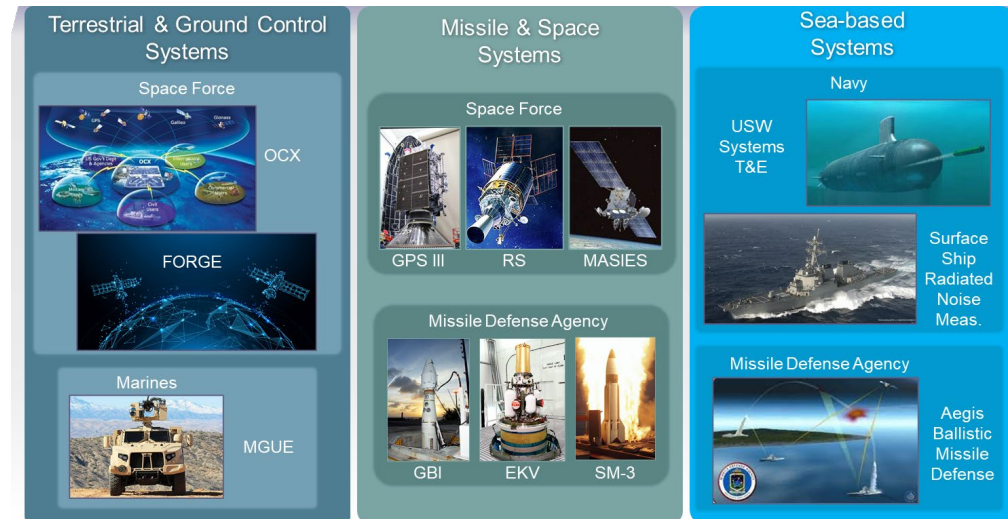
- Process Monitoring & Control
- Metrics & Measurement (TPMs)
- Risk Management
- Interface Management
- Change Mgmt/Data Mgmt
- Validation & Verification
- Test & Evaluation



- Team Collaboration
- Event-Driven Schedules/Exit Criteria
- Combined DT/OT Test Events
- T&E resource planning
- Common T&E Database
- DT&E/OT&E Metrics & Reports
- OT&E System Readiness



- Early OT&E/ITT Involvement
- Certification Template Exit Criteria
- Contractor Testing
- Risk Identification and Tracking
- Certification Template Review/Approval
- Certification Metrics and Reporting
- Final OT&E Readiness Certification



iRIS[®]
Enlighten your project![™]



The “iris” controls the amount of light let into the eye. The iRIS logo is used a metaphor to symbolize how a program can become more enlightened or informed by using iRIS!



The Foundation of iRIS

EBV Enables Programs to Significantly Reduce DT&E Management Overhead and Maximize Comprehensiveness

- The process is to “manage by event, sell-off by specifications”
- Improves Configuration Control & Traceability
- EBV is recommended for all levels of requirements verification
- Once all requirements have been allocated to events, the program can then **manage to a significantly fewer number of events versus thousands of requirements**

Many things can be an event, such as a:

- **Critical analysis**
- **Test for credit**
- **Test dry-run**
- **Demonstration**
- **Inspection**

Events must reduce verification risk or sell-off a requirement

- **EBV is a Requirements-driven Process that Serves as an Integrating Function for DT&E**
 - EBV simplifies the flow of accurate data to DT&E
 - Cuts across the institutional stovepipes
- **EBV is comprised of three primary elements:**
 1. **Events:** A logical grouping of requirements that will be assessed to gauge the progress toward the end product. Events can be unit tests, configuration item tests, functional qualification tests, system tests, sprints (Agile), operational tests
 2. **Event Integration Sheet (EIS):** A report from iRIS that correlates the information used to describe events
 3. **Test & Verification Event Matrix (TVEM):** is a matrix report from iRIS that identifies all project Events, the event dates, and the requirements in the event. The TVEM spans all project developers and all years of the project. This is a key system integration tool and the core of EBV

- **Risk Reduction** (RR) events may be informal activities that may or may not need formal Configuration Management (CM) or Quality Assurance (QA) involved
 - RR events help us **gain confidence** that the system in development is on track
- **Formal events** typically require strict CM and QA and are those events that we'd audit to formally sell-off (verify) a requirement
- iRIS uses **bold-blue** font to identify requirements that are formally verified within an event

Event Based Verification is Implemented in iRIS via the Event Integration Sheet (EIS)

- An EIS is developed for each event to support event planning, coordination, and reporting
- Includes risk reduction, verification, validation and potentially other DT&E events and activities
- Individual Requirement Verification Plans (RVPs) help define how system-level requirements will be verified within events

Event Integration Sheet (EIS)									
Event Schedule									
Planned Start		Planned End		Actual Start		Actual End			
Planned Completion		Planned Completion		Actual Completion		Actual Completion			
Event Objectives									
Primary									
Secondary									
Event Summary description									
Event responsibility coordination									
Responsible Team		Event Coordinator		RVP Developer					
Responsible SE		Phone		Phone					
		Email 1		Email 1					
		Email 2		Email 2					
Supporting Team members									
Team members (personnel)									
Phone									
Email									
Location									
Event Board Location									
Event Requirements									
Requirement No. & Rev		Requirement No.		Requirement Title		Requirement Description		Key Factors	
Req ID		Req No.		Req Title		Req Description		Key Factors	
Brief description of event activities to occur during event									
Success Criteria									
Constraints									
Name, potential constraints to either exit event									
Name		Occur Date		Title		Criticality		Last Upd	
Name		Occur Date		Title		Criticality		Last Upd	
Big baseline changes									
Supporting Reports (RVPs)									
Other Constraints									
Set model use restrictions									
Situation Security									
Access/Accessors									
Access Point									
Access Control									
Access Control									
Event execution resources									
Resource		Type		Responsible Team		Event Date		Resource Delivery Date	
Resource		Type		Responsible Team		Event Date		Resource Delivery Date	
Event Configuration									
Event Configuration Description									
Technical Assumptions									
Event Data Acquisition Reports									
Scenarios and run conditions required									
Modeling, Simulation, and Analytical support required									
Event Evidence for closure									
Links to applicable documents and information									
Title		Description		Link					
Title		Description		Link					
Comments/Supporting Information									
Signatures									
Responsibility		Team		Individual(s)					
Responsibility		Team		Individual(s)					
Event Readiness Review									

Architecture Info

Requirements

RFCs/Contract Actions

Evaluation Criteria

Personnel
Forecasting

Deliverables/
Receivables

Schedules

Risks

Issues/
Discrepancies

Hazards

MS&A Data

Procedures

Event Configuration

Celeris*Systems*SM

Resource Utilization Report

T&E Resources (300+)

Facilities

Hardware

Software

Personnel

400+ Events (includes Cops & OCK)

Resource Conflicts

Legend: Personnel (blue), Hardware (yellow), Software (green), Facilities (grey)

[illegible][illegible]

IST 3-3 Phase 2/3 RCI GRAM-S/M

IST 3-3 Phase 2/3 RTN GRAM-S/M

IST 3-3 Phase 2/3 RTN GB-GRAM-M

IST 3-3 Phase 2 L3T GB-GRAM-M

IST 3-3 Phase 3 L3T GB-GRAM-M

Actuals

Protection Profile and Contractor Supplied Data

January 2017 July 2017 January 2018 July 2018 January 2019 July 2019 January 2020 July 2020

Projected requirements burn down for GE and AV FF by vendor – Vendor Data and LTO

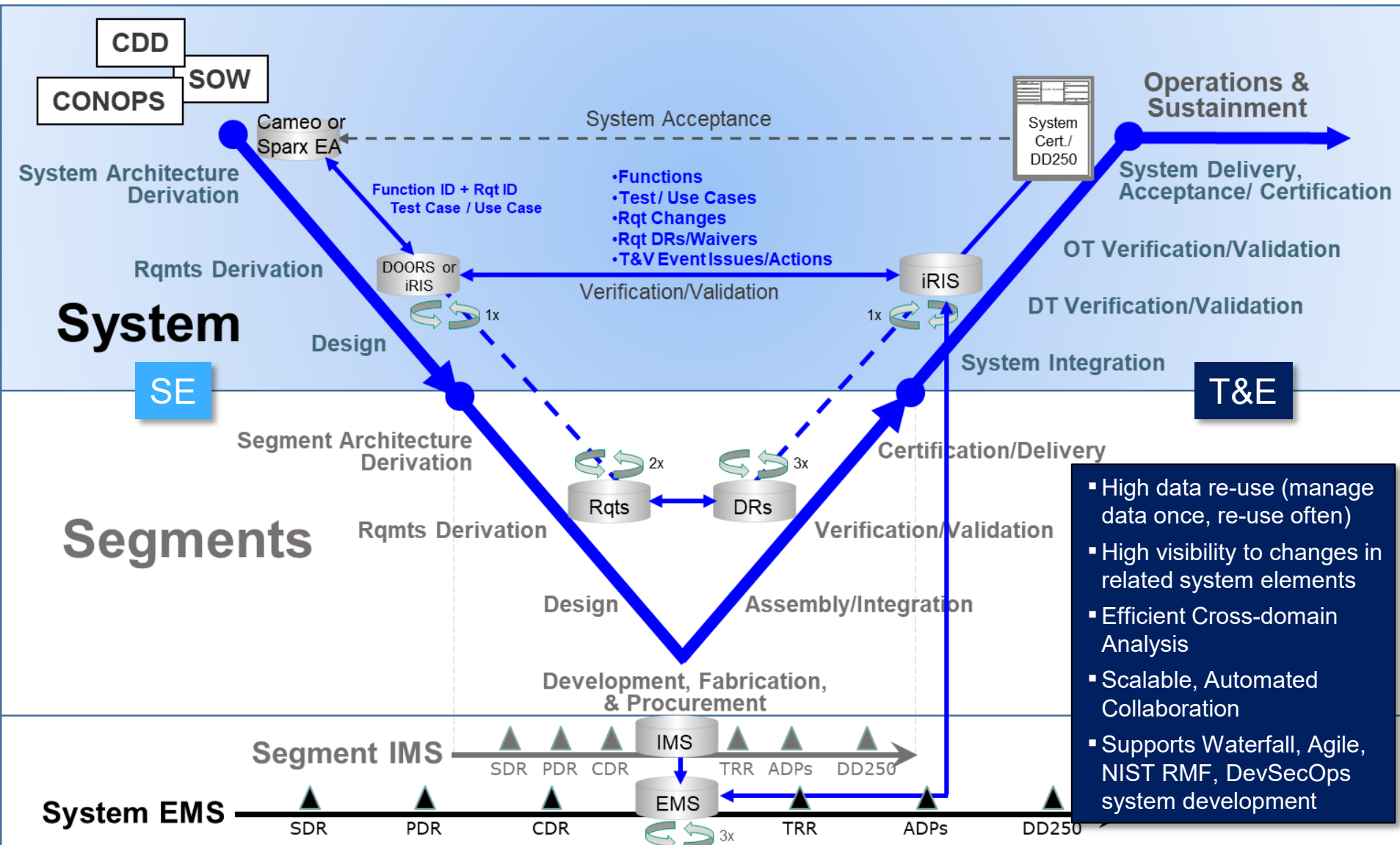
AD#3--JPSS-1 Payload Mission Readiness :Mission Readiness									
Company ABC - Company ABC.1									
Score Sheet	[DQ] Linked to K2		[DQ] in DQs for K2		Requirements in DQs associated with DQs within the K2		K2 Requirements from JPS (Exclt for Interactions)		[DQ] Requirement Scores for K2
Saving Sheet	A	B	C	D	E	F	G	H	I
				K: DQG #5	K: DQG #4	K: DQG #5	K: DQG #5	K: DQG #5	K: DQG #5
				Ka-band data to ground terminals?		to the reliability improved?		to the payload interchangeable?	
Performance									
	BVUCD-011	Booster Ka-Band Antenna Characteristics		1022-S1B5T					
	BVUCD-018	Booster Ka-Band Antenna Pattern		1064-G5S					
	OS-007	OS Ka-Band Antenna Characteristics		1019-S1B5T					
K: DQG #5-Ka-Band Data Transmission	JPS-009	Payload Ka-Band Data Transmission		1039-JPSS-1					
	JPS-011	Payload Ka-Band Encoder Data Requirements		1039-JPSS-1					
	SYS-017	System Ka-Band Encoder RF Requirements		1068-SYS					
Reliability									
	BATT-005	Battery Reliability			1009-Batt				
	BST1-011	Booster Reliability			1025-S1B5T				
K: DQG #6-Reliability	JPS-005	Payload Reliability			1037-JPSS-1				
	SYS-020	System Reliability			1071-SYS				
Interoperability									
	BVUCD-001	Connectors and Adapters				1022-S1B5T			
	BVUCD-005	Directional Couplers				1019-S1B5T			
K: DQG #2 Interface requirements	BVUCD-006	Splitters and Combiners				1022-S1B5T			
	JPS-009	Payload Ka-Band Data Transmission				1039-JPSS-1			
Cyber security									
	BST-022	Booster Secure Data Transmission						1019-S1B5T	
	BVUCD-020	GS Secure Data Transmission						1019-S1B5T	
K: DQG #5-Secure operations	JPS-032	Payload Secure Data Transmission						1039-JPSS-1	
	SYS-027	Secure Data Transmission						1068-SYS	

- **Drive** Verification Planning
 - Not intended to replace verification plans or procedures although it is helpful to include EISs as annexes to these products for traceability
 - Intended to increase traceability throughout all phases of test & verification
- Be a Verification **SUMMARY**
 - Should be kept at a high level
 - Should not take more than an hour to create initial draft of an EIS
 - Should foster communication between stakeholders (Systems Engineering, Specialty Engineering, T&V, Project Controls and Customer personnel)
- Help Control the DT&E Program Baseline
 - Once a draft EIS is baselined, it can be locked and put under automated configuration control to retain a history of all approved changes
 - Needed to Ensure T&V Integrity for the FCA/PCA Process

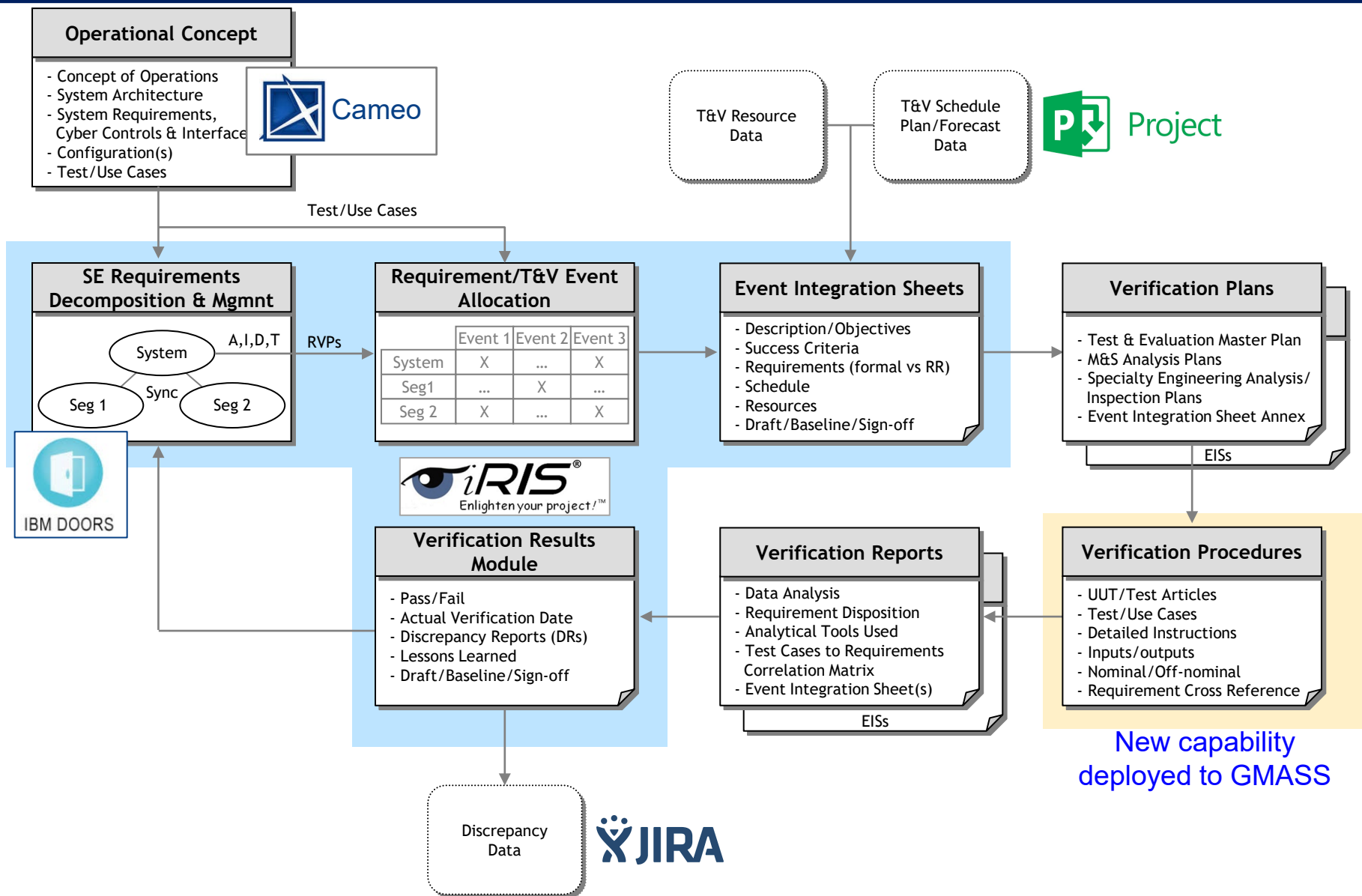
This occurs in lockstep with the Requirements to ensure
sell-off credit



iRIS in the System Engineering, Integration, and Test Ecosystem



iRIS in the Typical SE Tool Ecosystem



- Landing page
- Sample EIS
- Document Generator