**SESSION 1 Notes:**

**What are the current overall challenges to preparing documenting executing and reviewing SETRs?**

We don’t know where our data is for conducting SETRs.

Finding the data takes a long time.

Knowing and deciding which data to include and not include takes time and effort.

SETRs can take up to 3 months of time to prepare for.

“Getting data needed for SETRs from Gov is difficult”

When CTRs begin to prepare for a SETR, technical debt is discovered, making obtaining vital data more time consuming.

Another challenge is knowledge that is not written anywhere and resides in the knowledge and expertise of brains of individuals. This is problem is made worse when experts leave for another project, retire, move on, etc and take the knowledge needed with them. This high turnover occurs on both the CTR and GOV sides.

Another inhibitor to executing SETRs is the very large volume of data to consume in one meeting. It is too much to absorb in one sitting effectively.

Data, especially raw data is difficult to visualize. Data presented in SETRs is complex, a stale snapshot in time, and often incomplete as the work continues.

No Data governance and no data management systems cause issues.

The government is unresponsive.

Level of Functional Detail

Ability to view the functional design

Lifecycle impacts of functional decisions

Level of Functional Detail

Ability to view the functional design

Lifecycle impacts of functional decisions

1. Uncovering tech debt while preparing for event.

2. Not having model validation rules scoped appropriately

3. developing an agenda accessible to most attendees

Large Teams and different processes

Data that needs to come together but isn’t formatted

Finding the information

Being able to access the information

Knowing what the info is need for

Knowing what the criteria are

Disparate documents, version

Scheduling (getting right time for all the right people)

Synchronous is too late. Information/data is stagnant when dynamic models are not used

Gathering supporting data to modeify baseline requirements from customer and gaining approval. Outdated standards

Shared environment/Realtime access

Knowledgeable users/reviewers/stakeholders

How to logically walkthrough digital artifacts

Expectations are not clearly defined for model based digital product deliverable

Needing to convert models to document based CDRLs

Concurrent/iterative development not reflected

**What approaches (digital or otherwise) have you found successful in accelerating the SETR processes while increasing (or maintaining) the efficacy of the review?**

Access to data is the most important thing for accelerating/efficacy of review.

SMEs working on SETRs in advance before review with constant involvement.

Gov & CTRs working in the same IT system accelerates SETRS. On this note, classified systems are actually easier since the nature of the work usually requires both to be in the same system.

Implementing Digital signoffs on Government side in the digital environment for reviews.

Plan early for the review

Asynchronous comms, +Synchronous

Discuss baeline improv ahead of time with the customer. Drawing vs Form, Fit, Function of end item

Routine Reviews & feedback

Open communication

Gov ownership to drive quick response

Approaches that are successful:

Hybrid forms (ie PPT + models)

Don’t wait on the review

Digital signoffs in the model

1. dashboards (content diagram) that coordinates all info/threads (plus deliverables)

2. threads to tell the story (capability, performance, fixes)

**What digital tools platforms or methods have you used in your SETR processes? Have these been sufficient? Expand on successes, failures or gaps.**

Powerpoint is bad.

SFR- Doors/Cameo- good for high level overview.

Cameo – Know which elements to use, use the fuctional decomposition diagram to review requirements

Know your audience

Workers need training on how to present out of a cameo model.

Traceability

-Failure = unclear, not well defined roles

Documents in all different places activity

Content diagram dashboard

Powerpoint often not complete and or out of date with current state

Models: not everyone understands the model

Integrated system engineering environment (ISEE)- tailorable- not well used and adoption is slow

Cameo

PPT

CAD

LOCID

Teams

PDF

Digital Tools

Cameo-SysML

PLM-Platform

Cameo for system functional modeling

Multiple simulation tools to evaluate functional trades

**What are the lessons learned from the approaches you’ve tried or participated in?**

Plan well

Upfront discussions

Knowing approach expectations – 1st time is rough

Do dry runs.

Access to tools is vital

Need to plan well

Need to train the team on what to do and how to do it

Need to make sure everyone has access to the needed models and data

Be okay with it not going smoothly the first time

Be willing to share areas you haven’t fully designed/captured details yet

Drive conversation, not blame

Lessons Learned:

Presenting format based on audience familiarity with content

Visualization and explanation by SMEs is hard. Reviews take preparation beyond the powerpoint. Model based reviews would take in traditional format

**What specific cultural attributes are need to change to successfully implement the approaches identified above? Are there risks or impediments, and how would you mitigate or overcome them?**

Openness

Gov responsiveness

Engage with information/data BEFORE the SETR review.

Put teams together instead

Siloed teams needs to change

US vs Them mentality

Risks=wasted time, lost information

People need to be engaged well before a review

Communicate

Lead by example

Easy access to digital platforms

Impediments: lack of common ontology, interoperable tools. Fix=standardization

Customer and contractor willing to not get it right the first time

Shared responsibility for success

Contractor deliver what is expected

Gov does not drive scope creep

Cultural Attributes:

Openness

Learning

Continuous Review in the model- start early!

Most reviewers need to be able to read model views

Continuity across TMRQ and EMD contracts

**SESSION 1 (part 2) Notes:**

**Do the listed digital engineering criteria make sense for your selected SETR event?**

Yes, not enough though not enough specifics.

1. yes but depends on maturity level

Add KPP (key performance parameters) and critical TPMs (technical performance measurement)

Functional allocation is completed to Hardware and software

Could be more specific

There should probably be more of them

**Are there any criteria you would add, change or remove?**

Add- specify tool used and which style guide to use in contract. Specify tools used on CTR side in SEMP.

Add- trace views, more views from component, function, requirement functional allocation.

Add- baselines and change metrics

ADD- trades, cost trades

Tag data at SFRs for review.

Trace views could be specified

Need to include ICD of critical interfaces

Validation- meet end user need

NFRs are allocated to functional reqs next level down

Cost schedule executability

1. Missing key trades
2. Interface/signal info
3. Allocations

Digital Thread maintenance MX plan

Trace to capability SPR baseline

How to get to allocated

**Do the listed criteria represent a reasonable digital maturity for the SETR event?**

No. Enable everyone. Give them tools and training.

No . need to ID specific data required

GOV and CTR are able to execute the review in the digital mbse baseline

Action item closure accelerated

**SESSION 2 Notes:**

**How would you change/eliminate/redesign the technical reviews in this new world?**

Eliminate the names, but not the functions of the SETRs.

Make all SETRs continuous, in parallel to one another, and review in an AGILE cadence.

Automate the creation of a “SETR-like” meeting upon triggering events, such as a changes to vital aspects of the architecture or program

Have this researched by newly grads, for what needs to be eliminated, how this could be implemented.

Create flexibility in contract to implement agile workflows

Create flatter organizations

increase communication between GOV/CTRs

Eliminate SETRs. Have integration events, gather data during these integration events. If Gov is involved with data continuously, no need to hold special SETR events. SETRs become unnecessary.

SANDIA removed powerpoint SETRs, and saved 3 months of labor/time.

All acquisition professionals need MBSE training.

SysML needs to be easier.

**Map out the technical reviews process to make it a reality**

**Continuous Access to Data/Continuous Review of Data (CA/CR)**

Gather/analyze test/integration data

TEM

Integration/Test Event

Design

Defined roles and responsibilities assigned to individuals to continuously review.