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| **Table Number: SVR/FCA Facilitator Name: Pam Kobryn** | |
| **Session 1 Part 1: Implementing Digital SETRs** | |
| For SETR processes in general, please use the space below to answer the following questions. If continuing your answers on a different page, please use the question number, e.g. 1.c, to indicate what you are responding to. | |
| **Overall SETR Process**   1. What are the current overall challenges to preparing, documenting, executing, and reviewing SETRs? 2. What approaches (digital or otherwise) have you found successful in accelerating the SETR process while increasing (or maintaining) the efficacy of the review? 3. What digital tools, platforms, or methods have you used in your SETR processes? Have these been sufficient? Expand on successes, failures or gaps. 4. What are the lessons learned from the approaches you've tried or participated in? 5. (optional) What specific cultural attributes need to change to successfully implement the approaches identified above? Are their risks or impediments, and how would you mitigate or overcome them?   1a.  Siloed approach  Unclear srandards and req’ts  Org inconsistencies in gathering documentation among different IPTs  Capturing the baseline and characterizing risks  Inconsistent def’n of inputs and outputs  Differences in scope and scale of programs (e.g. ACAT levels)  Running the SETRs – more info to review than can be reviewed in allotted time (days, weeks)  Trying to use new methods while crunched for time  Siloed tools that get concatenated into pptx; config control & admin burden is high and error prone  Reviewing a snapshot of data than the actual data  Data access & info sharing; inconsistent media (SysML, DOORS, Word, etc.) – difficult to synthesize for decision makers  Classification/security challenges for data access  Driving standards to cover past and future  MBSE: assessing maturity of an MBSE design in each SETR? Training to understand artifacts  Deliverables: documents, diagrams, data sets, models?  Reviews are in addition to everyone’s day jobs!  1b.  Access to system integrator’s IT ecosystem (ASOT)  Getting away from pptx engineering – pulling artifacts from ecosystem  Digital integration – data access + integration from req’ts to design  Prepping a digital framework: being able to reach the ASOT directly – making sure the ASOT is in a format that is accessible and usable  Making sure that we understand what the req’ts are upfront and expectations about deliverables and access  MBSE maturity assessment – clear success criteria and logical roadmap to achieve them  Get info from the source and promote reuse  Clearly defined ASOT for all data artifacts  Have someone from the reviewer’s staff riding along with the program  Threading the middle ground between pptx and dumping the model by using curation to provide a pathway for understanding  1c.  Pptx: 3  Excel: 2-4  DOORS: 1-3  Jama: 3  Confluence for KM: 3-4  Jira: 3  Metra: 3  Cameo: 2-4 (very user dependent)  NASTRAN/PASTRAN, solidworks (4-5)  proposal eval system (will find the name, but there are few) 4  3DX: integrator tool is very powerful if you use Cameo  ASOT + digital thread methodology: need to make sure it is in a single environment or that cybersecurity doesn’t limit crossing them  3-ring binders: printed form works for a lot of people and uses!  LaunchPad: too few licenses, two sandboxes don’t talk to each other; no good tool-of-tools integrator; lack of training on which licenses to use when # of licenses is limited  Lesson learned: these reviews can never cut deep enough – need to focus on getting the mission-critical, key things locked in so you review what really matters! | |
| **Session 1 Part 2: Implementing Digital SETRs** | |
| For your designated SETR event, please use the space below to answer the following questions. If continuing your answers on a different page, please use the question number, e.g. 1.c, to indicate what you are responding to. | |
| **Circle your table’s designated SETR Event** | |
| 1. Systems Requirements Review (SRR)  2. Systems Functional Review (SFR)  3. Preliminary Design Review (PDR)  4. Critical Design Review (CDR) | 5. Test Readiness Review (TRR)  6. System Verification Review/Functional Configuration Audit  7. Production Readiness Review (PRR)  8. Physical Configuration Audit (PCA) |
| **Specific Digital SETR Gate Criteria (as specified by your table marker)**  For the Digital Engineering criteria proposed for your selected SETR event in the provided “Digital SETR Gate Criteria” document,   1. Do the listed digital engineering criteria make sense for your selected SETR event? 2. Are there any criteria you would add, change, or remove? (Annotate the Gate Criteria doc if helpful) 3. Do the listed criteria represent a reasonable digital maturity for the SETR event?   2a. Make sense in general  2b.  Sufficiency of artifacts needs to be defined/assessed  Independent assessment of the artifacts  Why no physical baseline?  Add details re: types of digital artifacts and **associated standards** aligned to level of desired digital maturity  Doing the reviews incrementally and transparently on the journey rather than a big bang at the end (continuous reviews as artifacts are created/reviewed/released)  Add specificity to ‘stored in the digital engineering ecosystem’ – e.g., enterprise IDEs, PoR IDEs, OEM IDEs all okay?  Need to consider ‘digital artifacts as a service’ as part of a data management plan  Need to make sure the development program conformed to the statement of work – are the ‘shalls in the SOW’ met?  Digital thread of SVR/FCA digital artifacts is also important; else you get a database that is a snapshot for the SVR/FCA event  2c. Digital maturity is in the eye of the beholder – different programs at different points must tailor to their targeted level of digital maturity | |

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| **Session 2: Future State of Technical Reviews** |
| Under the premise that we are now in 2045 where DMM has been actualized, what would the process of technical reviews be?  1. How would you change / eliminate / redesign the technical reviews in this new world?  2. Map out the new technical reviews process to make it a reality  1.   * Persistent, always-updated visualization connected to the real data that shows status at all times– only have reviews when something changes or to confirm everything is good – use of easy-to-interpret graphics to show gaps and areas of risk * Gov’t needs specific functional leads for domain areas to be persistently engaged w/ the contractor’s technical team * Need a smaller review to confirm authorization to proceed – ‘go for launch’ * Fully defined JSE; fully defined standards; GenAI agent checks the models/data (structured and unstructured) and flags stuff for the human to engage; perfect requirements; WBS defines the criteria based on knowledge of the program and the ecosystem; dashboard shows status * Combine AI and Digital Thread: AI Agent crawls through digital artifacts and delivers insights * Digital stuff is automagically configured and displayed for each consumer/stakeholder * SysEng & s/w engineering are coming together – sim can be used to show the customer that the system is going to perform the way it is intended to perform w/o the customer needing to know the details of SysML, etc.; the sim builds over time as the program matures; more VV&A from sim earlier in the program – physical VV&A not eliminated, but augmented w/ physical test * Gov’t owns a digital baseline that is composable – contractors can plug their stuff into it * Reviews focus on how to handle risks – can we move forward with acceptable risk, and what, if anything, will we do to monitor and burn down the accepted risk? Setting guardrails and different thresholds for compliance at different stages in a program – make it easier for the humans to discuss and decide * Fidelity of compliance assessment improves as the program progresses – you tighten the criteria as you go; can’t completely eliminate entrance and exist criteria if they are tied to contractor payments – need to have an objective way of assessing progress towards delivering a viable system   2.   * New SETR process focuses on gates for proceeding w/ next part of the program w/ acceptable risk * Problem space * Design space * Build / integration space * Verification space * Need to start way before SRR!!!!! * Need to focus on assessing risk – threat posture is relevant – might want to accept more risk to go faster – this can’t be a zero-risk process! * At a high level, some reviews can be combined * Different parts of a system can go through the SETRs at different times * Can trade depth of SETRs for trust in the automated systems that are being used to assess the baseline to go faster * Need to get better insight into where margin comes from and why it exists – lack of confidence in how the user will use the system vs. level of confidence in design systems, manufacturing systems, testing vs. holding margin for future envelope expansion * Role of the government in using the digital ecosystem to define entrance/exit criteria up front – leveraging artifacts in the digital ecosystem and GenAI to gain insight - and owning the technical baseline all along; working with the contractor and updating the Service Acq Exec (vs contractor updating the SAE) * Gov needs to strike the right balance of getting into the details and being overly intrusive – needs to focus on most important things, not the things the SME is curious about |
| **Additional Comments/Feedback** |
| Please provide any additional comments or suggestions on SETRs, Digital Transformation, or other areas you would like to express to the Air Force Material Command.  Please also include on feedback on the workshop, or recommendations for workshops or events you would like to participate in the future. |