

Tri-Service Study 2011

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DETEC Mission



DETEC is funded by the Central Test and Evaluation Investment Program

- Develop Joint T&E MRTFB infrastructure required for T&E of DEW systems
 - Instrumentation
 - Equipment
 - Software tools
- DEW systems supported
 - High energy laser (HEL)
 - High power microwave (HPM)
- Coordinate T&E needs with TRMC S&T efforts



DETEC – Directed Energy Test and Evaluation Capability

MRTFB – Major Range and Test Facility Base

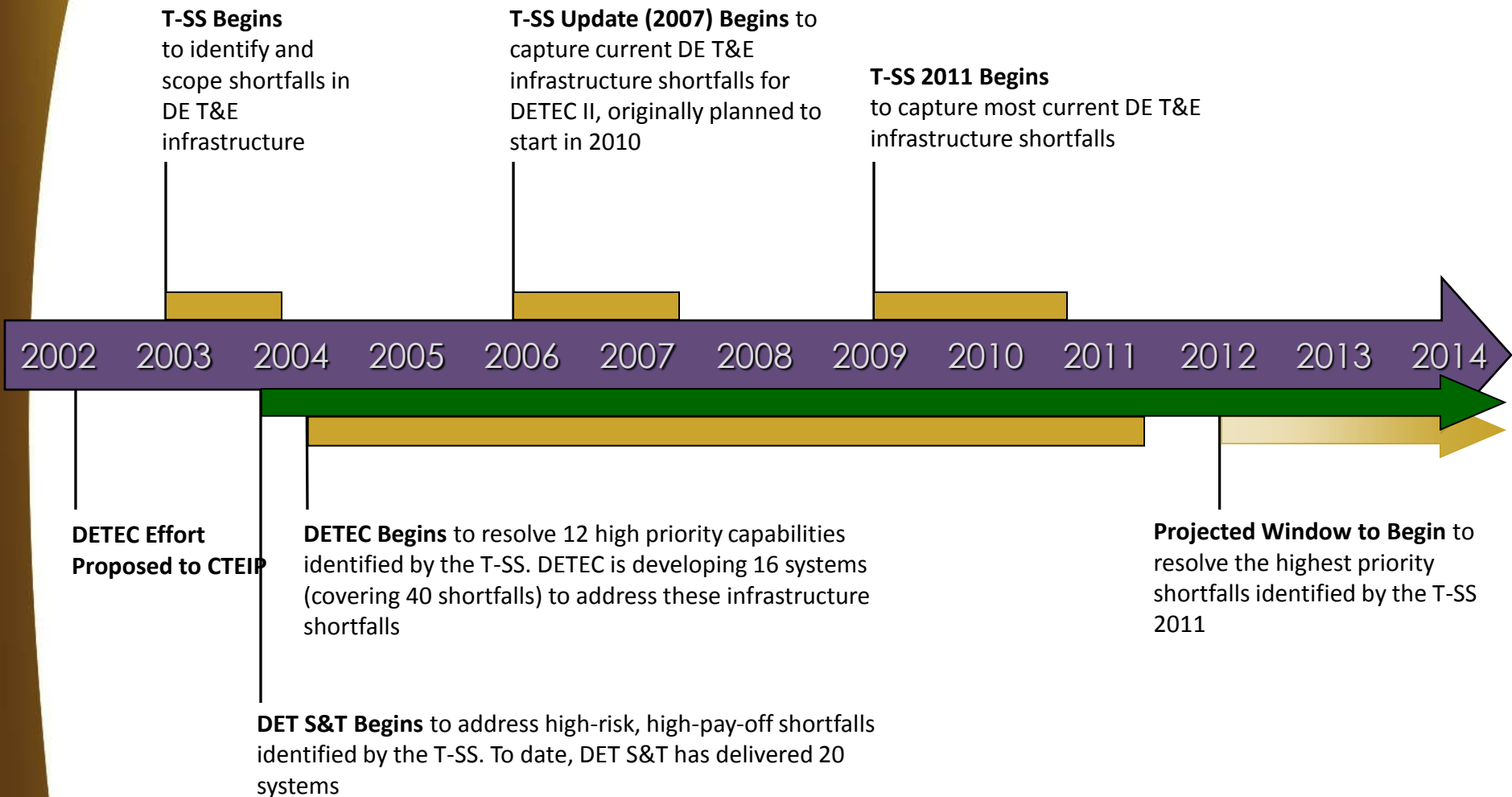
DEW – Directed Energy Weapon

TRMC – Test Resource Management Center

T&E – Test and Evaluation



DETEC History



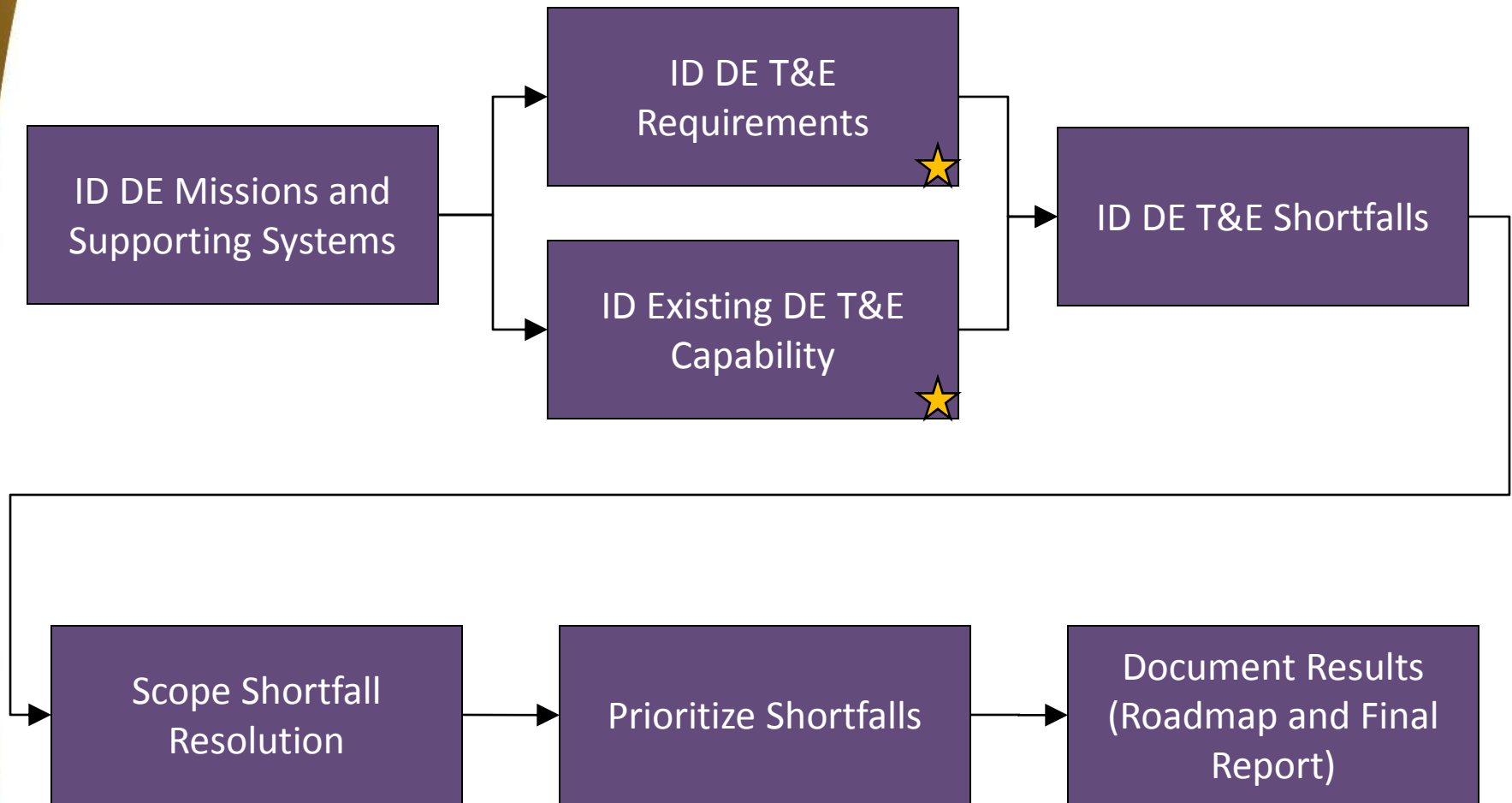


T-SS Overview

- Tri-Service Study
 - Objective: identify DE T&E infrastructure shortfalls emphasizing current changes to baseline
 - Goal: reduce DE weapons programs' need to pay for T&E infrastructure; prevent delays to programs awaiting T&E
- Scope
 - T&E infrastructure unique to DE testing
 - HEL and HPM domains
 - Impacts all test activities - modeling and simulation (M&S), developmental T&E (DT&E), operational T&E (OT&E), and live-fire T&E (LFT&E)
 - Across all phases of a test event (planning, rehearsal and execution, analysis)
 - Blue DEW vs. Red target and Red DEW vs. Blue target
 - Leverage existing MRTFB infrastructure



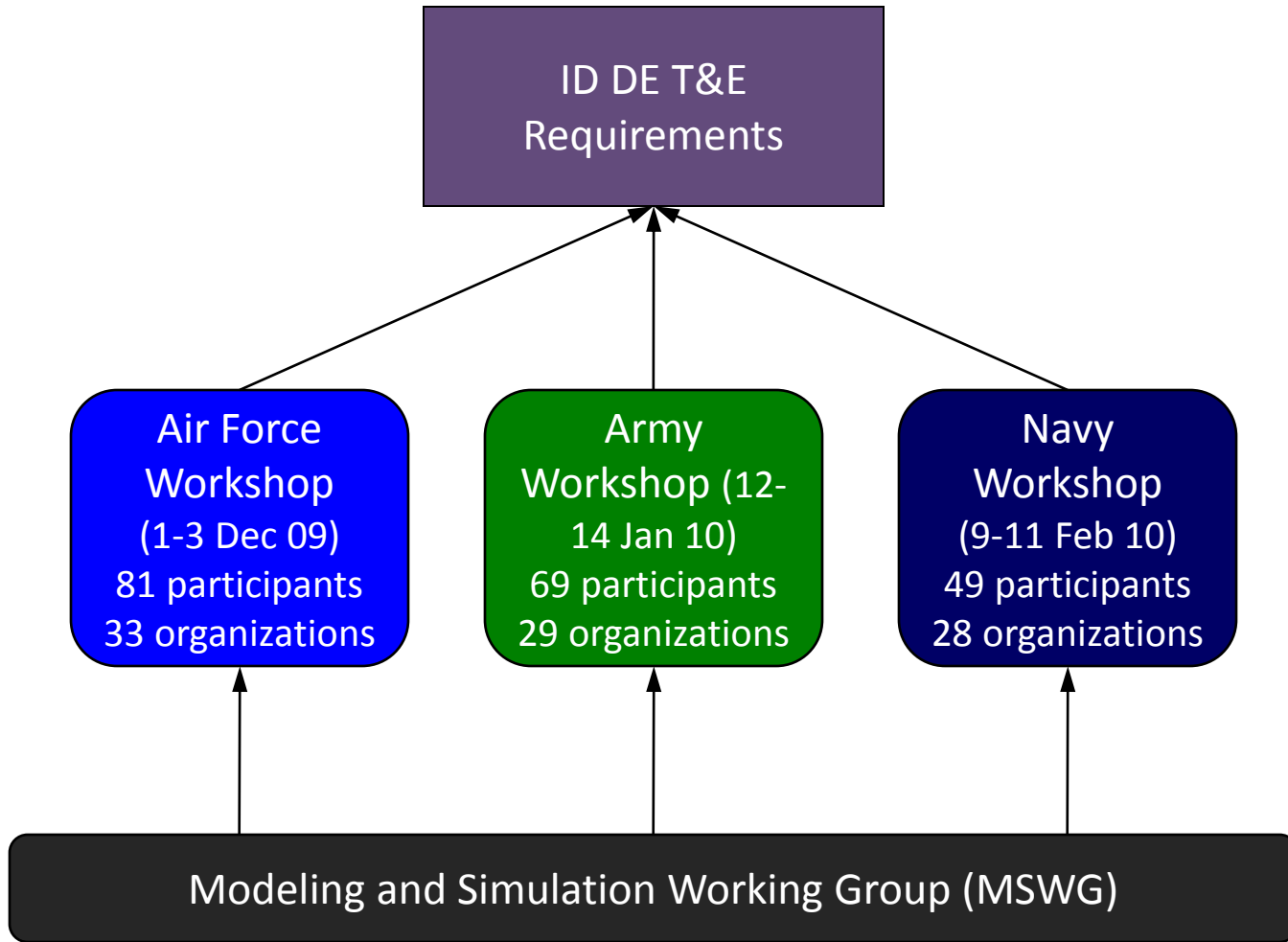
T-SS Process



★ Denotes Modeling and Simulation Working Group (MSWG) Participation

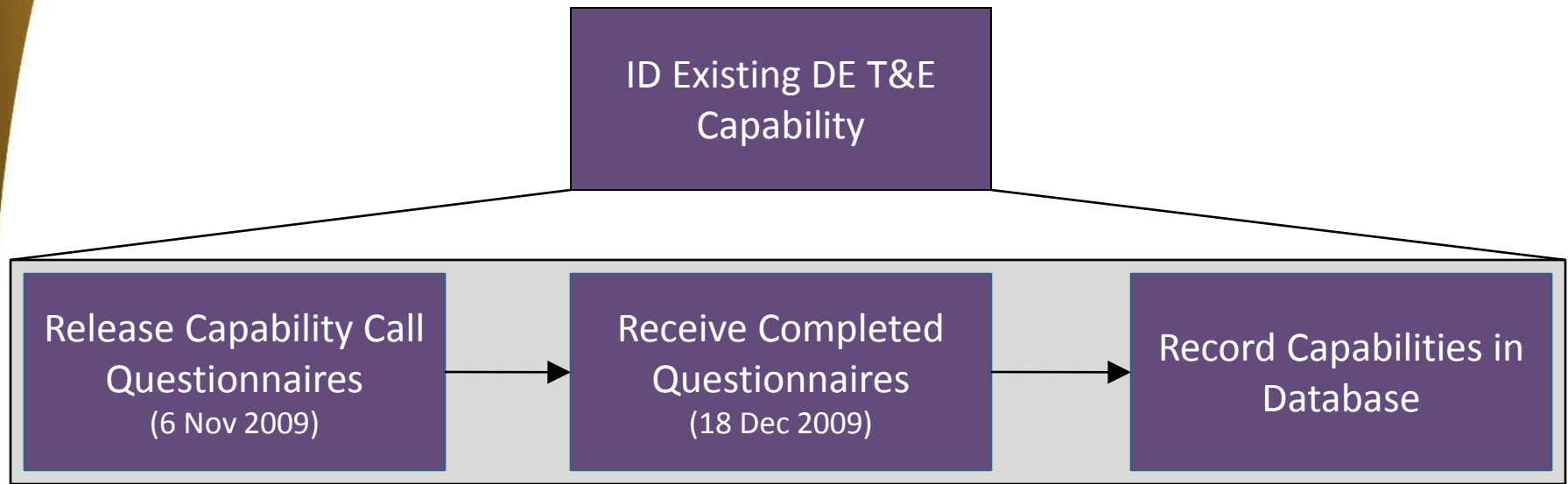


Service Workshops





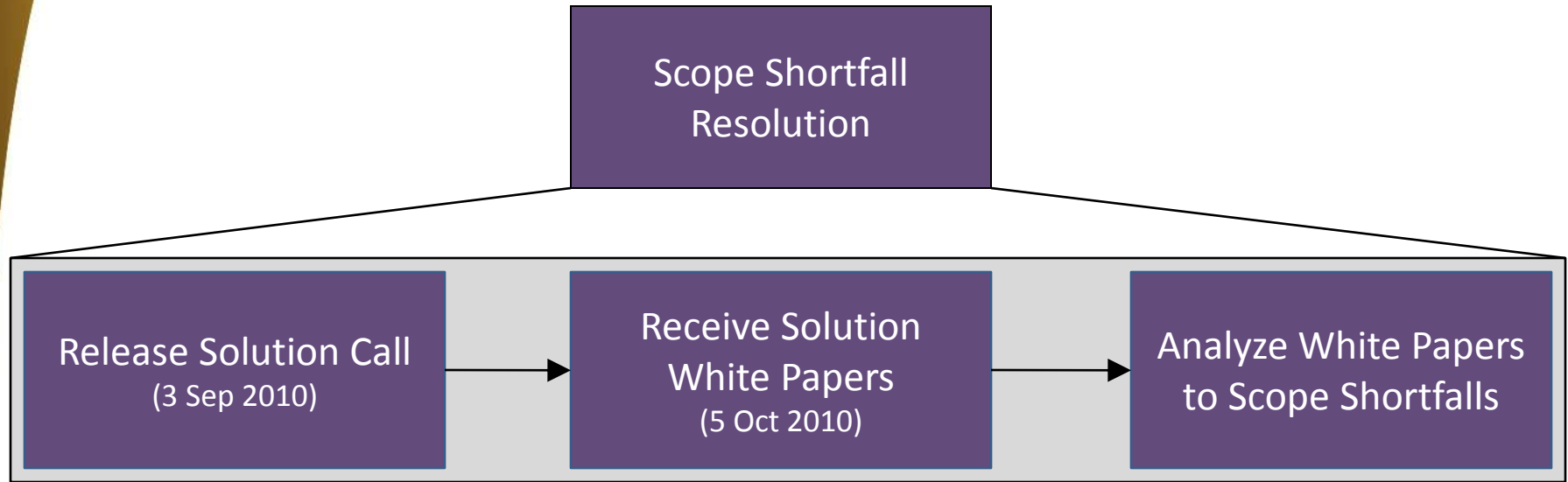
Capability Call



- Capability Call consists of four questionnaires to the DE community to assess what DE T&E capabilities currently exist
- Returned questionnaires were entered into the database for comparison with DE T&E requirements identified through Service Workshops
- Over 30 completed questionnaires received from 20+ organizations



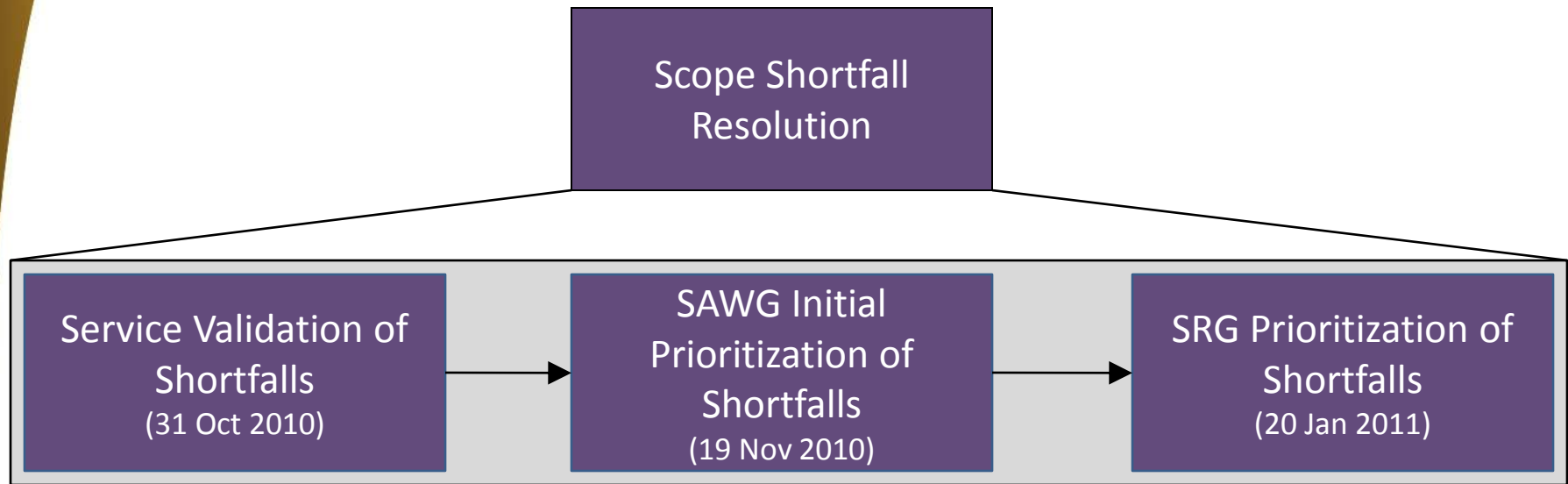
Solution Call



- Solution Call requested a short white paper from the DE community
- Government, industry, and academia participated
- Responses help DETEC determine cost, schedule, and risk of T-SS 2011 identified shortfalls



SAWG and SRG Review



- Services met on 31 October to validate shortfalls Identified by the T-SS 2011
- Senior Analyst Working Group (SAWG) met on 19 November to establish initial priority of shortfalls
- Senior Review Group (SRG) composed of an SES from each service and a representative from the Electronic Combat (EC) Reliance Panel met on 20 January to finalize the T-SS 2011 shortfall priority



T-SS 2011 Results

#	Domain	Capability Shortfall
1	HPM	Non-intrusive E-field and B-field probes
2	HPM	X-band surrogate narrowband threat source
3	HEL	CW irradiance measurement on surface moving target board, towed airborne target board, and actual target
4	HPM	C-band surrogate narrowband threat source
5	HPM	Multiple node wireless data acquisition system
6	HEL	Imagery of airborne targets
7	HEL	Front target surface temperature
8	HEL	Dynamic hazard analysis tool (M&S)
9	HEL	Predictive avoidance and airspace deconfliction tools (M&S)
10	HPM	Beam propagation in and near surfaces (M&S)
11	HPM	THP/Builder integration (M&S)



Conclusion

- T-SS 2011 identified 11 high priority capability shortfalls
- In process of documenting final results and delivering to the Test Resource Management Center (TRMC)
- Collecting Service endorsements of the T-SS 2011 results