

Affordable Systems: Balancing the Capability, Schedule, Flexibility, and Technical Debt Tradespace

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Abstract. With the increasing demands for affordable system capabilities that can be provided quickly to the user community, developers must explore a variety of options for identifying _satisficing_ solutions. The system capability affordability tradespace must balance expedited systems engineering to reduce schedule and cost, encourage flexibility in architecture decisions to support future evolution of the system, and minimize technical debt that either results in later rework or adversely impacts future options. This paper shows how the University of Southern California (USC) Center for Systems and Software Engineering (CSSE) software and systems engineering cost models can be used in the analysis of this tradespace to show the range of options and the resulting consequences.