**System of Systems Engineering
Collaborators Information Exchange (SoSECIE)**

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Feature-based Product Line Engineering in Aerospace and Defense

*Presenter: Dr. Charles Krueger, Chief Executive Officer and Founder
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Abstract
In April 2021, it became official: The ISO/IEC 26580 on "Methods and Tools for the Feature-based Approach to Software and Systems Product Line Engineering" was released as a full international standard [**https://www.iso.org/standard/43139.html**].   For the aerospace and defense industry, this means that a powerful engineering approach created to deliver unprecedented cost avoidance and increased quality, can now be readily and unambiguously mandated in RFPs and contracts, and provided by contractors, citing an authoritative definition from the international engineering community.

According to the International Council on Systems Engineering (INCOSE), which spearheaded the creation of the standard, Feature-based PLE refers to the engineering of a portfolio of related products using a shared set of engineering **assets**, a managed set of features, and an automated means of production. Each product is described by giving a list of its features, which express product differences in all lifecycle phase artifacts. These shared assets (requirements, designs, code, test cases, user manuals, etc.) are configured appropriately for each member of the product line by an automated commercial tool called a configurator. Instead of clone-and-own and wasteful copy-based reuse, the shared assets are maintained to serve all the products in the product line, resulting in cost avoidance that, in some cases, total hundreds of millions of dollars[2].

This webinar will discuss the standard and how aerospace and defense organizations are successfully crossing the chasm to reduce complexity and realize huge efficiencies and financial savings.

Biography
Dr. Charles Krueger is founder and CEO of BigLever Software, which for over 20 years has helped organizations adopt and benefit from Feature-based Product Line Engineering (PLE). With more than 30 years of experience in systems and software engineering practice, he is a premier speaker, widely published author, and acknowledged thought leader in the PLE arena. He brings innovative PLE concepts, state-of-the-art methodologies, and success stories to the forefront of the systems engineering community. He was the lead editor for the ISO/IEC 26580 standard on Feature-based PLE and past co-chair for the INCOSE PLE International Working Group.