### Security Case for ACAS Xu

\*\*G0: ACAS Xu satisfies security requirements\*\*

- \*\*C0: Description of ACAS Xu\*\*

- \*\*C1: SR are requirements about protecting the system from malicious entities\*\*

- \*\*J0: The argumentation is based on satisfaction of SRs\*\*

- \*\*A0: System SRS are complete, adequate, and consistent\*\*

- \*\*S0: Argue through asset protection and secure development requirements\*\*

- \*\*G1: ACAS Xu satisfies the asset protection requirements\*\*

- \*\*A1: Asset inventory is established\*\*

- \*\*S1: Argue through the different stages of the system development life cycle\*\*

- \*\*G3: Asset protection requirements are met during the architecture design phase\*\*

- \*\*C2: Description of the ACAS Xu architecture\*\*

- \*\*S2: Argue through deriving security threats from SRs\*\*

- \*\*J1: Detection and mitigation of threats fulfill SRs\*\*

- \*\*G5: ACAS Xu architecture is protected against identified security threats (STs)\*\*

- \*\*A2: All relevant threats have been identified\*\*

- \*\*S3: Argue over each security threat\*\*

- \*\*G0.X: ACAS Xu architecture is protected against STX\*\* (undeveloped)

- \*\*G4: Asset protection requirements are met during other phases\*\* (undeveloped)

- \*\*G2: ACAS Xu satisfies secure development requirements\*\* (undevelopstantiated)

- \*\*G6: ACAS Xu architecture is validated\*\* (undevelopstantiated)

- \*\*C3: Description of ACAS Xu architecture model\*\*

- \*\*A3: ACAS Xu architecture model is well defined in a formal method\*\*

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The hierarchical tree format is represented by using dashes (-) to indicate different levels, with each level representing a deeper layer in the assurance case structure. This includes goals, strategies, contexts, justifications, and assumptions, forming a structured argument that ACAS Xu satisfies its security requirements.