Based on the provided security case pattern and the domain information for Instant Messaging (IM) software, here's how we can instantiate the pattern to create a security case. I will replace placeholders, apply contexts, assumptions, and use appropriate examples of critical assets and asset types from the domain information.

@Assurance\_case

- G1: Instant Messaging software is acceptably secure in the system.

- \*\*Contexts\*\*

- C1: Instant Messaging (IM) software allows users to exchange messages instantly. Includes features and data central to user interactions.

- C2: System refers to the set of software and hardware that facilitates the operation of IM software within a specific operational environment.

- C3: "Acceptably secure" implies comprehensive protection against unauthorized data access, preventing data leaks and ensuring data integrity and confidentiality.

- \*\*Justifications\*\*

- J1: Protecting all assets of the software ensures the overall security of the software, aligning with industry standards and regulatory requirements.

- \*\*Supported By\*\*

- S1: Argument that software assets are under protection

- J1: Protection of software assets supports that software is acceptably secure

- \*\*Supported By\*\*

- G2: All identified IM software critical assets are protected

- \*\*Contexts\*\*

- C4: Critical assets include Registration information, Registration process, User account information, Authentication information, Login process, Chat logs.

- \*\*Supported By\*\*

- S2: Respective arguments of software critical assets

- \*\*Supported By\*\*

- G3: IM software critical asset is protected

- \*\*Supported By\*\*

- S3: Argument of the type which the IM software critical asset belongs to

- \*\*Contexts\*\*

- C5: Critical assets as classified under PEDD - Process, Environment Entity, Data Exchange, Data Storage.

- \*\*Justifications\*\*

- J3: Types of software assets are according to PEDD classification, ensuring comprehensive coverage.

- \*\*Supported By\*\*

- G4: User account information which belongs to Data Storage is protected

- G4: Registration process which belongs to Process is protected

- G4: Login process which belongs to Process is protected

- G4: Chat logs which belong to Data Storage is protected

- @End\_Assurance\_case

This hierarchy represents the structure of the assurance case, where strategies support goals, contexts and justifications provide clarity and grounds, and each point is laid out to show the connection down from the general security assertion of the IM software to specific asset protections.