Based on the provided security case pattern for instant messaging (IM) software, we instantiate the placeholders with specific IM software information and structure it in a hierarchical tree.

@Assurance\_case

G1: Instant Messaging Software is acceptably secure in managed systems.

- C1: Definition and description of Instant Messaging Software

- C2: Definition and description of managed systems

- C3: Definition of "acceptably secure"

- S1: Argument that software assets are under protection

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

- G2: All identified software critical assets are protected

- S2: Respective arguments of software critical assets

- C4: List of Instant Messaging Software critical assets

1. Registration information

2. User account information

3. Authentication information

4. Chat logs

- J2: Relationship between assets is clear and can be argued separately

- G3.1: Registration information is protected

- G3.2: User account information is protected

- G3.3: Authentication information is protected

- G3.4: Chat logs are protected

- S3.1: Argument of type: Data Exchange

- S3.2: Argument of type: Environment Entity

- S3.3: Argument of type: Data Exchange

- S3.4: Argument of type: Data Storage

- C5: List of software critical asset types in PEDD

1. Process

2. Environment Entity

3. Data Exchange

4. Data Storage

- J3: Types of software assets are according to PEDD

- G4.1: Registration information which belongs to Data Exchange is protected

- G4.2: User account information which belongs to Environment Entity is protected

- G4.3: Authentication information which belongs to Data Exchange is protected

- G4.4: Chat logs which belong to Data Storage are protected

@End\_Assurance\_case

This hierarchical tree depicts the instantiated security case derived from the general pattern for the specific context of Instant Messaging (IM) software, showing the goals, strategies, justifications, and context needed to argue that the IM software is secure.