Below is the hierarchical tree format for a security case specific to Instant Messaging (IM) software, derived from the provided security case pattern.

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G1: Instant Messaging (IM) software is acceptably secure in the system.

- C1: Definition and description of IM software.

- C2: Definition and description of the system.

- C3: Definition of acceptably secure.

- S1: Argument that IM software's assets are under protection.

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

- G2: All identified IM software critical assets are protected.

- S2: Respective arguments for IM software critical assets.

- C4: List of IM software critical assets.

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

- G3: Registration information is protected.

- S3: Argument of the type to which registration information belongs.

- C5: List of software critical asset types in PEDD.

- J3: Types of software assets are according to PEDD.

- G4: Registration information, which belongs to Data Storage type, is protected.

- G3: Registration process is protected.

- S3: Argument of the type to which the registration process belongs.

- C5: List of software critical asset types in PEDD.

- J3: Types of software assets are according to PEDD.

- G4: Registration process, which belongs to Process type, is protected.

- G3: User account information is protected.

- S3: Argument of the type to which user account information belongs.

- C5: List of software critical asset types in PEDD.

- J3: Types of software assets are according to PEDD.

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

- G3: Authentication information is protected.

- S3: Argument of the type to which authentication information belongs.

- C5: List of software critical asset types in PEDD.

- J3: Types of software assets are according to PEDD.

- G4: Authentication information, which belongs to Data Storage type, is protected.

- G3: Login process is protected.

- S3: Argument of the type to which the login process belongs.

- C5: List of software critical asset types in PEDD.

- J3: Types of software assets are according to PEDD.

- G4: Login process, which belongs to Process type, is protected.

- G3: Chat logs are protected.

- S3: Argument of the type to which chat logs belong.

- C5: List of software critical asset types in PEDD.

- J3: Types of software assets are according to PEDD.

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

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This tree structure indicates that the IM software's security assurance case covers the protection of all critical assets specified in the domain information using the provided security case pattern.