Below is the hierarchical tree format for the security case of an Instant Messaging (IM) software:

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- G1: The Instant Messaging (IM) software is acceptably secure in the given system

- C1: Definition and description of Instant Messaging (IM) software

- C2: Definition and description of the system

- C3: Definition of acceptably secure

- S1: Argument that software assets are under protection

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

- G2: All identified software critical assets are protected

- S2: Respective arguments of software critical assets

- C4: List of Instant Messaging (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 which the software critical asset belongs to

- 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 is protected

- G3: Registration process is protected

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

- 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 is protected

- G3: User account information is protected

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

- 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 is protected

- G3: Authentication information is protected

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

- 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 Exchange is protected

- G3: Login process is protected

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

- 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 is protected

- G3: Chat logs are protected

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

- 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 is protected

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This hierarchical structure captures the given security pattern for the Instant Messaging (IM) software, detailing the critical assets and their respective protections according to PEDD classification.