Based on the pattern provided and the domain information about Instant Messaging (IM) software, here's how the security case would be instantiated in a hierarchical tree format:

@Assurance\_case

- G1: "IM software" is acceptably secure in "IM system"

- S1: Argument that software assets are under protection

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

- C1: Definition and description of "IM software"

- C2: Definition and description of "IM system"

- C3: Definition of "acceptably secure" as ensuring protection of all critical assets

- G2: All identified software critical assets are protected

- S2: Respective arguments of software critical assets

- C4: List of "IM software" critical assets includes "Registration information, Registration process, User account information, Authentication information, Login process, Chat logs."

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

- G3.1: "Registration information" is protected

- G3.2: "Registration process" is protected

- G3.3: "User account information" is protected

- G3.4: "Authentication information" is protected

- G3.5: "Login process" is protected

- G3.6: "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 includes "Process, Environment Entity, Data Exchange, Data Storage"

- J3: Types of software assets are according to PEDD

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

- G4.2: "Registration process" which belongs to "Process" is protected

- G4.3: "User account information" which belongs to "Data Storage" is protected

- G4.4: "Authentication information" which belongs to "Data Exchange" is protected

- G4.5: "Login process" which belongs to "Process" is protected

- G4.6: "Chat logs" which belongs to "Data Storage" is protected

@End\_Assurance\_case

In this tree structure:

- Each 'G' denotes a Goal.

- Each 'S' denotes a Strategy.

- Each 'C' denotes a Context.

- Each 'J' denotes a Justification.

- The tree structure clearly defines how each goal is supported by strategies, and how each strategy and goal is contextualized or justified, reflecting the interconnectedness and layered defense strategy for ensuring the security of the IM software.