IVY

- Ivy is a Distributed Shared Memory (DSM) system designed to provide sequential consistency in a decentralized architecture.

- Sequential Consistency Conditions

- 1. Program Order: Operations from the same process are executed in program order.

- 2. Visibility: Operations are visible to all processes in the same order.

- 3. Coherence: Operations on shared variables are executed atomically.

- Key Mechanisms

- 1. Multiple Writer Initiative (MWI): Ensures all nodes agree on write order.

- 2. Version Numbers: Tracks updates to shared variables.

- 3. Vector Clocks: Maintains order of operations.

- 4. Lock Management: Ensures exclusive access.

- 5. Decentralized Architecture: Allows local copies of shared variables