MAK Legion

A Next-generation **Scalability** and **Communications** Framework to Manage and Deliver **Millions of Entities**

Proven Scalability and Flexibility

- 3.8-million cloud-hosted entities demonstrated for the US Army Synthetic Training Environment
- Initial integrations proven with VBS4, Unreal, Unity, OneSAF, VR-Forces, VR-Vantage
- Designed for both cloud and local deployment on multiple platforms

USE CASES

- BRIGADE AND ABOVE EXERCISES
- MEGA CITIES
- MODELING GLOBAL AIR TRAFFIC
- THEATER LEVEL WARGAMES
- PATTERN OF LIFE

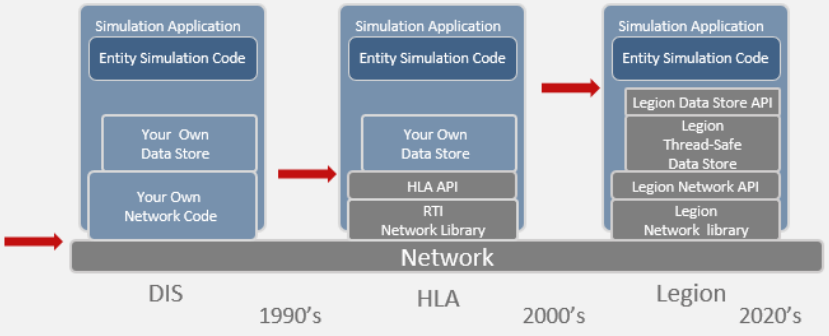
Legion is composed of:

- Legion Data Store Library – to enable optimized multi-threaded simulation applications
- Legion Network Library – to efficiently pass updates and events between applications
- Legion Entity Server – to maintain and serve authoritative state based on client interest

Standard Legion Object Model based on DIS/RPR/SISO Enumerations can be extended or replaced by built-in Legion Code Generator

MAK, the company that made DIS and HLA easy, is bringing you the next generation interoperability framework.

Legion will be supported in addition to DIS and HLA.



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Legion Achieves Unprecedented Performance and Scale

1 Thread-safe Data Store

- Enables applications to simulate, read, and write many entities in parallel – taking full advantage of available hardware

2 Data-Oriented Design

- Highly-optimized run-time data storage - in contiguous memory for cache coherency
- Object-oriented API layer provides ease-of-use

3 Data Remains in Single Consistent Format Throughout the System

- Network Library, Data Store, and Entity Server designed as one coherent system
- Eliminates expensive data copies, marshalling, and conversions

4 Optimized Network Utilization

- Thousands of entities bundled into a single large packet each frame
- Entity Server sends only the data needed by each client, and only what's changed

5 Relevance Filtering on the Server

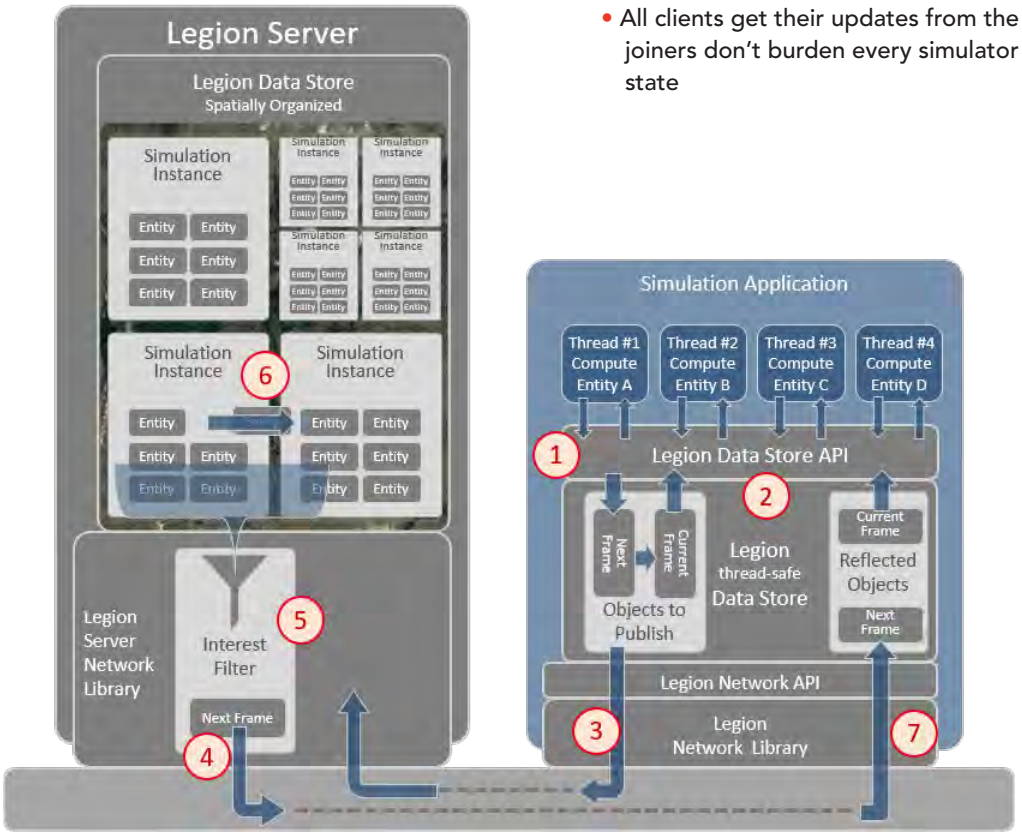
- Server's Data Store spatially organized
- Server filters against interest criteria

6 Spatial Organization & Ownership Transfer

- Keeps entities spatially organized as they move through the virtual world

7 Optimized for Late Joiners

- All clients get their updates from the server, so late joiners don't burden every simulator to provide initial state



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