Use of a Systems Information Broker to Aide in the Dynamic Interfacing of C2 Nodes

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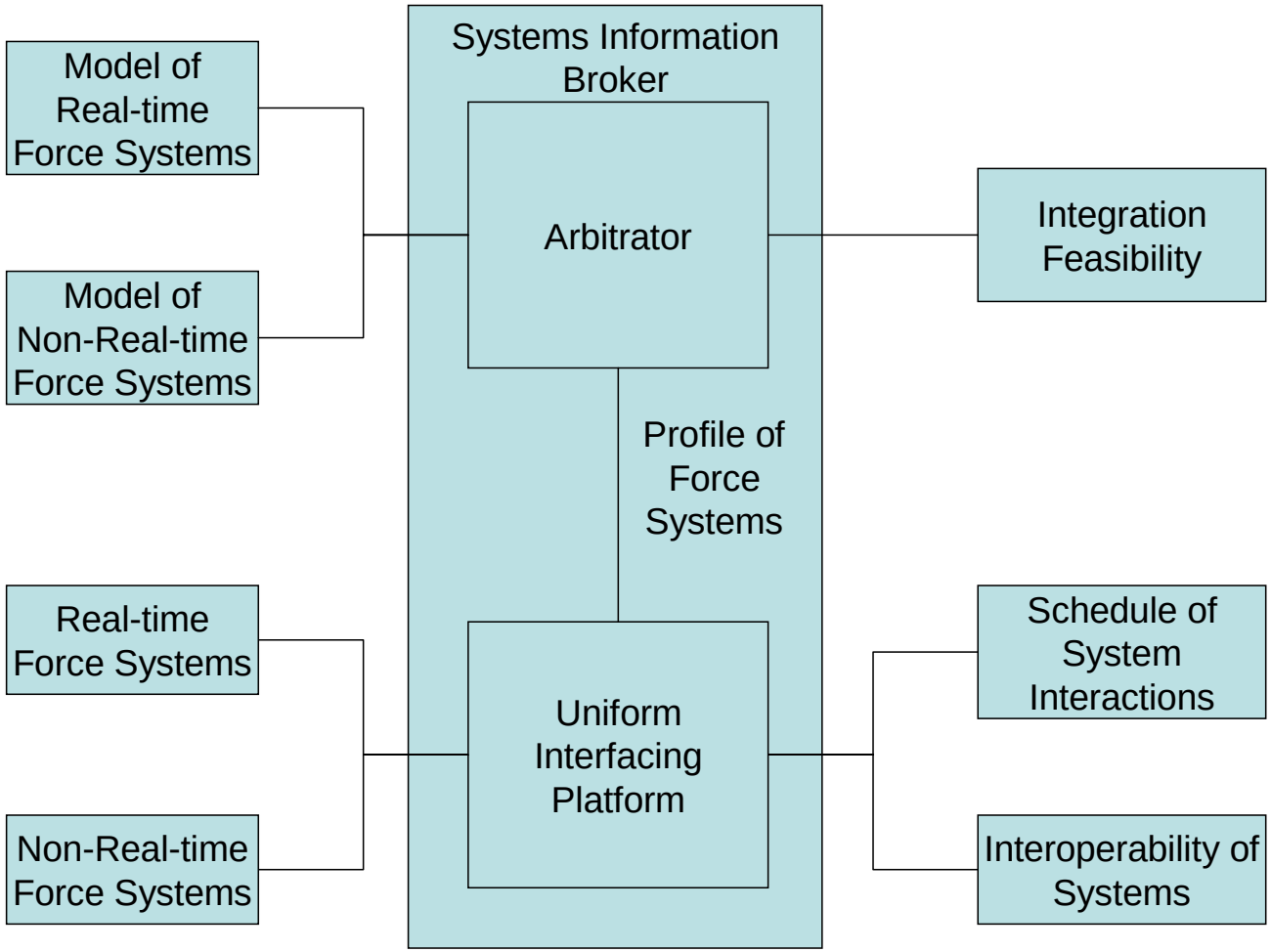
Introduction

- Changing World Events Require Changes in Missions for Military Forces
- Accomplishing Mission Requires Resources that C2 Nodes Provide
- Method for Interfacing C2 Nodes into a Enterprise of Systems (EoS) that are Used to Accomplish Mission

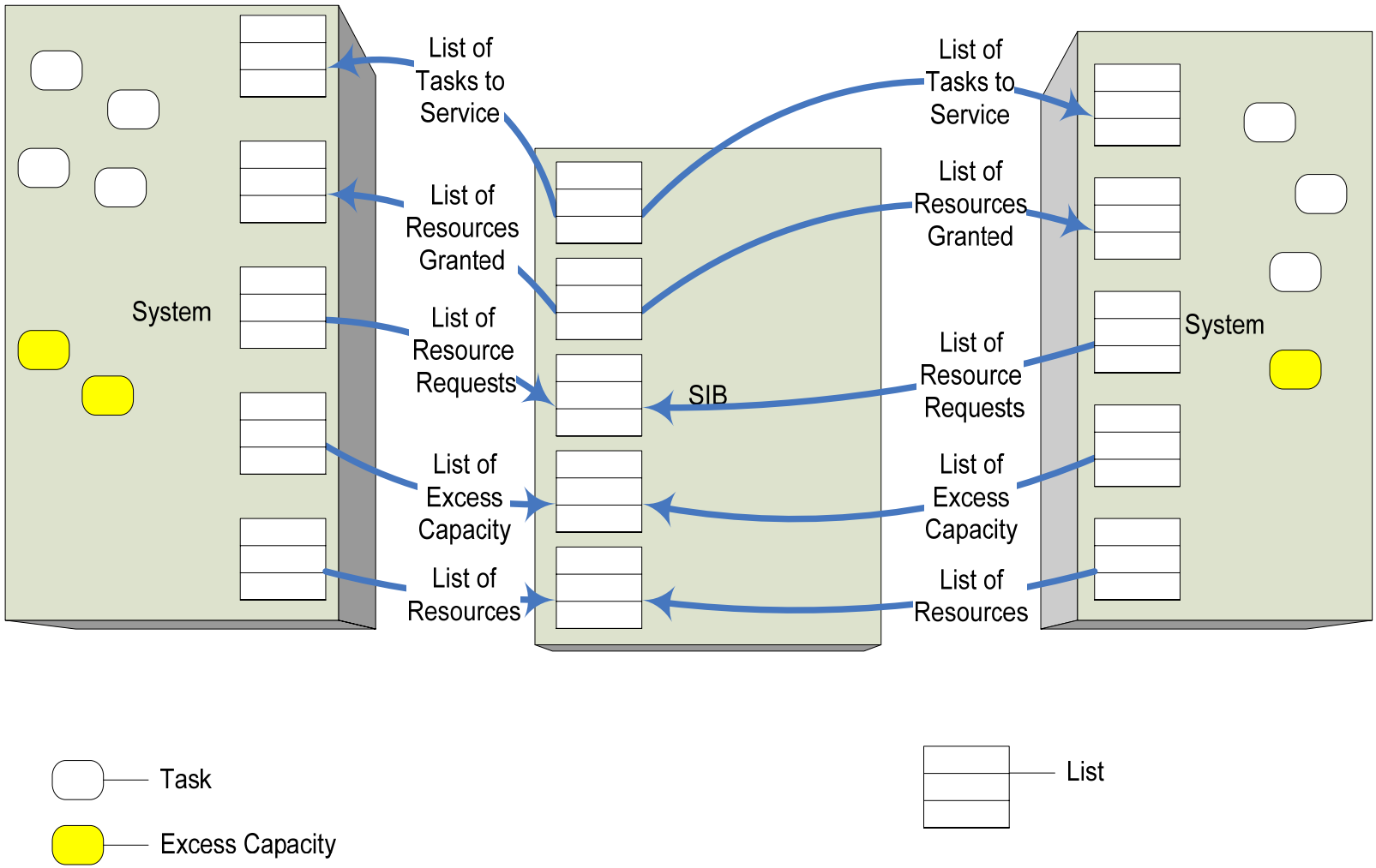
Example World Events

- Indian Ocean Tsunami
- Hurricane Katrina

Systems Information Broker (SIB) Architecture and Framework



SIB Constructs



Real-time System Resources Modeled

Resource	Resource Concern
System	
CPU	Lack of CPU cycles to complete a task calculation that will cause a task to miss its deadline.
Memory	Lack of memory causing a task to miss its deadline.
I/O	Waiting for I/O resources that causes a task to miss its deadline.
Network	
Bandwidth	Lack of Bandwidth that causes a task to miss its deadline.
Quality of Service	Jitter and Latency that degrade information flow and causes a task to miss its deadline.

Non-real-time Systems Resources Modeled

Resource	Resource Concern
System	
CPU	Lack of CPU cycles prevents a task from completing its computations in a usefully timeframe.
Memory	Lack of memory prevents a task from completing its computations in a usefully timeframe.
I/O	Waiting for I/O resources prevents a task from completing its computations in a usefully timeframe..
Network	
Bandwidth	Lack of Bandwidth case prevents a task from completing its computations in a usefully timeframe.
Quality of Service	Jitter and Latency that degrade information flow and prevents a task from completing its computations in a usefully timeframe.

Conclusion

- Admission Control for an Enterprise of Systems Provides a Method for Interfacing C2 Nodes
- Interfaced C2 Nodes Provide Means to Accomplish a Mission