

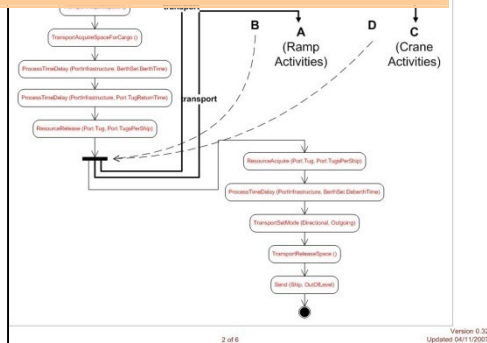


MYMIC

ARCHITECTS OF CHANGE



PORTSIM



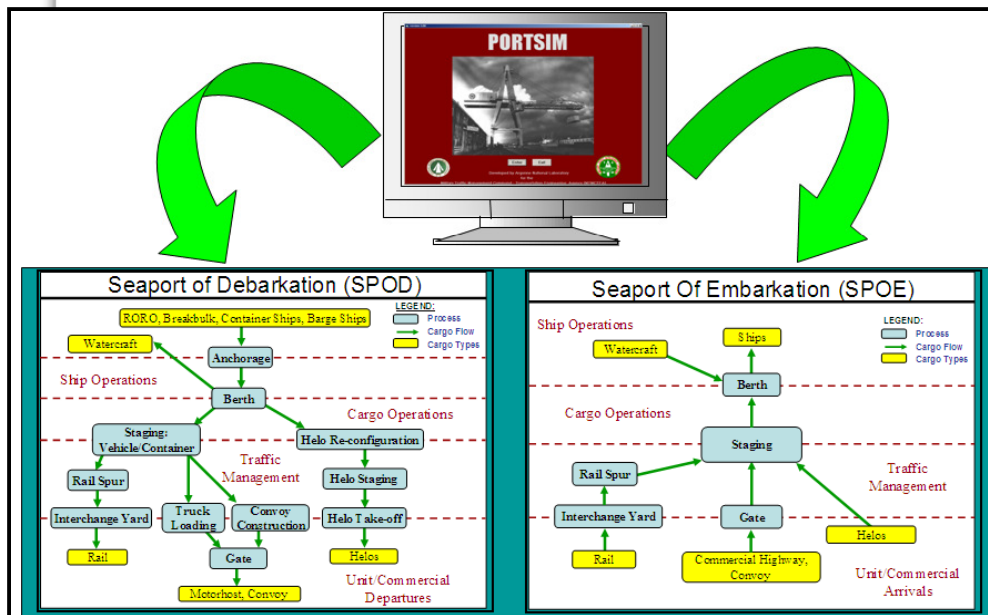
➤ **Problem:** Model cargo and transportation logistical flow through ports to support analytical exercises.

➤ **Solution:** Operating PORTSIM to model cargo flow through seaports of debarkation and embarkation at an individual entity level of detail. Providing specific clearance profiles as cargo processes through a port. Determining a port's ship loading/offloading, staging, and cargo acceptance/clearance capabilities.

➤ **Customer:** Military Surface Deployment and Distribution Command – Transportation Engineering Agency (SDDCTEA) under USTRANSCOM.

PORTSIM v6.0

- Models ships, highway transports, rail, helicopters, etc.
- User-programmable processes.
- Support multiple modes of operation within a single model.
- Utilizes CPortSTM architecture.
- High-performance Simulation.





CPortS™ Architecture

➤ Nodal Cargo Terminal Architecture

- Hierarchical nodal network, modeling competition for resources and infrastructure within a node.
- Reconfigurable.
- User programmable.
 - Capabilities and types of nodes are defined as input at run-time (no hard-coded berths or staging areas) within the simulation.
 - Capacities, constraints and characteristics are defined at run-time.
 - New types of cargo, transports, resources, modes, etc.
- Current implementation models seaports.
- Can model any terminal type: sea, air, or terrestrial (e.g., airports, rail yards, land ports, and distribution facilities).



CPortS Architecture

➤ Programmable Processes

- Processes input to the simulation at runtime.
- Allows processes to be redefined independent of the simulation.
- Makes the simulation more responsive to changing requirements.

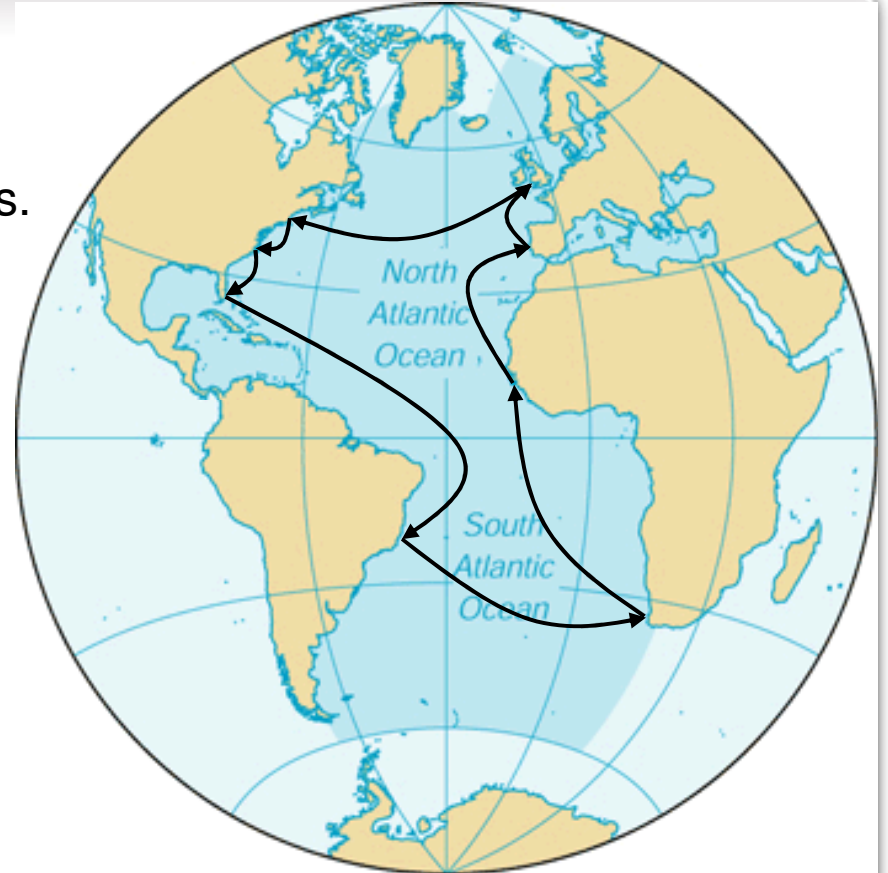
➤ Programmatic Events

- Enables an analyst or an external disruption model to program unusual disruptive events to occur during the simulation.
- Allows the study of different strategies, both proactive and reactive, to deal with such disruptive events in order minimize the effect that these events have on normal seaport operations.



Supply Chain Modeling

- **Model sea-based transport supply chain:**
 - Study overall performance of nodes.
 - Identify bottlenecks.
- **Study impact of traffic disruptions:**
 - Potential consequences.
 - Recovery strategies, including diverting traffic.
- **Study impact of ship scheduling:**
 - Impact on operations and costs.



Modeling Disruptive Events

- ➔ Supports injecting events impacting operations (infrastructure, resources, process times).
- ➔ Enables introducing disruptions (man-made or natural) by an analyst or existing disruption models.
- ➔ Study proactive and/or reactive strategies to deal with disruptive events.

