Sense and Response Logistics

ONR Program Code 33 | **August 2008**

At a Glance

What is it?

- The ONR S&RL program, or more broadly, sense and respond combat support, is envisioned as an approach yielding adaptive, responsive demand and support networks that recognize operational context and coordination. It accommodates the critical elements of high rates of change, closely coupled events, speed of command, and self-synchronization.

How does it work?

- The S&RL objective is to provide an inventory of theater-wide sustainment that will be continuously updated to support a dynamic distribution system empowered by automated logistics decision support systems. Logistics will be provided to the warfighter as needed from the seabase by leveraging theater stocks, tracking and shifting assets even while en route, delivering tailored logistics sustainment packages with minimum development of rear areas, dumps and marshalling areas ashore.

What will it accomplish?

- S&RL will enable commanders to think ahead, identify when a plan is going awry and help develop alternatives "ahead of real time." S&RL interleaves commander's intent and anticipatory planning with adaptive execution by automatically sensing logistics needs, creating logistics courses of action (options) and concepts of support, evaluating the options, developing alternatives and evaluating the impact of decisions on other parts of the plan.

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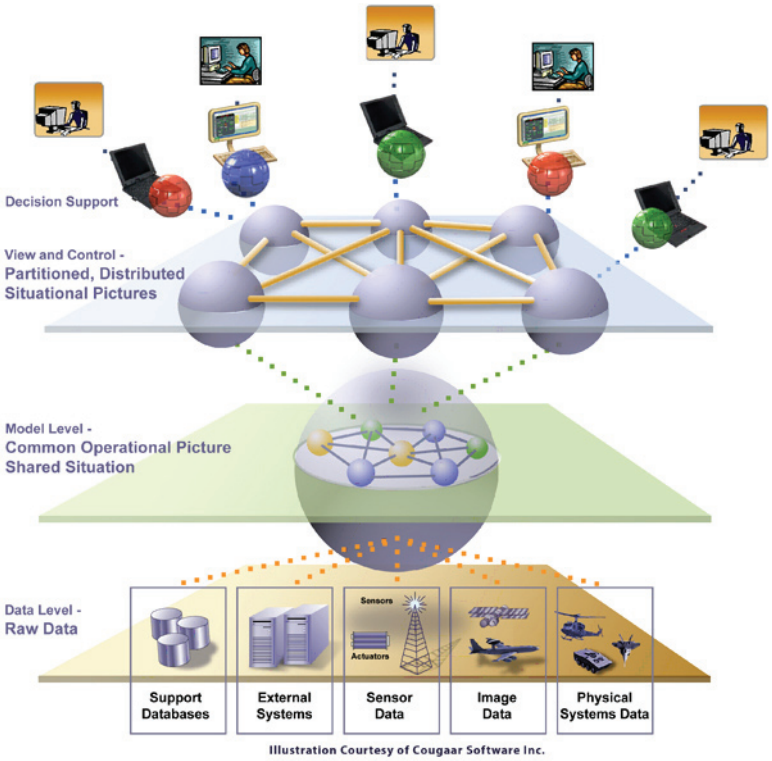
The Sense and Response Logistics (S&RL) program is a five-year effort sponsored by the Office of Naval Research enabling logistics modernization for the United States Marine Corps. S&RL will invest in Science and Technology (S&T) that will automate the detection and the consumption of logistics resources of a Marine Expeditionary Brigade ashore in combat operations. S&RL will also provide automation for logistics planning and assessment, supporting the cognitive processes of the logistics planner.

The S&RL program consists of multiple technology challenges which must be overcome in order to achieve the ultimate vision. First, the logistics data will be generated through dynamic and real time networked sensors from assets in the battlefield. Second, an Information Architecture will acquire, parse, process, store, transmit and present the data in a Shared Data Environment. Third, predictive and adaptive Logistics Decision Support and Planning tools will be used to generate Courses of Support (CoS) and Courses of Action (CoA).

The program goal is to develop and demonstrate a flexible, distributed 'systems of systems' networked architecture - both hardware and software - capable of providing measurable advances in logistics Planning, Decision, Execution, and Assessment functions.

Research Challenges and Opportunities:

- *Intelligent Sensor Systems*
- *Predictive and Adaptive Fuels Management*
- *Intelligent Agent Technologies*
- *Decision Support Tools*



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