One of the greatest technical challenges still facing the military community today is the processing of huge amounts of information, determining what is important from it, and how to get it to the right person at the right time. LINKS’s design and underlying architecture incorporates the automatic aggregation, fusion, analytics, and distribution policies required to deliver warfighters, at the command center or to mobile forces, timely and actionable information, utilizing machine learning / artificial intelligence (ML/AI) techniques. These approaches will help commanders identify critical indicators, metrics and patterns, and adjust optimization criteria based on predicted MOPs/MOEs to create the autonomy of future decentralized decision support systems.

LINKS primarily leverage ML/AI techniques and optimization heuristics to provide a prediction and recommendations of tactical mission tasks, information importance, and MOPs/MOEs as a function of time and conditions. This approach will be further leveraged so recommended tasks get more effective over time by learning from past plans.

RESEARCH CHALLENGES AND OPPORTUNITIES:

- Provides users with a framework (Fused COP) that facilitates the configuration of dashboards, complementing a geospatial map, to display tailored mission metrics and assessments.

- Determine the importance/criticality of specific information to mission task execution derived from the features to confirm or deny learned patterns and MOPs/MOEs.

- Enhance task management capabilities by providing a prediction of the integrated task plan’s performance as a function of time and/or mission tasks, as well as alternatives to increase such performance.

- Provide automated recommendation of alerts/notifications to decision-makers based on the confirmation or anomaly detection of conditions/features on learned POLs, geo and temporal events, and dynamic task recommendations.