**Project Goals**

From a highly-dynamic and constrained tactical communications network, extract maximum information of sufficient quality to enable accurate and timely decision making.

- Develop **Quality of Information (QoI)**, a composite multi-dimensional metric that captures the tradeoffs of several factors to characterize the information delivered to the application.
- Define and develop a new performance metric that takes into consideration the content and the QoI delivered over the network: **Operational Information Content Capacity (OICC)**.
- Identify the fundamental limits of the OICC of a network.

**Technical Approach**

- Develop a stochastic definition of QoI in terms of select intrinsic and contextual QoI attributes.
- Develop real-time algorithms for predicting QoI evolution.
- Development of the novel metric (the OICC) to make precise the QoI achievable within a communication network, taking into consideration node and network capabilities.
- Develop design insights to achieve the desired QoI to achieve the operational content capacity of the network.
- Use non-convex stochastic optimization for certain non-convex QoI attributes like distortion.

**Innovations**

- A non-traditional approach that models the network as an information source, not as a transporter of bits.
- Applications can specify their desired QoI, and the network can deliver information of sufficient quality for decision making.
- OICC to quantify the performance that can be delivered in a tactical network given QoI requirements / the QoI that can be delivered given the performance requirements.

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