

Pythia



Pythia: A tool for COA development and Effects based Assessment

Approach: Timed Influence Nets

Issue: Suppress IEDs in Diyala, Iraq by reducing local support for the insurgents

The image displays the Pythia tool's architecture and output. At the top left, a conceptual diagram shows a flow from 'Set of Blue's potential Actions that will affect Red' through 'Model construction' and 'Effects' to 'Command Intent' and 'Desired End States'. A 'Probabilistic model relating actionable events to effects through a network of influencing relationships: influence net model' connects these stages. Below this is a screenshot of the Pythia software interface, showing a complex network of nodes and edges representing the influence net. To the right, a 'Probability Profile for COA 1-1' graph plots 'PROBABILITY' (0.0 to 1.0) against 'TIME' (0.0 to 150). The graph shows four curves: a solid red line for 'IED Attacks on Route A are suppressed', a solid blue line for 'Covert economic activity over Route B increases', a dashed black line for 'Overt economic activity increases', and a dashed blue line for 'IED attacks on route B are suppressed'. The red curve rises most sharply, reaching a probability of 1.0 by time 50.

**Given Actionable Events,
Determine Courses of Action that
Maximize Probability of Desired Effects
as a function of time**

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