



Applying Business Architecture Methodologies and Best Practices to Deliver Coalition Agility



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C2 and Agility

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Agenda

- Coalition Value Networks
- Coalition Mission – a Service Oriented Enterprise
- Business Architecture of a SOE based on the ISAF Example
 - Business Value Model
 - Business Structure Model
 - Business Behaviour Model
 - Business Policy Model
 - Business Performance Model
- Model-Driven Business Transformation
- Our Case Study: Introduction of a new Business Service DDP (Disablement of Drug Production)
- Anticipated Capability Gains
- Q&A



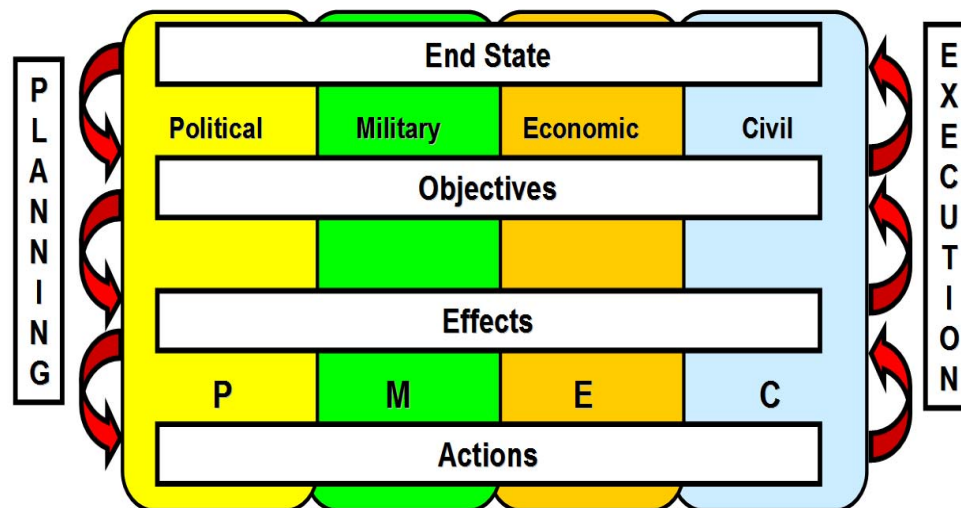
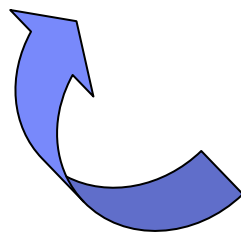
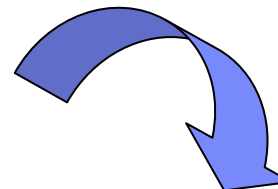
The Effects-Based Approach to Operations transforms a Coalition into a Value Network serving the Mission's Mandate

„Value Networks are sets of roles, interactions and relationships generating economic, social or environmental value.

Any purposeful organization can be understood as a value network“

- Verna Allee

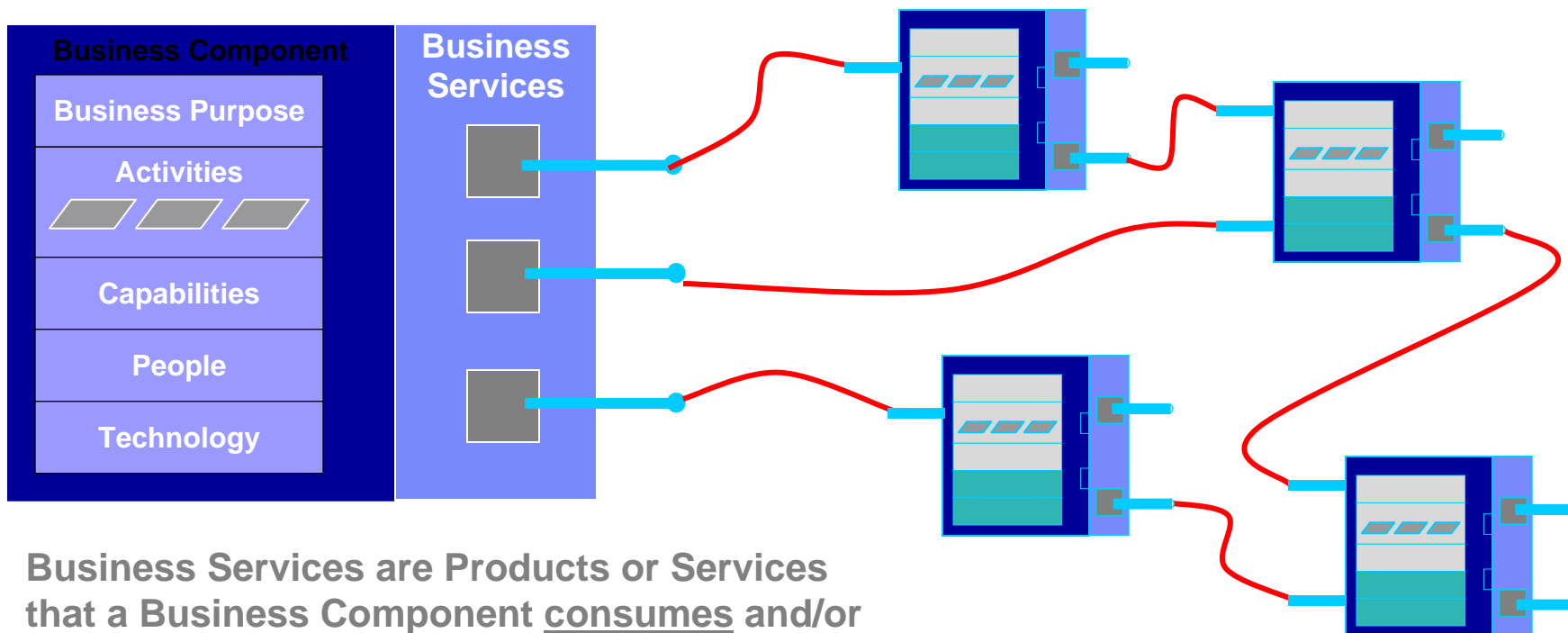
The Future of Knowledge, 2003





The Value Network's Participants ("Components") provide Business Services to each other to reach the Goal – they define a Service-Oriented Enterprise

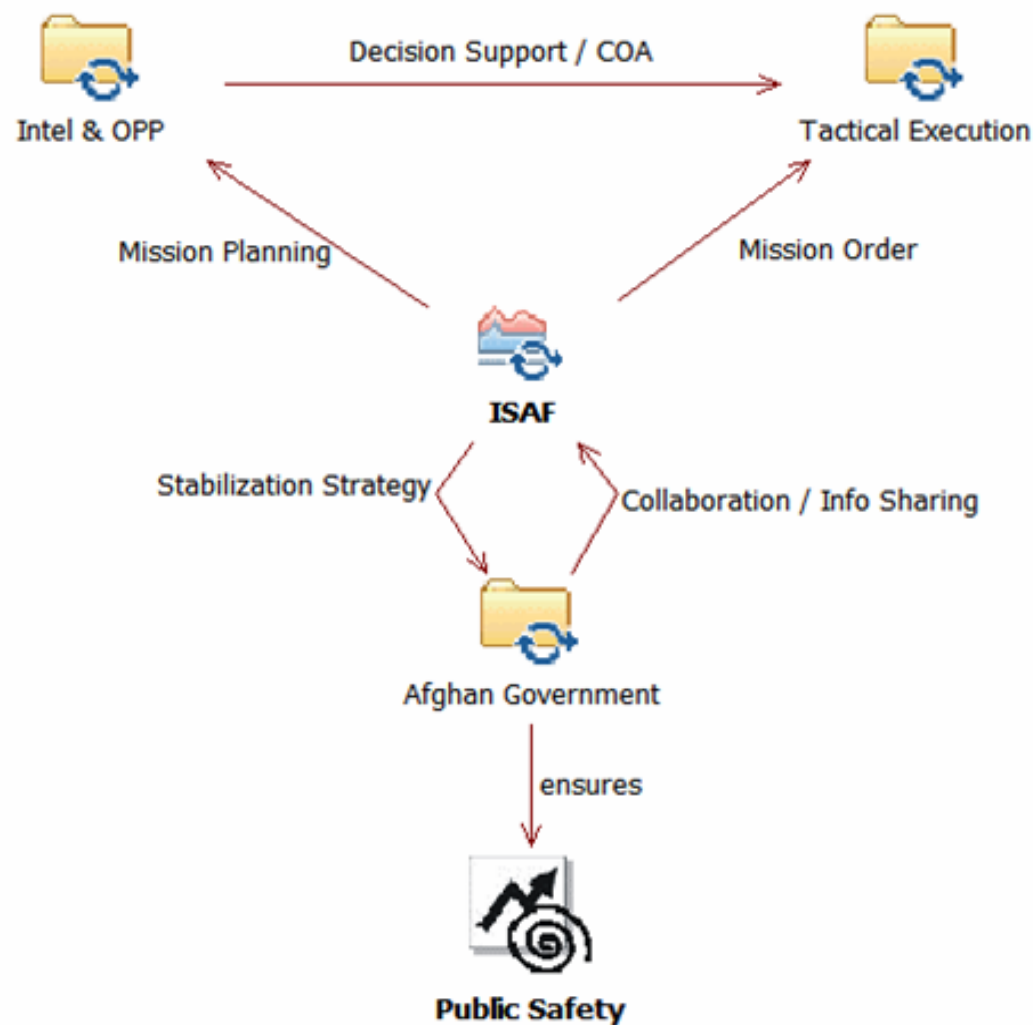
Business Components are loosely coupled through Business Services



Business Services are Products or Services that a Business Component consumes and/or offers to other Business Components and/or to external Parties.

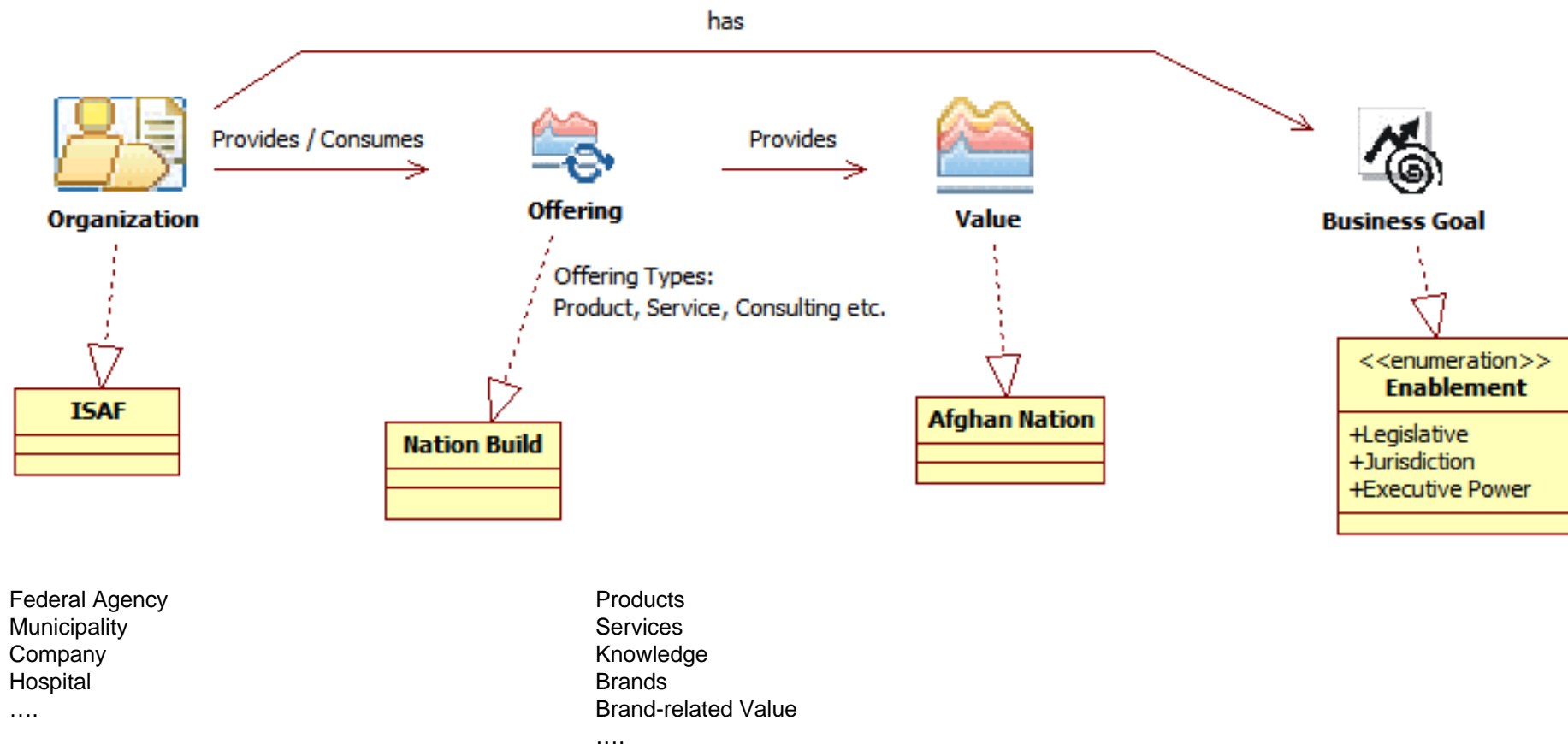


We model a high-level Business Architecture for the ISAF Mandate in Afghanistan – Nation Building



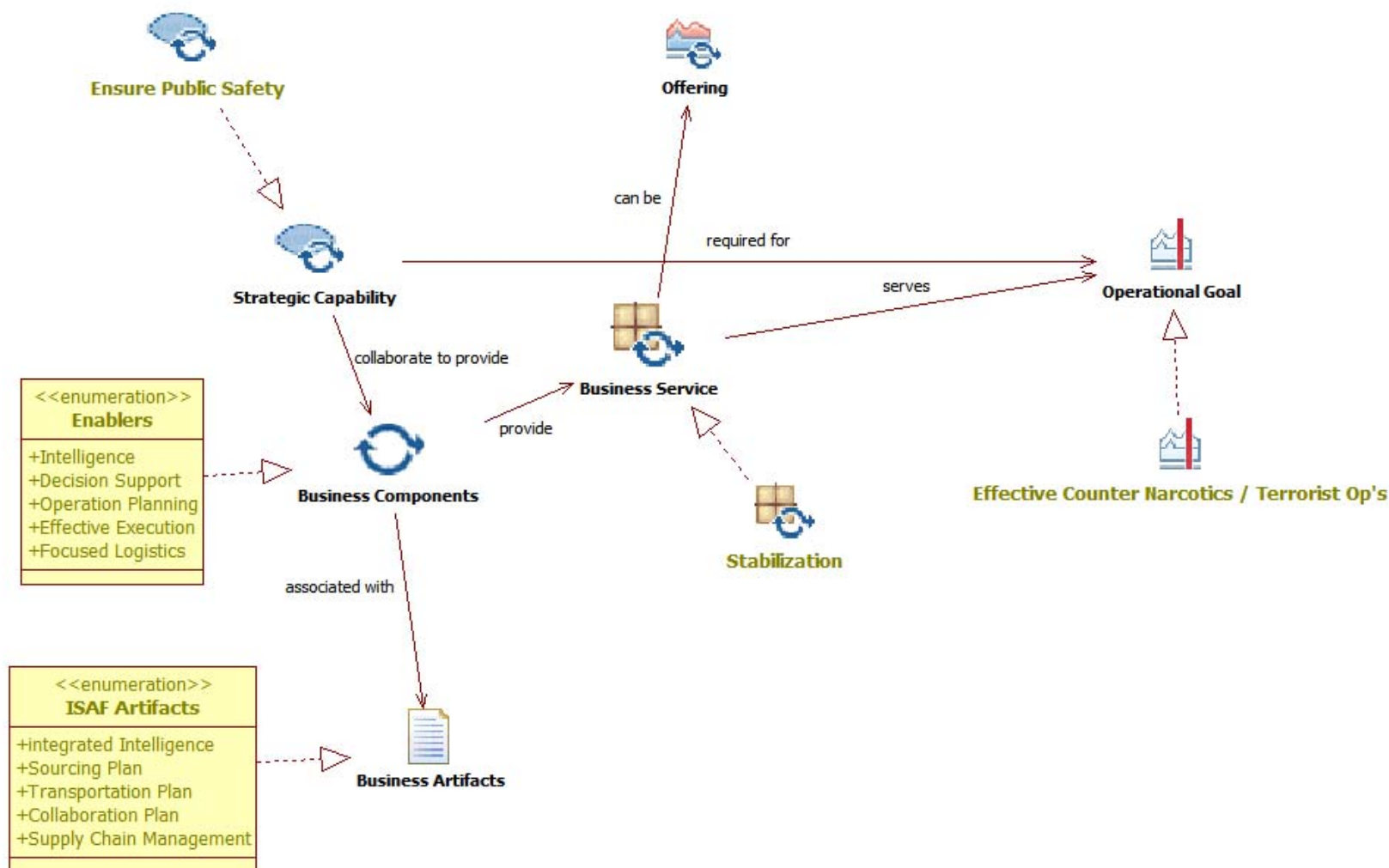


The Business Value Model defines how the different Units in Society contribute to the common Goal



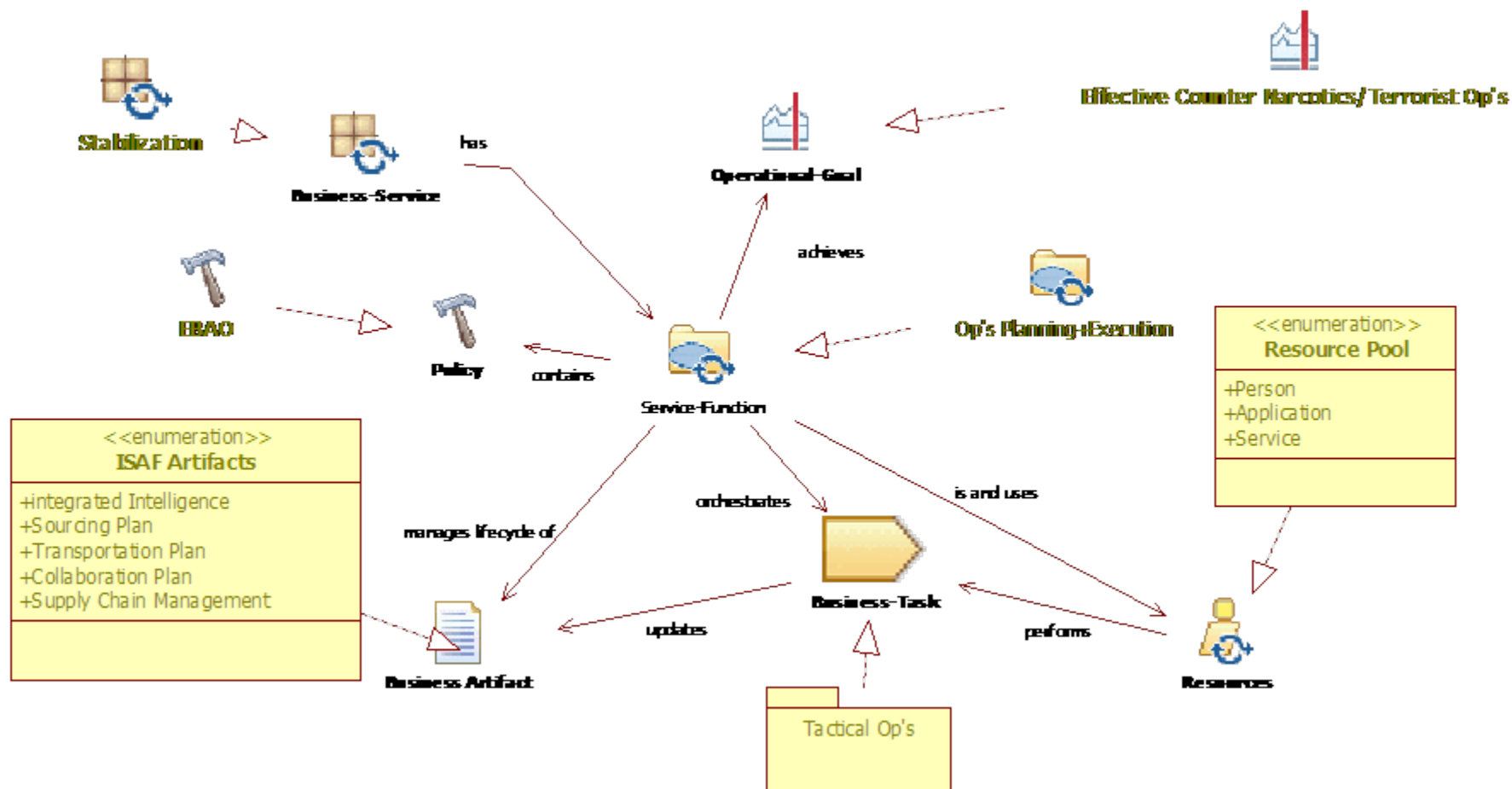


The Business Structure Model describes how strategic Capabilities can be derived through Collaboration amongst various Components





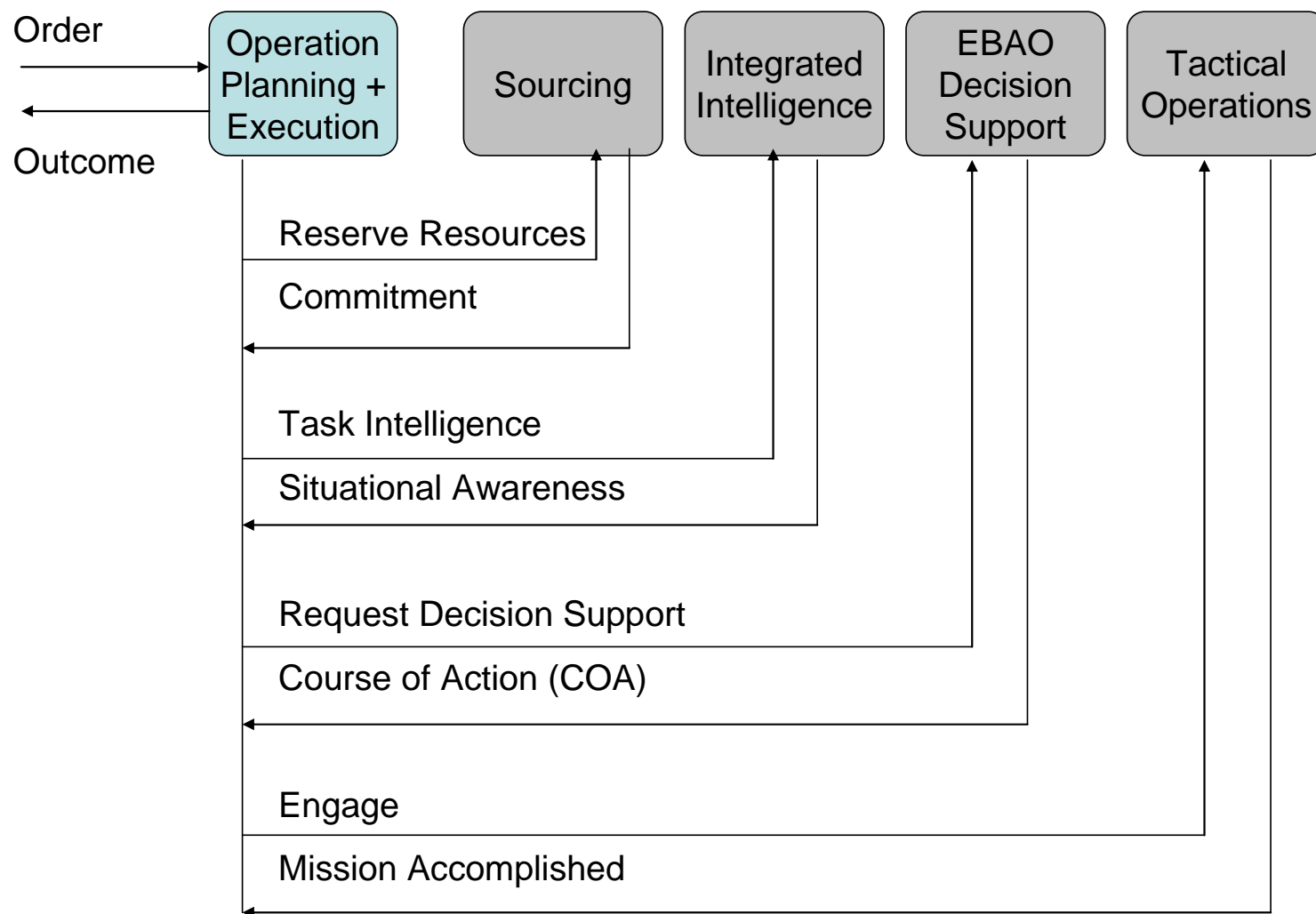
The Business Behaviour Model describes Business Operations as viewed from within and outside the Service-Oriented Enterprise



Based on the Mandate, any Operation can be created as a Graph of Business Tasks and a Set of Repositories through which it flows while unfolding.

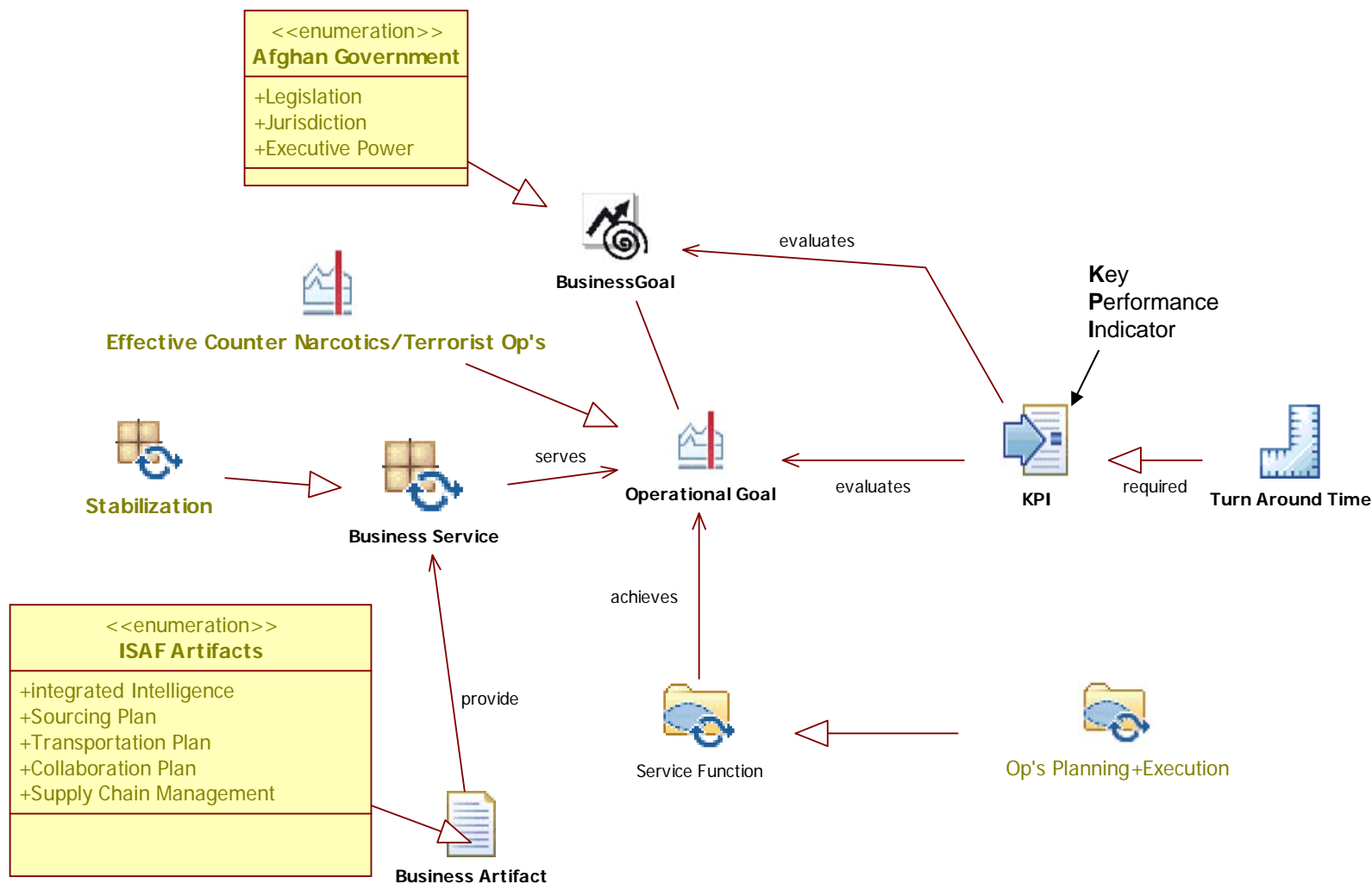


Complex Service Function in ISAF Operation Planning & Execution can be built up from Components through Service Choreography



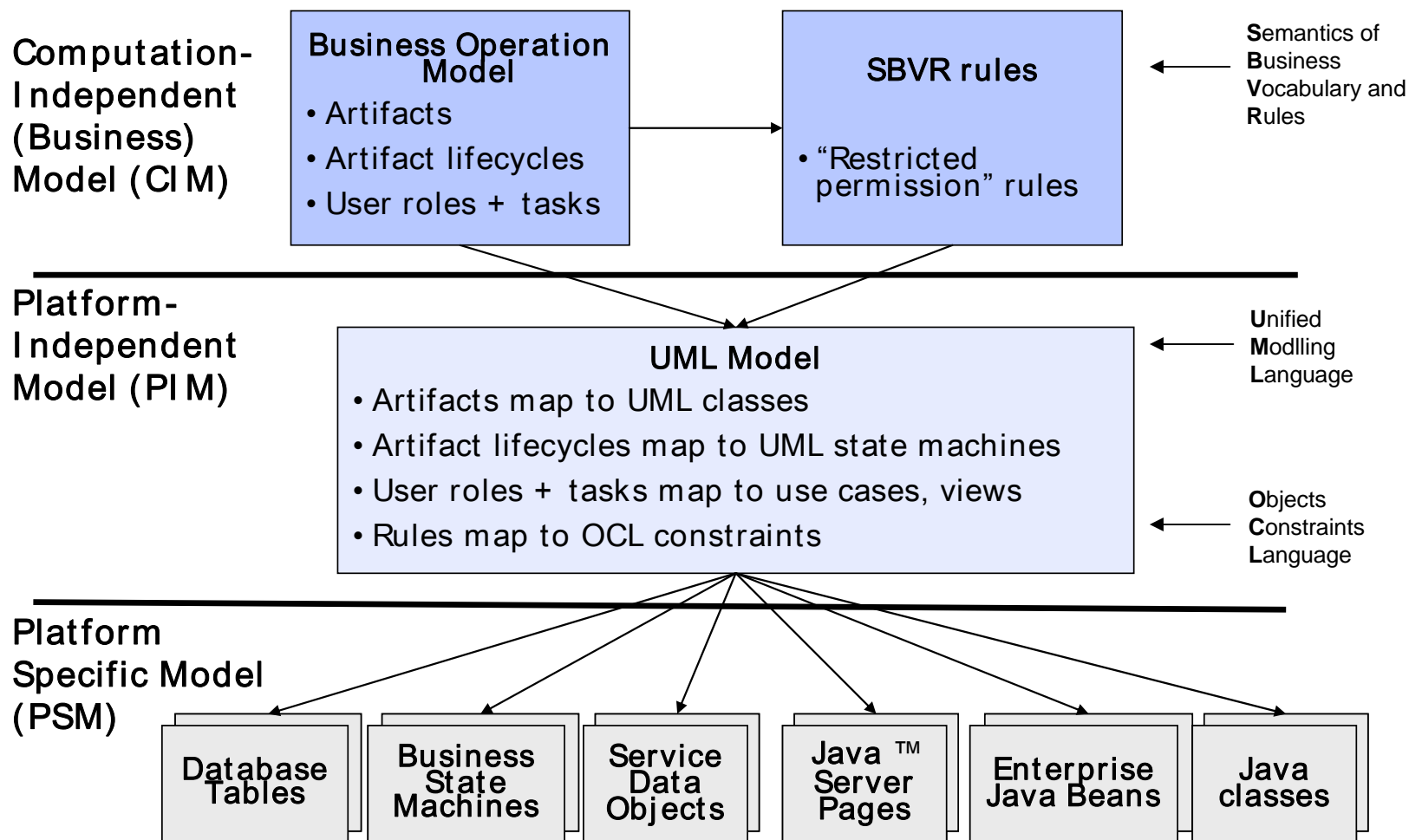


In the Business Performance Model, KPIs are used to measure Progress toward Goals and to represent quantifiable measurable Objectives



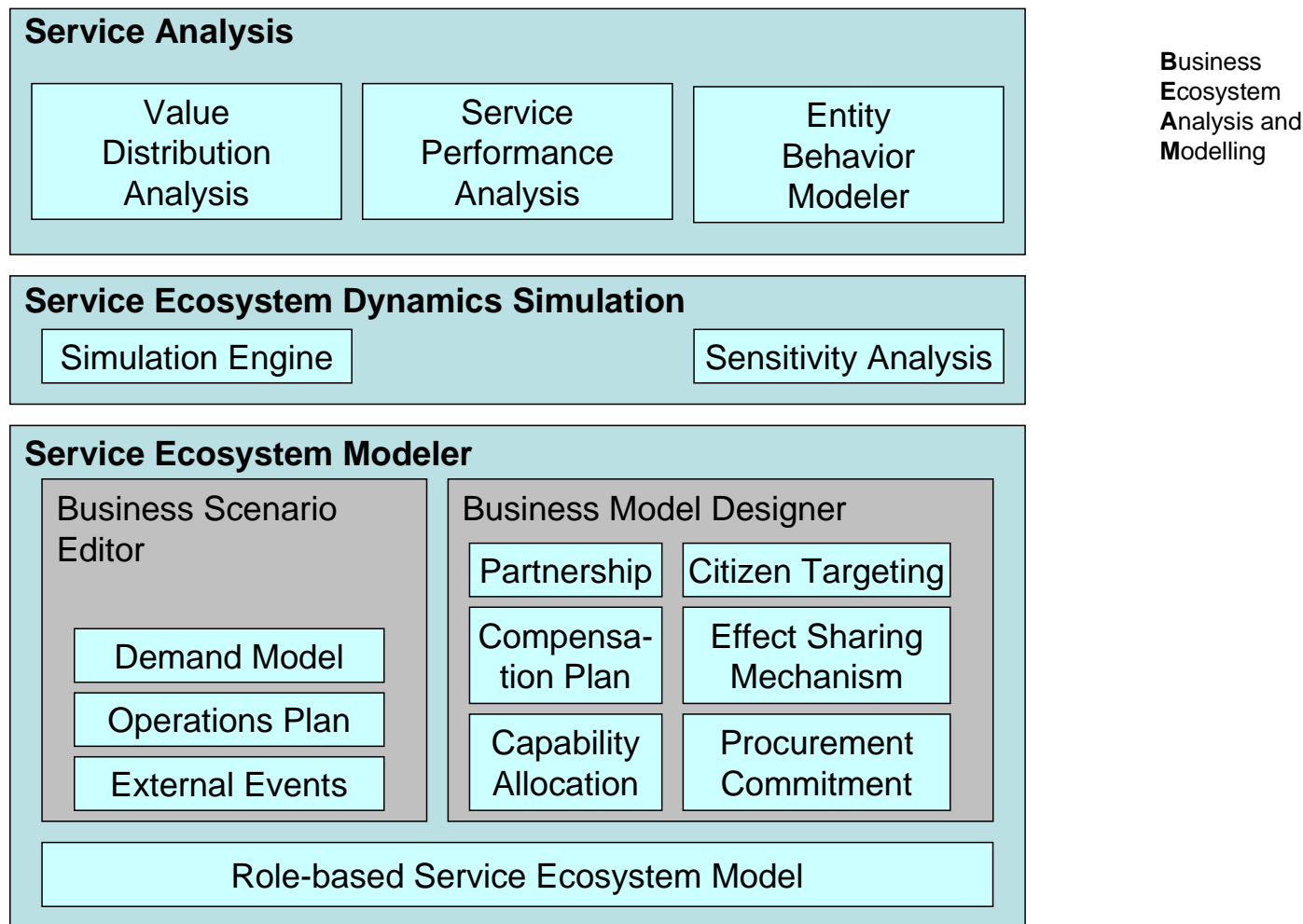


Model-Driven Business Transformation links strategic Objectives to IT Implementation thru multi-layered modelling & algorithmic Model Transformation





The Research Framework BEAM can be used to design an optimized Network of interconnected Business Entities

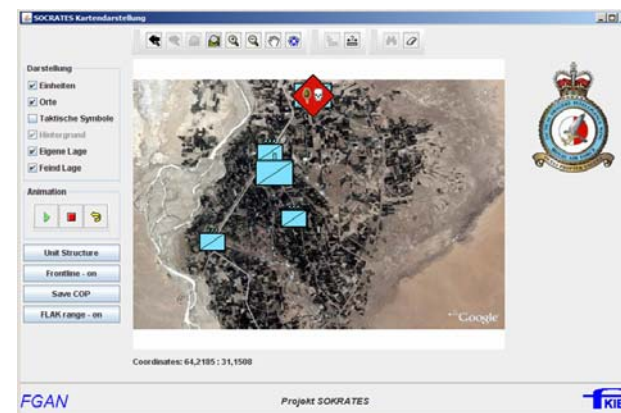


Mathematical Models allow for the Calculation of Value Metrics for each Entity in the Value Chain.



We introduce a new Business DDP as Part of the operational Counter Narcotics Capabilities to the ISAF core Business Architecture

- Establishing the Business Service Goal: Disable Drug Production
- Identifying new Service Opportunities
 - Strategic Intelligence across wide Areas of Interest in Afghanistan
 - Tactical Assessment based on primary Imagery & strategic Intelligence
 - Analysis of real-time freetext Reports (HUMINT)
- Evaluate Partnerships for Intelligence Exploitation
 - Knowledge Sharing
 - Collaborative Decision Making
 - Information Assurance and context-sensitive Risk Management
- Setting Operational Goals: Interoperability
- Defining the Business Artifacts: „Actionable Intelligence as a Service“
 - Information Integration and Dissemination Framework
 - Semantic Interoperability Model
 - DDP Business Service as a Network-enabled Capability (NEC)
- Service Operations: Use Case Definition
 - Collection/Ingestion of Intelligence Data
 - Enrichment/Augmentation of Metadata
 - Semantic/Ontology-based Search
 - Collaborative Exploitation by human Expert and IT Services
 - Intuitive Presentation of Knowledge
 - Publication of Business Intelligence Objects
- Resources and IT Services





In Relation to a generic Defense Component Business Model, introducing new Capabilities as NEC using BA bears an enormous Value Proposition

- C2 Organisation
 - Knowledge about the Interactions and Dependencies of the Decision Makers can provide more Flexibility in the Command Structure.
- C2 Methodologies
 - By being policy-driven, the Methodologies will become more declarative, flexible and manageable during Operation Planning and Execution. The Transformation of Policies into enforceable Business Rules allows for more Transparency and Assurance.
- C2 Support
 - Integrated Intelligence results in higher Quality and more timely shared situational Awareness to enable more predictive and effective Operations Planning & Execution.
- ISR
 - Complex Analysis Tools such as Social Network Analysis, complex Event Processing and collaborative Business Insight will allow for better Exploitation of ISR capabilities.
- Sustainment
 - The Capability to perform immersive Training with innovative Technologies is one Benefit identified.
- Protection
 - The Incorporation of Risk Management Policies and Fraud Models into the Business Architecture can lead to earlier Risk Detection and Counter Measure Initiation.



Summary

- Whereas the **Integration of Business Services** across organisational Boundaries remains a Challenge, the **Development of relevant Standards for BA** is becoming more important as the need for **semantic Interoperability** and **Business Process Control Languages** rises.
- State of the Art **Technologies for BA, MDA and agile Development of SOA** Solutions enable military Coalitions **to more rapidly implement IT Systems** to support the complex Value Networks found in Coalition Operation.
- **Model-driven Architectures** provide Commanders with the Opportunity to **evolve C2 Systems as the Mission evolves**, to respond quickly to new Threats or to rapidly assimilate new Forces as they are declared to the Operation.
- We recommend **further Case Studies** to learn to manage esp. the **Human Factors** in agile Coalition Ecosystems and drive **Standardization**.

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