Delivering Business Services for Collective Endeavours from the IBM Cloud

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Agenda

Collective Endeavours

- Coalition as an Enterprise of the Future

Coalition Community Cloud

- Blueprint
- Interaction Patterns
- Generic Public Services Conceptual Model
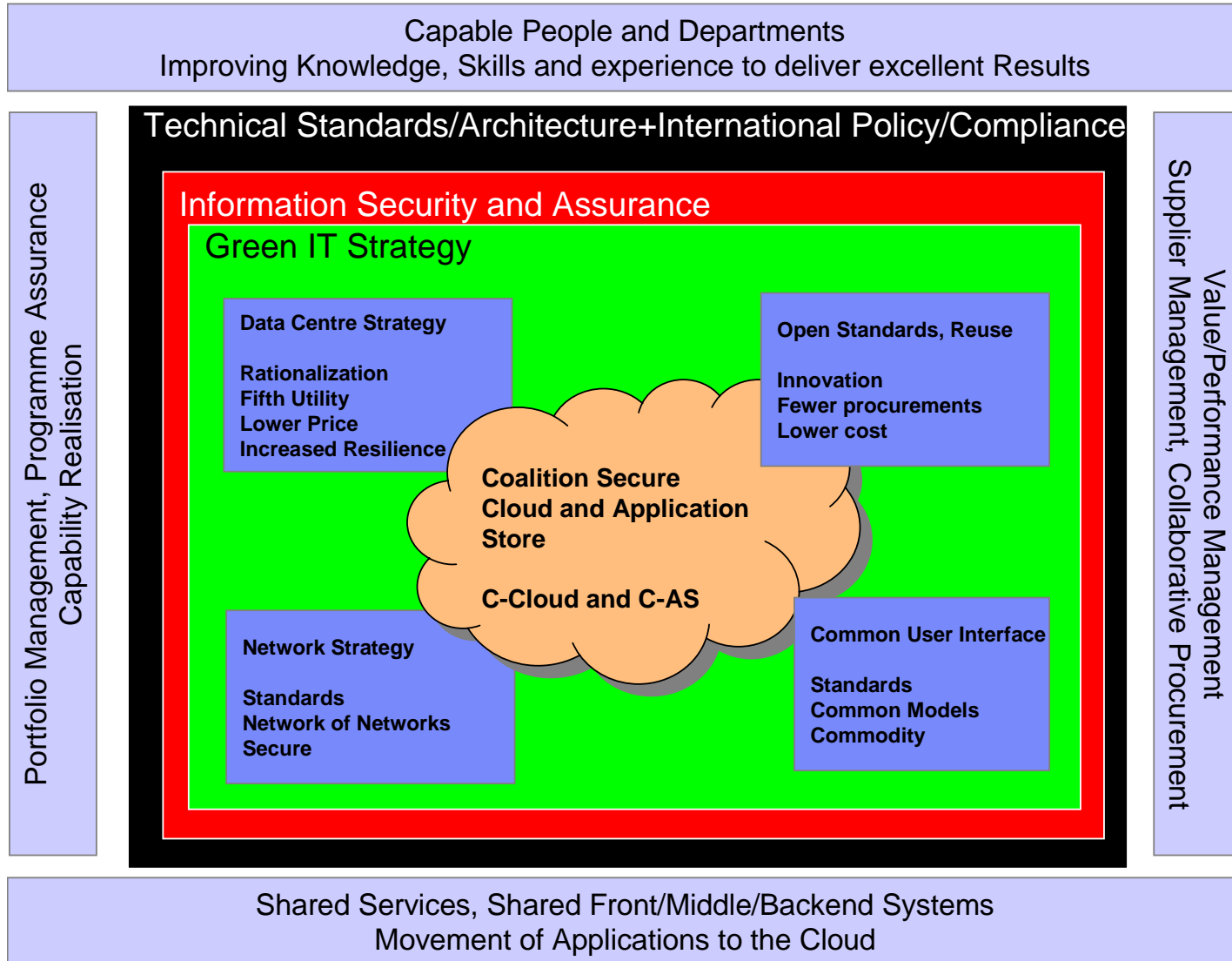- Federated ESB
- 4-Corner-Model

Common and Functional Area Services

- LotusLive
- Analysts' Workbench
- Location-Based Web Search
- IBM LanguageWare Miner for Socio-Semantic Networks
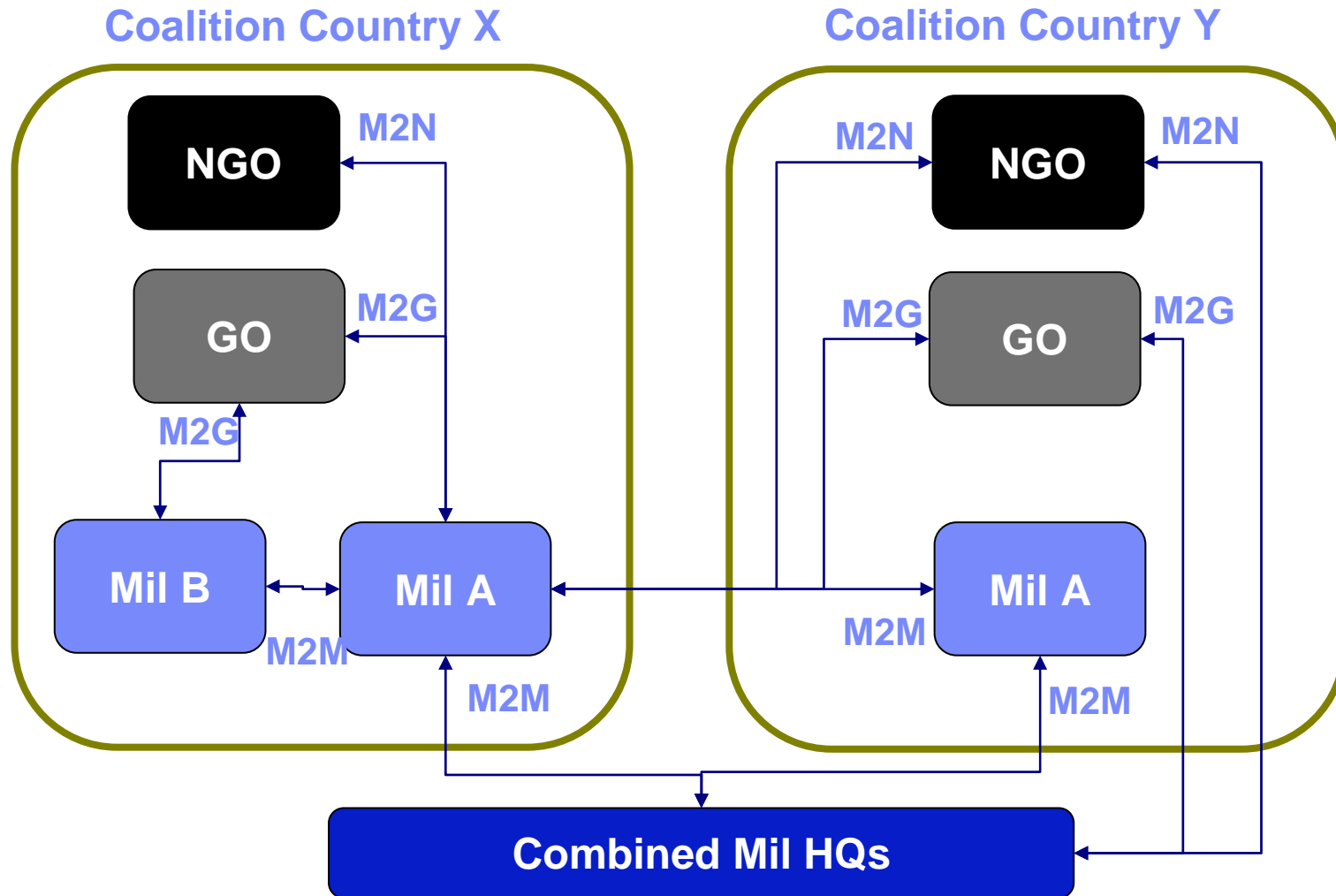- Low-Latency Intelligence with Stream Computing

A Coalition as a Future Enterprise ala CEO Study

Hungry for Change	The coalition of the future is capable of changing quickly and successfully. Instead of merely responding, the global defence community proactively predicts upcoming threats and adapts coalitions for prevention, risk mitigation and sustainability.
Innovative Beyond Customer Imagination	The coalition of the future respects the fact that safety and security cannot be achieved and maintained as a sole value. Locally and globally safety and security can only exist in a stable balance of justice and liberty in society. The Coalition of the future does not exist in isolation but acts through deep collaborative relationships with other stakeholders in the societies in which is operates, delivering a combined effect which is significantly different from traditional coalition capabilities.
Globally Integrated	The coalition of the future is integrating its members to face today's global risks and threats in society, economy and environment. Its operation is strategically designed to access the best capabilities, knowledge and assets from wherever they reside in coalition partners and apply them to deliver the best overall effect.
Disruptive by Nature	The coalition of the future radically challenges its operational and tactical model, disrupting the basis of vulnerabilities that adversaries seek. Pre-emptive intelligence and the ability to make more informed decisions and the right time (Decision Superiority) enable it to take advantage of emerging opportunities, to prevent, deter and mitigate risks.
Genuine, not just generous	Founded on an effects-based approach to operations (EBAO, /3/), the coalition of the future can be seen to reflect genuine concern for society in all actions and decisions. It is in this context that the Coalition delivers balanced justice, liberty and safety (JLS): geography – politics – military – economy – social – infrastructure – information (GPMESII).

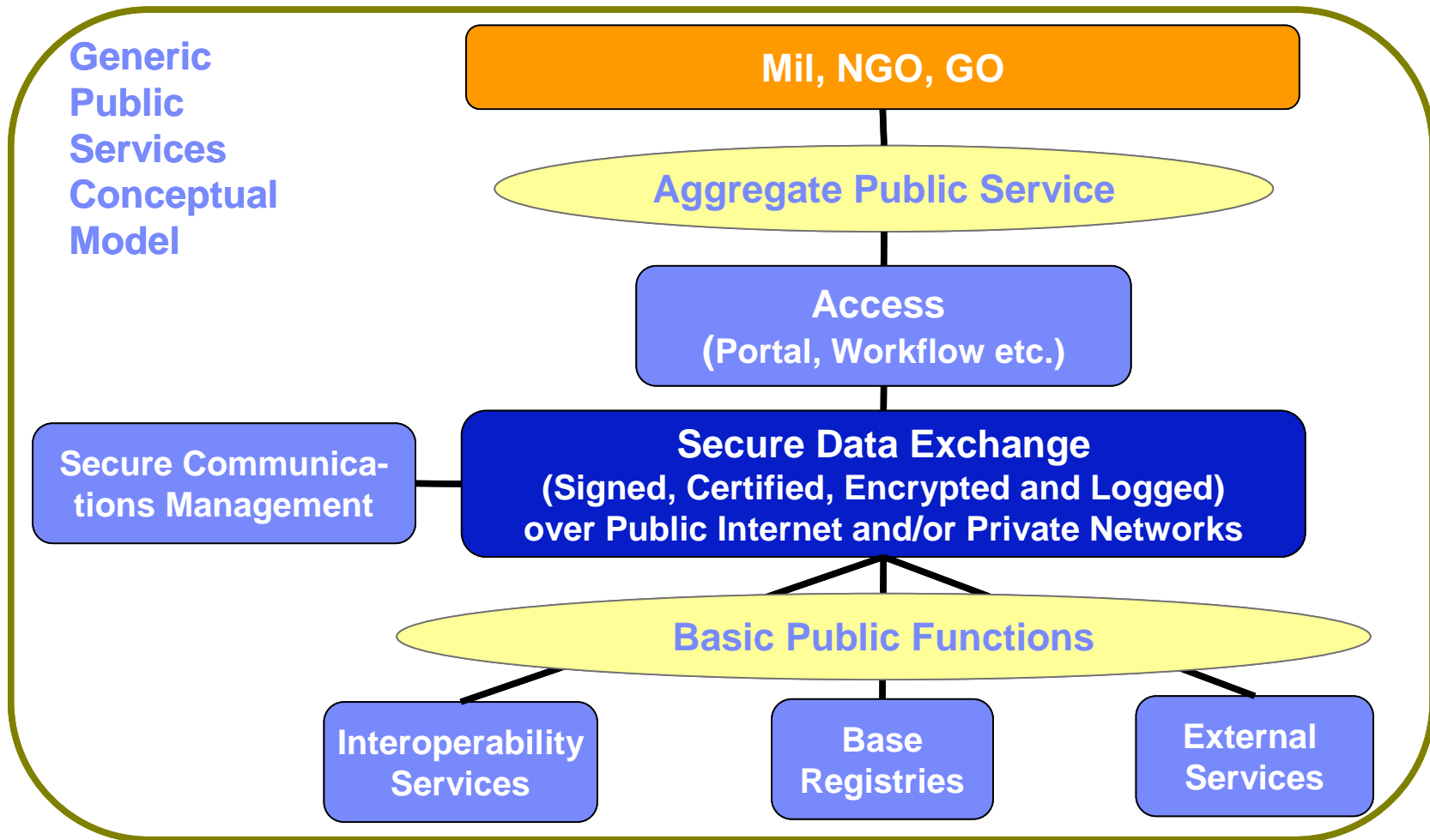# Architecture Blueprint of a Coalition Community Cloud

Capable People and Departments
Improving Knowledge, Skills and experience to deliver excellent Results

Technical Standards/Architecture+International Policy/Compliance

Information Security and Assurance

Green IT Strategy

Portfolio Management, Programme Assurance
Capability Realisation

Value/Performance Management
Supplier Management, Collaborative Procurement

Data Centre Strategy

Rationalization
Fifth Utility
Lower Price
Increased Resilience

Open Standards, Reuse

Innovation
Fewer procurements
Lower cost

Coalition Secure Cloud and Application Store

C-Cloud and C-AS

Network Strategy

Standards
Network of Networks
Secure

Common User Interface

Standards
Common Models
Commodity

Shared Services, Shared Front/Middle/Backend Systems
Movement of Applications to the Cloud

Interaction Patterns in a Coalition – ala EIF

Coalition Country X

Coalition Country Y

EIF = European Interoperability Framework, Draft V2, Dec 2008

EIF defined Federated Enterprise Service Bus

Generic Public Services Conceptual Model

Mil, NGO, GO

Aggregate Public Service

Access
(Portal, Workflow etc.)

Secure Communications Management

Secure Data Exchange
(Signed, Certified, Encrypted and Logged)
over Public Internet and/or Private Networks

Basic Public Functions

Interoperability Services

Base Registries

External Services

EIF = European Interoperability Framework, Draft V2, Dec 2008

Coalition-Wide Federated ESB

15th ICCRTS, I-008: Leveraging the Coalitions' Cloud for Collective Endeavours

June 22nd, 2010
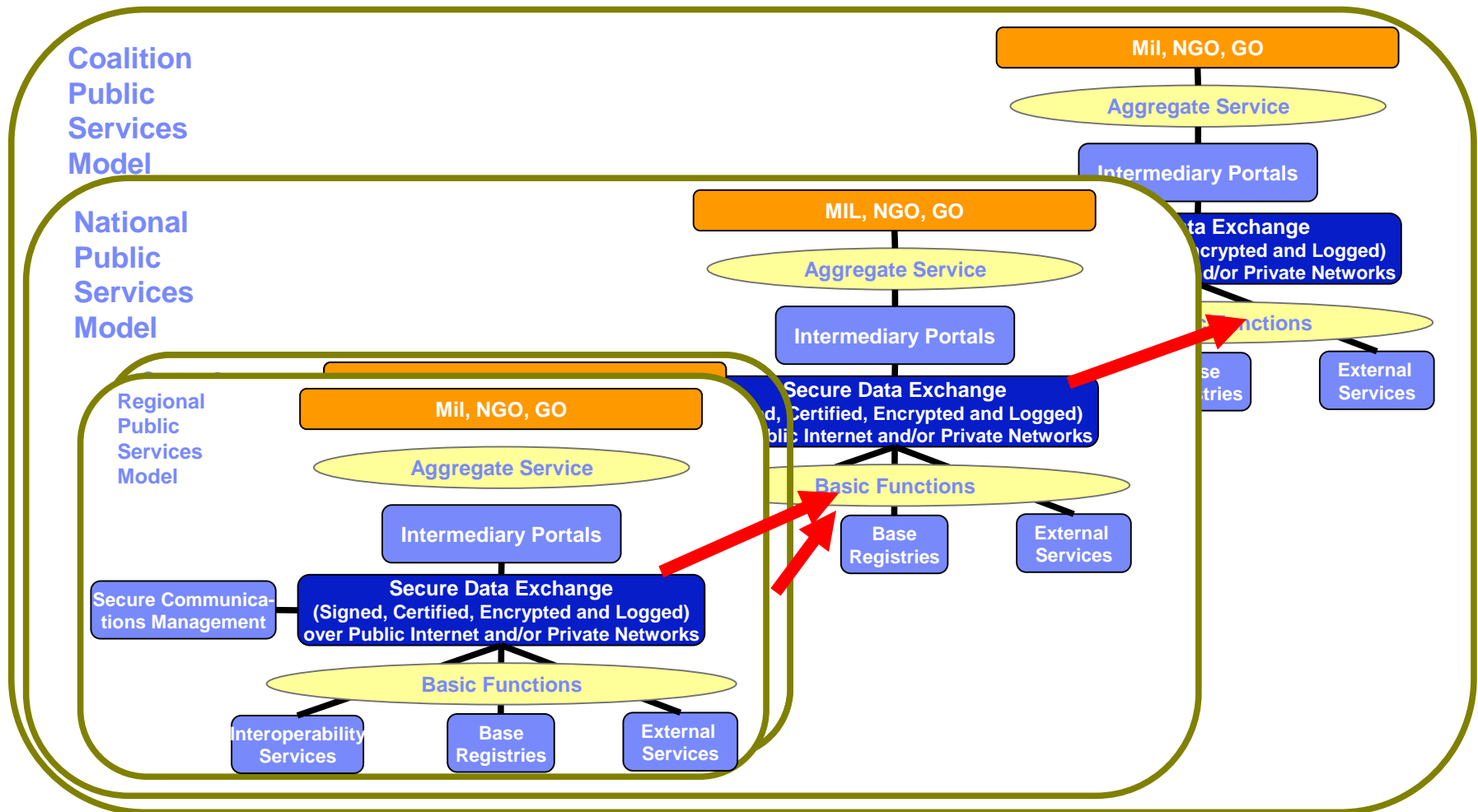
Coalition Cloud Access Points - a 4-Corner-Model

"4 corner" model:
- Access Points are core element
- Control Message Routing
- Foundation for value add Services

• Secure
• Reliable
• Available

Cloud infrastructure

Service Metadata Locator

Metadata Lookup

Forward message

Send message

Access points

Receive message

Sender
eg Commercial Company

Recipient
eg Government Dept
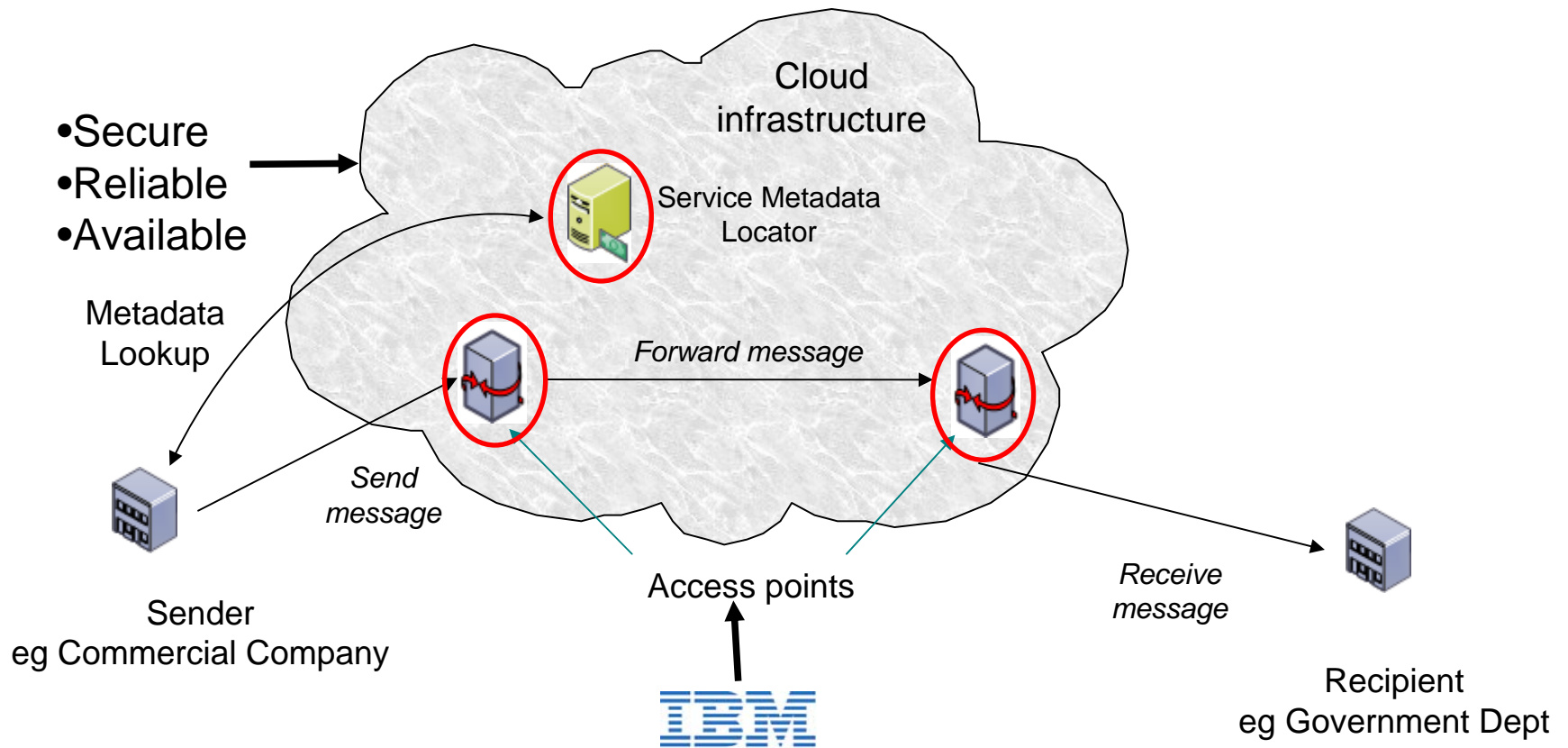
Common and Functional Area Services (1)

- **LotusLive**

| Web Conferencing	Collaboration	eMail
LotusLive Meetings LotusLive Meetings is a full-featured online meeting service that integrates Web, audio and video conferencing	**LotusLive Engage** LotusLive Engage combines file sharing, Web conferencing, instant messaging, social networking, and project management together in one place, accessible from anywhere.	**LotusLive Notes** IBM's most widely used software, Lotus Notes is now available as an online service called LotusLive Notes.
LotusLive Events LotusLive Events is an online event management service, helping you create, host and manage your next online conference.	**LotusLive Connections** LotusLive Connections integrates you business network with file sharing, instant messaging and social networking in one place.	**LotusLive iNotes** Secure Web-based service for email, calendaring and contact management.

Common and Functional Area Services (2)

- **Analysts' Workbench**
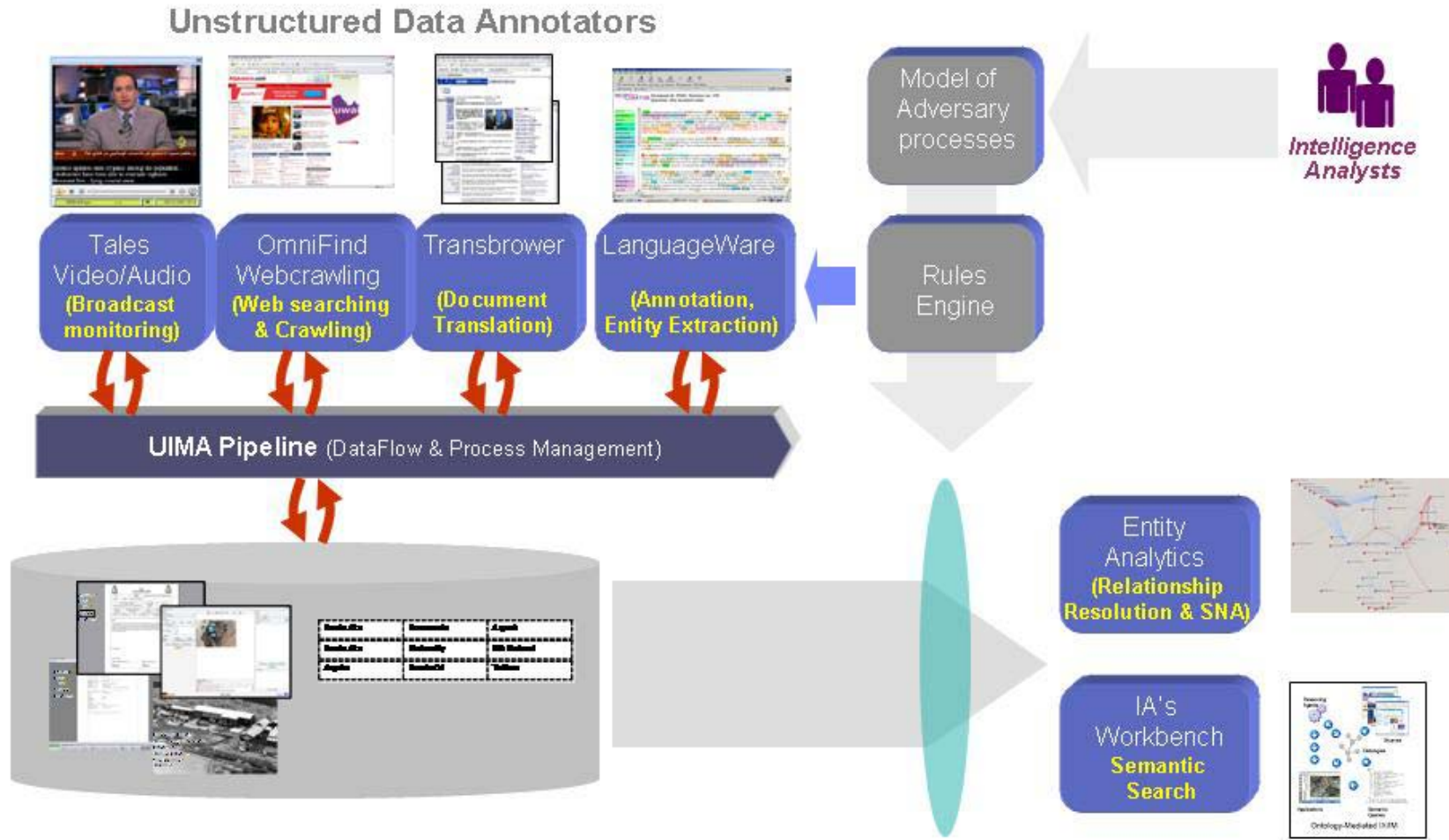
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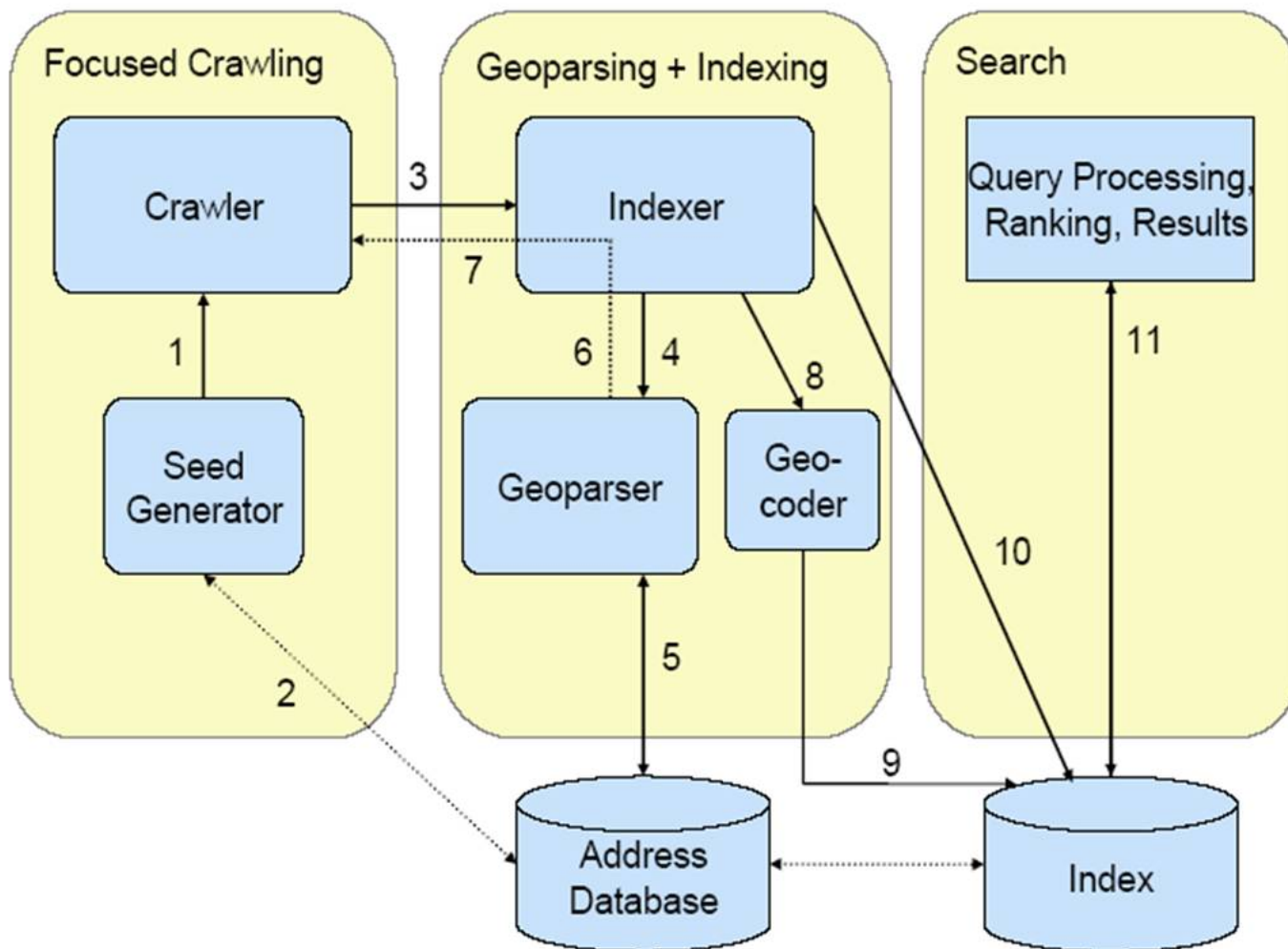
nguageWare Miner for Socio-Semantic Networks

The Social Semantic Desktop™
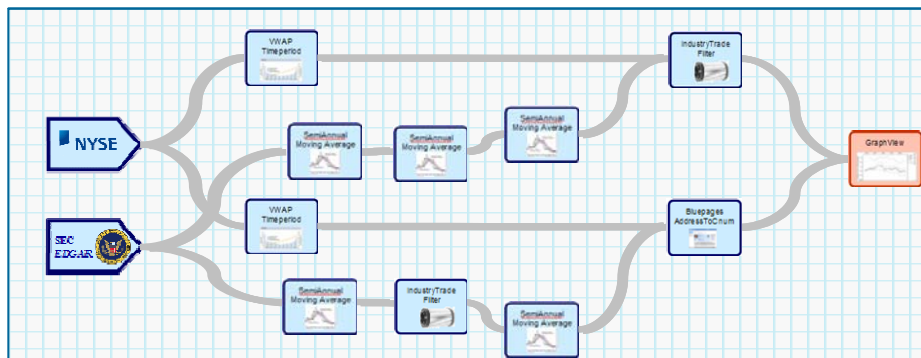
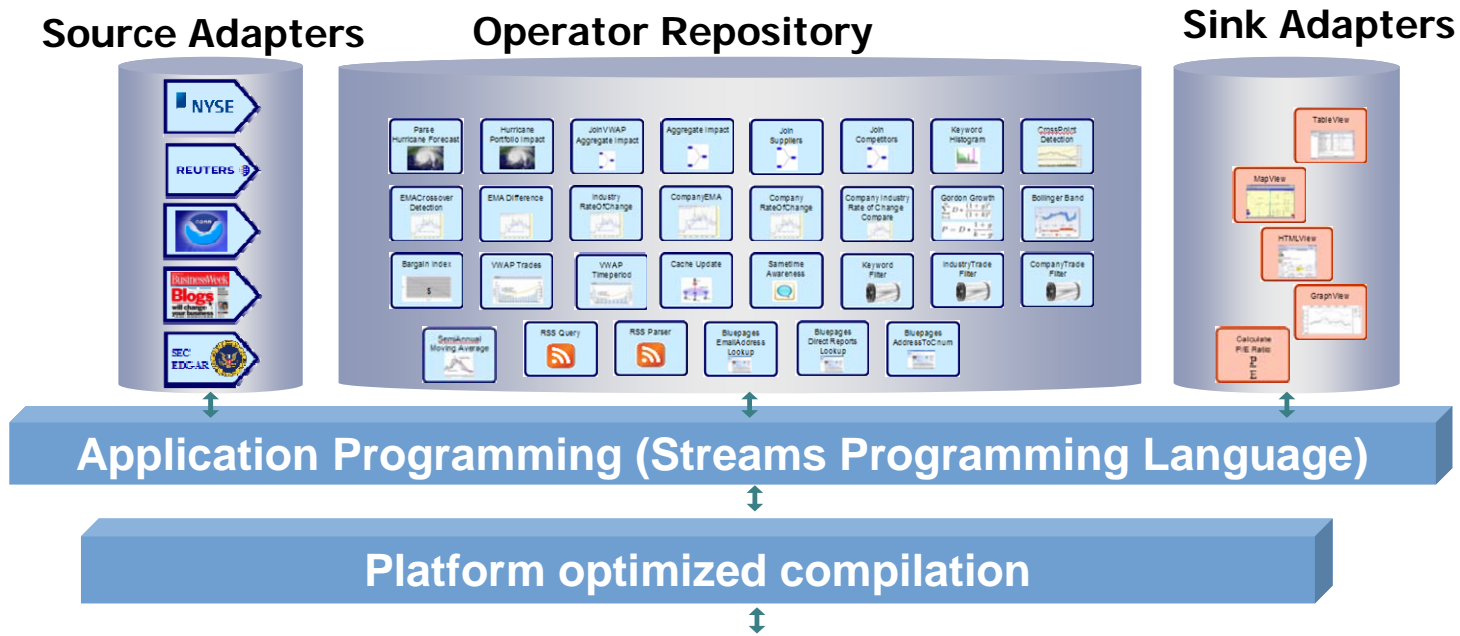**NEPOMUK**

Networked
Environment for
Personal
Ontology-based
Management of
Unified
Knowledge

provides a unified API that helps in creating solutions for these types of
multidimensional networks (people, documents, tasks, etc.) and provides an
integrated platform for combining social computing, semantic processing,
and activity-centred computing for enhanced user experience.

eam Processing Framework for Sensors + Actuators

Source Adapters   Operator Repository   Sink Adapters

Application Programming (Streams Programming Language)

Platform optimized compilation

mmary

- **In this paper, we have defined a smart coalition cloud with the characteristics:**
  - **Instrumented:**
    trust and confidence are achieved by deploying a wide range of sensors to measure operation-critical performance indicators. Many of the sensors are IT-related, but they also include the important sensors which can contribute to situation, context and history awareness.
  - **Interconnected:**
    classic information and stream processing techniques are combined to ingest relevant information in real-time and build a virtual data warehouse on which data analytics can be applied.
  - **Intelligent:**
    advanced analytics contribute to the creation of situational awareness for all coalition partners; collaboration tools allow for the intelligent sharing of those and for the exploitation of the underlying common intent.

- **In conclusion, we have applied the concept of the cloud to the domain specific environment of complex endeavours to illustrate how the internet of the future will deliver the adaptable, versatile and secure information, application and service infrastructure needed to underpin coalition mission structures of the future.**