

# Intelligent Information Systems

*We're just better at finding things™*

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Open Source Solutions '97

# Intelligent Information Systems

- Decade of applying technology to real requirements, real content, and real time needs
- Discovering, Discriminating, Distilling, and Delivering Intelligence™
- “Where might we find the answer?”
  - Paper and digital
  - Internal databases, Internet, and on-line services
  - English and foreign language
  - Text, image, and video
- Why technology?
  - Information explosion coupled w/reduced resources
  - Better techniques to find needle in a haystack

# Applying State-of-the-Art Technologies

- Open source is vast in quantity, heterogeneous, multimedia, and multilingual
- SRA tools enable a typical, monolingual analyst to
  - Subscribe electronically to global current awareness
  - Query multiple on-line services, Internet, and databases
  - Browse hyperlinked “who,” “what,” “where,” “when”
  - Browse hierarchical topic tree of large document collection
  - View English or original language summary
  - Request realtime, automatic translation
  - Be alerted to suspicious patterns automatically
  - See visual displays of alerts and patterns (links, maps, timelines)

## An Aside: The “How”

- SRA staff: multilingual, technology leaders, realworld experience
- Digitization and storage technologies
- Fulltext indexing
- Other artificial intelligence technologies proven in real environments over past decade
  - Natural language processing (NLP)
  - Machine learning
  - Data Mining
- Internet technologies
- Visualization tools and technologies

## Foreign Language NetOwl™ Extractor

- SRA has developed the language-specific components to allow NetOwl Extractor to handle foreign language documents
- Japanese, Spanish, Chinese, Thai, French, German, Arabic, etc.
- Foreign language NetOwl Extractor can be used to
  - Query or browse single-language or multilingual collections by proper name
  - In conjunction with fulltext indexing or machine translation to improve foreign name handling

## World News Connection and Intermezzo™

- World News Connection
  - Provides realtime global current awareness
  - Subscription available through FedWorld™
  - Automatic conceptual indexing (Excalibur)
  - Easy profile creation and search
- Intermezzo™
  - Heterogeneous, multimedia search architecture
  - Search Excalibur, Verity, Fulcrum, BRS, PLS, and proprietary DBs with a single query

## Summarization

### Multilingual Internet Surveillance (“NetWatch”)

- Allows monolingual analyst to gain access in English to multilingual documents
  - *Retrieve* multilingual documents w/ English query
  - *Browse* multilingual, hyperlinked collection by concept
  - *Translate* (or “gist”) multilingual documents into English
- Monitors specified Web sites or news groups for

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