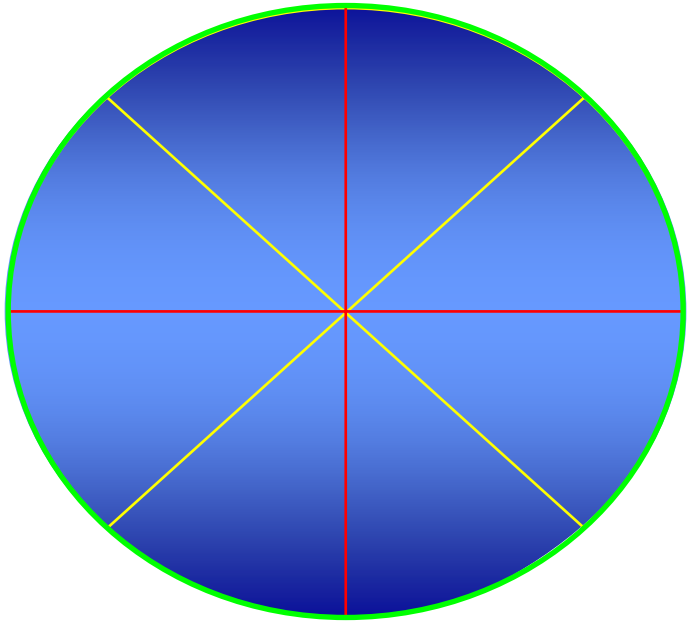
FlexiCadastre's Implementation Overview



An Anglo Coal Case Study

Part of the Anglo American plc group of companies

Introduction
Anglo American Global Operations

Technical System's Usage and Maintenance Expectations

Project Managers Accountability

- Project Motivation, Business Requirements and Project Scoping Documentation
- The overall implementation of the technical systems which are wholly owned by Anglo Coal and the only person with the exception of IM with Administrator rights on the Maintenance and Administration libraries of these systems.
- Receive all requests for access and assign appropriate access rights level and ensure that all granted privileges are in accordance with the user's job functions, in cases where an access procedure exists all requests can be serviced through the normal IM support procedures.
- Compile necessary access support and maintenance procedures documentation for IM.
- Ensure systems delivery, availability and hold service providers to account.
- Facilitate continues improvement of the Technical Systems, through the development on an integrated and interoperable computing environment.
- Maintain documentation versions.

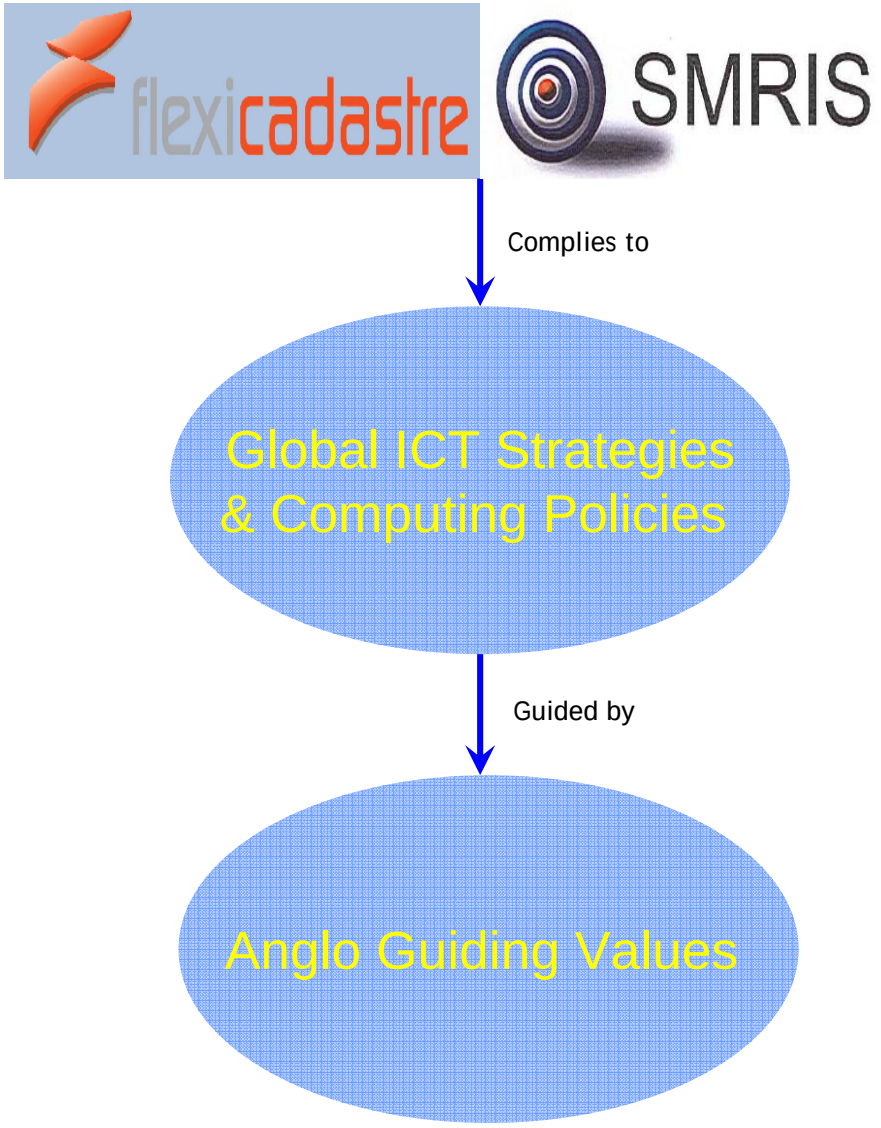
Our Motivation

Surface and Mine Mineral Rights Information Systems (SMRIS II)

- Business and User Case Requirements:
  - Be applicable across different business divisions operating in diverse jurisdictions. The system should cater for all commodities, all countries in a single software package.
  - Retain all aspects of the historical Mining Law & Property database in respect of rights, leases, contracts and payments. No loss of historical data.
  - Provide ongoing land management capability in respect of surface rights, servitudes and other rights.
  - Provide management capability for mining, prospecting (production / exploration etc.) issued in all countries in which the relevant business division is operating.
  - Provide workflow process management.
  - Integrate seamlessly with other software applications such as Document Management Systems (DMS), Enterprise Resource Systems (ERP), Customer Relationship Management Systems (CRM), Reserve and Resource Reporting System (R^3), Environmental Management System (EMS), and 3D Geographical Information Systems (GIS).

Background

- Aim
  - Surface and Mining Rights Management
  - Accounting
  - Reporting and Cadastral Information Management
- Type of application
  - Web based Database and Spatial Management System
- Progress Report
  - Workflow testing.
  - Reporting management functionality testing
  - System GO live earmarked for sometime soon.
  - Phase 1-4, have been signed-off.
  - Training and new functionality is beign defined



Information Systems Design Principles

Business Case for Applying Group's Guiding Values

- Use systems that ensure the safety of users at all times
- Empower users to be accountable of their actions through information audits
- Develop reliable data systems which decisions can be based on.
- Foster a spirit of information collaboration to empower user's knowledge base
- Create systems that evolves with technology and inspires users to be innovative
- Respect use, distribution and confidentially of the data and information processes.

Understanding FlexiCadastre
Implementation Components

- People
  - Systems Administrators
  - Application Developers
  - Database Administrators
  - Geodata Specialists
  - End Users
  - Sponsors

- Processes, Methods and Procedures
  - Data Modelling
  - Database Entity's Relationship Diagramming
  - Workflows

- Technology
  - Web Server
  - Database Server
  - Spatial Database Infrastructure
  - Document Management Systems

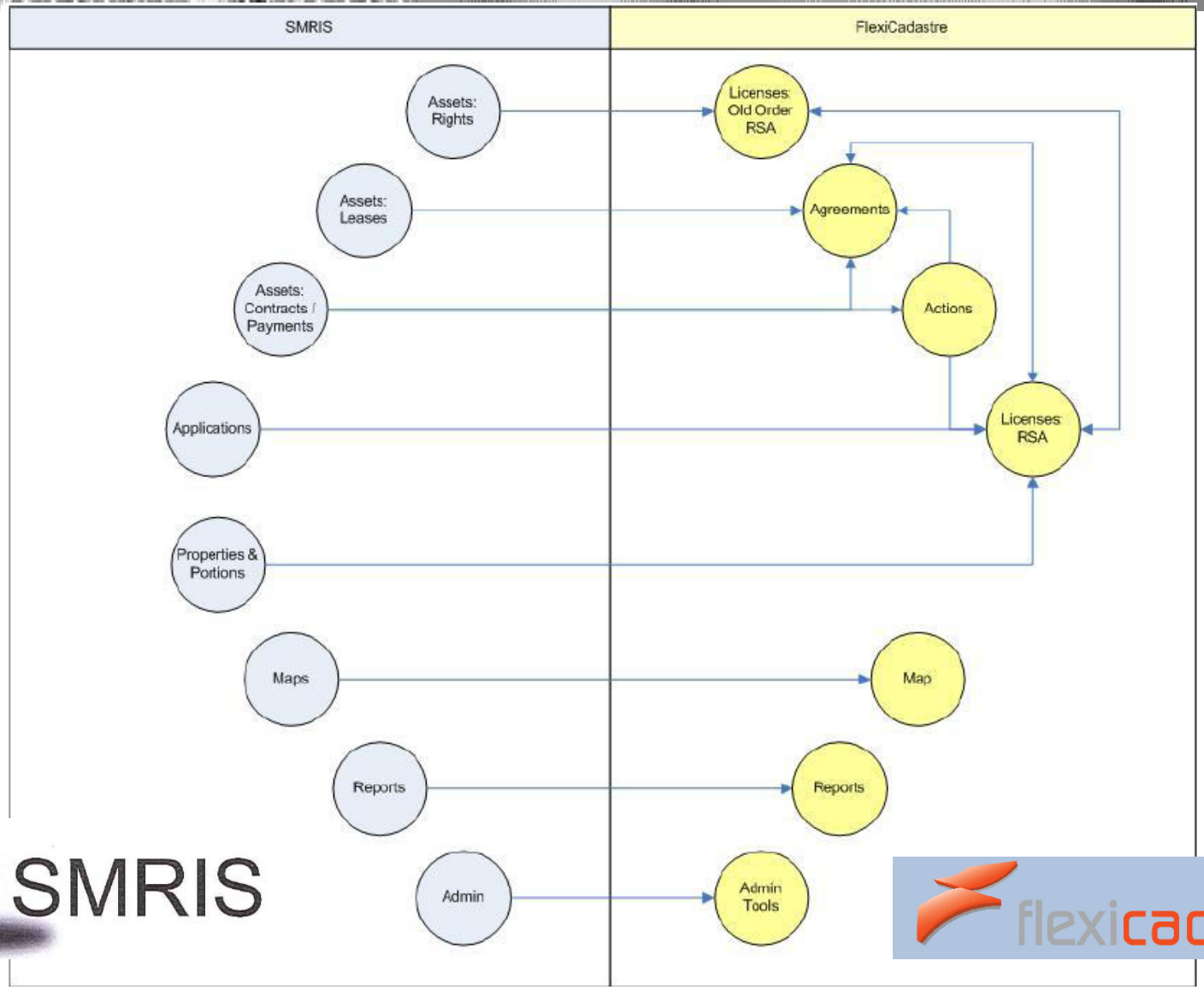
People

Stakeholders, Role Players or Pivotal Persons

- Systems Administrator
  - This is the system's anchorman, whose role is to setup end user's workstations, implement the system's roll-out plan and interacts with the service provider in ensuring a that there's a high reliability and availability of communication services (i.e. enforce provisions of the SLA)
- Application Developer
  - This is someone with insights into universal development frameworks or paradigms, he ensures that there are known APIs between various systems which can be used for system integration purposes.
- Database Administrator
  - Eventually everything is organised into a database, this administrator understands the data architecture of the system and ensures that there are regular, full and operational backups of the system's database.
- GIS Specialists
  - These are the people responsible for the GIS Data Management, including publishing vector, raster and process services over the web for end users.
- End Users
  - This are the custodians of the system, they do routine data updates, reporting, and error detection.
- Sponsors
  - These are the project's initiators, they institutionalise the user requirements and set aside resources for implementation.

Process, Methods and Procedures

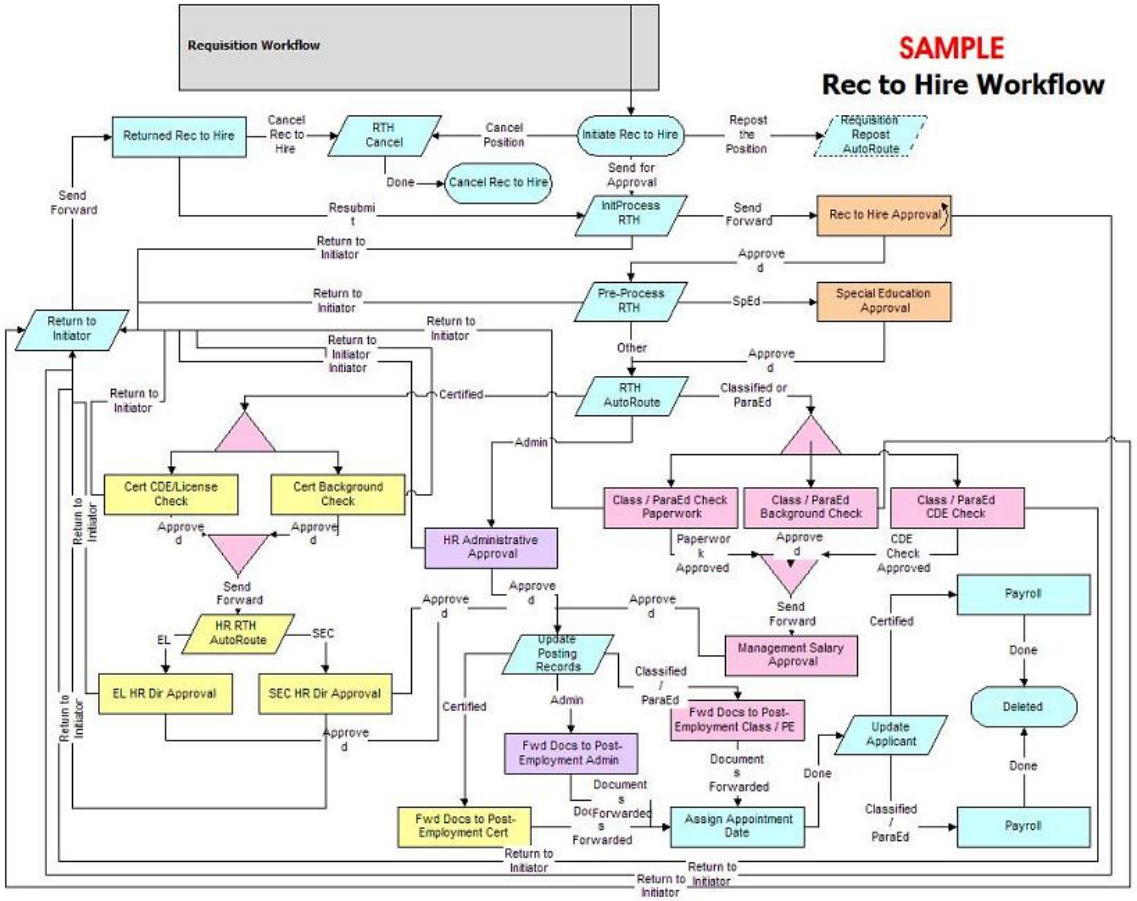
Data Modeling and Migration



Process, Methods and Procedures
Workflow

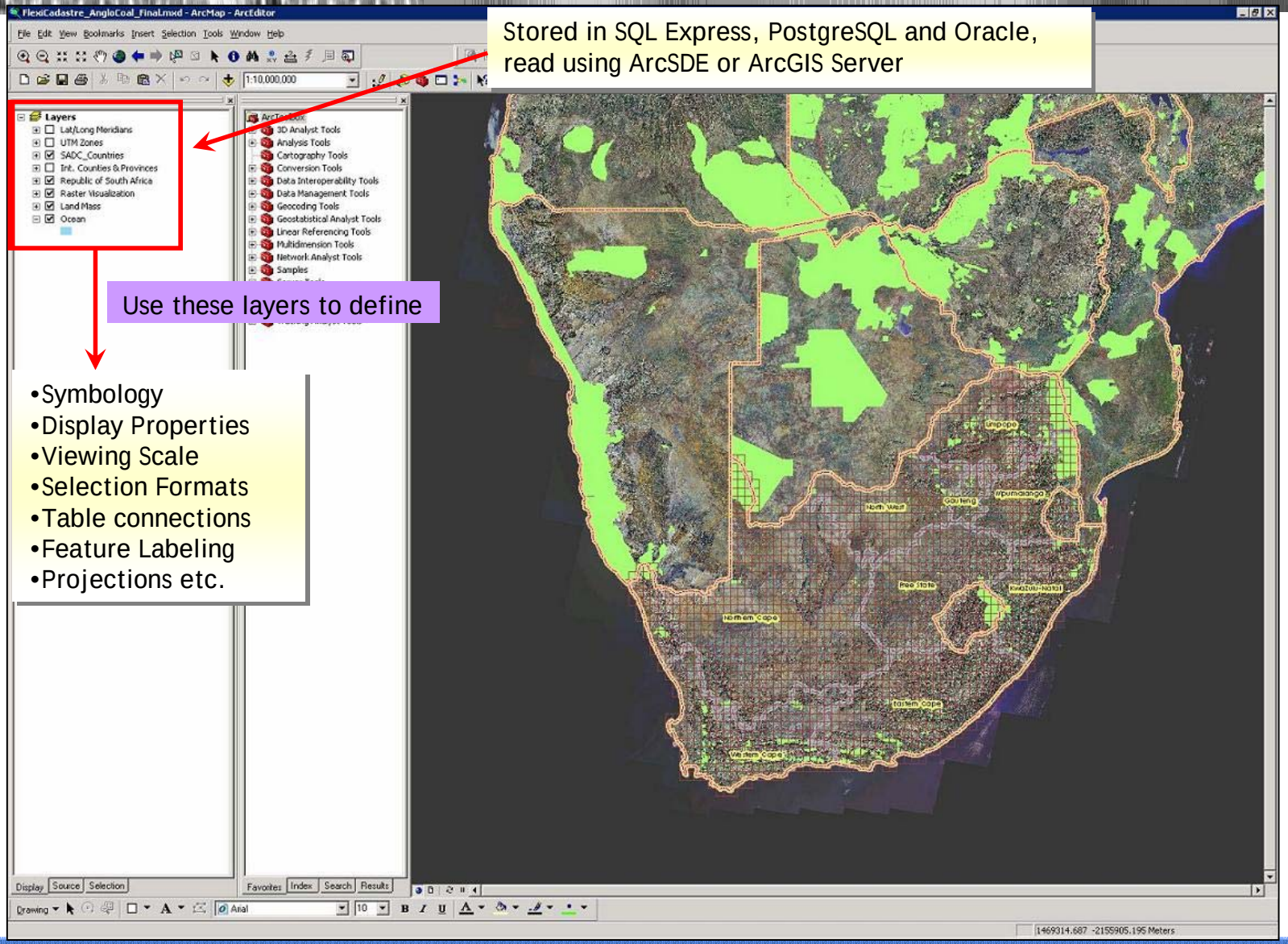
What is workflow?

" *is a flow of dependent actions (steps) that must be executed one after the other is a predefined sequence to complete a certain task*" Hogendoorn, R. Oracle Press. 2007

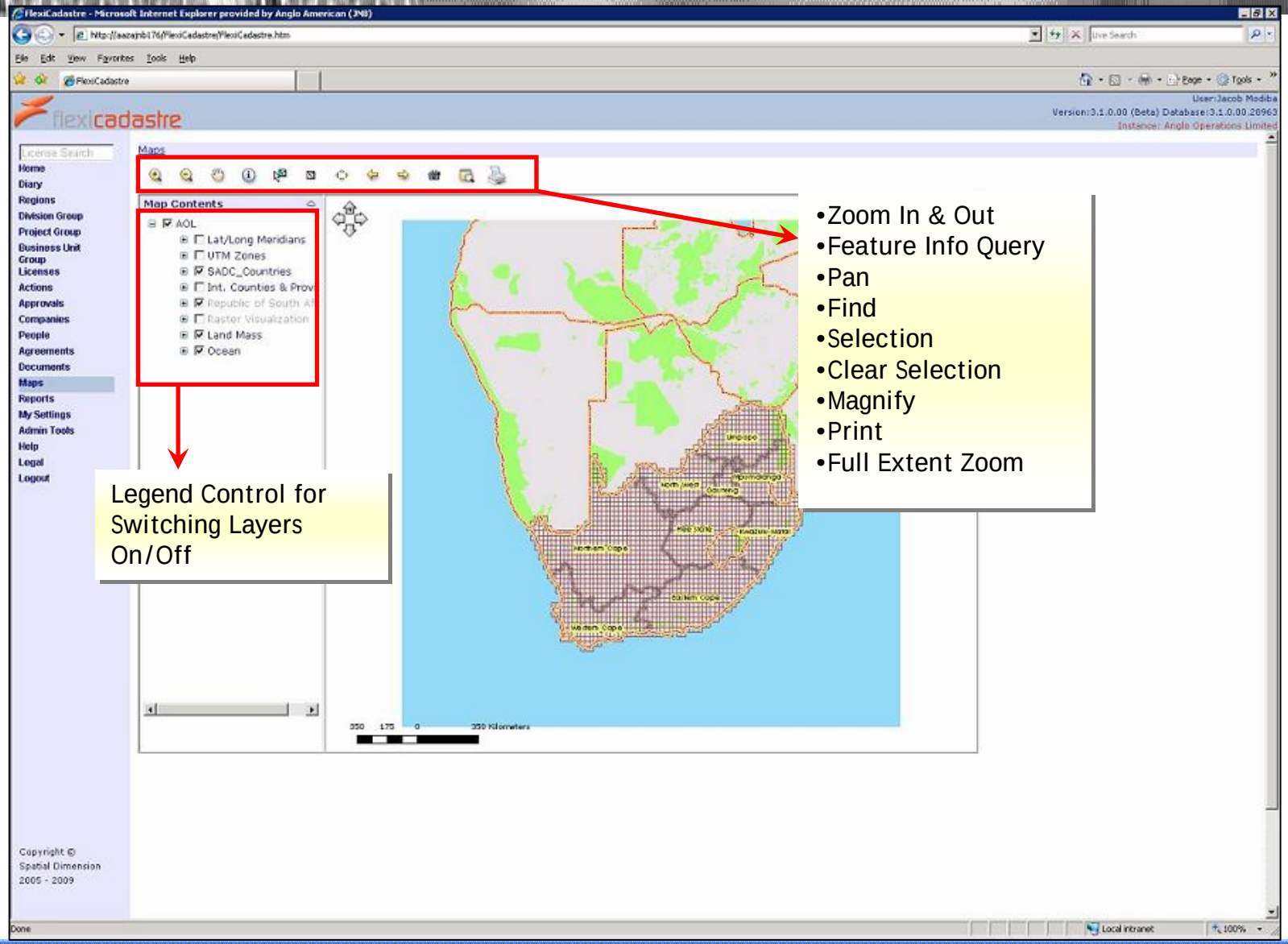


Courtesy of: Toby Mills (Spatial Dimension) - 18 Workflows and Business Rules. 2008

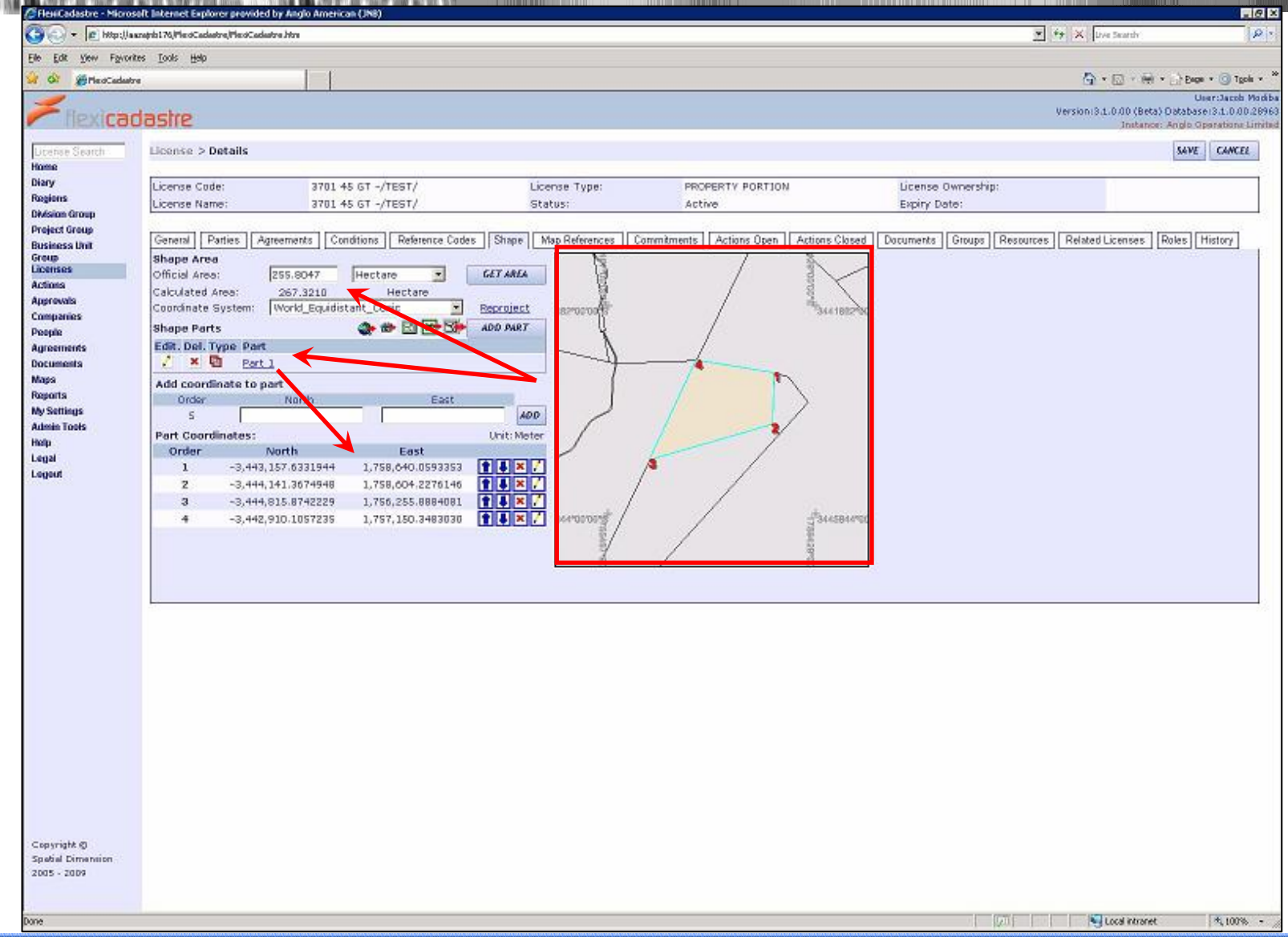
Technology
Spatial Database Infrastructure



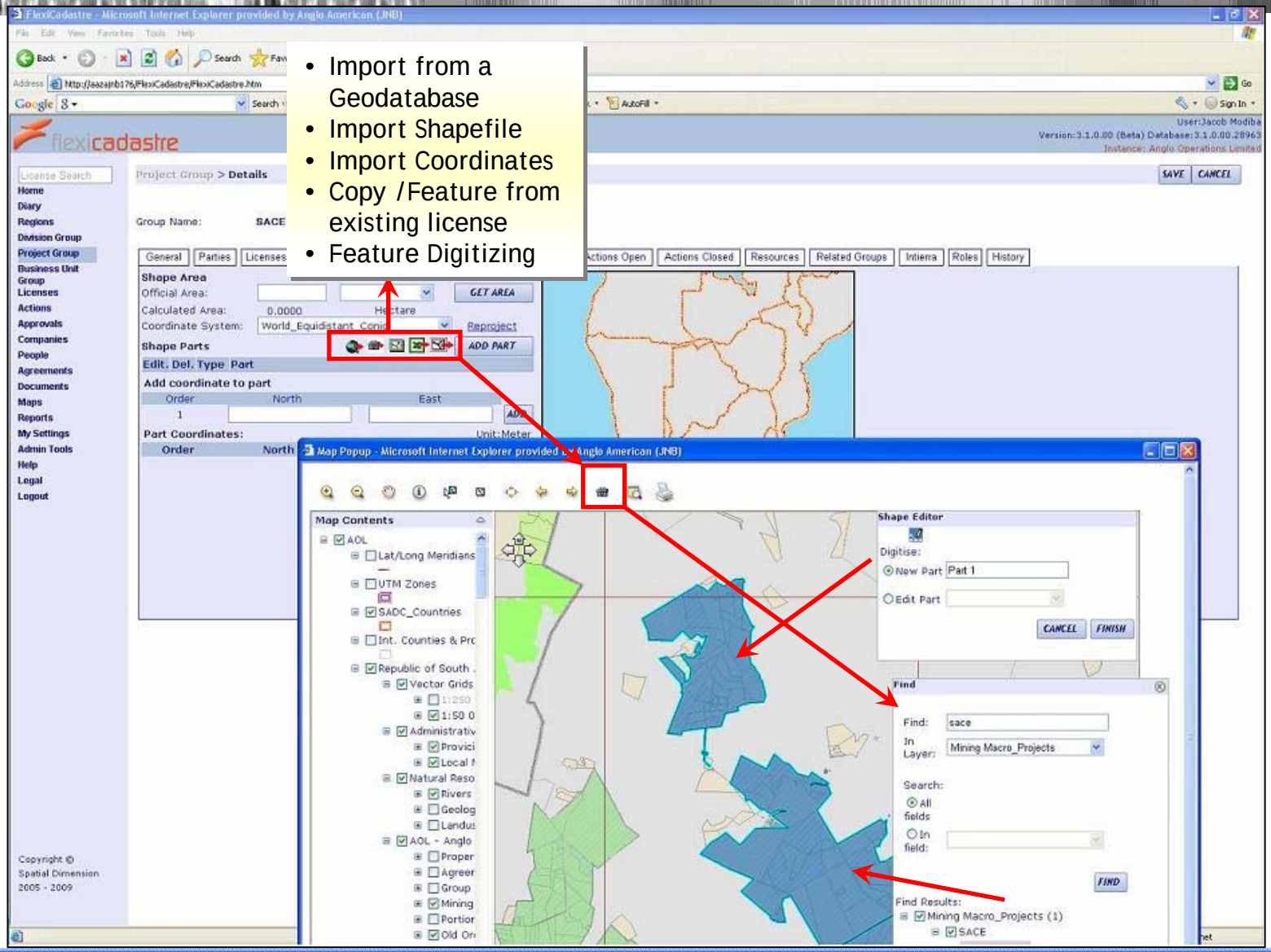
Technology
Web Server and WebGIS Publishing



Technology
WebGIS Feature Editing

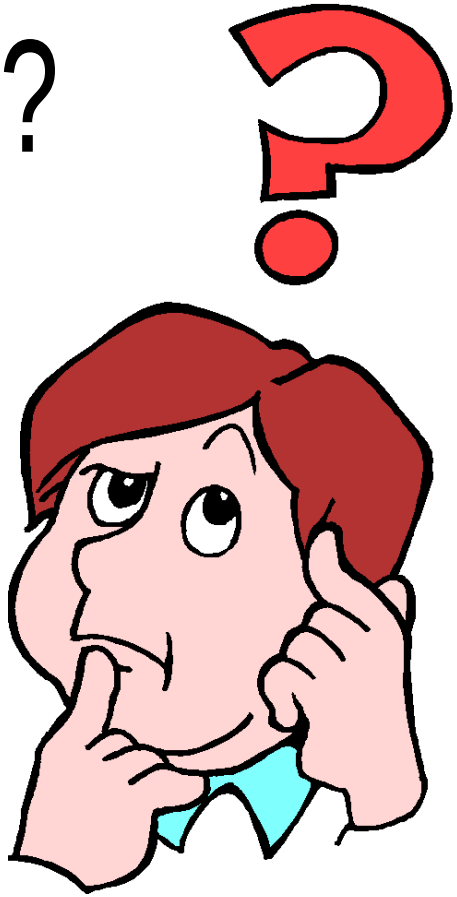


Technology
WebGIS Feature Importing

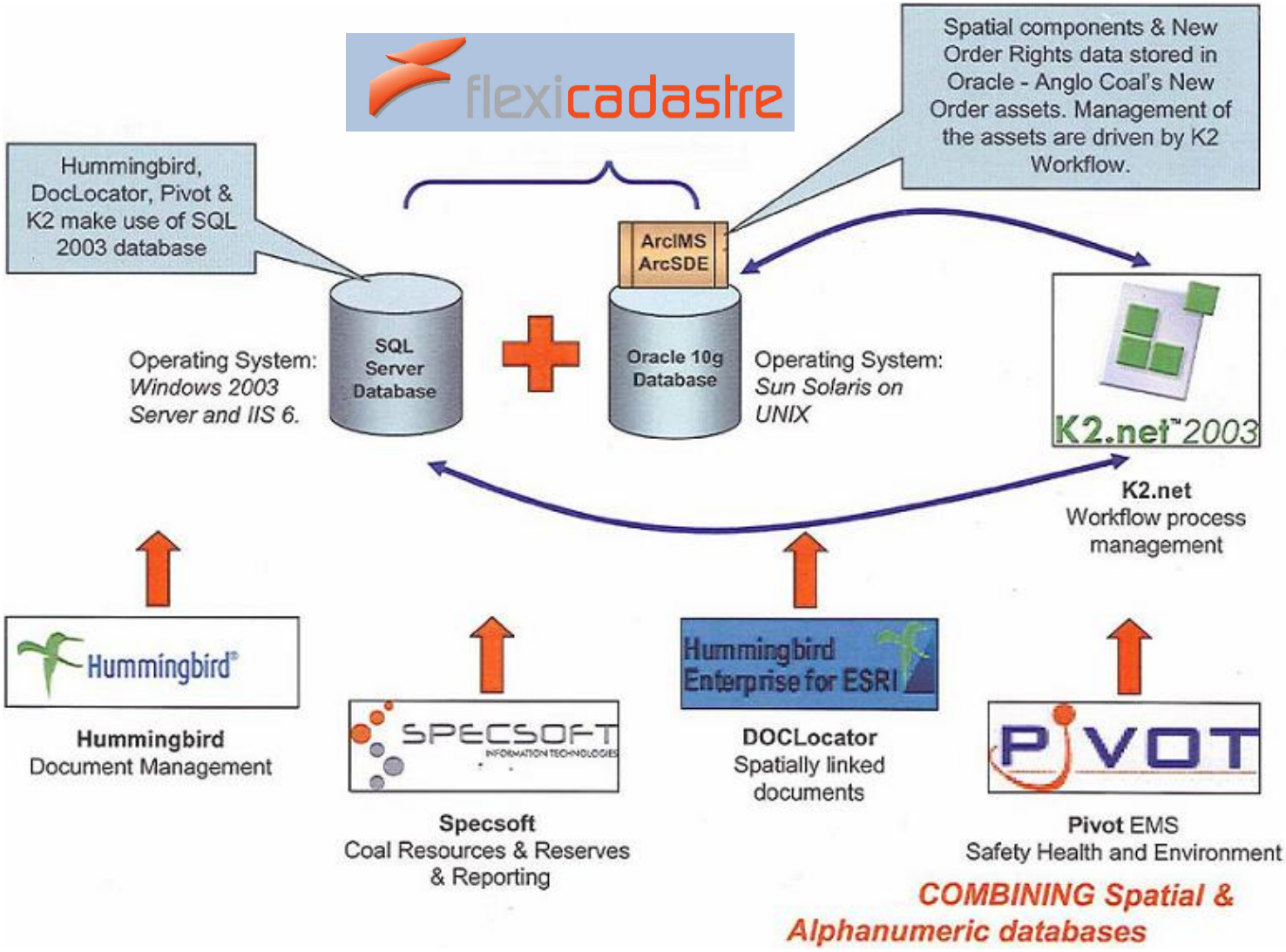


- Import from a Geodatabase
- Import Shapefile
- Import Coordinates
- Copy /Feature from existing license
- Feature Digitizing

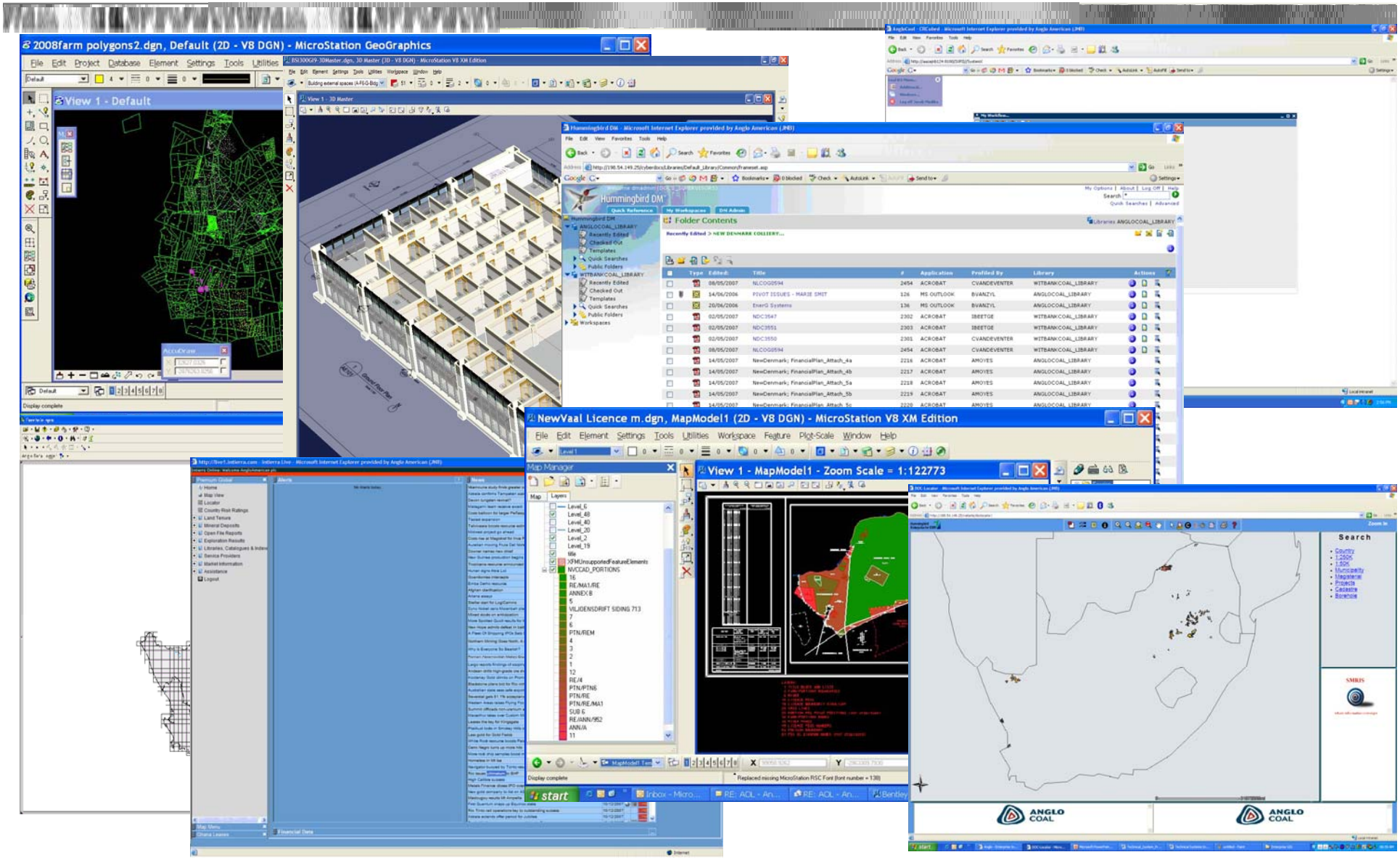
Why is there so much emphasis on GIS?



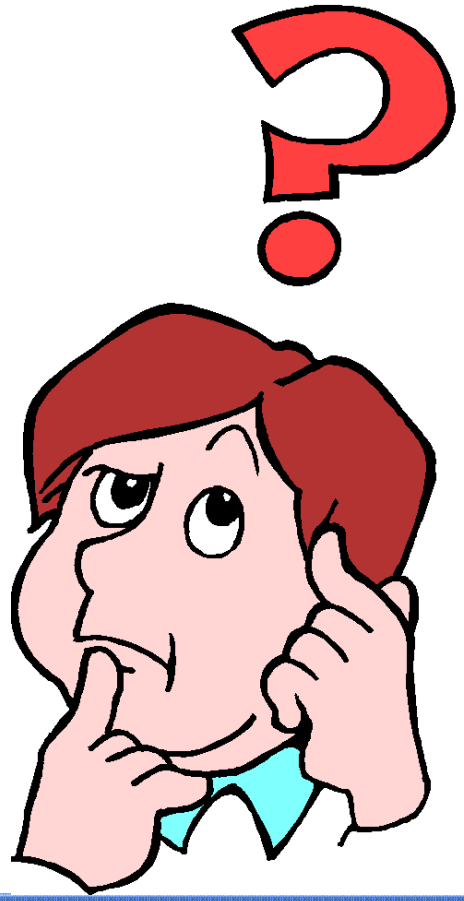
Technology
The Fabric of our Technical Systems



Third-Party Applications
API Integration Plan



Why go to such lengths?



Conclusion
Our Answer

To never again spend days and weeks on end seeking information from mining operations and regional offices, located in different States or Provinces, across countries and continents for the purpose of reporting recommendations for questions such as:

- What is the environmental cost of our various global mining activities?
- How has our Mine Safety and Health policies changed they way we mine?
- Where are the improvements in safety, production and cost efficiency within our various global mining activities?
- Where and how are we meeting the provisions of our mining concessions for the different jurisdictions?
- Where are our shareholders, customers, employees, suppliers, competitors and communities?
- Do we have the right people, in the right places, with the right skills to be innovative and cement our growth?
- As a company, are we profitable in respect to the environment, communities, capabilities (human and machine) and the market?

Thank You!

Questions?