



# **FlexiCadastre Zambia**

A Technical Review of  
Implementation Specifics

# Previous System

- Non-transparent
- Paper-based, manual system
- Not up-to-date
  - Obligations not followed up on
- License 'clearance' using ArcView 3.2
  - Used to determine overlaps
  - No new coordinates used

# Forthcoming Regulation Reform

- FlexiCadastre designed according to new regulations
  - Workflows for all license-types and license phases (application, renewal, transfer etc)
- Old regulations must still be supported
  - Need for second jurisdiction to accommodate old regulations in tandem with new regulations
  - Licensee obligations – payments, reporting

# Existing License Information Import #1

- All dossiers for active licenses identified
  - Spreadsheets generated from extracted information
    - Granting/Expiries
    - Coordinate/license types
    - Payment details
- } For all license types

# Existing License Information Import #2

- Geodatabase feature classes generated for all licenses
- All relevant license details joined onto geodatabase
  - Ownership
  - Application, granting, expiry dates etc

# Validation of Historical Data

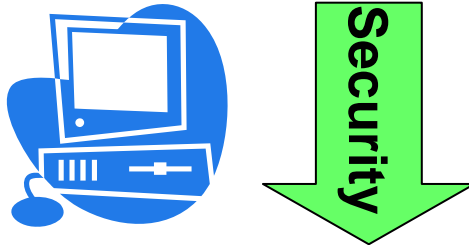
- GIS validation of spatial information
  - Overlaps: regulations prohibit overlap
  - Incorrect coordinates – dossiers revisited
- Historical actions created for existing licenses according to old regulations
  - Based on granting and expiry dates
  - Payment validated by closing actions

# Uniqueness of new regulations

- Shape validation
  - No limit on area under tenure
  - 3” cadastre grid proposed
- Authority of Cadastre Unit
  - Simple interaction between cadastre and ministry/director

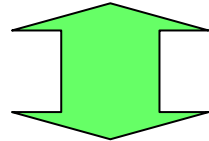
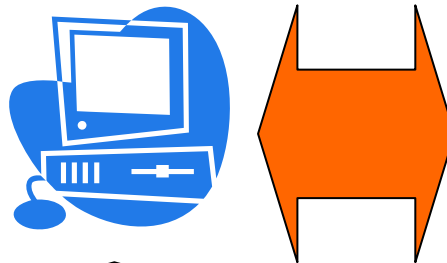
# Infrastructure Architecture

## Domain Controller



## Web Server

- FlexiCadastre
- ArcIMS
- IWS \*



## Database Server

- MS SQL 2005
- ArcSDE





# Implementation Process #1

- Installation / configuration of support software (database, IIS, ArcIMS etc)
- Installation of FlexiCadastre
- Configuration of license types, jurisdictions, license parameters etc
- Configuration of old regulation license parameters with associated business rules and workflows

# Implementation Process #2

- Import of existing (old regulation) licenses
- Configuration of interpreted actions, business rules and workflows to function within framework of new regulations to be adopted
- Data validation using FlexiCadastre
  - Ownership details – addresses etc
  - Closing of historical actions to validate license currency (up-to-date)

# Implementation Process #3

- Moratorium placed on applications
  - 6-month hold placed on all new applications
  - Renewals ran according to old system
- Post-moratorium (flood of) applications entered into system using old regulation

# Training

- Introduce cadastre staff to FlexiCadastre
  - Basic training on using FlexiCadastre
  - Interface, basic functionality
- Workflow training
  - Performing manual workflow within a digital system

# Difficulties Encountered

- New regulations not yet implemented
  - 3" Cadastral Grid
  - New regulations applications may clip to non-conforming boundaries

# Advantages of New System

- Accurate assignment of actions based on Mining Law
- Spatial validation (license clearance) performed 'on-the-fly'
- Spatial validation performed at beginning of application workflow
  - Available ground established early
  - Overlap difficulties established early in process
- New coordinates suggested when license overlaps are clipped.
- Sustainable
- Efficient workflow management
  - Ease of use

# FlexiCadastre Zamia – Going forward

- Training
- Familiarisation of system and new regulation's workflows
- Map scanning
  - Support data for FlexiCadastre as backdrop to license applications
  - Data to be served into FlexiCadastre mapping interface using IWS