Ministry of Forests and Range

Understanding Key Applications:
The "Big Picture" of application inter-connections

Sponsored by the
Information Management Group

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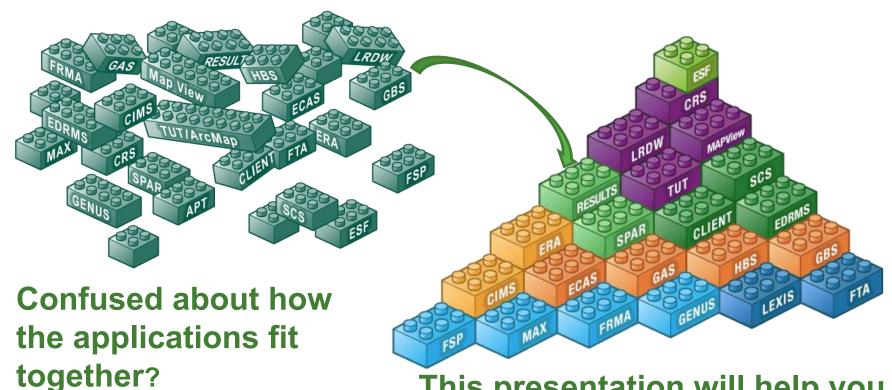*Original Version - Summer 2004*

Goal & Objectives

- Increase awareness of applications which support key MoFR business processes
- For each application, you will learn:
  - Basic business process
  - Linkages
    - How the same data is shared & accessed among multiple applications
  - Target user groups
  - Critical data elements within database tables
  - Key data dependencies between applications

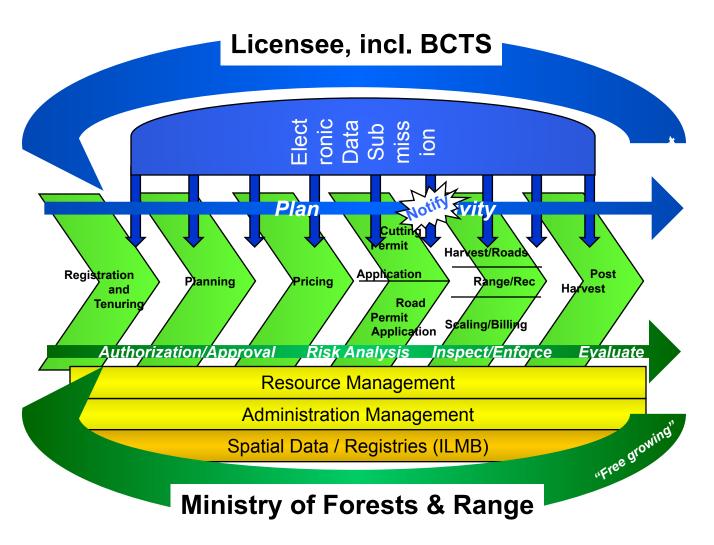Note: **application = computer system (e.g. FTA, RESULTS, SPAR, etc.)**

Confused about how the applications fit together?

This presentation will help you understand how key applications are the building blocks for the Ministry of Forests and Range's business!

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Understanding the Applications' Grouping

Planning Applications
APT   MAX

FRMA   FSP

BCAS

Administration Applications
CLIENT   EDRMS

SCS

BCTS Admin

Pricing and Billing Applications
ECAS   GAS

GBS   HBS

WASTE

Other Applications
(non-integrated and/or non-ministry)

FNIRS

EMS

CRM

CAS

FCS

ARM

CHIPS

CONSEP

L-TRACK

EXCOR

Resource Monitoring Applications
CIMS   ERA

FREP   IAPP

Resource Management Applications
LEXIS   FTA

GENUS   VRIMS

Spatial Applications
OSDB

LRDW

ILRR
SeedMap

TUT/ArcMap

Data Broker
ESFCRS

Forest Regeneration Applications
RESULTS   SPAR
NSA
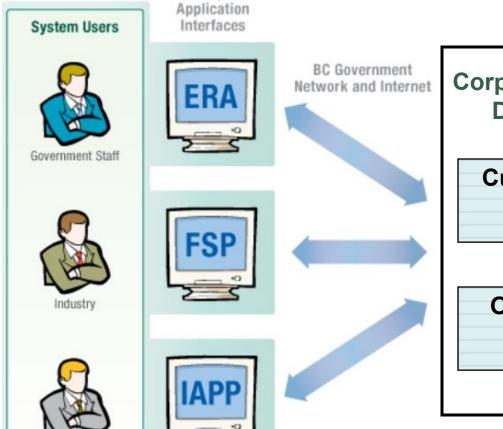
Note: Grouping is for the purposes of this presentation only MetaView

5

Data Storage

Sample Application Interfaces

System Users

Government Staff

Industry

Other Agencies

ERA

FSP

IAPP

BC Government Network and Internet

Corporate Integrated Production Database – sample tables

Cut Block Table

Org Unit Table

Forest Client Table
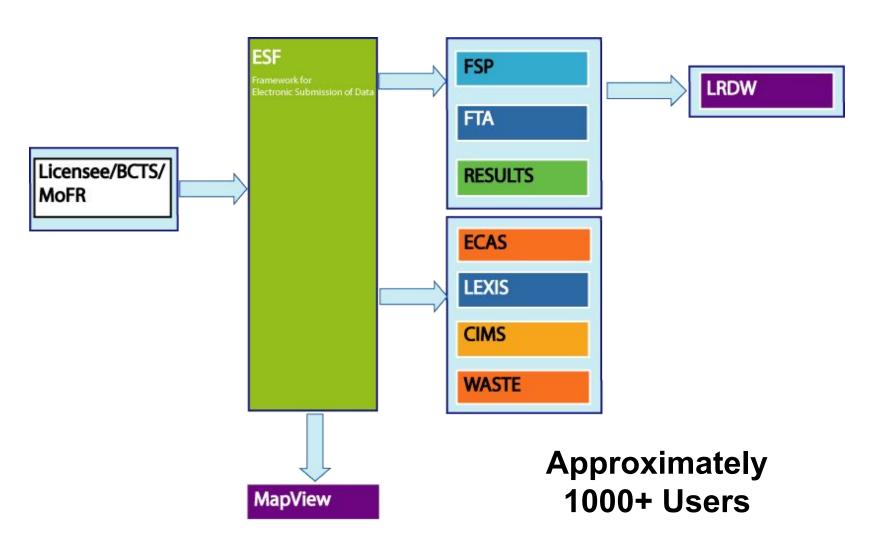
Understanding Critical Data Elements

- What are critical data elements?
    - Pieces of information that you **must** enter, update, & maintain correctly and in a timely manner
- Why are critical data elements important?
    - They affect other applications
    - Critical for improved, accurate, & reliable business decisions
    - Imperative for government to meet legal requirements
- If you are working on a new or existing application, explore and research other existing applications
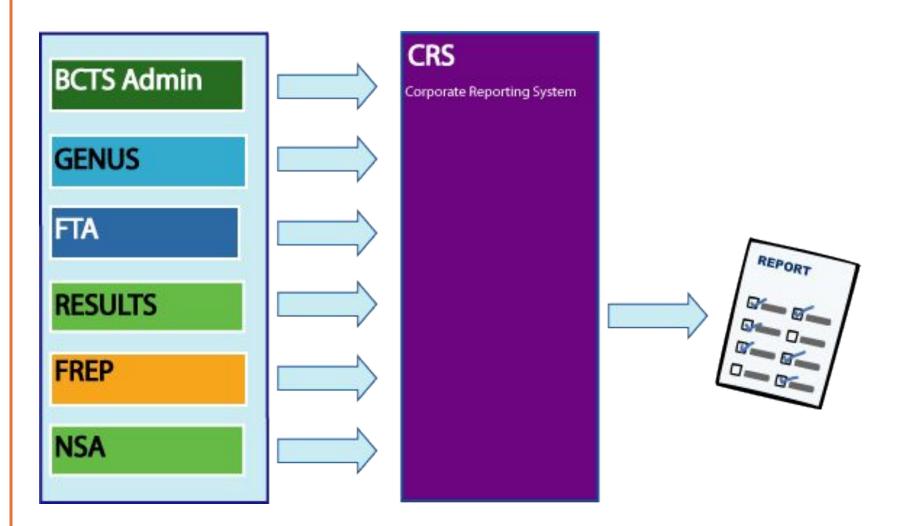- *What is a common critical data element shared between many ministry applications?*

Data Broker

Approximately 1000+ Users
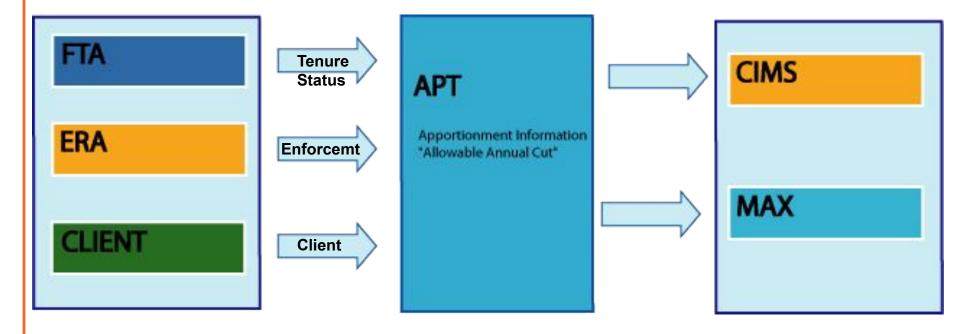
- Planning Applications include:
  - Apportionment System (APT)
  - MAX Performance Management Application (MAX)
  - Forest Roads Management Application (FRMA)
  - Forest Stewardship Plan Tracking System (FSP)
  - BC Timber Sales Cost Accounting System (BCAS)
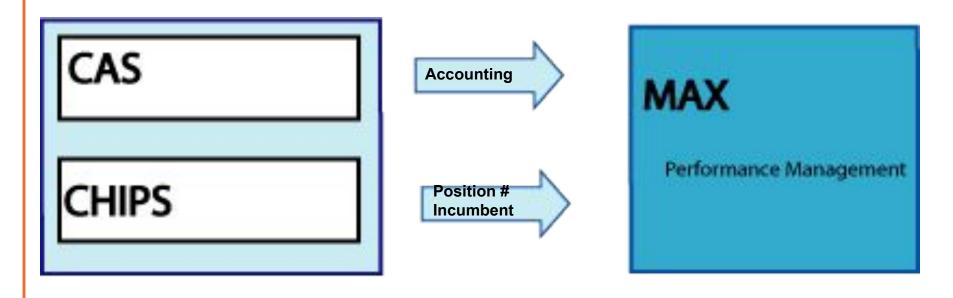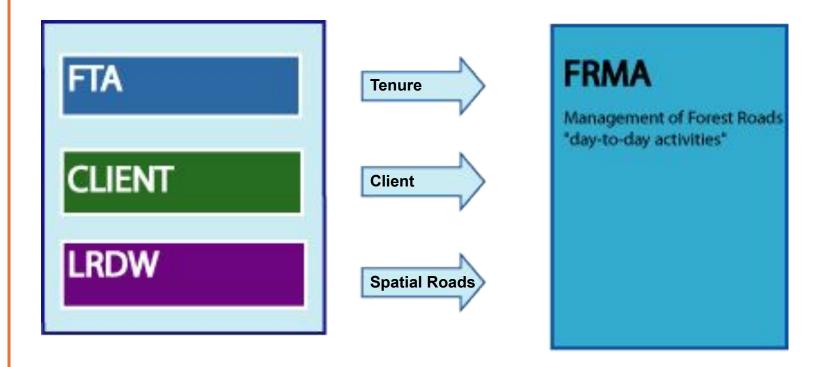
Apportionment Application (APT)

FTA

ERA

CLIENT

Tenure Status

Enforcemt

Client

APT

Apportionment Information "Allowable Annual Cut"

CIMS

MAX

Planning Applications

CAS

CHIPS

Accounting →

Position #
Incumbent →

MAX

Performance Management

**Approximately
1000 users**

12

Forest Roads Management Application

FTA —Tenure→

CLIENT —Client→

LRDW —Spatial Roads→

FRMA
Management of Forest Roads
"day-to-day activities"

Approximately
200 Users

13

Approximately

300 Users

Planning Applications

CHIPS

CAS

GENUS

Salary →

Invoices →

Blocks &
Roads
Status →
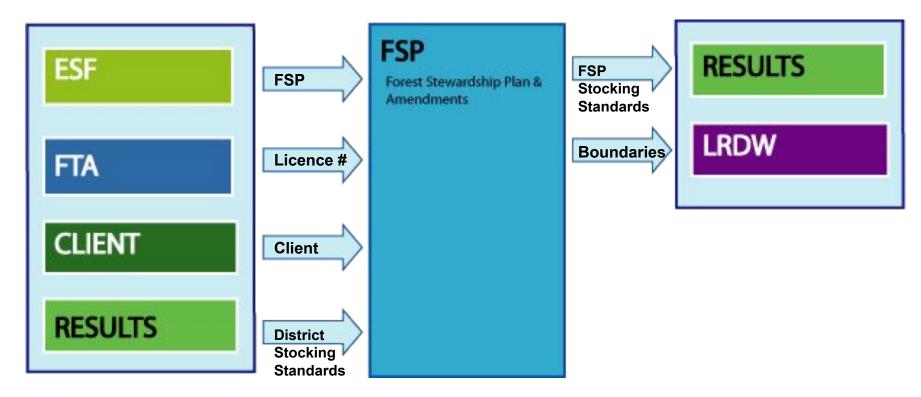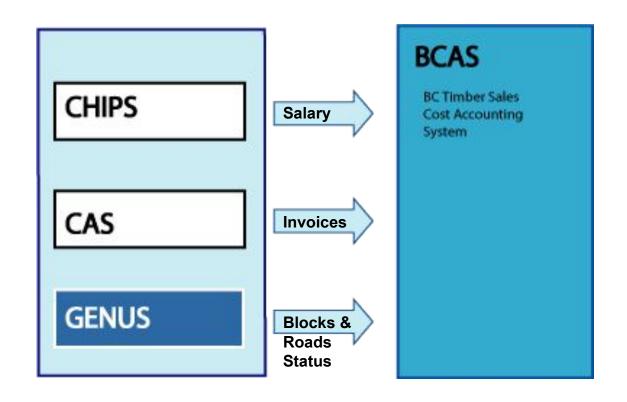
BCAS

BC Timber Sales
Cost Accounting
System

**Approximately
160 Users**

- The FSP Tracking System is the only planning application that establishes critical data elements--specifically:

  - FSPs and amendments

  - Stocking standards

  - Forest Development Units and identified areas

- FSP Tracking System
  - Stocking standards must be entered into the FSP application to become available for use in RESULTS (e.g., assignment to openings)
  - C&E personnel may not have the correct information for conducting inspections if FSP and/or amendments are not properly entered into FSP
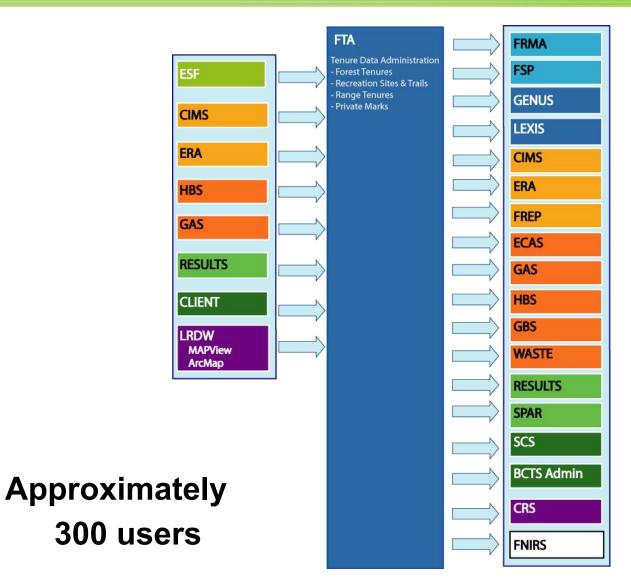
- RESULTS
  - If ESF submission fails, data never enters FTA/RESULTS
  - If ESF submission passes, but contains erroneous data, then poor data in FTA/RESULTS

- Resource Management Applications include:
  - Forest Tenures Administration (FTA)
  - Log Exemption Information System (LEXIS)
  - Genus
  - Vegetation Resource Inventory Management System (VRIMS)

Forest Tenures Administration (FTA)

FTA

Tenure Data Administration
- Forest Tenures
- Recreation Sites & Trails
- Range Tenures
- Private Marks

Inputs:
- ESF
- CIMS
- ERA
- HBS
- GAS
- RESULTS
- CLIENT
- LRDW
  - MAPView
  - ArcMap

Outputs:
- FRMA
- FSP
- GENUS
- LEXIS
- CIMS
- ERA
- FREP
- ECAS
- GAS
- HBS
- GBS
- WASTE
- RESULTS
- SPAR
- SCS
- BCTS Admin
- CRS
- FNIRS

**Approximately
300 users**

Log Exemption Information System
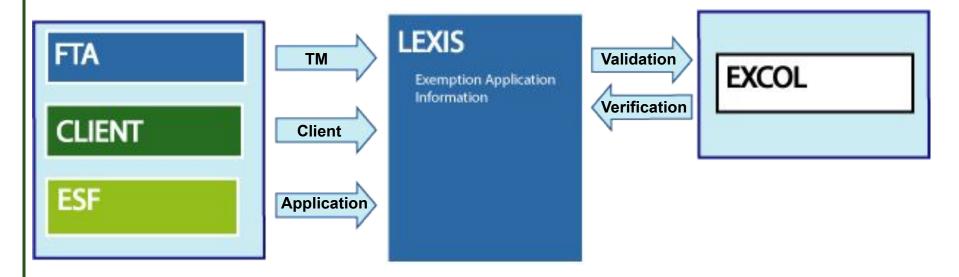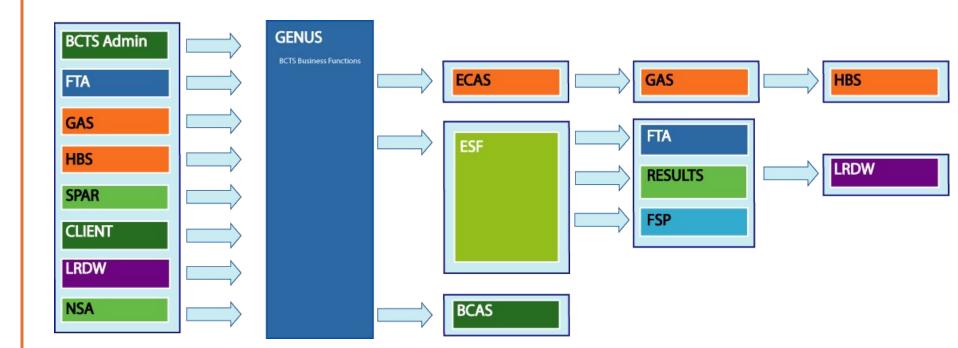
Formerly known as the "Log Export Information System"

FTA

CLIENT

ESF

TM

Client

Application

LEXIS
Exemption Application
Information

Validation

Verification

EXCOL

Approximately

200 Users

21
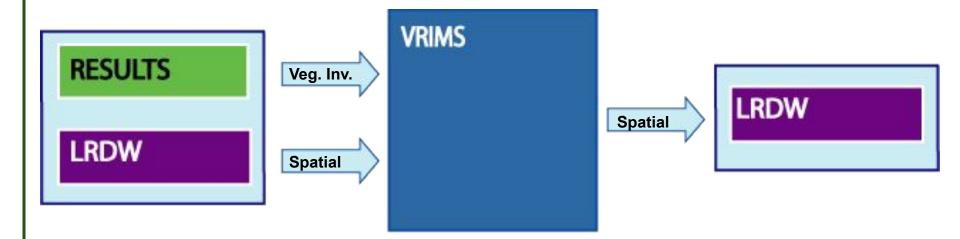
GENUS

**Approximately
800 Users**

Vegetation Resource Inventory Mgmt Sys.

Resource Management Applications

RESULTS

LRDW

→ Veg. Inv.

→ Spatial

VRIMS

→ Spatial

LRDW

Approximately
20 Users

23

Resource Management
Applications

- Critical data elements <u>established</u> in the Resource Management Applications:
  - Timber Mark
  - Unique Business Key Identifier(s): Licence, Cutting Permit, Cut Block, Road Permit ID, etc.
  - Area
  - Road Length & Road Section
  - Organizational Unit
  - Management Unit ID
  - Application, Permit and Package Numbers
- Dates of data entry are also important!
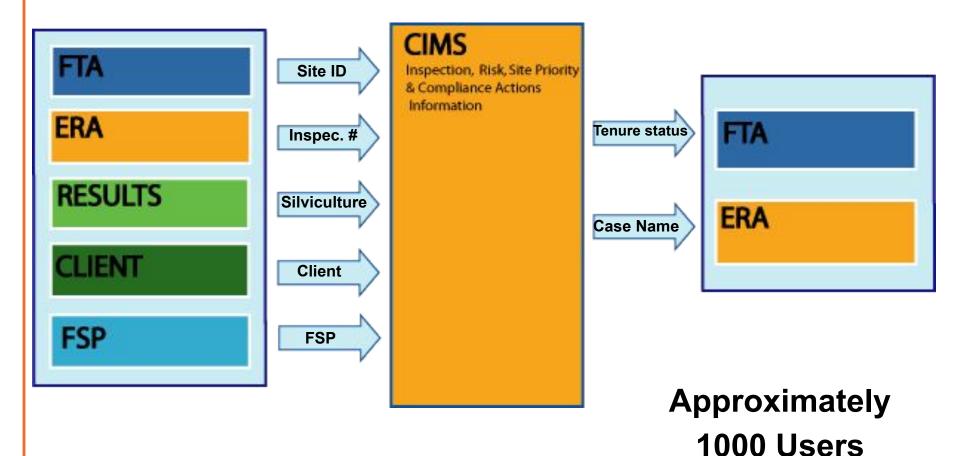
- FTA, RESULTS, & WASTE
  - Tenure data being reported on by RESULTS and WASTE must exist in FTA
  - If cut block in FTA and Opening in RESULTS are not established in a correct and timely manner, the work of people using other applications is seriously affected
  - If critical dates are not entered in a correct and timely manner, it is impossible to conduct workflow analysis

- Resource Monitoring Applications include:
    - Compliance Information Management System (CIMS)
    - Enforcement Action, Administrative Review and Appeal Tracking System (ERA)
    - Forest and Range Evaluation Program (FREP)
    - Invasive Alien Plant Program (IAPP)
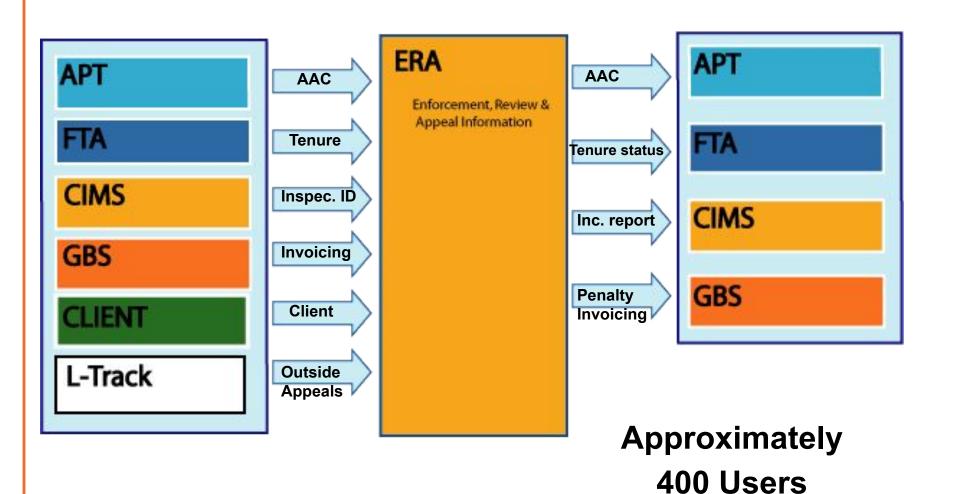
Compliance Info. Management System

Approximately 1000 Users

Resource Monitoring
Applications

APT

FTA

CIMS

GBS

CLIENT

L-Track

AAC

Tenure

Inspec. ID

Invoicing

Client

Outside
Appeals

ERA
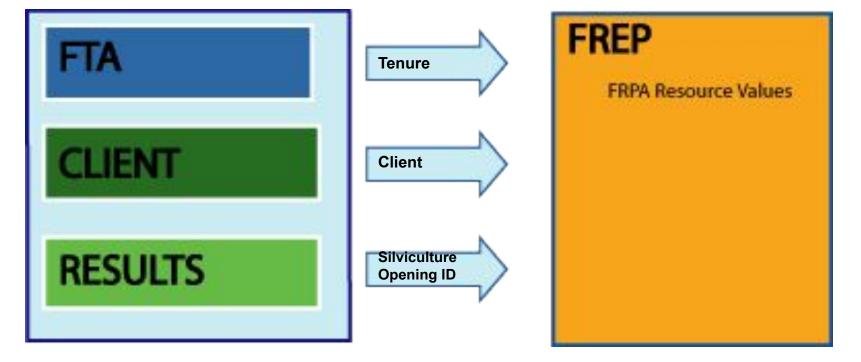
Enforcement, Review &
Appeal Information

AAC

Tenure status

Inc. report

Penalty
Invoicing

APT

FTA

CIMS

GBS

**Approximately
400 Users**

28
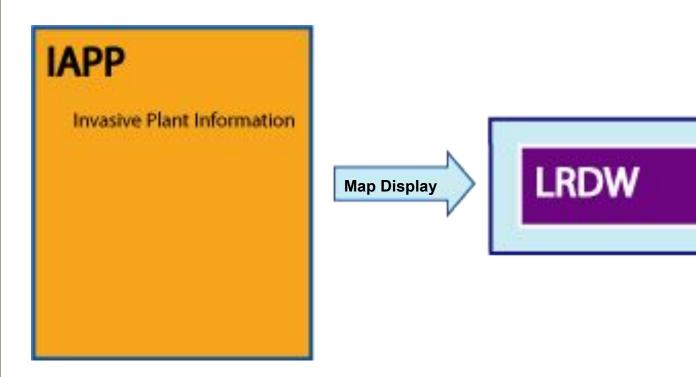
Forest & Range Evaluation Program

FTA — Tenure → **FREP** FRPA Resource Values

CLIENT — Client →

RESULTS — Silviculture Opening ID →

Approximately

100 – 500 Users

29

Invasive Alien Plant Program (IAPP)

IAPP

Invasive Plant Information

Map Display → **LRDW**

Approximately
300 Users

- Critical data elements <u>established</u> in the Resource Monitoring Applications:
  - **Case ID** – this links the CIMS case to ERA & visa-versa

Sample Data Dependencies

- CIMS & ERA
  - Incorrect Tenure or Client data can lead to:
    - the inspection being thrown out of court
    - duplicate efforts for inspectors
  - Incorrect data may mean high risk sites are not inspected or penalties not invoiced
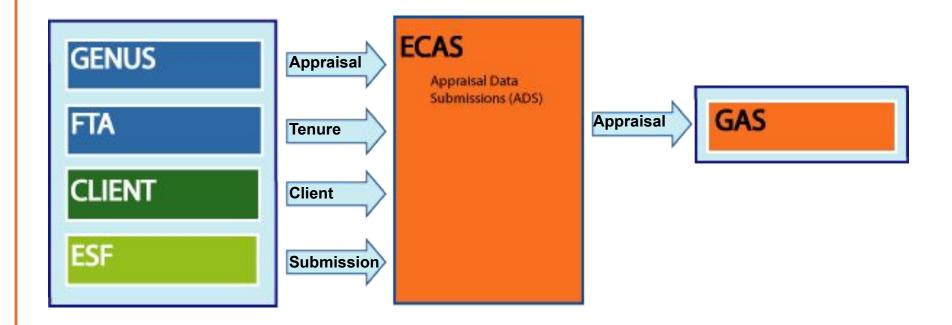
- FREP
    - If RESULTS' Net Area Reforested (NAR) and Gross Area data is not accurate, FREP analysis of the status of some resource values can be compromised
    - If FTA's Cut Block ID or tenure status is inaccurate, evaluations can be compromised

- Pricing & Billing Applications include:
  - Electronic Commerce Appraisal System (ECAS)
  - General Appraisal System (GAS)
  - Harvest Billing System (HBS)
  - General Billing System (GBS)
  - Waste System
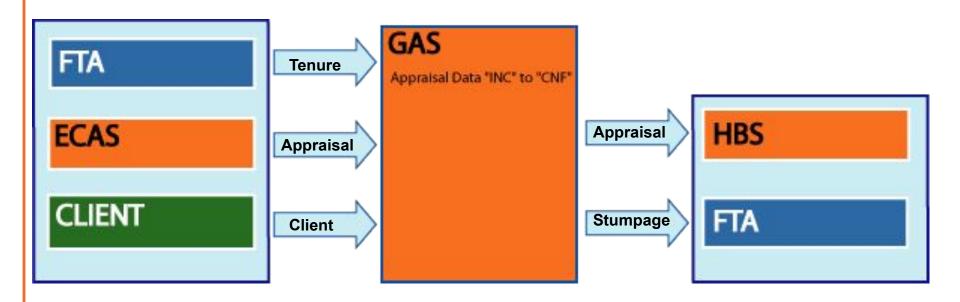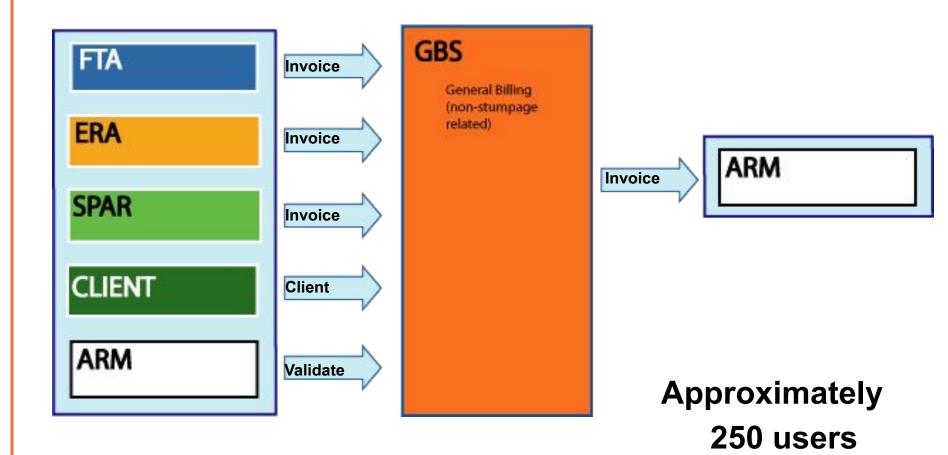
34

Electronic Commerce Appraisal System

Approximately 4,500 Users

35

General Appraisal System (GAS)

Approximately
50 Users

FTA			
GAS		HBS	GENUS
CLIENT		Harvest Billing (stumpage-related)	FTA
SCS			ARM
WASTE			

Flow diagram: FTA, GAS, CLIENT, SCS, WASTE feed into HBS via Tenure, Rate, Client, Scale, Assessmt. HBS outputs Volume, Harvest, A/R to GENUS, FTA, ARM.

Approximately 2,800 users

General Billing System (GBS)

Approximately 250 users

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FTA → Cut block → WASTE (Waste Assessment Information) → Billing → HBS

CLIENT → Client

SCS → Scale

ESF → Assessmt

Approximately

500- 1000 Users

- The critical data elements are <u>established</u> in the Pricing & Billing Applications:

  - Harvest Volume X Stumpage Rate = $ billed

  - Values

  - Invoices

  - Harvest History Information

  - Appraisal Data

- **HBS & GBS**

  - HBS is dependent on accurate and timely data in other systems, otherwise scale is unbilled. These are:
    - CLIENT - for matching and correct Client Number
    - FTA - for valid and accurate tenure info
    - ECAS and GAS - for the processing of appraisal data and stumpage
  - Poor data in either GBS or HBS impacts billing & collections

- ## CLIENT, ECAS, FTA, GAS, & HBS:
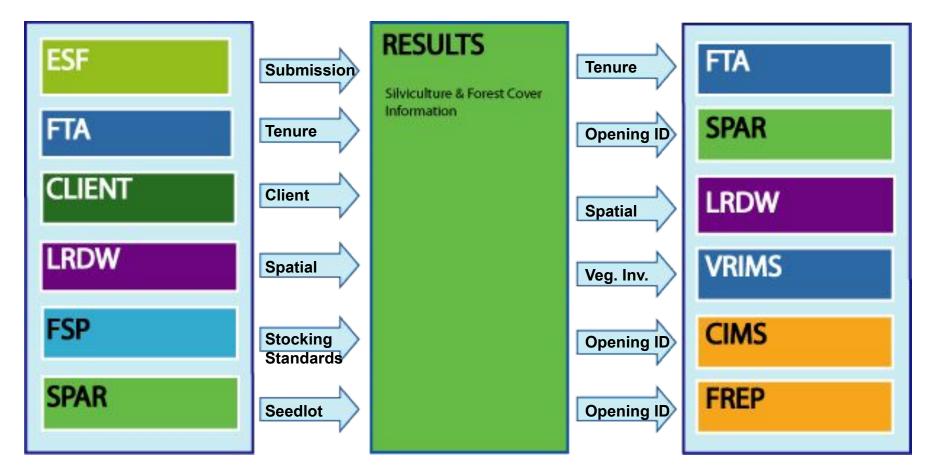
  - Appraisal data may be submitted by Licensee or BCTS into ECAS <u>without</u> the Timber Mark existing in FTA;

  - However, Timber Mark <u>must</u> exist in FTA when district sends the appraisal onto the region in ECAS;

  - If the Timber Mark in ECAS & FTA do not match, the appraisal data will not load into GAS;

  - If the data does not load into GAS, HBS cannot produce an invoice for the Timber Mark; and,

  - If HBS is unable to bill for scaled wood, liability is created, and revenue is delayed

- Forest Regeneration Applications include:
  - Reporting Silviculture and Land Status Tracking System (RESULTS)
  - Seed Planning and Registry (SPAR)
  - Nursery and Shipping Admin System (NSA)
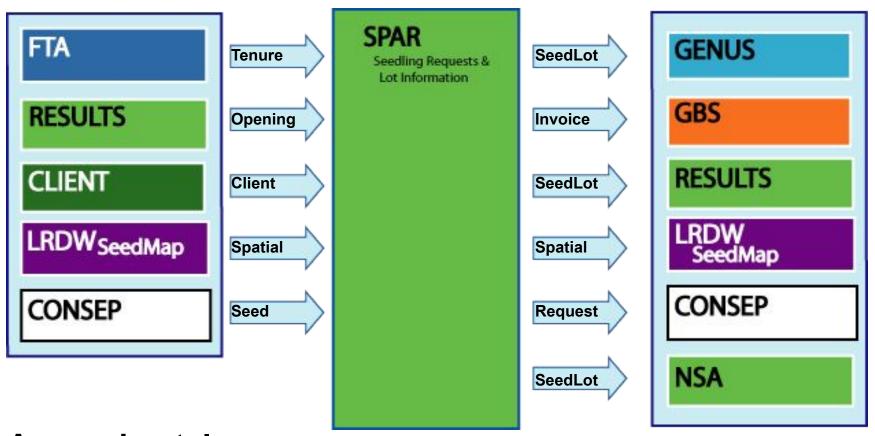
Approximately

3,000 Users

44

Seed Planning and Registry (SPAR)

FTA	→ Tenure			SPAR — Seedling Requests & Lot Information		→ SeedLot	GENUS
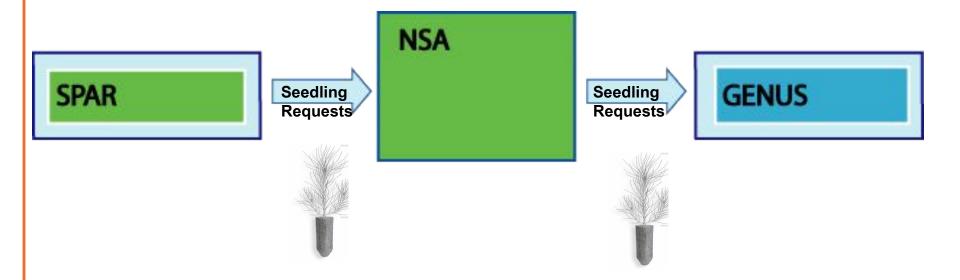
Approximately
500 users

Nursery and Shipping Admin (NSA)

SPAR → **Seedling Requests** → **NSA** → **Seedling Requests** → **GENUS**

Approximately
150 Users

- Critical data elements <u>established</u> in the Forest Regeneration Applications:
  - Seedlot & Vegetative Lot ID
  - Seedlot Collection Source
  - Seedling Requests
  - Opening Location
  - Actual Harvest Start Date & Completion Date
  - Location of Planted Seedlots
  - Reforestation Milestone Obligations
  - Forest Cover Land Status Attributes & Location (e.g. NSR, Stocked, Free Growing Stands)

- RESULTS
  - Poor data causes post harvest information to be incorrect in FTA & CIMS, and missed in VRIMS
  - C&E staff may have difficulties completing silviculture inspections if opening information (e.g. area of NAR, amendments) are not properly added to RESULTS
  - Affects government and licensees who depend on Vegetative Inventory information
  - Missing Standard Units & Actual Harvest Dates causes issues within RESULTS
  - Poor data could cause an overestimation of available timber

- SPAR
  - Poor client data causes incorrect invoicing information & billings for the wrong client
  - NSA relies heavily on SPAR data. If data is incorrect in SPAR, this has significant effects on NSA
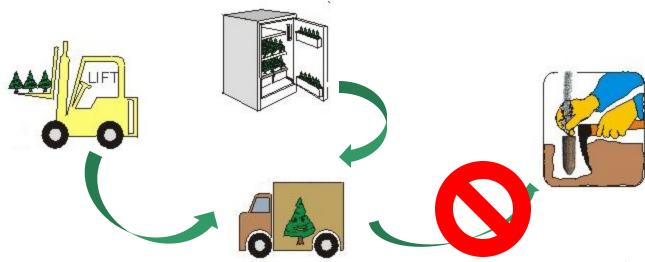
- NSA
    - Incorrect or unknown seedling lift or shipping data could result in seedlings being mis-managed
    - Could result in seedling disposal before they reach the planting site

- Administration Applications include:
    - Client Management System (CLIENT)
    - Scaling Control System (SCS)
    - Enterprise Documents Records Management System (EDRMS)
    - BCTS Administration System (BCTS Admin)

Client Management System (CLIENT)
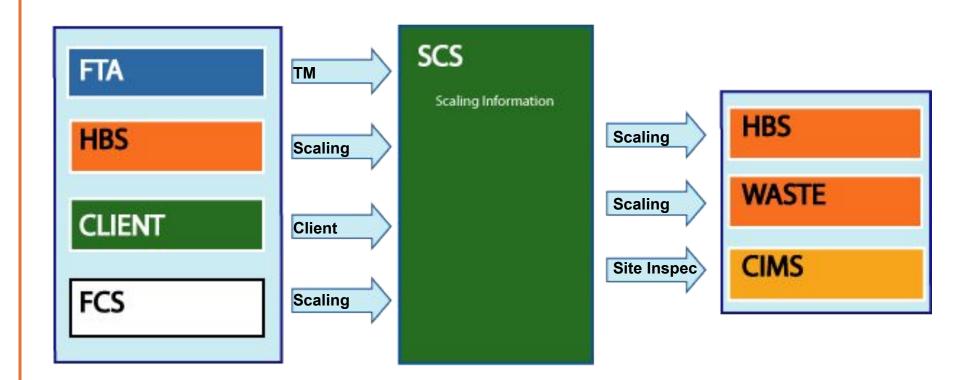
Approximately 5,000 Users

52
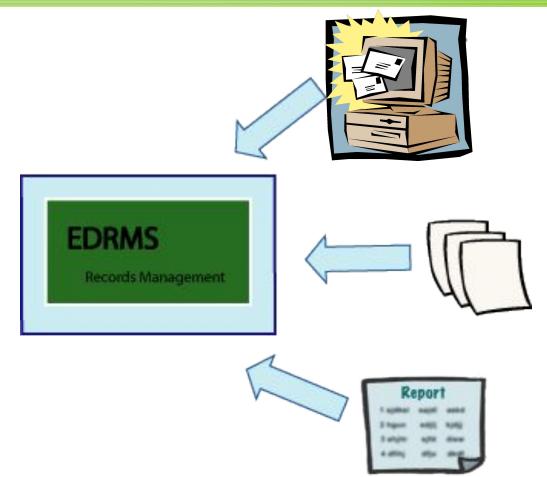
Scale Control System (SCS)

Approximately 250 users

All employees have access on their desktop

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Administration Applications

Approximately 60 Users

- Critical data elements <u>established</u> in the Administration Applications:
    - Client # & Client Location
    - Scale Site
    - Scaler
    - Scale Site Inspections
    - Electronic records

- CLIENT
  - An error in CLIENT data can have numerous repercussions (i.e. invoicing, enforcement actions, inability of client to submit data)
- SCS
  - Poor data in SCS will impact invoicing in HBS
- EDRMS
  - Unmanaged records can lead to lost records, confusion over versions, and increased search and retrieval time
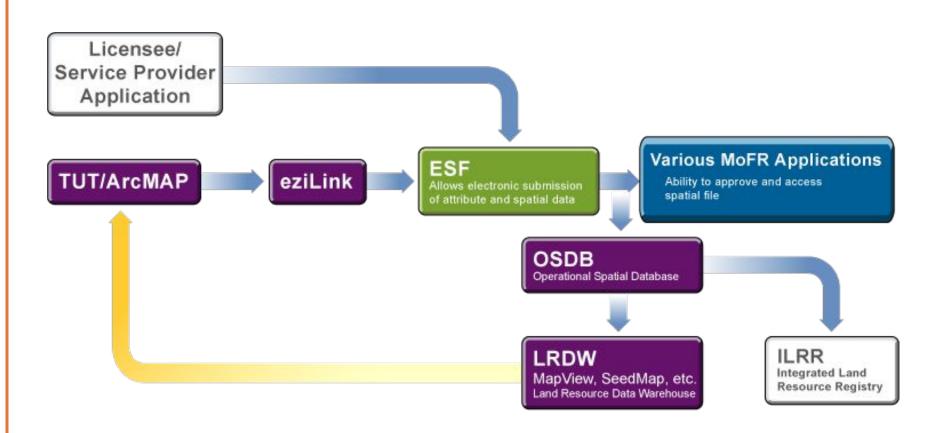
Spatial Applications

Spatial Data Stores	Spatial Data Viewing & Editing
OSDB LRDW	MapView TUT/ArcMap SeedMap

Understanding the flow of spatial data

59
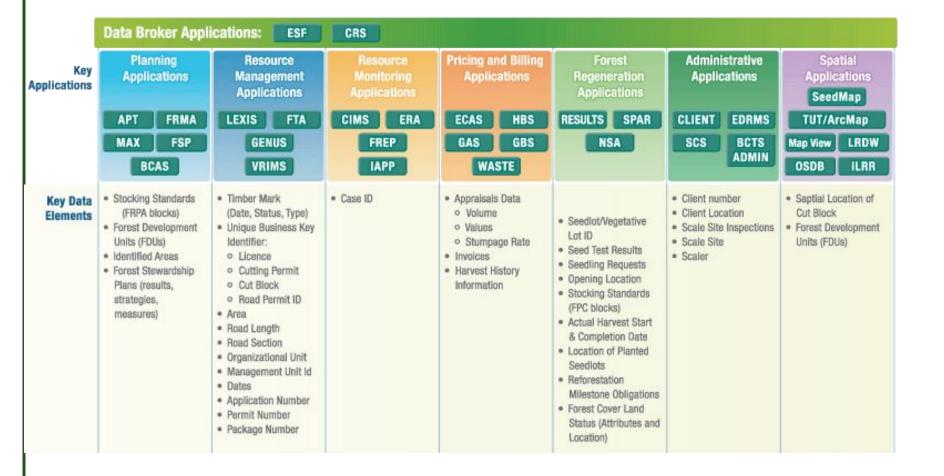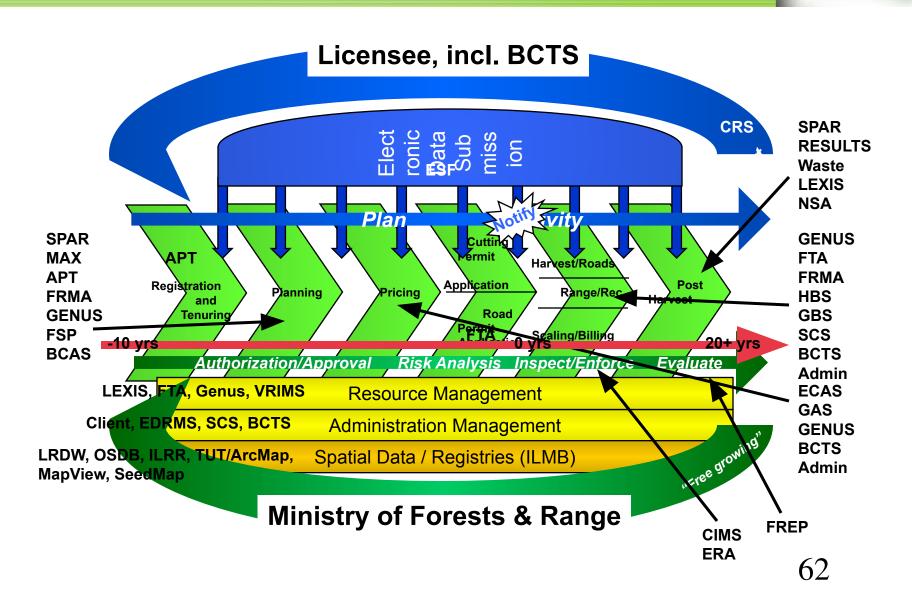
- Critical data elements <u>referenced</u> in the Spatial Applications:
    - Spatial location of cut blocks and roads – this is established in LRDW
    - Spatial location of Forest Development Units and identified area boundaries (from FSP)
    - Spatial location of Openings for "cut in" on existing vegetation data
    - Spatial location of forest cover
    - Spatial location of seedlot collection source

60

Data Broker Applications: ESF CRS

Key Applications	Planning Applications	Resource Management Applications	Resource Monitoring Applications	Pricing and Billing Applications	Forest Regeneration Applications	Administrative Applications	Spatial Applications SeedMap
	APT FRMA MAX FSP BCAS	LEXIS FTA GENUS VRIMS	CIMS ERA FREP IAPP	ECAS HBS GAS GBS WASTE	RESULTS SPAR NSA	CLIENT EDRMS SCS BCTS ADMIN	TUT/ArcMap Map View LRDW OSDB ILRR

Key Data Elements	• Stocking Standards (FRPA blocks)
	• Forest Development Units (FDUs)
	• Identified Areas
	• Forest Stewardship Plans (results, strategies, measures)
		• Timber Mark (Date, Status, Type)
		• Unique Business Key Identifier:
		  ○ Licence
		  ○ Cutting Permit
		  ○ Cut Block
		  ○ Road Permit ID
		• Area
		• Road Length
		• Road Section
		• Organizational Unit
		• Management Unit Id
		• Dates
		• Application Number
		• Permit Number
		• Package Number
			• Case ID	• Appraisals Data
				  ○ Volume
				  ○ Values
				  ○ Stumpage Rate
				• Invoices
				• Harvest History Information
					• Seedlot/Vegetative Lot ID
					• Seed Test Results
					• Seedling Requests
					• Opening Location
					• Stocking Standards (FPC blocks)
					• Actual Harvest Start & Completion Date
					• Location of Planted Seedlots
					• Reforestation Milestone Obligations
					• Forest Cover Land Status (Attributes and Location)
						• Client number
						• Client Location
						• Scale Site Inspections
						• Scale Site
						• Scaler
							• Saptial Location of Cut Block
							• Forest Development Units (FDUs)

Understanding the MoFR Business Flow

Licensee, incl. BCTS

Ministry of Forests & Range

CRS

SPAR
RESULTS
Waste
LEXIS
NSA

GENUS
FTA
FRMA
HBS
GBS
SCS
BCTS
Admin
ECAS
GAS
GENUS
BCTS
Admin

SPAR
MAX
APT
FRMA
GENUS
FSP
BCAS

Electronic Data Submission

Plan — Notify — Activity

APT — Registration and Tenuring — Planning — Pricing — Application — Cutting Permit — Road Permit — FTA — Scaling/Billing — Harvest/Roads — Range/Rec — Post Harvest

-10 yrs — 0 yrs — 20+ yrs

Authorization/Approval — Risk Analysis — Inspect/Enforce — Evaluate

"Free growing"

LEXIS, FTA, Genus, VRIMS — Resource Management

Client, EDRMS, SCS, BCTS — Administration Management

LRDW, OSDB, ILRR, TUT/ArcMap, MapView, SeedMap — Spatial Data / Registries (ILMB)

CIMS ERA

FREP

Summary

- Understanding system inter-dependencies is critical to the success of the business

- Correctly entering & updating critical data elements is key to data sharing between applications

- Timely entry of data is just as important as the data entry itself

- Understanding "The Big Picture" is just as important as knowledge of each application

IMG's Business Information Centre (BIC)

Do you need more information on a MoFR Application?

Visit the Business Info. Centre

- Resource for 10 key systems
- Organized lists of all MoFR systems
- Links to systems documentation
- Links to training documentation

gww.for.gov.bc.ca/his/bic/System/index.htm