Current tools and technologies for AIR and their appropriateness in the African context – what tool for what purpose?

Dominic FERGUSON
Consult IT (Pty) Ltd
Gaborone, Botswana

Agenda

- Introduction
- Tools
  - Devices
  - Applications
  - Databases
  - Connectivity & Technology
- Discussion: Appropriateness & What tools for What Purposes
- Questions

The tools and technologies available typically revolve around the architecture of AITS

- Identification (Devices)
- Software Application
- Information Storage: Database
- Data Acquisition
  - Direct Input
  - Field/Remote Data Capture
  - Data Synchronization
- Data Retrieval
- Connectivity

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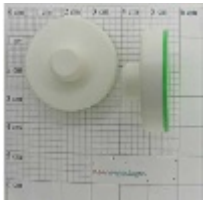
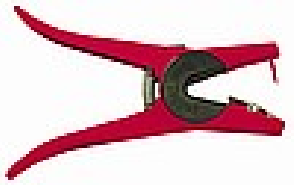
- Analogue Ear Tags
- Digital Ear Tag (RFID, Barcode)
  - LF, HF, UHF, Passive, Active, FDX, HDX, ..
- Leg Tag
- Injectable
- Digital / Analogue Ear Tag Combination
- Reticular Bolus
- Plastic / Metal Tags
- Retinal Scanning
- Genetics / DNA
- Branding





- RFID Readers
- Barcode Scanners

- PC Based
- Web Based (adoption of e-platform principles)
- Mobile
- Hosted
- Centralized (Database vs. Application)
- Distributed (Database vs. Application)
- Farm level
- Country Level
- Packaged / standardized
- Bespoke
- Combination packaged/ bespoke

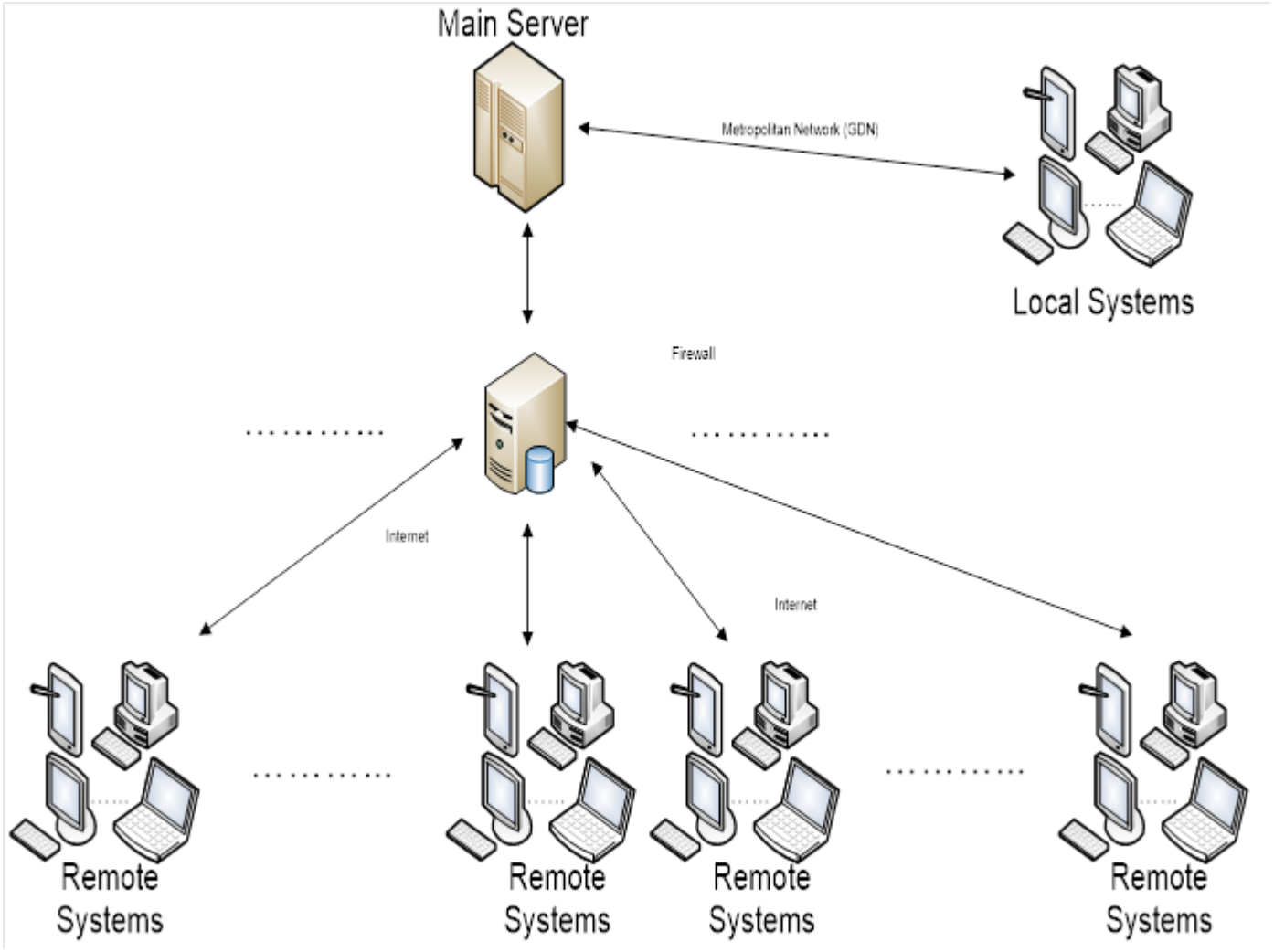
- Server based
- Local / On Farm based
- Hosted / Virtualization
- Centralized
- Distributed
- Connectivity
  - Local Network
  - Mobile Communications Network
  - Internet
  - Satellite
  - Point-to-Point terrestrial links
  - Wireless technologies (Wi-Fi, Bluetooth, RF, ..)
  - Purpose built network
- Hybrid Architecture

Considerations:

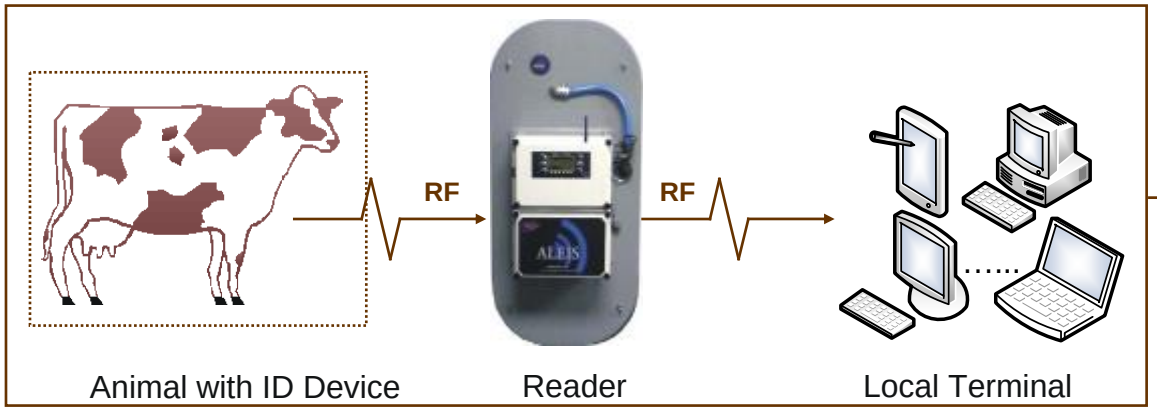
- Information System
- Information Technology
- System Usage and Data Synchronization
  - Data Networks (Wired and Wireless, LANs, WANs, MANs, ….)
  - Internet
  - Intranet
  - Extranet
  - Portals
  - Electronic data Interchange

- Real-time vs. Off-line modes of operation
  - Communication Infrastructure
  - Required data latency
  - Multiple independent databases
- Remote vs. Occasionally Connected
- Size of data set to be uploaded (e.g. Local vs. Country-wide datasets)
- 'Data Integration' vs. 'Synchronization' vs. 'Consolidation' vs. 'Interfacing'

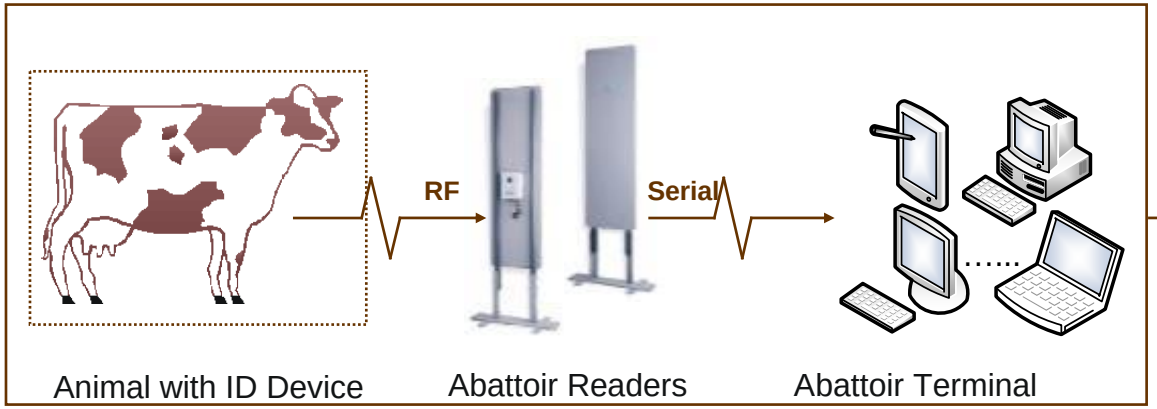
Technology: Typical Distributed Connectivity



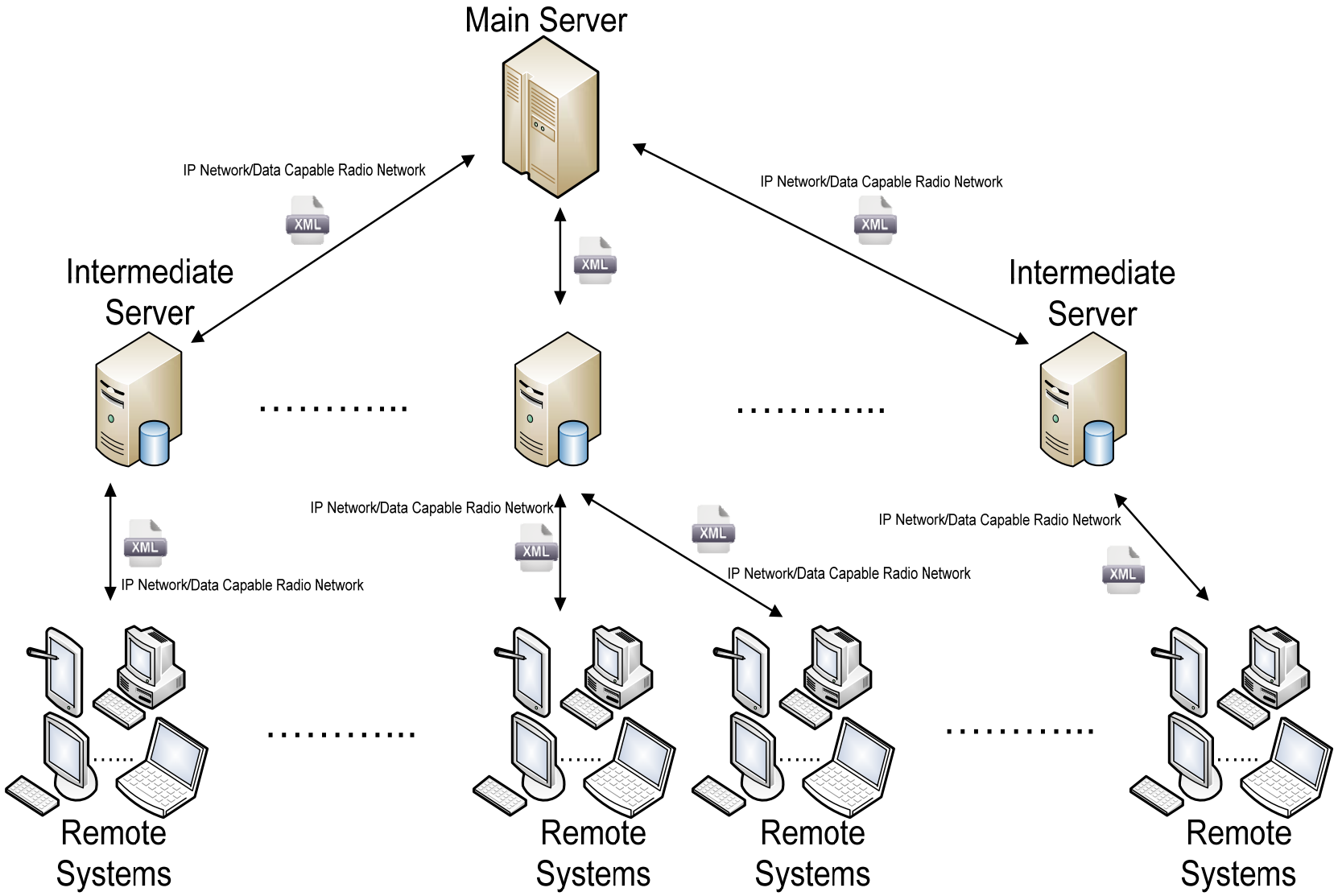
At Crush/Kraal/Farm



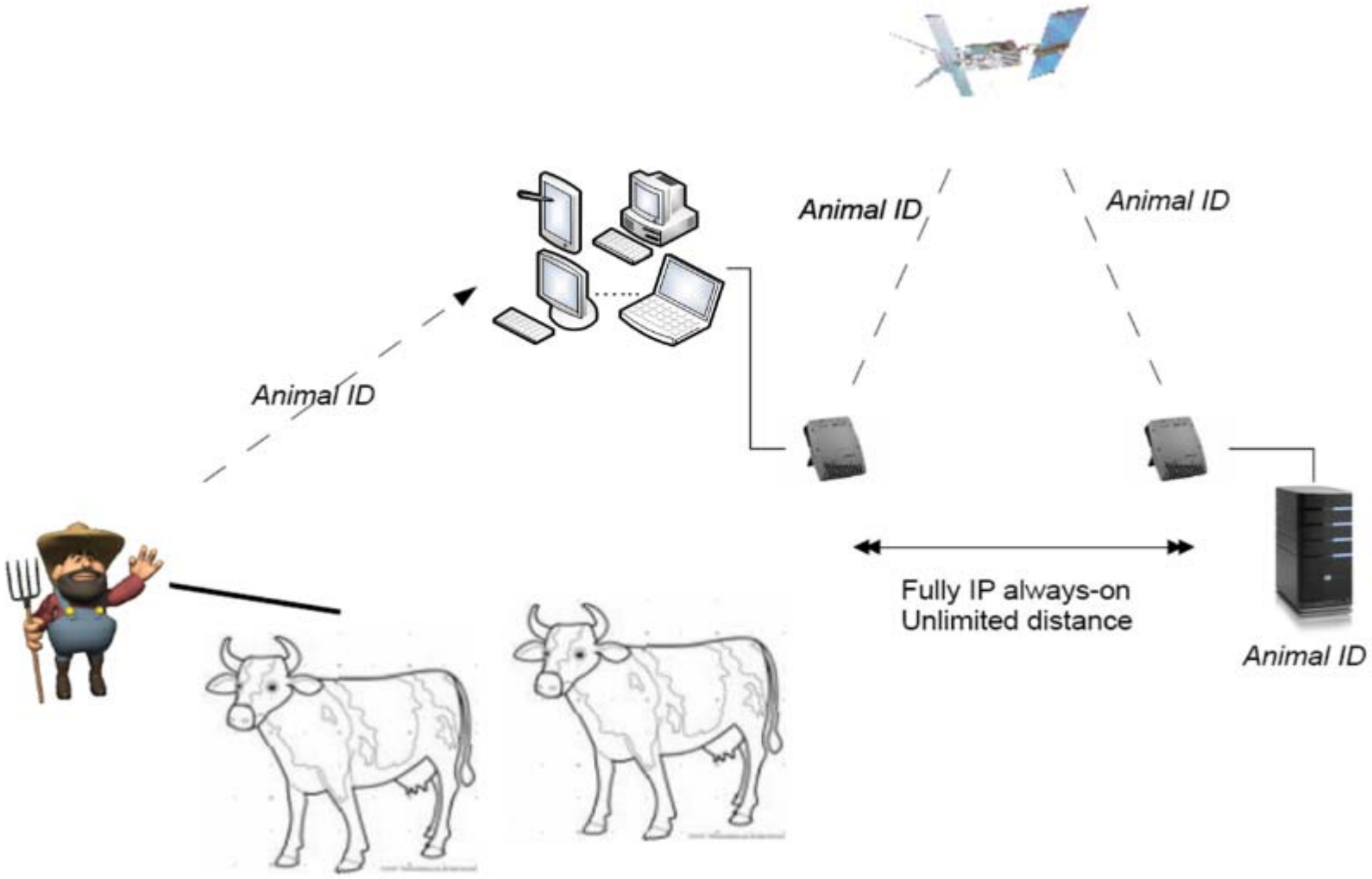
At Abattoir



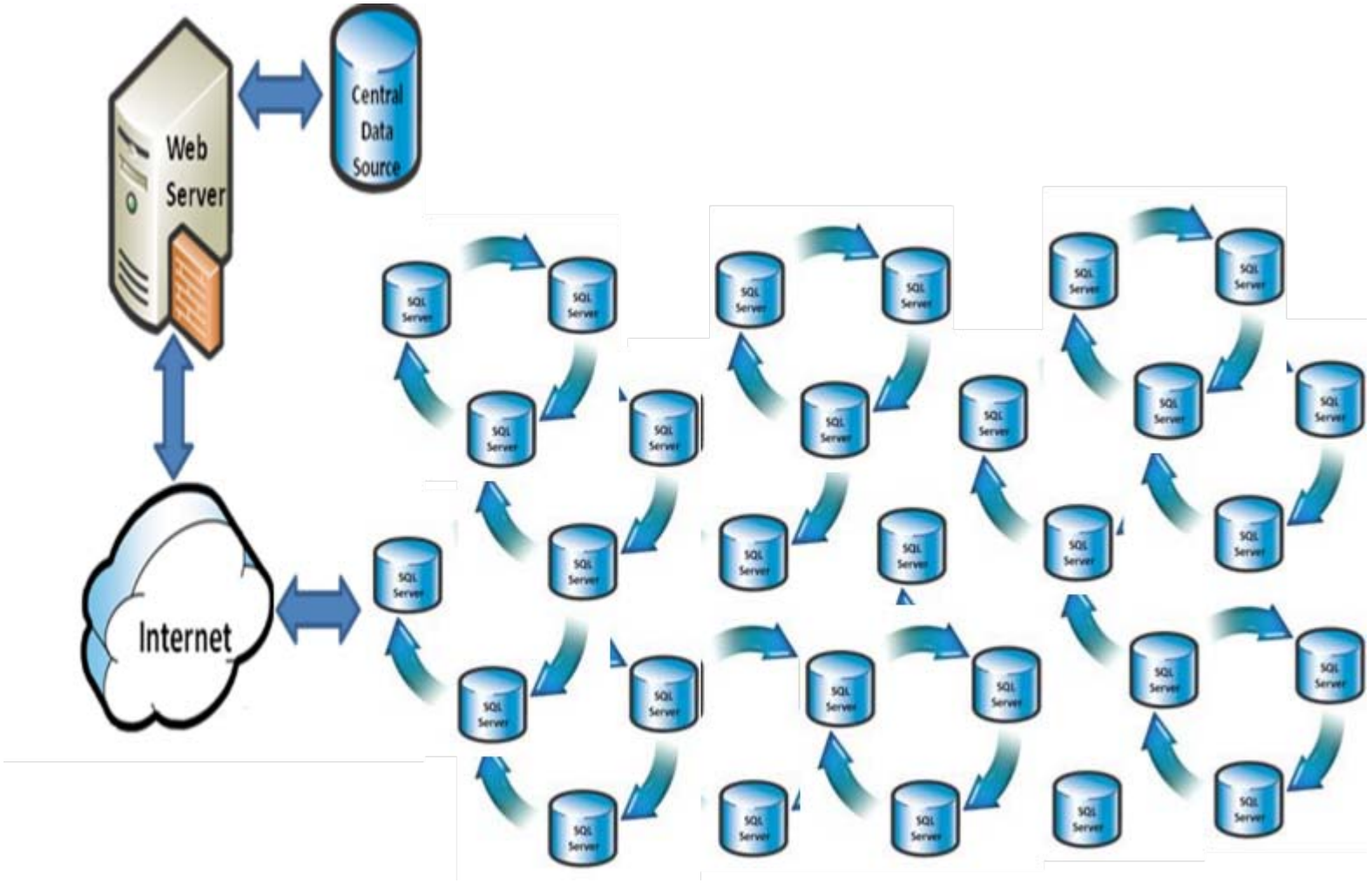
Technology: Connectivity / data flow Country-wide



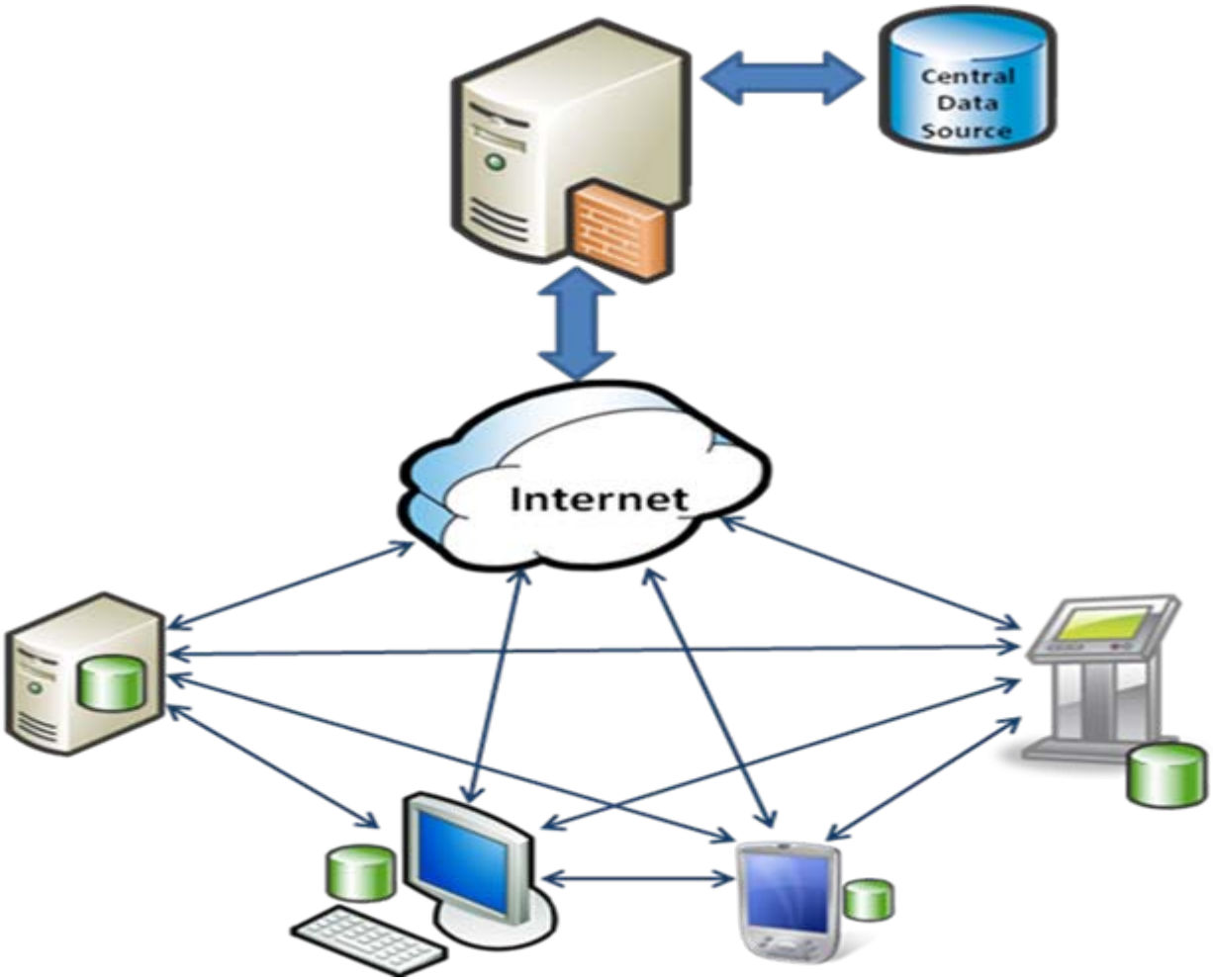
Technology: Connectivity / data flow Country-wide - Satellite



Technology: Data Synchronisation Scenario 1



Technology: Data Synchronisation Scenario 2



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Countries need to look at their specific requirements:

- Who has prime responsibility for the system - Government run / industry run / private
- Resources Required to run the 'Systems', e.g. internal vs. outsourcing
- What technology to adopt
- Integration vs. Interfacing
- PC based vs. Web based vs. other
- Whom to give access to
- Who captures what? E.g. some information could come from farmers and some from the C.A.
- Multiple modes and means of data capture, i.e. via multiple technological platforms
- Incorporation of multiple organisational, governmental, private (e.g. producer) views
- Level of Data Security Required (Disaster Recovery vs. Business Continuity)

- Level and Detail of Information to be captured (e.g. down to feed level)
- Data warehousing and Business Intelligence; ability to collate data from multiple sources and multiple systems
- Level of Reporting required (e.g. Geospatial, Country Specific, Farm Specific?)
- What to do with Historical Data
- Real-time capture, access and verification of Data
  - Communications infrastructure play a key role in achieving this
  - International best standards and practices
- Integration aspect of the entire system
- Cost on acquisition and implementation
- Expected Return on Investment / Long-term running costs of the system

Conclusion, Questions and Answers

Thank You