



# Better Training for Safer Food *Initiative*

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# BTSEF

Better Training for Safer Food is an initiative of the European Commission aimed at organising an EU training strategy in the areas of food law, feed law, animal health and animal welfare rules, as well as plant health rules.

# Information system - IT- architecture and communication structure

Module 4.2

IT-architecture and  
communication structure of an  
information system for animal  
identification, registration and  
traceability

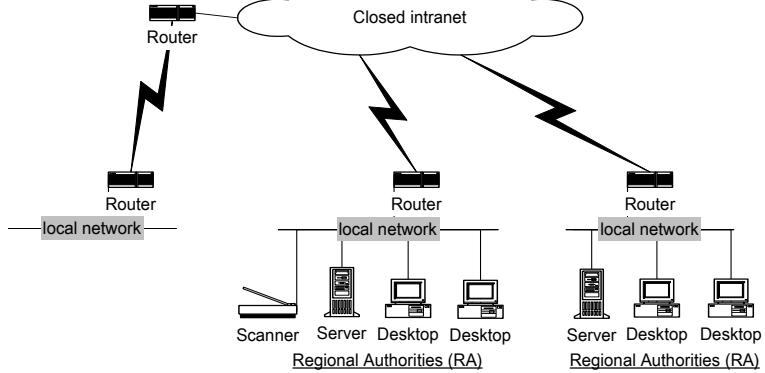
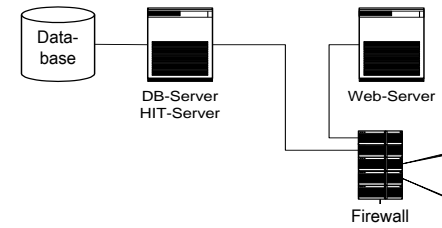
Q&A Session





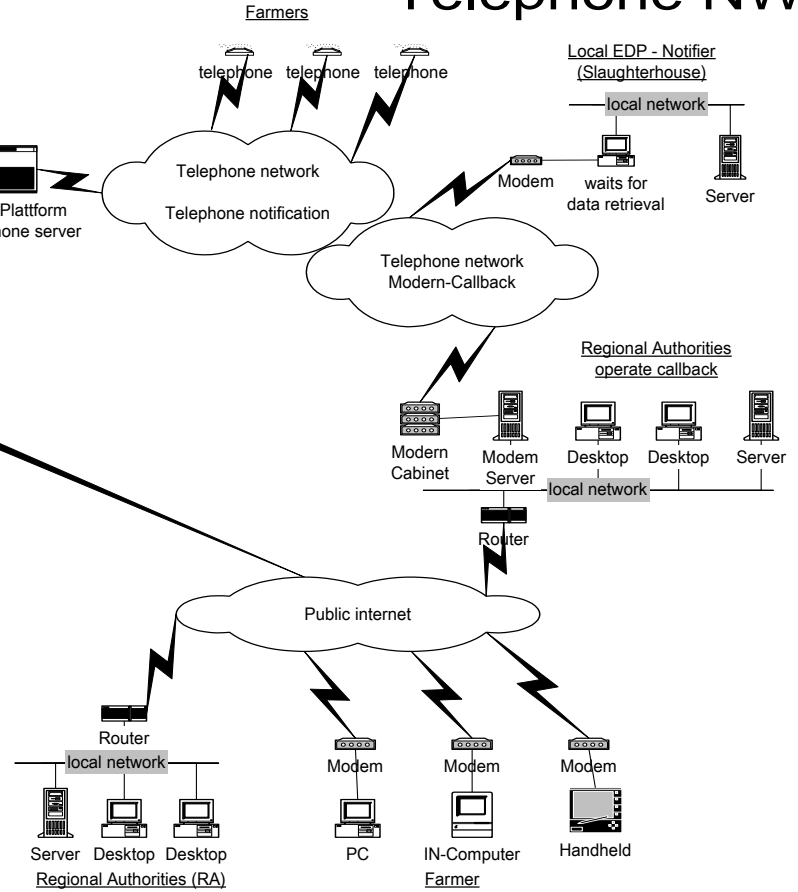
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# Centralsystem



# Intranet

# Telephone NW



# Internet

## Multi tier architecture

- Tier one – data base
- Tier two – application server

IP-socket based communication protocol to link tiers

- Tier three – presentation, user interface, clients

\*) As a design or architecture pattern

## Tier one – data base

- Relational database system as unique data store
  - designed for system independence (no stored procedures)
  - referential integrity not in database but in appl. logic
- High availability and operation security
  - based on mainframe technology
  - redundancy
  - professional operation centre
- Cheaper alternatives in consideration
  - planned migration to open source „PostgreSQL“

## Tier two – application server

- Central application logic
  - identification & authorisation
  - handling of roles & rights
  - session management, logging
  - plausibility checks, data quality assurance
  - centralized storage & retrieval logic ...
- Multiple application server processes
  - completely independent own development
  - scalable & redundant
  - easily extendable

# IP-socket based communication protocol

to link the tiers

- Data manipulation & retrieval as open service interface
  - implementing CRUD like pattern (create/read/update/delete)
  - implementing SQL like query language
  - special enhancements for loosely coupled distributed systems...
  - simple REST interface in development – no SOAP
- Technical aspects
  - high performance and reactivity through session oriented long living client-server connection
  - data encryption

## Tier three – presentation, user interface, clients

- presentation layer
  - html forms for browser – simple and easy to use
  - interactive voice response dialog (IVR)
  - various different GUI in third party clients
- data interface for easy system to system communication
  - open source batch client for mass data transfer
  - simple integration with farm management programs, laboratory systems, legacy systems etc.
  - comprehensive online documentation and many examples
  - freely accessibly test-system

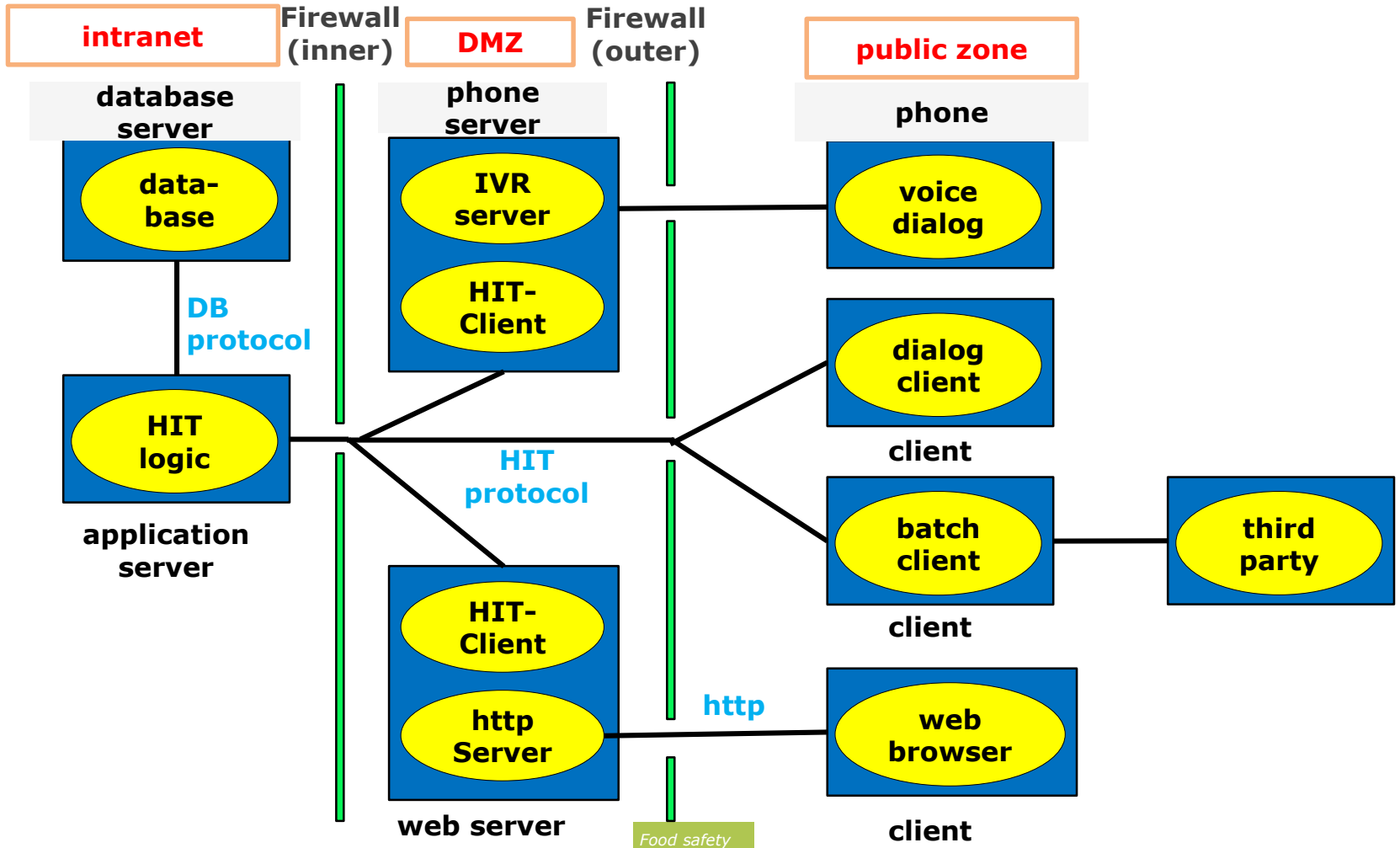




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# Multi tier architecture

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**Thank you  
for your attention!**





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IMPLEMENTED BY



IN SUBCONTRACT WITH



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