Architcture for a Unified Laboratory

Whatever you want.
However you want it.

Tieto HC Architecture Group

Architecture for Unified Laboratory
Tieto, Healthcare&Welfare

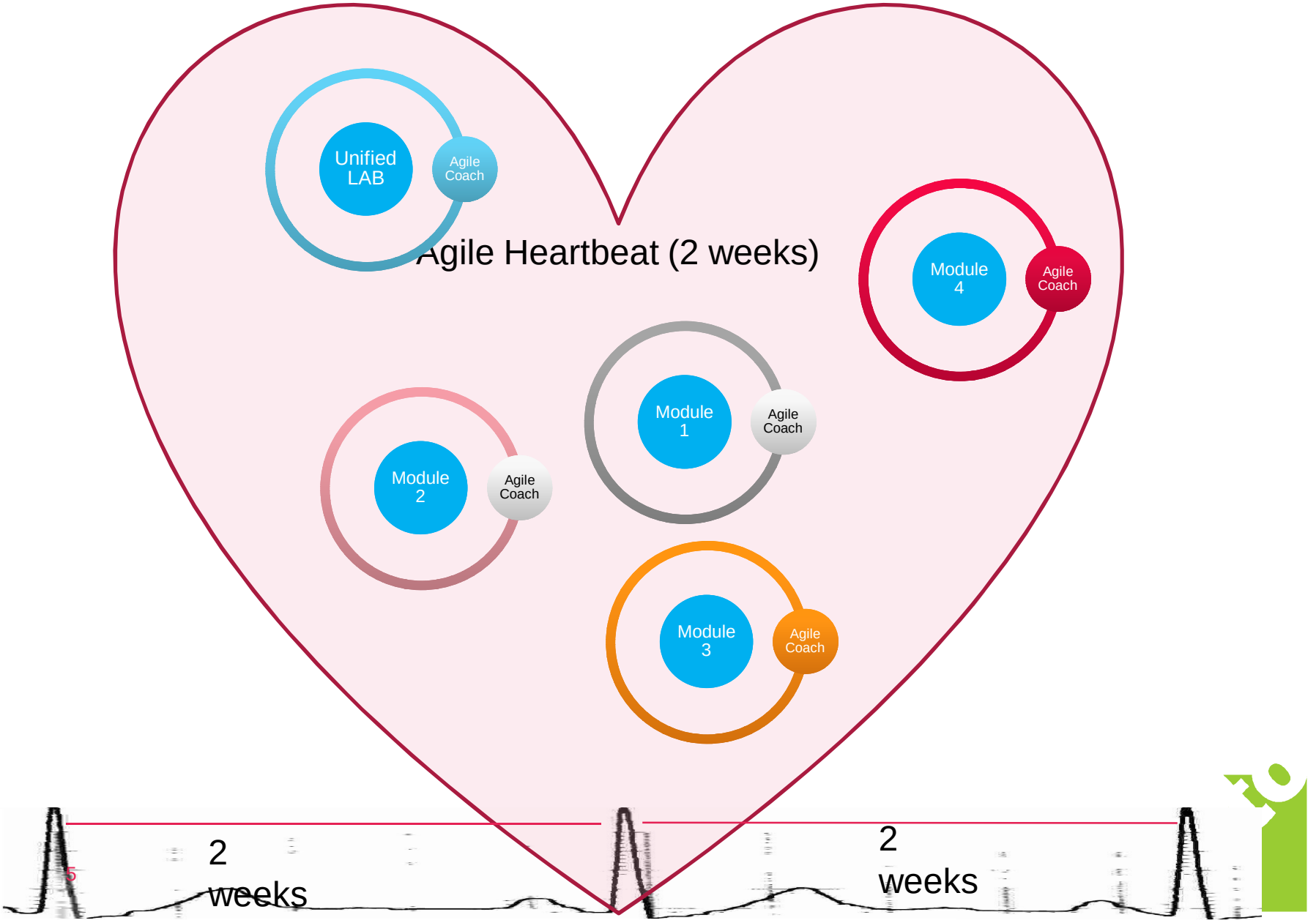
Architecture for Unified Laboratory

People matters

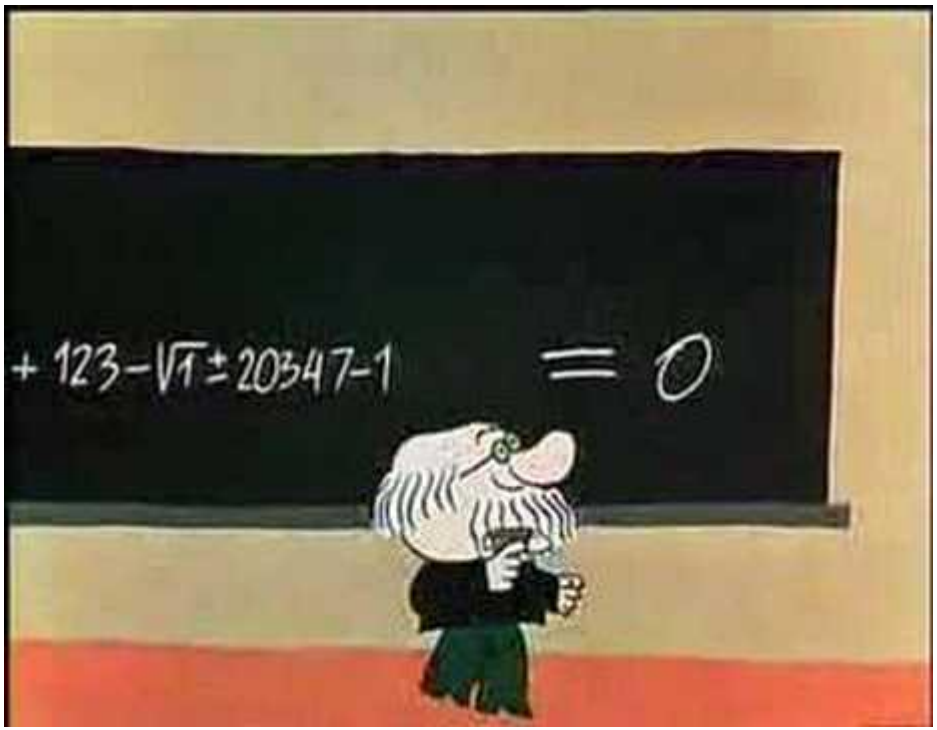
100 all together

Tight cooperative teams

Short Iterations



The Architects



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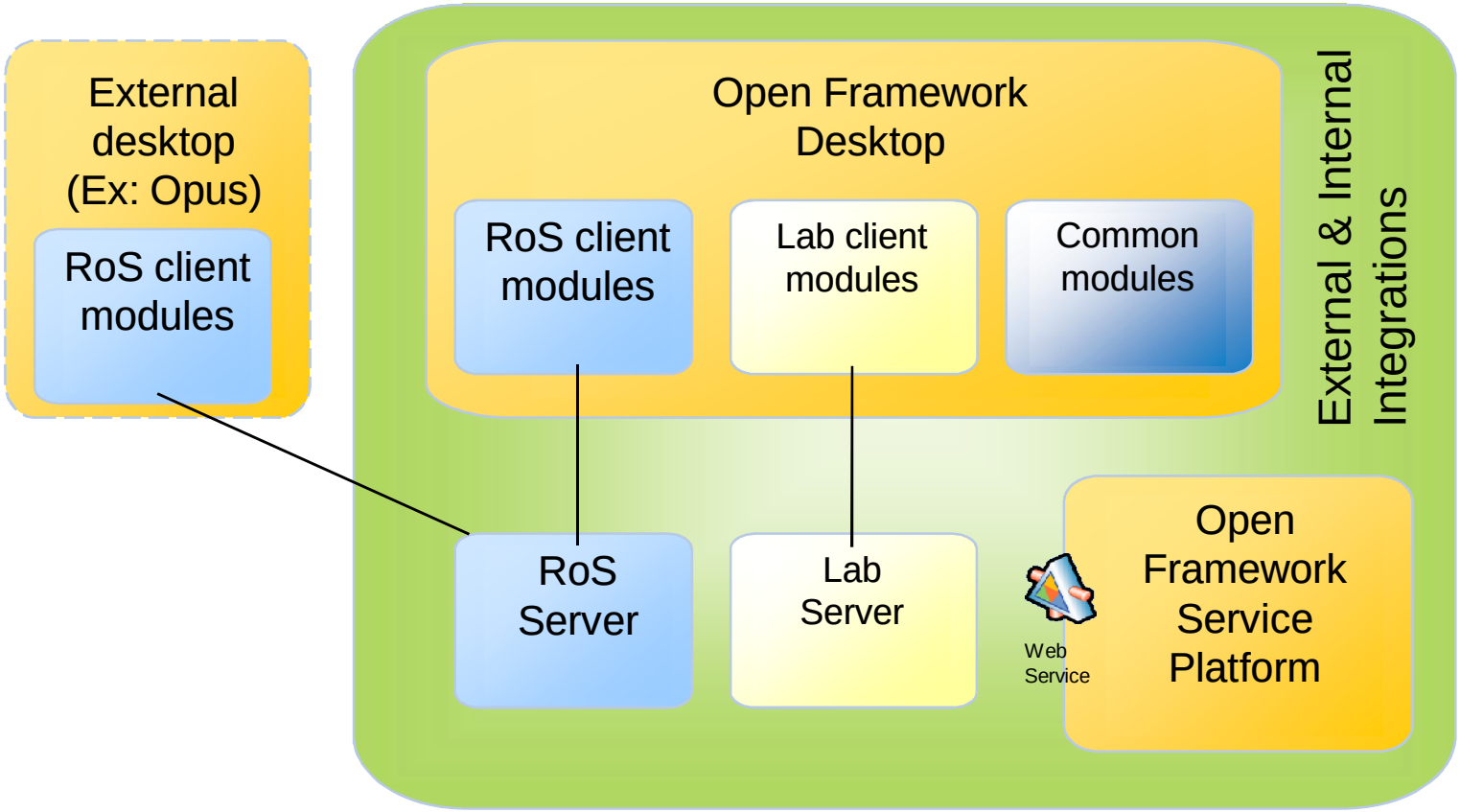
Intro

- LIMS is a Tieto product which is one example of a Unified Laboratory.
- But LIMS is only one instance.
- LIMS it is based on the Unified Laboratory Achitecture
- This Architecture allows for other configurations and deployments
- Any number of **custom** Unified Laboratory Systems

Unified Lab Architecture



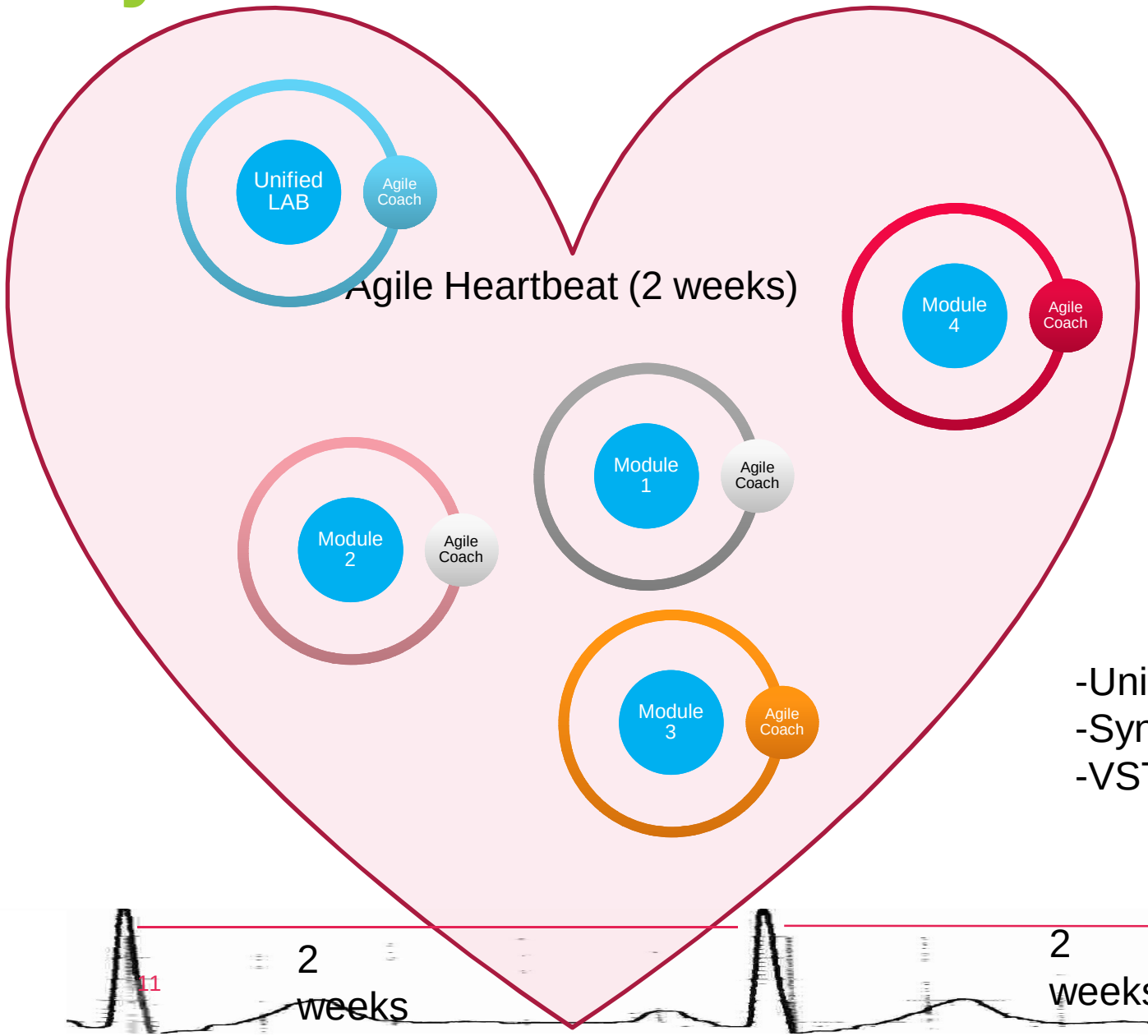
Where are we now ?

- Requisition system and clinical chemistry modules in the Unified Laboratory are delivered together, as one Product.
- This is possible through Synchronised Production.

- At an engineering level these Modules need to be tested apart and together.
- This is achieved via Continuous Integration (weekly) on the Unified Laboratory level.

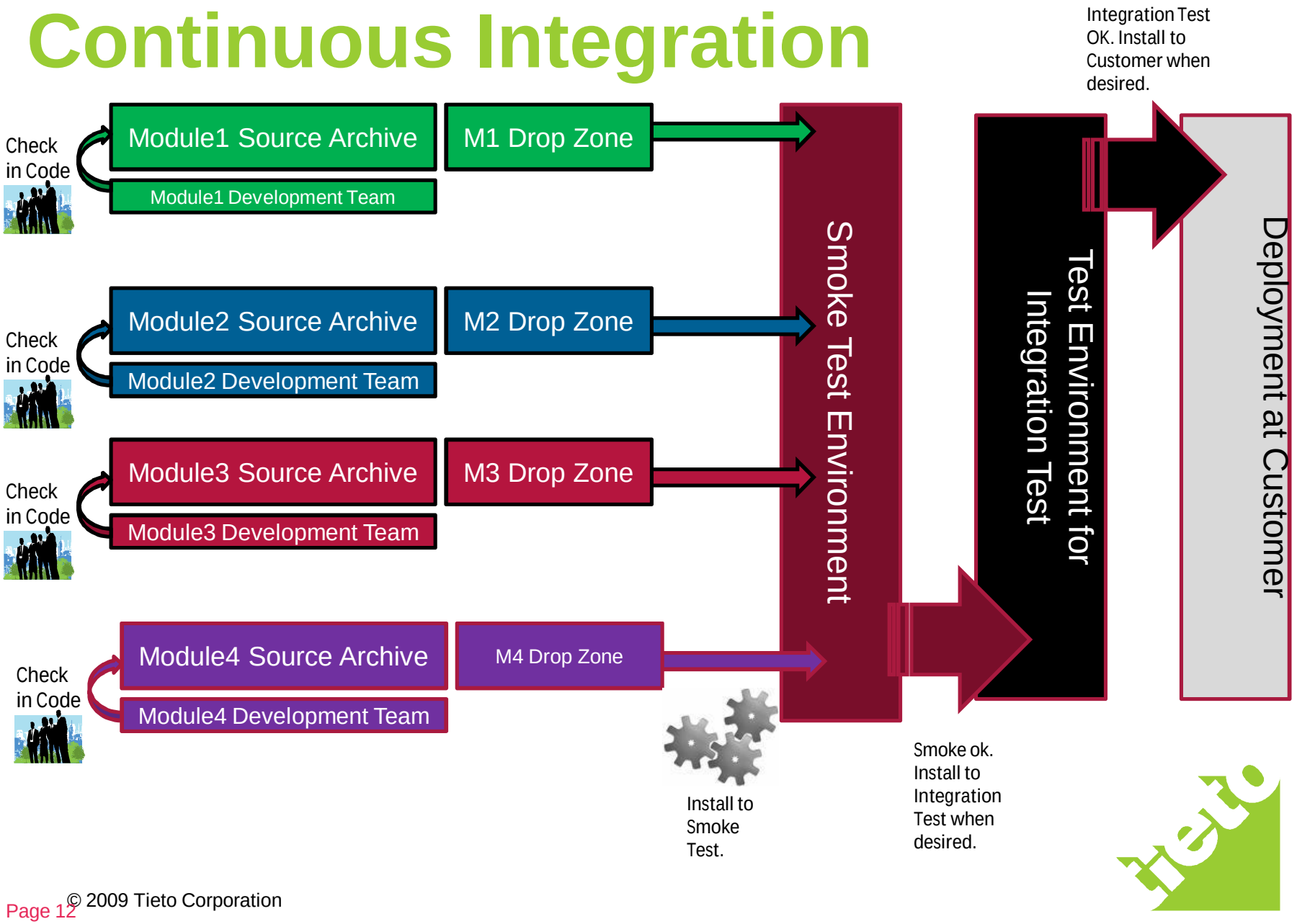
- The Unified Laboratory Architecture allows you to plug in modules, as per the Customers needs.
- The Unified Laboratory supports an Architecture for Extensibility.

Synchronised Production



-Unified Backlogs
-Synchronised Iterations
-VSTS in all Modules

Continuous Integration



Architecture for Extensibility - GUI

- Framework supporting Plugable modules
- Open Framework Desktop is the entrypoint for the users. Helps the users to navigate and access all available functionallity.
- Open Framework Desktop is used as a clinical portal or a laboratory portal.

Clinical/Laboratory Portal

Clinical user

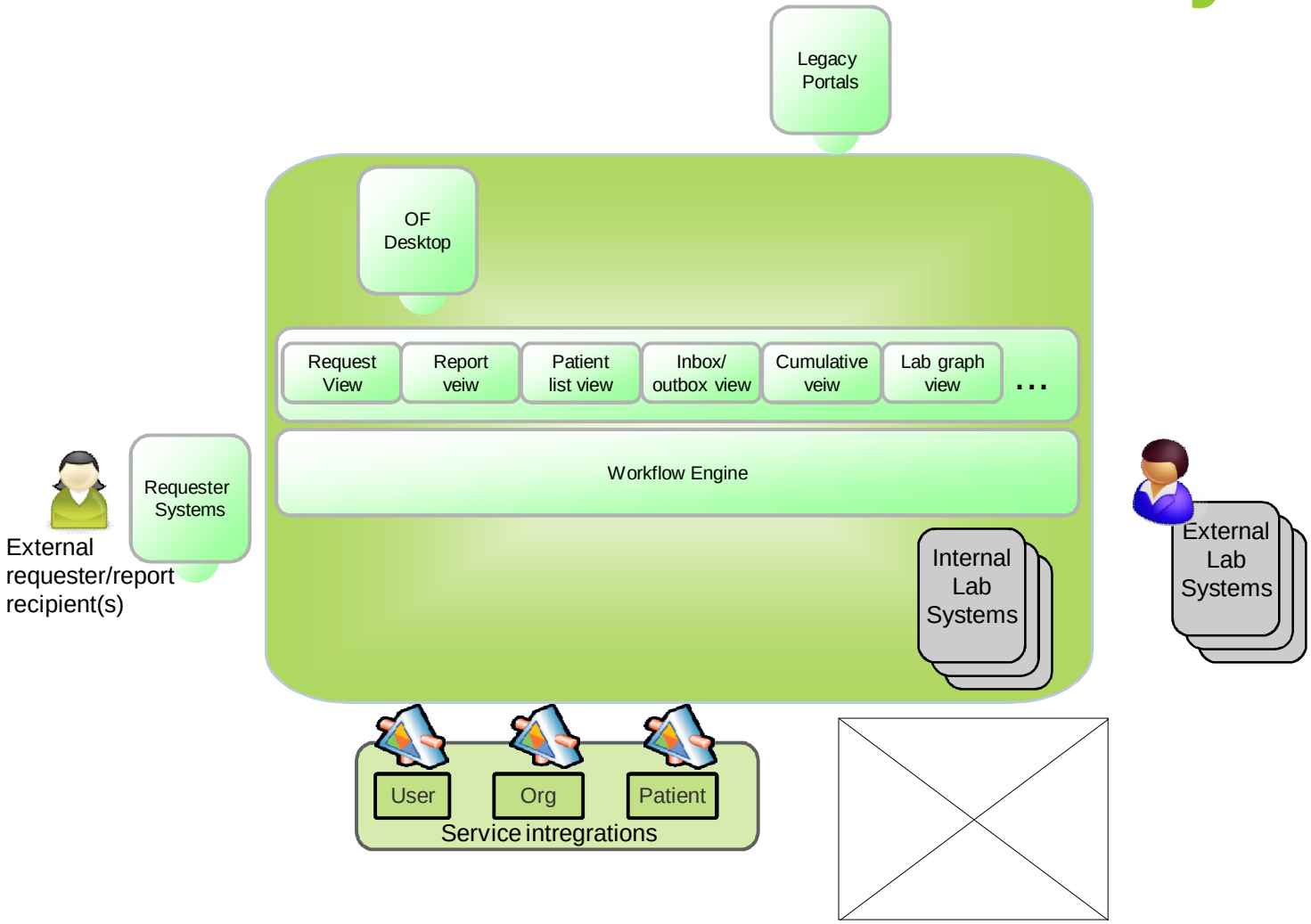
Sample Receiver

Laboratory User

Architecture for Extensibility – Business layer

- The Unified Laboratory Architecture has common services for authentication, autorization etc.
- Ability to plug in modules like Sample Reception, Requisitions, Pathology, Electronic Patient Records and other Lab systems
- Ability to integrate over 100 Laboratory Instruments, out-of-the-box.
- Supports External Integrations to Patient Administration Systems (HIS90, INFOMEDIX, Classic etc.), External Requester Systems (WebReq), Public Health Services and much more.

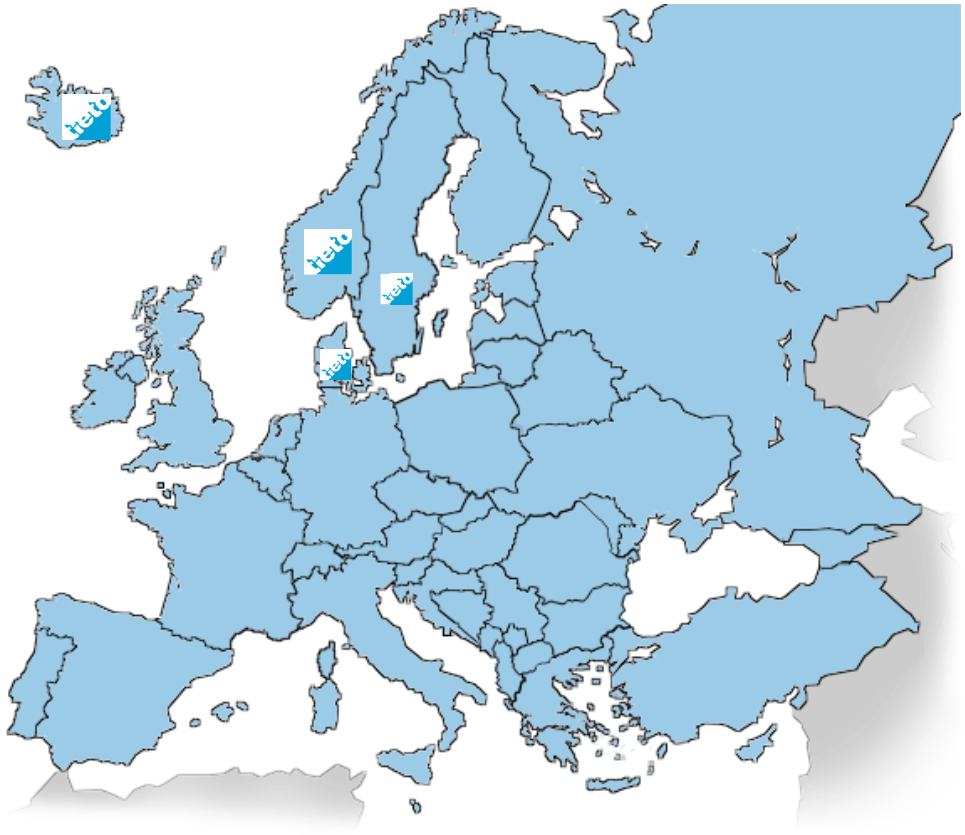
Architecture for Extensibility



Where are we now ?

- The Unified Laboratory is customizable, it can support each countries own regulations. Unified Laboratory supports an Architecture for Legal Compliance.

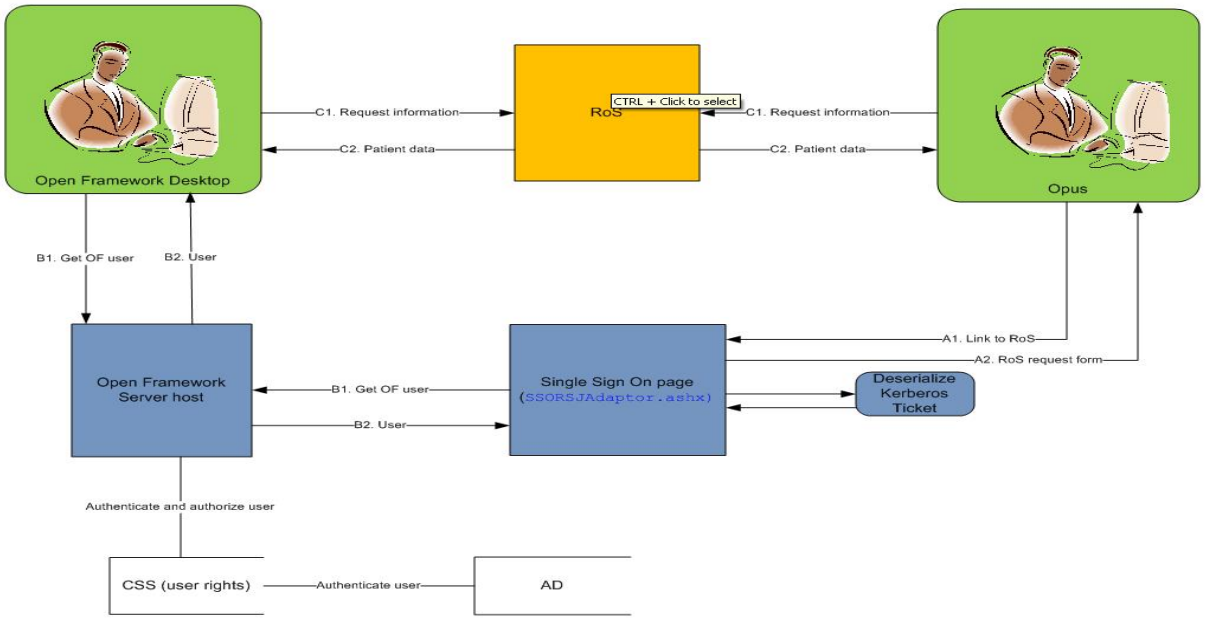
Architecture for Compliance



Where are we now ?

- You log into the Unified Laboratory once.
- The authentication and authorization to all the various modules are taken care of by Single Sign-on.
- This can be integrated with Active Directory.
- Each user’s own experience is customized based on authorization rules.

Architecture for Enhanced User Experience



Where are we going ?

- The Unified Laboratory is evolving.
- It is customer focus driven!
- Here are some of areas and related technologies which we are looking into...

Where are we going ?

We are considering - I

- User Experience
  - Windows Presentation Foundation
  - Web based desktop
  - Portable devices

- Platform enhancements
  - Software as a Service (SAAS)
  - Windows7
    - Improved performance on multi core processors
    - New features to shorten application install times

  - Enterprice Service bus
  - Windows Communication Foundation
  - Simplified workflow support: Windows Workflow Foundation
  - Enhance use of cluster technology

Where are we going ?

We are considering - II

- Simplified Administration
  - Applying for the upcoming national standardards
  - Warehousing + Statistical Analysis
  - Smart Cards/Biometric
  - Enhance Common Modules:
    - Common configuration regime
    - Application logg
    - Authorization logg
  - System health monitor (f.example use of WMI)
  - Improve failover situations

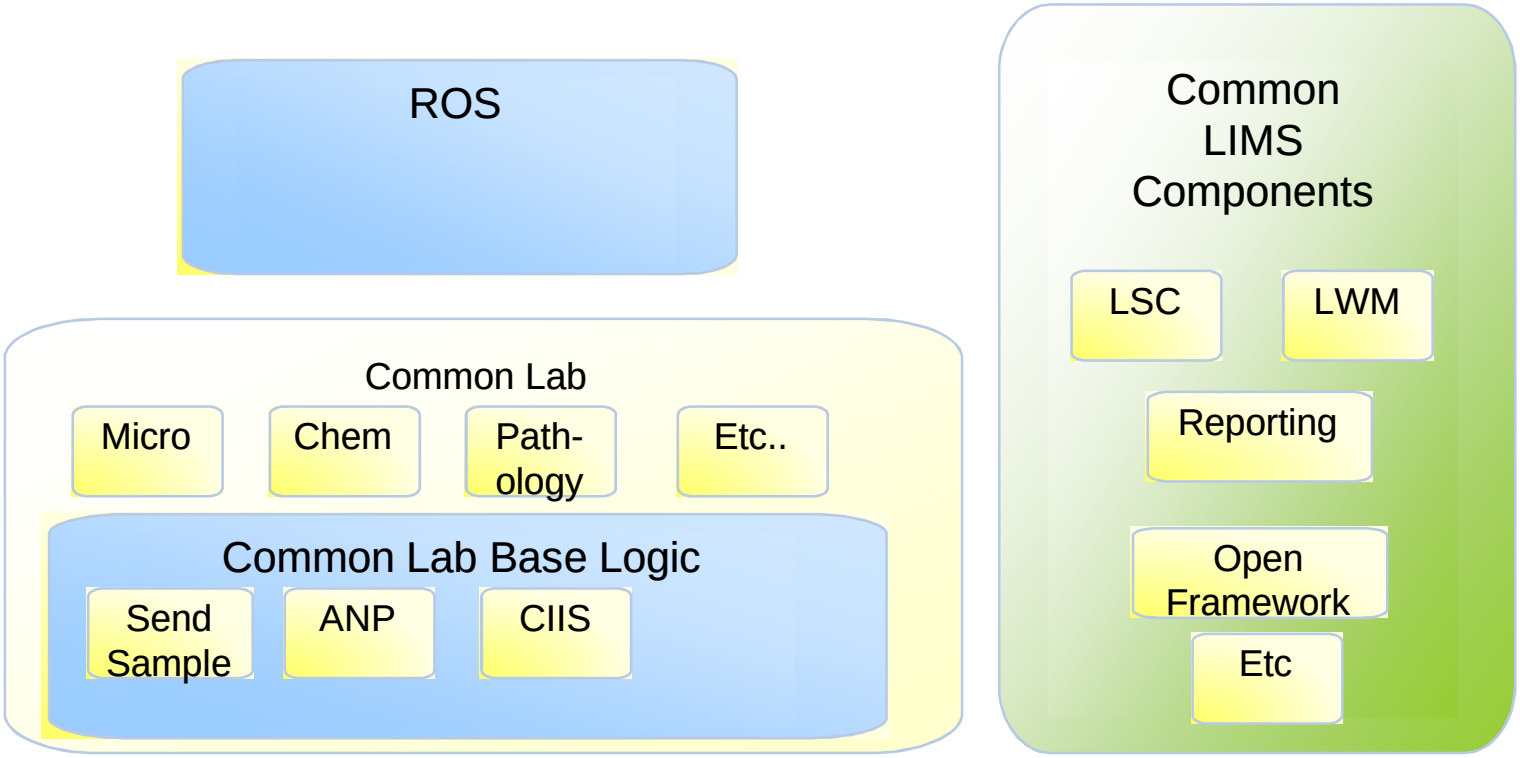
Enhance use of Portable devices

- Enhance use of portable solution to improve functionionality.
- Notifications when answers from laboratory arrive

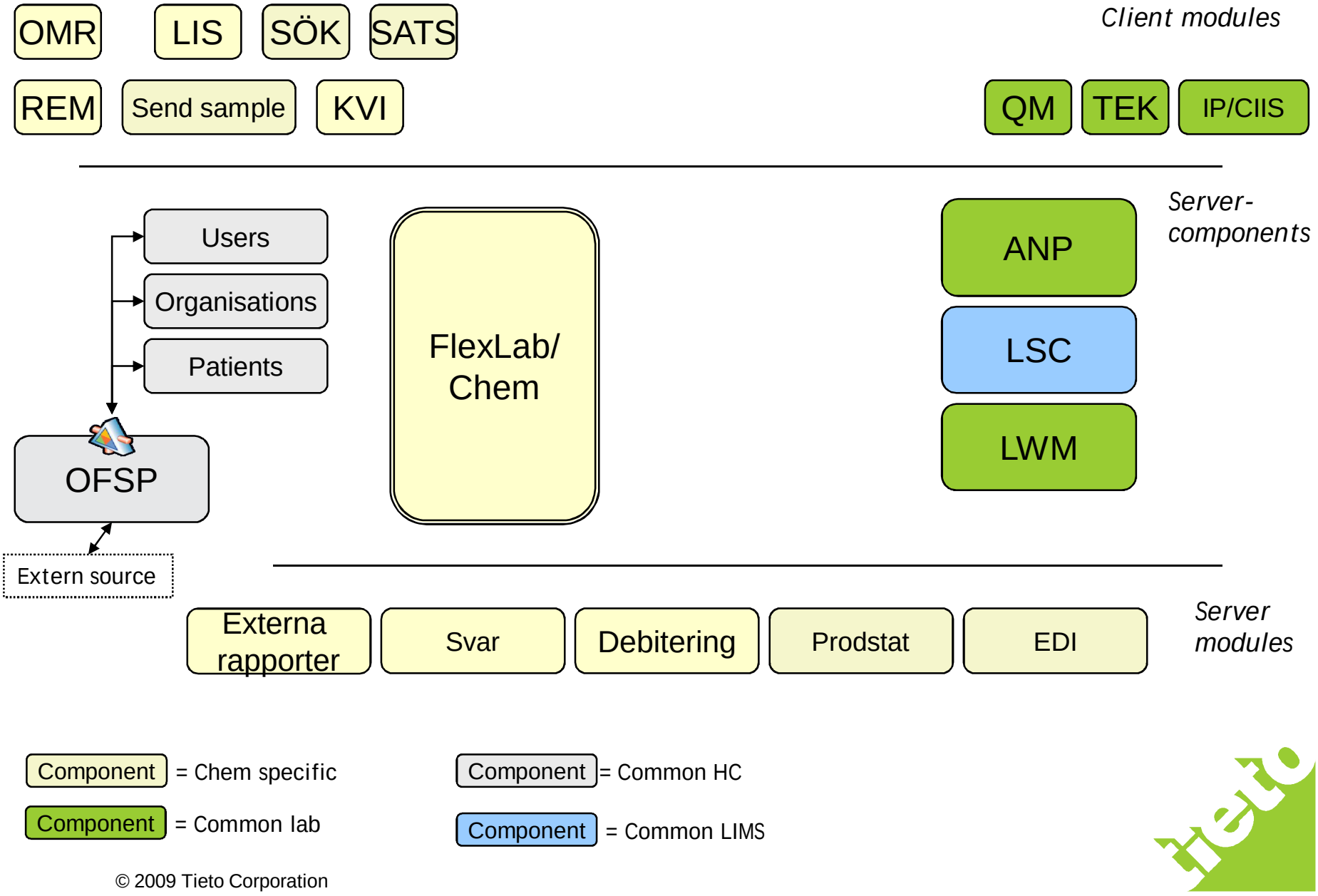
Example:
Notification from Lab:
2009-08-18 16:00
EMERGENT report arrived

Moving to Common Lab

- Moving to a common Lab kernal for all disciplines
- More common components



Modules today in FlexLab/Chem



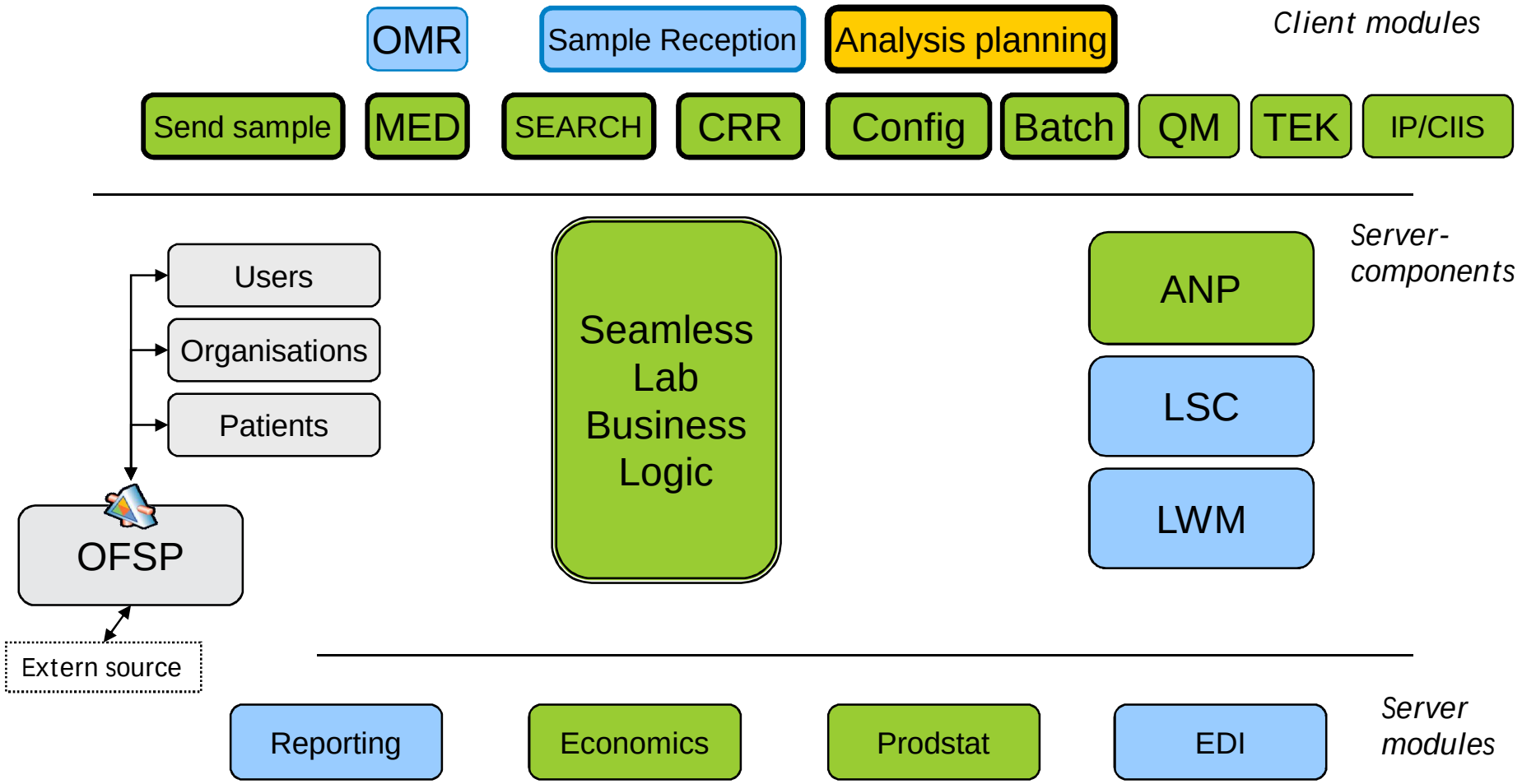
Component = Chem specific

Component = Common lab

Component = Common HC

Component = Common LIMS

Modules in future common lab



Component = New micro specific

Component = Common lab

Component = Common HC

Component = Common LIMS

Thank you

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