

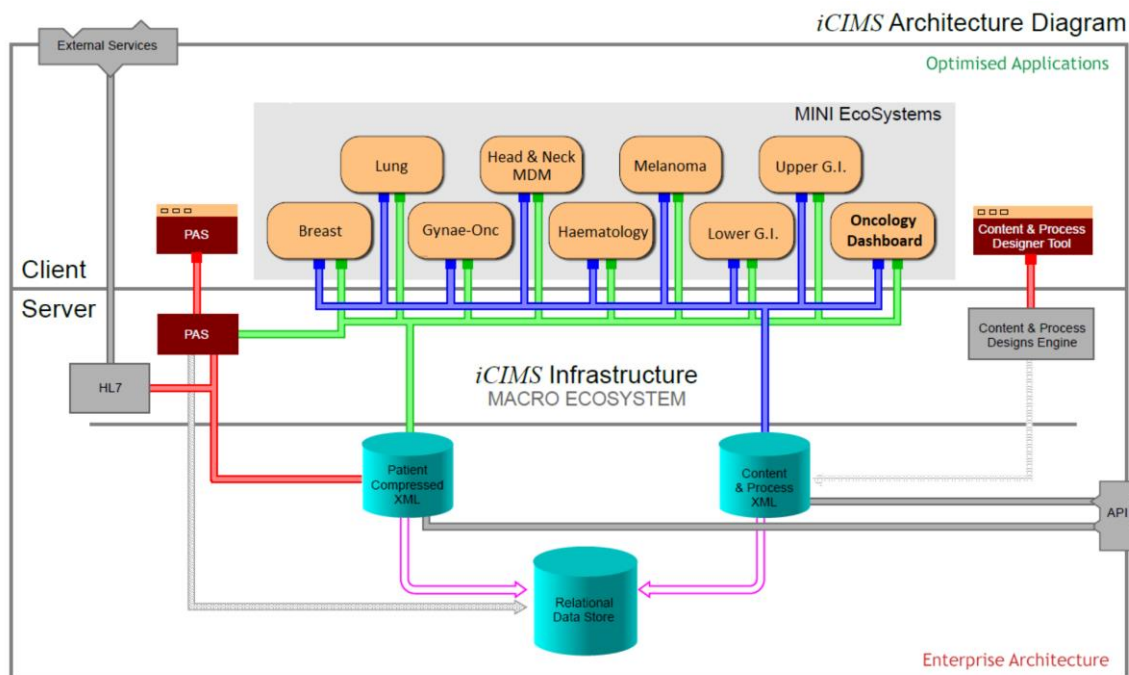
## iCIMS Innovative Edge

### iCIMS Architecture Overview

iCIMS is an information systems development technology that differs from the classic Waterfall method of IT systems development of: Conception, Initiation, Analysis, Design, Construction, Testing, Deployment and Maintenance. It automates the Construction step using a significant underlying code library and an elaborate and comprehensive design tool with a graphical user interface underpinned by automated data modelling, so that it can move rapidly between design and testing without needing to write any program code.

The outcome being that Analysis, Design, Test, and Redesign are bound into a tightly iterative cycle. Design begins with a generic template and then uses the concept of Clinical Team-Led Design (CTLD) to iterate towards a highly tailored and flexible system resulting in a solution that shapes itself around current work practices. This benefit of near-real time adaptation in both the design and maintenance phases brings a “What-If” mindset to Clinical Systems, which fosters continuous process improvement to maximise efficiency, patient safety, and innovation by users.

The iCIMS platform, known as LATTICE, is written in Python and uses the PostgreSQL database management system but is also compatible with other SQL products including Microsoft’s SQL Server. LATTICE’s infrastructure is usually installed on a Virtual Machine (VM) running either Microsoft Server or Linux with the end-use application being browser based (Google Chrome, Microsoft Edge, etc...). It can also be run as a cloud service. LATTICE’s architecture is a client-server architecture where a single server installation can serve multiple end-user groups and specialities (e.g. Breast Cancer, Gynae-Oncology, Lung Cancer, etc...).



## iCIMS Implementation Approach

iCIMS systems all go through the same rigorous implementation and maintenance time line.

### Stage 0 – Statement of Work

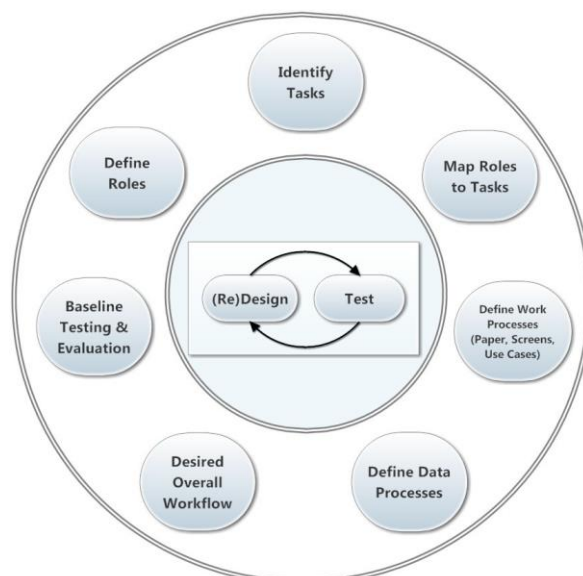
iCIMS has the experience of working with clients to specify high-level (modular and functional) requirements to define an overall statement of work and project objectives. iCIMS does not require a detailed requirements analysis (e.g. down to the field level) in order to estimate effort or cost. This ensures that a client includes the key workflows and functionalities they are committing iCIMS to deliver without having to restrict themselves to a rigid level of detail that may hinder the emergence of the best-fit-end-solution through the iCIMS approach. This stage is concluded by a signed contract to proceed to stages 1-4.

### Stage 1 – Clinical System Analysis

This is the starting point of any iCIMS system deployment. The analysts engage with as many stakeholders as needed to fully understand the needs of the user community, systems requirements, workflows and connectivity essential to producing a system that is tailored to the needs of each individual client team. One of the key outcomes is a set of requirements which on completion defines system handover. The analysis is performed by highly experienced staff who understand clinical workflows and data regimes and can translate that information into viable technical solutions.

### Stage 2 – System Design & Handover

iCIMS has a unique technology edge. The process of designing the solution automatically generates the system. This enables a very short journey from prototype to final solution via a high number of iterative changes. These changes are made in conjunction with the client users and are primarily driven by the analysis completed in stage 1. Once the design is completed as outlined in the outcome of the stage 1 analysis, the system undergoes User Acceptance Testing (UAT) driven by a series of retrospective real patient records. At the conclusion of UAT, the system is “handed over” to the client to commission. Stages 1 and 2 occur concurrently in an agile cycle (see diagram below).



### **Stage 3 – Design Adaptation Grace Period**

iCIMS offers a truly unique advantage with this stage. It is only after a system is fully operational that users can see further areas for improvement. It is for this reason that for three months from system handover iCIMS works closely with each client to maximise fit for purpose. One recent client submitted ninety-eight change requests within the three-month grace period. The iCIMS implementation approach meant that 95% of the changes were made on average within 3 days of submission. iCIMS has a structured change management and adaptation approach including Change Request Forms (CRFs) that are completed and signed off by a single point of contact at the client end.

### **Stage 4 – Maintenance**

At the completion of the Design Adaptation Grace Period, the standard maintenance stage begins. As well as standard maintenance procedures, such as bug fixes, product updates etc., iCIMS also allocates a block of hours that the client can use as they see fit for design changes after the Design Adaptation Grace Period. If the client requires further changes once, they have exhausted their allocated block for the year, these requests are charged on a T&M basis at iCIMS' standard rates.

### **Stage 5 – Progressive Development**

This presents a continuous process improvement stage under the iCIMS implementation approach where additional sub-user groups add their components onto the base system either as a sub-module or a parallel Clinical Information System (CIS) within the same implementation. This increases the Return on Investment (ROI) of the base system by leveraging the pre-existing infrastructure (installation) and connectivity. It also capitalises on iCIMS' native interoperability to share data between CISs/modules while retaining a single-gateway to communicate to the external ecosystem. For example, one client added a Menopausal Symptoms After Cancer (MSAC) module to the base iCIMS implementation two years post-go-live of the initial breast cancer system.