

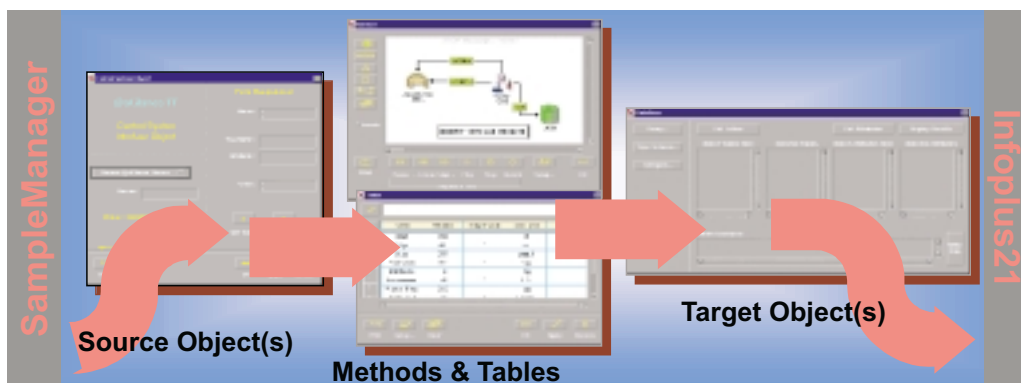
SM-IP21™

The need for systems integration for business solutions is changing from a desirable option to an essential requirement. Demands on Production and Quality requirements have never been greater, therefore it is no longer feasible to maintain islands of information in areas that impact so heavily on each other.

SM-IP21, developed by Orbis Information Systems, integrates SampleManager™, the flagship LIMS product from Thermo LabSystems, with Infoplus.21®, the leading Information Management Systems (IMS) from AspenTech™. Respectively, these products are market-leaders in laboratory & process information management.

Technical Information

Based on well-proven technology, SM-IP21 provides plant engineers automated real-time access to off-line analytical testing performed in quality control laboratories. SMIP-21 is installed worldwide in plant and manufacturing sites in the petrochemical, food & beverage and pharmaceutical industries.



Product overview

The SM-IP21 product is based on an object paradigm. Adapters, methods and agents are assembled to achieve integration transactions between SampleManager LIMS and Infoplus.21 IMS. Adapters provide the interface between the participating systems by abstracting the application logic into a reusable and intelligent component.

The IP-21 adapter is based on CIM I/O™, AspenTech's process-oriented integration software. It provides an application level interface based on the CIM I/O API. CIM I/O is a client/server architecture supporting synchronous and asynchronous transactions. The SM adapter is built using Oracle Objects, a DCOM-based object level interface.

Both adapters plug into the SM-IP21 server. The server provides an integration engine where integration logic can be configured as methods in foreground mode using a dedicated GUI. Methods encapsulate a read request to one of the adapters, translation and mapping of the results and a write request to the other adapter.

When an integration method has been configured and debugged its execution is controlled in background mode by an Agent that fires on an event or scheduled basis. In this way SM-IP21 is built upon reusable and re-deployable components.

Thermo LabSystems

Configuration and transaction types

The SM-IP21 server is configured in a number of concise steps that apply regardless of the transaction to be carried out. This configuration is carried out from within the standard product GUI using a combination of objects. LIMS and IMS initiated transactions are supported by the SM-IP21 server.

Firstly, a Method object is created that will be used to represent the transaction to be carried out. A Method is an object that stores a visual program or diagram that defines a series of functions to be performed. Then adapters and generic objects are added to represent each IMS or LIMS system that is to be included in the transaction.

These are then linked together graphically using a series of Messages, which instruct each object on how the data is to be manipulated. The messages are then 'recorded' into a sequence in which they will be activated. The method can be then be tested either by 'playing' it fully, or by stepping through it.

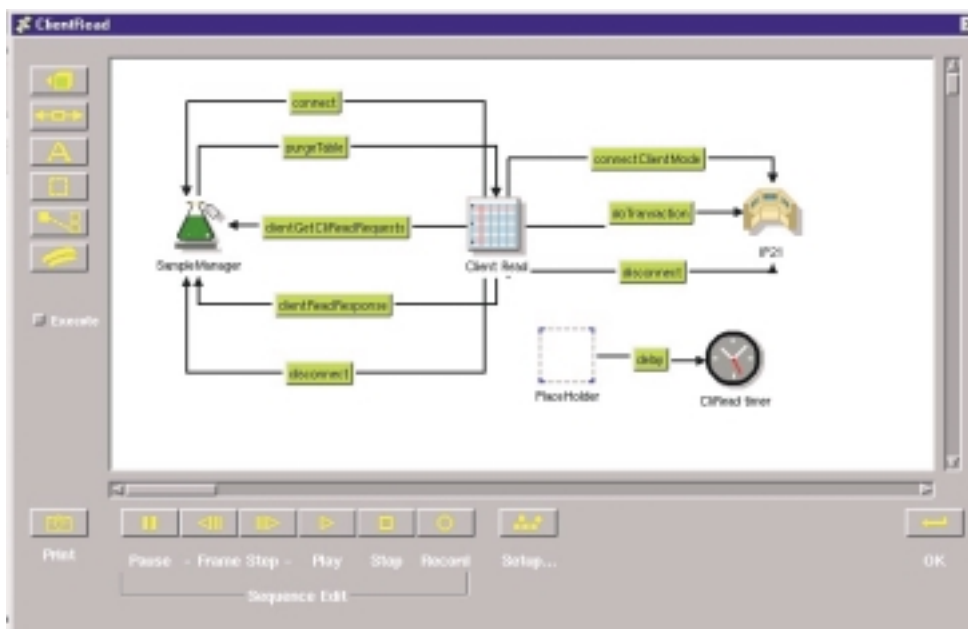
The finished method will then functionally represent the full logic and flow of the relevant transaction.

Data that is to be sent between SampleManager and IP21 must be configured using a series of interface lookup tables. This is done using native tools such as the IP21 Administrator, and SM-IP21-specific SampleManager LTE's and Explorer interface.

For result data transfer between the LIMS and IMS, the key laboratory fields in SampleManager is associated with an IMS tagname that uniquely identifies the field in the IMS database.

As results are entered into the LIMS, they are evaluated against the relevant interface table, and if one or more matches are found, the transaction is initiated.

The SMIP2001™ product is available for all currently supported versions of SampleManager, on Microsoft® Windows NT®, VMS and UNIX.



An example SMIP2001 method to read IMS data into LIMS

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