Valab®

Version 12.01

Main Improvements

This document lists the main improvements of Valab Version 12.01. For a full list of all the modifications made to Valab 12.01, please refer to the corresponding Release Note for this version.

1. Architecture and environment

Software architecture

The software architecture of Valab has evolved to be better suited to the latest information system environments (virtualisation, remote servers, ...). This new architecture brings more flexibility and operating security.

Operation as a Windows service

Valab Server is now a Windows service.

Multiple Valab clients

It is now possible to run more than one Valab client (Valab interface) on the same machine.

Simplified security management

Communication between Valab Server, the Valab clients and other Valab components is now limited to two user-defined ports.

Management of user licences

The Valab clients no longer require the use of hardware or software dongles thanks to a new system using floating licences.

The new licence management system makes Valab easier to use according to the number of user accounts and available floating licences.

A new Windows service, VALAB_Node, has been added to centrally manage all the Valab licences.

Software key and virtualisation

The software key mechanism has been modified to take into account certain characteristics of virtualisation techniques. This allows a greater degree of flexibility during the migration of virtualised machines.

Automatic reconnection of Valab clients

The disconnection of Valab clients from Valab Server and their reconnection have been improved. As soon as the connection is reestablished, the Valab clients are restarted automatically.

Maintenance logs

Information and error trace files are created for each Valab process in order to facilitate maintenance. The Valab Windows services are now traced in the Windows event monitoring mechanism.

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2. Connection

Prefix / Suffix table

A dedicated correspondence table has now been created for prefixes and suffixes and the relational operators (>,<,>=,<=, …) are no longer excluded from the entry of prefixes and suffixes.

Technical table

A Technical correspondence table is now available for each numerical test allowing to associate an item (validated or not validated) with specific coded text labels for each numerical test (the error code of an analyser for example).

Connection errors log (Ms-Cx button)

Connection errors can now be validated to make them disappear once they have been verified and/or corrected.

Errors not consulted so far by the user are highlighted.

The number of connection errors is limited to 5000 entries.

There are new connection errors to indicate the reception of the same test twice in a report, the interpretation of a comment or of a prefix / suffix using an inappropriate correspondence table (e.g. TCI, CI), . . .

Suppression of sub-separators

In the context of Valab communication protocol maintenance, mechanisms that have become obsolete have been suppressed. For example, field sub-separators in message frames are no longer supported by the Valab protocol.

Suppression of the "I" micro-command

In the context of Valab communication protocol maintenance, mechanisms that have become obsolete have been suppressed. For example, the "I" micro-command is no longer supported by the Valab protocol.

3. Functionality

Management of user accounts

Stricter management of user sessions and user accounts improves the security and traceability of modifications made to the Valab parameter settings in conformity with the accreditation requirements of the ISO 15189 standard.

An individual nominative account is now mandatory to gain access to Valab.

A user accounts administrator assigns functionality-specific access profiles (consultation and/or setup rights) to the different Valab users according to their level of intervention.

Traceability of setup modifications

In compliance with the accreditation requirements of the ISO 15189 standard, all setup modifications are now recorded in a change log.

Traceability of exchanges with the LIS

All valid exchanges between Valab and the LIS are traced and recorded in the patients' reports verified by Valab. They can be electronically archived for up to 18 months in compliance with the accreditation requirements of the ISO 15189 standard.

Traceability of successive passages of the same report

In the case of multiple passages of the same patient's report, all the passages are recorded and can be consulted individually in a session of the Valab simulation module.

Locating reports for simulation

Locating reports in simulation mode has been entirely redesigned. It is now possible to search for autoverified reports over a given period of time by using the following criteria:

- report number
- test name
- test number
- patient's name

Redirected tests

A new type of test, the redirected test, allows to associate a Valab test number with another test or with a TCI or CI comment.

It allows for example to connect all the different red cell morphology tests on the LIS to the single red cell morphology test in Valab.

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New flags for easier results interpretation

New flags have been added in order to facilitate the interpretation of Valab's autoverification results.

- **Globally blocking consultative mode flag**

  DM flag: flag used for mandatory manual validation in global consultative mode, all the results which would otherwise have been validated by Valab are blocked at the request of the laboratory

  this flag is also used to indicate individual tests configured for consultative mode (option available in the *Biology - Critical* setup window for each test)

- **Other problem-blocking flags**

  eT flag: result blocked for a Technical reason

  eS flag: result blocked for a Syntax error

  eU flag: result blocked for Unknown test or invalid test

  eX flag: result blocked for missing necessary ascendant or empty test

- **Information flags**

  N flag: "Neutral" contextual information correctly received and not blocked

  DQ flag: Validated result blocked for Quality Control (reserved for future use)

Simplified backup / recovery process

In order to facilitate the Valab installation recovery process using the Valab backup mechanism, the backup file is now a ZIP archive file which contains the minimum necessary configuration files to be reinstalled in the default tree structure of the Valab installation.

4. Autoverification

Demographics setup now available for all tests

It is now possible to display and configure the demographic rules for standard numerical tests (provided with the standard Valab modules).

These tests now benefit from the same functionality for the definition and adjustment of their demographics setup as that already available for the creation of new expertise models with the Auto-Expert module used to create additional tests.

Additionally, a significant modification of the biological / clinical reference interval for a test can provoke a reassessment of the suitability of the conversion factor applied to the unit defined for that test.

Managing the validation limits

New biological setup mechanisms allow better control of the validation limits.

In the absence of a previous result (correlation verification without anteriority), new "validation limits for a result with no previous result" allow to impose the manual validation of a result if it reaches a certain limit, even if this result is judged to be acceptable by Valab in the overall context of the patient's report.

A similar mechanism (new "maximum delta" limits) has been introduced for results with a previous result (autoverification with "anteriority").

New "number of times validated" statistic for a given test

A new statistical indicator, based on the number of times a given test is validated, allows Valab to detect and indicate if there have been too few refusals for this test (possible indication that the system is too permissive).

Enhanced threshold test mechanism

This option has been enhanced to now allow the blocking of results only when a previously "normal" value switches to become "abnormal".

Reference unit and conversion factor available for additional tests

The operating principle for units and the conversion factor is now the same for standard numerical tests as it is for additional tests created with Auto-Expert.

Support for more tests

The VALAB catalogue of additional tests has been enhanced and the autoverification of existing tests has been improved.

5. User interface

Improved user interface design

The Valab interface design (main window, organisation of the menus, setup windows, . . .) has been completely remodeled with regard to the previous versions of Valab.

The layout of the autoverify, simulation and setup windows is entirely configurable and access to the Valab functions has been reorganised and optimised.

The terminology used has been clarified and rationalised. For example, the "dictionaries" are now referred to as "correspondence tables", the "delta check" is referred to as the "RCV" (Reference Change Value), "normal limits" are now referred to as "biological (or clinical) reference interval limits", . . .

These improvements make Valab more efficient, intuitive and pleasant to use.

New visual identity

New icons and a new identity give a more modern appearance and provide better identification of the Valab components.

Customisable window layout

Valab now supports multi-screen environments.

Each Windows user can customize the position and size of the different Valab windows. This mechanism introduces a docking system which allows the windows to be organised in predefined positions.

This setup is recorded when the Valab client is closed and is specific to each Windows account used.

A more consistent interface

The main menu has been redesigned for a more direct and intuitive access to the setup windows.

All the settings of the application are accessible through four setup windows with the same look and feel. These windows are organised by theme to make setup intuitive and logical.

All the tables in Valab now have sort functions for each column.

The test setup window can now remain permanently open in the Valab main window.

Access to test parameter settings

Most of the parameter settings for each test are now accessed through the same window organised by category (Biology, Demographics, Autoverification, Correspondence tables).

Test identification

The identification of each test in the different functions of Valab has been made more consistent as the Valab identifier, the speciality, the name and the NamesLab code of the test are reminded in the setup windows and in the various history logs.

Correspondence tables

Correspondence table entries are now modifiable directly in the tables. Valab items are now identified both by name and numerically. Data entry errors (e.g. duplicate values) are highlighted.

Display of autoverification rules associated with tests

A new column has been added to the test setup table to show if Auto-Expert rules are associated with the test (Symbolic, Demographic, Inter-parametric, Contextual).

New multi-language support

Thanks to a much improved language support mechanism in this latest version of Valab, German versions of the Valab software interface and User Manual are now available.