

January 2015

WATS Server 2015.1 Release Note
Version 4.2.12

Release WATS Server 4.2.12

This release overview contains information about new features in WATS Server 4.2.12

For more information about WATS, please visit www.virinco.com/wats

Major Feature Areas

- Test step yield and analysis
 - Step execution time report (chart)
 - *Run* details
 - Western Electric Rules
 - New chart (zoom)
 - Details view on Boolean and String steps
- Root Cause module improvements
- Connection & Execution time report
- New dashboard component: RCA
- Manual Inspection – New features
- Misc
 - Workflow
 - Select multiple in filter (Operation, Status)

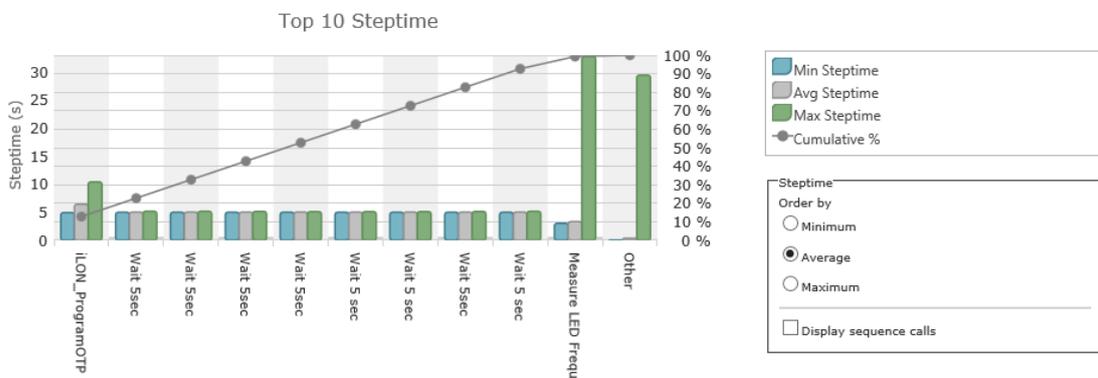
WATS Reporting



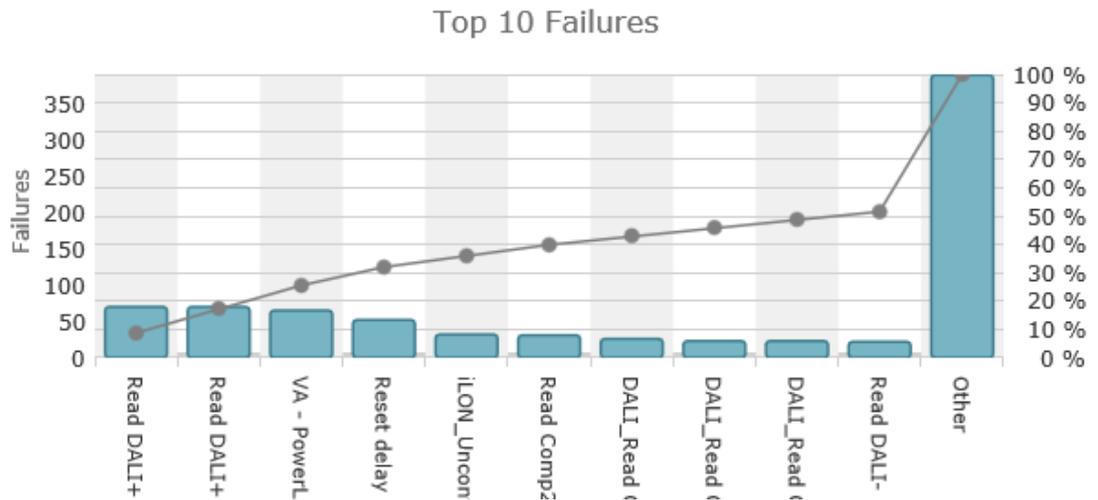
Test Step Yield & Analysis

Step time report

A chart will now display top 10 steps that consume most execution time. By default, the chart is ordered by average step execution time. You can also select to order by maximum/minimum execution time.



The top 10 failures chart also has a new summary "step" named other. This bar represent the rest of the step failures.



New columns has also been added to the step list. Terminated (step status), other (unknown status, not the same as "other" in the pareto chart), Min-/Avg-/Max- step time.

Step Name	Total #	Fail #	Error #	Terminated #	Other #	Min Steptime (s)	Avg Steptime (s)	Max Steptime (s)
MainSequence Callback	600	160	0	0	0	6.58	60.40	177.22

Run details

The default TSY&A filter contains a "Run" option allowing you to look at units only tested first run, second run etc. Selecting e.g. second run would only return results for unit tested second time, often a lower count than first run.

A new option in the "details view" allow you to override this filter setting but also aggregate data to look at first and second run in the same chart. For details, please see <https://virinco.zendesk.com/entries/78960175>.

Step name: /Measurement 1

Step yield:

■ Failed: 30.00% (3/10)

■ Passed: 70.00% (7/10)

Step Type: All

- First Run (1)
- Second Run (2)
- Second and earlier (1 + 2)
- Third Run (3)
- Third and earlier (1 + 2 + 3)
- Last Run

Step Type: NumericLimitTest

Avg. steptime: 0.003

Max steptime: 0.004

Min steptime: 0.003

Loop iteration: default Run Run

Measurement Chart

Edit Y-axis
 Edit Limits
 Filter Measures
 Number of measurements
 Filter Failed Measures

Western Electric Rules

The Western Electric Rules are decision rules for detecting "out-of-control" or non-random conditions on control charts.

The rules attempt to distinguish unnatural patterns from natural patterns based on several criteria:

1. The absence of points near the centre line (identified as a mixture pattern)
2. The absence of points near the control limits (identified as a stratification pattern)
3. The presence of points outside the control limits (identified as an instability pattern)
4. Other unnatural patterns (systematic (auto correlative), repetition, trend patterns)

To achieve this, the rules divide the chart into zones, measured in units of standard deviation (σ) between the centre line and control limits.

You can apply these rules to a dataset in WATS by checking the "Western Electric Rule" box.

Measurement Chart

Edit Y-axis
 Edit Limits
 Filter Measures
 Number of measurements:
 Filter Failed Measures
 Scatter Chart
 Western Electric Rule
 Group by Meas

High:
 High:
 Max:

Low:
 Low:
 Min:

Axis format:

 Export to Excel:

Zooming / Panning

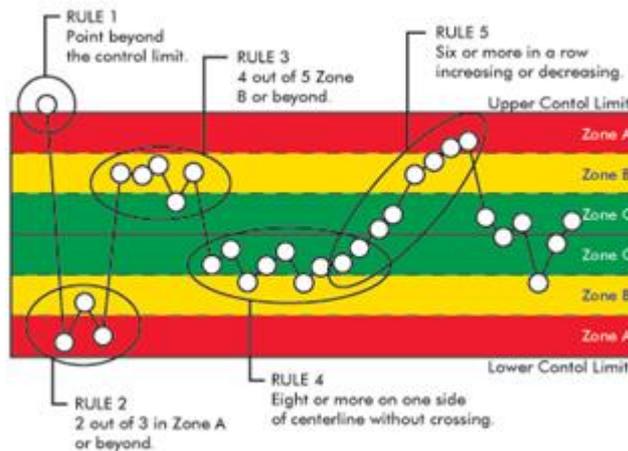
Measures
 +3σ / 15.13
 Avg / 14.99
 -3σ / 14.86
 High Limit / 16
 Low Limit / 14
 +2σ / 15.09
 +1σ / 15.04
 -1σ / 14.95
 -2σ / 14.9



Total count=453 | mean(μ)=15 | stdev(σ)=0.0457 | variance(σ²)=0.00209 | Cpk=7.26 | Cp=7.3
 Comparison= GELE (>= AND <=) | Units= volt

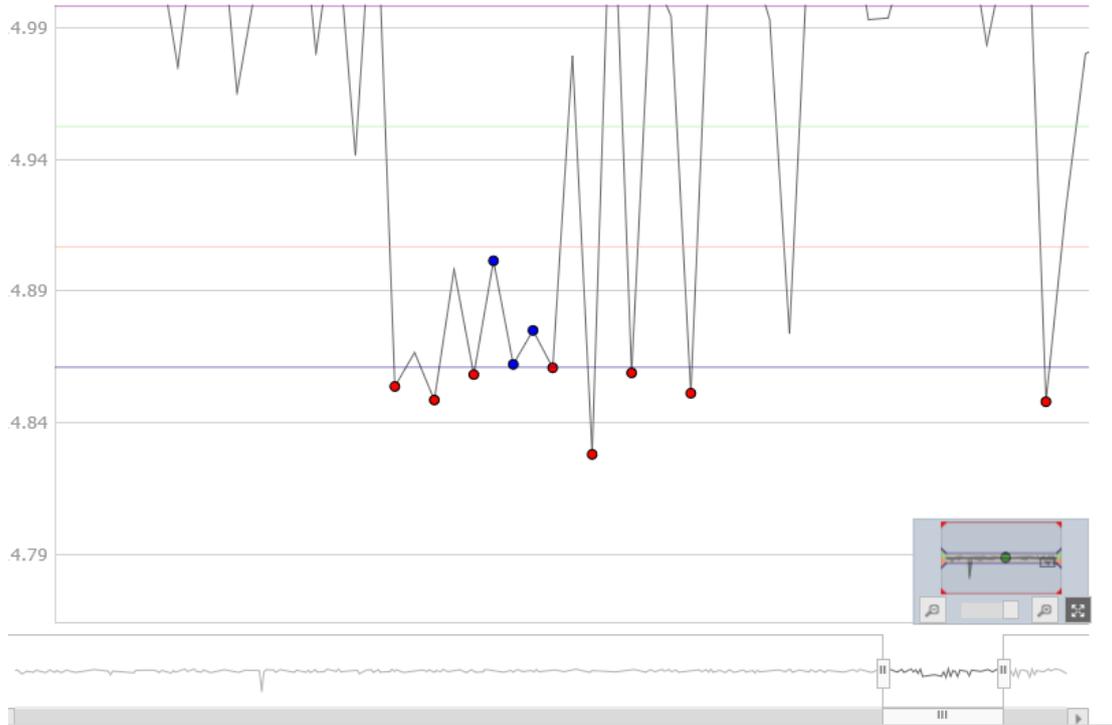


WATS will highlight data points where one of the rules has been detected. Hold the mouse over for details. Below are the default rules.



New zoom able chart

The new chart allow you to use the mouse wheel to zoom in/out in the trend chart.



Details view on Boolean and String steps

You can now get details view on String and Boolean test steps with results listed in tables.

Step name: /Establish contact with UUT/iLON_Get Templates

Step yield: ■ Passed: 100.00% (835/835) Step Type: ET ET_MSVT Avg. step time: 0.053

UTC First run: 2012-Jun-19 Max step time: 1.865

UTC Last run: 2012-Dec-20 Min step time: 0.017

Loop iteration: Run

Export to Excel:

Measurements									
Serial Number	Part Number	Revision	UTC Date/Time	Station Name	Measurement Name	Measured Value	Limit	Comparison Type	
12000142	OLC-140-C	8	2012-Dec-20 05:10:40	LUMINYX-TESTSTA	GetTemplates	PASSED	PASSED	Equal	
12000142	OLC-140-C	8	2012-Dec-20 05:10:40	LUMINYX-TESTSTA	HasCorrectProgramI	PASSED	PASSED	Equal	
12000162	OLC-140-C	8	2012-Dec-20 05:07:46	LUMINYX-TESTSTA	GetTemplates	PASSED	PASSED	Equal	
12000162	OLC-140-C	8	2012-Dec-20 05:07:46	LUMINYX-TESTSTA	HasCorrectProgramI	PASSED	PASSED	Equal	
12000151	OLC-140-C	8	2012-Dec-20 05:04:35	LUMINYX-TESTSTA	GetTemplates	PASSED	PASSED	Equal	
12000151	OLC-140-C	8	2012-Dec-20 05:04:35	LUMINYX-TESTSTA	HasCorrectProgramI	PASSED	PASSED	Equal	
12000132	OLC-140-C	8	2012-Dec-20 05:01:17	LUMINYX-TESTSTA	GetTemplates	PASSED	PASSED	Equal	
12000132	OLC-140-C	8	2012-Dec-20 05:01:17	LUMINYX-TESTSTA	HasCorrectProgramI	PASSED	PASSED	Equal	
12000105	OLC-140-C	8	2012-Dec-20 04:58:02	LUMINYX-TESTSTA	GetTemplates	PASSED	PASSED	Equal	
12000105	OLC-140-C	8	2012-Dec-20 04:58:02	LUMINYX-TESTSTA	HasCorrectProgramI	PASSED	PASSED	Equal	
12000107	OLC-140-C	8	2012-Dec-20 04:54:42	LUMINYX-TESTSTA	GetTemplates	PASSED	PASSED	Equal	
12000107	OLC-140-C	8	2012-Dec-20 04:54:42	LUMINYX-TESTSTA	HasCorrectProgramI	PASSED	PASSED	Equal	
12000106	OLC-140-C	8	2012-Dec-20 04:51:24	LUMINYX-TESTSTA	GetTemplates	PASSED	PASSED	Equal	
12000106	OLC-140-C	8	2012-Dec-20 04:51:24	LUMINYX-TESTSTA	HasCorrectProgramI	PASSED	PASSED	Equal	

Root Cause module improvements

The module has many general improvements on usability. In addition, when creating a ticket from the UUT Report or UUR Report list (linked to the UUT/UUR report), an icon illustrates that the report has an "assigned" ticket (as shown below). Click on the RCA icon to open the ticket for details.

Serial Number	Status	Part Number	Revision	UTC Date/Time	Test Operation
144471005716	Passed	282137	5	2014-Nov-05 14:15:16	Programming PCBA
144471005717	Passed	282137	5	2014-Nov-05 14:15:04	Programming PCBA
130814000030	Terminated	1100504	1	2014-Nov-05 14:14:59	PCBA Test
144471037138	Passed	241122.205	2.4	2014-Nov-05 14:14:57	Pre Burn-in Test
144471005718	Passed	282137	5	2014-Nov-05 14:14:54	Programming PCBA
130814000030	Terminated	1100504	1	2014-Nov-05 14:14:41	PCBA Test
144471005719	Passed	282137	5	2014-Nov-05 14:14:36	Programming PCBA
144471061739	Passed	309234	4.1	2014-Nov-05 14:14:36	Programming PCBA
144471057998	Passed	242100.110	4.3	2014-Nov-05 14:14:25	Final Function Test
144471037243	Passed	241122.205	2.4	2014-Nov-05 14:14:24	Pre Burn-in Test

Connection & Execution time report

This report is now located below the "Station" reports with improved filtering options. In addition, average execution time is now available.

Station
Connection & Execution time

Product Group: (Any)

Site: (Any)

Part Number:

Revision:

SW Filename:

SW Version:

Station Name: LUMINIX-TESTSTA

Socket:

Test Operation: (Any)

Status: (Any)

From Date (UTC): 2012-Jan-26 00:00

To Date (UTC): 2012-Jan-27 23:59

Apply filter 2012
Clear filter
Save filter

Calculated connection time average: **33 s**

Min connection time: 0 h 0 m 7 s

Max connection time: 0 h 15 m 10 s

Calculated execution time average: **26 s**

Min execution time: 0 h 0 m 0 s

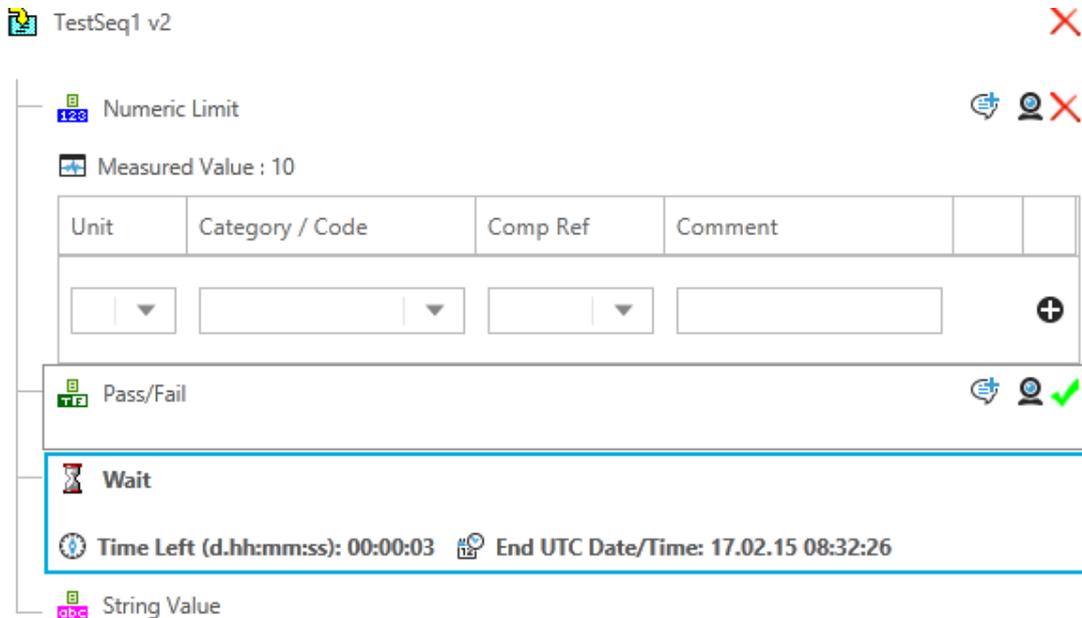
Max execution time: 0 h 3 m 17 s

Calculate average

Serial Number	Status	PartNumber	Revision	Process	MachineName	Location	Purpose	Socket	Operator	UTC Start Datetime	UTC End Datetime	Connection Time	Execution Time
11167156	Passed	OLC-140-P	8	PCBA test	LUMINIX-TE	Hanzas - Lat Automatic Tr			Maigurs	2012-Jan-27	2012-Jan-27	01 m 12 s	01 m 14 s
11167155	Passed	OLC-140-P	8	PCBA test	LUMINIX-TE	Hanzas - Lat Automatic Tr			Maigurs	2012-Jan-27	2012-Jan-27	37 s	01 m 11 s
11167154	Passed	OLC-140-P	8	PCBA test	LUMINIX-TE	Hanzas - Lat Automatic Tr			Maigurs	2012-Jan-27	2012-Jan-27	45 s	01 m 11 s
11167156	Failed	OLC-140-P	8	PCBA test	LUMINIX-TE	Hanzas - Lat Automatic Tr			Maigurs	2012-Jan-27	2012-Jan-27	26 s	01 m 10 s
11167153	Passed	OLC-140-P	8	PCBA test	LUMINIX-TE	Hanzas - Lat Automatic Tr			Maigurs	2012-Jan-27	2012-Jan-27	03 h 00 m 2	01 m 10 s
11166916	Passed	OLC-140-P	8	PCBA test	LUMINIX-TE	Hanzas - Lat Automatic Tr			Maigurs	2012-Jan-26	2012-Jan-26	35 s	01 m 13 s
11166911	Passed	OLC-140-P	8	PCBA test	LUMINIX-TE	Hanzas - Lat Automatic Tr			Maigurs	2012-Jan-26	2012-Jan-26	19 m 32 s	01 m 15 s
11166884	Passed	OLC-140-P	8	PCBA test	LUMINIX-TE	Hanzas - Lat Automatic Tr			Maigurs	2012-Jan-26	2012-Jan-26	26 s	01 m 15 s
11166976	Passed	OLC-140-P	8	PCBA test	LUMINIX-TE	Hanzas - Lat Automatic Tr			Maigurs	2012-Jan-26	2012-Jan-26	03 m 24 s	01 m 15 s

Manual Inspection

- You can now select whether or not to "Require UUR Report" when the operator fails the MI.
- New step types: *Wait* and *Set Process*.
Use the **Wait step** to force MI to pause/wait a given time until allowing the operator to continue. The Operator Interface will show a timer count down.
Use the **Set Process** step to update the Unit status in MES
- Operators can now add step comments (to the report)
- Improved image attachment including image compress and browse locally for image files.
- Allowing to attach image on a fail code (UUR)
- Print MI sequence with barcodes



The screenshot shows a software interface for a test sequence named "TestSeq1 v2". It features several steps in a list:

- Numeric Limit**: Includes a "Measured Value : 10" and a table with columns for Unit, Category / Code, Comp Ref, and Comment. Below the table are dropdown menus and a plus icon.
- Pass/Fail**: Includes a green checkmark icon.
- Wait**: This step is highlighted with a blue border. It shows a clock icon and the text "Time Left (d.hh:mm:ss): 00:00:03" and "End UTC Date/Time: 17.02.15 08:32:26".
- String Value**: Located at the bottom of the visible steps.

Miscellaneous

- Workflow
New timing properties in the WIP activity type
Media/PDF support (WIP Point and User Input activity)
- Product Group, Site, Test/Repair Operation and Status is now multiple option where supported



Product Group: (Any) ▼	Test Operation: (Any) ▼
Site: (Any) ▼	Status: <input type="checkbox"/> AOI
Serial Number: <input type="text"/>	Misc Info: <input type="checkbox"/> FFT
Part Number: <input type="text"/>	From Date (UTC): <input type="checkbox"/> RepNoUUT
Revision: <input type="text"/>	To Date (UTC): <input type="checkbox"/> SW Debug
Batch Number: <input type="text"/>	
Station Name: <input type="text"/>	

Apply filter ▼ **Clear filter** **Save filter**

Displaying 56 of 56 results

- Operator Interface now show the available WATS modules in the status bar. Server settings can temporarily be overridden in the configure menu