



**Release Notes**  
**for**



**Version 4.5**

**(part 3)**

**Part Number E62395-01**

# Table of Content

1 Introduction.....	<a href="#">14</a>
1.1 Document Purpose and Scope.....	<a href="#">14</a>
1.2 Glossary.....	<a href="#">14</a>
2 ETAdirect Version 4.5.9.....	<a href="#">16</a>
2.1 Changes Overview.....	<a href="#">16</a>
2.2 On-Call Functionality Enhancements.....	<a href="#">19</a>
2.2.1 Route Activation by On-Call Resources Available.....	<a href="#">19</a>
2.2.2 On-Call Resources Shown on Resource Tree.....	<a href="#">19</a>
2.2.3 'Show On-Call' Filter Option Added to Time View.....	<a href="#">20</a>
2.2.4 On-Call Calendar Shown in Resource Hint.....	<a href="#">21</a>
2.2.5 On-Call Time Intervals Shown on Time View.....	<a href="#">21</a>
2.2.6 Activity Move to On-Call Resource.....	<a href="#">22</a>
2.2.7 Time View Always Shows Route of Selected Resource.....	<a href="#">23</a>
2.2.8 Calculation of Traveling Time to Activity for Resources with On-Call Calendars.....	<a href="#">23</a>
2.3 User Management.....	<a href="#">23</a>
2.3.1 Users with LDAP Login Policy Saved Properly.....	<a href="#">23</a>
2.4 Manage Application.....	<a href="#">23</a>
2.4.1 Parts Catalog Permissions Introduced.....	<a href="#">23</a>
2.4.2 'History' Column Headers Now Editable.....	<a href="#">24</a>
2.4.3 Custom Action Links Management Improved.....	<a href="#">24</a>
2.4.4 Images with Width-to-Height Ratio More Than 1:100 Can Be Uploaded via API.....	<a href="#">24</a>
2.4.5 Activities Assigned Properly during Overnight.....	<a href="#">24</a>
2.4.6 Correct List View Displayed.....	<a href="#">24</a>
2.4.7 Weekly Work Schedules for Saturday and Sunday Applied Correctly.....	<a href="#">25</a>
2.5 Quota Management.....	<a href="#">25</a>
2.5.1 Current Day Quota No Longer Returned from Cache.....	<a href="#">25</a>
2.5.2 Application Server in 'Slave' Mode Used as Capacity Proxy.....	<a href="#">25</a>
2.5.3 'Quota' Value Validation Implemented.....	<a href="#">25</a>
2.5.4 'Save' Button Color Changed.....	<a href="#">25</a>
2.5.5 'Show Aggregated Results' Checkbox Works Correctly.....	<a href="#">26</a>
2.5.6 'Mass Populate' Functionality Improved.....	<a href="#">26</a>
2.5.7 'Mass Populate' Button Hidden for Users with ReadOnly Permission for Quota.....	<a href="#">27</a>
2.5.8 'Mass Populate' Functionality Available for Bucket Selected Automatically.....	<a href="#">27</a>
2.5.9 'Locked' Flag Copied Correctly by 'Mass Populate' Functionality.....	<a href="#">27</a>
2.5.10 'Quota History' Displayed and Exported in Selected Units of Measurement.....	<a href="#">27</a>
2.5.11 Close Time History Exported Correctly.....	<a href="#">28</a>
2.5.12 'Automatically Adjust '% Quota' Values to Keep Their Total Equal to 100%' Option Improved	

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.

.....	<a href="#">28</a>
2.5.13 Values in 'Saved Value' Hints Rounded to Two Decimal Places.....	<a href="#">28</a>
2.5.14 Buckets in Resource Tree and Quota Grid Arranged in the Same Order.....	<a href="#">28</a>
2.6 Company Settings.....	<a href="#">29</a>
2.6.1 Custom Properties Export and Import Implemented.....	<a href="#">29</a>
2.6.2 DWH Configuration Screen Added to Manage Application.....	<a href="#">31</a>
2.6.3 Themes Configuration Screen Implemented.....	<a href="#">36</a>
2.6.4 File Property Management Improved.....	<a href="#">40</a>
2.6.5 Maintenance Options Removed from Manage Display.....	<a href="#">41</a>
2.6.6 Inventory Form Fields Linked to Activity Form Recalculated Properly.....	<a href="#">42</a>
2.7 Inventory.....	<a href="#">42</a>
2.7.1 Text Field Visibilities Supported in Inventory Identifiers.....	<a href="#">42</a>
2.7.2 Inventory Exchange between Customer and Team-Member Improved.....	<a href="#">44</a>
2.7.3 Firefox 10 – Inventory Types Editing Improved.....	<a href="#">44</a>
2.7.4 Internet Explorer 8 – 'Inventory Details' Screen Available.....	<a href="#">44</a>
2.7.5 Correct Error Message Displayed for Too Large or Invalid Required Inventory Quantities... ..	<a href="#">44</a>
2.7.6 Error Message Displayed for Invalid Inventory Quantity during Non-Serialized Inventory	
Install/Deinstall Operations.....	<a href="#">46</a>
2.7.7 'Quantity' Field Name Editable in Mobility Contexts.....	<a href="#">46</a>
2.7.8 Non-Serialized Inventory Quantity Can Be Set to "0".....	<a href="#">46</a>
2.7.9 Quantity of Missing Non-Serialized Inventory Calculated Correctly with Negative Resource's	
Inventory.....	<a href="#">48</a>
2.7.10 Non-Serialized Inventory Adding Improved.....	<a href="#">48</a>
2.7.11 Serialized Inventory Identifiers Shown in 'Install' List of 'Required Inventory' Screen.....	<a href="#">49</a>
2.7.12 Correct Screen Title of 'Required Inventory Details' Screen.....	<a href="#">50</a>
2.7.13 Pool Icon Aligned in Exchange Dialogue.....	<a href="#">50</a>
2.7.14 'Signature Editor' Loads Properly.....	<a href="#">51</a>
2.7.15 Validation of 'Add Inventory Type' Dialog Window Added.....	<a href="#">51</a>
2.7.16 'Inventory Types' Placeholder Added.....	<a href="#">53</a>
2.7.17 No Alerts Shown after Required Inventory Deletion.....	<a href="#">53</a>
2.7.18 Only ReadOnly Visibility Available for Inventory ID Fields.....	<a href="#">53</a>
2.8 Maps.....	<a href="#">53</a>
2.8.1 Hints No Longer Appear for Non-TOA Objects.....	<a href="#">53</a>
2.9 DWH.....	<a href="#">54</a>
2.9.1 Message Text Data No Longer Lost during Export.....	<a href="#">54</a>
2.10 Routing.....	<a href="#">54</a>
2.10.1 Reoptimization Goals Saved Correctly.....	<a href="#">54</a>
2.10.2 'Reduce Overdue' Percentage Field Value Limited.....	<a href="#">54</a>
2.10.3 Routing Run Schedule Parameters Saved Correctly.....	<a href="#">56</a>

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.

2.10.4	Relevance Key Sent for Activities Subject to Reoptimization.....	<a href="#">56</a>
2.10.5	Placeholder for Routing Execution Log Added.....	<a href="#">56</a>
2.10.6	Routing Execution Log Improvement.....	<a href="#">57</a>
2.10.7	Correct Values in 'Time-Slot Overdue (Max/Cost)' Column.....	<a href="#">57</a>
2.11	Mobility Application.....	<a href="#">57</a>
2.11.1	Notices No Longer Appear in Offline Synchronization.....	<a href="#">57</a>
2.11.2	Double Click on Browser 'Back' Button Has No Effect on Properties with ReadWrite Visibility .....	<a href="#">58</a>
2.11.3	Internet Explorer 8 – SmartCollaboration Widget Opens Properly.....	<a href="#">58</a>
2.11.4	iPad – Browser No Longer Hangs if 'Go' Button Is Tapped.....	<a href="#">58</a>
2.11.5	Display Mode Selection Improved.....	<a href="#">58</a>
2.12	SmartCollaboration.....	<a href="#">59</a>
2.12.1	Long Field Values Displayed Correctly.....	<a href="#">59</a>
2.12.2	Long Messages Split Correctly.....	<a href="#">60</a>
2.12.3	Menu Icon Hidden from History of Conference with No Active Participants.....	<a href="#">61</a>
2.12.4	No Extra Requests Sent after Search Key Clearing.....	<a href="#">61</a>
2.12.5	Contact Search Improved.....	<a href="#">61</a>
2.12.6	Unread Messages Counter for Helpdesks Improved.....	<a href="#">61</a>
2.12.7	Special Characters Escaping in Address Book Implemented.....	<a href="#">61</a>
2.12.8	Activity Reassignment and Inventory Transfer by Helpdesk Operators Disabled.....	<a href="#">62</a>
2.12.9	Permissions Applied Properly to Inventory Transfer via Chat.....	<a href="#">62</a>
2.12.10	'Transfer Conversation' between Helpdesks Improved.....	<a href="#">62</a>
2.12.11	Message Waiting Time Above Threshold Displayed in Red in Manage Application.....	<a href="#">63</a>
2.12.12	Redundant Icons No Longer Displayed.....	<a href="#">63</a>
2.13	Reports.....	<a href="#">64</a>
2.13.1	'Activities by Statuses' Report Improved.....	<a href="#">64</a>
2.13.2	'Time/Late/Early Activities' Report Returns Correct Results.....	<a href="#">64</a>
2.14	Public API.....	<a href="#">64</a>
2.14.1	Mobile Client API – 'create_customer_inventory' Operation Performed Properly with Field Visibilities Deleted.....	<a href="#">64</a>
2.14.2	Mobile Client API – Inventory Quantity Returned Even When Quantity Value Is "0".....	<a href="#">65</a>
2.14.3	Mobile Client API – 'set_file' Method Improved.....	<a href="#">65</a>
2.14.4	Activity Management API – Route Start and Activity Start Can Now Occur the Same Second .....	<a href="#">65</a>
2.14.5	Activity Management API – 'cancel_activity' Operations with No Date in Request Performed Correctly.....	<a href="#">65</a>
2.14.6	Activity Management API – 'set_file' and 'get_file' Operations Observe Property Visibilities .....	<a href="#">65</a>
2.14.7	Resource Management API – 'get_resources_calendars' Operation Optimization.....	<a href="#">66</a>

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.

2.14.8 Resource Management API – Permissions Applied Correctly in 'get_resource' Response....	<a href="#">66</a>
2.14.9 Resource Management API – 'get_resource' Request No Longer Returns Empty Fields.....	<a href="#">66</a>
2.14.10 Resource Management API – 'get_resource' and 'get_resources_list' Requests Work Properly Regardless of Parent Resource Visibility.....	<a href="#">66</a>
2.14.11 Resource Management API – Correct Error Message Returned for Invalid Coordinates Input.....	<a href="#">66</a>
2.14.12 Resource Management API – 'time_from' and 'time_to' Returned in the Same Format....	<a href="#">66</a>
2.14.13 Resource Management API – 'set_resources_calendars' Response Improved.....	<a href="#">67</a>
2.14.14 Resource Management API – API Profiles Can Be Set.....	<a href="#">67</a>
2.14.15 Resource Management API – Empty 'locations' Node No Longer Returned.....	<a href="#">67</a>
2.14.16 Resource Management API – 'update_resource' Operation No Longer Requires Resource Type.....	<a href="#">67</a>
2.14.17 External Trigger API Enhancements.....	<a href="#">67</a>
2.14.18 External Trigger API Works Properly.....	<a href="#">68</a>
2.14.19 Capacity API – Application Server Slave Used if Master Not Available.....	<a href="#">68</a>
3 ETAdirect Version 4.5.10.....	<a href="#">69</a>
3.1 Changes Overview.....	<a href="#">69</a>
3.2 Manage Application.....	<a href="#">70</a>
3.2.1 Time Slot Editing Improved.....	<a href="#">70</a>
3.3 DashBoard.....	<a href="#">70</a>
3.3.1 New Filter Added to 'Mean Time to Deliver' Report.....	<a href="#">70</a>
3.3.2 'Average Productivity by Activity Type' Report Improved.....	<a href="#">74</a>
3.4 Reports.....	<a href="#">75</a>
3.4.1 'Work Order Statistics' Report Improved.....	<a href="#">75</a>
3.5 DWH.....	<a href="#">75</a>
3.5.1 Overnight Work Processed Correctly.....	<a href="#">75</a>
4 ETAdirect Version 4.5.11.....	<a href="#">76</a>
4.1 Changes Overview.....	<a href="#">76</a>
4.2 Security.....	<a href="#">79</a>
4.2.1 Allowed and Disallowed IP Addresses Lists Implemented.....	<a href="#">79</a>
4.3 General.....	<a href="#">83</a>
4.3.1 Contact Information Removed from Maintenance Message.....	<a href="#">83</a>
4.3.2 Unused Permissions Removed.....	<a href="#">83</a>
4.3.3 'Required Inventory Missing' Alerts Implemented.....	<a href="#">83</a>
4.4 Quota Management.....	<a href="#">84</a>
4.4.1 Quota Closing 'N' Days Before.....	<a href="#">84</a>
4.4.2 Checkboxes in 'Resource and Bucket Info' Screen Improved.....	<a href="#">87</a>
4.4.3 Quota Level Selection Included in Filter.....	<a href="#">88</a>
4.4.4 Placeholder Spelling Corrected.....	<a href="#">88</a>

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.

4.4.5 New Placeholders Added.....	<a href="#">89</a>
4.4.6 'Auto-Populate' Functionality Implemented.....	<a href="#">89</a>
4.4.7 Behavior of 'Automatically Adjust '% Quota' Values to Keep Their Total Equal to 100%' Checkbox Improved.....	<a href="#">92</a>
4.4.8 Work Zone Status Display Corresponds to Capacity Bucket Settings.....	<a href="#">92</a>
4.4.9 Capacity Category Assignment Change No Longer Causes Synchronization Errors.....	<a href="#">93</a>
4.5 Manage Application.....	<a href="#">93</a>
4.5.1 'Users' Screen Permission Applied Correctly.....	<a href="#">93</a>
4.5.2 Activities View Displayed Properly after 'My Display' Screen.....	<a href="#">93</a>
4.5.3 Large Number of Activities Exported Properly.....	<a href="#">94</a>
4.5.4 Activities with Service Window Assigned Properly in Overnight.....	<a href="#">94</a>
4.5.5 Map View Always Shows Driving Directions.....	<a href="#">94</a>
4.6 Forecasting.....	<a href="#">95</a>
4.6.1 Forecasting Functionality Improvements.....	<a href="#">95</a>
4.7 Company Settings.....	<a href="#">99</a>
4.7.1 'Delete' Permissions Disabled.....	<a href="#">99</a>
4.7.2 'Help' Permission Removed.....	<a href="#">100</a>
4.7.3 Display Profiles Usage Checked before Deletion.....	<a href="#">100</a>
4.7.4 Native Applications Support and Configuration Enabled.....	<a href="#">100</a>
4.7.5 Notice Statements Added to 'Add/Edit Login Policy' Window.....	<a href="#">101</a>
4.7.6 Dragging and Dropping of Available MIME Types Disabled in 'Properties' Screen.....	<a href="#">102</a>
4.7.7 'Allowed MIME Types' Field Behavior Improved.....	<a href="#">103</a>
4.7.8 Work Zone Keys Containing Diacritic Marks Can Be Removed.....	<a href="#">103</a>
4.7.9 'Required Inventories' Permission List Fixed.....	<a href="#">103</a>
4.7.10 DWH and Themes Configuration Screens Changed.....	<a href="#">104</a>
4.7.11 DWH Configuration Functionality Improvements.....	<a href="#">104</a>
4.7.11.1 'Enter' Button Works Properly in 'DWH Configuration' Screen.....	<a href="#">104</a>
4.7.11.2 Structures with Multiple Fields Saved Properly.....	<a href="#">104</a>
4.7.11.3 Auto-Scrolling Available in Properties List in 'DWH Configuration' Screen.....	<a href="#">105</a>
4.7.11.4 DWH Configuration Import Improved.....	<a href="#">105</a>
4.7.11.5 DWH Configuration Screen Title Improved.....	<a href="#">105</a>
4.7.11.6 Deleted Field Details No Longer Shown.....	<a href="#">105</a>
4.7.11.7 Structure Fields Highlighted on Mouse Hover.....	<a href="#">106</a>
4.7.11.8 'Submit' Button of 'Add Field' Window Remains Visible.....	<a href="#">106</a>
4.7.11.9 'Discard Changes' Button Produces Correct Effect.....	<a href="#">106</a>
4.7.11.10 Field Names Changed Immediately after Editing.....	<a href="#">106</a>
4.7.11.11 Reordered Fields Highlighted.....	<a href="#">106</a>
4.7.11.12 Certain Field Names Made ReadOnly.....	<a href="#">107</a>
4.8 Inventory.....	<a href="#">108</a>

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.

4.8.1 Changed Inventory Properties Displayed Correctly.....	<a href="#">108</a>
4.8.2 Required Inventory History Recorded Properly.....	<a href="#">108</a>
4.9 Mobility.....	<a href="#">108</a>
4.9.1 Offline Synchronization Improvements.....	<a href="#">108</a>
4.9.1.1 Auto-Resolve of Synchronization Conflict.....	<a href="#">108</a>
4.9.1.2 Data Synchronization Optimized.....	<a href="#">108</a>
4.9.1.3 Asynchronous Requests Processed Properly.....	<a href="#">109</a>
4.9.1.4 Mandatory Parameter Check Added.....	<a href="#">109</a>
4.9.1.5 Activity Start and End Time Conflict Resolved.....	<a href="#">109</a>
4.9.1.6 Conflict between Activity Start Time and Queue Activation (Previous Activity End) Time Resolved.....	<a href="#">109</a>
4.9.1.7 Conflict between Queue Activation and Deactivation Resolved.....	<a href="#">109</a>
4.9.1.8 Offline Synchronization Error Descriptions Logged in DWH.....	<a href="#">109</a>
4.9.2 Mobility Application Performance in Offline Mode Improved.....	<a href="#">110</a>
4.9.3 Search Functionality Implemented.....	<a href="#">110</a>
4.9.4 Native Applications Launched in Mobility Application.....	<a href="#">115</a>
4.9.5 Not-Ordered Activities No Longer Shown in 'Position in Route' List.....	<a href="#">116</a>
4.9.6 'Back' Button Works Correctly.....	<a href="#">116</a>
4.9.7 'Search' and 'Community' Windows No Longer Displayed Simultaneously.....	<a href="#">116</a>
4.9.8 Refresh timeout default has been set to 5 seconds.....	<a href="#">117</a>
4.10 Message Engine.....	<a href="#">117</a>
4.10.1 'Number of Attempts on "Failed" Status' Settings Work Properly.....	<a href="#">117</a>
4.10.2 Message Pattern Supports JSON.....	<a href="#">117</a>
4.11 Parts Catalog.....	<a href="#">117</a>
4.11.1 Parts Catalog Search Implemented in Manage Application.....	<a href="#">117</a>
4.11.2 Catalog Item Images Implemented.....	<a href="#">121</a>
4.11.3 Cache Loading of Parts Catalog Implemented.....	<a href="#">123</a>
4.11.4 'Enter' Key Works in 'Search in Catalog' Screen.....	<a href="#">123</a>
4.12 Routing.....	<a href="#">123</a>
4.12.1 'Routing Plan' Window No Longer Closes Spontaneously.....	<a href="#">123</a>
4.13 Reports.....	<a href="#">123</a>
4.13.1 'Percent of Contacted Customers' Report Improved.....	<a href="#">123</a>
4.13.2 Reports Permissions Applied Correctly.....	<a href="#">124</a>
4.14 DWH.....	<a href="#">124</a>
4.14.1 File Properties Extracted Correctly.....	<a href="#">124</a>
4.14.2 Extracted Files Archived as tar.gz.....	<a href="#">124</a>
4.14.3 Beginning of Extraction Period Calculated Correctly with Overnight.....	<a href="#">124</a>
4.15 Public API.....	<a href="#">124</a>
4.15.1 External System Agent – SOAPAction Conforms to WSDL.....	<a href="#">124</a>

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.

4.15.2 Capacity API – Ability to Define Default Duration Value Implemented.....	<a href="#">125</a>
4.15.3 Capacity API – No Travel Time Returned for Activities Requiring No Travel.....	<a href="#">125</a>
4.15.4 Capacity API – New Operations Implemented.....	<a href="#">125</a>
4.15.5 Capacity API – 'location' Filter Applied Properly.....	<a href="#">126</a>
4.15.6 Capacity API – Activity Type Determination by Label Improved.....	<a href="#">126</a>
4.15.7 Capacity API – SOAP Faults Changed to Conform to SOAP Schema.....	<a href="#">126</a>
4.15.8 Capacity API – 'Quota Can Be Closed for' Options Checked.....	<a href="#">127</a>
4.15.9 Inbound API – 'time_slot' Field Now Optional.....	<a href="#">127</a>
4.15.10 Inbound API – Activity Update Improved.....	<a href="#">127</a>
4.15.11 Inbound API – Ability to Delete Links of Specified Type Implemented.....	<a href="#">127</a>
4.15.12 Inbound API – History Records Optimized.....	<a href="#">127</a>
4.15.13 Inbound API – 'command/time' Field Added.....	<a href="#">128</a>
4.15.14 Parts Catalog API – Images Upload Implemented.....	<a href="#">128</a>
4.15.15 Parts Catalog API – Weights Upload Implemented.....	<a href="#">128</a>
4.15.16 Resource Management API – 'points' Field Returned When Defined.....	<a href="#">128</a>
4.15.17 Resource Management API 'get_resource_zones' Improved.....	<a href="#">128</a>
4.15.18 SOAP Requests and Responses Larger Than 500 kB No Longer Logged.....	<a href="#">128</a>
4.16 Statistics.....	<a href="#">129</a>
4.16.1 Duration Estimations on Bucket Level Updated Properly.....	<a href="#">129</a>
4.17 System.....	<a href="#">129</a>
4.17.1 File Storage Usage Report Implemented.....	<a href="#">129</a>
4.17.2 Queue Status Checked before Activation.....	<a href="#">129</a>
4.17.3 Field Properties Viewed Properly in ReadOnly Mode.....	<a href="#">129</a>
4.17.4 Travel Time Calculated from Route Reactivation.....	<a href="#">135</a>
5 ETAdirect Version 4.5.12.....	<a href="#">136</a>
5.1 Changes Overview.....	<a href="#">136</a>
5.2 General.....	<a href="#">140</a>
5.2.1 Activity Search in Activity Links Works with 'by Parts Catalog' Option.....	<a href="#">140</a>
5.2.2 'Search in Catalog' Action Links Removed.....	<a href="#">140</a>
5.2.3 Manage Application Working Properly after Session Expiration.....	<a href="#">140</a>
5.2.4 Placeholder Updated in 'Themes' Screen.....	<a href="#">140</a>
5.2.5 Routing Profiles List Sorting Added.....	<a href="#">145</a>
5.2.6 ETAdirect Can Be Used in Several Tabs of Same Browser.....	<a href="#">145</a>
5.2.7 Calendar Improved.....	<a href="#">145</a>
5.2.8 Company Transfer with Option "properties" Works Properly.....	<a href="#">146</a>
5.3 Manage Application.....	<a href="#">146</a>
5.3.1 External Plugin Window Improved.....	<a href="#">146</a>
5.3.2 Mass, Repeating and Shift Activities Shown on Time View.....	<a href="#">147</a>
5.3.3 Route Reactivation Functionality Enhancements.....	<a href="#">148</a>

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.



5.3.4 Properties Import Performed Correctly.....	<a href="#">151</a>
5.3.5 Time for Non-Scheduled Activities Displayed Correctly.....	<a href="#">152</a>
5.3.6 'Main Resource' Visible on 'User' Screen.....	<a href="#">152</a>
5.3.7 Deactivated 'Non-Working Reasons' No Longer Shown on 'Daily' Screen.....	<a href="#">152</a>
5.3.8 File Property Displayed on 'Add/Edit Activity' Screen for Mass and Repeating Activities.....	<a href="#">153</a>
5.3.9 Resource Preference Settings Recorded Correctly in Activity History.....	<a href="#">153</a>
5.3.10 Non-Scheduled Activities Deleted Correctly.....	<a href="#">154</a>
5.3.11 Forecasting – Import Error Message Changed.....	<a href="#">154</a>
5.3.12 All Mass, Repeating and Shift Activities Shown on List View.....	<a href="#">155</a>
5.3.13 Alerts for Capacity Buckets Shown Properly.....	<a href="#">155</a>
5.4 Activity Move.....	<a href="#">156</a>
5.4.1 Non-Scheduled Activity Move Improved.....	<a href="#">156</a>
5.5 Activity Views.....	<a href="#">156</a>
5.5.1 'Reactivated' Mark Shown on Time View.....	<a href="#">156</a>
5.5.2 Future Mass, Repeating and Shift Activities with Service Windows Shown as Ordered.....	<a href="#">156</a>
5.5.3 ETA Calculated Correctly for Future Mass, Repeating and Shift Activities.....	<a href="#">156</a>
5.5.4 Resource Names Included in Activity Export.....	<a href="#">156</a>
5.5.5 Current Time Marker Behavior Improved.....	<a href="#">157</a>
5.5.6 Visibilities Based on Resource Type Applied Correctly.....	<a href="#">157</a>
5.5.7 Activities Reordering Now Controlled by Permission.....	<a href="#">157</a>
5.5.8 'Export' Action Preserves Filter Settings.....	<a href="#">159</a>
5.6 Activity Details.....	<a href="#">159</a>
5.6.1 Glossary Placeholder Translation Added.....	<a href="#">159</a>
5.6.2 Correct Error Message in 'Add/Edit Activity Group' Window.....	<a href="#">159</a>
5.6.3 Route Reactivation Shown in Activity History.....	<a href="#">160</a>
5.6.4 Support Request Synchronization Conflicts Shown in Activity History.....	<a href="#">160</a>
5.6.5 Action Link Conditions Based on Resource Types Work Correctly.....	<a href="#">160</a>
5.6.6 Time Slot, Service Window and SLA Changes Logged in History Table.....	<a href="#">160</a>
5.6.7 Support of Logging of Actions Related to Support Requests Added.....	<a href="#">160</a>
5.7 Quota Management.....	<a href="#">161</a>
5.7.1 Mass Populate Functionality Enhanced.....	<a href="#">161</a>
5.7.2 'Mass Populate' Functionality Available in Internet Explorer 8.....	<a href="#">161</a>
5.7.3 'Mass Populate' Works Correctly with Values Defined in 'Hours' or 'Man-Days'.....	<a href="#">162</a>
5.7.4 'Mass Populate' Functionality Copies Statuses Correctly.....	<a href="#">162</a>
5.7.5 Maximum Number of Target and Source Days/Weeks Limited for Auto-Fill and Mass Populate Functionalities.....	<a href="#">162</a>
5.7.6 Quota Settings Restricted to Maximum Values.....	<a href="#">162</a>
5.7.7 'Other Activities' and '% to Stop Booking at' Columns Shown with Corresponding Bucket Configuration Options Only.....	<a href="#">163</a>

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.

5.7.8 'Quota Management' Visibility Settings Improved.....	<a href="#">163</a>
5.7.9 'Subtract These Activities from the Maximum Capacity before Calculation of Quota' Parameter Now Related to 'Estimate Capacity Used by Activities That Are Not a Part of the Quota Management'.....	<a href="#">163</a>
5.7.10 Sub-Sections in 'Quota Management' Section Correspond to 'Quota Is Entered for' Selection .....	<a href="#">164</a>
5.7.11 'Recurring Autofill' Window Improved – 'Within' Value Saved.....	<a href="#">165</a>
5.7.12 Quota Map Screen Implemented.....	<a href="#">166</a>
5.7.13 Quota Saving on Day Level No Longer Causes Errors.....	<a href="#">167</a>
5.7.14 'Work Zone' Filtering Available in 'Quota History'.....	<a href="#">168</a>
5.7.15 Inactive Buckets No Longer Shown.....	<a href="#">168</a>
5.7.16 Filter of 'Action' Column of 'Quota History' Improved.....	<a href="#">169</a>
5.7.17 Deactivated Work Zones No Longer Shown.....	<a href="#">169</a>
5.7.18 Quota Grid Displayed Properly in Multi-Bucket Mode.....	<a href="#">169</a>
5.7.19 Offset Fields Can Be Set to '0'.....	<a href="#">169</a>
5.7.20 'Resource Info' Screen Contains Correct Options.....	<a href="#">170</a>
5.8 Routing.....	<a href="#">170</a>
5.8.1 Routing and Application Server Use Same Activity Duration Value.....	<a href="#">170</a>
5.8.2 Routing Handles Activities without Locations Correctly.....	<a href="#">171</a>
5.8.3 Rollback Actions No Longer Cause Errors.....	<a href="#">171</a>
5.8.4 Overnight Value Applied Automatically.....	<a href="#">171</a>
5.8.5 Unused 'Help' Link Removed.....	<a href="#">171</a>
5.8.6 Values in 'Filters' Tab Shown Correctly.....	<a href="#">171</a>
5.9 Resource Management.....	<a href="#">172</a>
5.9.1 Missing Placeholder Added.....	<a href="#">172</a>
5.9.2 Resource Displayed Correctly after Route Reactivation.....	<a href="#">172</a>
5.9.3 Switching from View with 2 Resource Trees to Other Screens Works Properly.....	<a href="#">172</a>
5.10 Company Settings.....	<a href="#">173</a>
5.10.1 'Add/Edit Login Policy' Window Changed.....	<a href="#">173</a>
5.10.2 Activity Type Group Action Warning Improved.....	<a href="#">173</a>
5.10.3 Group Delete Action Link Behavior Improved.....	<a href="#">174</a>
5.10.4 Placeholder Added to 'Delete' Group Action.....	<a href="#">174</a>
5.10.5 DWH Configuration Fields Correspond to Default Configuration.....	<a href="#">174</a>
5.10.6 Properties with Empty Names Shown Correctly in DWH Configuration Screen.....	<a href="#">174</a>
5.10.7 Property Visibility Conditions Correctly Validated during Import.....	<a href="#">175</a>
5.10.8 Inventory Search Fields Configurable.....	<a href="#">175</a>
5.10.9 Placeholder in 'Display' Screen Changed.....	<a href="#">175</a>
5.10.10 Internet Explorer 8 – Routing Plan Editing Improved.....	<a href="#">176</a>
5.10.11 API Profiles Deletion Procedure Improved.....	<a href="#">176</a>

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.

5.10.12 Future Activities Available for API Profiles.....	<a href="#">176</a>
5.11 Inventory.....	<a href="#">177</a>
5.11.1 'Inventory Pool' Field Visibility Restricted to ReadOnly.....	<a href="#">177</a>
5.11.2 Missing Quantity Calculated Correctly.....	<a href="#">177</a>
5.12 User Management.....	<a href="#">177</a>
5.12.1 Logins Starting with Spaces Processed Correctly.....	<a href="#">177</a>
5.13 Mobility Application.....	<a href="#">177</a>
5.13.1 Mobility Application Works Properly Upon Browser Refresh.....	<a href="#">177</a>
5.13.2 "Search Resource" Functionality Provides Correct Results.....	<a href="#">178</a>
5.13.3 Inventory Search Uses Fields Configured in 'Business Rules'.....	<a href="#">178</a>
5.13.4 Visibility Priorities Consistent in Manage and Mobility Applications.....	<a href="#">178</a>
5.13.5 New Activities Added Correctly.....	<a href="#">179</a>
5.13.6 Activity End Time Successfully Adjusted with Official End Time in the Past.....	<a href="#">179</a>
5.13.7 Linked Properties Displayed with Correct Visibilities.....	<a href="#">179</a>
5.13.8 Action Links Displayed According to Visibilities on 'Activity List' Screen.....	<a href="#">179</a>
5.13.9 'Add to Installed' and 'Add to Deinstalled' Screens Accessible from 'Inventories List' Screen .....	<a href="#">180</a>
5.13.10 Action Links Available for Mass, Repeating and Shift Activities.....	<a href="#">180</a>
5.13.11 Property Values Updated with Browser Refresh.....	<a href="#">180</a>
5.13.12 'SmartLocation Alerts' Permission Added.....	<a href="#">180</a>
5.13.13 Native Applications Launched in Correct Order.....	<a href="#">180</a>
5.13.14 Correct Error Message Displayed on Inventory Search.....	<a href="#">181</a>
5.13.15 'Load More' Button Works Correctly.....	<a href="#">181</a>
5.13.16 Loading Indicator Implemented in Inventory Search.....	<a href="#">181</a>
5.13.17 Surefox – Address Auto-Recognition Disabled.....	<a href="#">181</a>
5.13.18 'Number of Inventory Per Page' Option Applied Correctly.....	<a href="#">181</a>
5.13.19 Correct Message Appears on the Screen in Case of Connection Interruption.....	<a href="#">183</a>
5.13.20 'You must be online to relogin' Message Appears at an Attempt to Login in Offline Mode .....	<a href="#">183</a>
5.14 Mobility Offline Synchronization Improvements.....	<a href="#">184</a>
5.14.1 Customer Signature Saved after Auto-Resolve.....	<a href="#">184</a>
5.14.2 Deleted Inventory Identifiers Displayed Properly.....	<a href="#">184</a>
5.14.3 Conflict between Activity Start in Offline and Reorder in Online Resolved.....	<a href="#">184</a>
5.14.4 Plugin-Related Synchronization Conflicts Logged in DWH.....	<a href="#">184</a>
5.14.5 Activity Position in Route Saved Correctly in Offline.....	<a href="#">184</a>
5.14.6 Inventory Search Properties Added to Offline Data.....	<a href="#">185</a>
5.14.7 Non-Serialized Inventory Installation Logged in Activity History.....	<a href="#">185</a>
5.14.8 Synchronization Conflicts Color-Marked in Activity History.....	<a href="#">185</a>
5.15 DashBoard.....	<a href="#">185</a>

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.

5.15.1 Placeholder Changed to Use Correct Terminology.....	<a href="#">185</a>
5.15.2 DashBoard Works Correctly with 'Always Show Report for' Option Enabled.....	<a href="#">186</a>
5.15.3 'Capacity by Category' Report Settings Improved.....	<a href="#">186</a>
5.16 Displays.....	<a href="#">187</a>
5.16.1 Value Visibilities Improved.....	<a href="#">187</a>
5.16.2 'End-of-Column' Marker Processed Correctly in Mobility Context Layouts.....	<a href="#">187</a>
5.16.3 Visibilities Applied Correctly When Depending on Activity Type.....	<a href="#">187</a>
5.16.4 Multiple Similar Properties in the Same Context Processed Correctly.....	<a href="#">188</a>
5.16.5 Action Links Visibility in 'Visible Inventories Grid Columns' Context Improved.....	<a href="#">188</a>
5.17 Reports.....	<a href="#">188</a>
5.17.1 File Storage Usage Report Improved.....	<a href="#">188</a>
5.17.2 Date Filter in File Storage Usage Report Works Correctly.....	<a href="#">188</a>
5.17.3 Inventory History Stored in Dedicated Table.....	<a href="#">188</a>
5.17.4 Inventory Report Shows Overused Inventory.....	<a href="#">189</a>
5.17.5 Route Time Parameters Report Shows Bucket Data Correctly.....	<a href="#">189</a>
5.17.6 Post Activity Survey Calls Report Improved.....	<a href="#">189</a>
5.18 Message Engine.....	<a href="#">189</a>
5.18.1 'Account' Trigger Removed.....	<a href="#">189</a>
5.18.2 Duration Recalculated after Duration Key Update.....	<a href="#">190</a>
5.19 DWH.....	<a href="#">190</a>
5.19.1 Company Identifier Displayed Correctly in 'log_last_import' Table.....	<a href="#">190</a>
5.19.2 DWH Configuration for 'Message Fields' Improved.....	<a href="#">190</a>
5.19.3 Special Characters in Property Name Processed Correctly.....	<a href="#">190</a>
5.19.4 Company Name Mandatory in DWH Configuration.....	<a href="#">190</a>
5.19.5 DWH Script Processes Encrypted Data Correctly.....	<a href="#">191</a>
5.19.6 DWH Extracts All Files in Single Archive in XML Format.....	<a href="#">191</a>
5.19.7 'provider_name' Fields No Longer Empty in '<company>_queue' Table.....	<a href="#">192</a>
5.19.8 Files Extracted According to Imported DWH Configuration.....	<a href="#">192</a>
5.19.9 DWH Processes Overnight Correctly in CSV-Only Mode.....	<a href="#">192</a>
5.20 Statistics.....	<a href="#">192</a>
5.20.1 Travel Area Mapping Includes Default Area.....	<a href="#">192</a>
5.21 Public API.....	<a href="#">192</a>
5.21.1 Parts Catalog API – 'delete_catalog' Method Implemented.....	<a href="#">192</a>
5.21.2 Parts Catalog API – 'name' Field in 'create_catalog' Method Made Mandatory.....	<a href="#">192</a>
5.21.3 Parts Catalog API – Correct Response Status Code Returned for 'upload_weights' Function .....	<a href="#">192</a>
5.21.4 SOAP API Versioning Added.....	<a href="#">193</a>
5.21.5 Capacity API – 'set_quota' Request Returns Correct Error Message.....	<a href="#">193</a>
5.21.6 Capacity API – WSDL Updated.....	<a href="#">193</a>

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.

5.21.7 Capacity API – 'result' Node Returned for Second Time Slot.....	<a href="#">193</a>
5.21.8 Capacity API – Invalid 'aworktype' Value Ignored.....	<a href="#">193</a>
5.21.9 Activity Management API – WSDL Updated.....	<a href="#">194</a>
5.21.10 Activity Management API – 'search_activities' within Single Day in Future Works Properly .....	<a href="#">194</a>
5.22 Parts Catalog.....	<a href="#">194</a>
5.22.1 Only One 'Item Details' Window Displayed at a Time.....	<a href="#">194</a>
5.22.2 Search by Key with Spaces Returns Correct Results.....	<a href="#">195</a>
5.23 System.....	<a href="#">195</a>
5.23.1 Activity History Tables have been Moved to DWH.....	<a href="#">195</a>
5.23.2 History API Implemented.....	<a href="#">195</a>
5.23.3 Duration of Suspended Started Activities Recalculated Correctly.....	<a href="#">196</a>
5.23.4 Work Skill Calculated Properly with 'set_property' Trigger Used.....	<a href="#">196</a>
5.23.5 Login Errors Related to Allowed and Disallowed IP Addresses Logged Properly.....	<a href="#">196</a>
5.24 Plugin API.....	<a href="#">196</a>
5.24.1 'Is Plugin' Option Behavior Improved.....	<a href="#">196</a>
5.24.2 Plugin Type Modification Improved.....	<a href="#">196</a>
5.24.3 Plugin Fields Validation Added.....	<a href="#">197</a>
5.24.4 'Add/Edit Action Link' Window Behavior Improved.....	<a href="#">197</a>
5.24.5 Internal On-Line Plugin Action Links Work Properly.....	<a href="#">197</a>
5.24.6 POST Data Sent by Action Link.....	<a href="#">198</a>
5.24.7 POST Data Sent When Includes 'eta_end_time'.....	<a href="#">198</a>

---

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.

# 1 Introduction

## 1.1 Document Purpose and Scope

This document contains the description of new features, changes and significantly altered functionalities introduced in ETAdirect versions 4.5.9 to 4.5.12 as compared to the previous versions. It also provides brief overview of minor changes and issues.

For the description of the changes and improvements introduced in versions 4.5.0 to 4.5.8 please refer to the corresponding separate documents.

## 1.2 Glossary

The glossary below contains the basic ETAdirect terms used in this document.

Term	Explanation
Activity	Any time-consuming work performed by a resource
API	Application Programming Interface - a particular set of rules and specifications that software programs follow to communicate and interact with each other
Bucket	An entity appearing on the resource tree which can contain resources of a defined type and be assigned activities
Capacity	The workforce possessing the necessary work skills available at a certain moment of time
Capacity bucket	Bucket used for Quota management
Capacity category	Predefined set of work skills, work skill groups and time slots within which they are considered by the Capacity API
Context	An ETAdirect or API screen showing all available properties and action links
Data Warehouse	An ETAdirect tool intended for data extracting from the system
Delivery window	A statistically calculated time period in which a resource is expected to start an activity
Dynamic Routing	A Routing option allowing to assign only a predefined number of activities to resources and/or assign activities only for a predefined period of time
ETA	The predicted time at which a resource will arrive at an appointment and start an activity, calculated dynamically for current and historical data
Field	Property present in the system by default
Forecasting	New feature of ETAdirect allowing to forecast the company workload on the basis of historical data
Geocoding	The process of finding geographic coordinates from street addresses or postal codes.
Group	A feature on the resource tree identifying a particular type of resource
GUI	Graphical User Interface, allowing people to use software by manipulating images rather than by issuing text commands
Historical data	Data of the past periods available in the database or from other sources
Inventory	Equipment that can be installed or deinstalled during an activity
Linked activities	Two separate activities related so that the completion or start of one is dependent on the completion or start of the other
Manage Application	Product that allows to manage workforce and activities in realtime. Usually serves

	as an interface for dispatcher
Mass Activity	An activity involving 2 or more resources
Message (Notification)	Communications within software (which may or may not be readable by humans), as well as person-to-person communications delivered via computer software
Mobility Application	Product that allows field personnel to interact with the system
Not scheduled	An activity not assigned to a specific date
Not ordered	An activity with an unspecified order of execution in a queue, so that it can be executed at any time during the working day. Not-ordered activities do not have defined ETAs or delivery windows
Ordered	An activity with a defined place in a queue, which must be performed at a specified time of day. The order of activities can be changed; ordered activities can be changed to not-ordered activities, vice-versa
Penalty	A relative scale representing the expected increase of total cost which a particular factor brings into routing result
Planning	Company's estimation of the workforce or workload required at a certain moment
Preassigned Activity	An activity which was assigned to a specific resource before the routing run
Property	Field and field value, assigned to an entity in ETAdirect (to user, resource, activity or inventory). There are fields and custom properties
Queue (Route)	A list of activities assigned to a resource for a specific date, or a list of non-scheduled activities assigned to a resource
Quota	Amount of work that can be accepted for the bucket
Repeating activity	An activity recurring with a predefined frequency in a predefined period
Resource	An element in the resource tree representing a defined company asset
Resource Tree	A hierarchy of company resources, showing "parent-child" relationships
Routing	A process of assigning activities to resources (usually automated)
Service Window	The time frame expected by the customer for an activity as scheduled by the company
SLA window	An interval of time (that may involve a range of dates) within which certain work has to be performed according to the Service Level Agreement
Teamwork	A feature allowing resources to assist each other in an activity or on an on-going basis
Time Slot	1) A fixed service window, defined with a name and label, specifying when certain types of activities can be performed 2) Service Window (if the activity type does not support time slots)
User	1) A person using ETAdirect 2) An entity used for authentication and authorization, allowing people or external software to access ETAdirect
Work Skill	1) An activity that a resource is qualified to perform (resource property) 2) The qualification required to perform an activity (activity property)
Work Zone	The defined geographical area in which a resource can perform an activity

## 2 ETAdirect Version 4.5.9

### 2.1 Changes Overview

[On-call functionality enhancements](#)

[Route activation by on-call resources available](#)

[On-call resources shown on Resource Tree](#)

['Show on-call' filter option added to Time View](#)

[On-call calendar shown in resource hint](#)

[On-call time intervals shown on Time View](#)

[Activity move to on-call resource](#)

[Time View always shows route of selected resource](#)

[Calculation of traveling time to activity for resources with on-call calendars](#)

[Users with LDAP login policy saved properly](#)

[Parts Catalog Permissions Introduced](#)

['History' column headers now editable](#)

[Custom action links management improved](#)

[Images with width-to-height ratio more than 1:100 can be uploaded via API](#)

[Activities assigned properly during overnight](#)

[Correct List View displayed](#)

[Weekly work schedules for Saturday and Sunday applied correctly](#)

[Current day quota no longer returned from cache](#)

[Application server in 'slave' mode used as Capacity Proxy](#)

['Quota' value validation implemented](#)

['Save' button color changed](#)

['Show Aggregated results' checkbox works correctly](#)

['Mass Populate' functionality improved](#)

['Mass Populate' button hidden for users with ReadOnly permission for Quota](#)

['Mass Populate' functionality available for bucket selected automatically](#)

['Locked' flag copied correctly by 'Mass Populate' functionality](#)

['Quota History' displayed and exported in selected units of measurement](#)

[Close time history exported correctly](#)

['Automatically adjust '% Quota' values to keep their total equal to 100%' option improved](#)

[Values in 'Saved value' hints rounded to two decimal places](#)

[Buckets in Resource Tree and Quota grid arranged in the same order](#)

[Custom properties export and import implemented](#)

[DWH configuration screen added to Manage Application](#)

[Themes configuration screen implemented](#)

[File property management improved](#)

[Maintenance options removed from Manage display](#)

[Inventory form fields linked to activity form recalculated properly](#)

[Text field visibilities supported in inventory identifiers](#)

[Inventory exchange between customer and team-member improved](#)



[Firefox 10 – inventory types editing improved](#)

[Internet Explorer 8 – 'Inventory Details' screen available](#)

[Correct error message displayed for too large or invalid required inventory quantities](#)

[Error message displayed for invalid inventory quantity during non-serialized inventory install/deinstall operations](#)

['Quantity' field name editable in Mobility contexts](#)

[Non-serialized inventory quantity can be set to "0"](#)

[Quantity of missing non-serialized inventory calculated correctly with negative resource's inventory](#)

[Non-serialized inventory adding improved](#)

[Serialized inventory identifiers shown in 'Install' list of 'Required Inventory' screen](#)

[Correct screen title of 'Required Inventory Details' screen](#)

[Pool icon aligned in exchange dialogue](#)

['Signature Editor' loads properly](#)

[Validation of 'Add inventory type' dialog window added](#)

['Inventory Types' placeholder added](#)

[No alerts shown after required inventory deletion](#)

[Only ReadOnly visibility available for inventory ID fields](#)

[Hints no longer appear for non-TOA objects](#)

[Message text data no longer lost during export](#)

[Reoptimization goals saved correctly](#)

['Reduce overdue' percentage field value limited](#)

[Routing run schedule parameters saved correctly](#)

[Relevance key sent for activities subject to Reoptimization](#)

[Placeholder for Routing execution log added](#)

[Routing execution log improvement](#)

[Correct values in 'Time-slot overdue \(max/cost\)' column](#)

[Notices no longer appear in offline synchronization](#)

[Double click on browser 'Back' button has no effect on properties with ReadWrite visibility](#)

[Internet Explorer 8 – SmartCollaboration widget opens properly](#)

[iPad – browser no longer hangs if 'Go' button is tapped](#)

[Display mode selection improved](#)

[Long field values displayed correctly](#)

[Long messages split correctly](#)

[Menu icon hidden from history of conference with no active participants](#)

[No extra requests sent after search key clearing](#)

[Contact search improved](#)

[Unread messages counter for helpdesks improved](#)

[Special characters escaping in Address Book implemented](#)

[Activity reassignment and inventory transfer by helpdesk operators disabled](#)

[Permissions applied properly to inventory transfer via chat](#)

['Transfer conversation' between helpdesks improved](#)

[Message waiting time above threshold displayed in red in Manage Application](#)

[Redundant icons no longer displayed](#)

['Activities by Statuses' report improved](#)  
['Time/Late/Early Activities' report returns correct results](#)  
[Mobile Client API – 'create\\_customer\\_inventory' operation performed properly with field visibilities deleted](#)  
[Mobile Client API – inventory quantity returned even when quantity value is "0"](#)  
[Mobile Client API – 'set\\_file' method improved](#)  
[Activity Management API – route start and activity start can now occur the same second](#)  
[Activity Management API – 'cancel\\_activity' operations with no date in request performed correctly](#)  
[Activity Management API – 'set\\_file' and 'get\\_file' operations observe property visibilities](#)  
[Resource Management API – 'get\\_resources\\_calendars' operation optimization](#)  
[Resource Management API – permissions applied correctly in 'get\\_resource' response](#)  
[Resource Management API – 'get\\_resource' request no longer returns empty fields](#)  
[Resource Management API – 'get\\_resource' and 'get\\_resources\\_list' Requests work properly regardless of parent resource visibility](#)  
[Resource Management API – correct error message returned for invalid coordinates input](#)  
[Resource Management API – 'time\\_from' and 'time\\_to' returned in the same format](#)  
[Resource Management API – 'set\\_resources\\_calendars' response improved](#)  
[Resource Management API – API profiles can be set](#)  
[Resource Management API – empty 'locations' node no longer returned](#)  
[Resource Management API – 'update\\_resource' operation no longer requires resource type](#)  
[External Trigger API enhancements](#)  
[External Trigger API works properly](#)  
[Capacity API – Application Server slave used if master not available](#)

## 2.2 On-Call Functionality Enhancements

Initially, on-call functionality was intended to define when a resource could be contacted outside the regular working hours. Previously, resources with on-call calendars were not able to activate their routes and perform activities.

Now the system allows to activate a route of a technician that has the 'on-call' calendar only. Most basic activity actions can also be performed within on-call calendars now. Therefore, on-call resources are now able to activate their routes and perform the activities assigned to them. Activity operations are also possible before the route activation.

In version 4.5.9 the on-call functionality has been further enhanced offering better flexibility and broader options of resource and activity management.

### 2.2.1 Route Activation by On-Call Resources Available

As of version 4.5.9 resources having only on-call calendars are able to activate and deactivate their routes. This functionality has been enabled in the Manage and Mobility Applications as well as via the Mobile Client API.

When an on-call resource activates their route, such resource is regarded as 'working' in ETAdirect and Routing can assign activities to it. However, on-call resources whose routes are not activated are not selected for Routing and, therefore, no activities can be assigned to them.

### 2.2.2 On-Call Resources Shown on Resource Tree

With the enhancement of the on-call functionality it has become necessary to be show resources with on-call calendars on the Resource Tree. As of version 4.5.9 ETAdirect has been changed to offer such possibility.

Now on-call resources are also displayed on the Resource Tree as non-working resources if their routes are inactive (not activated or deactivated) or active if their routes are active (activated or reactivated) (Figure 1).

The screenshot displays the ETAdirect Resource Tree interface. At the top, there is a search bar with the text 'Name or ID' and a filter icon. Below the search bar, a list of resources is shown, including 'BOVE, Leticia (0/0)' and 'CASSELL, Phillip (0/0)'. The 'CASSELL, Phillip (0/0)' resource is selected, and a detailed view of this resource is shown in a pop-up window. The pop-up window contains the following information: 'Sunrise Enterprise > FL, USA', 'Name: CASSELL, Phillip 33011', 'Phone: 555003301100', 'Email address: 33011@sunrise.demo', 'Queue status: inactive', and 'On-call calendar: 08 AM - 10 PM'. The 'On-call calendar' field is highlighted with a red box. Below the pop-up window, the 'ORDONEZ, Allison (2/11)' resource is visible. In the background, a calendar view for 'Tuesday, November 26th, 2013' is shown, with a red box highlighting the 'On-call' status for the resource 'CASSELL, Phillip' on the 8th, 9th, 10th, 11th, 12th, and 13th of the month.

Figure 1: On-call resource shown on Resource Tree

The resource filter has also been changed to include on-call resources as well. When the 'Hide inactive resources/groups/buckets' option is selected, it also affects on-call resources with inactive routes, while

on-call resources with active routes will remain displayed, and vice versa.

### 2.2.3 'Show On-Call' Filter Option Added to Time View

As of version 4.5.9 on-call resources can be shown on the Resource Tree. The filter in the Time View has been changed to include the 'Show on-call' option which allows the user to either show or hide on-call resources from the Resource Tree. (Figure 2).

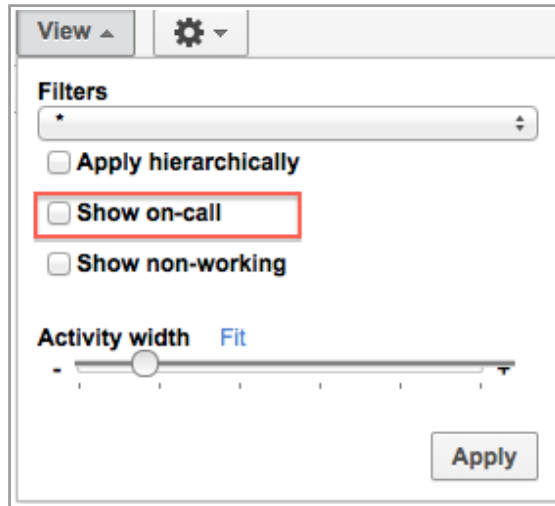


Figure 2: 'Show on-call' filter option

By default on-call resources are hidden, but as soon as the 'Show on-call' option is selected, they are shown in the Resource Tree.

The 'Show non-working' option includes 'Show on-call'. Therefore, when 'Show non-working' is selected in the 'View' window, the 'Show on-call' option becomes checked and disabled at the same time (no changes can be done to this checkbox anymore) (Figure 3).

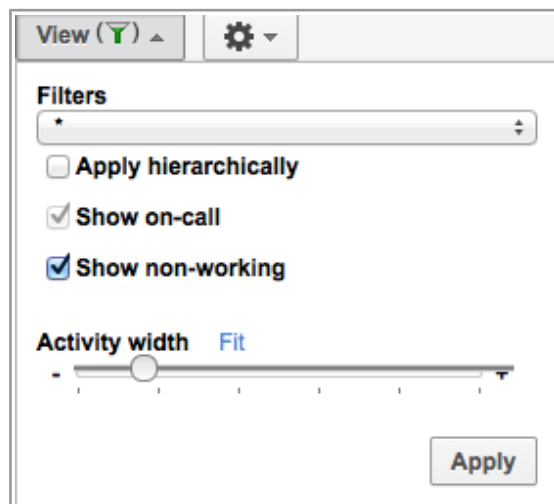


Figure 3: 'Show non-working' option including 'Show on-call'

In this case the Time View will show all non-working resources including those with on-call calendars only.

### 2.2.4 On-Call Calendar Shown in Resource Hint

Previously, only regular calendars could be shown in the resource hint. As of version 4.5.9 the system supports on-call calendars display in the resource hint. When the 'Visible hint columns for resources' context layout is configured to include the 'On-call calendar' field, it will be shown in the hint if the resource has an on-call calendar (Figure 4).

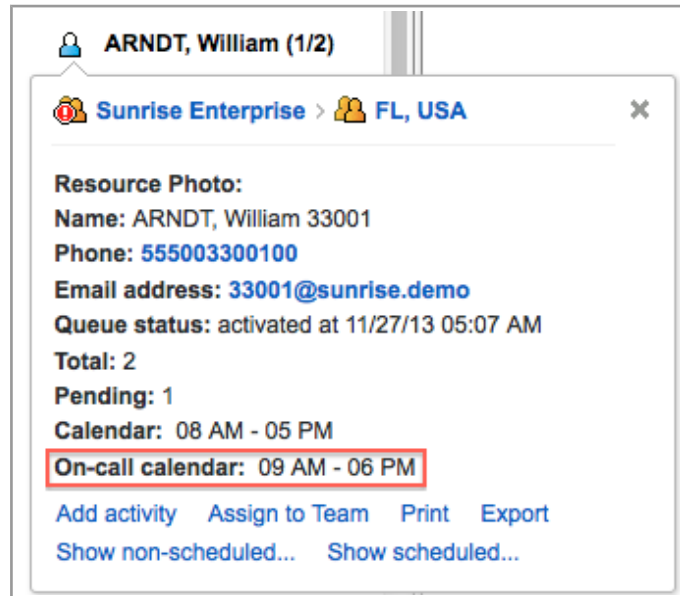


Figure 4: On-call calendar in resource hint

### 2.2.5 On-Call Time Intervals Shown on Time View

With the introduction of the possibility of activities assignment to resources having on-call calendars and routes activation and deactivation by such resources, it has become necessary to show on-call resources on the Time view as well.

As of version 4.5.9 resources with on-call calendars are shown on the Time View. Their queues are shown with yellow borders. If such resources' on-call calendars are set up as shifts, their queues are marked with yellow borders with the name of the corresponding on-call shift inside. If an on-call interval is interrupted by working time, it is shown as two on-call ranges with a working interval in-between (Figure 5-6).

Resource Calendars > VOLK, Johnny								1-3 of 3
<input type="checkbox"/>	Interval	Type	Shift type	Comments	Time	Points	Recurrence	Actions
<input type="checkbox"/>	02/08/11	On-call						<a href="#">Modify</a>
<input type="checkbox"/>		shift (On-call)	On-call		08:00 AM - 10:00 PM		everyday	
<input type="checkbox"/>	12/09/13	working	Regular		09:00 AM - 03:00 PM		everyday	<a href="#">Modify</a>

Figure 5: Resource calendar showing both on-call time and regular working time



Figure 6: Resource with on-call shift (Orton, Antonio), on-call shift interrupted by working time (Volk, Johnny) and on-call working time assigned not as a shift (Cassel, Philip) on Time View

### 2.2.6 Activity Move to On-Call Resource

Since activities can now be assigned to resources having on-call calendars, now it is also possible to move activities to such resources.

Resources having on-call calendars are also shown in the list of available resources in the 'Move activity' dialog window together with resources having regular calendars. The resource route grid in the 'Move activity' window now has a header containing the selected resource's calendar information. If the resource has an on-call calendar, the grid header will display such information, as well (Figure 7).

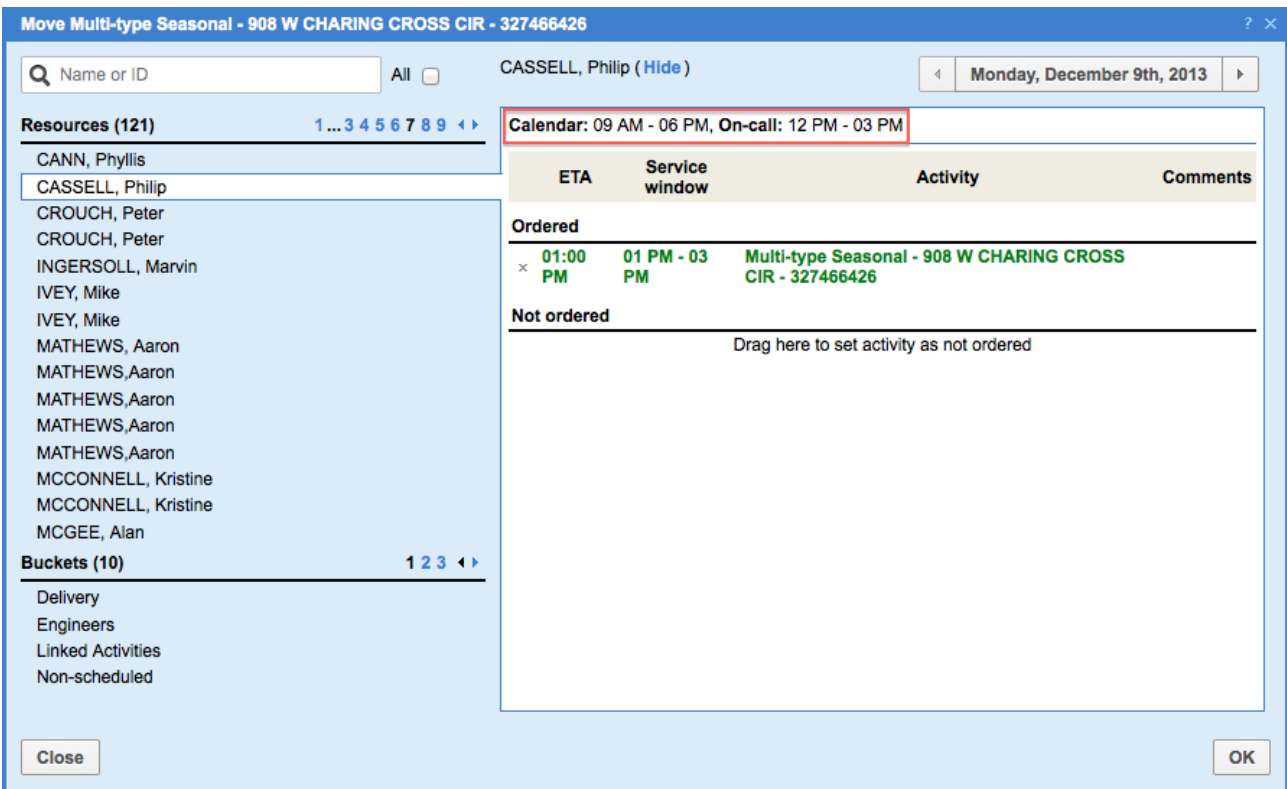


Figure 7: Resource's on-call calendar shown in 'Move activity' window

If an activity is moved by dragging and dropping to a resource with an on-call calendar only, the 'Move activity' dialog window will always appear where the user can confirm the activity move to such resource.

## 2.2.7 Time View Always Shows Route of Selected Resource

In the previous versions the Time View only showed routes of active resources. If the user wished to view the route of a non-working resource, it could be displayed by selecting the 'Show non-working' option in the 'View' window.

As of version 4.5.9 the route of the selected resource is always displayed, regardless of the resource's status.

## 2.2.8 Calculation of Traveling Time to Activity for Resources with On-Call Calendars

If a resource with an on-call calendar activates their route, the resource's start location is used to calculate the traveling time to the first pending activity in the route (similarly to the routes of resources with regular calendars). However, when such technician reactivates a previously deactivated route, the start location is the final location of the resource (while for resources with regular calendars it is the location of the previous activity).

## 2.3 User Management

### 2.3.1 Users with LDAP Login Policy Saved Properly

It was impossible to save users with LDAP login policy. As soon as 'Save' was clicked in the 'User' screen, a 'Password and confirm password is empty' alert was displayed and the user was not saved. This situation occurred if the 'Password' or 'Confirm password' fields were filled-in earlier.

After the necessary changes the 'Password' and 'Confirm password' fields are hidden and cleared as soon as the user's login policy is changed to LDAP or SAML. Newly created users are saved properly.

## 2.4 Manage Application

### 2.4.1 Parts Catalog Permissions Introduced

As of version 4.5.9 the following permissions have been introduced in the system in order to configure the access to the Parts Catalog functionality:

- Manage Application → 'Parts Catalog'  
This permission enables or disables a user to view and select the 'by Parts Catalog' search category in the 'Search preferences' window in the Manage Application and to access the Parts Catalog functionality
- Mobility Application → 'Parts Catalog'  
This permission enables or disables a user to access the Parts Catalog functionality in the Mobility Application
- Parts Catalog API → 'Parts Catalog'  
This group of permissions is used for authorizing operations with the Parts Catalog Server
- Parts Catalog API → 'Upload Catalogs'  
This permission enables or disables a user to manage catalogs and their items in the Parts Catalog Server

For the user to be able to use Parts Catalog, the permission has to be set to 'Show' for the corresponding profile.

The following new placeholders have been implemented accordingly:

- 978 – 'Parts Catalog' (permission for the Manage Application)
- 976 – 'Parts Catalog' (permission for the Mobility Application)
- 983 – 'Parts Catalog' (permission for the Parts Catalog API)
- 982 – 'Upload Catalogs' (permission for the Parts Catalog API)

### **2.4.2 'History' Column Headers Now Editable**

In version 4.5.9 placeholders for the column headers of the 'History' tab in the 'Activity Details' screen have been added to the 'Glossary'. The following placeholders have been implemented:

1379	ID
12012	Action time
5537	Action
12062	Changes
1365	User

With this improvement users are able to edit the 'History' column headers and translate them to other languages.

### **2.4.3 Custom Action Links Management Improved**

When the user tried to modify a previously created custom action link by changing the related entity and base action, such change was rejected with a "'Base action' is wrong" error message. This behavior was incorrect as users should be able to edit custom action links.

This issue has been resolved, and now custom action links can be edited properly.

### **2.4.4 Images with Width-to-Height Ratio More Than 1:100 Can Be Uploaded via API**

In the previous versions images with width-to-height ratio more than 1:100 could not be uploaded via the Activity Management API or Resource Management API. The image thumbnail was not created and an error was written to the log file.

This issue has been fixed. Images with width-to-height ratio more than 1:100 can be uploaded properly via APIs. No errors are logged anymore.

### **2.4.5 Activities Assigned Properly during Overnight**

If an activity with SLA start after midnight was routed before midnight (the day before the activity SLA date), it was assigned to the current day (in fact, before the SLA start time). This was due to the fact that the 'SLA start' constraint did not take into account overnight. Therefore, the activities were assigned to the same date as the route start date, and their ETA was before the SLA start time.

The 'SLA start' constraint has been adjusted to take into account overnight shifts. If the activity SLA start is before the end or route date + working time since midnight, the 'SLA start' constraint applies. Such activities are sent to Routing. At the same time, if the activity SLA start is after the end or route date + working time since midnight, an alert is shown in the Activities View and on the Resource Tree.

### **2.4.6 Correct List View Displayed**

In the previous versions, when the 'Non-Scheduled' option was selected in the Activities List View and an activity was opened and subsequently closed, the List View changed to scheduled activities instead of non-scheduled. This was incorrect behavior, as the List View should return to the same view which was selected before activity details display.



In version 4.5.9 the necessary changes have been made to ensure that the List View displays the same activities (scheduled or non-scheduled) which were selected before a particular activity details were opened.

### **2.4.7 Weekly Work Schedules for Saturday and Sunday Applied Correctly**

If a weekly work schedule was set up so that working days were Saturday and Sunday, such schedule was applied incorrectly – in week 1 only Saturday was a working day, while in week 5 – only Sunday. This issue related to the 'Week starts on' option configuration which did not affect the calculation of resource calendars and routes. The logic of the schedules configuration as repeating 'weekly every X weeks' has been changed to take into account the 'Week starts on' settings.

**Note:** ETAdirect supports 'Week starts on' settings both at the company level and at the level of a particular user. The above-mentioned change affects only the company-wide settings. Any changes made at the level of a particular user have no effect on the schedules calculation logic and only change data representation in the GUI.

## **2.5 Quota Management**

### **2.5.1 Current Day Quota No Longer Returned from Cache**

When the Application Server was unavailable, quota was returned from the local cache. This could lead to possible overbooking which was especially critical for the current day.

In order to minimize the negative effect, the current day quota is no longer returned when the quota is retrieved from the cache. This option is not configurable and is applicable to all companies.

### **2.5.2 Application Server in 'Slave' Mode Used as Capacity Proxy**

The Capacity Proxy functionality is intended to make the '*get\_capacity*' SOAP function accessible for an external system during a temporary unavailability of application server or an upgrade of the system. If the 'master' instance is not available, the Application Server runs in the 'slave' mode and is able to process incoming '*get\_capacity*' requests on the basis of the data from the database.

### **2.5.3 'Quota' Value Validation Implemented**

If a very large value was entered in a Quota cell, after saving such cell showed a negative value. The same negative value was returned by the '*get\_capacity*' SOAP function.

This issue has been resolved by adding validation of quota values. The acceptable values are now restricted to 10000% or 2147483647. Larger values are not accepted.

### **2.5.4 'Save' Button Color Changed**

When the user makes changes in the 'Quota Management' screen, the 'Discard changes' and 'Save' buttons appear. In the previous version the 'Save' button was green (Figure 8) which was inconsistent with other ETAdirect screens in which the 'Save' button is blue.

The color of the 'Save' button in the 'Quota Management' screen has been changed to blue to give the system more uniform appearance (Figure 9).

Friday, November 22nd, 2013				
Time slot	Quota	% to stop booking at	Status	Close time
Day			✓	02 AM
08-10		76%	✓	01:30 AM
10-12			✓	
13-15			✓	
15-17			✓	
Total				

Figure 8: 'Save' button in green color

Tuesday, November 26th, 2013				
Time slot	Quota	% to stop booking at	Status	Close time
Day			✓	
08-10		87%	✓	
10-12			✓	
13-15			✓	
15-17			✓	
Total				

Figure 9: 'Save' button in blue color

### 2.5.5 'Show Aggregated Results' Checkbox Works Correctly

By intention, the 'Show aggregated results' checkbox must disable the multi-bucket mode display and show the aggregated results for the parent capacity bucket. However, in the previous versions its action was reversed – when this checkbox was checked, the multi-bucket mode was enabled, and vice versa. This issue has been fixed in version 4.5.9 – the multi-bucket mode is disabled when the 'Show aggregated results' checkbox is checked.

### 2.5.6 'Mass Populate' Functionality Improved

When in the 'Mass Populate' dialog window 'Quota' is selected as the 'Field' and 'next day value = previous day value \* percent' as the 'Operation', the source date now shows a single date instead of a range of dates, regardless of the calendar settings (Figure 10, 11). This is the correct functioning of 'Mass Populate'.

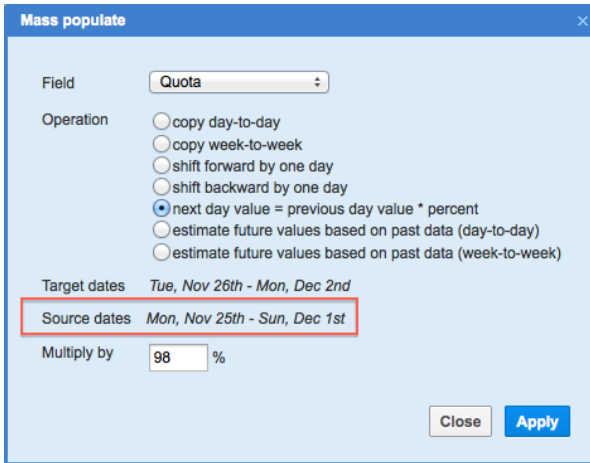


Figure 10: Source including range of dates (version 4.5.8)

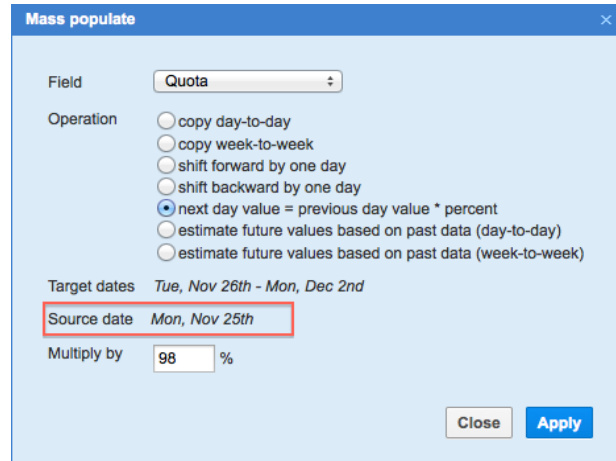


Figure 11: Source including single date (version 4.5.9)

### 2.5.7 'Mass Populate' Button Hidden for Users with ReadOnly Permission for Quota

Users with ReadOnly permission for Quota Management can only view the Quota data without an ability to modify it. However, for such users the 'Mass populate' button was available on the screen, although, it was not functional.

In order not to mislead users the 'Mass populate' button is now hidden from the screen when the user has ReadOnly permission for Quota Management.

### 2.5.8 'Mass Populate' Functionality Available for Bucket Selected Automatically

When the 'Quota' screen was opened for the bucket automatically selected in the Resource Tree, the 'Mass Populate' functionality was not available. If the user clicked 'Mass Populate', the 'Mass Populate' window was not shown while the 'Loading...' message remained on the screen indefinitely.

This issue has been resolved. When the resource is selected by default, the 'Mass Populate' button opens the 'Mass Populate' dialog window with all related functionality available.

### 2.5.9 'Locked' Flag Copied Correctly by 'Mass Populate' Functionality

Previously, the 'Mass Populate' functionality did not copy the 'Locked' flag when it was used as 'Field'. Regardless of the operation selected, the 'Locked' flag was not copied to the target days.

This issue has been fixed. Now the 'Mass Populate' functionality copies the 'Locked' flag correctly, when the proper settings have been performed.

### 2.5.10 'Quota History' Displayed and Exported in Selected Units of Measurement

Regardless of the units of measurement settings in 'Business Rules' the 'Quota history' was always shown and exported in minutes. The Quota grid showed data in the units selected in 'Business Rules', while the 'Quota history' always showed data in minutes.

The units of measurement conversion has been improved, and now the 'Quota history' window displays data in the same units of measurement as are set in 'Business Rules'.

### 2.5.11 Close Time History Exported Correctly

'Close time history' was exported incorrectly – the 'Action' values were placed in the 'User' column, while the 'User' values were shown in the 'Action' column. The 'Close time' column had invalid values while the correct 'Close time' values were shown in an additional column with no header.

The result array order has been improved, which resolved all above-mentioned issues. Now 'Close time history' is exported correctly.

### 2.5.12 'Automatically Adjust '% Quota' Values to Keep Their Total Equal to 100%' Option Improved

When 'Automatically adjust '% Quota' values to keep their total equal to 100%' option is enabled, changes to the '% Quota' value of any time slot will cause '% Quota' values for other time slots to change proportionally, so that their sum is always equal to 100%. However, this setting was working only at the 'Capacity category' level, while at the 'Time slot' level the '% Quota' values were not adjusted (Figure 12).

As of version 4.5.9 this option works properly at the 'Time slot' level. As soon as any value is entered or changed in the '% Quota' column, other values in the same column are adjusted proportionally (Figure 13).

Time slot	% Quota	Quota	Used
Day			33711
08-10	35%		8961
10-12	45%		8922
13-15	70%		11634
15-17	20%		3412
<b>Total</b>			<b>32929</b>

Figure 12: '% Quota' values not adjusted

Time slot	% Quota	Quota	Used
Day			36146
08-10	40.23%		11582
10-12	27%		8465
13-15	16.39%		12923
15-17	16.39%		3176
<b>Total</b>			<b>36146</b>

Figure 13: '% Quota' values adjusted

### 2.5.13 Values in 'Saved Value' Hints Rounded to Two Decimal Places

In some cases the 'Saved value' hints (showing the previous value of the cell before saving) displayed values with too many decimal places. Such excessive accuracy is not necessary.

In version 4.5.9 the 'Saved value' hints show 'Quota' and 'Used' values rounded to two decimal places which is the correct format for such values.

### 2.5.14 Buckets in Resource Tree and Quota Grid Arranged in the Same Order

In the Multi-Bucket mode the child buckets were arranged in different order in the Resource Tree and in the Quota grid.

In version 4.5.9 this issue has been addressed, and now the Resource Tree and the Quota grid show

buckets in the same order, when the Multi-Bucket mode is enabled.

## 2.6 Company Settings

### 2.6.1 Custom Properties Export and Import Implemented

In order to simplify the properties transfer and reduce the amount of manual work ETAdirect now supports export and import of custom properties in XML format.

Properties export and import has been implemented in the 'Properties' screen of the Manage Application. For this purpose the 'Export' and 'Import' buttons have been added (Figure 14).

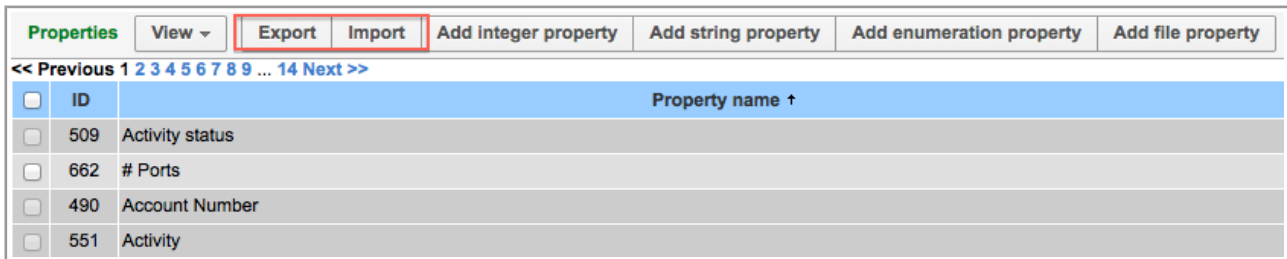


Figure 14: 'Export' and 'Import' buttons in 'Properties' screen

Clicking 'Export' exports the existing custom properties in XML format. Only custom properties (those with 'Type' other than 'field') can be exported. If the properties list is filtered before export, the export file may include only the filtered list of properties. The user can choose whether to export the full properties list or just the filtered list by selecting 'All' or 'Filtered' in the 'Export properties' window (Figure 15). It appears if the user filters the properties list before clicking 'Export'.

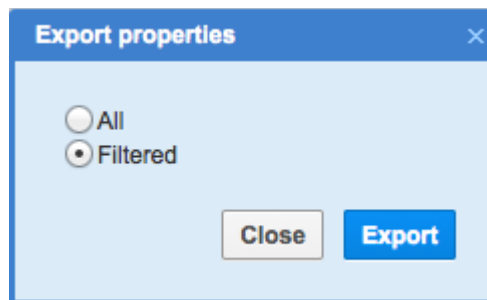


Figure 15: Selection of full or filtered properties list for export

Clicking 'Import' allows importing custom properties from external files. When 'Import' is clicked, the 'Import properties' dialog window appears where the source file can be selected.

**Note:** only XML files can be selected for properties import. Other file formats result in an 'Error format xml file' message.

Import is an irreversible transaction of which the user is advised by the 'Import operation cannot be undone' message in the 'Import properties' window (Figure 16).

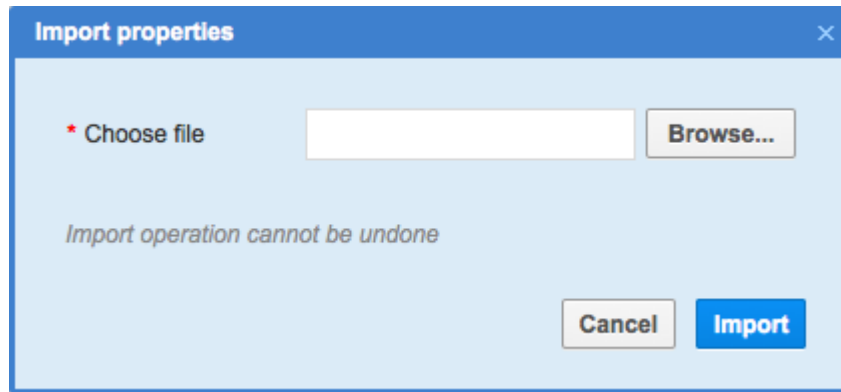


Figure 16: 'Import properties' window

To be successfully imported, a property must conform to the following requirements:

- its label must not be empty
- it must refer to a valid entity type (activity, inventory, provider, service request, user)
- it must be of a valid type (integer, string, enumeration, file)
- it must have a valid GUI representation (text, checkbox, combobox, radiogroup, file, signature, image, URL, phone, email, capture\_image, geolocation)
- for properties with GUI representation as file, signature, image or capture\_image, the mime\_type parameter is mandatory. If more than one MIME type is used, they must be separated with commas

All properties not conforming to the above-mentioned requirements are skipped during import.

After the import process has been started, its progress can be monitored in the 'Import properties' window showing the number of successfully imported properties, properties imported with warnings (those saved with adjusted values during import) and not imported properties. After the import is complete, the 'Import properties' window shows the final import result (Figure 17).

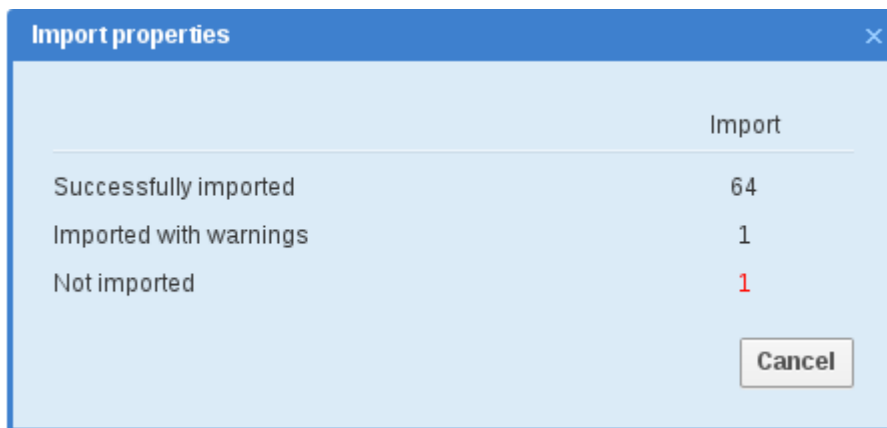


Figure 17: Import result

Any conflicts encountered during properties import are resolved as follows:

- if a property with the imported label does not exist in the system, a new property is created
- if a property with the imported label, type and entity already exists in the system, the existing property is updated
- if a property with the imported label already exists in the system, but the type of the existing and

- imported property is different, such property is skipped during import
- if a property with the imported label and type already exists in the system, but the entity of the existing and imported property is different, such property is skipped during import
- when enumeration properties are imported, the indexes of their values are merged. The existing indexes are left in the system and the new ones are added
- values of enumeration property lookups must be overwritten (when included in the imported file)

New placeholders have been created to be used in connection with properties export and import:

13854	'Import properties'
13855	'Import'
13856	'Export'
13857	'Successfully imported'
13858	'Imported with warnings'
13859	'Not imported'
13860	'Cancel'
13861	'Export properties'
13862	'All'
13863	'Filtered'
13864	'Close'
13865	'Export'
13866	'Import'
13869	'Import operation cannot be undone'

### 2.6.2 DWH Configuration Screen Added to Manage Application

As of version 4.5.9 Data Warehouse (DWH) files are configurable through the GUI in the Manage Application. This new feature allows the user to create the list of files to be exported via DWH as well as to select the fields to be exported within each file.

For these purposes a new screen has been implemented – 'DWH Configuration' (Figure 18). This screen can be added to the Main Menu of ETAdirect by configuring the context layout.





File name	Entity	Exported field	Actions
asd	Activity Fields	Account Number, # Ports, Activity ID, Activity Features, Activity Notes, Activity Location ID 1	<a href="#">Edit</a> <a href="#">Structure</a> <a href="#">Delete</a>

Figure 18: 'DWH Configuration' screen

The screen contains the list of files to be exported and the fields exported within each file. New files can be added by clicking 'Add new'. This button opens the 'Add configure' window where a new DWH file can be configured (Figure 19).

**Add configure** ✕

File name:

*Placeholder:*  
{companyname} - company identifier

Entity:

Figure 19: 'Add configure' window

While configuring the DWH file for export the user is to enter the file name

**(Note: only XML files can be configured for export).**

The 'Entity' field allows selecting one of the DWH entities the properties of which are to be exported in the new file (Figure 20).

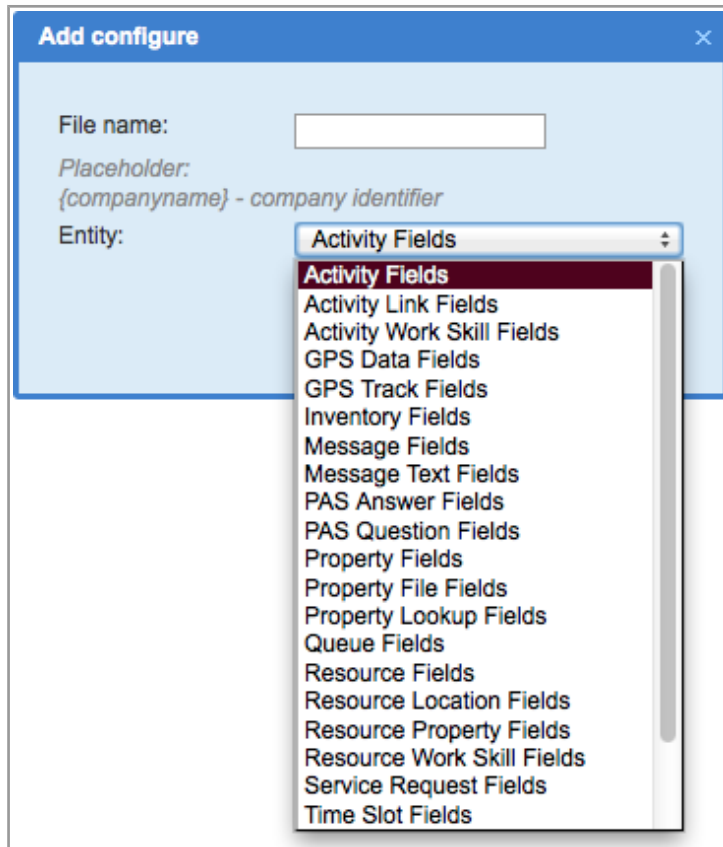


Figure 20: DWH entity selection

DWH files in the list can be managed by means of action links (Figure 21). File name can be changed by clicking 'Edit'. However, the DWH entity selected for the file cannot be changed. A file can be deleted by the 'Delete' link.

File name	Entity	Exported field	Actions
asd	Activity Fields	Account Number, # Ports, Activity ID, Activity Features, Activity Notes, Activity Location ID 1	<a href="#">Edit</a> <a href="#">Structure</a> <a href="#">Delete</a>
inventory	Inventory Fields		<a href="#">Edit</a> <a href="#">Structure</a> <a href="#">Delete</a>

Figure 21: DWH file action links

When a new DWH export file is created, its list of exported fields is empty. To configure this list the user needs to click the 'Structure' link which opens the 'Fields list' screen. The 'Add field' button opens the 'Add field' window where the user can select the fields for export from the list of available fields (Figure 22).

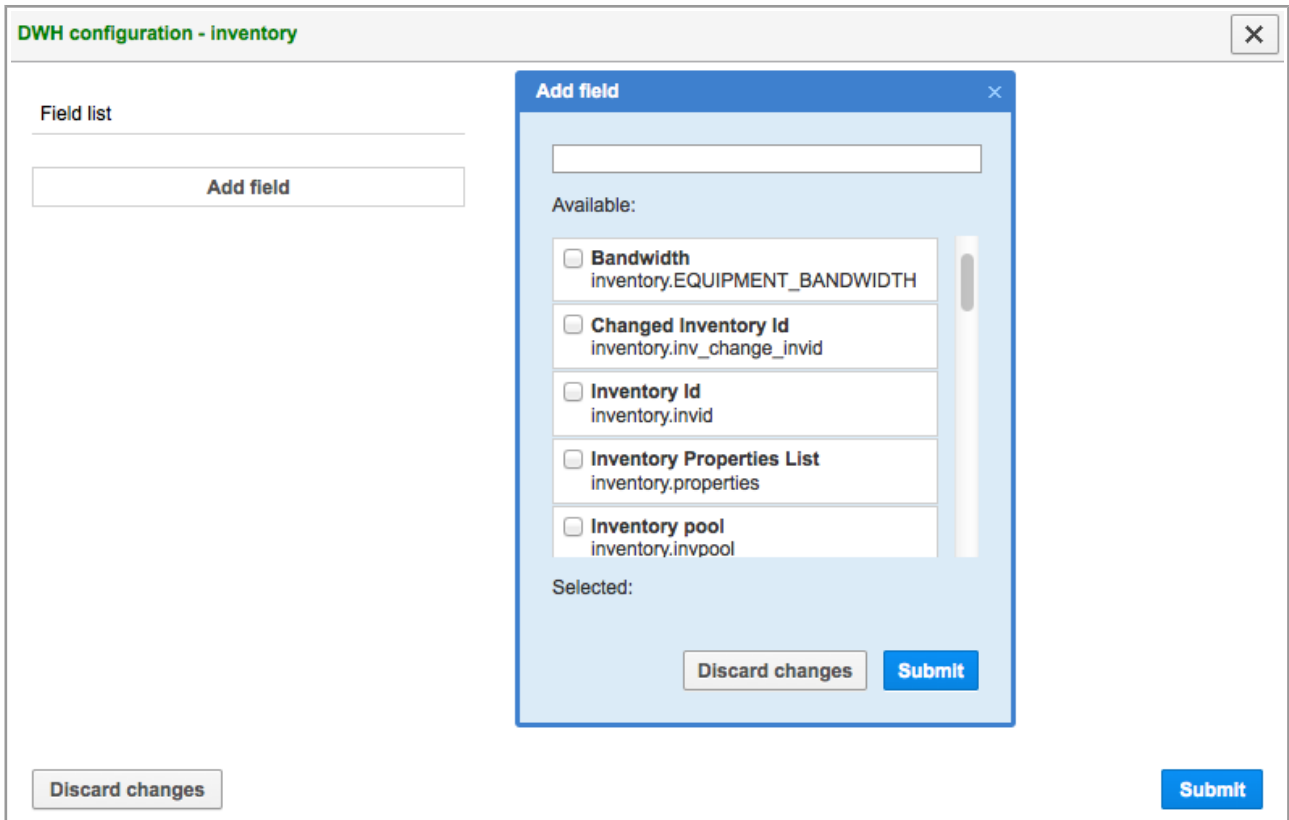


Figure 22: 'Field list' configuration screen

After 'Submit' is clicked, the selected fields appear in the 'Fields list'. Clicking a field name in the list opens its details screen containing the field editable name, its original name and source (Figure 23). For a field selected from the list two action links appear – 'Add field' allowing to add a new field directly after the selected one, and 'Delete' allowing to delete the selected field from the list.

Field list	Name:	Resource Id
Inventory Id	Original name:	Resource Id
Item Model	Source:	inventory.inv_pid
Item Number		
Resource Id		
<a href="#">Add field</a> <a href="#">Delete</a>		
<input type="button" value="Add field"/>		

Figure 23: Field details screen

The field list editing is completed by clicking the 'Submit' button. The selected fields appear in the 'Exported field' column of the DWH files grid. They can be further edited by clicking the 'Structure' link. DWH configuration can be exported and imported by using the 'Export' and 'Import' buttons in the 'DWH configuration' screen. Configurations are exported and imported as XML files. The export/import operations ignore the value of the 'external\_archiver' field used for archiver customization, if this field is not empty.

### 2.6.3 Themes Configuration Screen Implemented

As of version 4.5.9, ETAdirect supports themes configuration via the Manage Application. For this purpose the 'Company Settings' menu now includes 'Themes' item allowing to access the 'Themes' screen (Figure 24).

Dispatch ▾ Tools ▾ Settings ▾ Reports ▾ Company Settings ▾				Admin ▾
Themes				
<a href="#">Add theme</a> <a href="#">Import theme</a> <a href="#">Export themes</a>				
Name	Default	Active	Actions	
Default	✓	✓		
Beige	✗	✓	<a href="#">Set default</a>	<a href="#">Set disable</a>
Blue	✗	✓	<a href="#">Set default</a>	<a href="#">Set disable</a>
Dark	✗	✓	<a href="#">Set default</a>	<a href="#">Set disable</a>
Red	✗	✓	<a href="#">Set default</a>	<a href="#">Set disable</a>
White	✗	✓	<a href="#">Set default</a>	<a href="#">Set disable</a>
Yellow	✗	✓	<a href="#">Set default</a>	<a href="#">Set disable</a>
Professional	✗	✓	<a href="#">Set default</a>	<a href="#">Set disable</a>
ClockWorkOrange	✗	✓	<a href="#">Edit</a>	<a href="#">Set default</a> <a href="#">Set disable</a> <a href="#">Export</a> <a href="#">Delete</a>

Figure 24: 'Themes' screen

The 'Themes' list includes both the themes delivered with the system and the custom themes created by users. To create a new theme the user has to click 'Add theme' which leads to the 'Add theme' dialog window where the new theme parameters are to be set (Figure 25).

**Add theme** [Close]

\* Name:

\* Color theme:

\* Title page:

\* Copyright:

*Placeholders {YEAR} and {VERSION} are mandatory  
 {YEAR} - current year  
 {VERSION} - current major version of ETAdirect*

\* Big:  **Browse...**  
*min image size: 20x20, max image size: 200x80*

\* Small:  **Browse...**  
*min image size: 20x20, max image size: 80x80*

\* Login:  **Browse...**  
*min image size: 20x20, max image size: 320x110*

**Discard changes** **Submit**

Figure 25: 'Add theme' window

When creating a new theme the user has to make the following settings:

- Name – the name of the theme to appear in the themes list
- Color theme – the menu bar color to be used in the theme. The color is selected from the hues chart appearing when the user clicks the 'Color theme' field (Figure 26)

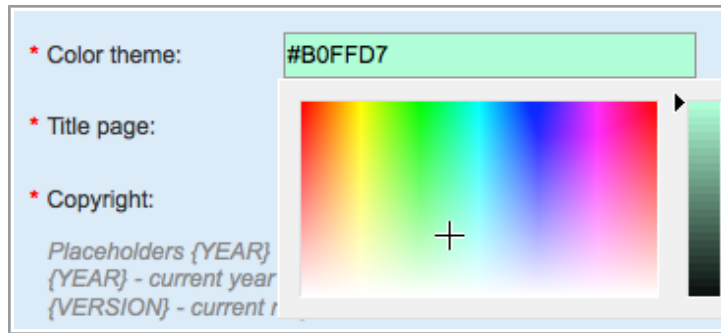


Figure 26: Hues chart

- Title page – the text to be shown in the application window title
- Copyright – the text to be shown in the copyright line at the bottom of the application window. In any case, the copyright string must contain the {YEAR} and {VERSION} placeholders showing the current year and the current version of ETAdirect
- Big, Small, Login – the images to be used as the custom logos (large logo, small logo and login page logo, respectively). Each field allows browsing for the desired image file. Each field has a note defining the minimum and maximum image size for each logo

**Note:** all fields of the 'Add theme' window are mandatory.

All themes can be imported and exported as a ZIP archive by using the 'Import theme' and 'Export theme' buttons, respectively.

Any theme in the list can be set as default (the default theme is used for the whole company) by clicking the 'Set default' link. A theme can be disabled by clicking the 'Set disable' link. Disabled themes do not appear in the themes list in the 'My display' screen and cannot be selected by users. For a disabled theme the 'Set disable' link is replaced with 'Set enable' allowing to make the theme active again (Figure 27).

Name	Default	Active	Actions
Default	✓	✓	
Beige	✗	✓	<a href="#">Set default</a> <a href="#">Set disable</a>
Blue	✗	✓	<a href="#">Set default</a> <a href="#">Set disable</a>
Dark	✗	✗	<a href="#">Set default</a> <a href="#">Set enable</a>
Red	✗	✓	<a href="#">Set default</a> <a href="#">Set disable</a>
White	✗	✓	<a href="#">Set default</a> <a href="#">Set disable</a>
Yellow	✗	✓	<a href="#">Set default</a> <a href="#">Set disable</a>
Professional	✗	✓	<a href="#">Set default</a> <a href="#">Set disable</a>
ClockWorkOrange	✗	✓	<a href="#">Edit</a> <a href="#">Set default</a> <a href="#">Set disable</a> <a href="#">Export</a> <a href="#">Delete</a>

Figure 27: Disabled theme

Custom themes can be edited or deleted by means of the 'Edit' or 'Delete' links. Individual custom themes can also be exported as ZIP archives by means of the 'Export' link. Themes delivered with the system package cannot be modified, deleted or exported.

Access to the 'Themes' screen is controlled with a new permission – 'Themes' which grants or denies access to the 'themes' screen to certain users.

### 2.6.4 File Property Management Improved

When a file property is created, it is mandatory to specify the allowed MIME types for the property. In the previous versions the user had to type or copy and paste the MIME types from the list of examples. To increase the usability of the 'Add Property' functionality, the MIME types examples list has been changed so that to enable the user to select the desired MIME types by clicking them with the mouse (Figure 28). This saves time and decreases the possibility of errors during file property creation or editing.

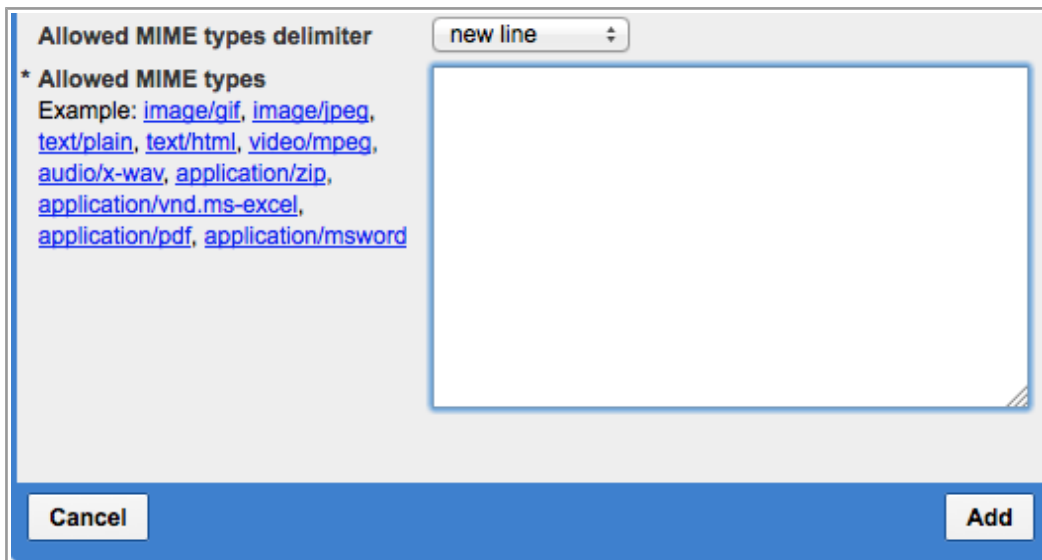


Figure 28: Clickable MIME type examples in 'Add file property' window



## 2.6.5 Maintenance Options Removed from Manage Display

The list of Main Menu items in the 'Display' screen in the Manage Application contained Maintenance items not intended to be used by Manage Application users (Figure 29).

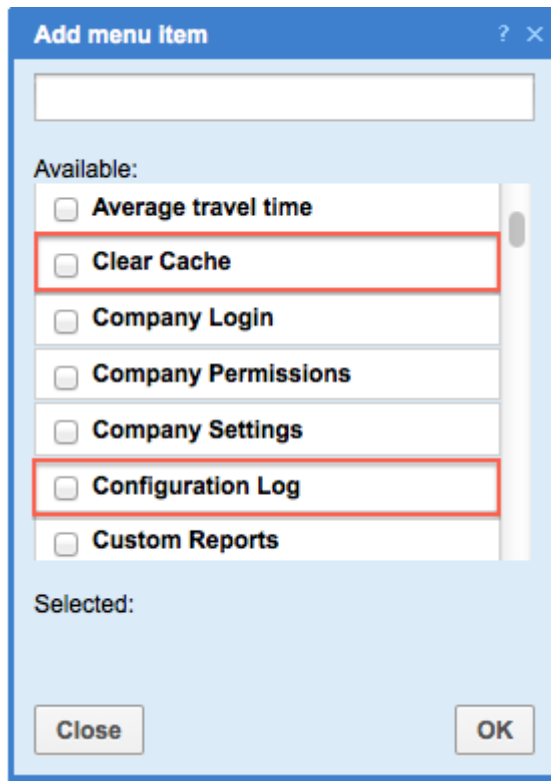


Figure 29: Maintenance items in Manage Application

The Maintenance items have been removed from the Main Menu context layout structure in the Manage Application. Now it contains only the items available according to the user's security profile.

### 2.6.6 Inventory Form Fields Linked to Activity Form Recalculated Properly

If the 'Inventory' tab of the 'Activity details' screen contained a property with values dependent on the values of a different property for Activity entity, such inventory property values were not recalculated with changes of the activity property values.

This issue has been fixed. Inventory properties linked to activity properties are recalculated correctly with appropriate values displayed.

## 2.7 Inventory

### 2.7.1 Text Field Visibilities Supported in Inventory Identifiers

Previously no visibilities were applied to text fields in inventory identifier contexts. If any text fields were added to such contexts with certain visibilities conditioned by other properties, such visibilities did not in fact work.

As of version 4.5.9 text fields visibilities are applied as intended making text fields of inventory identifiers visible or hidden according to the visibility settings (Figure 30, 31).





Figure 30: Text field visibility configuration

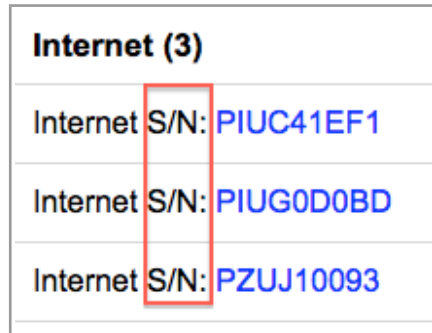


Figure 31: Text field visible in the defined conditions

### 2.7.2 Inventory Exchange between Customer and Team-Member Improved

Previously, a team-member could not exchange inventory between its own pool and the customer pool. The exchange dialogue did not show the inventory in the resource's own pool. In version 4.5.9 this issue has been fixed, and inventory exchange between the resource's own pool and the customer pool is possible.

### 2.7.3 Firefox 10 – Inventory Types Editing Improved

In the Firefox 10 browser several clicks on the 'Edit' button in the 'Inventory types' screen caused duplication of 'Name' and 'Unit of measurement' fields in the 'Edit inventory type' dialog window. In version 4.5.9 this issue has been resolved. The fields of the 'Edit inventory type' dialog window are displayed properly.

### 2.7.4 Internet Explorer 8 – 'Inventory Details' Screen Available

Previously, if ETAdirect was used in the Internet Explorer 8 browser, the 'Inventory Details' screen could not be opened. An error message was displayed instead. After the necessary changes the 'Inventory details' screen is available and functional in Internet Explorer 8. No error messages appear any longer.

### 2.7.5 Correct Error Message Displayed for Too Large or Invalid Required Inventory Quantities

If the 'Quantity' field was filled with a too large or invalid value, the system responded with the following message: '1680165397: set\_required\_inventories: Unable to convert the 'quantity' field value to Integer. (42)'. This message was confusing and not informative.

As of version 4.5.9 special error messages have been implemented to be used when the required inventory quantity value is too large or invalid (Figure 32).

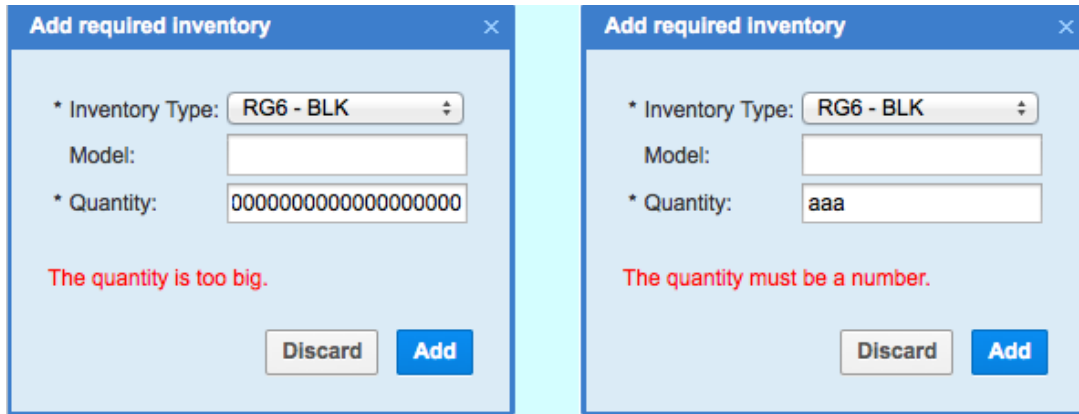


Figure 32: Error message for too large (left) and invalid (right) quantity of required inventory

These messages give a clear explanation of how the input must be changed for the value to be accepted.

### 2.7.6 Error Message Displayed for Invalid Inventory Quantity during Non-Serialized Inventory Install/Deinstall Operations

If an invalid value (alphabetic or fractional) was entered in the 'Quantity' field of the 'Install/Deinstall Inventory' window, no error message was displayed. Fractional parts of the value were cut off and with alphabetic values the dialog was closed with no changes.

Now the 'Quantity' field in the 'Install/Deinstall Inventory' window is validated and an error message is displayed if an invalid value is entered (Figure 33).

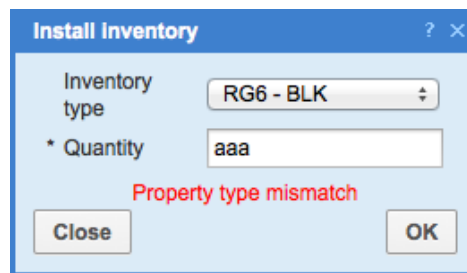


Figure 33: Error message displayed for invalid quantity of inventory to be installed

### 2.7.7 'Quantity' Field Name Editable in Mobility Contexts

If the 'Quantity' field was renamed in any Inventory context for the Mobility Application by changing its 'Name' in the context layout structure, the new name was not displayed in the Mobility Application. The screens continued to show 'Quantity'.

As of version 4.5.9 the 'Quantity' field name is editable which gives better flexibility of context layout configuration.

### 2.7.8 Non-Serialized Inventory Quantity Can Be Set to "0"

In the Manage Application zero or negative quantities of non-serialized inventory in the resource pool were shown as empty. The actual values were not displayed (Figure 34).

<input type="checkbox"/>	Serial number ↑	Inventory pool	Inventory type	Quantity	Model	Actions
<input type="checkbox"/>		resource	HDMI Cable 12ft	7		<a href="#">Modify</a>
<input type="checkbox"/>		resource	RG6 - BLK	2500		<a href="#">Modify</a>
<input type="checkbox"/>		resource	HDMI Cable 6ft			<a href="#">Modify</a>
<input type="checkbox"/>		resource				<a href="#">Modify</a>
<input type="checkbox"/>	58NBME39T065517	resource				<a href="#">Modify</a>
<input type="checkbox"/>	HRSC63602	resource				<a href="#">Modify</a>
<input type="checkbox"/>	PLBJ1C3AB	resource				<a href="#">Modify</a>
<input type="checkbox"/>	PMUD106F8	resource				<a href="#">Modify</a>

**Edit Inventory** ? ×

\* Inventory type HDMI Cable 6ft

Model  

\* Quantity 0

Close
OK

Figure 34: Zero quantity shown as empty

In version 4.5.9 zero non-serialized inventory quantity is displayed as "0" in the 'Inventories' screen (Figure 35).

<input type="checkbox"/>	Serial number ↑	Inventory pool	Inventory type	Quantity	Model	Actions
<input type="checkbox"/>		resource	RG6 - BLK	100	RG6 - BLK	<a href="#">Modify</a>
<input type="checkbox"/>		resource	HDMI Cable 6ft	0	HDMI Cable 6ft	<a href="#">Modify</a>
<input type="checkbox"/>		resource	RG6 - WHT	100	RG6 - WHT	<a href="#">Modify</a>
<input type="checkbox"/>		resource	HDMI Cable 12ft	5	HDMI Cable 12ft	<a href="#">Modify</a>
<input type="checkbox"/>	8779808797	resource	Internet	1	Internet	<a href="#">Modify</a>
<input type="checkbox"/>	PT11234789	resource	Internet	1	Internet	<a href="#">Modify</a>
<input type="checkbox"/>	PT13478912	resource	Internet	1	Internet	<a href="#">Modify</a>
<input type="checkbox"/>	PT19012308	resource	Internet	1	Internet	<a href="#">Modify</a>

Figure 35: "0" quantity shown in 'Inventories' screen

### 2.7.9 Quantity of Missing Non-Serialized Inventory Calculated Correctly with Negative Resource's Inventory

If the resource had negative quantity of non-serialized inventory, the missing quantity of such inventory was calculated incorrectly – the required value was added to the negative value in the resource's pool and in the 'Inventory report'. This resulted in a wrong 'Missing' quantity – greater than actually missing (Figure 36).

Model	Type	Required	Installed	Available	Missing
Internet	Internet	0	0	4	0
HDMI Cable 6ft	HDMI Cable 6ft	1	0	5	0
HDMI Cable 12ft	HDMI Cable 12ft	0	0	5	0
RG6 - BLK	RG6 - BLK	0	0	100	0
RG6 - WHT	RG6 - WHT	50	0	-50	100

Figure 36: Incorrectly calculated 'Missing' quantity

Now the missing inventory calculation checks if the available inventory is lower than zero. This check ensures that the 'Missing' quantity is calculated correctly, and that negative quantity of resource's inventory has no effect on the 'Missing' calculation.

### 2.7.10 Non-Serialized Inventory Adding Improved

If a resource or customer already had non-serialized inventory in their pool, it was impossible to add inventory of the same type and model to the same pool. The system responded with an 'Unknown error occurred' message, and inventory was not added (Figure 37).



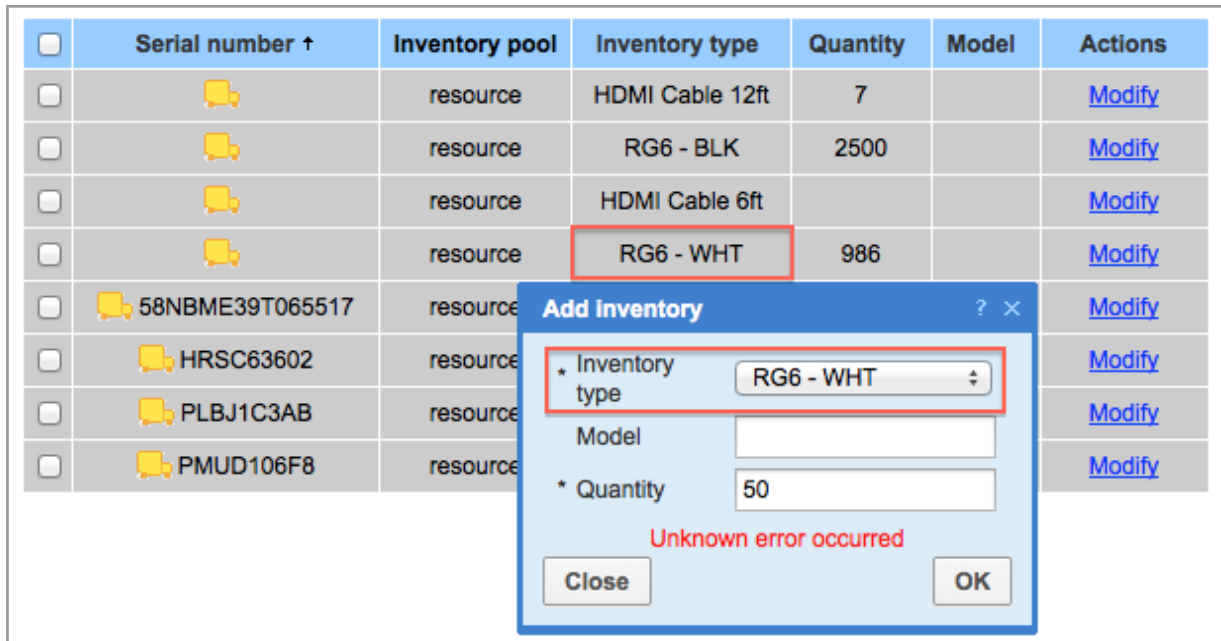


Figure 37: Error when adding inventory which already exists in resource's pool

As of version 4.5.9, when inventory of the existing type and model is added, the warning message is more informative: 'Inventory already exists. Please update existing one' (Figure 38). The user is therefore prompted to edit the existing inventory record instead of adding a new one.

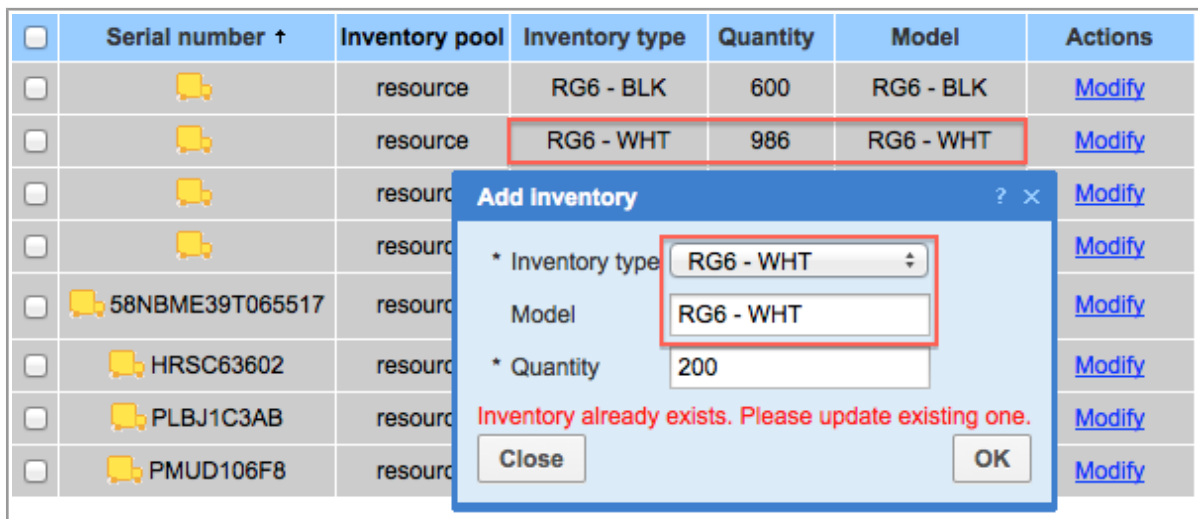


Figure 38: Correct error message

### 2.7.11 Serialized Inventory Identifiers Shown in 'Install' List of 'Required Inventory' Screen

If a resource had several pieces of required serialized inventory, it was impossible to distinguish between them in the 'Install' drop-down list of the 'Required inventory' screen in the Mobility Application. The list showed several pools with the resource's name instead of serialized inventory identifiers.

This issue has been addressed in version 4.5.9. Serialized inventory is now shown with their identifiers in the 'Install' drop-down list, so that the user can easily select the one to install.

### 2.7.12 Correct Screen Title of 'Required Inventory Details' Screen

The 'Required Inventory Details' screen in the Mobility Application had 'ETAdirect.com' title instead of the correct title 'Required Inventory Details' (Figure 39).

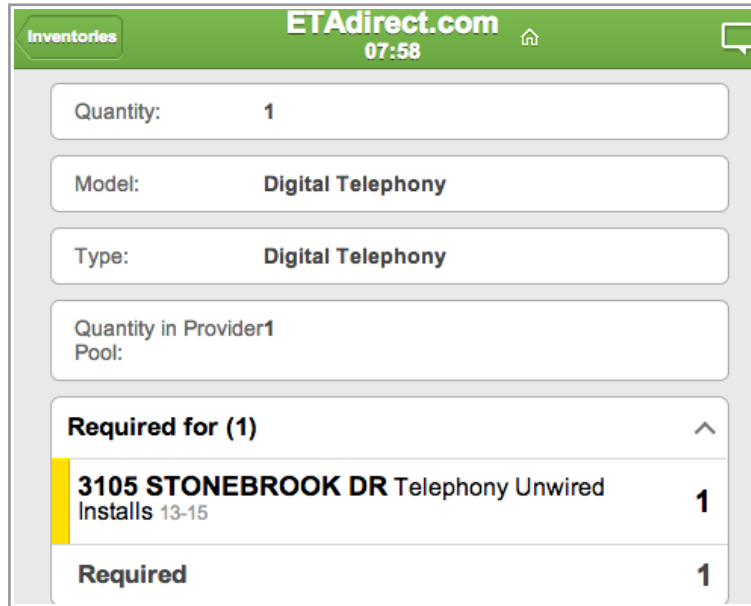


Figure 39: Incorrect title of 'Required Inventory Details' screen

The title for the 'Required Inventory Details' has been added together with the corresponding placeholder.

### 2.7.13 Pool Icon Aligned in Exchange Dialogue

In the Mobility Application the pool icon in the inventory 'Exchange' dialog was not aligned properly (Figure 40).

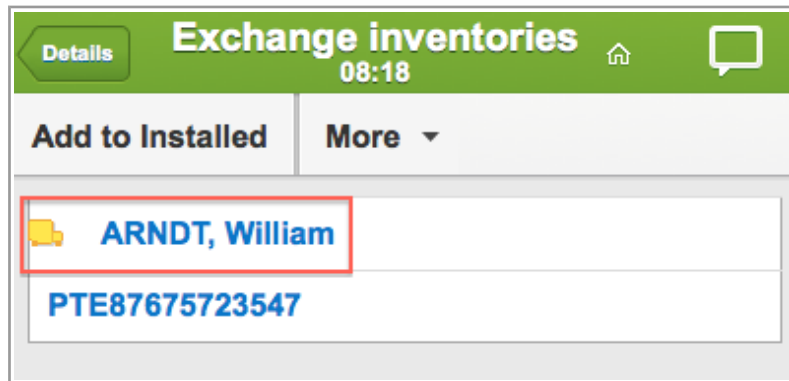


Figure 40: Pool icon aligned incorrectly

In version 4.5.9 the pool icons are aligned with the list of inventories available for exchange improving the screen appearance (Figure 41).

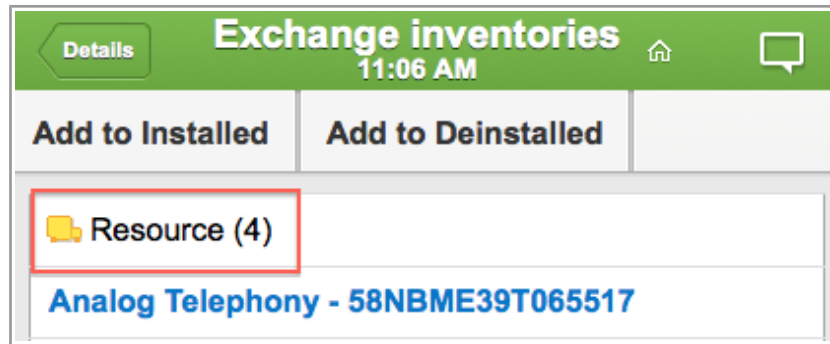


Figure 41: Pool icon aligned properly

### 2.7.14 'Signature Editor' Loads Properly

If the 'Add/Edit inventory' screen was not submitted on the first attempt (when an invalid value had been entered), the 'Signature' field could not be opened again. When the 'Sign' link was clicked in the second submission attempt, the 'Signature Editor' window started loading but immediately disappeared. To access the 'Signature Editor' window again the user had to close the 'Add/Edit inventory' screen and open it again.

This issue has been resolved. The 'Signature Editor' window opens regardless of other fields validation.

### 2.7.15 Validation of 'Add Inventory Type' Dialog Window Added

In the previous versions it was possible to add an inventory type with all mandatory fields left empty (Figure 42).

<input type="checkbox"/>	ID	Name	Label	Unit	Model property	Status	NSI
<input type="checkbox"/>	7	HDMI Cable 12ft	HD12	qty	Model	✓	✓
<input type="checkbox"/>	8	RG6 - BLK	RG6BLK	ft	Model	✓	✓
<input type="checkbox"/>	9	RG6 - WHT	RG6WHT	ft	Model	✓	✓
<input type="checkbox"/>	10					✓	
<input type="checkbox"/>	6	HDMI Cable 6ft	HD6	qty	Model	✓	✓
<input type="checkbox"/>	5	Ethernet Cable	EC	ft	Model	✓	✓
<input type="checkbox"/>	2	Digital Telephony	DT		Model	✓	
<input type="checkbox"/>	3	Analog Telephony	AT		Model	✓	
<input type="checkbox"/>	4	Cable Video	TV		Model	✓	
<input type="checkbox"/>	1	Internet	NT		Model	✓	

Figure 42: Inventory type with empty mandatory fields added

In version 4.5.9 validation of mandatory fields of the 'Add inventory type' screen has been added. If a mandatory field is empty, the inventory type is not added. The mandatory fields which must be filled-in are highlighted in red and an error message is displayed (Figure 43).



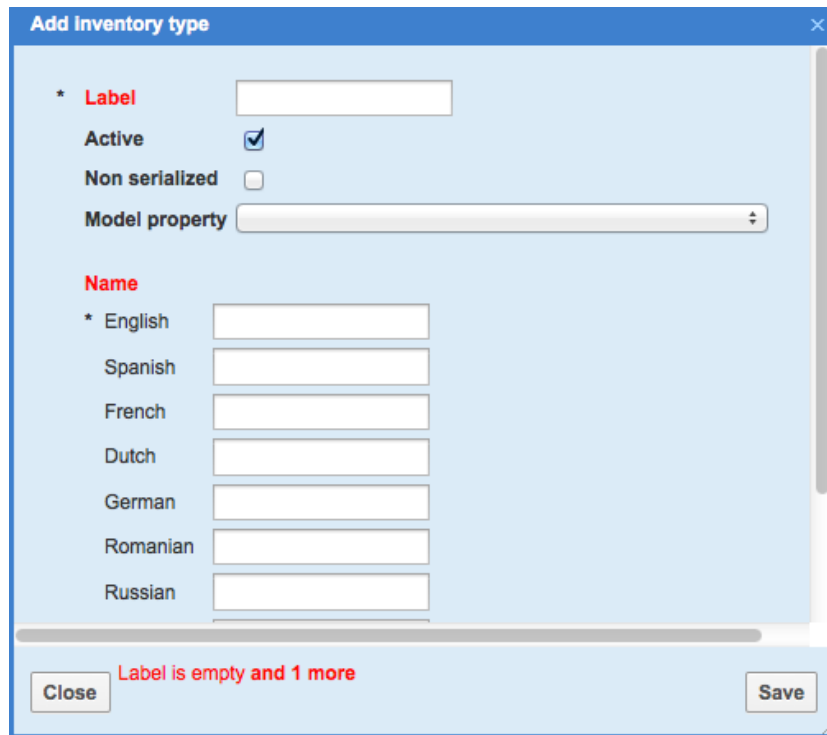


Figure 43: 'Add Inventory type' validation

### 2.7.16 'Inventory Types' Placeholder Added

In order to better support the customization and multi-language functionality, a new placeholder (14809 – 'Inventory Types') has been added. This allows translating the 'Inventory Types' screen title into other languages or changing the title according to the user's preferences.

### 2.7.17 No Alerts Shown after Required Inventory Deletion

Previously, when the user deleted a required inventory item, the action was confirmed after the deletion with a 'Record has been deleted' alert. This alert was redundant and required unnecessary actions from the user – closing this alert window.

As of version 4.5.9 the alert window is no longer shown after required inventory deletion.

### 2.7.18 Only ReadOnly Visibility Available for Inventory ID Fields

Previously, when an ID field ('Inventory ID', 'Activity ID', 'Resource ID', 'Changed inventory ID') was configured in the context layout structure, it was possible to set its visibility to ReadWrite or Mandatory. The field itself remained ReadOnly in the corresponding contexts, but if the visibility was set to Mandatory it resulted in forms rejection with a 'Mandatory parameter is empty' error message.

In order to avoid misconfiguration of inventory ID fields they have been added to the list of ReadOnly properties. Now the only visibility available for ID fields in the context layout configuration is ReadOnly.

## 2.8 Maps

### 2.8.1 Hints No Longer Appear for Non-TOA Objects

In the previous versions the 'Map' and 'Directions' screens showed hints for objects not related to ETAdirect (Figure 44).

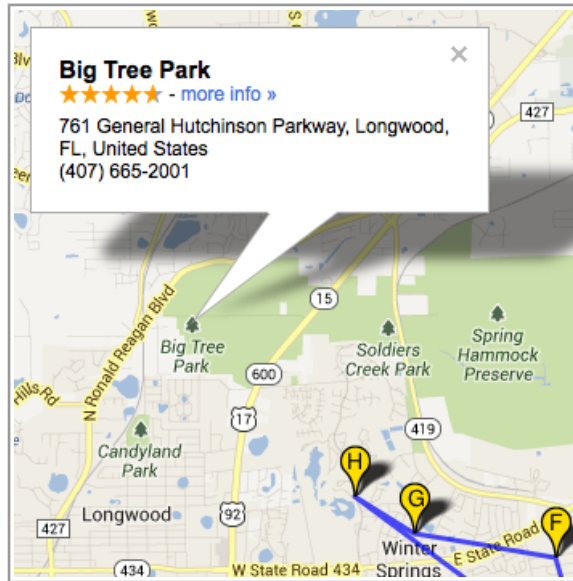


Figure 44: Hint for non-TOA object in 'Map' screen

A new utility distinguishing between TOA and Google Maps objects has been added which now prevents appearance of irrelevant hints on 'Map' and 'Directions' screens.

## 2.9 DWH

### 2.9.1 Message Text Data No Longer Lost during Export

In the previous versions DWH database and the exported 'message\_text' file actually contained no message text when messages existed in the system.

As of version 4.5.9 DWH functionality has been improved, and now message texts are stored and exported correctly.

## 2.10 Routing

### 2.10.1 Reoptimization Goals Saved Correctly

When 'Reduce overdue' was selected as the Reoptimization goal and the total overdue decrease value was set, this value remained in the database even when a different Reoptimization goal was selected. When the user changed the goal to 'Reduce overdue' again, the percentage field was filled with the previously set value.

This issue has been resolved. The 'Reduce overdue' parameter is cleared from the database as soon as a Reoptimization goal other than 'Reduce overdue' is selected. The percentage field is empty.

### 2.10.2 'Reduce Overdue' Percentage Field Value Limited

The percentage field of the 'Reduce overdue' Reoptimization goal accepted any value. However, when 'Update' was clicked, the maximum saved value was '127%', which was also incorrect (Figure 45).

**Reoptimization**

Enable reoptimization

Goal Reduce overdue

*The reoptimization will only be started if at least one of the activities to be processed and having the highest (or high) late arrival penalty is about to be late. Its result will only be applied if a total overdue for such kind of activities is decreased by 127 %.*

Figure 45: 127% saved as valid value of 'Reduce overtime' goal

In version 4.5.9 the range of acceptable values of the 'Reduce overdue' goal has been set to 1-100 (0% is not used because in this case the Reoptimization goal will be disabled). Higher values are not accepted. The system responds with an 'Overdue threshold value is invalid' and the 'Goal' section is highlighted in red to show where the incorrect value is (Figure 46).

**Reoptimization**

Enable reoptimization

Goal Reduce overdue

The reoptimization will only be started if at least one of the activities to be processed and having the highest (or high) late arrival penalty is about to be late. Its result will only be applied if a total overdue for such kind of activities is decreased by  %.

**Reoptimization filters** [Add reoptimization filter](#)

Add activities which can be reoptimized

Activities	Destination for unassigned activities	Action
No filters found		

To reorder the activities, drag&drop rows of the grid

Overdue threshold value is invalid

Figure 46: Error message for invalid 'Reduce overdue' percentage value

### 2.10.3 Routing Run Schedule Parameters Saved Correctly

The 'from' and 'to' values saved for 'recurrent' Routing run schedule remained in the database even after the schedule was changed to 'manual'. If the Routing run schedule was later changed to 'recurrent' again, the 'from' and 'to' fields were filled with the previously set values.

The logic of saving 'from' and 'to' values has been changed. Now these fields are empty when the Routing run schedule is changed.

### 2.10.4 Relevance Key Sent for Activities Subject to Reoptimization

The relevance key is used to define the resources to which the activity can be assigned according to their work skills and work zones. However, in the previous versions the activity data contained no relevance key which could result in incorrect assignments.

As of version 4.5.9 the relevance key is sent in the Routing request for activities subject to Reoptimization which improves the Routing results.

### 2.10.5 Placeholder for Routing Execution Log Added

Due to a missing text of placeholder 5336 one line in the Routing execution log remained without description. The placeholder number ('5336') was shown instead (Figure 47).

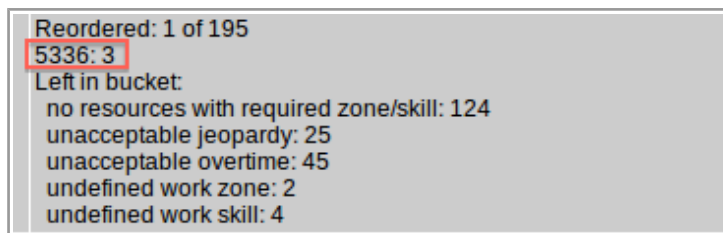


Figure 47: Placeholder number shown in Routing execution log



The placeholder description ('Created') has been added, and now the Routing execution log looks proper.

### 2.10.6 Routing Execution Log Improvement

As of version 4.5.9 the Routing execution long has been enhanced by adding the following new parameters (Figure 48):

- number of activities sent to Routing (shown as 'New' in the Routing execution log)
- number of pre-assigned activities sent to Routing (shown as 'Already routed' in the Routing execution log)
- reordered activities showing the number of already pre-assigned activities

Routing execution log							1-20 of 41
<< Previous 1 2 3 Next >>							
<input type="checkbox"/>	ID	Routing run +	Filters	Technicians	Activities	Result	Actions
<input type="checkbox"/>	5741	reorder (37) at 02/26/13 06:25		1	Already routed: 47 New: 1	running	<a href="#">Stop process</a>
<input type="checkbox"/>	5740	reorder (37) at 02/26/13 06:07 - 06:08		1 of 1	Reordered: 38 of 147 Errors: no appropriate technician: 1	Fitness: 317044.301657 Assurance: 99.9%	<a href="#">Rollback Report</a>
<input type="checkbox"/>	5739	reorder at 02/26/13 06:02 - 06:05		1 of 1	Reordered: 11 of 1 Errors: no appropriate technician: 1	Fitness: 480522.808816	<a href="#">Rollback Report</a>

Figure 48: Routing execution log showing new parameters

The corresponding placeholders have been added:

- 13867           New
- 13868           Already routed

### 2.10.7 Correct Values in 'Time-Slot Overdue (Max/Cost)' Column

The activities assignment options were represented incorrectly in the 'Filters' grid of the Routing Plan. If the 'Assign activities even if technician is unlikely to arrive inside time-slot' option was selected, the 'Time-slot overdue (max/cost)' column showed '0 min' as 'max' value. And vice versa, if the 'Do not assign "overdue" activities and leave them in the bucket' option was selected, the 'max' value showed 'Unlimited'.

To resolve this issue the values of corresponding placeholders have been switched. Now the assignment options are represented correctly in the 'Filters' grid:

'Assign activities even if technician is unlikely to arrive inside time-slot' - 'Unlimited'

'Do not assign "overdue" activities and leave them in the bucket' - 0 min

## 2.11 Mobility Application

### 2.11.1 Notices No Longer Appear in Offline Synchronization

The previous versions contained an unused 'ENTITY\_PLUGIN' constant which was used in 'OfflineSync\_Plugin' but was not defined. This resulted in unnecessary notice messages appearing during synchronization attempts.

This constant has been removed, therefore, no notice messages appear any longer.

### **2.11.2 Double Click on Browser 'Back' Button Has No Effect on Properties with ReadWrite Visibility**

If the user clicked the 'Back' button of the browser twice in the 'Activity Details' screen of a started activity in the Mobility Application, the values of the fields and properties with ReadWrite visibility were removed.

In version 4.5.9 this issue has been fixed. Double click of the 'Back' button in the browser no longer causes the values of fields and properties to disappear.

### **2.11.3 Internet Explorer 8 – SmartCollaboration Widget Opens Properly**

In Internet Explorer 8 the SmartCollaboration widget could not be opened in the Mobility Application. The necessary changes have been made, and the users working in the Internet Explorer 8 browser can access the SmartCollaboration functionality properly.

### **2.11.4 iPad – Browser No Longer Hangs if 'Go' Button Is Tapped**

When the Mobility Application was used on an iPad device, the browser could hang if the 'Go' button on the device was tapped several times in the 'Add activity' screen with a geolocation property. The 'Go' button was interpreted as 'Get geolocation', and repeated tapping caused the browser to hang. This issue has been resolved, and now the form is submitted immediately after the 'Go' button is tapped. The activity is created.

### **2.11.5 Display Mode Selection Improved**

In the Mobility Application the user is able to select the display mode according to the screen width of the device on which ETAdirect is used. For this purpose the 'User options' screen has the 'Arrange columns to fit screen width' checkbox (Figure 49). By default, this checkbox should be unchecked and the Multi-Screen mode is applied.

However, in the previous versions the 'Arrange columns to fit screen width' checkbox was always checked but the actual display mode was Multi-Screen. If the user unchecked it and saved the form, the mode was not changed and the checkbox remained checked. If the user accessed the 'user options' screen and just submitted the form without changing the 'Arrange columns to fit screen width' settings, the Tile mode was applied.

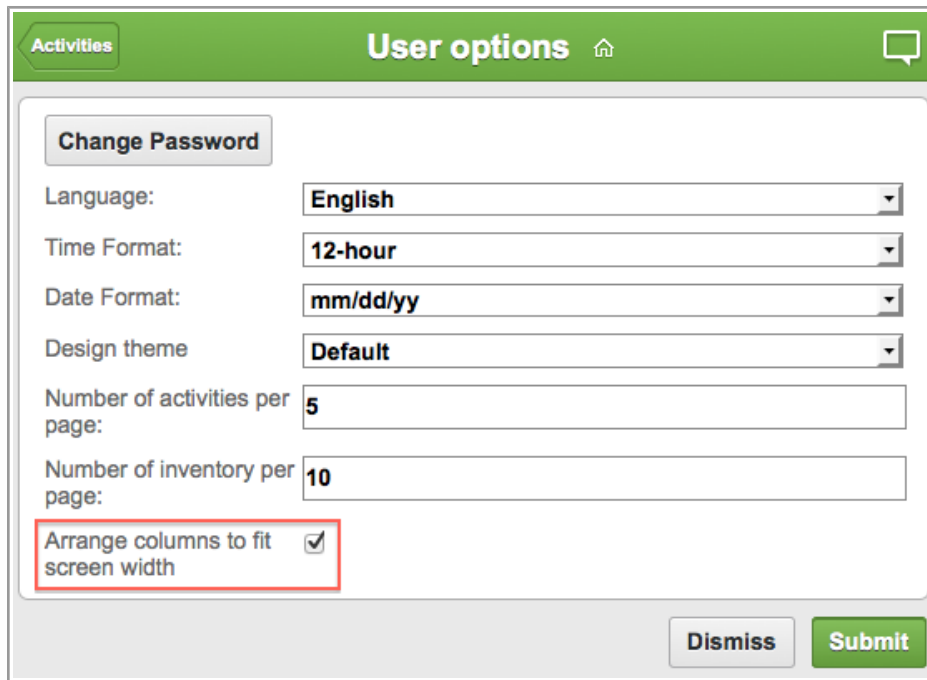


Figure 49: 'Arrange columns to fit screen width' checkbox

In version 4.5.9 the checkbox behavior has been improved. Now it is unchecked by default, and the display modes are changed according to the checkbox settings.

## 2.12 SmartCollaboration

### 2.12.1 Long Field Values Displayed Correctly

Previously, if activity details displayed in chat included a very long property name without spaces, such name would continue beyond the Community window edge and was not completely visible (Figure 50).

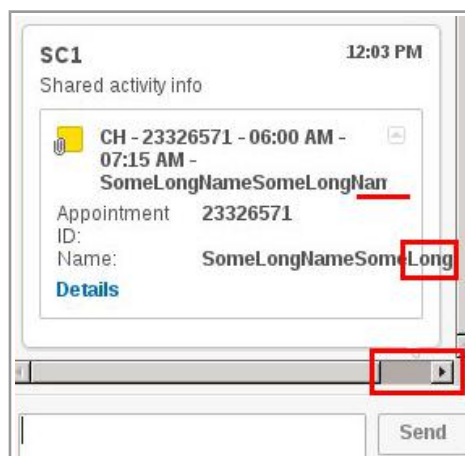


Figure 50: Long field value displayed incorrectly

In version 4.5.9 long property values are wrapped to the next line so that the value is fully visible in the Community window (Figure 51).

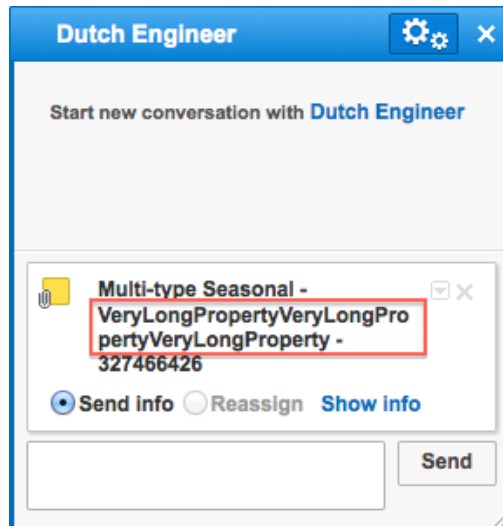


Figure 51: Long field value wrapped to next line

## 2.12.2 Long Messages Split Correctly

Previously, in long messages sent via SmartCollaboration some words were split between two lines if they did not fit until the line end. Words were split at random places which sometimes made the text difficult to read.

In version 4.5.9 long messages are justified with whole words dropped to next lines if they do not fit (Figure 52). This improves the text perception and clarity.

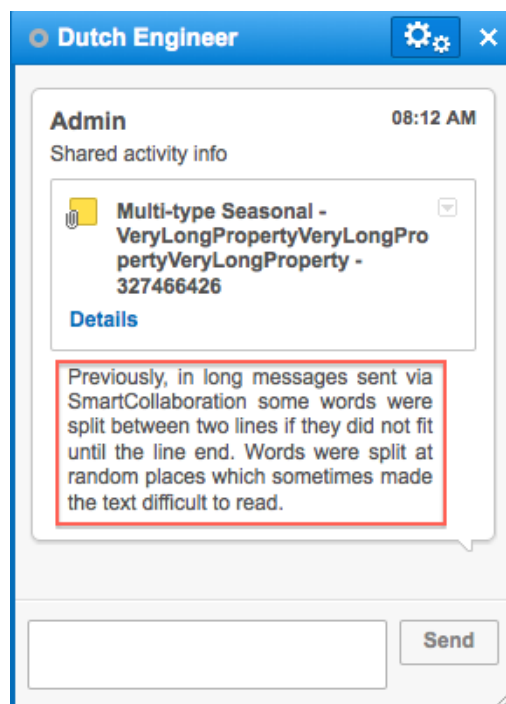


Figure 52: Improved text arrangement in long messages

### **2.12.3 Menu Icon Hidden from History of Conference with No Active Participants**

If a user opened a conference from the history with all participants no longer active, such conference had a Menu icon which, however, had no effect, as it contained no available actions. Such behavior was observed only in the Manage Application, while in the same case in the Mobility Application no Menu icon was displayed.

As of version 4.5.9 the Menu icon has been removed from the 'History' screen as redundant.

### **2.12.4 No Extra Requests Sent after Search Key Clearing**

Previously, when the search field was cleared, two identical requests were sent to the SmartCollaboration server in the Manage Application.

In version 4.5.9 the extra request is no longer sent. When the search field is cleared, only one request is sent which is the correct behavior.

### **2.12.5 Contact Search Improved**

In the previous versions contact search in SmartCollaboration started as soon as the first character was entered, which could produce too many irrelevant search results.

As of version 4.5.9, contact search only works with 2 or more characters which increases its usability and performance.

### **2.12.6 Unread Messages Counter for Helpdesks Improved**

For a helpdesk operator working in the Manage Application the number of unread messages was shown incorrectly. The Helpdesk icon was empty even when there were unread messages. Also, in some cases the number of unread messages in the main Community screen was wrong.

The unread messages counter has been fixed. Now the number of unread messages is correct both in the Helpdesk icon and in the main Community screen.

### **2.12.7 Special Characters Escaping in Address Book Implemented**

Previously, no escaping of special characters, HTML and script tags was possible in the Address Book.

Helpdesk and user names containing such special characters were not shown or shown incorrectly (Figure 53). Clicking such names produced errors.

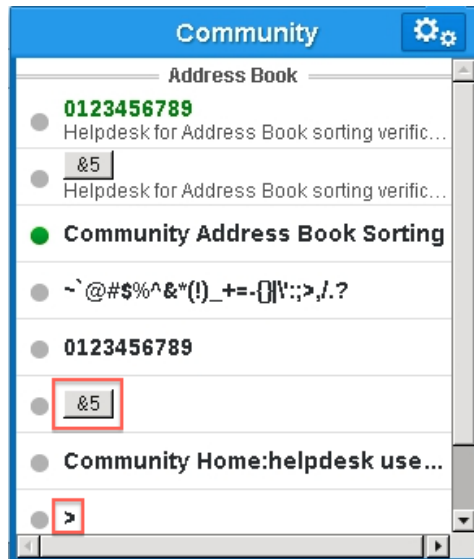


Figure 53: User and helpdesk names with special characters shown incorrectly

As of version 4.5.9 escaping of special characters, HTML and script tags has been implemented in the Address Book. Now user and helpdesk names containing such characters are displayed as they were entered.

### 2.12.8 Activity Reassignment and Inventory Transfer by Helpdesk Operators Disabled

By design, activities can only be reassigned and inventory can only be transferred to a user, not to a helpdesk.

As of version 4.5.9 helpdesk operators cannot reassign activities to users or transfer inventory to them via a SmartCollaboration chat. If a helpdesk operator drags and drops an activity or inventory to a chat, such activity or inventory cannot be reassigned or transferred to the user participating in the same chat.

### 2.12.9 Permissions Applied Properly to Inventory Transfer via Chat

If a user shared inventory info with another user, and such second user shared the same inventory info with a third user, the shared inventory info had the 'Transfer' option, though the second user had no permission to transfer it. When the third user accepted inventory transfer, the transaction failed.

An additional check of user permissions has been added. When users having no permission to transfer inventory via chat share inventory with other users, the 'Transfer' option is not available.

### 2.12.10 'Transfer Conversation' between Helpdesks Improved

If a helpdesk operator attempted to transfer a conversation to another helpdesk while the Helpdesk Group contained only one helpdesk, the operator received an empty list of available helpdesks. Such behavior was unclear for the user as no explanation of the transfer conversation failure was offered. Now on an attempt to transfer a conversation with no other helpdesks available the user receives a 'There are no online operators at the moment' warning which gives a clear reason of why the conversation cannot be transferred.

### **2.12.11 Message Waiting Time Above Threshold Displayed in Red in Manage Application**

By design, if the message waiting time is within the set threshold, it is displayed in black, and as soon as such threshold is exceeded, its color turns red. However, in the Manage Application the message waiting time remained in black type even after the threshold was exceeded. In the Mobility Application the behavior was correct – the message waiting time was displayed in red.

The color changing logic has been improved, so that the message waiting time color turns red as soon as the waiting threshold is exceeded.

### **2.12.12 Redundant Icons No Longer Displayed**

If the user returned to a conversation or conference from History in the Mobility Application, received messages had a green dot next to the user's name, similar to the user's 'online' indicator (Figure 54). Such icons were irrelevant in a conversation and had to be removed.



Figure 54: Redundant icons in Mobility Application

As of version 4.5.9 the irrelevant icons no longer appear in conversations in the Mobility Application.

## 2.13 Reports

### 2.13.1 'Activities by Statuses' Report Improved

In the previous versions the 'Activities by statuses' report contained incorrect data – empty groups caused by including other entity IDs and groups in other languages which resulted in some activities calculated twice.

The database query has been improved, and now the 'Activities by statuses' report no longer includes empty groups and groups in other languages. The report contains correct results.

### 2.13.2 'Time/Late/Early Activities' Report Returns Correct Results

If a 'Time/Late/Early Activities' report was requested for a group or bucket, the report showed the data of a random resource within such bucket instead of the data of the selected bucket.

The database query has been improved, and now the report shows the correct data – the data of the selected bucket or group including all child resources.

## 2.14 Public API

### 2.14.1 Mobile Client API – 'create\_customer\_inventory' Operation Performed Properly with Field Visibilities Deleted

Previously, if in the 'API Configuration' screen visibilities for several inventory fields were deleted for a certain profile, a 'create\_customer\_inventory' request sent by the user with such profile returned an error message. However, the requested inventory was created in the Manage Application.

After this issue has been resolved, such requests are processed correctly – the response to



'create\_customer\_inventory' contained the information of the operation success, because the inventory was actually created.

### **2.14.2 Mobile Client API – Inventory Quantity Returned Even When Quantity Value Is "0"**

Responses to 'create\_customer\_inventory', 'create\_resource\_inventory', 'get\_resource\_inventory\_list' and 'get\_customer\_inventory\_list' requests contained no 'quantity' field, if the inventory quantity was "0".

The Mobile Client API has been improved, and now such requests return the 'quantity' field even when its value is "0", which is the correct behavior.

### **2.14.3 Mobile Client API – 'set\_file' Method Improved**

In some cases the 'set\_file' request returned an error, but the requested file property was still added in the Manage Application. It could not be downloaded, though.

In version 4.5.9 the 'set\_file' method has been improved, so that if an error is returned, no file properties are added to the Manage Application.

### **2.14.4 Activity Management API – Route Start and Activity Start Can Now Occur the Same Second**

In ETAdirect activities can only be started after route start or previous activity completion or simultaneously with it. However, in the previous versions activities could not be started via the Activity Management API if activity start time and route activation time were the same hours, minutes and seconds. The activity was not started with a 'Cannot start activity at the specified time' error response. This issue has been resolved by removing the 'seconds' part from both time values before the activity start time comparison to the route activation time.

### **2.14.5 Activity Management API – 'cancel\_activity' Operations with No Date in Request Performed Correctly**

Previously, 'cancel\_activity' operations with no date specified in the request (intended to cancel activities scheduled for the day of the queue) were unsuccessful – the activity was not cancelled and the response contained a 'Data has been changed' error message.

The default value of the 'date' field has been changed from the current date to the date of the queue, and now 'cancel\_activity' requests are processed correctly.

### **2.14.6 Activity Management API – 'set\_file' and 'get\_file' Operations Observe Property Visibilities**

The 'set\_file' operation allowed the user to set a property not visible to user and the 'get\_file' operation allowed to retrieve such property.

The Activity Management API has been changed to take into account the property visibilities set to the current user. When for the 'set\_file' request the property is invisible or read-only or for the 'get\_file' request the property is invisible, an error is returned.

For this purpose a new error code has been introduced:

31 Property not visible, unknown

### **2.14.7 Resource Management API – 'get\_resources\_calendars' Operation Optimization**

In the previous version the 'get\_resources\_calendars' took too much time and used too much memory to complete.

The operation has been optimized, and now the time consumption and memory usage have been reduced dramatically, which greatly improves the API performance.

### **2.14.8 Resource Management API – Permissions Applied Correctly in 'get\_resource' Response**

If visibility was deleted for any fields in the 'Mobile client resource' context, the 'get\_resource' request returned such fields with empty values.

This issue has been fixed in version 4.5.9 – the visibility rules are applied correctly to the 'get\_resource' response. The only exception is the 'parent\_id' field which is always returned regardless of its visibility. Also, the 'id' field must be visible, otherwise the 'get\_resource' request fails with a 'Key field is not visible to caller: external\_id' error message.

### **2.14.9 Resource Management API – 'get\_resource' Request No Longer Returns Empty Fields**

In the previous versions responses to the 'get\_resource' request contained fields with no values.

As of version 4.5.9 empty fields are no longer included in the response to the 'get\_resource' request.

### **2.14.10 Resource Management API – 'get\_resource' and 'get\_resources\_list' Requests Work Properly Regardless of Parent Resource Visibility**

When a user sent 'get\_resource' and 'get\_resources\_list' specifying the resource whose parent is not visible to the user, no resources were returned in the responses to either request.

This issue has been fixed – now 'get\_resource' and 'get\_resources\_list' return the requested resources in the above-mentioned cases.

### **2.14.11 Resource Management API – Correct Error Message Returned for Invalid Coordinates Input**

Previously, if the 'update\_locations' request contained invalid values in the 'latitude' and 'longitude' fields, the response contained an 'Internal error' message which gave no clear indication of the actual error.

As of version 4.5.9 such requests return 'Invalid latitude' or 'Invalid longitude' error messages when geographic coordinate values are invalid or out of bounds.

### **2.14.12 Resource Management API – 'time\_from' and 'time\_to' Returned in the Same Format**

Previously, different requests of the Resource Management API returned the 'time\_from' and 'time\_to' field values in different formats. For example, 'get\_resources\_calendars' returned 'time\_from' and 'time\_to' in the 'HH:MM' format, while 'get\_resource' returned them in the 'HH:MM:SS' format.

The 'get\_resource' and 'get\_resources\_calendar' requests now return 'time\_from' and 'time\_to' values in

the 'HH:MM' format, thus ensuring the value format consistency in all requests and responses.

### **2.14.13 Resource Management API – 'set\_resources\_calendars' Response Improved**

If a 'set\_resources\_calendars' request contained several updates of the same resource, the response contained only one 'calendar\_result' node.

The API has been changed so that the response now contains 'calendar\_result' nodes for every calendar update sent in the request, even when the updates are duplicating.

### **2.14.14 Resource Management API – API Profiles Can Be Set**

Previously it was impossible to set an API profile for a user via the Resource Management API. The request returned an 'Unknown profile' error message.

Now API profiles can be set in an 'insert\_user' request by means of the 'api\_profile' property. This property accepts profile labels as values.

### **2.14.15 Resource Management API – Empty 'locations' Node No Longer Returned**

If the resource had no locations, the 'get\_locations' request still returned an empty 'locations' node.

In version 4.5.9 empty 'locations' nodes are not returned if the requested resource has no locations. The 'get\_resources\_locations' request has been changed accordingly – no empty 'resource\_locations' nodes are returned, either.

### **2.14.16 Resource Management API – 'update\_resource' Operation No Longer Requires Resource Type**

If an 'update\_resource' request contained no resource type, the response contained the 'Cannot update resource' error and the requested field was not updated.

In version 4.5.9 the API has been changed so that 'update\_resource' requests no longer require mandatory fields to be included. Such requests are processed successfully and the specified fields are updates according to the request.

### **2.14.17 External Trigger API Enhancements**

In version 4.5.9 the External Trigger API has been changed to better accommodate the system requirements.

- URLs used in the External Trigger API methods have been changed as follows:
  - the URL for the 'Create Message' method has been changed to "\$host/rest/external-trigger/v1/create-message/"
  - the URL for the 'Set Message Status' method has been changed to "\$host/rest/external-trigger/v1/set-message-status/"
- the following new parameters have been added to both methods:

Name	Vis	Default Value	Description	Example
auth_token	M	none	Authentication string. This string is provided to the Client's system by ETAdirect during integration, and is sent in every request as is.	2f4ba7265107ba82c6d7d732d7fe3319ef7f0b
output	O	vxml-2.0	In which format to the client expects the response to be returned. Valid values: <ul style="list-style-type: none"> <li><b>"vxml-2.0"</b> - indicates output in XML as expected by VXML client.</li> <li><b>"json"</b> - indicates output in JavaScript Object Notation (JSON)</li> </ul>	vxml-2.0

- the 'company' field now accept the instance name instead of the company name
- the operation no longer requires any customization. This has been achieved by the following changes:
  - file templates are no longer put into the frontend "wwwcustom" folder
  - the 'Create Message' response is now the actual message body as configured in the 'Message Scenario'
  - the 'Set Message Status' response is now static text depending on the 'output' parameter of the request
  - the 'error' response is now in XML or JSON format depending on the 'output' parameter of the request
- new error codes have been added:

'bad_request'	a required parameter is missing in the request or other similar error occurred
'auth_failed'	authentication failed
'activity_not_found'	no activities matching the search criteria were found
'activity_status'	the found activity has an unexpected status (as compared to the 'priority' parameter of the request)
'message_step'	the Message Scenario for the External Trigger is misconfigured
'system_error'	the request cannot be processed due to problems in ETAdirect

### 2.14.18 External Trigger API Works Properly

The Basic Request of the External Trigger API returned a fatal error. The API did not work.

The External Trigger API has been improved, and now it works properly.

### 2.14.19 Capacity API – Application Server Slave Used if Master Not Available

Previously, if the Application Server was not available, Capacity API requests resulted in 'SOAP fault' responses.

Now the requests are processed by the Application Server Slave, if the Master instance is not available. SOAP faults are returned when the 'slave' is not set up or when connection to the 'slave' is unsuccessful, either. Otherwise, Capacity API requests are processed by the Application Server Slave.

### **3 ETAdirect Version 4.5.10**

#### **3.1 Changes Overview**

[Time slot editing improved](#)

[New filter added to 'Mean Time to Deliver' report](#)

['Average Productivity by Activity Type' report improved](#)

['Work Order Statistics' report improved](#)

[Overnight work processed correctly](#)

## **3.2 Manage Application**

### **3.2.1 Time Slot Editing Improved**

If Capacity Categories and Activity Types had identical Ids in the database, such Capacity Categories could not be unchecked in the 'Edit time slot' dialog window. When they were unchecked and 'Update' was clicked, the corresponding checkboxes were still checked at the next window opening.

The time slot editing and display were improved in version 4.5.10. Now all capacity categories can be checked or unchecked while editing a time slot.

## **3.3 DashBoard**

### **3.3.1 New Filter Added to 'Mean Time to Deliver' Report**

The data in the 'Mean Time to Deliver' report was hardly informative, as the mean time from activity creating to assigning exceeded one month. This was due to the fact that the data included also internal activities. Internal activities may be repeating, that is, created several month before the actual assignment.

This issue has been resolved by adding the 'Activity type group' filter to the 'Mean Time to Deliver' report (Figure 55). This filter allows selecting the activity type group from which the data is to be displayed.









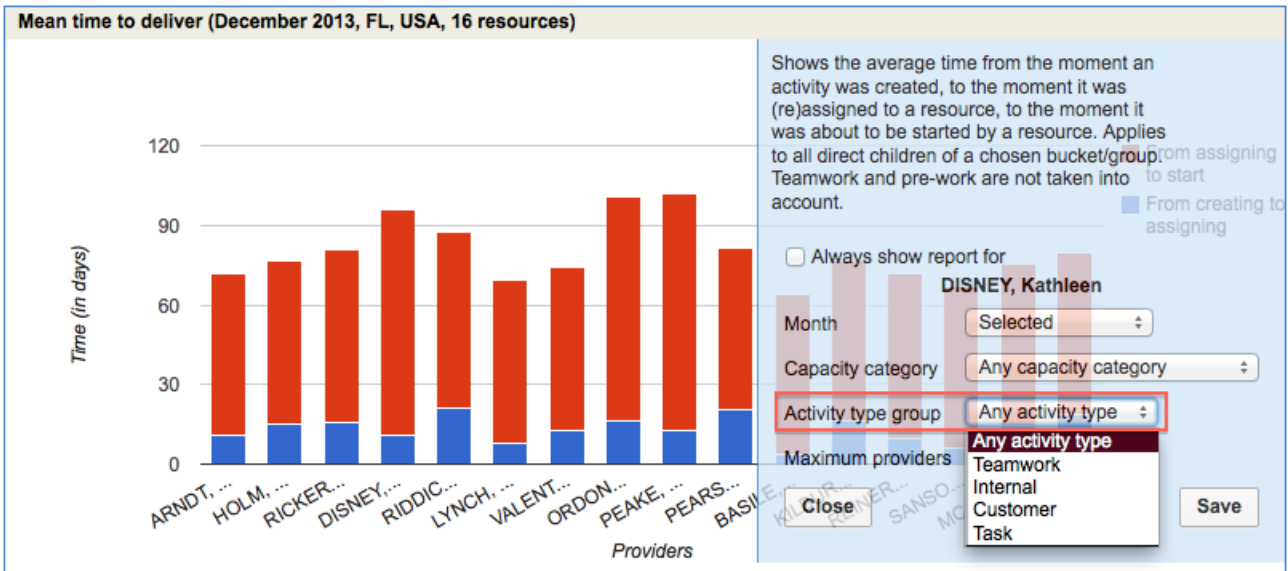


Figure 55: 'Activity type group' filter

### 3.3.2 'Average Productivity by Activity Type' Report Improved

The 'Average Productivity by Activity Type' chart displayed incorrect data. The data of the chart itself and the data in the hints appearing when the mouse is hovered over the chart showed different data. Hints for some activity types were not visible on the chart at all.

The chart type has been changed from 'Area Chart' (Figure 56) to 'Column Chart' (Figure 57) which ensures correct data both on the chart and in the hints.

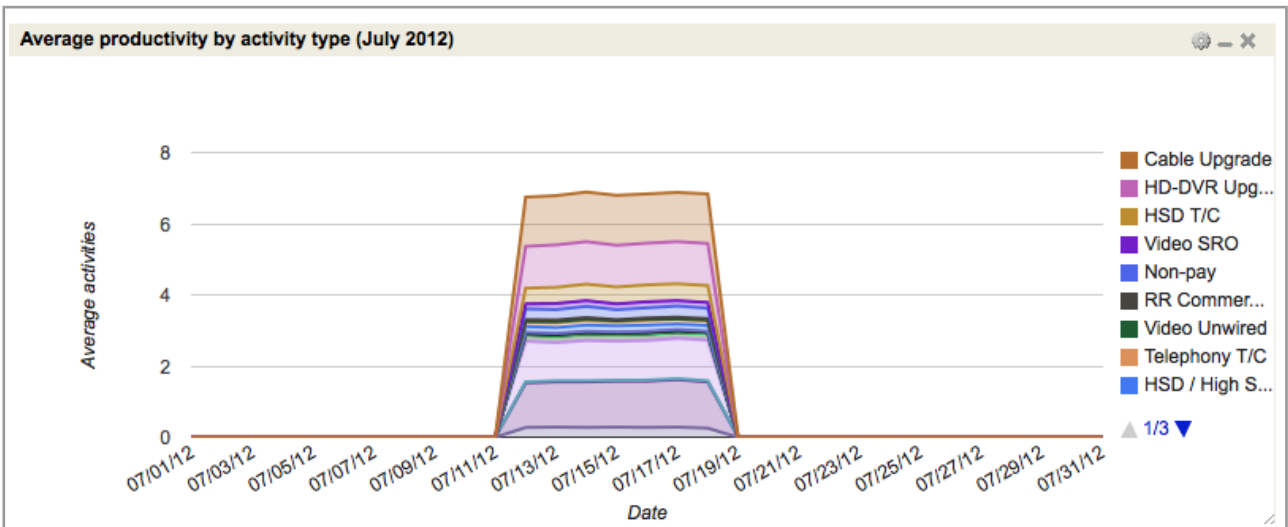


Figure 56: 'Average productivity by activity type' report shown as area chart

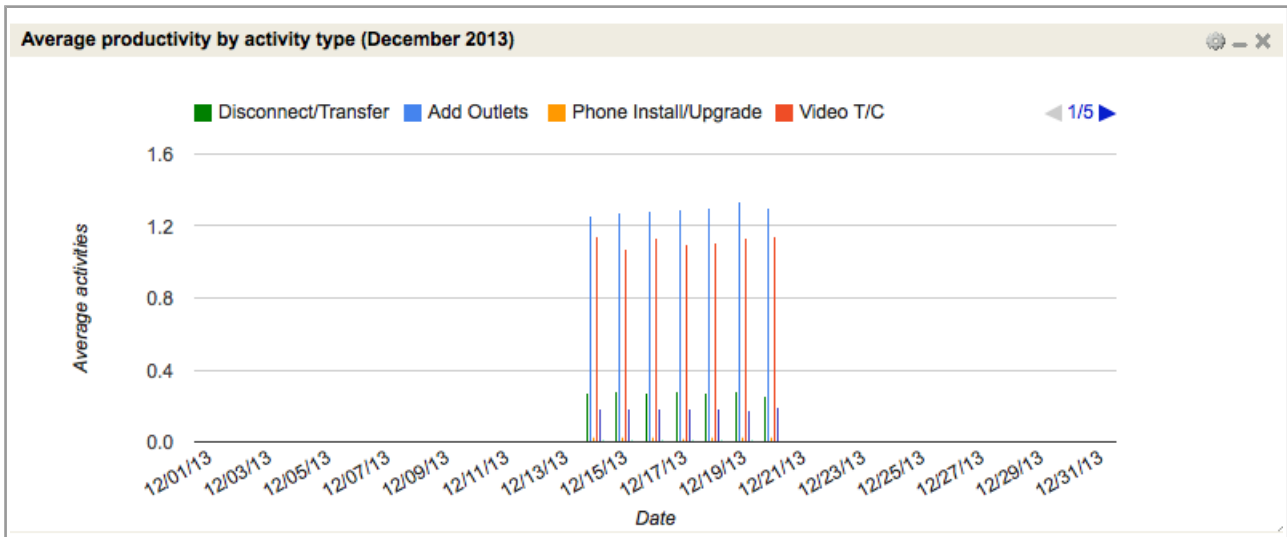


Figure 57: 'Average productivity by activity type' report shown as column chart

### 3.4 Reports

#### 3.4.1 'Work Order Statistics' Report Improved

As of version 4.5.10 the 'Work Order Statistics' report only displays the selected resource and its immediate child resources. The records are grouped by the activity work type, therefore, no duplicating records are shown for the same resource. The '% completed', 'avg time to complete' and 'total number of appts' values are now calculated automatically which greatly improves the report usability.

### 3.5 DWH

#### 3.5.1 Overnight Work Processed Correctly

If overnight was finished less than 4 hours before, DWH did not collect the yesterday's data. The data for the day before yesterday was collected instead.

The DWH script has been changed to properly calculate the time of run with the overnight work. Now if overnight is finished, the data for the finished day is extracted.

## 4 ETAdirect Version 4.5.11

### 4.1 Changes Overview

[Allowed and disallowed IP addresses lists implemented](#)

[Contact information removed from maintenance message](#)

[Unused permissions removed](#)

['Required inventory missing' alerts implemented](#)

[Quota closing 'N' days before](#)

[Checkboxes in 'Resource and Bucket Info' screen improved](#)

[Quota level selection included in filter](#)

[Placeholder spelling corrected](#)

[New placeholders added](#)

['Auto-populate' functionality implemented](#)

[Behavior of 'Automatically adjust '% Quota' values to keep their total equal to 100%' checkbox improved](#)

[Work zone status display corresponds to capacity bucket settings](#)

[Capacity category assignment change no longer causes synchronization errors](#)

['Users' screen permission applied correctly](#)

[Activities View displayed properly after 'My Display' screen](#)

[Large number of activities exported properly](#)

[Activities with Service Window assigned properly in overnight](#)

[Map View Always Shows Driving Directions](#)

[Forecasting functionality improvements](#)

['Delete' permissions disabled](#)

['Help' permission removed](#)

[Display profiles usage checked before deletion](#)

[Native Applications Support and Configuration Enabled](#)

[Notice statements added to 'Add/Edit Login Policy' window](#)

[Dragging and dropping of available MIME types disabled in 'Properties' screen](#)

['Allowed MIME types' field behavior improved](#)

[Work Zone keys containing diacritic marks can be removed](#)

['Required Inventories' permission list fixed](#)

[DWH and Themes configuration screens changed](#)

['Enter' button works properly in 'DWH Configuration' screen](#)

[Structures with multiple fields saved properly](#)

[Auto-scrolling available in properties list in 'DWH Configuration' screen](#)

[DWH configuration import improved](#)

[DWH configuration screen title improved](#)

[Deleted field details no longer shown](#)

[Structure fields highlighted on mouse hover](#)

['Submit' button of 'Add Field' window remains visible](#)

['Discard changes' button produces correct effect](#)

[Field names changed immediately after editing](#)

[Reordered fields highlighted](#)

[Certain field names made readonly](#)  
[Changed inventory properties displayed correctly](#)  
[Required inventory history recorded properly](#)  
[Auto-resolve of synchronization conflict](#)  
[Data synchronization optimized](#)  
[Asynchronous requests processed properly](#)  
[Mandatory parameter check added](#)  
[Activity start and end time conflict resolved](#)  
[Conflict between activity start time and queue activation \(previous activity end\) time resolved](#)  
[Conflict between queue activation and deactivation resolved](#)  
[Offline synchronization error descriptions logged in DWH](#)  
[Mobility Application performance in offline mode improved](#)  
[Search functionality implemented](#)  
[Native Applications Launched in Mobility Application](#)  
[Not-ordered activities no longer shown in 'Position in Route' list](#)  
['Back' button works correctly](#)  
['Search' and 'Community' windows no longer displayed simultaneously](#)  
[Refresh timeout default has been set to 5 seconds](#)  
['Number of attempts on "failed" status' settings work properly](#)  
[Message pattern supports JSON](#)  
[Parts Catalog Search Implemented in Manage Application](#)  
[Catalog item images implemented](#)  
[Cache Loading of Parts Catalog Implemented](#)  
['Enter' key works in 'Search in Catalog' screen](#)  
['Routing Plan' window no longer closes spontaneously](#)  
['Percent of Contacted Customers' report improved](#)  
[Reports permissions applied correctly](#)  
[File properties extracted correctly](#)  
[Extracted files archived as tar.gz](#)  
[Beginning of extraction period calculated correctly with overnight](#)  
[External System Agent – SOAPAction conforms to WSDL](#)  
[Capacity API – ability to define default duration value implemented](#)  
[Capacity API – no travel time returned for activities requiring no travel](#)  
[Capacity API – new operations implemented](#)  
[Capacity API – 'location' filter applied properly](#)  
[Capacity API – activity type determination by label improved](#)  
[Capacity API – SOAP Faults changed to conform to SOAP schema](#)  
[Capacity API – 'Quota can be closed for' options checked](#)  
[Inbound API – 'time\\_slot' field now optional](#)  
[Inbound API – activity update improved](#)  
[Inbound API – ability to delete links of specified type implemented](#)  
[Inbound API – history records optimized](#)  
[Inbound API – 'command/time' field added](#)

[Parts Catalog API – images upload implemented](#)

[Parts Catalog API – weights upload implemented](#)

[Resource Management API – 'points' field returned when defined](#)

[Resource Management API 'get\\_resource\\_zones' Improved](#)

[SOAP requests and responses larger than 500 kB no longer logged](#)

[Duration estimations on bucket level updated properly](#)

[File storage usage report implemented](#)

[Queue status checked before activation](#)

[Field properties viewed properly in ReadOnly mode](#)

[Travel time calculated from route reactivation](#)

## 4.2 Security

### 4.2.1 Allowed and Disallowed IP Addresses Lists Implemented

In order to increase the security, ETAdirect now supports the 'black' and 'white' lists of IP addresses from which users log in the system.

For this purpose the 'Login Policy' window now has two additional fields – 'Allowed IP addresses list' and 'Disallowed IP addresses list' (Figure 58).

The addresses in the lists can be separated by new lines. The 'Add/Edit Policy' window contains examples of correct IP addresses input. If both lists are left empty, no restrictions are applied.

When the new or modified login policy is saved, the IP addresses are validated. If any errors are found, they are shown with the first wrong line.







Figure 58: 'Allowed/Disallowed IP addresses list' fields added

Users can log in from the IP addresses specified in the 'Allowed' list, while when trying to log in from one of the 'Disallowed' addresses, the user is redirected to the login page. The 'Incorrect request. If the problem persists, please contact the administrator' error message is displayed (Figure 59, 60).

Figure 59: Error message in Manage Application

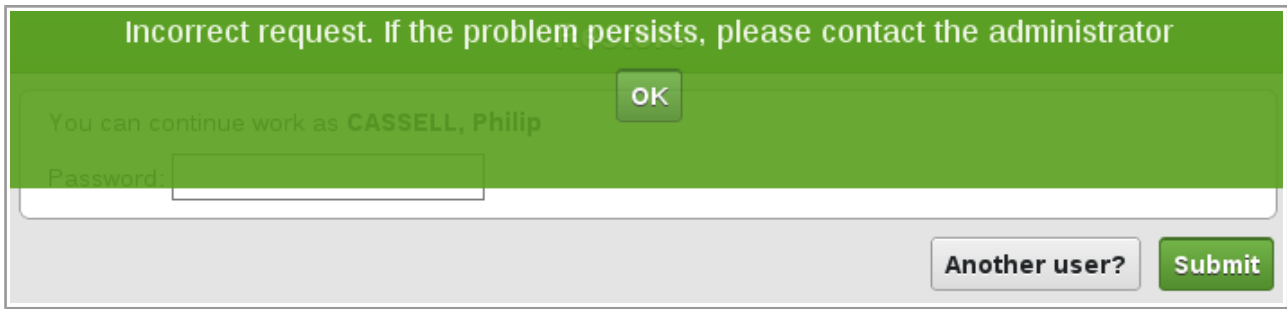


Figure 60: Error message in Mobility Application

If the user adds their own current IP to the list of disallowed addresses, the login policy is not saved and an 'Allowed or disallowed list of IP addresses will lock you out of the site' warning message is displayed. This prevents the user from locking themselves out unintentionally.

The corresponding placeholders have been implemented.

## 4.3 General

### 4.3.1 Contact Information Removed from Maintenance Message

As of version 4.5.11 the maintenance message displayed when the application server is inaccessible contains no ETAdirect contact data. Now the message reads as follows:

'The {TITLE} site is temporary unavailable and will be back up in a few minutes. We apologize for the inconvenience.'

### 4.3.2 Unused Permissions Removed

In version 4.5.11 the following unused permissions have been removed from the system:

- Mobile interface → Activity Actions → Driving directions → Traffic based routing
- Mobile interface → WAP
- WEB interface → Activities → Fuzzy search
- WEB interface → Activities → Traffic
- WEB interface → Tools → Lan Benchmark
- WEB interface → Detach

### 4.3.3 'Required Inventory Missing' Alerts Implemented

The 'Required Inventory' functionality has been enhanced still further by implementing the required inventory check during an activity move to a different resource. If an activity with required inventory is moved via the 'Move' screen, the resource list will only show the resources with enough inventory, unless the 'Show all' checkbox is checked. If 'Show all' is checked, the resources with insufficient inventory will also be shown in the list, but they will be in red type and on mouse hover over such resources a 'Required inventory missing' hint is displayed (Figure 61).

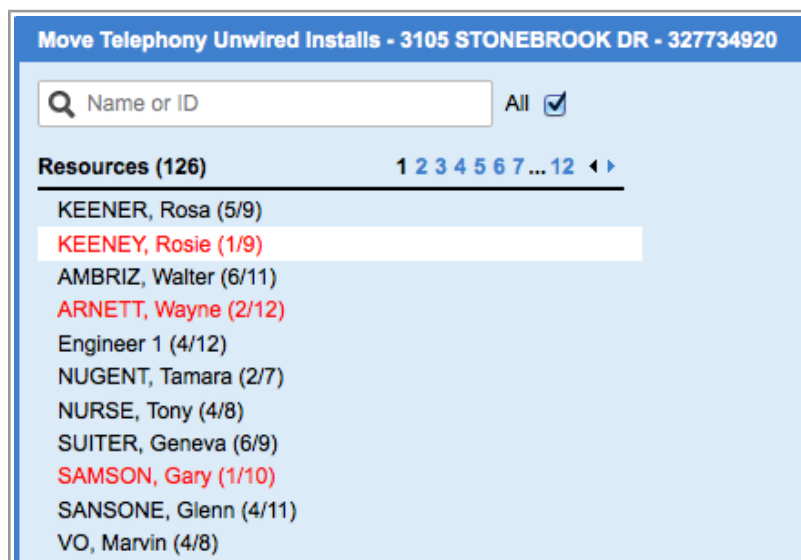


Figure 61: 'Move' screen with resources with not enough inventory highlighted in red

If an activity is still moved to a resource having not enough inventory, the resource icon in the Resource Tree will change to the alert icon and a 'Required inventory missing' alert will be displayed in the resource hint (Figure 62). The same alert is displayed in the resource hint in the Time View (Figure 63).

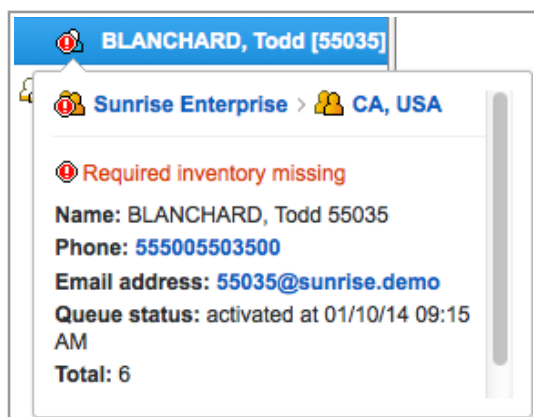


Figure 62: 'Required inventory missing' alert in resource hint in Resource Tree

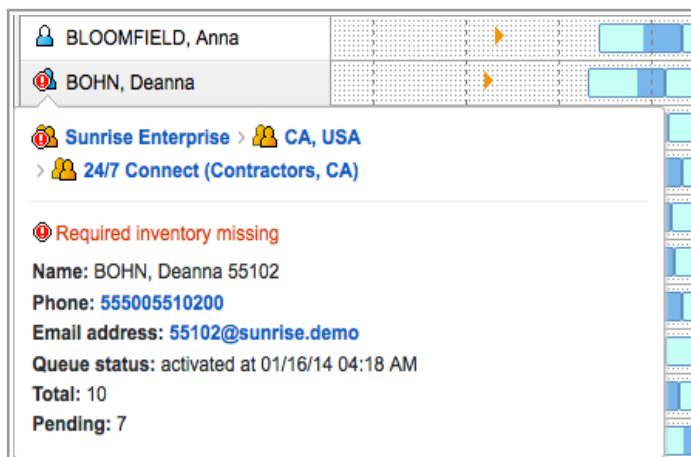


Figure 63: 'Required inventory missing' alert in resource hint in Time View

**Note:** the required inventory check is performed and the related alerts are displayed only for resources with queues (not for buckets) and for the current date (activity move to a future date is performed without the required inventory check).

## 4.4 Quota Management

### 4.4.1 Quota Closing 'N' Days Before

In order to improve the flexibility of Quota Management, it now supports closing not only at the specified time, but also the specified number of days before. Depending on the company's requirements, quota for certain combinations of time slot, capacity category and work zone can be closed certain number of days before.

For this purpose the 'Close time' popup window now has a drop-down list from which the user can select

number of days to close the quota before the actual time slot (Figure 64). The list has the following options:

- the same day (quota is closed on the actual time slot day)
- 1 day before
- 2 days before
- 3 days before
- 4 days before
- 5 days before

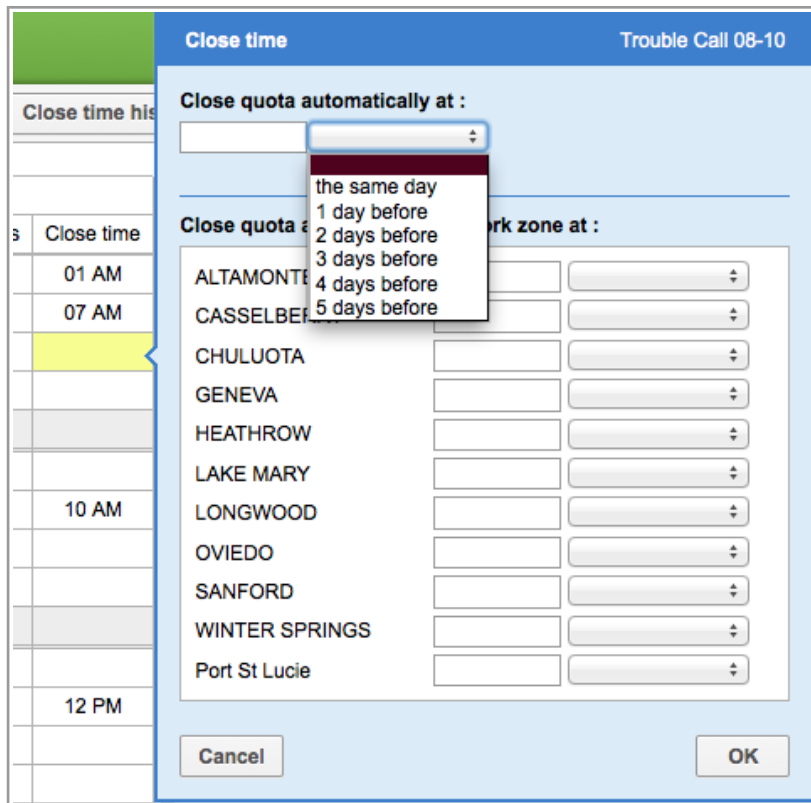


Figure 64: Quota close day selection

The same option is available for individual work zones (Figure 65).

Figure 65: Quota close day selector for a single work zone

When quota is closed several days before, the corresponding cell in the 'Close time' column will contain both the close time and the date when the quota is to be closed (Figure 66).

Time slot Capacity categories	Wednesday, January 15th, 2014				
	Quota	Used	% to stop booking at	Status	Close time
08-10		54		✓	01 AM
Install		54		✓	07 AM
Trouble Call				✓	Jan 13, 10 AM
Upgrade				✓	
<b>Total</b>		<b>54</b>			

Figure 66: Quota close date and time

#### 4.4.2 Checkboxes in 'Resource and Bucket Info' Screen Improved

The 'Estimate quota based on historical data' and 'Automatically adjust '% Quota' values to keep their total equal to 100%' checkboxes in the 'Resource and Bucket Info' screen did not show the actual settings. These checkboxes were always checked even when the user unchecked them previously. Moreover, if the 'Estimate quota based on historical data' checkbox was unchecked, the corresponding section related to historical data processing ('Historical values to be used' and 'Process historical data (same weekdays) for period of') collapsed (Figure 67). Therefore, when the user opened the 'Resource and Bucket Info' screen again, they had to click the 'Estimate quota based on historical data' checkbox twice to expand the section.

**Capacity category**

Quota is entered

in minutes

as % of the maximum capacity available in this category

as % of time slot quota

Estimate quota based on historical data

Automatically adjust '% Quota' values to keep their total equal to 100%

Allow to close based on % of the daily quota that is currently in use

Figure 67: Checkboxes checked (historical data-related section collapsed)

This issue has been fixed, and now the checkboxes reflect the actual quota configuration settings.

#### 4.4.3 Quota Level Selection Included in Filter

In order to improve the usability of the 'Quota Management' screen, the quota level selector (previously implemented as three buttons – 'Day', 'Time Slot', 'Capacity category') has been included in the 'View' window in addition to other filter options.

Now this selector is implemented in the form of the 'View' drop-down list containing the 'Day', 'Time slot' and 'Capacity category' options (Figure 68). The list of the available quota grid columns in the same window also changes with the selected 'View' option.

View ▾    Quota history    Close time history    Mass populate

**View**

Day ▾

Day

Time slot

Capacity category

Min quota

Quota

Booked activities

Used

Used quota %

Status

Close time

Apply

Figure 68: Quota level selector added to filter options

#### 4.4.4 Placeholder Spelling Corrected

Placeholder 8176 was spelled incorrectly: '**Substract** these activities from the maximum time slot **capacity** before calculation of quota'.

In version 4.5.11 the words are spelled correctly: '**Subtract** these activities from the maximum time slot



capacity before calculation of quota'.

#### 4.4.5 New Placeholders Added

Some Quota/Capacity screen elements were hard-coded and, therefore, impossible to edit or translate to other languages. In version 4.5.11 such hard-coded elements were replaced with placeholders to enable their editing or translation. The following elements were added:

- 'Quota history' window – confirmation buttons, sorting mode, filters
- 'Close time history' window – confirmation buttons, sorting mode, filters
- 'Automatic fill' window – the 'Cancel' button
- Calendar, the confirmation buttons in the 'Custom date' settings

#### 4.4.6 'Auto-Populate' Functionality Implemented

As of version 4.5.11 Quota Management has been enhanced by adding the new 'Auto-populate' functionality intended to avoid manual operations related to recurrent mass adjustments of quota parameters. The idea behind it is the same as for the 'Mass populate' functionality, except the quota grid cells are populated automatically according to the settings.

The 'Auto-populate' functionality allows to define or modify the rules of cells populating. Each rule is unique for each combination of:

- field, time slot and capacity category at the Capacity Category level
- field and time slot level at the Time Slot level
- field at the Day level

The 'Auto-populate' functionality is accessible as a popup window opened from the hint in a Quota cell (Figure 69).

Total		11582			
10-12		8465		✓	
Install		895		✓	10 AM
Trouble Call		1895		✓	
U		5511		✓	
Total					
13-1				✓	
Install		2276		✓	12 PM

Locked  
 Recurring autofill enabled [Modify](#)

Figure 69: 'Auto-populate' option in cell hint

The hint contains the 'Recurring autofill enabled' checkbox enabling or disabling the functionality and the 'Modify' link allowing to set or modify the auto-populate rules. Clicking 'Modify' opens the 'Recurring Autofill' window (Figure 70).





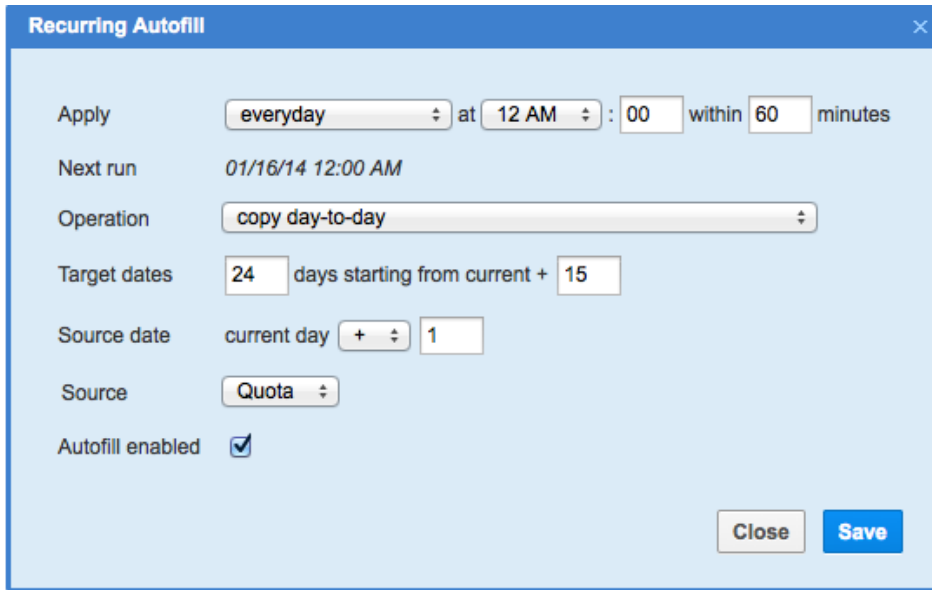


Figure 70: 'Recurring autofill' window

- 'Apply' – the field defining the schedule of auto-populate recurrence. Available values: 'everyday' (the operation is repeated daily) or 'every {WEEKDAY}' (the operation is repeated weekly on the selected day. This section includes also the field to define the auto-populate time and interval within which the operation is to be performed
- 'Last run', 'Next run' – the last and next auto-populate runs. These fields are hidden when there is no data to show (no last and/or next auto-populate runs exist)
- 'Operation' – the operation to be used for auto-populating
- 'Target dates' – the rule to calculate the dates on which the cells are to be auto-populated. In the example above the selected cell will be auto-populated for 24 consecutive days starting from 15 days from now
- 'Source date' – the date to be used as the source
- 'Source' – the value to be used as the source
- 'Autofill enabled' – the checkbox enabling of disabling the 'Auto-populate' functionality

The corresponding placeholders have been implemented, too.

#### 4.4.7 Behavior of 'Automatically Adjust '% Quota' Values to Keep Their Total Equal to 100%' Checkbox Improved

When the user unchecked the 'Automatically adjust '% Quota' values to keep their total equal to 100%' checkbox to disable this option, the changes were not saved. It was impossible to enter values with their total exceeding 100% in the Quota screen, and when the user opened the 'Resource Info' screen again, the checkbox was still checked.

As of version 4.5.11 the setting of the 'Automatically adjust '% Quota' values to keep their total equal to 100%' checkbox are properly saved to the database and are applied in the Quota screen, as intended.

#### 4.4.8 Work Zone Status Display Corresponds to Capacity Bucket Settings

As of version 4.5.11 the 'Status' and 'Close time' popup windows no longer show the work zones list if the 'Quota can be closed for' option is disabled for work zone (Figure 71). The resource settings are checked

before the 'Status' and 'Close time' popup windows are displayed.  
 This improved the informativeness and clarity of the popup windows.

Time slot Capacity categories	Wednesday, January 15th, 2014				
	% Quota	Used	Used quota %	Status	Close time
10-12		8465		✓	
Install	76%	895	9.32%	✗	Jan 10, 10 AM
Trouble Call	12%	1895	153.07%	✓	
Upgrade	12%	5511	420.69%	✓	
<b>Total</b>		<b>8301</b>			

**Close time**    Trouble Call 10-12

**Close quota automatically at :**

Figure 71: 'Close time' window with no work zones list

#### 4.4.9 Capacity Category Assignment Change No Longer Causes Synchronization Errors

When resource data was loaded from cache, the application server automatically recalculated their capacity categories and saved changes to the database. When the server was started in the 'slave' mode, it also performed the same operation, however, it was unable to write changes to the database. This caused synchronization errors.

Now the server does not recalculate the capacity categories of the resource in the 'slave' mode, therefore, no synchronization conflicts arise anymore.

At the same time, the 'Recalculate activities' action performed on the 'Capacity categories' screen also recalculates capacity categories for all resources.

### 4.5 Manage Application

#### 4.5.1 'Users' Screen Permission Applied Correctly

If the permissions for all group action links in the 'Users' screen, except 'Set login policy' and 'Set display profile', were disabled, the permitted links were not displayed, either. The checkboxes allowing to select multiple users from the list were missing, too. However, if any other permission (for example, 'Unlock user') was enabled, the 'Set login policy' and 'Set display profile' links were shown.

The group action permissions have been improved. Now they are applied correctly – only the action links for which permissions are open are displayed. The checkboxes are shown or hidden according to the permissions as well.

#### 4.5.2 Activities View Displayed Properly after 'My Display' Screen

If a user opened the 'My Display' screen, closed it and opened the 'Activities' screen, no Activities View was displayed. The screen was blank.

This issue has been fixed. Now the user is able to open the Activities View after working with 'My Display'.

### 4.5.3 Large Number of Activities Exported Properly

If a user attempted to export a large number of activities with many properties configured in the context layout. The export process stopped but no report was issued.

The export script has been changed to use less memory, and now large numbers of activities with multiple properties can be exported properly.

### 4.5.4 Activities with Service Window Assigned Properly in Overnight

The procedure of activities assignment during overnight work has been improved to properly handle activities with both service window start and end after midnight. If the following conditions are met:

- the activity has a service window with start time less than end time
- the technician to which the activity is assigned has a 'regular' overnight calendar (the calendar start is equal to or greater than the calendar end)
- the service window does not overlap the regular calendar

the system adds 24 hours to both service window start and service window end. This causes the service window to overlap the resource's working time which is the correct activity assignment.

### 4.5.5 Map View Always Shows Driving Directions

Previously, the default presentation of the Map View was a poly-line connecting the activity sites, while the user could change the display to the 'Driving directions' by checking the 'Show driving directions' checkbox in the 'View' window (Figure 72).

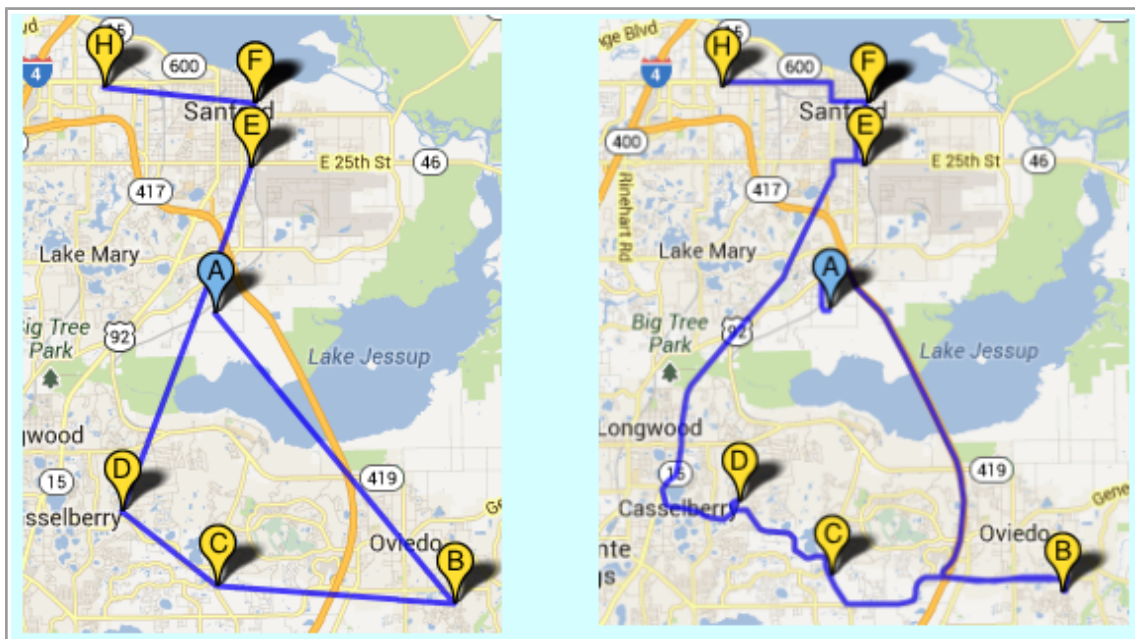


Figure 72: Resource's route represented as poly-line (left) and as driving directions (right)

To achieve a clearer representation and improve user perception of the route the Map View has been changed to always show driving directions. The 'Show driving directions' checkbox has been removed. If the 'Driving directions' function of Google Maps is not available, the Map View shows the route as a poly-line.

## 4.6 Forecasting

### 4.6.1 Forecasting Functionality Improvements

In order to increase the usability of the Forecasting functionality, a number of improvements have been made to the Forecasting GUI.

- A new trend has been added to the Forecasting views – Available resources. The 'Available resources' line shows the current resources availability in the selected units. The 'Available resources' data corresponds to the 'Max available' figure of the 'Quota Management'. The 'Available resources' line shows the actual data, if the 'Estimate maximum capacity for **day**' option has been enabled in the 'Quota management' section of the 'Resource info'. Otherwise, the 'Available resources' line shows '0'.

The 'Available resources' trend has been added to both Dashboard and Table View and is shown as a navy line or navy bullet, respectively.

The legend has been changed to better reflect the represented data. The 'Capacity' line and column has been renamed to 'Work performed' and 'Forecasting' has been renamed to 'Forecast' (Figure 73).

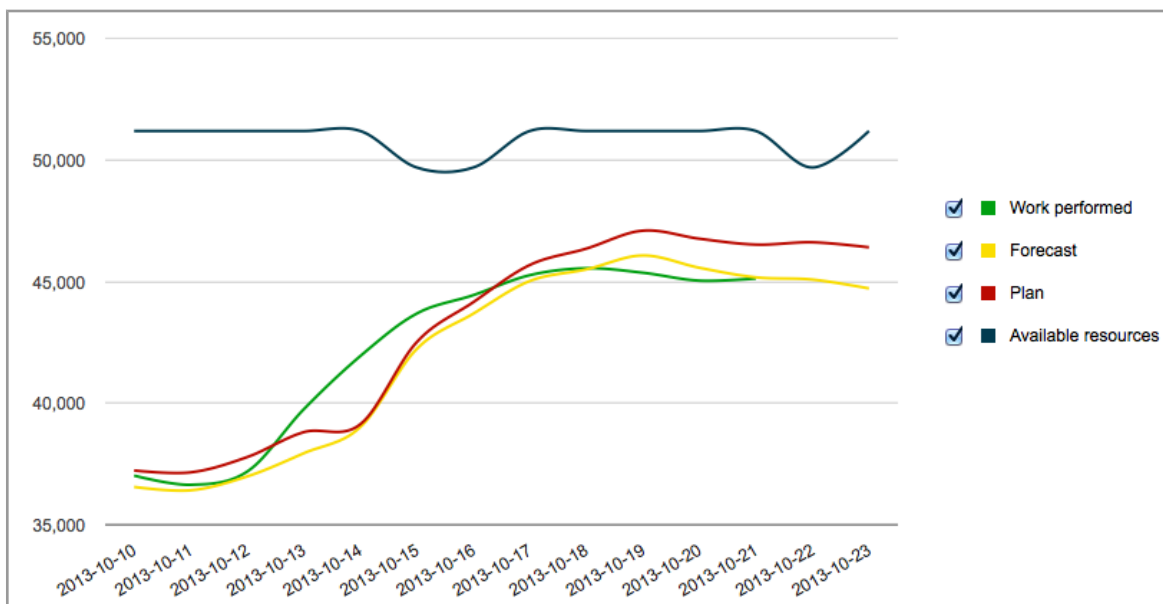


Figure 73: New 'Forecasting' screen layout

- The title of the 'Set plan...' window has been changed to 'Set plan from... to...' which gives a clear idea of the plan settings with the user's date format to be defined (Figure 74).







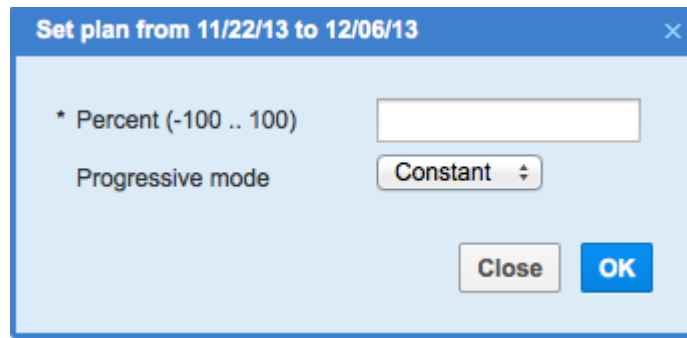


Figure 74: 'Set plan...' window

- The figures in the Table View are now shown with thousands separator to ensure consistency with data format in the Dashboard (Figure 75).

Date	<input checked="" type="checkbox"/> Work Performed	<input checked="" type="checkbox"/> Forecast	<input checked="" type="checkbox"/> Plan	<input checked="" type="checkbox"/> Available resources
2013-10-10	37,023	36,557	37,233	49,680
2013-10-11	36,646	36,418	37,156	49,680
2013-10-12	37,188	36,988	37,783	51,180
2013-10-13	39,745	37,939	38,806	51,180
2013-10-14	41,931	39,014	39,131	51,180

Figure 75: Thousands separators in Table View

- In order to improve the data display in the Dashboard, the selection between chart detalization at the day or month level has been implemented. The 'month' level detalization is useful when data for a long period (e.g. a year) is requested. When data detalization at the day level is applied to long periods of time, the chart may be difficult to interpret (Figure 76).

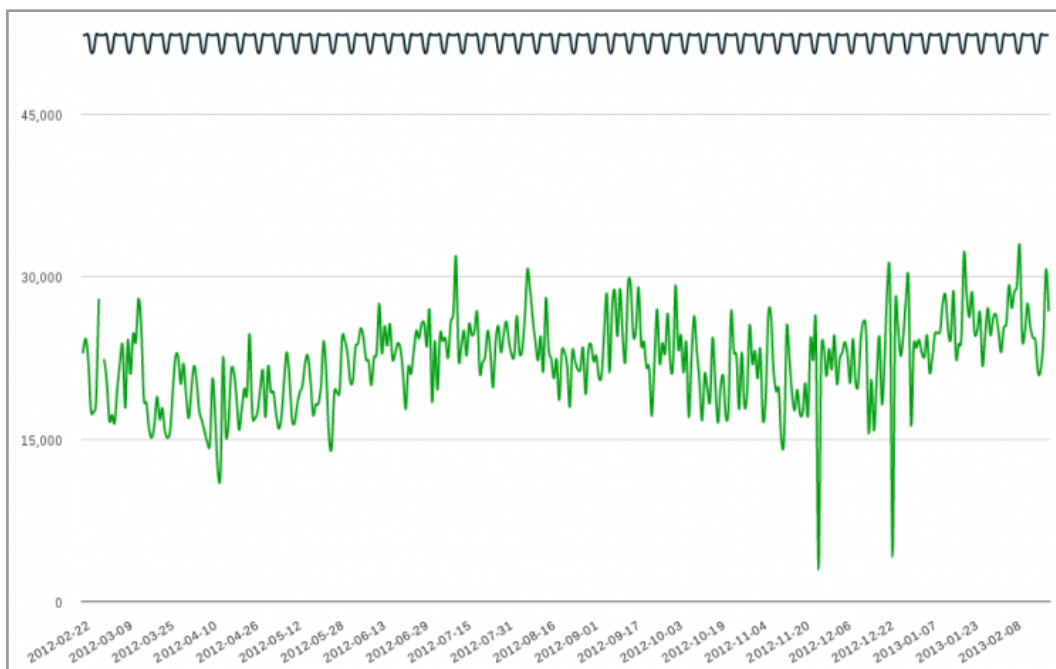


Figure 76: Data for one year period with detalization at day level

If detalization at the month level is applied to the same data, the chart looks much clearer (Figure 77).

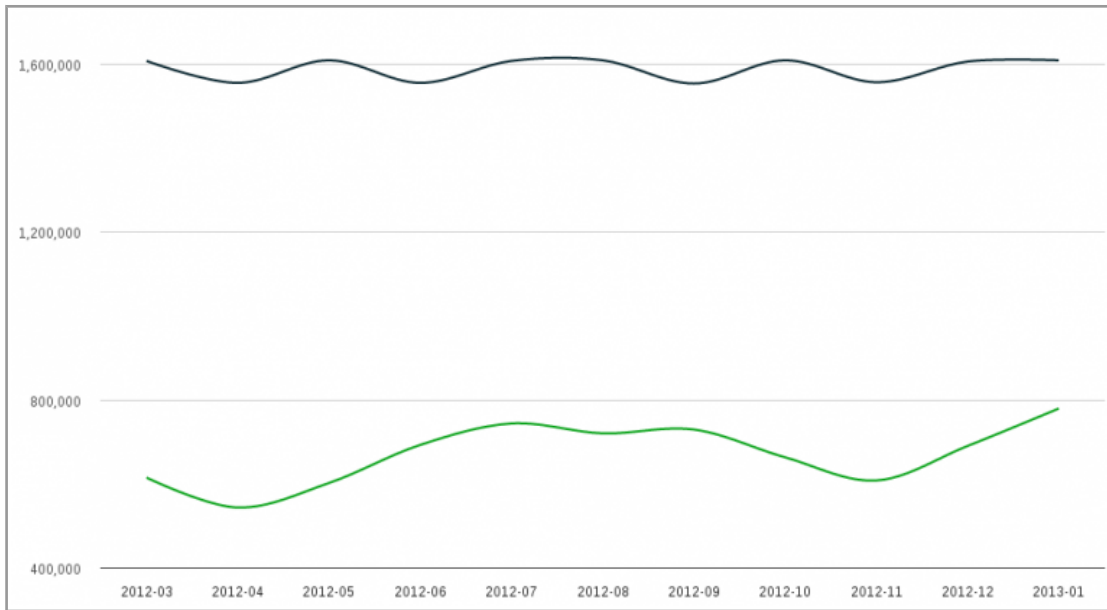


Figure 77: Data for one year period with detailization at month level

The level of detailization is selected in the 'View' window of the 'Forecasting' screen (Figure 78).

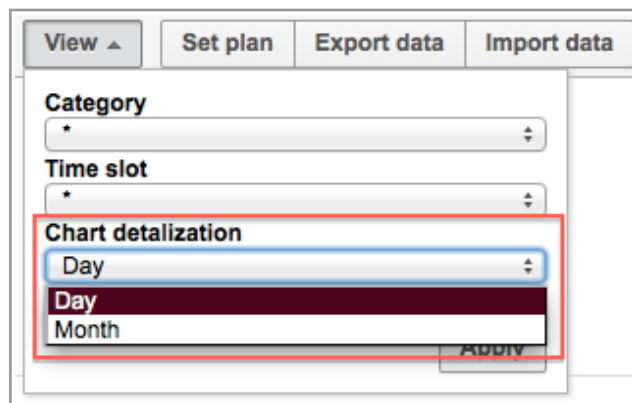


Figure 78: Chart detailization selection

- Several changes have been made to the structure of export and import files:
  - the 'Bucket PID' column has been renamed to 'Bucket external ID' which is the correct description of the data contained in the column
  - the 'Deviation' column has been removed as unnecessary

## 4.7 Company Settings

### 4.7.1 'Delete' Permissions Disabled

In order to control deletion of various entities and elements the following permissions have been disabled in the Maintenance level and, therefore, can no longer be found in the 'Permissions' tree, so that users cannot change them in the Manage Application:

- Manage/Company Settings/Properties/Delete property
- Manage/Reports/Configuration Log
- Manage/Settings/Users/Session list in user menu
- Manage/Tools/File Management/Delete file/directory

- Manage/Tools/File Management/Rename file/directory
- Manage/Settings/Users/Delete user
- Manage/Company Settings/Work Zone Dictionary/Set work zone key
- Manage/Settings/My Display/Display Profiles/Delete display profile
- SOAP interface/Resource management/Delete user

#### 4.7.2 'Help' Permission Removed

Previously, users were able to change the 'Help' permission via the 'Permissions' tree in the Manage Application (Figure 79).

As of version 4.5.11 the 'Manage' → 'Help' permission has been removed from the Permissions list in the Manage Application. Users can no longer change this permission from the Manage Application.

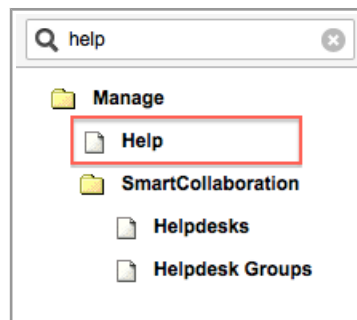


Figure 79: 'Help' permission in previous versions

#### 4.7.3 Display Profiles Usage Checked before Deletion

To prevent users from accidentally deleting display profiles already assigned to users, a new check has been implemented. When the user submits the form with one or more display profiles deleted, the profiles assigned to users will not be deleted with the following warning message: '{PROFILE NAME} is already in use and can't be deleted'. This way any unintentional deletions can be avoided.

#### 4.7.4 Native Applications Support and Configuration Enabled

As of version 4.5.11, the system supports configuration of the 'Native application' type plugins which can be launched from the Mobility Application.

For this purpose the new 'external\_native' plugin type has been added to the Action Management screen.

In order to setup a native application, go to Company settings > Action Management.

On the 'General' tab check 'Is plugin' checkbox, then choose the 'Native application' option from the 'Type' dropdown list on the 'Plugin details' tab (Figure 80).

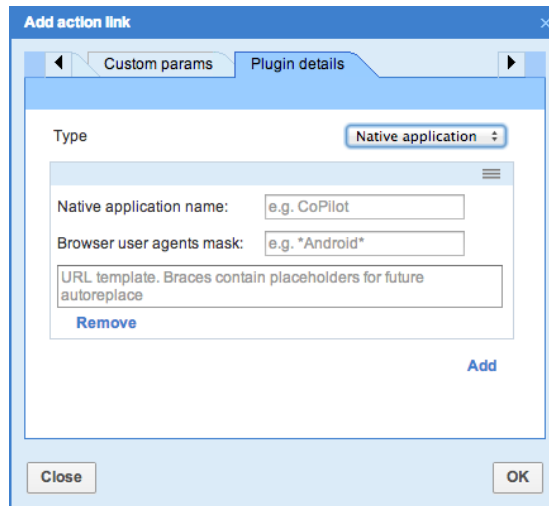


Figure 80: 'Native Applications' configuration screen

The native application configuration contains the following parameters:

- Native application name
- Browser user agents mask
- URL template

The 'Plugin details' tab allows to add several Native Application cards to one action link. It also has the possibility to add, remove, edit, change and sort them.

#### 4.7.5 Notice Statements Added to 'Add/Edit Login Policy' Window

In order to prevent unexpected changes to user authentication procedures as well as unintentional blocking of users, the 'Add/Edit Policy' window now has notice statements attached to the fields which may affect other user's authentication (Figure 81).

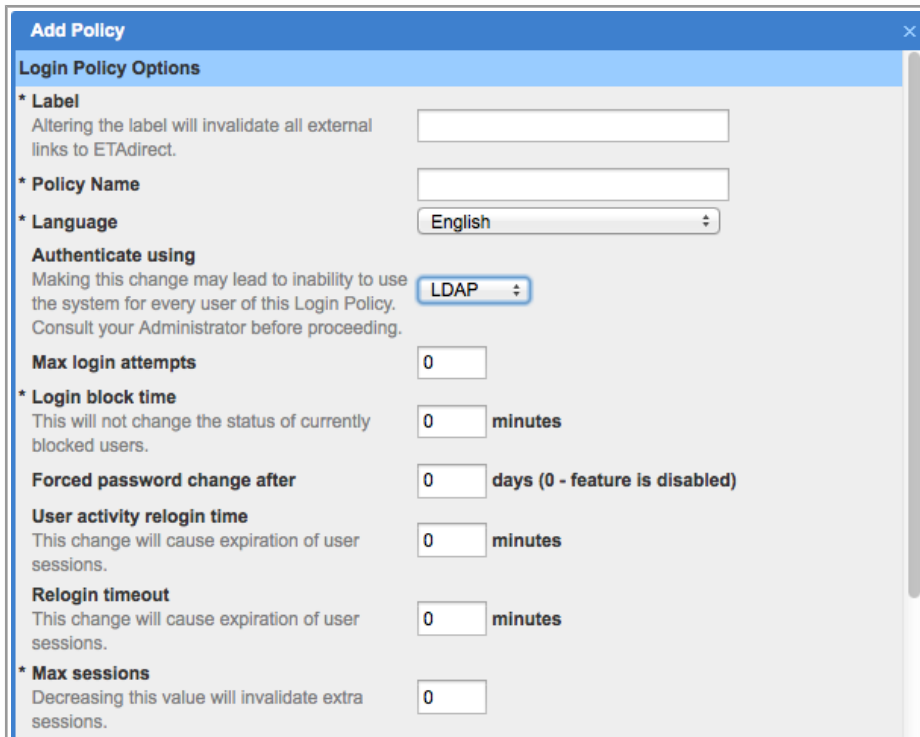


Figure 81: Notice statements in 'Add/Edit Policy' window

These informational statements advise the user of the consequences of login policy settings changes. The corresponding placeholders have been implemented as well.

#### 4.7.6 Dragging and Dropping of Available MIME Types Disabled in 'Properties' Screen

Previously, a user was able to drag and drop a MIME type example to the 'Allowed MIME types' field while creating a file property. However, the selected MIME type appeared as a URL rather than the name (Figure 82).

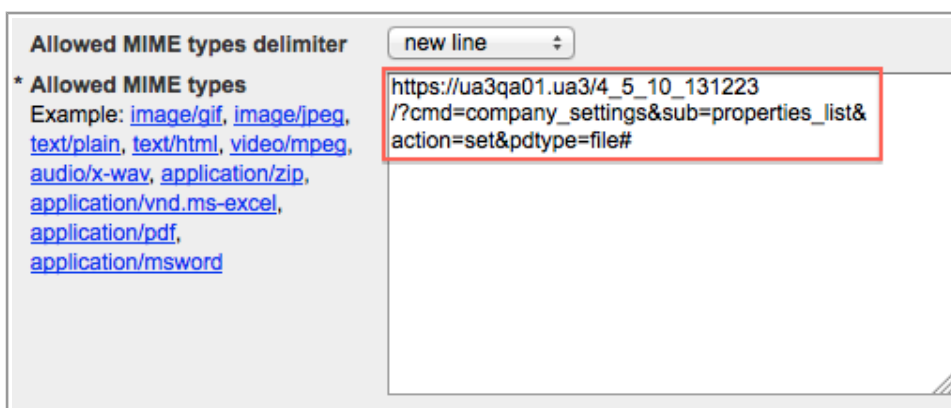


Figure 82: MIME type example copied as URL by dragging and dropping

As of version 4.5.11 dragging and dropping of MIME type examples has been disabled. They can be copied in the 'Allowed MIME types' field by clicking the corresponding examples.

### 4.7.7 'Allowed MIME Types' Field Behavior Improved

On a mouse click anywhere except on a MIME type example link in the 'Example' section, the entire list of MIME type examples was copied to the 'Allowed MIME types' field together with the word 'Example:' (Figure 83).

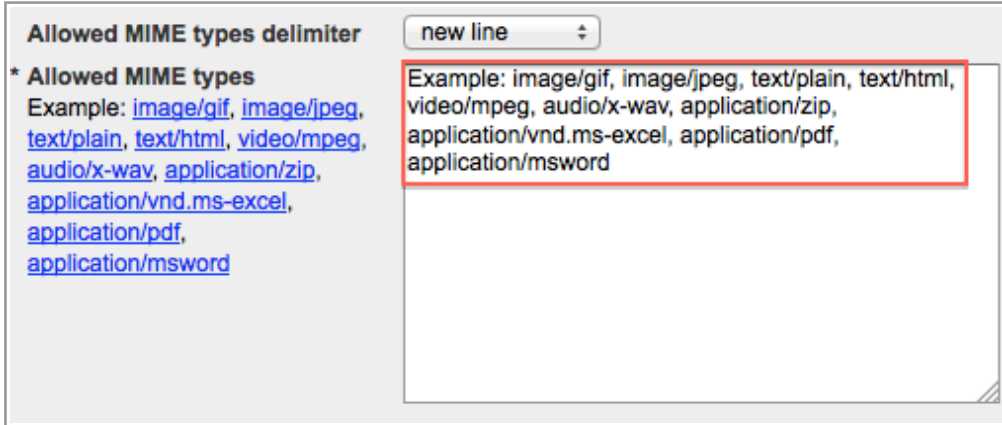


Figure 83: List of MIME type examples copied

As of version 4.5.11 mouse clicks have effect only on the example links and any clicks outside the links produce no action.

### 4.7.8 Work Zone Keys Containing Diacritic Marks Can Be Removed

Previously, letters with diacritic marks and the letters without such marks (ä → a, ü → u, etc.) were considered the same. Therefore, when work zone keys different only in diacritic marks existed (SAL, SÄL), neither of them could be removed.

Now the system distinguishes between letters with and without diacritic marks and, therefore, work zone keys containing such letters can be removed.

### 4.7.9 'Required Inventories' Permission List Fixed

In the previous versions the 'Permissions' list for SOAP → Mobile Client contained two 'Get Required Inventories' permissions (Figure 84). However, one of these titles actually corresponded to the 'Set Required Inventories' permission.

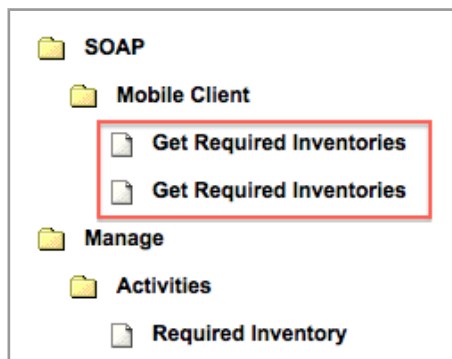


Figure 84: Duplicated 'Get Required Inventories' permission

The translation of the 'Set required Inventories' permission has been changed to the correct one, and

now the list shows both permissions correctly (Figure 85).

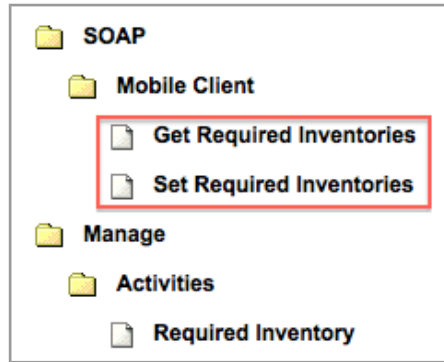


Figure 85: Correct permissions

#### 4.7.10 DWH and Themes Configuration Screens Changed

In order to maintain the GUI uniformity across the system, the following changes have been made to the DWH and Themes configuration screens:

- buttons 'Add themes', 'Export themes' and 'Import theme' in the 'Themes' screen have been renamed to 'Add new', 'Export' and 'Import', respectively (Figure 86)

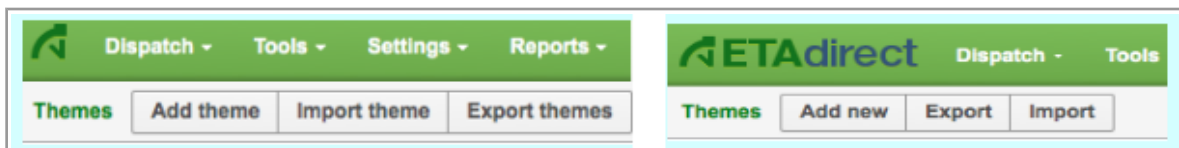


Figure 86: 'Themes' buttons before change (left) and after change (right)

- both in the DWH and Themes configuration screens the 'Export' button has been placed first with the 'Import' button after it
- the export file name format in the DWH configuration screen has been changed to '{user\_date\_format}\_{company\_name}\_dwh\_configure.xml'

#### 4.7.11 DWH Configuration Functionality Improvements

##### 4.7.11.1 'Enter' Button Works Properly in 'DWH Configuration' Screen

If the 'Enter' button was pressed in the open 'Import', 'Add configuration' or 'Add field' window, the form was not submitted and it was impossible to close the dialog window afterwards. Errors were written to the log.

After the issue has been fixed, pressing of the 'Enter' button submits the form or performs other action for which the window is intended (e.g., deleting) which is the correct behavior in such cases.

##### 4.7.11.2 Structures with Multiple Fields Saved Properly

If a large number of fields/properties was added to the DWH configuration structure, upon the form submission the screen switched to the Activities Time View and the DWH configuration structure remained empty.

In version 4.5.11 data sending to server from the 'DWH configuration' screen was improved. Now DWH configurations with large numbers of properties are saved correctly.



### 4.7.11.3 Auto-Scrolling Available in Properties List in 'DWH Configuration' Screen

When many properties were added to DWH configuration, it was difficult to change their order by dragging and dropping. The list was not scrolled automatically and the user had to perform several steps to move a property up or down the list.

Auto-scrolling has been fixed, and now the properties can be easily rearranged in the list by dragging and dropping.

### 4.7.11.4 DWH Configuration Import Improved

- If the same DWH configuration was imported twice, the previous configuration was not overwritten. A new configuration was added to the existing one.  
As of version 4.5.11, if an imported DWH configuration contains a file with the same name as the file in the existing configuration, the previous file is overwritten with the imported one (a message is displayed for the user to confirm the overwrite).
- If DWH Configuration is imported to the Manage Application, the DWH script will extract the files in XML format, regardless of the 'Export Format' settings.

### 4.7.11.5 DWH Configuration Screen Title Improved

In some cases, if the user switched from a DWH configuration structure to the 'Activities' screen and then back to the 'DWH Configuration' screen, the screen title showed the name of the last opened configuration file and the 'Close' button which were redundant (Figure 87).

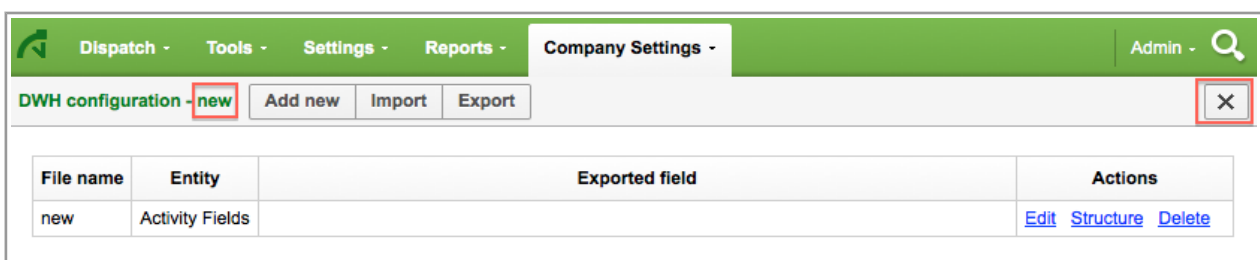


Figure 87: File name and 'Close' button shown in 'DWH Configuration' screen title

The 'DWH Configuration' screen has been fixed, and now no redundant elements appear in it anymore.

### 4.7.11.6 Deleted Field Details No Longer Shown

If a field was deleted from the structure of a DWH configuration file, such field details remained on the screen (Figure 88).

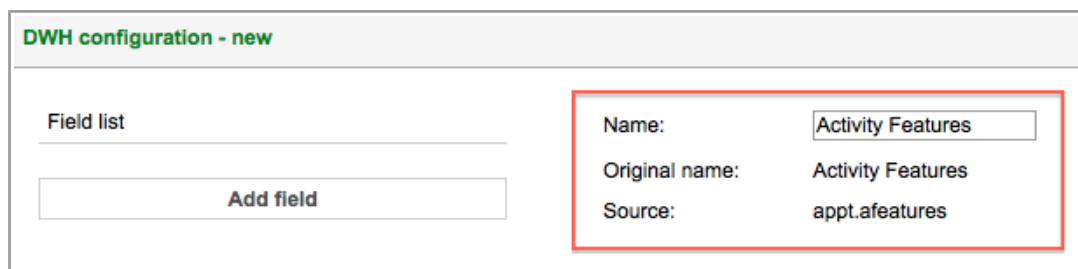


Figure 88: Deleted field details shown

As of version 4.5.11 the details of deleted fields are removed from the screen as well.

#### 4.7.11.7 Structure Fields Highlighted on Mouse Hover

As of version 4.5.11, fields of the DWH configuration file structure are highlighted in gray on mouse hover, similar to the fields of the context layout structure (Figure 89).

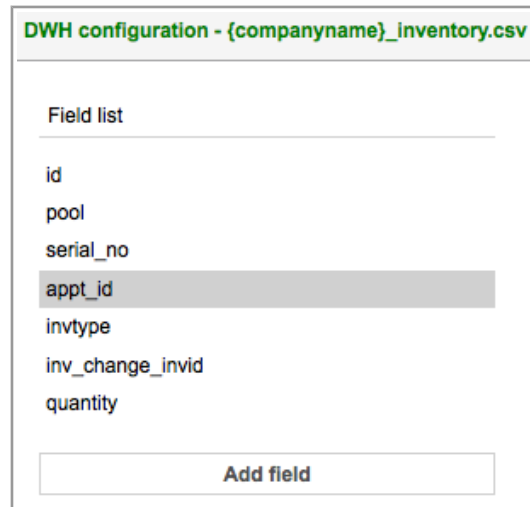


Figure 89: Highlighting in 'DWH configuration' screen

This improves the screen usability and increases the system uniformity.

#### 4.7.11.8 'Submit' Button of 'Add Field' Window Remains Visible

If a large number of fields were added simultaneously in the 'Add field' window, the 'Submit' button moved beyond the screen borders and became invisible.

In version 4.5.11 the dialog windows of the 'DWH Configuration' screen are aligned so that their buttons remain visible at all times.

#### 4.7.11.9 'Discard Changes' Button Produces Correct Effect

If any changes were made in the DWH configuration file structure screen and then the 'Discard changes' button was clicked, the changes were not applied, but were still shown on the screen. This was incorrect operation of the 'Discard changes' button

In version 4.5.11 the 'Discard changes' button removes all unsaved changes from the screen, which is its intended purpose.

#### 4.7.11.10 Field Names Changed Immediately after Editing

If a field was renamed in the DWH configuration structure, the new name appeared only after the form submission or after any new fields were added or other fields were deleted from the structure.

This issue has been fixed. Field name changes are visible immediately, which is the correct behavior of the 'DWH configuration structure' form.

#### 4.7.11.11 Reordered Fields Highlighted

As of version 4.5.11 a field reordered in the fields list of a DWH configuration structure remains highlighted with all applicable action links shown (Figure 90). This way, the user can easily control the fields reordering in the list.

The screenshot shows a web interface titled "DWH configuration - test". Below the title is a section labeled "Field list" with a horizontal line underneath. A list of field names is displayed: "Activity Notes", "Activity ID", "Activity Features", "Resource ID", "Activity Type", "Activity time of booking", and "Address". The "Resource ID" entry is highlighted with a red rectangular border and contains two blue links: "Add field" and "Delete". At the bottom of the field list section is a button labeled "Add field".

Figure 90: Reordered field highlighted in the list

#### 4.7.11.12 Certain Field Names Made ReadOnly

Due to data extraction restrictions field names in the DWH configuration structure of the following entities have been made ReadOnly (no editing is allowed) (Figure 91):

- GPS Track
- GPS Data
- Type List
- File Property

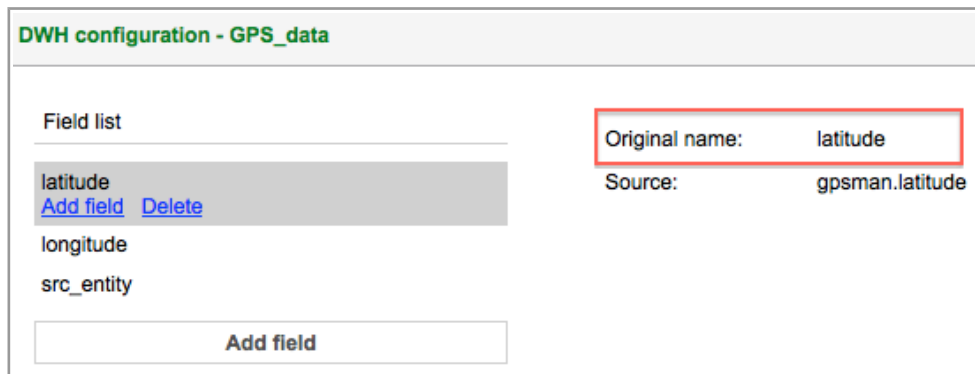


Figure 91: ReadOnly field name in DWH configuration structure

## 4.8 Inventory

### 4.8.1 Changed Inventory Properties Displayed Correctly

If an inventory property was changed in the Manage Application, its value was not shown in the Mobility Application.

This issue has been resolved, and now the Inventory properties are shown with values filled-in.

### 4.8.2 Required Inventory History Recorded Properly

In the previous versions no actions with required inventory (Add/Edit/Delete) were recorded in the 'inventory history' table or shown in the GUI.

Now the required inventory actions are written to the 'inventory history' table and can be viewed in the GUI.

## 4.9 Mobility

### 4.9.1 Offline Synchronization Improvements

#### 4.9.1.1 Auto-Resolve of Synchronization Conflict

In version 4.5.11 the solutions for the following synchronization conflicts have been implemented:

- the dispatcher moves a pending activity from the resource's queue while this resource is offline. If the resource makes any changes to that activity in the offline mode, such changes will be applied after the resource returns online if the activity is still in the 'Pending' status. Otherwise, the changes will be discarded with a corresponding alert message
- the dispatcher changes order of the activities in the resource's queue while this resource is offline (A1, A2 is changed to A2, A1). If the resource starts activity A1 in the offline mode, the changes are applied after the resource returns online if activity A2 is still in the 'Pending' status. Otherwise, the changes will be discarded with a corresponding alert message

#### 4.9.1.2 Data Synchronization Optimized

The offline synchronization procedure has been improved in respect of large amount of data to be synchronized. Now large data is sliced in several parts according to the network capacity. Also, data is prioritized – Business Actions (changes saved on the 'Activity details' or 'Inventory' screens) are sent first with GPS coordinates following.

This allows avoiding data losses during synchronization as well as preventing the application hang or excessive response time.

#### **4.9.1.3 Asynchronous Requests Processed Properly**

As of version 4.5.11 the data synchronization no longer locks the application and the user can still have almost full access to its functionality to continue working, except the screens requiring the synchronized state, such as 'Options', 'Calendar', 'Select resource', 'Move Activity', 'Reschedule', 'Change Password' and 'Logout'. All these screens, except 'Logout', remain blocked during synchronization. The 'Logout' action performed during synchronization offers the user the following three options:

- Save – the synchronization process is kept until completion
- Discard – all already collected changes are discarded, the user is logged out
- Cancel – logout is canceled, synchronization continues

#### **4.9.1.4 Mandatory Parameter Check Added**

The conflict occurs when the 'sr\_pid' (a mandatory field of the 'support\_requests' contexts) is not assigned.

Such conflicts can now be avoided with a new check of the 'sr\_pid' parameter implemented in version 4.5.11.

#### **4.9.1.5 Activity Start and End Time Conflict Resolved**

If the activity could not be completed or set notdone at the specified time, during offline synchronization there could be situations when activity start time was later than the activity end (notdone) time. This led to synchronization conflicts.

As of version 4.5.11 such conflicts are resolved by setting end (notdone) time for the activity to be equal its start time + 1 minute.

#### **4.9.1.6 Conflict between Activity Start Time and Queue Activation (Previous Activity End) Time Resolved**

If the activity could not be started or suspended at the specified time, during offline synchronization there could be situations when activity start (suspension) time was earlier than the previous activity end (queue activation) time. This led to synchronization conflicts.

As of version 4.5.11 such conflicts are resolved by setting the activity start time to be equal the previous activity end (queue activation) time + 1 minute.

#### **4.9.1.7 Conflict between Queue Activation and Deactivation Resolved**

If the queue deactivation time was earlier than the queue activation time or the last activity completion or cancellation time, this resulted in synchronization conflicts.

Such conflicts are now resolved by setting the queue deactivation time to be equal the last activity completion or cancellation time + 1 minute.

#### **4.9.1.8 Offline Synchronization Error Descriptions Logged in DWH**

As of version 4.5.11 offline conflicts are now logged in DWH with their description. The 'error\_description' value has been added to the conflict information structure. This allows better analysis of synchronization conflicts which occurred in the system.

### 4.9.2 Mobility Application Performance in Offline Mode Improved

Some actions (for example, adding time for an activity) took very long in the offline mode – up to 1 minute.

In version 4.5.11 this issue has been resolved, and the application performance has been improved. Actions are completed in several seconds, as they should.

### 4.9.3 Search Functionality Implemented

As of version 4.5.11 ETAdirect offers the possibility of quick inventory search in the resource's pool and all related pools (installed, deinstalled and customer pools) as well as in the Parts Catalog (provided, the applicable permissions have been set). The search is performed in all text fields occurring in all inventory pools and Parts Catalog items.

The 'Search' functionality is accessed by the 'Search' icon ('magnifying glass') in the title bar of the Mobility Application. Clicking this icon, the user opens the 'Search' popup window where they are prompted to enter the keyword (Figure 92).

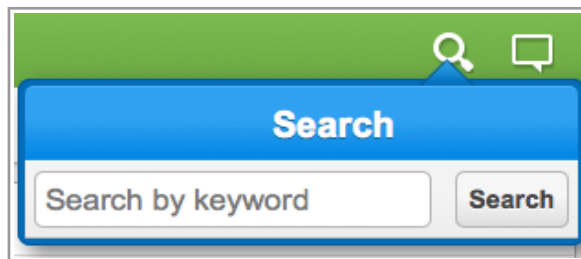


Figure 92: 'Search' window

As soon as the user enters the keyword (the minimum length is 3 symbols) and clicks 'Search', the functionality starts searching for the specified keyword in all inventory pools associated with the current resource and in the Parts Catalog. The search results are displayed as the list of items matching the keyword (Figure 93).







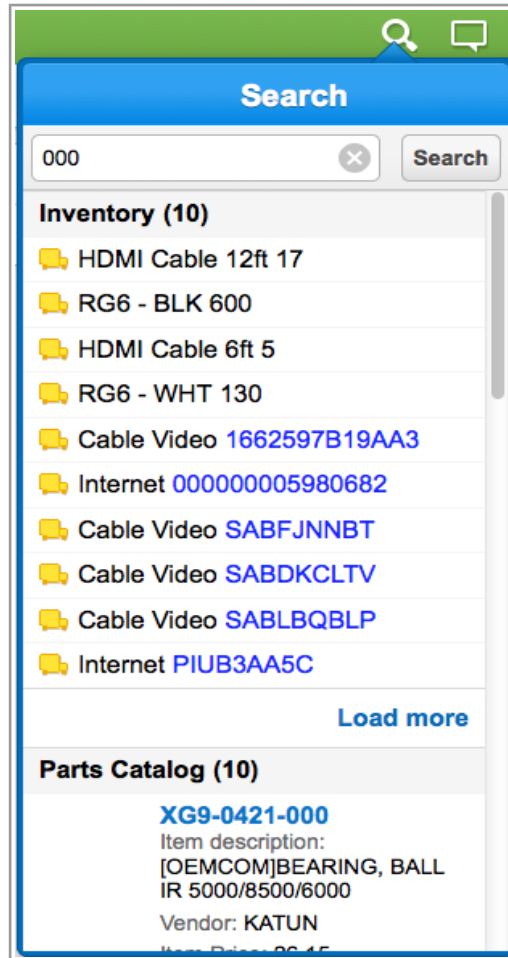


Figure 93: Search results

The list is broken down in 2 sections – 'Inventory' and 'Parts Catalog'. If the search key is only found in either resource inventory or Parts Catalog, the other section is not shown. The figure in parenthesis is the count of matches currently displayed on the screen. The initial batch is 10 matches. If search returns more than 10 matching items, the corresponding section (or both sections) contains the 'Load more' link which loads 10 more matches. The list header count changes with each batch to reflect the currently displayed number of matches (Figure 94). Long lists can be scrolled by means of the scroll bar.

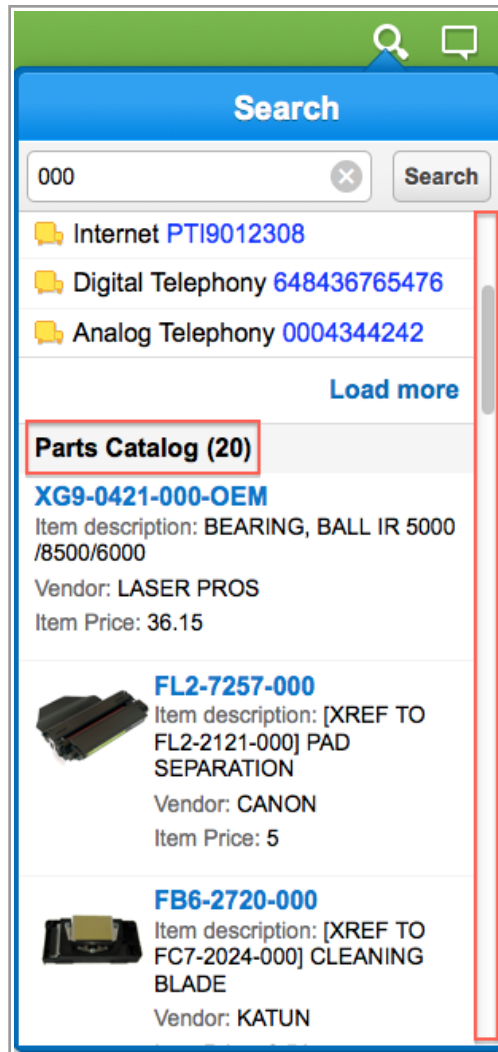


Figure 94: Matches count and search bar in 'Search' window

The search results in the 'Inventory' list are marked with pool icons by which the user can easily determine the pools in which the inventory item is.

When the user selects an inventory item from the search results or opens its details, the 'Search' window is hidden. If an item from the resource's inventory is selected, the user is redirected to the 'Inventory details' screen. If an item is selected from the Parts Catalog, the 'Catalog item details' screen is opened (Figure 95).

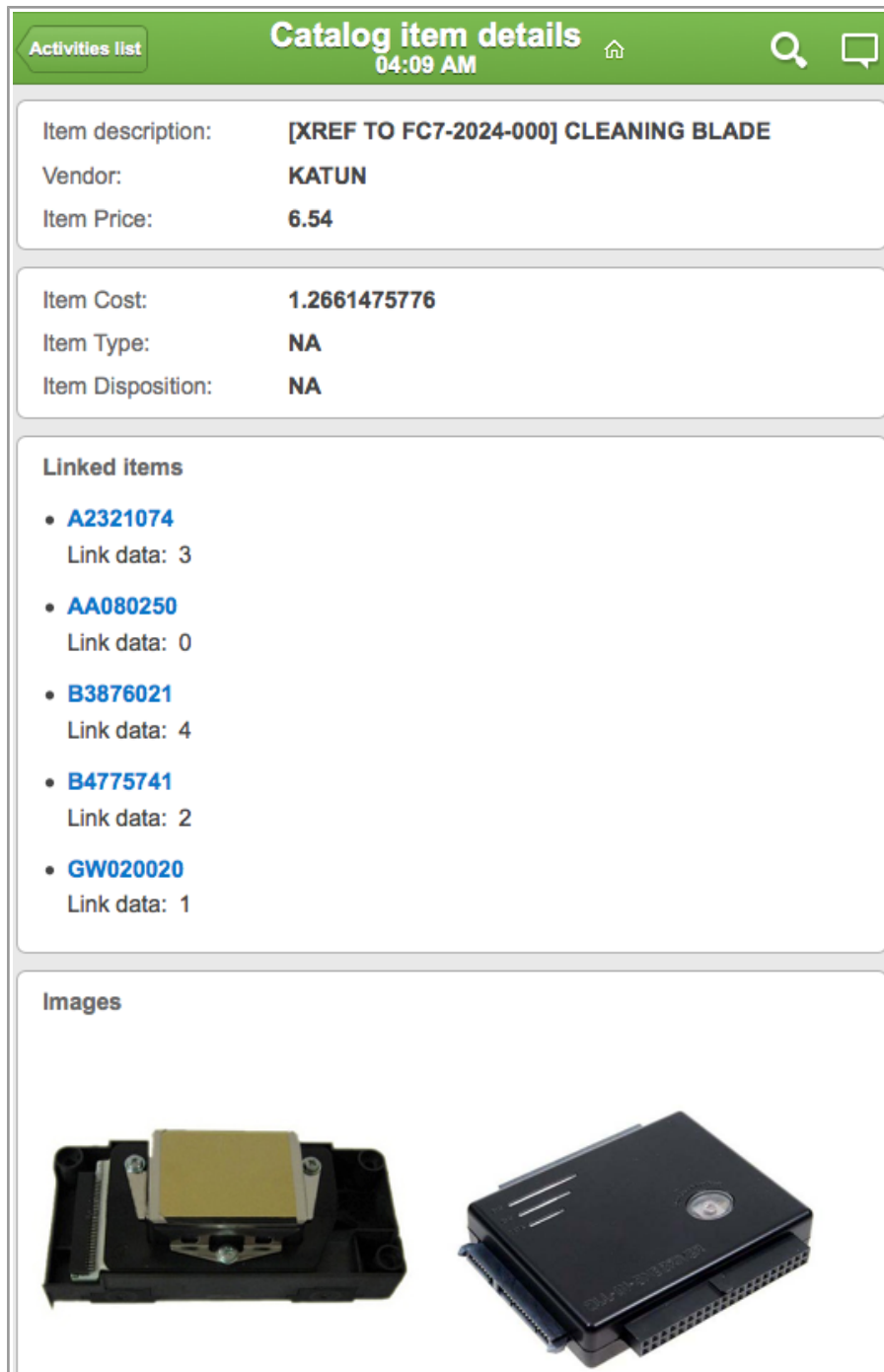



Figure 95: 'Catalog item details' screen

The 'Catalog item details' screen contains the details of the selected catalog item, the 'Linked items' section with the list of alternative items to substitute the initially selected inventory and the 'Images' section showing the images associated with the selected item, if any. Clicking a linked item leads to the screen with the linked item details which is organized in the same manner.

If the  icon is clicked, the current search stops, the search results and the keyword are cleared. A new search can be started.

#### 4.9.4 Native Applications Launched in Mobility Application

As of version 4.5.11 'Native application' type plugins can be launched from the corresponding action links

in the Mobility Application. For this purpose the native application widget has been added. The action links for Native Applications may be configured to appear on the Mobility Application contexts for the following entities (Figure 96-97):

- Activity
- Inventory
- Required Inventory
- Service request

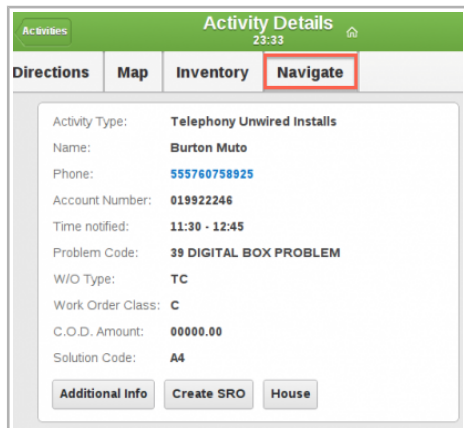


Figure 96: 'Navigation' Application button on the Toolbar

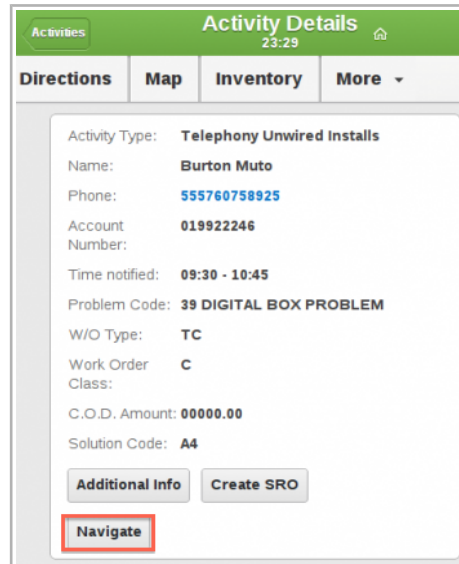


Figure 97: 'Navigation' Application Button in 'Activity Details'

The plugins are configured in the Action Management screen of the Manage Application. They can be added to the corresponding contexts via the 'Context Layout' settings available in the Display screen of the Manage Application.

#### 4.9.5 Not-Ordered Activities No Longer Shown in 'Position in Route' List

If a user attempted to add an internal activity to a route containing only not-ordered activities, such user was offered to insert the new activity between two not-ordered activities (the 'Position in route' drop-down list contained the not ordered activities). However, when the user selected a position in route between two not-ordered activities, the form was rejected with an 'Internal error. Please review your route'.

As of version 4.5.11 not-ordered activities are no longer shown in the 'Position in route' drop-down list, so that newly-added activities cannot be positioned between them.

#### 4.9.6 'Back' Button Works Correctly

In the Mobility Application the 'Back' button in the 'Parts Catalog' Search and Details screens only switched the view between two last screens and never opened the screen used before opening 'Parts Catalog'.

The 'Back' button behavior has been improved, so that now it redirects the user to the previous screen.

#### 4.9.7 'Search' and 'Community' Windows No Longer Displayed Simultaneously

If a touch device user opened the 'Search' window and immediately opened the 'Community' window

(without lifting their finger from the screen), both windows opened simultaneously with 'Community' behind 'Search'.

The application also had a related issue being that if the user opened the 'Search' or 'Community' window and moved their finger down the screen, the browser window began to scroll and another window ('Community' or 'Search') was opened, which is not the correct behavior of the application.

This issue has been fixed. Now in situations described above one window is hidden before the other window is opened.

#### **4.9.8 Refresh timeout default has been set to 5 seconds**

Previously, the refresh timeout was dependent on synchronization interval. As of version 4.5.11 these parameters have been separated. Now, the refresh timeout is set to 5 seconds, and defines the minimum time that must elapse since the last synchronization before starting a new synchronization process.

### **4.10 Message Engine**

#### **4.10.1 'Number of Attempts on "Failed" Status' Settings Work Properly**

The interval between message attempts on 'failed' status was not observed after the 2<sup>nd</sup> attempt to send the message. While the interval between the 1<sup>st</sup> and the 2<sup>nd</sup> attempts was correct, the 3<sup>rd</sup> attempt to send the message was made immediately after the 2<sup>nd</sup> attempt without the interval defined in the Message Scenario Step settings.

The Message Engine has been improved, so that the message failure time is updated properly and the defined interval is observed.

#### **4.10.2 Message Pattern Supports JSON**

In the previous versions JSON was only partially supported by message patterns. For example, the following format was processed:

```
{activity_city|json}
```

while the following format was not:

```
{ "city" : "{activity_city|json}" }
```

The algorithm has been changed so that both message pattern formats are processed correctly. The change affects only the patterns which were regarded as invalid in the previous versions, which ensures compatibility with the previous versions.

### **4.11 Parts Catalog**

#### **4.11.1 Parts Catalog Search Implemented in Manage Application**

As of version 4.5.11 the Parts Catalog functionality has been enhanced by implementing the catalog search in the Manage Application. For this purpose, the new 'by Parts Catalog' search category has been added in the 'Search preferences' window (Figure 98).





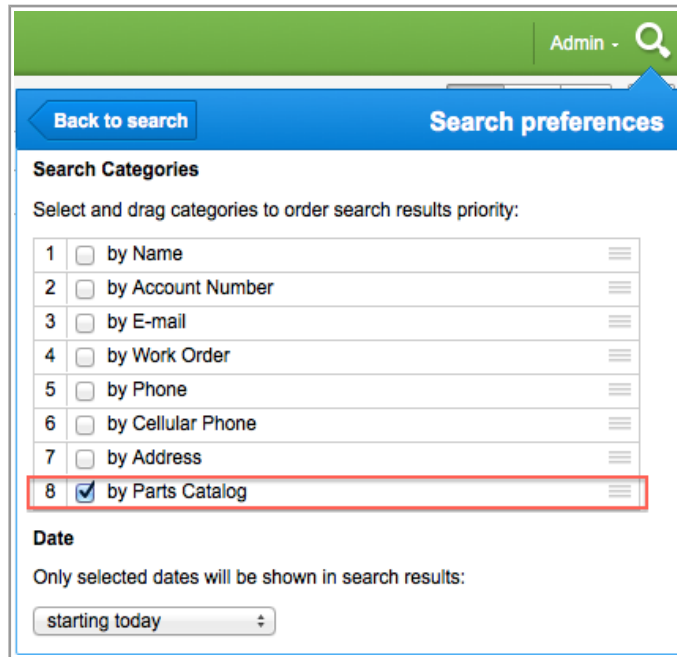


Figure 98: 'by Parts Catalog' option in 'Search preferences'

If this option is selected as one of the search categories (or the only search category), the search will be performed among the Parts Catalog items. The search key (the minimum length is 3 symbols, spaces in the beginning and/or end are not included in the search key) is matched against all searchable fields defined in the Parts Catalog.

The search results are organized in a list containing the Parts Catalog item models and other properties which are configured to be available for the preview (Figure 99).

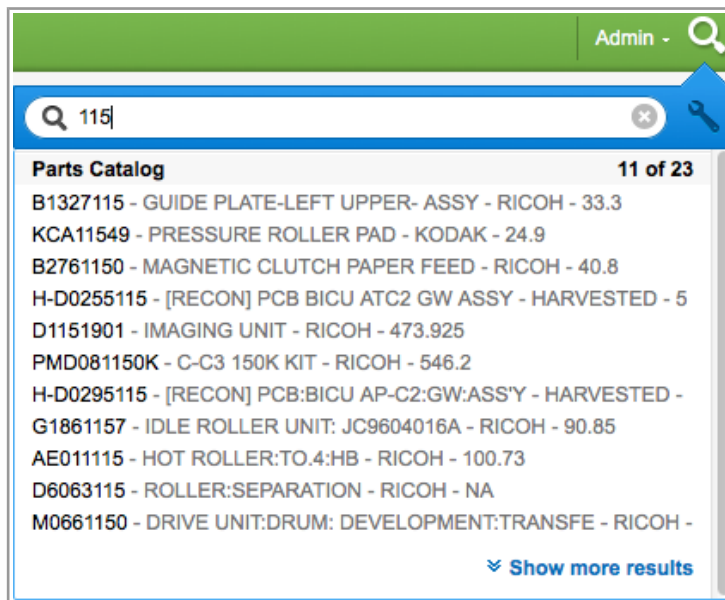


Figure 99: List of Parts Catalog search results

If a search result is clicked, the 'Item details' pop-up window is opened where the details of the selected item are displayed (Figure 100).



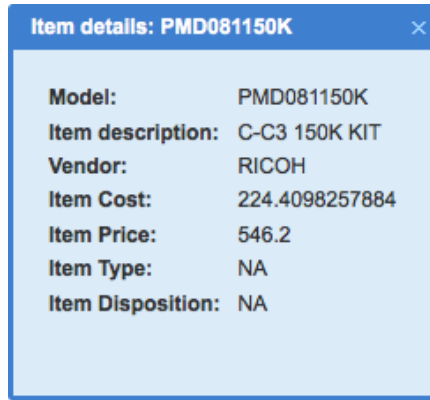


Figure 100: 'Item details' window

The fields of the 'Item details' window correspond to the properties defined for the catalog through the Parts Catalog API.

#### 4.11.2 Catalog Item Images Implemented

As of version 4.5.11 the Parts Catalog has been enhanced by adding the ability to load and display item images. Now whenever a catalog item has an associated image, it is displayed in such item details. Inventory items returned by the 'Search' functionality are displayed with their preview images (when available) in the search results list (Figure 101).

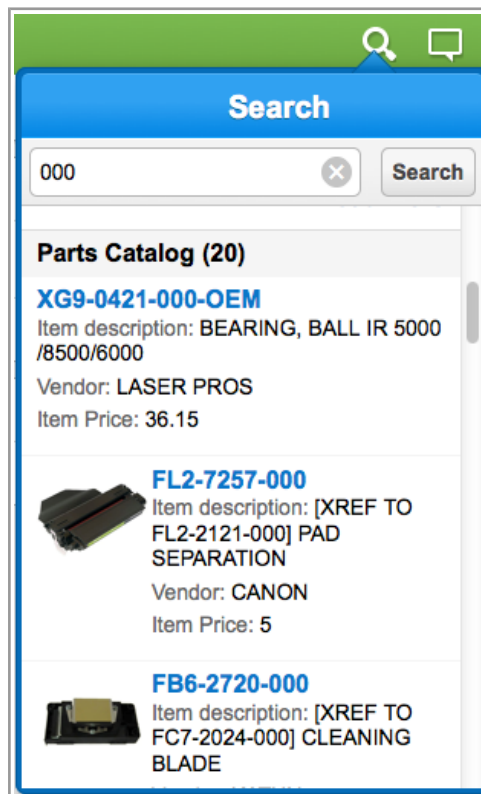


Figure 101: Preview images

Specific details of the item selected from the search results list are displayed on the 'Catalog item details' screen which contains the dedicated 'Images' section where all images uploaded for the inventory item are shown (Figure 102).



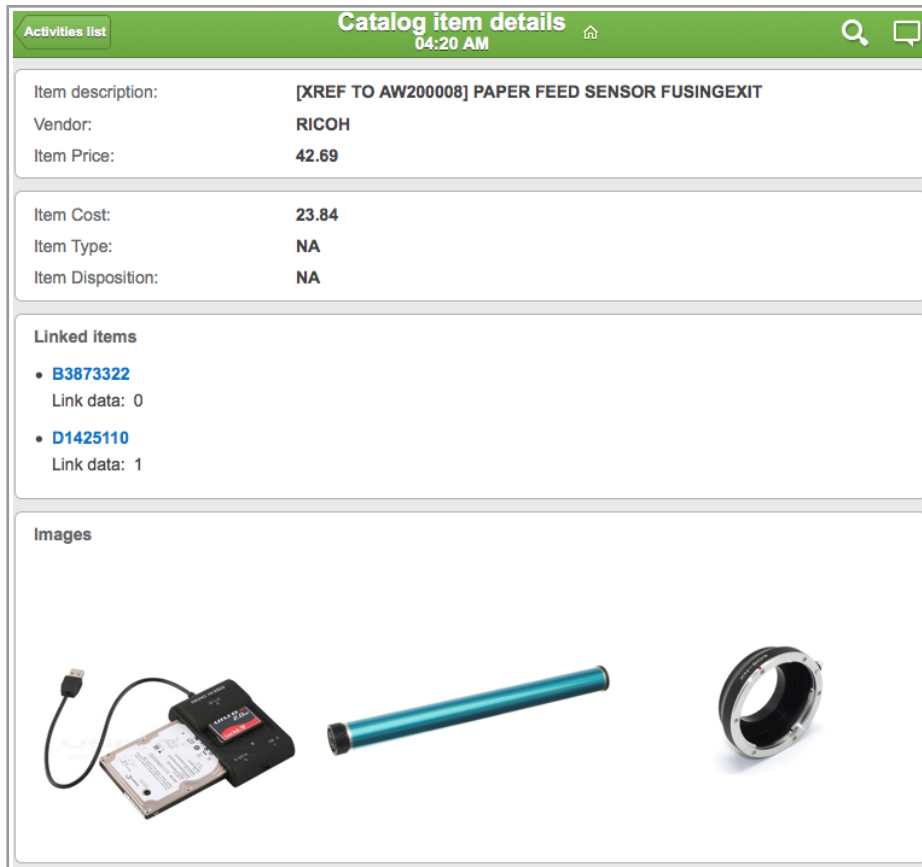


Figure 102: Catalog item images

### 4.11.3 Cache Loading of Parts Catalog Implemented

The mechanism of cache loading for Parts Catalog has been implemented. The items of all catalogs are loaded in the cache to be used when the Parts Catalog is used in the offline mode.

### 4.11.4 'Enter' Key Works in 'Search in Catalog' Screen

Previously, items could be searched in the Parts Catalog only by means of the 'Search' button. Pressing the 'Enter' key on the keyboard produced no result.

This issue has been fixed in version 4.5.11. Now search is performed both by means of the 'Search' button and the 'Enter' key.

## 4.12 Routing

### 4.12.1 'Routing Plan' Window No Longer Closes Spontaneously

If auto-refresh was enabled in the 'My Display' screen (by means of the 'Refresh rate' setting), the 'Routing Plan' window closed unexpectedly during the application idle time.

As of version 4.5.11 the 'Routing Plan' window closes only on the 'Return' or 'Update' button click.

## 4.13 Reports

### 4.13.1 'Percent of Contacted Customers' Report Improved

The 'Percent of contacted customers' report was not working.

The report script has been improved, and now the report works correctly for companies having the 'cdaybefore\_flag' property.

#### **4.13.2 Reports Permissions Applied Correctly**

If the permission for a report was open in the Manage Application ('Company Settings' → 'Permissions') but disabled in the Maintenance Application ('Configuration' → 'Company Permissions'), the report was still visible in the 'All Reports' list in the Manage Application. However, the 'Show' link for such report returned an error message.

The 'Permissions' functionality has been improved so that reports to be hidden according to the 'Company Permissions' are not shown in the Manage Application.

#### **4.14 DWH**

##### **4.14.1 File Properties Extracted Correctly**

If archiving was defined, but the export folder was not defined in the configuration, DWH did not extract file properties with a 'Failed to save file' error.

The DWH script has been improved and now it extracts file properties to the archive with no errors, even if the export folder is not defined. At the same time, file properties can also be extracted without archiving if the export folder is not defined.

##### **4.14.2 Extracted Files Archived as tar.gz**

If in the configuration the DWH export archive was set to be tar.gz, the script archived the files in tar format.

After the DWH script improvement it archives the files in tar.gz format which is its correct behavior.

##### **4.14.3 Beginning of Extraction Period Calculated Correctly with Overnight**

If overnight work was set for the company, the beginning of DWH extraction period was calculated incorrectly for GMT tables. Overnight was not taken into account in the calculation of the extraction period beginning, which resulted in duplicated records in the 'messages', 'message\_text', 'gps\_tracks' and 'pas\_answer' DWH tables as well as in the extracted files for the 'messages', 'message\_text', 'gps\_tracks' and 'pas\_answer' entities.

As of version 4.5.11 the beginning of the extraction period is calculated correctly, therefore, the 'messages', 'message\_text', 'gps\_tracks' and 'pas\_answer' DWH tables and the extracted files for the 'messages', 'message\_text', 'gps\_tracks' and 'pas\_answer' entities no longer contain duplicating records.

#### **4.15 Public API**

##### **4.15.1 External System Agent – SOAPAction Conforms to WSDL**

Previously, the default SOAPAction header in the 'send\_message' operation did not conform to the WSDL files, which caused the agent not to send the correct SOAPAction which, in turn, required additional editing.

As of version 4.5.11 the default values of SOAPAction conform to WSDL.

## **4.15.2 Capacity API – Ability to Define Default Duration Value Implemented**

The 'get\_capacity' function supports booking of the activities for which the 'Define duration manually' feature is enabled as well as those with duration determined statistically. If the estimated activity duration is not found in the statistics, and has not been set previously, the company default value (defined in the 'Statistics Parameters') is applied.

Automatic switching from the predefined duration to the statistically calculated one requires that the 'Activity type' and the external 'predefined duration' value are passed in the 'get\_capacity' request. For this purpose, a new 'default\_duration' parameter has been added. If the request does not contain the 'default\_duration' parameter and the activity duration is statistics-based, the activity duration is estimated using the statistical record. If no such record is found, the company default duration value is returned.

If the 'default\_duration' parameter is sent in the request, the 'Activity type' field (determined by 'worktype\_label' or 'aworktype') is mandatory. If the 'Activity type' has the 'Define duration manually' feature enabled, the passed 'default\_duration' value is always returned. Otherwise, the statistics is used. If no statistical record is found, the passed 'default\_duration' value is returned. If the 'default\_duration' parameter is not sent in the request and the 'Define duration manually' feature is enabled for the passed 'Activity type', the company default duration is returned.

## **4.15.3 Capacity API – No Travel Time Returned for Activities Requiring No Travel**

If the request included the enabled 'calculate\_travel\_time' option, the 'get\_capacity' function always returned the 'activity\_travel\_time' value even for the activities requiring no travel time calculation (with the 'Calculate travel' feature disabled).

As of version 4.5.11, if the request contains the 'Activity type' field (determined by 'worktype\_label' or 'aworktype'), the 'get\_capacity' function checks whether 'Calculate travel' is enabled or disabled for the activity type. If this feature is disabled, the function returns '0' as the 'activity\_travel\_time' value. The 'Activity type' field remains optional for compatibility purposes.

## **4.15.4 Capacity API – New Operations Implemented**

As of version 4.5.11 the functionality of the Capacity API has been enhanced by adding the following new operations:

### **'get\_quota\_data'**

This operation is intended to extract all data available in the Quota View. It allows to:

- extract data on the 'day', 'time slot' and 'capacity category' levels in a single request
- define fields to be returned on each of the levels
- extract data for multiple buckets (separate or aggregated)
- extract data for multiple days
- calculate totals

### **'set\_quota'**

This operation is intended to update the quota parameters.

### **'get\_quota\_close\_time'**

This operation is used to retrieve the time of automatic quota closing for the specified bucket and, optionally, for the specified time slot, capacity category or work zone.

#### 'set\_quota\_close\_time'

This operation is used to update the time of automatic quota closing for the specified bucket and, optionally, for the specified time slot, capacity category or work zone.

The corresponding SOAP permissions and the related error codes have been implemented.

### 4.15.5 Capacity API – 'location' Filter Applied Properly

If the 'determine\_location\_by\_work\_zone' option is enabled and the request contains a list of locations, such locations are to be used to filter the found buckets. However, such filtering was not performed in the previous versions of ETAdirect.

This option has been improved in version 4.5.11. Now the locations passed in the request serve as an additional filter for the buckets.

### 4.15.6 Capacity API – Activity Type Determination by Label Improved

The 'get\_capacity' function supports determination of activity type by label. However, previously this functionality only worked when the activity type was part of a travel key or a duration key. If the activity type was used in a work skill condition with the 'calculate\_work\_skill' option enabled, the function only checked the 'aworktype' field and did not check 'worktype\_label'.

This issue has been addressed, and now 'get\_capacity' uses both 'aworktype' and 'worktype\_label' fields.

### 4.15.7 Capacity API – SOAP Faults Changed to Conform to SOAP Schema

Previously, the SOAP Fault response returned by the Capacity API failed Schema validation. In order for it to pass such validation the following changes have been implemented:

- the 'faultcode' field is either 'soapenv:Client' (for client faults, such as bad request parameters, invalid XML, etc.) or 'soapenv:Server' (for server faults, such as server down, internal error, etc.)
- the 'faultfactor' field has been positioned after 'faultstring'
- the capacity error code is returned as part of the 'detail' field
- the frontend soap proxy returns HTTP status 500 when it receives http 500 with SOAP fault
- the unused namespace declarations have been removed

After these changes SOAP faults are returned as follows:

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  [ ^ ]
  <SOAP-ENV:Body>
    <SOAP-ENV:Fault>
      <faultcode>SOAP-ENV:Client</faultcode>
      <faultstring>Unknown location</faultstring>
      <faultactor>get_capacity</faultactor>
      <detail>
        <errorCode>15</errorCode>
        <errorDetail>routing2</errorDetail>
      </detail>
    </SOAP-ENV:Fault>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

This change affects the following operations:

- 'get\_capacity'
- 'set\_message\_status'

- 'get\_customer\_eta'
- 'set\_customer'

#### 4.15.8 Capacity API – 'Quota Can Be Closed for' Options Checked

Previously, the 'get\_capacity' function only determined whether the work zone key fields were mandatory or optional by checking if any Quota cell contained a status defined on the work zone level. If such cell existed, the work zone key fields became mandatory for the 'get\_capacity' request.

This approach did not take into account the capacity bucket settings in respect of the work zone status – the 'Quota can be closed for' options.

As of version 4.5.11 the 'get\_capacity' function also explicitly checks all 'Quota can be closed for' options, therefore, the work zone key fields are no longer mandatory if the 'Quota can be closed for' option is disabled on the work zone level.

#### 4.15.9 Inbound API – 'time\_slot' Field Now Optional

The Inbound API has been changed so that the 'time\_slot' field is no longer mandatory, even for activities with the 'Support of Time Slots' feature enabled. If no time slot is specified in the activity creation, the activity is created as not-ordered.

#### 4.15.10 Inbound API – Activity Update Improved

In the previous version if an activity created via the Inbound Interface was rescheduled via the Manage Application and its time slot was subsequently updated via the Inbound Interface, the time slot was not changed.

After the necessary changes time slots can be updated via the Inbound Interface as designed.

#### 4.15.11 Inbound API – Ability to Delete Links of Specified Type Implemented

The 'erase\_links' element was used to delete all existing links of the specified activity. As of version 4.5.11 this functionality has been enhanced by adding the ability to delete only the links of the specified type. This is achieved by sending 'link\_type' fields within the 'erase\_links' element. If no 'link\_type' fields are sent, all links are deleted.

**Note:** a sequential link can be set in two directions (e.g. 'start-before' and 'start-after') depending on the activity to which it refers. If only one 'link\_type' is sent in the request, only the links in one direction will be deleted. To delete links in both directions for the same activities, the request must contain both sequential link labels.

An 'erase\_links' element containing both link labels is sent as follows:

```
<erase_links>
  <link_type>start-before</link_type>
  <link_type>start-after</link_type>
</erase_links>
```

#### 4.15.12 Inbound API – History Records Optimized

Previously, if the same links were added and deleted immediately by the Inbound API, the history logged all actions, even when the results did not change. This caused many redundant records to appear in the history.

Now, if the Inbound API deletes a link and immediately adds the same link, such actions are not logged in the history. Only the actual changes are recorded.

#### **4.15.13 Inbound API – 'command/time' Field Added**

The 'command/time' field missing in the previous versions has been added to the Inbound API WSDL. This field is used in the 'start\_activity', 'complete\_activity', 'notdone\_activity' and 'suspend\_activity' commands.

#### **4.15.14 Parts Catalog API – Images Upload Implemented**

The parts Catalog API is now able to upload images of the Parts Catalog items. For this purpose the 'upload\_catalog' request now includes the 'images' array consisting of 'image' elements each of which contains the 'image\_url' field which is a valid URL address of the image associated with the item. The 'images' array is optional, however, once it is sent in the request, the 'image\_url' field is mandatory.

#### **4.15.15 Parts Catalog API – Weights Upload Implemented**

The Parts Catalog API now supports the 'upload\_weights' and 'delete\_weights' operations used to upload or remove additional item weights for the previously uploaded catalog items. Items with greater weight are displayed on top of the list if the catalog is loaded from cache.

Both 'upload\_weights' and 'delete\_weights' operations require the catalog label and language to be sent to identify the catalog. The 'upload\_weights' operation also must contain the 'weights' array consisting of 'weight' elements specifying the item label, weight label and weight value.

#### **4.15.16 Resource Management API – 'points' Field Returned When Defined**

Previously, if the 'points' field was set in the 'set\_resources\_calendars' request and the 'Points support' functionality was enabled for the company, the 'get\_resources\_calendars' request still did not return the 'points' field.

The Resource Management API has been fixed, so that the 'points' value is returned for the 'working' calendars for which such field was set.

#### **4.15.17 Resource Management API 'get\_resource\_zones' Improved**

Previously, the 'get\_resources\_zones' request did not return temporary, recurrent, and inherited work zones. Only everyday work zones were returned.

The API has been changed so that now the 'get\_resources\_zones' request returns temporary, recurrent, and inherited work zones, when such work zones are assigned to the resource. If a temporary work zone overrides a regular work zone, only temporary work zone is returned. If a resource does not have its own work zone, then inherited work zone is set.

#### **4.15.18 SOAP Requests and Responses Larger Than 500 kB No Longer Logged**

In the previous versions all SOAP requests and responses were written to the log. Some very large requests and responses were logged, too, which slowed the APIs down and could result in 'out of memory' errors.

As of version 4.5.11 any SOAP requests and responses larger than 500 kB are no longer written to the



log. If such large requests or responses occur, the log contains the 'too big – not logged' record. This way, the APIs performance has been improved.

## **4.16 Statistics**

### **4.16.1 Duration Estimations on Bucket Level Updated Properly**

If new duration statistics was loaded, duration estimations for the activities assigned to buckets were not recalculated according to the new values from the statistics data.

As of version 4.5.11 the duration estimations are recalculated on the bucket level as well. It is initiated by the 'recalculate routes' operation.

## **4.17 System**

### **4.17.1 File Storage Usage Report Implemented**

As of version 4.5.11 ETAdirect supports logging of file storage operations and reporting the file storage usage by ETAdirect modules.

All file storage requests contain the data on the instance name, storage type, log server specification, and additional information on the user action to be logged. After the request is processed, this data is logged in the special table in the database. The data from this table is used to create the custom 'File Storage Usage' report containing the file storage usage statistics per company.

### **4.17.2 Queue Status Checked before Activation**

When in the Mobility Application the same queue was activated twice (two activation actions performed immediately one after the other), both actions were processed and the second activation action triggered a 'reactivate' message. However, this behavior is wrong, as the 'reactivate' trigger is only invoked upon reactivation of a previously deactivated queue.

In version 4.5.11 ETAdirect checks the queue status and the 'reactivate' trigger is no longer invoked after the second activation of the same queue. Only the 'activate' trigger is invoked in such cases which is the correct system behavior.

### **4.17.3 Field Properties Viewed Properly in ReadOnly Mode**

If the 'Add/Edit property' permission was set to 'Hidden', field properties were not displayed for such user in the 'Properties' screen. An empty window was displayed instead (Figure 103). An error was written to the log.











Properties <span>View ▾</span>						
< Previous 1 2 3 4 5 6 7 8 9 Next >>						1-20 of 176
ID	Property name ↑	Property Label	Type	Entity	GUI	Actions
490	Account Number	customer_number	field	activity	text	<a href="#">View</a>
551	Activity	appt_ident	field	service request	text	<a href="#">View</a>
510	Activity ID		field	activity	text	<a href="#">View</a>
554	Activity Id		field	ment	text	<a href="#">View</a>
560	Activity Id		field	request	text	<a href="#">View</a>
241	Activity Notes		field	ity	text	<a href="#">View</a>
620	Activity time of booking		field	ity	text	<a href="#">View</a>
206	Activity Type		field	ity	combobox	<a href="#">View</a>
495	Activity Type		field	ity	text	<a href="#">View</a>
497	Activity Type		field	ity	combobox	<a href="#">View</a>
486	Address		field	ity	text	<a href="#">View</a>
540	Alerts		field	ician	text	<a href="#">View</a>
617	Alerts		field	ity	text	<a href="#">View</a>
484	Bandwidth		field	ment	combobox	<a href="#">View</a>
593	Blocked to		field	er	text	<a href="#">View</a>
238	Bonded To Power?		field	ity	checkbox	<a href="#">View</a>
210	C.O.D. Amount		field	ity	text	<a href="#">View</a>
536	Calendar		field	ician	text	<a href="#">View</a>
224	Cancellation Reason		field	ity	combobox	<a href="#">View</a>
610	Capacity categories	activity_capacity_categories	field	activity	text	<a href="#">View</a>

Figure 103: Empty window shown instead of field property

The necessary changes have been made, and now field properties can be viewed properly by users having ReadOnly access to the 'Add/Edit property' functionality.

#### 4.17.4 Travel Time Calculated from Route Reactivation

Now the travel time in reactivated routes is calculated correctly. If the resource has a regular calendar, and their route is reactivated, the travel time to the first pending activity in such reactivated route is calculated starting from the route reactivation time. As opposed to the previous method of travel time calculation from the end time of the previous activity in the route, such method is more accurate.

## 5 ETAdirect Version 4.5.12

### 5.1 Changes Overview

['Preview' files no longer created in File Storage](#)

[Activity search in activity links works with 'by Parts Catalog' option](#)

['Search in Catalog' action links removed](#)

[Manage Application working properly after session expiration](#)

[Placeholder updated in 'Themes' screen](#)

[Routing profiles list sorting added](#)

[ETAdirect can be used in several tabs of same browser](#)

[Calendar Improved](#)

[Company Transfer with Option "properties" Works Properly](#)

[External plugin window improved](#)

[Mass, repeating and shift activities shown on Time View](#)

[Route reactivation functionality enhancements](#)

[Properties import performed correctly](#)

[Time for non-scheduled activities displayed correctly](#)

['Main Resource' visible on 'User' screen](#)

[Deactivated 'Non-working reasons' no longer shown on 'Daily' screen](#)

[File property displayed on 'Add/Edit Activity' screen for mass and repeating activities](#)

[Resource preference settings recorded correctly in Activity History](#)

[Non-scheduled activities deleted correctly](#)

[Forecasting – import error message changed](#)

[All mass, repeating and shift activities shown on List View](#)

[Alerts for capacity buckets shown properly](#)

[Non-scheduled activity move improved](#)

['Reactivated' mark shown on Time View](#)

[Future mass, repeating and shift activities with service windows shown as ordered](#)

[ETA calculated correctly for future mass, repeating and shift activities](#)

[Resource names included in activity export](#)

[Current time marker behavior improved](#)

[Visibilities based on Resource Type applied correctly](#)

[Activities reordering now controlled by permission](#)

['Export' Action Preserves Filter Settings](#)

['Export' action preserves filter settings](#)

[Glossary placeholder translation added](#)

[Correct error message in 'Add/Edit Activity Group' window](#)

[Route reactivation shown in Activity History](#)

[Support request synchronization conflicts shown in Activity History](#)

[Action link conditions based on Resource Types work correctly](#)

[Time Slot, Service Window and SLA changes logged in history table](#)

[Support of logging of actions related to support requests added](#)

[Mass Populate functionality enhanced](#)



['Mass Populate' functionality available in Internet Explorer 8](#)

['Mass Populate' works correctly with values defined in 'hours' or 'man-days'](#)

['Mass Populate' functionality copies statuses correctly](#)

[Maximum number of target and source days/weeks limited for auto-fill and mass populate functionalities](#)

[Quota settings restricted to maximum values](#)

['Other activities' and '% to stop booking at' columns shown with corresponding bucket configuration options only](#)

['Quota Management' visibility settings improved](#)

['Subtract These activities from the maximum capacity before calculation of quota' parameter now related to 'Estimate capacity used by activities that are not a part of the Quota Management'](#)

[Sub-sections in 'Quota Management' section correspond to 'Quota is entered for' selection](#)

[Recurring autofill' window improved – 'Within' value saved](#)

[Quota Map screen implemented](#)

[Quota saving on day level no longer causes errors](#)

['Work zone' filtering available in 'Quota history'](#)

[Inactive buckets no longer shown](#)

[Filter of 'Action' column of 'Quota History' improved](#)

[Deactivated work zones no longer shown](#)

[Quota grid displayed properly in Multi-Bucket mode](#)

[Offset fields can be set to '0'](#)

['Resource Info' screen contains correct options](#)

[Routing and application server use same activity duration value](#)

[Routing handles activities without locations correctly](#)

[Rollback actions no longer cause errors](#)

[Overnight value applied automatically](#)

[Unused 'Help' link removed](#)

[Values in 'Filters' Tab shown correctly](#)

[Missing placeholder added](#)

[Resource displayed correctly after route reactivation](#)

[Switching from view with 2 Resource Trees to other screens works properly](#)

['Add/Edit Login Policy' window changed](#)

[Activity type group action warning improved](#)

[Group delete action link behavior improved](#)

[Placeholder added to 'Delete' group action](#)

[DWH configuration fields correspond to default configuration](#)

[Custom properties with empty names exported correctly in DWH Configuration screen](#)

[Property visibility conditions correctly validated during import](#)

[Inventory search fields configurable](#)

[Placeholder in 'Display' screen changed](#)

[Internet Explorer 8 – routing plan editing improved](#)

[API Profiles deletion procedure improved](#)

[Future activities shown for API Profiles](#)

['Inventory pool' field visibility restricted to ReadOnly](#)

[Missing quantity calculated correctly](#)

[Logins starting with spaces processed correctly](#)

[Mobility Application Works Properly Upon Browser Refresh](#)

["Search Resource" Functionality Provides Correct Results](#)

[Inventory search uses fields configured in 'Business Rules'](#)

[Visibility priorities consistent in Manage and Mobility Applications](#)

[New activities added correctly](#)

[Activity end time successfully adjusted with official end time in the past](#)

[Linked properties displayed with correct visibilities](#)

[Action links displayed according to visibilities on 'Activity List' screen](#)

['Add to Installed' and 'Add to Deinstalled' screens accessible from 'Inventories List' screen](#)

[Action links available for mass, repeating and shift activities](#)

[Property values updated with browser refresh](#)

['SmartLocation Alerts' Permission Added](#)

[Native applications launched in correct order](#)

[Correct error message displayed on inventory search](#)

['Load More' button works correctly](#)

[Loading Indicator implemented in inventory search](#)

[Surefox – address auto-recognition disabled](#)

['Number of Inventory Per Page' Option Applied Correctly](#)

[Correct Message Appears on the Screen in Case of Connection Interruption](#)

['You must be online to relogin' Message Appears at an Attempt to Login in Offline Mode](#)

[Customer signature saved after auto-resolve](#)

[Deleted Inventory identifiers displayed properly](#)

[Conflict between activity start in offline and reorder in online resolved](#)

[Plugin-related synchronization conflicts logged in DWH](#)

[Activity position in route saved correctly in offline](#)

[Inventory search properties added to offline data](#)

[Non-serialized inventory installation logged in Activity History](#)

[Synchronization conflicts color-marked in Activity History](#)

[Placeholder changed to use correct terminology](#)

[DashBoard works correctly with 'Always show report for' option enabled](#)

['Capacity by Category' report settings improved](#)

[Value visibilities improved](#)

['End-of-column' marker processed correctly in Mobility context layouts](#)

[Visibilities applied correctly when depending on activity type](#)

[Multiple similar properties in the same context processed correctly](#)

[Action links visibility in 'Visible inventories grid columns' context improved](#)

[File Storage Usage report improved](#)

[Date filter in File Storage Usage report works correctly](#)

[Inventory history stored in dedicated table](#)

[Inventory report shows overused inventory](#)

[Route time parameters report shows bucket data correctly](#)

[Post activity survey calls report improved](#)  
['Account' trigger removed](#)  
[Duration recalculated after duration key update](#)  
[Company identifier displayed correctly in 'log\\_last\\_import' table](#)  
[DWH configuration for 'Message Fields' improved](#)  
[Special characters in property name processed correctly](#)  
[Company name mandatory in DWH configuration](#)  
[DWH script processes encrypted data correctly](#)  
[DWH extracts all files in single archive in XML format](#)  
['provider\\_name' fields no longer empty in '<company>\\_queue' table](#)  
[Files extracted according to imported DWH configuration](#)  
[DWH processes overnight correctly in CSV-only mode](#)  
[Travel Area Mapping Includes Default Area](#)  
[Parts Catalog API – 'delete\\_catalog' method implemented](#)  
[Parts Catalog API – 'name' field in 'create\\_catalog' method made mandatory](#)  
[Parts Catalog API – correct response status code returned for 'upload\\_weights' function](#)  
[SOAP API versioning added](#)  
[Capacity API – 'set\\_quota' request returns correct error message](#)  
[Capacity API – WSDL updated](#)  
[Capacity API – 'result' node returned for second time slot](#)  
[Capacity API – invalid 'aworktype' value ignored](#)  
[Activity Management API – WSDL updated](#)  
[Activity Management API – 'search\\_activities' within single day in future works properly](#)  
[Only one 'item\\_details' window displayed at a time](#)  
[Search by Key with Spaces Returns Correct Results](#)  
[Activity History Tables have been Moved to DWH](#)  
[History API implemented](#)  
[Duration of suspended started activities recalculated correctly](#)  
[Work Skill calculated properly with 'set\\_property' trigger used](#)  
[Login errors related to allowed and disallowed IP addresses logged properly](#)  
['Is plugin' option behavior improved](#)  
[Plugin type modification improved](#)  
[Plugin fields validation added](#)  
['Add/Edit action link' window behavior improved](#)  
[Internal on-line plugin action links work properly](#)  
[POST data sent by action link](#)  
[POST data sent when includes 'eta\\_end\\_time'](#)

## 5.2 General

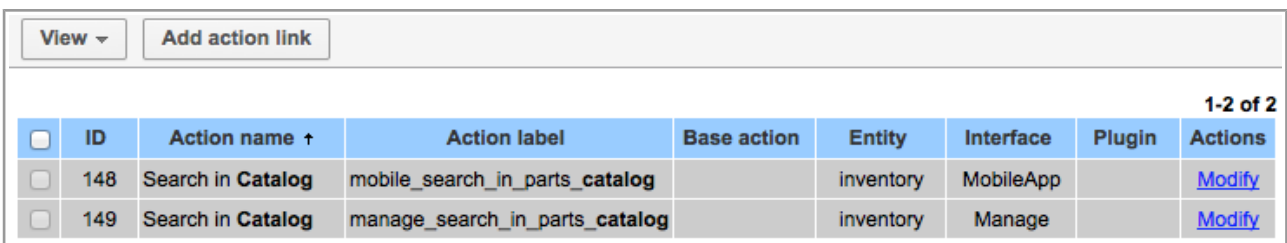
### 5.2.1 Activity Search in Activity Links Works with 'by Parts Catalog' Option

When the 'Search preferences' included 'by Parts Catalog' together with another option, the activity search in the 'Add link' window did not work. Search returned no results with the 'Nothing found. Change criteria and try again' message even when existing activity details were entered.

This issue has been resolved in version 4.5.12. The activity search in the 'Add link' window works correctly with any search preferences selected.

### 5.2.2 'Search in Catalog' Action Links Removed

The current version of ETAdirect no longer uses the 'Search in Catalog' action links, both in the Manage and Mobility Applications (Figure 104).



<input type="checkbox"/>	ID	Action name ↑	Action label	Base action	Entity	Interface	Plugin	Actions
<input type="checkbox"/>	148	Search in Catalog	mobile_search_in_parts_catalog		inventory	MobileApp		<a href="#">Modify</a>
<input type="checkbox"/>	149	Search in Catalog	manage_search_in_parts_catalog		inventory	Manage		<a href="#">Modify</a>

Figure 104: 'Search in Catalog' action links in previous versions

Therefore, these links have been removed from the list of action links available in ETAdirect ('Manage Application' → 'Company Settings' → 'Action Management').

### 5.2.3 Manage Application Working Properly after Session Expiration

If the user's session expired after the Manage Application was opened at the Time/List Activity View, the 'Company Settings' and 'Settings' screens were empty after the same user logged in again.

In version 4.5.12 the Manage Application works properly when the user logs in after an expired session. The 'Company Settings' and 'Settings' screens are no longer empty.

### 5.2.4 Placeholder Updated in 'Themes' Screen

If a custom theme with the same name as an existing theme name was imported through the 'Themes' screen, a placeholder (11960) was shown instead of the actual error message (Figure 105).

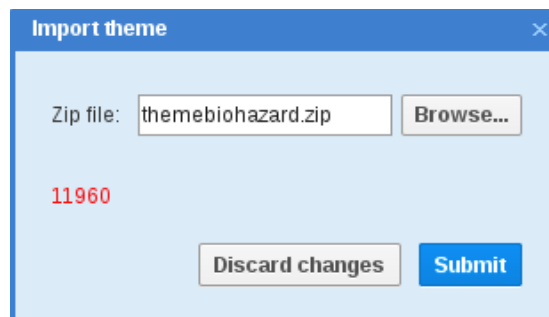


Figure 105: Placeholder Shown instead of Illustration

The placeholder has been updated, and now the window displays the 'Duplicated theme name' error

message instead of the placeholder ID (Figure 106).









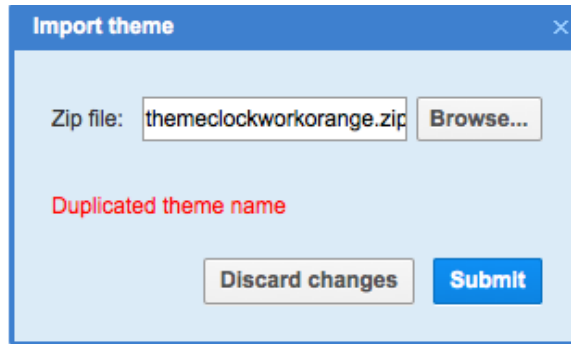


Figure 106: Error message

### 5.2.5 Routing Profiles List Sorting Added

Previously, if the user clicked the header of a column in the 'Routing Profiles' grid, the list was not sorted. However, clicking the header should sort the list by the selected column.

In version 4.5.12 sorting by the following columns has been implemented:

- ID
- Status
- Routing plan name
- Run forecastingRun schedule
- Automatic ordering

**Note:** Sorting also works when the list contains routing profiles without routing plans.

### 5.2.6 ETAdirect Can Be Used in Several Tabs of Same Browser

In the previous versions users were unable to use ETAdirect in more than one browser tab. As soon as the user logged in in the second tab, they were redirected to the login page in the first tab. The issue occurred both when the user logged in with the same or different account.

The login procedure has been improved in version 4.5.12, and now users are able to work in ETAdirect in several browser tabs at the same time.

### 5.2.7 Calendar Improved

In the previous versions, there were times when the Calendar in the Activities screen or in the 'Add Schedule' screen displayed the wrong month. If the 'next month' button was clicked, the calendar would skip the next month and showed the month after that instead (Figure 107).

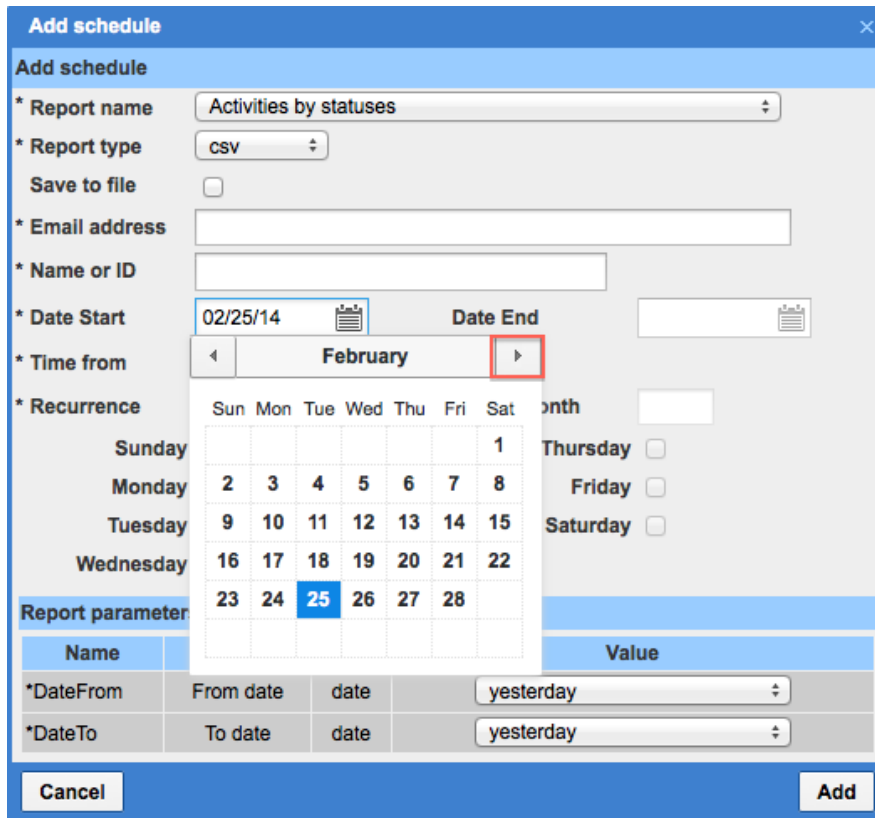


Figure 107: 'Next month' button

In version 4.5.12 month calculation has been improved, and now the Calendar shows the next month when requested.

### 5.2.8 Company Transfer with Option "properties" Works Properly

"Properties" parameter is used to exclude custom properties processing during company import. There was an issue when custom properties would still get processed along with fields if transfer option "properties" was used.

This has been fixed in version 4.5.12 and now custom properties do not get processed if such option is used.

## 5.3 Manage Application

### 5.3.1 External Plugin Window Improved

In previous versions, if an external plugin was selected in the Manage Application, a pop-up window would show up on the same screen.

As of version 4.5.12, an external plugin is now run in a separate browser tab, which has significantly increased usability.

The size of the new window can be configured in the 'Plugin details' tab in 'Company Settings' → 'Action management' (Figure 108).

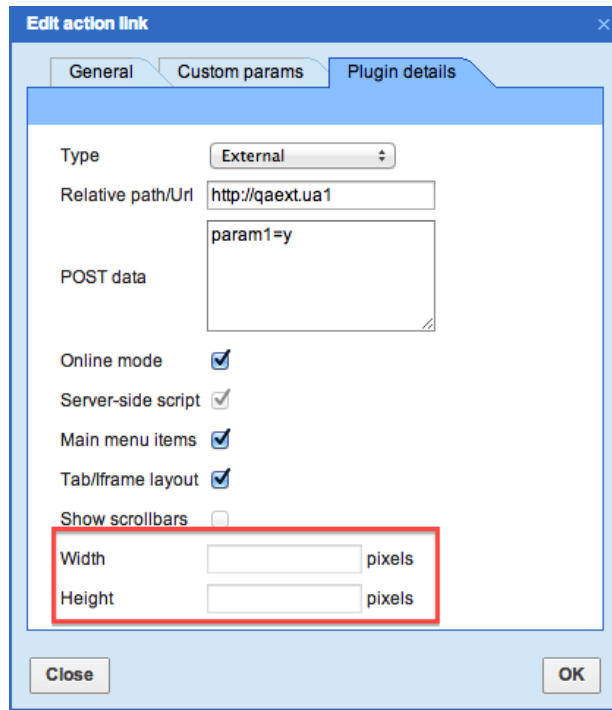


Figure 108: Plugin window configuration

### 5.3.2 Mass, Repeating and Shift Activities Shown on Time View

In the previous versions, if the resource's inactive route included only mass, repeating or shift activities, with no other activities assigned for the day, their route was displayed on the List View, however, did not appear on the Time View (Figure 109).

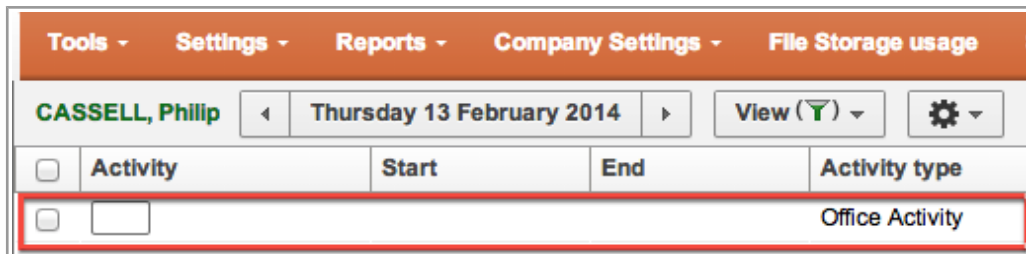


Figure 109: Mass/repeating activity shown on List View

As the result, the 'Print' and 'Export' action links were not available on the Time View either (Figure 110).

Tools - Settings - Reports - Company Settings - File Storage usage SOAP Testbed Daily Link Templates Themes												
CASSELL, Phillip < Thursday 13 February 2014 > View (Y) [Settings]												
Providers	11	12	13	14	15	16	17	18	19	20	21	22
CASSELL, Phillip												

Figure 110: Mass/repeating activities not displayed on Time View

As of version 4.5.12 the system supports all mass, repeating, and shift activities display on the Time View, even if the resource has no other activities in the route.

### 5.3.3 Route Reactivation Functionality Enhancements

As of version 4.5.12 the Route Reactivation functionality has been significantly improved, as described below.

A new 'Reactivated' property has been added in the Manage Application. It has the same GUI and behavior as the 'Activated' and 'Deactivated' properties. The 'Reactivated' property showing the time of the resource's route reactivation can be added to the resource's hint, so that the route reactivation time is immediately visible (Figure 111).

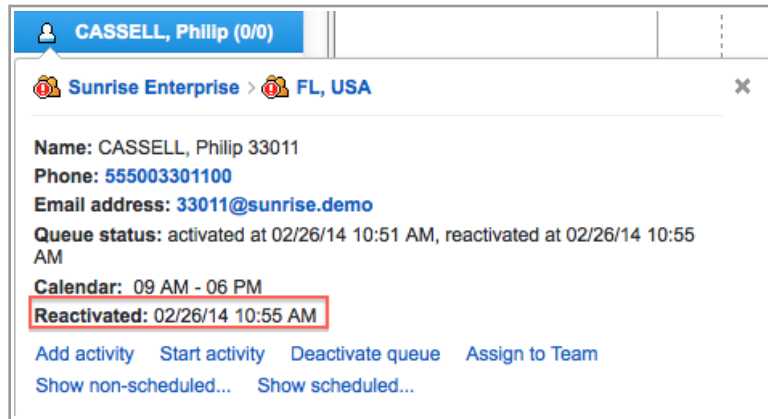


Figure 111: 'Reactivated' property in resource's hint

It is now possible to set the time for the activity to be reactivated. Users with 'Set action time' permission set to 'ReadWrite' or 'ReadOnly' can see the new 'Reactivate at' field in the 'Reactivate Route' form. When the 'Reactivate Route' form is opened, 'Reactivate at' field is automatically set to the current time represented in the time zone for the selected resource. If the permission is set to 'ReadWrite', reactivation time can be changed, if necessary (Figure 112). If the permission is set to 'ReadOnly' the resource can only view the time assigned by default without an ability to modify it (Figure 113).

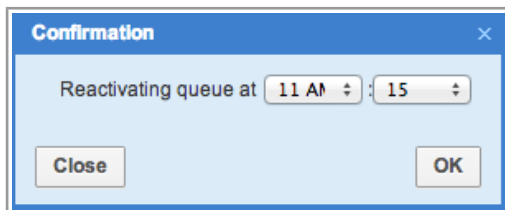


Figure 112: Reactivation time field with 'ReadWrite' permission

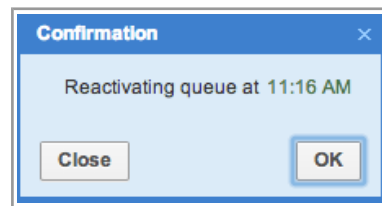


Figure 113: Reactivation time field with 'ReadOnly' permission

The system now supports 'Reactivate route' action link on the resource hint. When the 'Visible hint

columns for resources' context layout is configured to include the 'Reactivated' field, it will be shown on the resource hint (Figure 114).

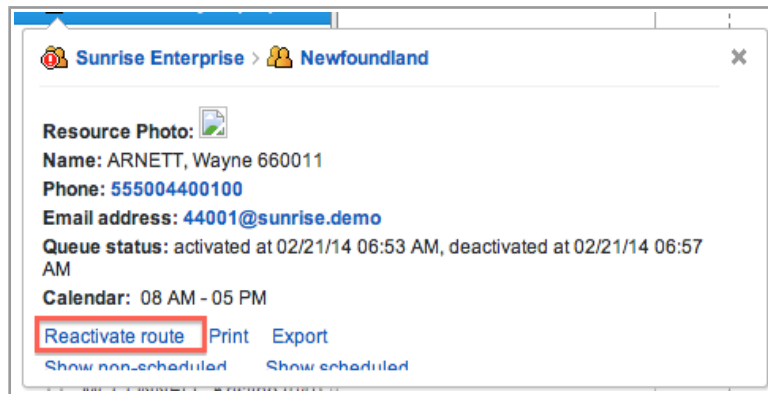


Figure 114: 'Reactivate route' action link added on the resource hint

The new 'Reactivation' property can now be added for the 'Queue Fields' structure in the DWH configuration. In order to do so, the user can select the new 'Queue Reactivation time' field available in the 'Add field' window (Figure 115).

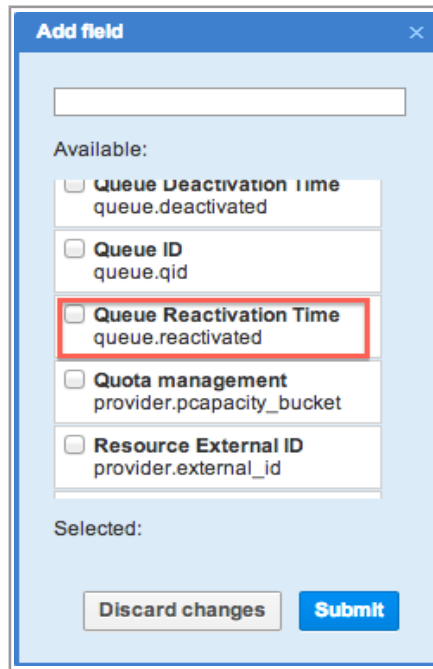


Figure 115: Queue reactivation field in DWH configuration

The new 'Is reactivated' filter condition has been introduced (Figure 116).

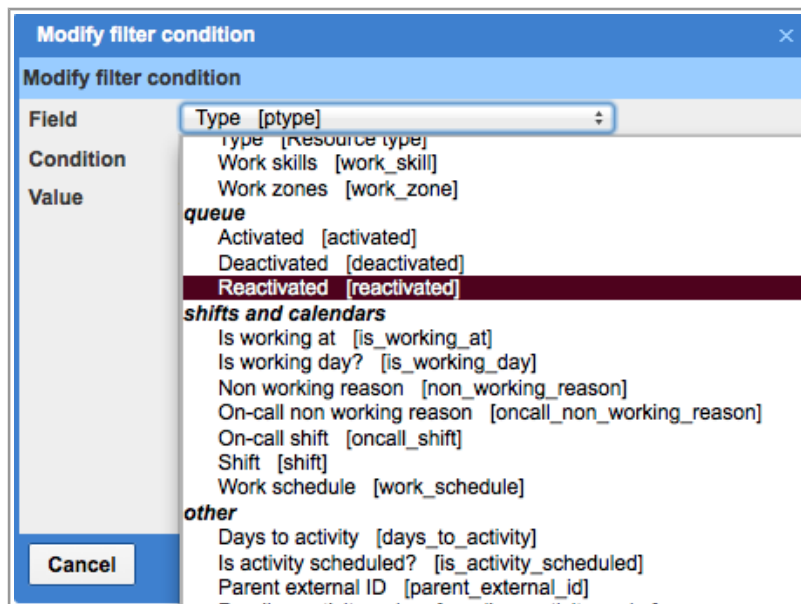


Figure 116: 'Reactivated' filter condition

The new condition checks whether the route is reactivated. The filter condition to be used is 'Is null' or 'Is not null'.

The new 'Reactivated' and 'Deactivated' conditions have been added in the 'Message Scenarios'. (Figure 117).

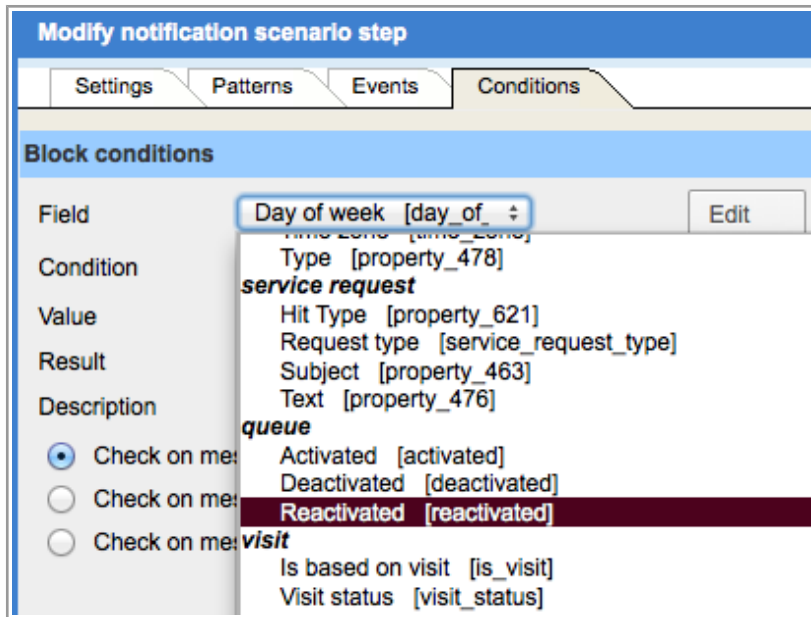


Figure 117: 'Reactivated' and 'Deactivated' message blocking conditions

The new conditions check whether the route is reactivated or deactivated. The condition to be used is 'Is null' or 'Is not null'.

The new 'Reactivated' field can now be viewed in the 'Changes' column of the Activity History if the route has been reactivated.

New placeholders have been created to be used in connection with the reactivation property:

```
queue.reactivated    'Queue Reactivation Time'
11876                'reactivated at'
11998                'Reactivating queue at'
```

### 5.3.4 Properties Import Performed Correctly

In the previous versions, if a single property file was imported via the Properties screen, the 'Import properties' window showed 'Successfully imported' counter value as '-1' (Figure 118).

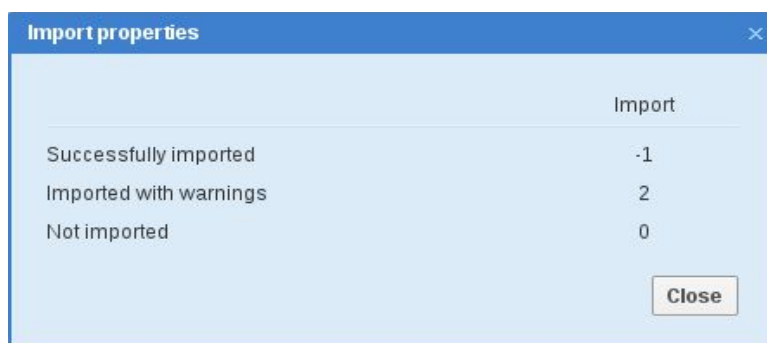


Figure 118: 'Successfully imported' counter with negative value

This is incorrect behavior, as the 'Successfully imported' counter value should be '0' or positive. If the property was imported with warnings, the value of 'Imported with warnings' counter should be '1'.

In version 4.5.12 the necessary changes have been made to ensure that the counter values are displayed properly.

### 5.3.5 Time for Non-Scheduled Activities Displayed Correctly

In the previous versions, the time for non-scheduled activities in the 'Activity History' tab was shown in GMT timezone, while the time should correspond to the timezone of the resource.

This has been fixed in version 4.5.12. Now the timezone difference is considered when formatting date and time properties for non-scheduled activities.

### 5.3.6 'Main Resource' Visible on 'User' Screen

If the user had been assigned the 'Main Resource' (Figure 119), the resource's name was not visible on the 'User details' screen, since the 'Main resource (resource in Telemetry and Smart Collaboration)' text field was empty (Figure 120).

User Name	Login ↑	Provider	Profile	Status	Locked	Language	Login Policy	Display Profile	Last login	Main resource
Anna	anna	Planning; FL, USA	Dispatcher; Routing Manager	✓	✓	English	Default policy	Dispatcher	07/18/12 12:54 PM	
Anne	Anne	Sunrise Enterprise	Dispatcher; Technician; soap; CSR; Manager; Admin; File upload; Users Admin; Routing Manager	✓	✓	English	Default policy	Administrator	07/18/12 12:22 PM	
API_test_user	API_test_user	Sunrise Enterprise	Technician	✓	✓	English	Default policy		-	
Holm Billy	billy	HOLM, Billy	Technician	✓	✓	English	Default policy	Technician	07/18/12 08:04 PM	HOLM, Billy

Figure 119: 'Main resource' associated with the User

Main resource (resource in Telemetry and Smart Collaboration)

\* Login

\* User name

Figure 120: Main resource's name is not visible on User configuration Screen

The necessary changes have been made, and now the main resource's name is displayed on the User configuration screen.

### 5.3.7 Deactivated 'Non-Working Reasons' No Longer Shown on 'Daily' Screen

In the previous versions, if a non-working reason was deactivated in the 'Non-working reasons' screen in the 'Company Settings' (Figure 121), it was still shown as available in the drop-down lists on the 'Daily' screen (Figure 122).



Non working reasons					
		View ▾	Add non-working reason		
				1-6 of 6	
<input type="checkbox"/>	ID	Name	Label	Active	Actions
<input type="checkbox"/>	4	Bereavement	BEREAVEMENT	✓	<a href="#">Modify</a>
<input type="checkbox"/>	1	Holiday	HOLIDAY	✗	<a href="#">Modify</a>
<input type="checkbox"/>	3	Illness	ILLNESS	✓	<a href="#">Modify</a>
<input type="checkbox"/>	100	Other	OTHER	✓	<a href="#">Modify</a>
<input type="checkbox"/>	101	PTO	PTO	✓	<a href="#">Modify</a>
<input type="checkbox"/>	2	Vacation	VACATION	✓	<a href="#">Modify</a>

Figure 121: Non-working reason deactivated

Working time

Points

On-call

- Shifts**
- Overnight
- First shift 8-17
- First shift 7-16
- First shift 8-18
- First shift 09-18
- Second shift 12-17
- Second shift 13-18
- Second shift 18-22
- Non working reasons**
- Holiday
- Vacation
- Illness
- Bereavement
- Other
- PTO
- Manual

Figure 122: Deactivated non-working reason available on 'Daily' screen

The necessary changes have been made in version 4.5.12, and the deactivated non-working reasons are no longer displayed on the 'Daily' screen.

### 5.3.8 File Property Displayed on 'Add/Edit Activity' Screen for Mass and Repeating Activities

Previously, if a custom file property (e.g. a customer signature) was added when creating a mass and/or repeating activity, it was successfully stored, but was not shown in the 'Add/Edit activity' screen afterwards.

This issue has been fixed in version 4.5.12.

### 5.3.9 Resource Preference Settings Recorded Correctly in Activity History

In the previous versions, any resource preference settings were recorded on the 'History' tab of the 'Activity details' screen as follows: 'add forbidden resource undefined:'.

As of version 4.5.12 the necessary changes have been made to ensure that the 'undefined' message is

removed. Now, the 'Changes' column in the 'History' tab contains the name of the related resource.

### 5.3.10 Non-Scheduled Activities Deleted Correctly

When a non-scheduled activity was canceled for the resource with an activated route with the 'Delete' box checked, the response contained a 'You cannot perform this action in active route' message (Figure 123). If the page was refreshed after the error message, the activity was moved back to the resource's route on the same day as 'not-ordered'.

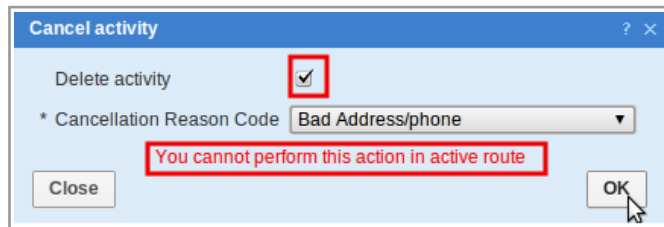


Figure 123: Error message on canceling non-scheduled activity

This was incorrect behavior, as the user should be able to delete a non-scheduled activity, even if the route has been activated for the day, because the non-scheduled activities are not assigned to any date and, therefore, do not belong to any route.

The logic of canceling and deleting activities has been changed in version 4.5.12 and the issue has been fixed.

### 5.3.11 Forecasting – Import Error Message Changed

Previously, when an invalid file was imported in Forecasting, the 'invalid parameter' warning message appeared (Figure 124).

This was vague and confusing for the user as did not explain the reason for the error.

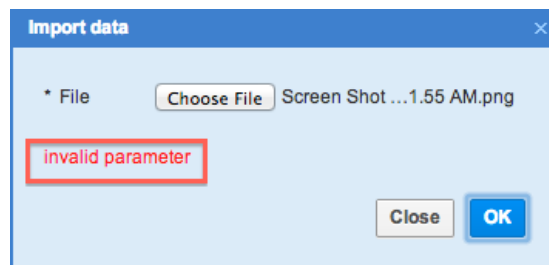


Figure 124: Warning message on invalid file import

As of version 4.5.12, the text of the message was changed to the 'Error format csv file', which gives a clear indication of the problem (Figure 125).

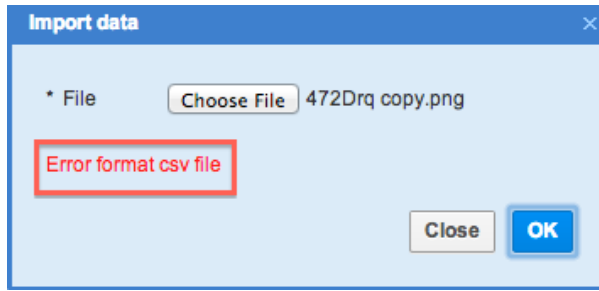



Figure 125: Improved message on invalid file import

### 5.3.12 All Mass, Repeating and Shift Activities Shown on List View

Previously, when the 'Apply hierarchically' filter option was enabled, non-instantiated mass, repeating, and shift activities were shown only for the currently selected resource, and were not visible for its child resources on the List view.

As of version 4.5.12, all available activities are shown in the List View regardless of the 'Apply hierarchically' option, including non-instantiated mass, repeating, and shift activities.

### 5.3.13 Alerts for Capacity Buckets Shown Properly

Previously, if a capacity bucket had an alert indication  shown on the Resource Tree, the 'Alerts' field, however, did not appear on the resource hint (Figure 126).

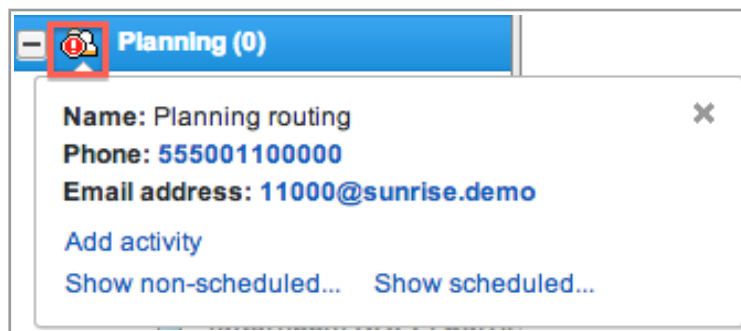


Figure 126: 'Alerts' field not shown for capacity bucket

This issue has been fixed in version 4.5.12. Now, the resource hint always shows the 'Alerts' description if there is an alert sign on the Resource Tree (Figure 127).

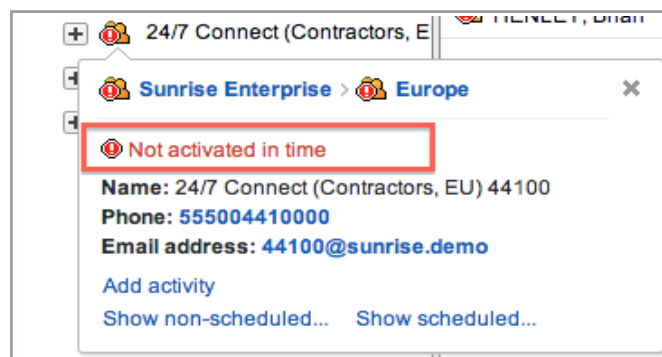


Figure 127: 'Alerts' field displayed for the capacity bucket

## 5.4 Activity Move

### 5.4.1 Non-Scheduled Activity Move Improved

In the previous versions the user was unable to move a non-scheduled activity using the action link. When 'Move' was clicked on the activity hint, the 'Error occurred: - Wrong data' error message was displayed. The 'Move' screen never appeared. However, the same activity could be moved using the group action link.

The necessary check has been added, and now non-scheduled activities can be moved properly using the action link in the activity hint.

## 5.5 Activity Views

### 5.5.1 'Reactivated' Mark Shown on Time View

With the enhancement of the route reactivation functionality, the 'Reactivated' mark has been added to the Activities Time View. The mark is the same as the one marking route activation (Figure 128).

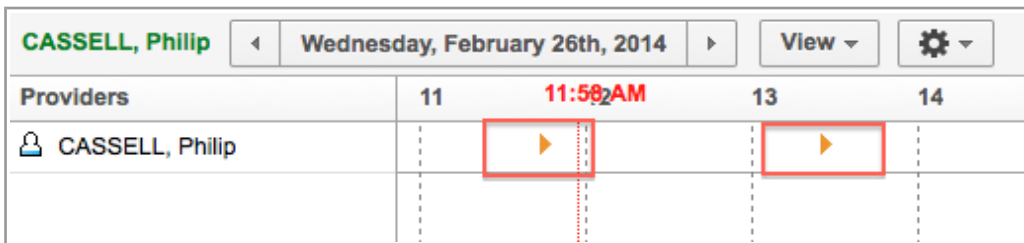


Figure 128: Route activation and reactivation marks

### 5.5.2 Future Mass, Repeating and Shift Activities with Service Windows Shown as Ordered

Previously, all future mass, repeating and shift activities were shown as not-ordered on the Activities List View, even when such activities had a service window. This behavior was incorrect, as activities with service windows are ordered and must be shown as such.

This issue has been resolved in version 4.5.12. Now, if a mass, repeating or shift activity has a service window, the List View shows such activity as ordered.

### 5.5.3 ETA Calculated Correctly for Future Mass, Repeating and Shift Activities

If a future mass, repeating or shift activity had the 'SLA start' parameter, its value did not affect the ETA calculation in the activity display on the List or Time View.

This issue has been resolved. ETA is now calculated correctly for future mass, repeating or shift activities with SLA start. Such activities are shown correctly on the Time and List View.

### 5.5.4 Resource Names Included in Activity Export

If data of a bucket with child resources was exported from the Activities Time or List View, the resulting export file (CSV, XML or XLSx) was missing the column with resource names.

This issue has been fixed. The export file now contains the column with names of all resource in the exported bucket.

### **5.5.5 Current Time Marker Behavior Improved**

Sometimes, when a resource with an overnight calendar had an activity with a very long duration, the red vertical line marking the current time on the Time View was in a wrong place.

The time marker update mechanism has been improved. Now the current time marker is positioned correctly.

### **5.5.6 Visibilities Based on Resource Type Applied Correctly**

If an action link visibility in the 'Visible list columns' context layout was based on the Resource Type, such visibilities were not applied. For example, if the 'Add activity' action link was made visible only for resources of the 'Technician' and 'Bucket' type, in fact, the 'Add activity' link was invisible for resources of all types.

Now the action link visibilities are calculated correctly. The action links in the Time View, List View or Map View are shown or hidden according to the defined visibilities.

### **5.5.7 Activities Reordering Now Controlled by Permission**

In the earlier versions any user could change the order of activities within the route by dragging and dropping activities in the Activities View. However, certain situations might require that users are not allowed to reorder activities in the route.

As of version 4.5.12, ETAdirect has a new permission, 'Allow reorder inside the route', which controls the user's ability to change activities order (Figure 129). By default, this permission is enabled.

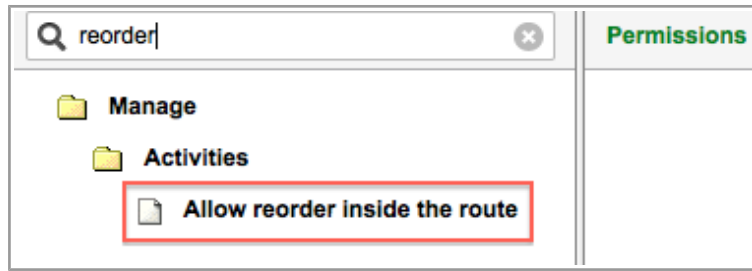


Figure 129: 'Allow reorder inside the route' permission

When this permission is enabled, the user can drag and drop activities to new positions in the route. Otherwise, on an attempt to drag an activity to a different position, the users received a warning message 'Reorder inside the route is not permitted' (Figure 130).

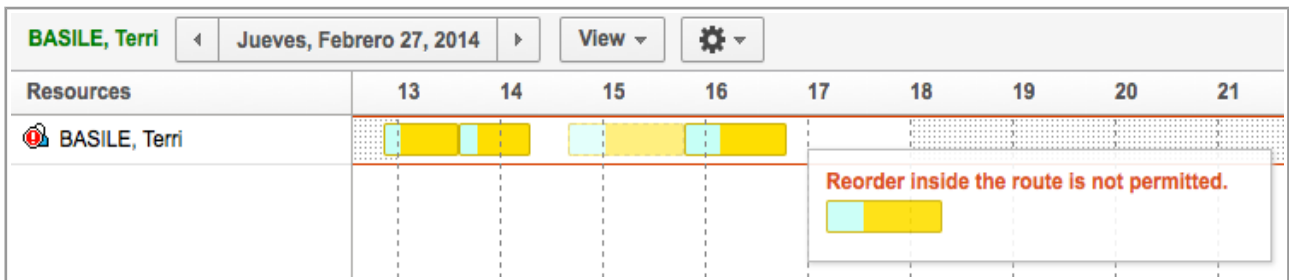


Figure 130: Warning message

When the user not permitted to reorder activities finishes dragging and dropping the activity, the alert window is displayed containing the 'Reorder inside the route is not permitted' message (Figure 131).

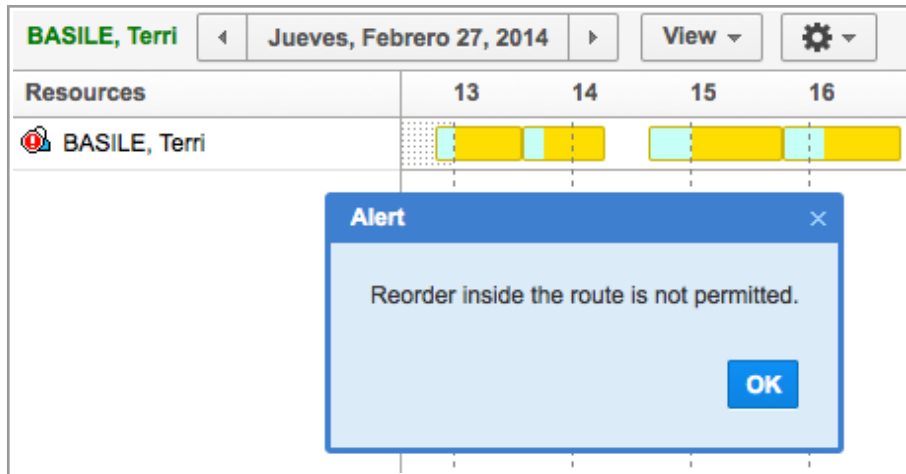


Figure 131: Alert window

### 5.5.8 'Export' Action Preserves Filter Settings

Previously, the 'Export' action was unable to access the currently selected filter, therefore, the filter settings were not preserved. As a result the received file contained a different set of activities than those that are visible on list/time views.

This issue has been fixed. The 'Export' action preserves all current filter settings.

## 5.6 Activity Details

### 5.6.1 Glossary Placeholder Translation Added

The 'activity\_history' page was missing translation for placeholder 1379.

In version 4.5.12 this placeholder translation has been added, therefore, the page is now displayed correctly.

### 5.6.2 Correct Error Message in 'Add/Edit Activity Group' Window

If the user tried to submit the 'Add/Edit activity group' window with empty name, the error message displayed was incomplete: 'Error occurred'. This message was unclear as it failed to describe the actual cause of error. In fact, the error message popup also contained a vertical scroll bar and, when scrolled down, displayed the second line: 'Group name is empty' (Figure 132).

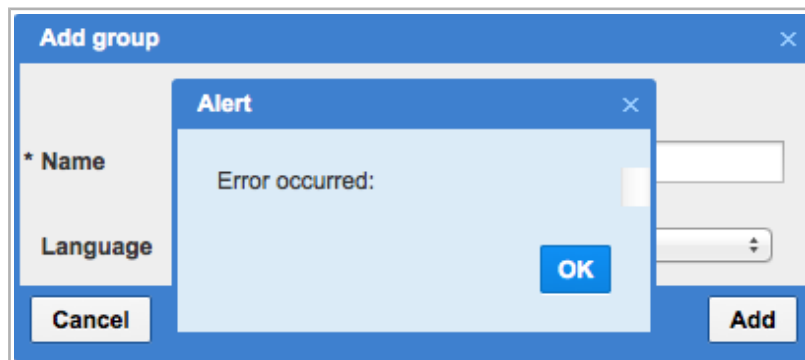


Figure 132: Incomplete error message

Such display was incorrect, as the error description must be immediately visible.

In version 4.5.12 the popup window has been improved, so that now the error alert along with

description appear at the same time without the need to scroll (Figure 133).

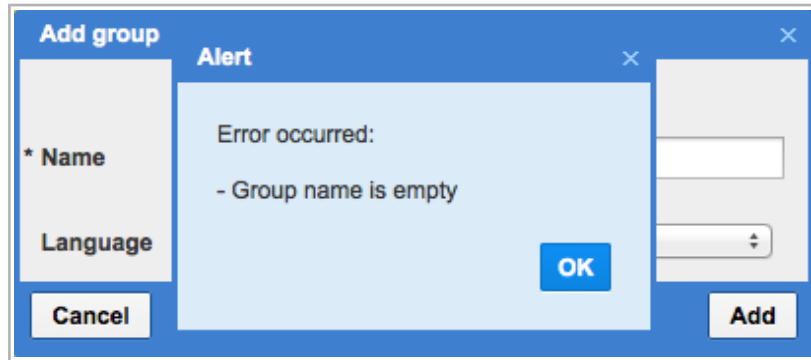


Figure 133: Complete error message

### 5.6.3 Route Reactivation Shown in Activity History

Route reactivation was incorrectly shown in the activity history. The 'Changes' column contained the 'Deactivated: -' record and no record of reactivation.

As of version 4.5.12 the activity history shows route reactivation records correctly. Now they are displayed as follows:

Deactivated: -

Reactivated: 09:37 PM

### 5.6.4 Support Request Synchronization Conflicts Shown in Activity History

As of version 4.5.12 ETAdirect allows displaying support request synchronization conflicts in the Activity History. They are shown with 'synchronization error' as the 'Action name'. Synchronization conflicts are displayed in the Activity History in the same format as other actions. All fields submitted in the support request are shown in the 'Changes' column of the Activity History.

### 5.6.5 Action Link Conditions Based on Resource Types Work Correctly

If an action link was added to the 'Visible list columns' context with the visibility depending on the resource type (for example, visible only to the resources of 'Bucket' type), such action link was in fact hidden for resources of all types. The only way to make such action link visible was to remove all visibility conditions.

The issue has been fixed in version 4.5.12. Action links are visible or hidden according to their visibility settings.

### 5.6.6 Time Slot, Service Window and SLA Changes Logged in History Table

The activity history table was missing records of certain field changes (time slot, service window and SLA).

In version 4.5.12 the functionality has been improved so that time slot, service window and SLA changes are now recorded properly in the activity history table.

### 5.6.7 Support of Logging of Actions Related to Support Requests Added

As of version 4.5.12 a new table, '<company>\_support\_request\_history', has been added. This table is used in the 'Activity history' tab to log support requests ('activity\_request', 'technician\_request' and



'inventory\_request') and their synchronization conflicts.

## 5.7 Quota Management

### 5.7.1 Mass Populate Functionality Enhanced

- In version 4.5.12 the Mass Populate functionality has been enhanced with the possibility of closing or opening all currently visible quota cells simultaneously. For this purpose two new actions have been added to the 'Status' field – 'Close all' and 'Open all'. These new actions are available on all Quota levels – day, time slot and capacity category (Figure 134).
- Some situations require a particular work zone to be opened or closed for multiple days, time slots or capacity categories simultaneously. As of version 4.5.12 the Mass Populate functionality supports such option. The 'Status' field now has two new actions – 'Close work zone' and 'Open work zone'. These actions close the selected work zone for multiple days, time slots or capacity categories at the same time. However, the actions are only available on the capacity category level (Figure 134).

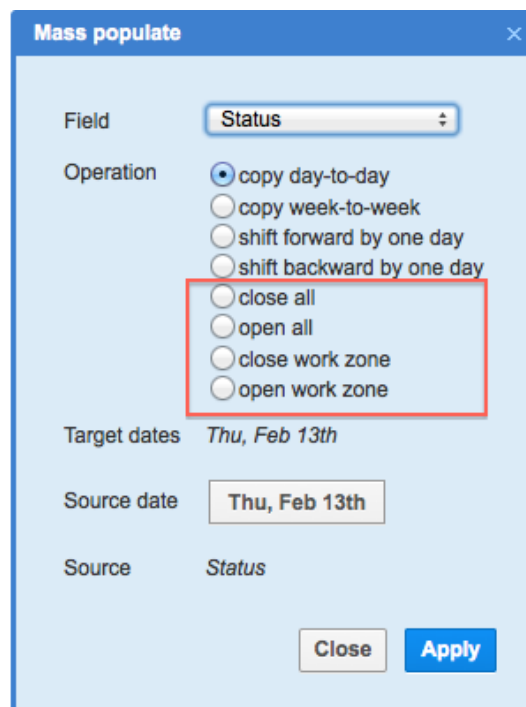


Figure 134: New operations added to 'Mass populate' window

### 5.7.2 'Mass Populate' Functionality Available in Internet Explorer 8

If ETAdirect was used in the Internet Explorer 8 browser, the 'Mass populate' functionality was not available – clicking 'Mass populate' only resulted in the 'Loading...' message displayed indefinitely on the screen. The actual 'Mass populate' window never appeared.

In version 4.5.12 this issue has been fixed. Now the users of Internet Explorer 8 can also access the 'Mass populate' functionality.

### **5.7.3 'Mass Populate' Works Correctly with Values Defined in 'Hours' or 'Man-Days'**

If the Quota values were first defined in minutes, then changed to hours or man-days, the 'Mass populate' action still populated the cells with values in minutes. Moreover, if the Quota values were then changed back to minutes in the 'Business Rules' screen, the values in the mass-populated cells were incorrect – the previous values were treated as 'hours' which resulted in much higher values after conversion. The same behavior was observed when the values were defined as 'man-days'.

After this issue has been resolved, the Quota values are calculated and mass-populated correctly in all units of measurement.

### **5.7.4 'Mass Populate' Functionality Copies Statuses Correctly**

In the previous versions the 'Mass populate' functionality only copied fully closed or opened statuses. If in a capacity category cell quota was closed only for some work zones with others remaining open, such statuses were not copied by the 'Mass populate' functionality. The issue occurred regardless of the operation selected for the 'Mass populate' action.

As of version 4.5.12 the statuses of individual work zones are copied as well as fully open or closed statuses. This is the correct performance of the 'Mass populate' functionality.

### **5.7.5 Maximum Number of Target and Source Days/Weeks Limited for Auto-Fill and Mass Populate Functionalities**

If very large numbers were entered as target days/weeks in the 'Recurring auto-fill' window, this could affect the performance of the functionality. In order to prevent performance issues and to limit the input to realistic values, the maximum value of target days/weeks count has been limited to 1000 days or 150 weeks.

At the same time, the maximum value of the 'Target date/week offset' parameter has been limited to 100.

For the 'Source' parameters the following restrictions have been applied in the Auto-Fill and Mass Populate functionalities:

- Source offset: -1000 to 1000
- Source day count: 0 to 1000
- Source week count: 0 to 150

### **5.7.6 Quota Settings Restricted to Maximum Values**

As of version 4.5.12 the following maximum values have been implemented to the quota settings:

- Quota: 0 – 16,777,215
- Min quota: 0 – 16,777,215
- % Quota: 0 – 999.99
- % to stop booking at: 0 – 9,999

With this improvement the limit of quota settings correspond to those used in the Capacity API which ensures data consistency and correct system performance.

### 5.7.7 'Other Activities' and '% to Stop Booking at' Columns Shown with Corresponding Bucket Configuration Options Only

Previously, the 'Other activities' column was shown on the Quota screen even with the 'Estimate capacity used by activities that might affect capacity in this time slot' option disabled in the bucket configuration, while it should have been hidden as irrelevant for such configuration. Similarly, the '% to stop booking at' column which makes sense only with the 'Allow to close based on % of the daily quota that is currently in use' option enabled, was shown even with this option disabled.

In version 4.5.12 the quota configuration widget has been changed so that the 'Other activities' and '% to stop booking at' columns are visible only with the 'Estimate capacity used by activities that might affect capacity in this time slot' and 'Allow to close based on % of the daily quota that is currently in use' options enabled, respectively, which ensures correct Quota screen usage according to the actual bucket configuration.

### 5.7.8 'Quota Management' Visibility Settings Improved

As of version 4.5.12 the visibility settings of the 'Quota Management' field have been improved.

Previously, when this field was set to ReadOnly, the entire 'Quota Management' section' became invisible, while only the disabled 'Quota Management' checkbox remained on the screen.

Now, even when the 'Quota Management' field is set to ReadOnly in the corresponding display profile, the 'Quota Management' section is visible, though, not editable (Figure 135).

Quota management	<input checked="" type="checkbox"/>
Routing profile	Routing (Region 3-5)
<b>Quota management</b>	
Time slots	08-10, 10-12, 13-15, 15-17
Capacity categories	Deinstall, Downgrade, Install, Non-Pay, Restart/Reconnect, Service Request Order, Trouble Call, Upgrade
Quota is entered for	<input type="checkbox"/> day <input type="checkbox"/> time slot <input checked="" type="checkbox"/> capacity category
Quota can be closed for	<input type="checkbox"/> day <input type="checkbox"/> time slot <input type="checkbox"/> capacity category <input checked="" type="checkbox"/> work zone
Estimate maximum capacity for	<input type="checkbox"/> day <input type="checkbox"/> time slot <input type="checkbox"/> capacity category
<b>Capacity category</b>	
Quota is entered: in minutes	

Figure 135: 'Quota Management' settings in ReadOnly mode

This improvement brings the screen behavior in conformity with the business logic and increases its usability.

### 5.7.9 'Subtract These Activities from the Maximum Capacity before Calculation of Quota' Parameter Now Related to 'Estimate Capacity Used by Activities That Are Not a Part of the Quota Management'

Previously, the 'Subtract these activities from the maximum capacity of this day before calculation of quota' checkbox was visible regardless of the settings of the Estimate capacity used by activities that are not a part of the Quota Management' checkbox (Figure 136).

**Day**

Quota is entered

in minutes

as % of capacity available by calendar

Other activities

Estimate capacity used by activities that are not a part of the Quota Management

Subtract these activities from the maximum capacity of this day before calculation of quota

Figure 136: 'Subtract these activities...' checkbox visible with 'Estimate capacity...' option disabled

However, if the 'Estimate capacity...' checkbox was disabled, the 'Subtract these activities...' checkbox became irrelevant at the corresponding quota level.

In version 4.5.12 the relationship between these two parameters has been added. Now the 'Subtract these activities...' checkbox is only visible when the 'Estimate capacity...' option is enabled (Figure 137).

**Day**

Quota is entered

in minutes

as % of capacity available by calendar

Other activities

Estimate capacity used by activities that are not a part of the Quota Management

**Time slot**

Figure 137: 'Subtract these activities...' checkbox hidden with 'Estimate capacity...' option disabled

### 5.7.10 Sub-Sections in 'Quota Management' Section Correspond to 'Quota Is Entered for' Selection

The 'Quota is entered for' field has 3 checkboxes allowing to select the level on which quota is entered (day, time slot, capacity category). This selection affects the presence of the sub-sections (Day, Time slot, Capacity Category) in the 'Quota management' section. However, when 'Estimate maximum capacity for' checkbox were checked for 'time slot' and 'capacity category', these sections were shown even when the corresponding checkboxes were unchecked in the 'Quota is entered for' field'. These irrelevant sections appeared after 'OK' was clicked (Figure 138).

**Quota management**

Time slots: 08-10, 10-12, 13-15, 15-17

Capacity categories: Deinstall, Downgrade, Install, Non-Pay, Restart/Reconnect, Service Request Order, Trouble Call, Upgrade

Quota is entered for:  day  time slot  capacity category

Quota can be closed for:  day  time slot  capacity category  work zone

Estimate maximum capacity for:  day  time slot  capacity category

**Day**

Quota is entered

in minutes

as % of capacity available by calendar

Other activities

Estimate capacity used by activities that are not a part of the Quota Management

**Time slot**

Other activities

Estimate capacity used by activities that might affect capacity in this time slot

Allow to close based on % of the daily quota that is currently in use

**Capacity category**

Settings were successfully updated

OK

Figure 138: 'Time slot' and 'Capacity category' sections visible with corresponding options disabled in 'Quota is entered for'

As of version 4.5.12 the sub-sections are displayed whenever the corresponding checkbox is checked in the 'Quota is entered for' field. If the checkbox is unchecked, the sub-section is hidden (Figure 139). The 'Estimate maximum capacity for' settings have no effect on the sub-sections visibility.

**Quota management**

Time slots: 08-10, 10-12, 13-15, 15-17

Capacity categories: Deinstall, Downgrade, Install, Non-Pay, Restart/Reconnect, Service Request Order, Trouble Call, Upgrade

Quota is entered for:  day  time slot  capacity category

Quota can be closed for:  day  time slot  capacity category  work zone

Estimate maximum capacity for:  day  time slot  capacity category

**Capacity category**

Quota is entered

in minutes

as % of the maximum capacity available in this category

Figure 139: 'Day' and 'Time slot' sub-sections hidden with 'Quota is entered for' parameter set only to 'capacity category'

### 5.7.11 'Recurring Autofill' Window Improved – 'Within' Value Saved

Previously, the 'Recurring autofill' window settings were not saved correctly – the 'Within' field value determining the period after the set time within which the autofill has to be performed, was not saved.

The user was able to enter a new value, click 'Save', but on next opening of the same window the 'Within' value remained unchanged. However, this incorrect behavior occurred only in new rules creation, while in modification of existing rules the 'Within' value was saved properly.

In version 4.5.12 this issue has been addressed, and now the 'Within' settings are saved properly, both for new and existing rules.

### 5.7.12 Quota Map Screen Implemented

The usability and visual clarity of the Quota screen has been further enhanced by adding the Map view to the Quota screen. The Map displays the work zones defined in the system and their quota status (Figure 140).

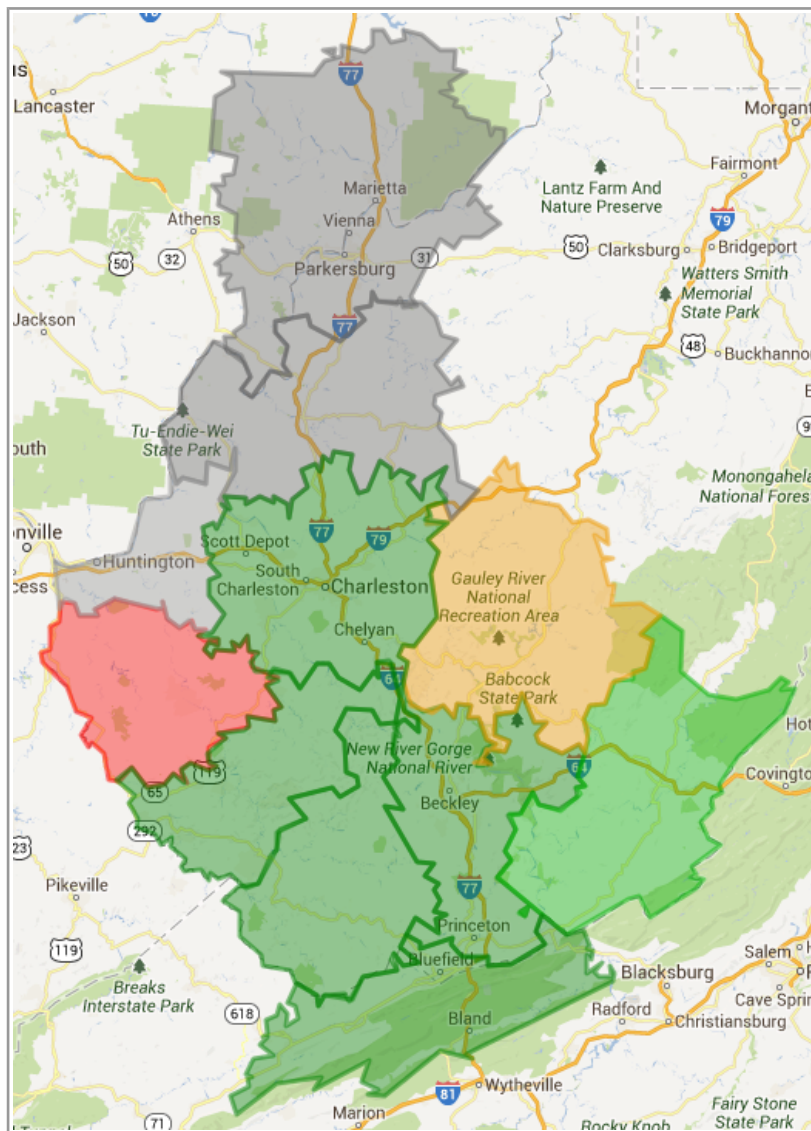


Figure 140: Quota Map View

The Map view is accessed by clicking the 'Map' option added to the 'View' filter (Figure 141).

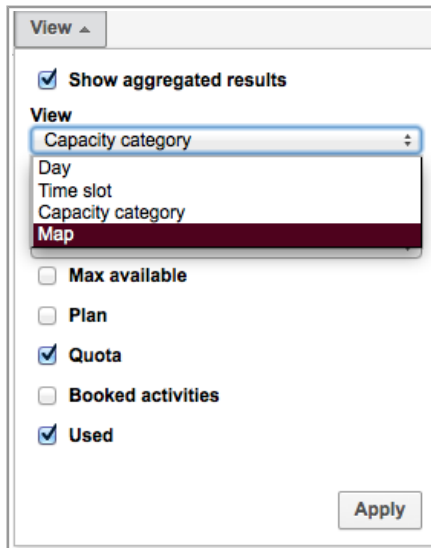


Figure 141: Map View selection

The work zones displayed on the Map are shown in different colors depending on their quota status:

- quota closed with no activities – light gray
- quota closed with activities – gray
- quota open with no activities – light green
- quota open less than 90% – green
- quota open more than 90% – yellow
- quota open with more than 100% – red

When the Map View is selected, the Map opens immediately centered on the work zones of the selected capacity bucket.

The Map view access is controlled by a special permission (Manage → Quota → Map) (Figure 142).

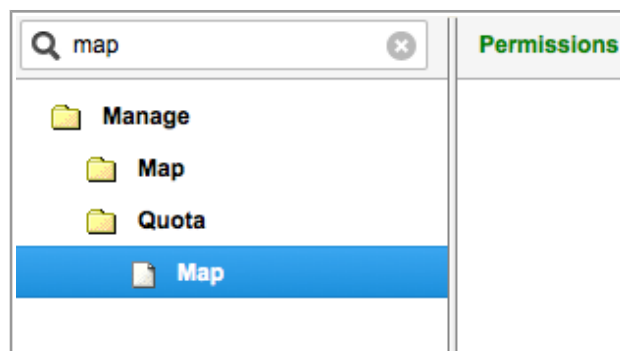


Figure 142: 'Map' permission

The corresponding placeholder (11486 – Work zone id) has been implemented.

### 5.7.13 Quota Saving on Day Level No Longer Causes Errors

Each saving of the day level quota caused an error to be written to the log as the result of '-1' sent as the 'total' index for the day level. However, totals are not supported on the day level, and this was the reason for the error.

As of version 4.5.12 no errors are logged if '-1' is received as 'total' on the day level.

### 5.7.14 'Work Zone' Filtering Available in 'Quota History'

Previously, it was impossible to filter the 'Work Zone' column in the 'Quota History' window, as the 'Work Zone' column had no filter controller (Figure 143).

Date	Time slot	Capacity category	Work zone	Action
02/10/14	08-10	Trouble Call	ALTAMONTE SPRINGS	Close
02/10/14	08-10	Upgrade		Close
02/10/14	08-10	Upgrade	ALTAMONTE SPRINGS	
02/10/14	10-12	Install		Close
02/10/14	08-10	Upgrade	ALTAMONTE SPRINGS	Close
02/10/14	10-12	Upgrade	HEATHROW	Close

Figure 143: Filter controller missing for 'Work zone' column

In version 4.5.12, the filter controller has been added to the 'Work Zone' column, and it can now be filtered in the manner similar to other columns filtering (Figure 144).

Date	Time slot	Capacity category	Work zone	Action
02/13/14	08-10	Trouble		Close
02/13/14	10-12	Trouble		Close
02/13/14	08-10	Trouble		Close
02/13/14	10-12	Upgrad		Close
02/13/14	10-12	Trouble Call	GENEVA	Close

Figure 144: 'Work zone' column filter

The user can limit the list of records returned in the 'Quota History' window to one or several work zones selected in the column filter.

### 5.7.15 Inactive Buckets No Longer Shown

If the 'Show aggregated results' option was selected in the 'View' filter, the Quota View showed both



active and inactive capacity buckets. At the same time, the Resource Tree only showed active buckets. In version 4.5.12 this issue has been resolved. The Quota View shows only active buckets while inactive are hidden.

### **5.7.16 Filter of 'Action' Column of 'Quota History' Improved**

- If the 'Action' column filter was set to 'Open', i.e. to show only the 'Open' actions, the list still showed records of 'Close' actions. However, only the records of closing individual work zones were included in the list.

As of version 4.5.12 the 'Actions' list only shows the records corresponding to the selected filter, which is the correct application behavior.

- The 'Remove work zone specific settings' option of the 'Action' column filter removed all 'Change' action records and left all 'Close' and 'Open' action records in the list. At the same time, the last record in the list was duplicated.

In version 4.5.12 the logic of quota actions saving and display has been improved. Now the 'Action' filter of the 'Quota history' window works correctly, and only the actions selected in the filter are shown.

### **5.7.17 Deactivated Work Zones No Longer Shown**

Previously, if one or several work zones were deactivated in Manage Application → Company Settings → Work Zone Dictionary, such work zones were still shown in the 'Quota Status' and 'Close time' popup windows and the 'Mass populate' form. Moreover, they could be selected for quota closing and close time settings.

As of version 4.5.12 deactivated work zones are no longer available in the work zone list of the 'Quota Status', 'Close time' and 'Mass populate' windows. In addition, the work zones list is now sorted by name.

### **5.7.18 Quota Grid Displayed Properly in Multi-Bucket Mode**

When the multi-bucket mode was turned on (the 'Show aggregated result' option disabled), the filter settings were not applied immediately. As the result, not all columns were shown in the grid. The user had to apply the filter once more for the settings to be applied.

This issue has been resolved in version 4.5.12. The columns defined in the filter and actually displayed are now the same.

### **5.7.19 Offset Fields Can Be Set to '0'**

Previously, it was impossible to use the current day or week as the source or target date in the Autofill functionality. The '...starting from current +' and 'current day (week) +/-' fields did not accept '0' as a value and, therefore, this value was not applied (Figure 145). If '0' was entered in these fields, the field actually showed '1' after saving.

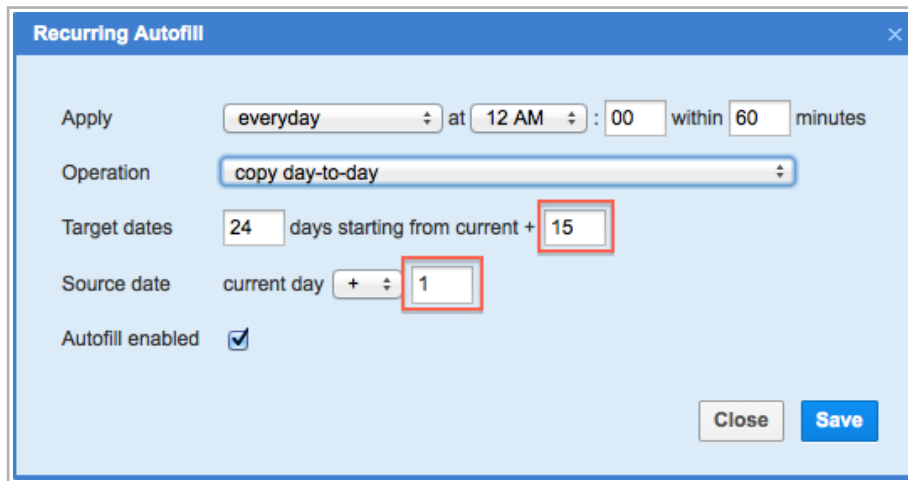


Figure 145: Offset fields

In version 4.5.12 the functionality has been improved, and now '0' can be entered in the offset fields with the settings correctly applied. Therefore, current day or week can now be used as source or target.

### 5.7.20 'Resource Info' Screen Contains Correct Options

The 'Capacity Category' section of the 'Quota Management' settings of the 'Resource Info' screen contained the 'Allow to close based on % of the **daily** quota that is currently in use' option, which did not make sense, as the capacity category quota depends on the time slot quota, rather than on the daily quota.

In version 4.5.12 a new placeholder has been introduced. Now the option has the correct description, 'Allow to close based on % of the **time slot** quota that is currently in use' (Figure 146).

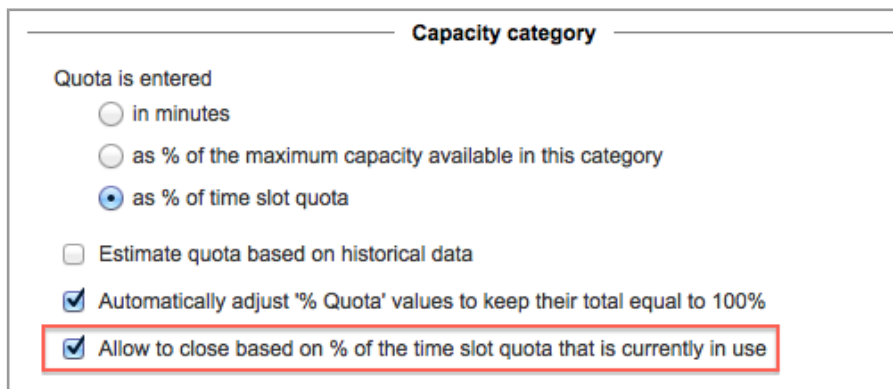


Figure 146: Correct option description

This description matches the purpose of the setting within the Quota functionality.

## 5.8 Routing

### 5.8.1 Routing and Application Server Use Same Activity Duration Value

If no statistical duration can be found for an activity, the system uses the company default value. However, if there is a duration value for such activity set via the API or GUI, such external value is used instead. At the same time, Routing still uses the company default duration for activities with no statistics and never checks for any duration values received from external sources.

In version 4.5.12 the duration calculation logic has been changed. If the 'Define duration manually'

feature is disabled for the activity type and the 'Duration' field is enabled in the 'Add/Edit activity' contexts and can be filled-in, Routing uses such duration value rather than a company default value. Therefore, both the Application Server and Routing now use the same logic in calculating activity duration.

### 5.8.2 Routing Handles Activities without Locations Correctly

If travel has already been started for a pending activity, such activity is not sent to Routing to ensure route continuity. However, if such activity had no location information (coordinates, travel key, address, zip, city, and state), it was reordered and shifted to the end of the route.

As of version 4.5.12 activities with started travel are not reordered even when they have no location information.

### 5.8.3 Rollback Actions No Longer Cause Errors

Previously, if a 'Rollback' action was initiated from the 'Routing execution log', such action caused an error to appear in the log.

The necessary changes have been made, and now rollbacks are executed without errors.

### 5.8.4 Overnight Value Applied Automatically

If the Overnight value was changed, the Routing continued to use the previous value. Changes were applied only after the Application Server restart. As the result, some activities were left unassigned. As of version 4.5.12 changes to the Overnight value are applied automatically without the necessity to restart the Application Server. This ensures correct activities assignment.

### 5.8.5 Unused 'Help' Link Removed

The 'Compare' window of the 'Routing execution log' had a 'Help' link (represented as a question mark) which, when clicked, had no effect (Figure 147).

test_bk_s 16.01.14						
Routing execution log ID	691391	691389	691388	691386	691385	691384
Routing run	test2 at 16.01.14 03:06 - 03:06	test1 at 16.01.14 03:05 - 03:05	test1 at 16.01.14 03:05 - 03:05	test2 at 16.01.14 03:03 - 03:03	test1 at 16.01.14 03:03 - 03:03	test1 at 16.01.14 03:03 - 03:03
Technicians	2 of 18	1 of 18	1 of 18	3 of 18	3 of 18	3 of 18
Activities	Assigned: 2 of 2	Left in bucket: unacceptable jeopardy: 2	Reordered: 1 of 2 Left in bucket: unacceptable jeopardy: 2	Assigned: 2 of 2	Assigned: 2 of 2	Assigned: 2 of 2
Fitness	3193.719869	10462.27565	10049.998744	3059.409136	3059.409136	2719.719869
Assurance	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
Number of passes the routing run was made	40	40	40	40	40	40
Route uniformity	0.00	0.00	0.00	0.00	0.00	0.00

Figure 147: Unused 'Help' link

In version 4.5.12 this link has been removed.

### 5.8.6 Values in 'Filters' Tab Shown Correctly

In the previous versions the 'Filters' tab values were displayed incorrectly when a resource filter with a long name was selected. The values of several rows overlapped which made the 'Filters' grid difficult to comprehend (Figure 148,149).

**Set of activities to be assigned**

Assignment cost:

Resources	Do not assign	Low	Normal	High	Highest
Resource with long name	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
*(Other)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Close Add

Figure 148: Assignment cost settings

Activities	Cost of not assigning an activity	Time-slot overdue (max/cost)	Resources	Action
*(Other)	normal	Unlimited / high	Resource with long name *(Other) Highest Normal	Settings Resources

Figure 149: Overlapping lines in 'Filters' grid

In version 4.5.12 this issue has been addressed, and now the 'Filters' grid is displayed correctly.

## 5.9 Resource Management

### 5.9.1 Missing Placeholder Added

The placeholder was missing for the 'in minutes' text in the 'Quota management' section of the 'Resource info' screen. The placeholder was missing in the 'Time slot' subsection.

Now the placeholder has been added and translations to other languages are, therefore, possible.

### 5.9.2 Resource Displayed Correctly after Route Reactivation

If a resource's route was reactivated, its name disappeared from the Resource Tree and the icon was displaced.

This issue has been resolved, and now resources with reactivated routes are shown correctly in the Resource Tree.

### 5.9.3 Switching from View with 2 Resource Trees to Other Screens Works Properly

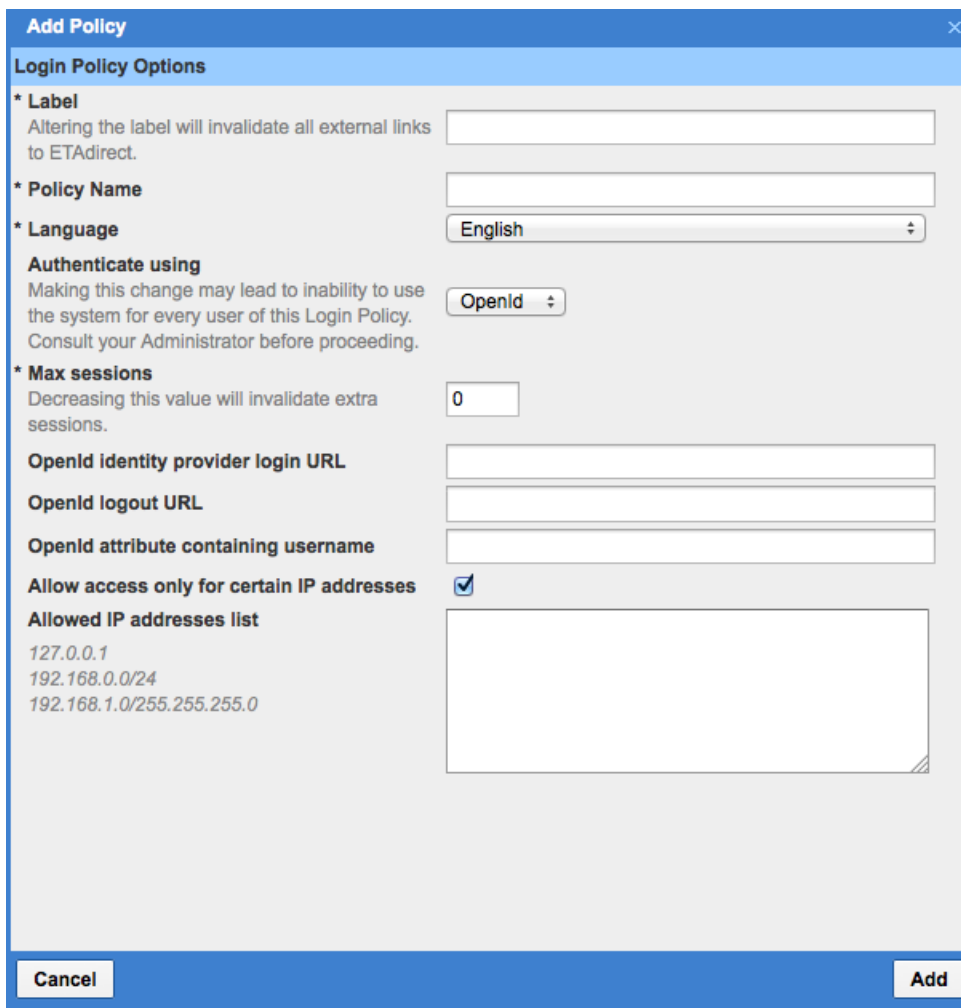
When the user opened the second Resource Tree and changed date in the second panel, it was impossible to switch from this view to a different screen. The Resource Tree remained on the screen and the new screen was not loaded. However, if the bottom panel was closed, new screens were loaded properly. After the necessary changes this issue no longer occurs, and the user can switch from the Activities View to another screen, regardless of the whether one or two panels were open on the Activities View. The Resource Trees are hidden in the screens for which they are irrelevant.

## 5.10 Company Settings

### 5.10.1 'Add/Edit Login Policy' Window Changed

In order to simplify the login policy configuration, the 'Add/Edit Policy' window has been changed as follows (Figure 150):

- the 'Disallowed IP addresses list' field has been removed and is no longer used
- a new checkbox, 'Allow access only for certain IP addresses', has been added to the 'Add/Edit Policy' window. This checkbox is unchecked by default
- the 'Allowed IP addresses list' field is not immediately shown but appears when the 'Allow access only for certain IP addresses' checkbox is checked
- the width of fields in the popup window has been increased



The screenshot shows a window titled "Add Policy" with a close button in the top right corner. The window is divided into a header section "Login Policy Options" and a main content area. The main content area contains several fields and options:

- \* Label:** A text input field with a warning: "Altering the label will invalidate all external links to ETAdirect."
- \* Policy Name:** A text input field.
- \* Language:** A dropdown menu currently set to "English".
- Authenticate using:** A dropdown menu currently set to "OpenId", with a warning: "Making this change may lead to inability to use the system for every user of this Login Policy. Consult your Administrator before proceeding."
- \* Max sessions:** A text input field containing the value "0", with a warning: "Decreasing this value will invalidate extra sessions."
- OpenId identity provider login URL:** A text input field.
- OpenId logout URL:** A text input field.
- OpenId attribute containing username:** A text input field.
- Allow access only for certain IP addresses:** A checkbox that is checked.
- Allowed IP addresses list:** A text area containing the following IP addresses:
  - 127.0.0.1
  - 192.168.0.0/24
  - 192.168.1.0/255.255.255.0

At the bottom of the window, there are two buttons: "Cancel" on the left and "Add" on the right.

Figure 150: New layout of 'Add/Edit Policy' window

Therefore, by default the list of IP addresses from which the user is allowed to log in is not restricted. However, once the allowed IP addresses have been defined, the user can log in only from such addresses.

### 5.10.2 Activity Type Group Action Warning Improved

Previously, if several activity types were selected in the 'Activity types' screen and a group action was used to all selected activity types, the confirmation window was displayed as many times, as many

activity types were selected. If 3 activity types were selected for activation, the first message read '1 activity type is about to be activated. Are you sure?'. When the user clicked 'OK' or 'Cancel', the second message reading '2 activity types are about to be activated. Are you sure?' appeared, and so on. Now group action links in the 'Activity Types' screen are accompanied by only one warning message stating the number of activity types selected for the group action. The user confirms or cancels the action for all selected activities.

### 5.10.3 Group Delete Action Link Behavior Improved

If one or more DWH configuration files were selected in the 'DWH configuration' screen, the group delete hint appeared and remained on the screen even after the user switched to a different screen (Figure 151). Also, it remained visible when the 'Add new', 'Export' or 'Import' buttons were clicked.

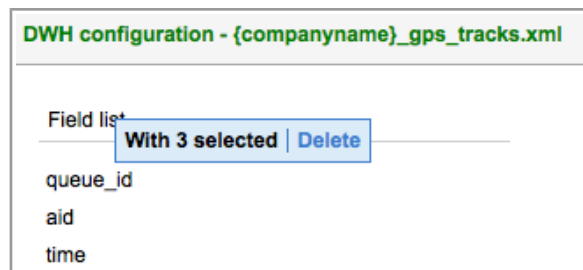


Figure 151: 'Delete' hint remaining on screen

In version 4.5.12 the behavior of the group delete hint has been improved, and now it is hidden when the user switches to a different screen or clicks a different button.

### 5.10.4 Placeholder Added to 'Delete' Group Action

The placeholder was missing for the 'Delete' group action link in the 'DWH Configuration' screen. In version 4.5.12 placeholder 11820 has been added to the 'Delete' action link, therefore, its name can now be edited or translated to other languages.

### 5.10.5 DWH Configuration Fields Correspond to Default Configuration

Some fields were missing in the list of fields available for the 'User List Fields' entity. In version 4.5.12 the following fields have been added, so that the list of fields in the 'Structure' screen of the 'User List Fields' DWH file corresponds to the default configuration:

- provider.time\_from – Resource Time From
- provider.time\_to – Resource Time To
- time\_zone.zoneinfo\_name – Resource Time Zone Name

The corresponding placeholders have been added.

### 5.10.6 Properties with Empty Names Shown Correctly in DWH Configuration Screen

Previously, if configuration contained any properties with empty names, such properties were shown as empty spaces in the 'Exported Fields' column. They were marked by commas but were otherwise invisible.

As of version 4.5.12 if a property name is empty, the original name is used instead, which makes the screen clearer.

### 5.10.7 Property Visibility Conditions Correctly Validated during Import

If a display context layout contained properties with visibilities defined as 'in' condition and value other than enumeration, import of such context layout failed. The 'in' condition was removed during import, too.

In version 4.5.12 the import validation logic has changed and now display context layouts can be imported properly.

### 5.10.8 Inventory Search Fields Configurable

The new inventory search functionality has been further enhanced by adding the possibility of configuring the fields by which inventory is to be searched in ETAdirect. For this purpose the 'Business Rules' screen layout has been redesigned to accommodate the new settings.

A new section, 'Search Settings' has been added to the bottom of the 'Business Rules' screen. The 'Search fields' section which actually included activity search fields has been renamed to 'Activity Search Fields' and moved to the new 'Search Settings' section. A new section, 'Inventory Search Fields', has been added for configuring the list of inventory fields to be used for search. The 'Inventory Search Fields' section functions similarly to the 'Activity Search Fields' section – the inventory fields are to be selected in the 'Available' list and added to the 'Selected' list. The 'Selected' list can be reordered by means of the 'Up' and 'Down' buttons (Figure 152).

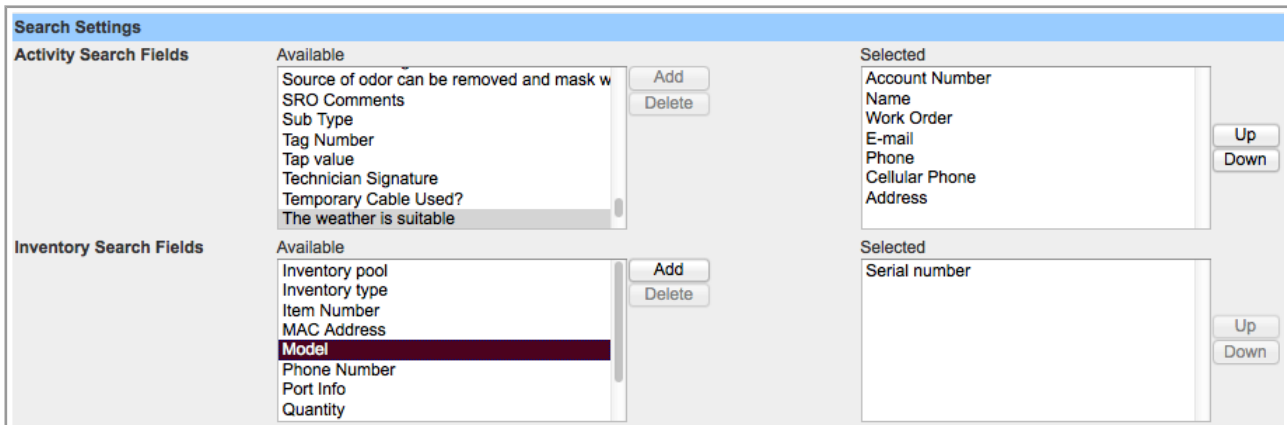


Figure 152: 'Search Settings' section

The 'Available' list contains all inventory properties and fields except:

- all file properties
- all enumeration properties
- geolocation properties
- checkbox properties
- 'inventory id', 'inventory activity id', 'inventory provider id', 'changed inventory id' fields

By default, the 'Selected list' contains the 'Serial number' field.

The corresponding placeholders have been added.

### 5.10.9 Placeholder in 'Display' Screen Changed

The 'Display' screen offers the possibility of selecting the login screen language. Previously, the field where such language could be selected was named 'Login Portal Language'. Now this field has been renamed to 'Login Screen Language' to maintain the uniform ETAdirect terminology (Figure 153).

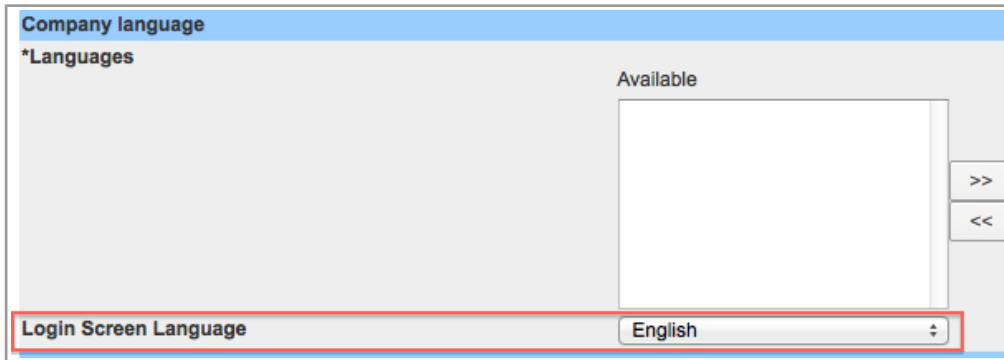


Figure 153: 'Login Screen Language' field

### 5.10.10 Internet Explorer 8 – Routing Plan Editing Improved

If a routing plan contained more than one filter, such routing plan could not be edited in Internet Explorer 8. Clicking 'Modify' for such routing plan led to an error.

In version 4.5.12 this issue has been fixed. Routing plans with multiple filters can be edited properly with no errors.

### 5.10.11 API Profiles Deletion Procedure Improved

If an API is in use, the system does not allow to delete it. However, this mechanism was not clear and transparent in the previous versions. If the user selected a profile which was in use from the list of available API profiles, the 'Delete' link was not shown. The user could not immediately see why the API profile could not be deleted.

In version 4.5.12 the 'Delete' link is shown for any API profile(s) selected in the list. However, if a profile selected for deletion is in use, the popup window 'The following profiles cannot be deleted as they are currently in use' listing the API profiles is shown (Figure 154). This gives the user a clear message of why the action cannot be performed.

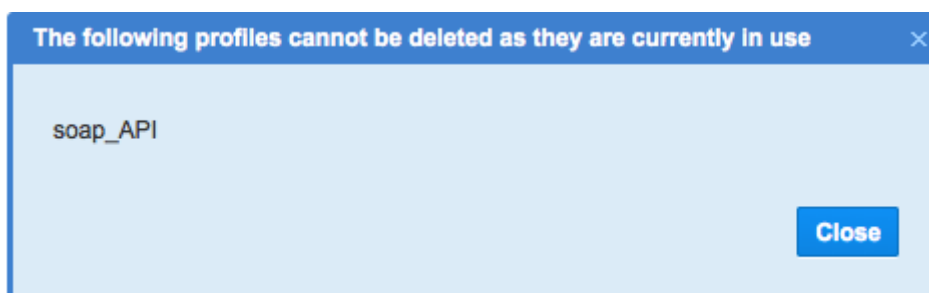


Figure 154: Error message for API profiles deletion

### 5.10.12 Future Activities Available for API Profiles

In the previous versions for all created API profiles it was not possible to query any activities in the future. As of 4.5.12 the default is set to 1000 days.

**NOTE:** If you need to query activities from the future for profiles created in the previous versions of ETAdirect, it is advised to re-create them.



## 5.11 Inventory

### 5.11.1 'Inventory Pool' Field Visibility Restricted to ReadOnly

If the 'Inventory pool' field was added to the 'Add/Edit resource inventory' context layout with Mandatory or ReadWrite visibility, it was impossible to add inventory to a resource's pool in the Manage Application. The form was rejected with a 'Mandatory parameter is empty' error message, even when all required fields were filled. The mandatory empty field was not shown (Figure 155).

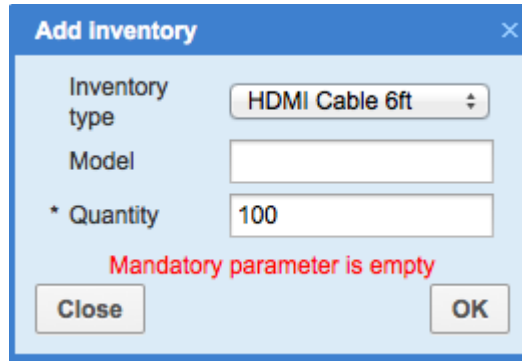


Figure 155: Error message in 'Add inventory' window

As of version 4.5.12 the 'Inventory pool' field can only be added with the ReadOnly visibility which is the logical option for this field.

### 5.11.2 Missing Quantity Calculated Correctly

If the inventory quantity in the resource's pool was larger than the required inventory quantity, the 'Missing quantity' field contained a negative value. The 'Required inventory details' screen contained a 'Missing required inventory' warning in this case. The issue occurred both for serialized and non-serialized inventory.

The missing quantity calculation has been improved, so that negative values are no longer shown. No irrelevant warnings are shown, either.

## 5.12 User Management

### 5.12.1 Logins Starting with Spaces Processed Correctly

In the previous versions users were unable to login if their login started with a space. They obtained a 'Login failed' response and could not access ETAdirect.

As of version 4.5.12 spaces in the beginning of the login are removed, and users with such logins can access the system properly.

## 5.13 Mobility Application

### 5.13.1 Mobility Application Works Properly Upon Browser Refresh

Previously, there were times when it was possible to select a resource not assigned to the user with self-assignment, which is incorrect behavior.

As a result, Mobility Application would crash at an attempt to refresh the page on the unavailable resource and redirected the user to the Mobility Application main page.

After closing the browser and trying to open Mobility Application in the new tab, redirection continued.

This has been fixed and now it is not possible to select a resource not assigned to the user with self-assignment, and therefore Mobility Application works as intended.

### 5.13.2 "Search Resource" Functionality Provides Correct Results

If the Self-assignment functionality is enabled for a user, this user should only be able to access those resources that have been assigned to the user directly.

There were, however, times when the "Search Resource" functionality returned other resources, which is incorrect behavior.

This has been fixed in version 4.5.12 and now during resource search, only those resources that are directly assigned to the self-assignment user are returned. This logic applies to both Manage and Mobility Applications.

### 5.13.3 Inventory Search Uses Fields Configured in 'Business Rules'

As of version 4.5.12, the search engine in the Mobility Application executes inventory search, using those inventory search fields and properties which are configured in the 'Business Rules' in the Manage Application (Figure 156).

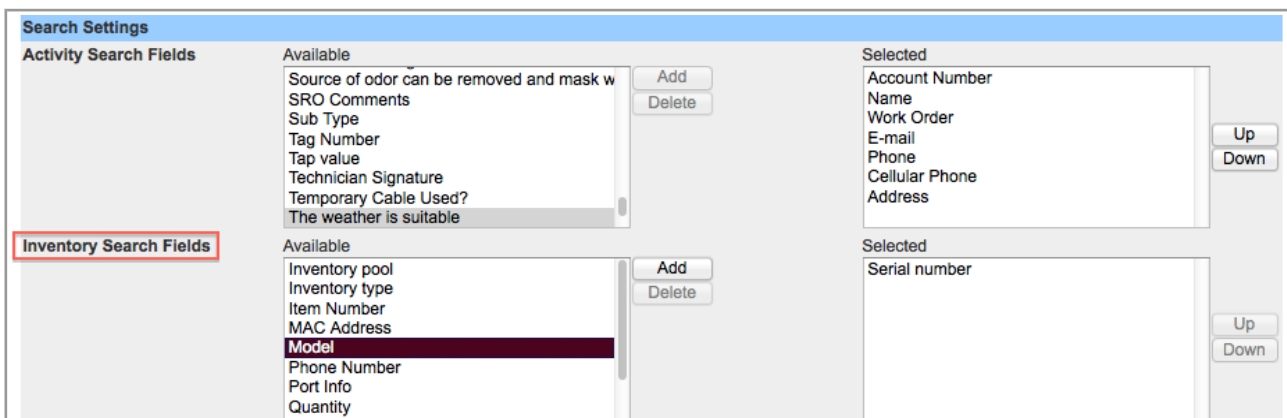


Figure 156: Inventory search fields configurable in 'Business' Rules'

Search results are sorted according to the sequence of the configured inventory search fields.

The following aspects must be taken into account in using fields and properties for search in the Mobility Application:

- Availability of inventory fields in search process NEVER depends on their visibility settings in the context layouts. If any inventory field is not represented on any context layout for the current display profile but is configured as a searchable field in the 'Company Settings', it will be matched to the search key words.
- Availability of inventory properties in search process ALWAYS depends on their visibility settings in the context layouts. If any inventory property is not represented on any context layout for the current display profile but is configured as a searchable field in the 'Company Settings', it will not be matched to the search key words.
- Search by inventory pool field ('invpool') is available by inventory pool translation.
- Search by inventory type field ('invtype') is available by inventory type text translation.

### 5.13.4 Visibility Priorities Consistent in Manage and Mobility Applications

In ETAdirect the visibilities have the following priority (from high to low):

- ReadWrite
- Mandatory
- ReadOnly

The priority is used if there are 2 or more visibilities configured for the same property and both visibilities are active. In this case, visibility with the highest priority should be selected. However, in the previous versions the priority order was not working properly in the Mobility Application. There were cases when more specific visibilities (e.g. 'ReadOnly' priority with conditions) overrode common visibilities with a higher priority (e.g. 'Mandatory').

This issue has been fixed in version 4.5.12. Now the visibilities in Mobility Application have the same priorities as in Manage Application.

### 5.13.5 New Activities Added Correctly

In the previous versions, the mandatory 'Assists to\*' property was displayed for all activity types on the 'Add activity' screen in the Mobility Application. When the user tried to add a customer activity, the 'Validation failed, please review your form' message was shown.

As of version 4.5.12 the general form functionality has been updated. Now the 'Assists to\*' property is required only for teamwork activities, and activities of any other type can be added properly.

### 5.13.6 Activity End Time Successfully Adjusted with Official End Time in the Past

The activity end time could not be adjusted in the Mobility Application if the official end time for that activity already passed. The 'Adjust time' action was rejected with an error message (Figure 157).

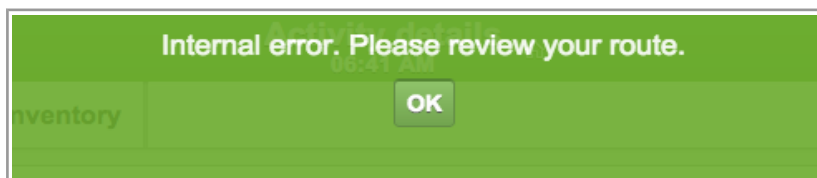


Figure 157: Error message on the 'Adjust time' action

The necessary changes have been made, and now the user is able to adjust activity end time if the official end time is in the past.

### 5.13.7 Linked Properties Displayed with Correct Visibilities

There were cases in the Mobility Application, when a property or text with the ReadOnly visibility depending on more than one enumerated property linked to each other was not shown at all.

As of version 4.5.12, the first empty value has been added to all enumerated properties and fields, so that Linked Properties are now displayed with correct visibilities.

### 5.13.8 Action Links Displayed According to Visibilities on 'Activity List' Screen

If the action link visibilities depended on resource properties, they were not calculated correctly in the 'Activity List' context in the Mobility Application. As the result, the action links behavior was different from that expected with the visibility conditions defined.

This issue has been resolved in version 4.5.12, and the action links are now displayed according to their

visibility settings.

### **5.13.9 'Add to Installed' and 'Add to Deinstalled' Screens Accessible from 'Inventories List' Screen**

In the previous versions, the 'Add to Installed' and 'Add to deinstalled' screens could not be opened by clicking on the corresponding action links in the 'Inventories List' screen if there was no inventory in the resource pool.

The screens could only be opened at the second try after clicking the 'Submit' button in the 'User Options'.

As of version 4.5.12, the necessary modifications have been made to ensure that 'Add to Installed'/'Add to Deinstalled' screens are accessible.

### **5.13.10 Action Links Available for Mass, Repeating and Shift Activities**

Previously, no action buttons were available for future mass, repeating and shift activities in the Mobility Application.

The visibility calculation for the context layouts of such activities has been improved, and now the action links are available in the Mobility Application for all mass, repeating and shift activities.

### **5.13.11 Property Values Updated with Browser Refresh**

If property and field values were changed in the Manage Application, they were not updated in the 'Activity details' screen in the Mobility Application after the native browser refresh. The changes were applied only after the automated synchronization.

The changes in the 'Activity details' tabs were applied only after the second browser refresh.

This issue has been resolved in version 4.5.12, so that the property values are consistently updated in the 'Activity Details' screen whenever browser is refreshed.

### **5.13.12 'SmartLocation Alerts' Permission Added**

As of version 4.5.12, 'SmartLocation Alerts' permission has been added. Now, whenever the permission is switched off, the SmartLocation alerts are not visible to the user. At the same time, if both 'SmartLocation alerts' and 'SmartCollaboration for Mobile App' are set to 'Hidden', the 'SmartCollaboration' icon is not shown either.

### **5.13.13 Native Applications Launched in Correct Order**

ETAdirect supports multiple plugin connections to a single action link (only for plugins of 'Native Application' type).

Such plugins can be ordered by their launch sequence by dragging and dropping in the 'Plugin details' tab.

However, in the previous versions, the actual order of the native applications launched in the Mobility application did not correspond to their order in the 'Add/Edit action link' screen. The application, which was added first was always the first one to be launched, regardless of its position on the 'Plugin details' tab.

The issue has been fixed in version 4.5.12. Now, the native applications are started according to their order on the 'Plugin details' tab.

### 5.13.14 Correct Error Message Displayed on Inventory Search

In cases, when an invalid (e.g. spaces ' ') search value was entered into the inventory search field in the Mobility Application, no error message was displayed in return.

As of version 4.5.12 this issue has been resolved. Now, for such cases the 'Please, specify your search criteria' error message is shown (Figure 158).

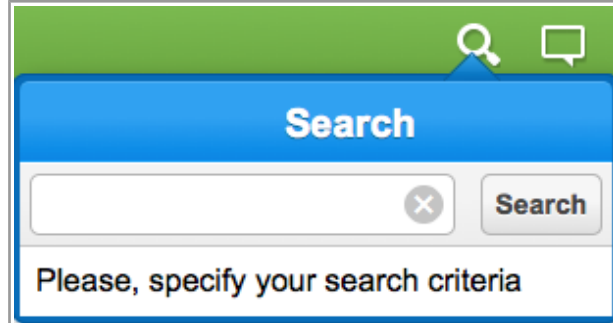


Figure 158: Error message for invalid search value

### 5.13.15 'Load More' Button Works Correctly

In the previous versions, if the 'Load more' button was clicked in the 'Inventory Search' window, the search window was unexpectedly closed.

As of version 4.5.12, the necessary changes have been made, so that tapping the 'Load more' button displays more search results, as expected.

### 5.13.16 Loading Indicator Implemented in Inventory Search

As of version 4.5.12 the loading indicator (the 'time' icon) has been added to the search window and is displayed during search processing (Figure 159).

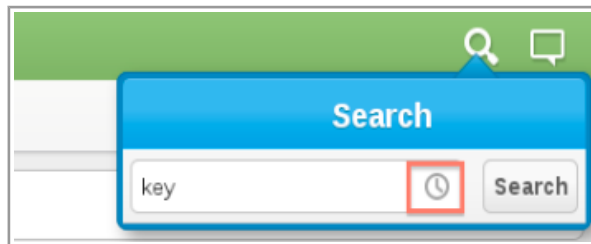


Figure 159: Loading indicator in the 'Search' window

### 5.13.17 Surefox – Address Auto-Recognition Disabled

When ETAdirect was used in the Surefox browser, the text containing properly formatted postal address was automatically detected which led to navigation application to pop up instead of the 'Activity Details' screen.

This is incorrect behavior which has been fixed in version 4.5.12. Address auto-recognition has been disabled and now, when activity is tapped on the 'Activity List', the 'Activity Details' screen is opened.

### 5.13.18 'Number of Inventory Per Page' Option Applied Correctly

In the previous versions, the 'Number of inventory per page' option in the Mobility Application was

applied for groups of inventory, rather than for separate inventory items within that group. For example, if there were several inventory items of the same category in the resource pool, and the 'Number of inventory per page' option was set to '1' (Figure 160), the Inventory List would display the whole equipment category with all items included (Figure 161). Moreover, even if there was no more inventory to be displayed in the list, the 'View more' action link would not disappear until tapped several times.

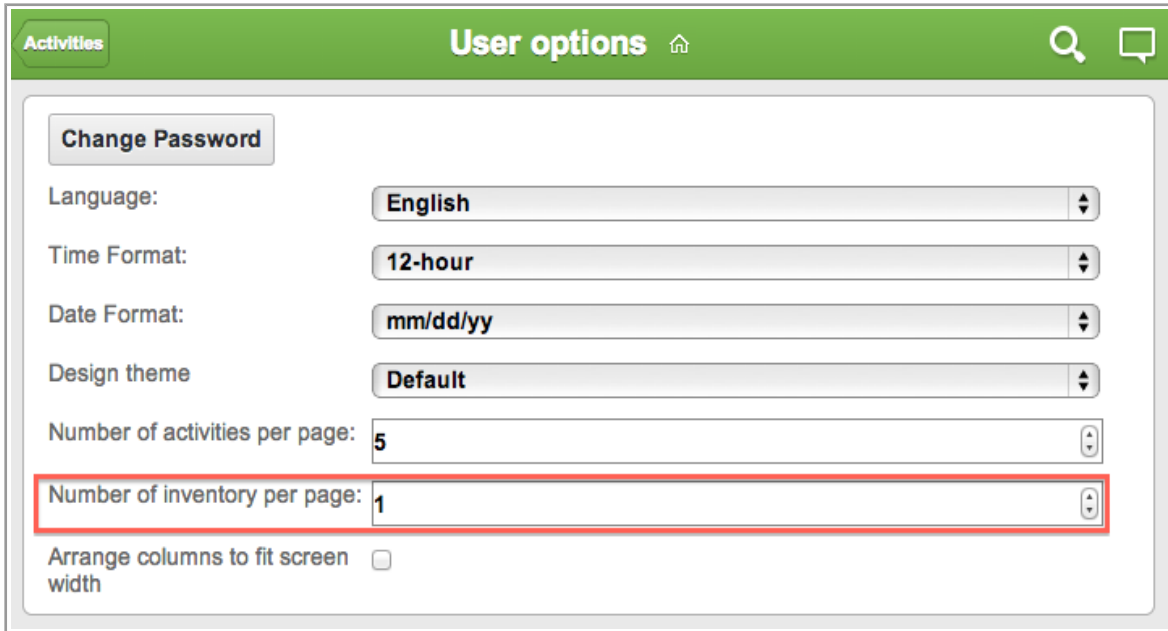


Figure 160: 'Number of inventory per page' set to 1

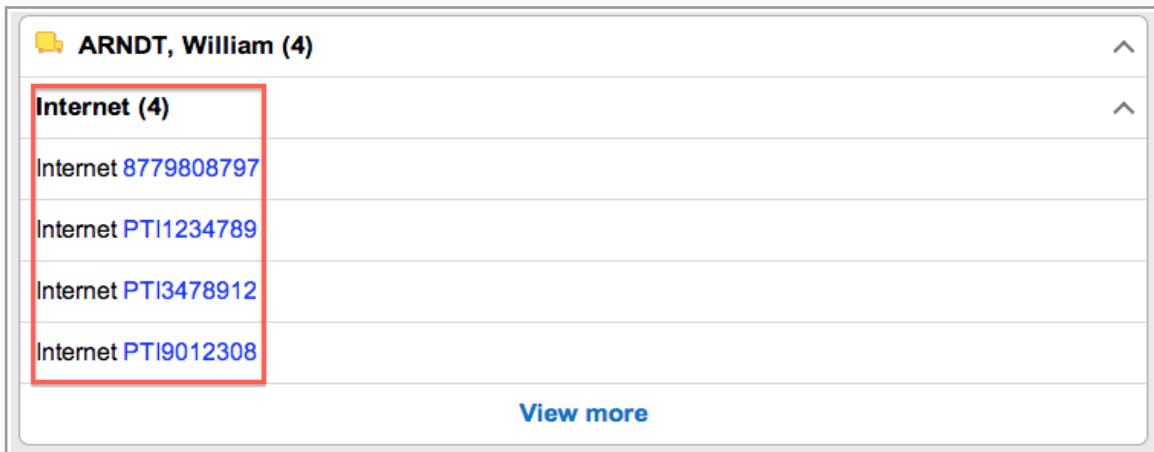


Figure 161: Inventory List showing group of inventory

As of version 4.5.12, the issue has been fixed, so that the 'Number of inventory per page' option is applied correctly (Figure 162).

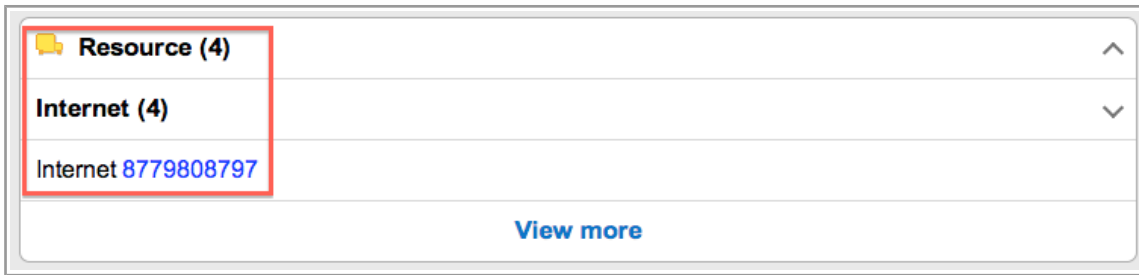


Figure 162: Inventory List showing individual inventory items

### 5.13.19 Correct Message Appears on the Screen in Case of Connection Interruption

Previously, if Mobility Application could not initialize due to connection failure and the user tried to log into the system, the screen with the 'Wait...' message would appear (Figure 163), while the 'Network instability detected. Please refresh page or relogin' message should have appeared instead (Figure 164).



Figure 163: 'Wait...' message

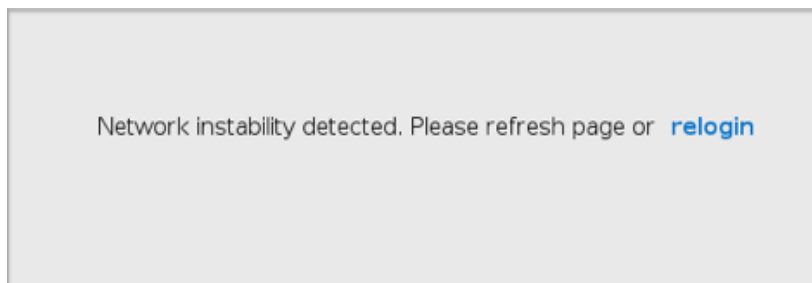


Figure 164: 'Network instability detected. Please refresh page or relogin' message

This issue has been fixed in version 4.5.12.

### 5.13.20 'You must be online to relogin' Message Appears at an Attempt to Login in Offline Mode

Previously, when a user tried to log into the system in the offline mode, screen with the 'Wait...' message would appear, which is incorrect behavior and may be misleading.

As of version 4.5.12 this issue has been fixed, and at an attempt to access the login page in the offline mode, the 'You must be online to relogin' message appears (Figure 165).

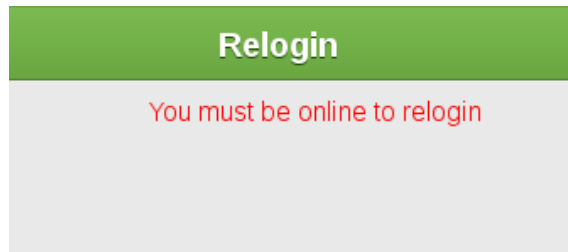


Figure 165: 'You must be online to relogin' message

**Note:** In order to see the 'You must be online to relogin' message in the situation mentioned above, the user has to have accessed the Mobility Application from the device being used at least once. Otherwise, standard browser connection failure notification will appear.

## 5.14 Mobility Offline Synchronization Improvements

### 5.14.1 Customer Signature Saved after Auto-Resolve

Previously, if a synchronization conflict was auto-resolved, the customer signature was missing. As of version 4.5.12 file properties (signatures) are saved correctly after auto-resolving of synchronization conflicts.

### 5.14.2 Deleted Inventory Identifiers Displayed Properly

In synchronization conflicts related to deleting of inventory installed in the offline mode, the 'Identifier' fields in the Manage Application showed empty cells instead of the inventory identifiers. In version 4.5.12 an additional check for empty identifiers has been added, and now deleted inventory identifiers are shown properly in the 'Offline synchronization' window in the Manage Application.

### 5.14.3 Conflict between Activity Start in Offline and Reorder in Online Resolved

If an activity was started in the Mobility Application in the offline mode and at the same time its position in route was changed in the Manage Application in the online mode and its start time became too early, the activity returned to the 'pending' status in the Mobility Application after synchronization. The activities order remained changed.

As of version 4.5.12, the checks for activity not being first in the route and its start time have been added to the auto-resolve of synchronization conflicts. Now, in the situation described above the started activity remains started.

### 5.14.4 Plugin-Related Synchronization Conflicts Logged in DWH

In order not to lose any information during resolving of plugin-related synchronization conflicts, this data is now stored in DWH and can be accessed on the Activity Details → History screen.

### 5.14.5 Activity Position in Route Saved Correctly in Offline

If the position in route of an activity was changed in the offline mode, the selected value was not saved. When the user returned online, the 'Position in route' field showed the value set before the user switched to offline.



Version 4.5.12 includes an additional check which ensures that the position in route selected for an activity in offline is saved properly.

#### **5.14.6 Inventory Search Properties Added to Offline Data**

In order to enable inventory search in the Mobility Application in offline mode, inventory search properties have been added to the offline data.

The inventory properties are also now synchronized which ensures the availability of inventory data for offline search.

#### **5.14.7 Non-Serialized Inventory Installation Logged in Activity History**

If non-serialized inventory was installed during an activity, such action was not logged in the activity history.

In version 4.5.12 this issue has been resolved. If a resource installs non-serialized inventory in the Mobility Application, an 'inventory: created and installed' record is logged to the activity history.

#### **5.14.8 Synchronization Conflicts Color-Marked in Activity History**

In order to ensure better visibility and recognition of synchronization errors, the following color markings have been implemented:

- synchronization errors are shown in red font in the 'Action' column
- auto-resolve operations are marked with 'System auto-resolve' in black font in the 'User' column. A new placeholder ('System auto-resolve') has been added for this purpose.

### **5.15 Dashboard**

#### **5.15.1 Placeholder Changed to Use Correct Terminology**

Previously, the description of the 'Percent of activities met' report read as follows:

"Shows the percent of activities that were started earlier than the **appointment** service window end during the selected month. Teamwork, pre-work and not-ordered activities are not taken into account."

As the term 'appointment' has been changed to 'activity' throughout the system, the placeholder for this report description has also been changed to the following:

"Shows the percent of activities that were started earlier than the **activity** service window end during the selected month. Teamwork, pre-work and not-ordered activities are not taken into account" (Figure 166).

Shows the percent of activities that were started earlier than the activity service window end during the selected month. Teamwork, pre-work and not-ordered activities are not taken into account.

Always show report for  
**FL, USA**

Activity type group

Month

Maximum providers

Figure 166: Description of 'Percent of activities met' report

### 5.15.2 Dashboard Works Correctly with 'Always Show Report for' Option Enabled

If for any Dashboard report the 'Always show report for' option was set for a particular resource, the Dashboard did not work when the selected resource was not visible on the Resource Tree. An empty screen was shown instead.

This issue has been resolved, and now Dashboard works properly with resources having a non-working day and inactive status.

### 5.15.3 'Capacity by Category' Report Settings Improved

The 'Capacity by category' report can be configured so that the chart displays only data related to a particular capacity category or time slot. However, in the previous versions the 'Capacity category' and 'Time slot' drop-down lists in the report settings only contained 'Any capacity category' (for capacity categories) and 'All' (for time slots) (Figure 167). It was impossible to select a specific capacity category or time slot.

Shows the expected activities duration time + travel in minutes and quota (amount of work that can be performed) for a specified capacity category and time slot.

Always show report for

**Sunrise Enterprise**

Date

Capacity category

Time slot

Major Capacity Usage

Critical Capacity Usage

Figure 167: 'Capacity category' drop-down list

In version 4.5.12 this issue has been fixed, and now capacity categories and/or time slots can be selected in the configuration of the 'Capacity by category' report.

## 5.16 Displays

### 5.16.1 Value Visibilities Improved

A property value set to be hidden in certain conditions, still remained visible. Moreover, if such value was the only value of the property, the entire property remained visible when it should have been hidden. In version 4.5.12 this issue has been resolved. The property values set to be hidden in certain conditions are hidden according to the visibility settings. As soon as the defined conditions occur, the form is redrawn with the property values or entire properties hidden.

### 5.16.2 'End-of-Column' Marker Processed Correctly in Mobility Context

#### Layouts

Once an 'end-of-column' marker was inserted in a Mobility context layout, the items in such context layout could no longer be reordered. When such context layout items were reordered and the context structure was recalculated, the changes were not actually applied. When the user opened the context layout again, the items order was unchanged.

An unnecessary check has been removed, and now context layouts with 'end-of-column' markers can be rearranged properly.

### 5.16.3 Visibilities Applied Correctly When Depending on Activity Type

If a property visibility was made dependent on the Activity type (aworktype) set as 'in (equal)' to a Group Activity Type in the 'Field restrictions' context and the 'Apply field restrictions' option was enabled for the selected display profile, such visibility was not applied. The visibility did not change even when the selected conditions were fulfilled.

In version 4.5.12 the visibility calculation has been improved. Now property visibilities depending on the

Activity type equal to Group Activity Type are applied correctly.

#### 5.16.4 Multiple Similar Properties in the Same Context Processed Correctly

If the same property was added with different conditions to a context layout and to a tab inside the same context layout, it was shown multiple times on the screen when one of the conditions was satisfied. All visibility levels were affected.

The linked properties functionality has been updated, so that it now supports multiple properties of the same type in the same context. Now the property is shown only once if one of the conditions is satisfied.

#### 5.16.5 Action Links Visibility in 'Visible Inventories Grid Columns' Context Improved

When the visibility of an action link in the 'Visible inventories grid columns' context layout depended on inventory type or activity type or both, its visibility was applied incorrectly. When such visibility was defined, the action link was always hidden.

As of version 4.5.12 visibilities of action links depending on inventory type and/or activity type are applied correctly.

### 5.17 Reports

#### 5.17.1 File Storage Usage Report Improved

When the File Storage Usage report was requested for several days, the report did not show the total figures of the file storage usage for the selected time period.

In version 4.5.12 the File Storage Usage report was improved so that now it contains the 'Total' row showing the total number of requests and transferred bytes for the selected period (Figure 168), thus increasing the usability and informativeness of the returned data.

1-1 of 1					
Date	Type	Backend	Bucket	Requests	Bytes
02/27/14	property	local	release4512140226/property	32	39,159
				<b>Total: 32</b>	<b>Total: 39,159</b>

Figure 168: Total values shown on 'File Storage Usage' report

#### 5.17.2 Date Filter in File Storage Usage Report Works Correctly

Previously, the File Storage Usage report returned no data when the 'From date' and 'To date' filters were set for the same date. With such settings the report should have returned the file storage usage data for one day, however, no data was found. If the 'To date' was set for the next day, the report only contained data for the first day, while the correct behavior would have been to return data for two days.

The reason for such behavior was that the report did not include the 'To day' value in the result. This issue has been resolved, and now the report returns data corresponding to the date settings.

#### 5.17.3 Inventory History Stored in Dedicated Table

In the earlier versions inventory history was recorded for the in the activity and inventory history tables. For better data organization, as of version 4.5.12 all inventory history is written to the table dedicated to

the inventory history.

#### 5.17.4 Inventory Report Shows Overused Inventory

Previously, if the resource's pool contained negative quantity of non-serialized inventory, the report still showed 0 for such inventory. There was no means of showing overused inventory and the data in the report was incorrect.

As of version 4.5.12 the 'Overuse' column has been added to the Inventory report which shows the quantity of overused inventory. The overused quantity is a positive number, and the 'Available' column shows 0 if the inventory is overused (Figure 169).

Model	Type	Required	Installed	overuse	available	Missing
Internet	Internet	0	0	0	1	0
Digital Telephony	Digital Telephony	2	0	0	2	0
Analog Telephony	Analog Telephony	2	0	0	1	1
HDMI Cable 6ft	HDMI Cable 6ft	0	0	0	6	0
HDMI Cable 12ft	HDMI Cable 12ft	0	30	20	0	0
RG6 - BLK	RG6 - BLK	0	0	0	600	0
RG6 - WHT	RG6 - WHT	0	0	0	400	0

Figure 169: 'Overuse' column in Inventory report

#### 5.17.5 Route Time Parameters Report Shows Bucket Data Correctly

If a bucket with child resources was selected for the Route Time Parameters report, the report only showed one line with the name of the first child resource in the 'Provider' column.

The report has been improved, and now it shows all child resources, each in a separate line.

#### 5.17.6 Post Activity Survey Calls Report Improved

Previously, the total numbers of post activity survey calls were calculated incorrectly in the report. The 'Generated Calls' figure only included the messages sent for unique activity IDs within the selected period, while the 'Failed Calls' figure did not include messages with the 'failed', 'falsemethod' and 'obsolete' status within the selected period. As the result, all figures except 'Successful Calls' were calculated incorrectly.

The report logic has been changed, and now the report calculates the messages correctly. All total values now reflect the actual data.

### 5.18 Message Engine

#### 5.18.1 'Account' Trigger Removed

As the 'Account' trigger (Figure 170) is currently not used in ETAdirect in any manner, it has been removed from the list of notification triggers in version 4.5.12.

Manual	<input type="text" value="manual_message"/>	Manual messages
Call ahead	<input type="text"/>	Call ahead message
Account	<input type="text"/>	When user account is automatically blocked
IVR	<input type="text"/>	Scenario that defines IVR logic
Install inventory	<input type="text" value="inventory_install"/>	Install inventory scenario

Figure 170: 'Account' trigger in previous versions

### 5.18.2 Duration Recalculated after Duration Key Update

Activity duration is recalculated on the basis of the available statistical data. At the same time, duration key fields can be changed by the message method 'set\_property' and such changes also influence activity duration. However, in the previous versions activity duration was not recalculated if a duration key field was changed by the 'set\_property' method.

In version 4.5.12 the activity duration recalculation principles have been changed, so that the duration is recalculated also after the duration key change by the message engine.

## 5.19 DWH

### 5.19.1 Company Identifier Displayed Correctly in 'log\_last\_import' Table

If the DWH script was run for a company with the company identifier longer than 12 characters, such identifier was cut to 12 characters in the 'log\_last\_import' table. However, in the second run the company identifier length was changed to 64 characters and a second record was created.

In version 4.5.12 this issue has been addressed. The 'log\_last\_import' table is created with the company identifier length of 64 characters already after the first run.

### 5.19.2 DWH Configuration for 'Message Fields' Improved

If a DWH configuration was created for the 'Message Fields' entity and the 'cdevice' property was added to its layout, this caused an error, extraction was interrupted, and, as the result, the DWH tables were not filled.

The issue has been fixed by removing the 'cdevice' property from the list of properties available for selection in the layout configuration for the 'Message Fields' entity.

### 5.19.3 Special Characters in Property Name Processed Correctly

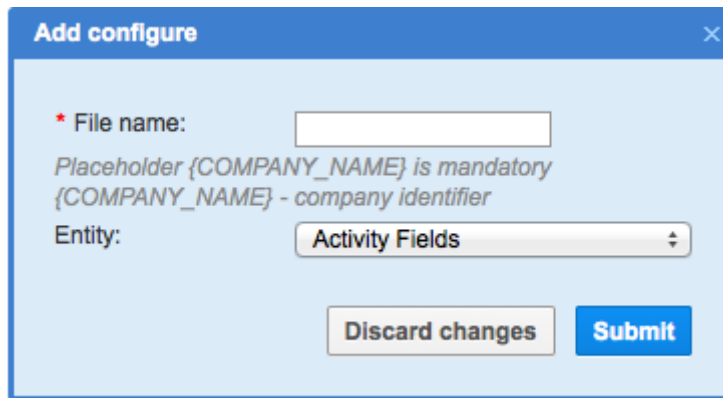
Previously, the DWH script escaped special characters only in the property content. However, if special characters occurred in the property name, they were not escaped which resulted in invalid XML output. As of version 4.5.12 the script escapes special characters both in property names and content, therefore, ensuring valid XML extractions.

### 5.19.4 Company Name Mandatory in DWH Configuration

In order to ensure correct processing of DWH configuration, the file name of the DWH configuration must now contain the company name. The company name must be inserted in the {COMPANY\_NAME} format in the file name.

To suggest the correct file name format the 'Placeholder {COMPANY\_NAME}' is mandatory

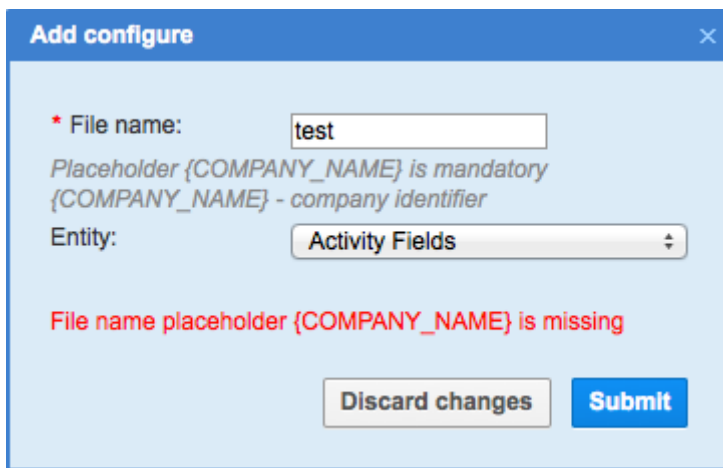
{COMPANY\_NAME} – company identifier' message has been added to the 'Add configure' window (Figure 171).



The screenshot shows a window titled "Add configure" with a close button in the top right corner. Inside the window, there is a form with the following elements: a required field label "\* File name:" followed by an empty text input box; a greyed-out placeholder message "Placeholder {COMPANY\_NAME} is mandatory {COMPANY\_NAME} - company identifier"; an "Entity:" label followed by a dropdown menu currently showing "Activity Fields"; and two buttons at the bottom: "Discard changes" and "Submit".

Figure 171: Message on mandatory company name

If the submitted file name contains no company name, the form is rejected with the 'File name placeholder {COMPANY\_NAME} is missing' error message (Figure 172).



The screenshot shows the same "Add configure" window as in Figure 171, but with the "File name:" input box containing the text "test". Below the input box, the same greyed-out placeholder message is present. A new red error message "File name placeholder {COMPANY\_NAME} is missing" is displayed below the placeholder. The "Entity:" dropdown and the "Discard changes" and "Submit" buttons remain the same.

Figure 172: Error message on missing company name

### 5.19.5 DWH Script Processes Encrypted Data Correctly

If the database table contained encrypted data, the values of such fields were missing in DWH files after extraction. The DWH database showed 'Null' for such data.

The DWH script has been changed to process encrypted data correctly. They are now properly read from the database and included in the extracted files. Such data is correctly shown in the DWH database as well.

### 5.19.6 DWH Extracts All Files in Single Archive in XML Format

When DWH was configured to extract files in XML format, the script created 2 archives, the second archive containing only the files for GPS tracks and GPSman entities.

In version 4.5.12 the DWH script has been improved to extract the files correctly.

### **5.19.7 'provider\_name' Fields No Longer Empty in '<company>\_queue' Table**

In the previous versions the 'provider\_name' field in the '<company>\_queue' table was empty in the DWH database despite the correctly populated 'provider.pname' field in the main database.

In version 4.5.12 the export structure of the '<company>\_queue' table has been changed so that the 'provider\_name' field value is received from the main database and the field is no longer empty.

### **5.19.8 Files Extracted According to Imported DWH Configuration**

If the imported DWH configuration contained several files with different settings for the same entity, the extracted files were different from the DWH configuration.

This issue has been fixed in version 4.5.12. The settings are correctly written to the database, and the DWH script now extracts the files according to the imported configuration settings.

### **5.19.9 DWH Processes Overnight Correctly in CSV-Only Mode**

Previously, if the DWH script was run in the CSV-only mode, overnight was not taken into account for GMT tables. As the result, GMT tables data after 12:00 p.m. were not included.

In version 4.5.12 the DWH script has been improved so that overnight is processed correctly and GMT tables data are no longer lost in the CSV-only mode.

## **5.20 Statistics**

### **5.20.1 Travel Area Mapping Includes Default Area**

Previously, the travel key-travel area mapping did not include the default travel area. As the result, when no other area was found the default area was always assumed.

However, this approach in some cases did not produce the optimal results. Now the default area data is also loaded to the Application Server, and is used in travel statistics.

## **5.21 Public API**

### **5.21.1 Parts Catalog API – 'delete\_catalog' Method Implemented**

In version 4.5.12 the Parts Catalog API has been enhanced with a new operation allowing to delete all catalog data – 'delete\_catalog'. The 'delete\_catalog' request must contain the mandatory 'label' and 'language' properties identifying the catalog to be deleted.

### **5.21.2 Parts Catalog API – 'name' Field in 'create\_catalog' Method Made Mandatory**

The 'name' field in the 'create\_catalog' request (defining the catalog name to be displayed in the GUI) has been made mandatory. The requests are validated for the 'name' field presence and, if 'name' is not sent, an error response is returned.

### **5.21.3 Parts Catalog API – Correct Response Status Code Returned for 'upload\_weights' Function**

If weight upload was attempted for an 'item\_label' which did not exist in the catalog, the response contained an incorrect status code – '400 Bad Request' while the correct status code would have been



'404 Not found', because the request structure was valid, but the item was not found.  
In version 4.5.12 the status code has been changed to the correct one, '404. Catalog not found'.

#### 5.21.4 SOAP API Versioning Added

As of version 4.5.12 the API version is appended to the SOAP API endpoint URL as follows:

/soap/activity/	→	/soap/activity/v1/
/soap/capacity/	→	/soap/capacity/v1/
/soap/inbound/	→	/soap/inbound/v1/
/soap/mobile-client/	→	/soap/mobile-client/v1/
/soap/outbound/	→	/soap/outbound/v1/
/soap/parts-catalog/	→	/soap/parts-catalog/v1/
/soap/resource-management/	→	/soap/resource-management/v1/
/soap/self-care/	→	/soap/self-care/v1/

The old endpoint URLs are still used as well. They lead to 'v1' for all APIs.

#### 5.21.5 Capacity API – 'set\_quota' Request Returns Correct Error

##### Message

Previously, if a 'set\_quota' request contained a nonexistent bucket, the function returned the 'Internal error' message which did not describe the error properly.

As of version 4.5.12 any attempts to set quota for a non-existent bucket return 'Unknown capacity bucket' which correctly indicates the nature of the error.

#### 5.21.6 Capacity API – WSDL Updated

The WSDL for the Capacity API has been updated as follows:

- the missing 'weight' and 'estimated\_quota\_percent' fields have been added to the 'category' element of the 'get\_quota\_data' operation
- the unused 'close\_day\_offset' field has been removed from the 'get\_quota\_data' operation

#### 5.21.7 Capacity API – 'result' Node Returned for Second Time Slot

In the earlier versions, the 'set\_quota' request for a capacity bucket with two or more time slots did not return the 'result' node for the second and subsequent time slots.

In version 4.5.12 the API has been improved, so that the 'set\_quota' response contains 'result' nodes for the second and subsequent time slots.

#### 5.21.8 Capacity API – Invalid 'aworktype' Value Ignored

If activity type is selected as the key field for defining activity duration and travel time, it is mandatory to define the activity type in the request. The activity type is defined by either the 'aworktype' field or 'worktype\_label' field.

The 'aworktype' field accepts activity type IDs while the 'worktype\_label' field accepts **only** activity type labels. At the same time, an invalid 'aworktype' value sent in the request is ignored (for backward compatibility purposes) and the request is still processed without error responses, while an invalid label sent in 'worktype\_label' leads to an error response. A request containing an invalid 'worktype\_label' value will not be processed.

### **5.21.9 Activity Management API – WSDL Updated**

As of version 4.5.12 the WSDL of the Activity Management API has been updated – two missing methods have been added:

- 'set\_required\_inventories'
- 'get\_required\_inventories'

Now these methods are also available in the Activity Management API.

### **5.21.10 Activity Management API – 'search\_activities' within Single Day in Future Works Properly**

If a 'search\_activities' request was sent for a single day in the future, it returned an error response 'search appointments: 'date\_to' is less than 'date\_from''. At the same time, the same request but sent for a single current or past day returned the expected result – the list of activities found by the set criteria. This issue has been resolved with the change of the 'Hide future activities' settings for API profiles. Now this parameter is disabled by default, and the API user can see future activities.

## **5.22 Parts Catalog**

### **5.22.1 Only One 'Item Details' Window Displayed at a Time**

If a Parts Catalog item was selected from the list of search results in the Manage Application and its details were displayed in the 'Item details' window, it was still possible to click a different item in the list and to have another 'Item details' window displayed. The user could open multiple windows at the same time (Figure 173).

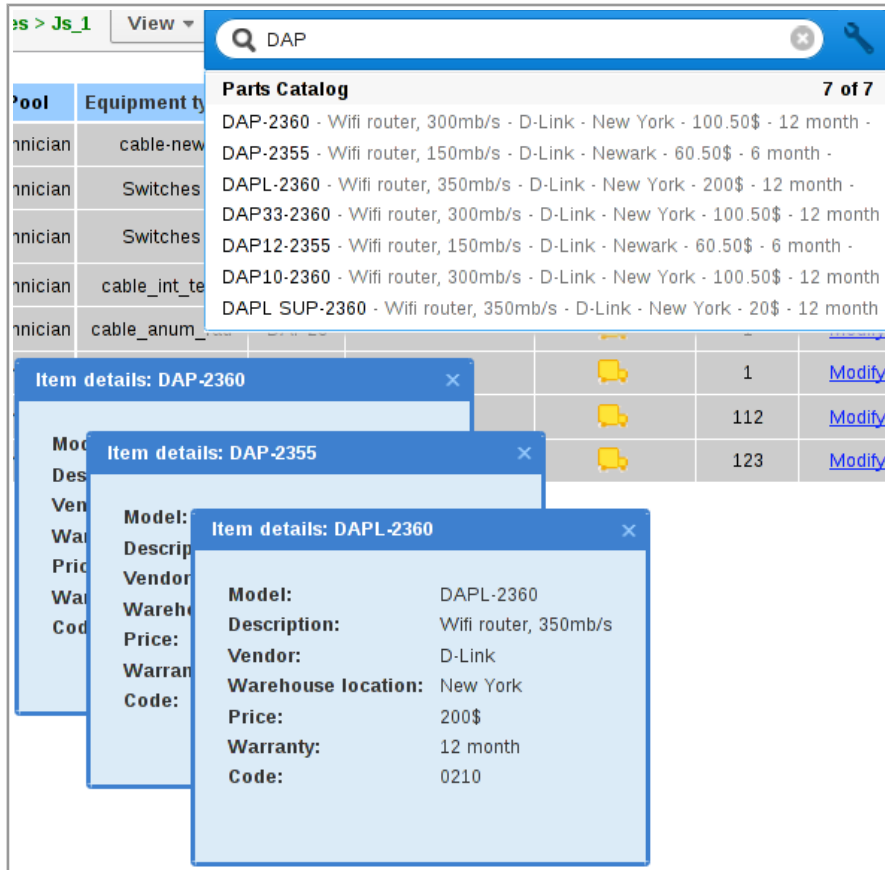


Figure 173: Multiple 'Item details' windows

As of version 4.5.12 the user has to close the previous window before opening a new one. Clicking in the results list has no effect until the previous window is closed.

### 5.22.2 Search by Key with Spaces Returns Correct Results

By design, a search key must have at least 3 characters with spaces allowed inside the search string. If in the Mobility Application the search key consisted of 2 characters with a space between them (for example, 'a b'), the search returned all items having either 'a' or 'b', which was incorrect.

Now the search functionality has been improved. The search is performed by the whole string entered as the search key.

## 5.23 System

### 5.23.1 Activity History Tables have been Moved to DWH

As of version 4.5.12, the inventory\_log, log\_appt, and log\_queue tables have been removed from the main database and moved to DWH.

Therefore, the information about changes in appt, queue, inventory is stored in DWH database only.

### 5.23.2 History API Implemented

In order to simplify integration and sustain uniformity within the system, a new History API has been introduced. This API is able to transfer the changes performed in ETAdirect (e.g. activity, inventory, resources, etc.) to the external system. In this respect, ETAdirect acts as a server from which the data is pulled by external software.

### **5.23.3 Duration of Suspended Started Activities Recalculated Correctly**

When a started activity is suspended, its status is changed to 'pending' and the duration is to be reset. However, in the previous versions, if the duration of the started activity was adjusted before it was suspended, and there were no duration statistics for that activity, the duration retained the same adjusted value. In fact, the duration should return to the original default value set upon activity creation, if no statistics are available.

As of version 4.5.12 the necessary changes have been made to ensure that, after suspension, the pending activity is reset to the duration value obtained from statistics, or the company default value if no statistical data is found.

### **5.23.4 Work Skill Calculated Properly with 'set\_property' Trigger Used**

Work skill condition can be based on a property defined with the 'set\_property' trigger in 'Message scenarios'. Such work skill should be calculated when the triggered event occurs. However, in the previous versions this was not the case – the message was sent, but the work skill was not associated with the activity. The work skill could only be calculated if the work skill condition property was set manually.

This issue has been fixed in version 4.5.12.

### **5.23.5 Login Errors Related to Allowed and Disallowed IP Addresses Logged Properly**

If the login policy has been modified for the logged-in user, so that its IP address becomes included in the list of disallowed IP addresses or excluded from the list of allowed IP addresses, the user is automatically logged out after the 'Refresh' action. However, in the previous versions there was no record about such forced logout in the logs.

This issue has been resolved. The algorithm of login errors logging has been improved and the login error messages are now recorded in the log.

## **5.24 Plugin API**

### **5.24.1 'Is Plugin' Option Behavior Improved**

If an action link was saved with the 'Is plugin' option enabled and the plugin type set to 'Native application', the user could not disable the 'Is plugin' option in subsequent action link modifications.

If the 'Is plugin' option was unchecked and the form was submitted, the option was still enabled when the same action link was opened again. The 'Plugin details' tab was also available.

This issue has been resolved. Users can now disable plugins when necessary.

### **5.24.2 Plugin Type Modification Improved**

When the plugin type was changed from 'Native application' to 'External' or 'Internal', the 'Relative path/Url' field could be left empty, there was no validation for it. However, when such action link was opened again, the 'Plugin details' tab contained data on the 'Native application' plugin instead of the 'External/Internal' one.

As of version 4.5.12 the 'Relative path/Url' field is validated and a warning message is displayed when this field is left empty for an 'External/Internal' plugin.

### 5.24.3 Plugin Fields Validation Added

Previously, an plugin action link could be added with required fields left empty – if 'Native application' was selected as the plugin type, all other fields could be left empty, and the form still could be submitted. Similarly, an 'External/Internal' plugin could be submitted without filling-in the 'Relative path/Url' field. In both cases the action link was saved with the 'Is plugin' option disabled and the 'Plugin details' tab hidden, i.e., the action link was not saved as plugin.

As of version 4.5.12 the system validates the following fields in action links adding/editing:

- for plugins of 'Internal/External' type: Relative path/Url field
- for plugins of 'Native application' type: Native application name, Browser user agents mask and URL fields

### 5.24.4 'Add/Edit Action Link' Window Behavior Improved

If a previous operation with an action link completed on the 'Plugin details' tab, the 'Add/Edit action link' window always opened at the 'Plugin details' tab when accessed next time. However, the window contained only the 'General' and 'Custom params' tabs none of which were highlighted (Figure 174).

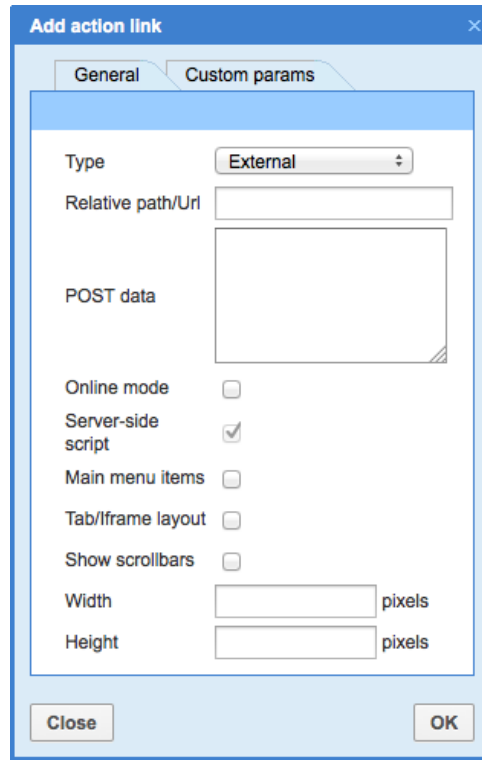


Figure 174: 'Plugin details' tab

As of version 4.5.12 the 'Add/Edit action link' always opens with the 'General' tab which is the correct behavior. The 'Plugin details' tab appears only when the 'Is plugin' checkbox is checked.

### 5.24.5 Internal On-Line Plugin Action Links Work Properly

Previously, an action link created as an internal on-line plugin led to the 'Page not found' screen. The plugin configuration processing has been improved, and now internal on-line plugin action links display the plugin screen, which is their correct behavior.

#### **5.24.6 POST Data Sent by Action Link**

Previously, if an external plugin action link was created with POST data, such POST data was not sent by the action link.

In version 4.5.12 this issue has been resolved. Now action links of external plugin type send POST data correctly.

#### **5.24.7 POST Data Sent When Includes 'eta\_end\_time'**

If an external plugin was configured to send POST data including 'eta\_end\_time', no POST data was sent as the result of such plugin launch. If, however, POST data did not contain the 'eta\_end\_time' parameter, such data was sent properly.

This issue has been addressed in version 4.5.12. In this version POST data is sent correctly when containing the 'eta\_end\_time' parameter.