



## Release Notes

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# New Features

## Assets

Locations App has been renamed to the Assets App. Upgrading will retain access for those who had prior access to the Location app without requiring a new license key.

The Assets app contains 3 sections "Containers", "Equipment", and "Kits", which allow the user to view and create all assets (containers, equipment, and kits) in a central location for effective daily management.

## Extending Container Classes

**Equipment Types** were added to L7|Master and include:

- Ability to add maintenance types, such as cleaning, calibration, or custom options
- Ability to contain other assets with out-of-the-box dimensions
- Ability to associate Vendors with Equipment Types

Users can now associate a workflow with a maintenance type, making it easy to launch maintenance workflows for equipment as needed.

Elogs for equipment maintenance are now available and can be exported.

Superusers can now utilize the Equipment Use field when building Protocols:

- Select the equipment to associate it with an asset in a worksheet or batch
- Store assets in equipment that are modeled to contain assets

Superusers can now utilize Resource links to associate equipment and kits in a workflowable process and update their status after use.

Previous Equipment Class customer defined entity types will be migrated into the new Equipment Type.

**Kit types and kits:** a new and improved kit-building and cloning process has been integrated into the UI, including:

- Increased meta-data for the item pool
- New filters to easily access items in the item pool
- Enforced min and max values
- Integration of barcode scanning
- Inventory sync for low inventory
- Archiving of kits and cloned kits

The status of a kit (container parent) updates periodically to 'expired' if any nested item has expired, enabling status linking between parent and child items.

Export and print the kit summary for daily log maintenance is now available.

Users can now group items and view the assigned catalog number in the Kit Print Summary report.

## Developer Support

Developers can now access any new equipment instances via the ESP Client as needed.

Developers can now create maintenance types and manage their due dates and cycles to ensure daily equipment upkeep.

Developers can enable equipment to be workflowable at the protocol/entity level as required.

Developers can now manage equipment type migrations for existing customers as needed.

Developers now record and maintain data for equipment entities, making it accessible to frontend users daily.

Developers can now access the new equipment type via the L7|HUB.

Developers can now access the new equipment type via the ESP Client.

Developers have API support for equipment types, ensuring daily accessibility for frontend users.

## Superuser Support in L7|MASTER

Superusers can now create new equipment types and specify all data, including what equipment can contain, as needed.

Subtab views have been updated to support changes for equipment types.

Superusers can now manage a schedulability flag for extended equipment types to view schedulable equipment in the Scheduling App.

Superusers can now create new equipment types and specify all data, including what equipment can contain, as needed. Subtab views have been updated to support changes for equipment types.

Superusers can now clone a kit multiple times to improve efficiency in weekly kit building processes.

Superusers can now assign different status configurations to various location classes to better support process building on a daily basis.

Superusers can now select “Equipment” as a resource link at the protocol level.

Superusers can now define how the statuses of nested assets are linked, enabling status updates to be relayed between them.

Superusers can now create new equipment types, specifying all data including containment rules.

## Configuration

### Custom Statuses

The user can now add custom statuses for containers, equipment, kits, and inventory, and manage them all in one location.

The user can now add custom statuses for item types and manage them all in one location.

### MES QR - Ensuring data enterer cannot review their batch

Added a configuration flag to control whether data enterers can review their own entries. System administrators can now enable or disable this feature. When set to true, users can review steps they participated in. When set to false, this review is blocked. This setting allows for flexibility between convenience in some environments and stricter control in production.

## Core

### Frontend Architecture Improvements

Vue has been upgraded to the latest version (3.5) with new features and performance improvements.

The pagedjs library has been upgraded to the latest version 0.4.3.

### Backend API improvements

The `api/items` endpoint now includes a `maxquantity` filter, complementing the existing `minquantity` filter. This allows for filtering inventory items based on a maximum quantity, such as finding all items with no remaining stock (`maxquantity=0`).

## Notebooks (ELN)

### Expanded device support

Basic Entry and Template creation actions like adding widgets to entry are now supported on iPad and Microsoft Surface devices.

### Audit History in Notebooks

Implemented metadata and detailed data addition in the Details pop-up of the History Page in Entry or Template, providing complete context of data updates for better traceability.

Improved the audit history for the Widget Container widget to be more traceable. Changes made to the content inside the widget container will now be logged more clearly.

Enhanced the Print History feature in Entry and Template to include the detailed audit report, allowing users to print/export a complete history of all updates.

Users can now easily move widgets between the header, footer, and body of a notebook entry and/or template.

### Entry Version History

When working on an entry, users can perform a range of actions, including modifying the entry's metadata and adding or removing widgets. There are several cases where users may need to review changes made to an entry within a single session, such as:

- Accidental edits and deletions
- Change tracking
- Historical comparisons

To support these needs the version history feature was added. Users now have the ability to:

- View Version History of all Entry versions on the right panel of the Entry details page with options to filter versions.
  - Added the grouping of saved and auto-saved versions in the Version History panel for improved UI clarity.
  - Ensured that the history displayed for older entry versions pertains only to the specific version being viewed.
- Create a new Template from a specific version of an entry.
- Create a new Entry from a specific version of an entry.
- Restore an entry to a selected historical version with the system enabling restore in a manner that data integrity is not compromised and the selected version for restore becomes the latest editable version.
  - Restoring an entry or template with a worksheet not allowed to maintain data integrity of executed experiments. Any reuse of experiment will require the creation of a new worksheet by making use of the underlying protocol or workflow widgets.
  - Any entry which is in completed or rejected status is not allowed to be restored.
  - A restore for a locked or under review entry will inform the user appropriately about the fact that entry will be unlocked and/or lose any applied signatures before restoring.
  - Restoring of entry metadata when restoring to a historical entry version.
  - Compare differences between two entry versions of the same entry by selecting the required versions. Version comparison is available at the widget level for all widgets. In some cases, if the worksheet being compared is in a transpose view, then it does not always show the difference completely. A table view difference works better
  - Users can also compare content (including JSON) and metadata differences between any two saved versions of an entry (manually and automatically saved).
- Pin a specific version from the version history list with a user-friendly name for easy reference.
- Part of the entry versioning feature the following has been added to support the versioning:
  - Creation of a new entry version on saving or auto-saving an entry with older versions displaying non-editable entry components.
  - Implemented a prompt to save or discard unsaved changes on the latest entry or template version when navigating to an older version.
  - Disabling autosave when viewing older versions.

### Extending widget features for Notebook entry

Users can now create indented checkbox lists within notebook entries using the tab key.

### Filtering improvements for Library, Entries and Templates

Added a new filter pane to the Notebooks library details page to allow users to filter child entries within a notebook library.

Implemented the display of total and filtered record counts on the Library, Entries, and Templates pages.

Added more filters to the filter pane on the Templates page for more efficient record filtering.

Enabled filtering of notebooks and entries based on assigned access permissions and added more filters to the filter pane.

### Signatures in Notebook Entries

When nominating the next signer during the sign-off process, users can now search by ESP Username, name, and/or email ID.

Users are now limited to signing an entry only once, preventing the same user from being both author and approver by honoring the “uniqueness” flag in the L7 Master->Signature Flow. The application now ensures that a signature flow does not allow the same user to sign more than once, even if multiple nodes have the same role or workgroup.

### Template Version History

Users can view older versions of an entry template.

A Version History panel is available on the Template Details page, allowing users to view the version history of an entry template.

A Compare tab is available for entry templates, allowing users to select and compare two versions, including manually saved and auto-saved versions.

Users can now restore an entry template in Editing or Unlocked as well as Locked status to a selected older version, making it the latest editable version.

The template version history panel includes filtering capabilities, allowing users to narrow their search for specific versions.

Users can now create a new template from a specific version of an existing entry template.

Users can now pin a specific template version from the version history list and assign it a user-friendly name for easy reference.

### Copying worksheets in a new Entry or Template

Automatically created workflows from the Protocol Widget in an Entry are now hidden from the Workflow list in L7|Master to prevent clutter.

Workflows generated from a Protocol widget within a Notebook Entry are now hidden from the workflow selection list during experiment creation in the Projects App. This prevents the unintended use of these automatically created workflows for creating or scheduling experiments within Projects.

The audit history for workflows created through Notebooks entries has been improved to include information about the creation process.

When an entry with worksheets is saved as a new entry or a template, a copy of the worksheet is now created. This ensures that changes made to the copied worksheet do not affect the original worksheet's data.

## ESP Client

The ESP Client `esp report csv`` subcommand has been enhanced for easier use within pipeline button-initiated pipelines, enabling faster development of performant and compliant CSV generation tasks.

### MES Product - Move batch entity selection onto MES Product

The ESP Client has been updated to support resource links to entity types, enabling content developers to use the client for moving content between different environments.

### Procedures to Facilitate Looping at the Protocol Level

The ESP Client has been updated to support the export and import of Procedures in YAML format. This allows recipe builders to represent Procedures in YAML for easier transfer and management.

The ESP Client now includes enhanced validation during the import of Procedures and Workflow Chains from external YAML files.

## Entities

### Batch Entity Selection Improvements

Existing MES Product entities have been updated to include the Batch Entity Type. A migration will add the "Batch Entity Type" custom field if it doesn't exist. The system will then identify the entity type associated with the first workflow in the linked workflow chain and create a resource link to it in the "Batch Entity Type" field.

The ability to specify the batch type for a product has been added, allowing the use of the same initial workflow in multiple recipes.

A resource link to the entity type has been added to the template MES Product entity type, enabling users to define the intended batch entity type for that MES Product. Moving the batch entity type from the first workflow in the chain to the MES Product allows using the same first workflow in multiple chains with different batch entity types.

## L7|HUB

Administrators now have three options for the `allow\_install\_non\_approved\_bundle` configuration setting to control the installation of Hub bundles based on their review status:

- Approved Only: Only bundles that have been reviewed and approved can be installed.
- Approved and Not Reviewed: Bundles that have been approved or have not been reviewed can be installed. Bundles under review, rejected, or retracted cannot be installed. This is the equivalent of the previous `true` setting.
- All: All bundles can be installed regardless of their review status. This is the equivalent of the previous `false` setting and is the default.

This change requires a data migration for customers upgrading from a previous L7|ESP release.

### Procedures to Facilitate Looping at the Protocol Level

Hub now supports Procedures and Workflow Chains that include them, enabling the transfer of MES recipes between systems. This includes:

- Procedures as dependencies for workflow chains that include them
- Installation of protocol chains
- Dedicated cards and a filter for Procedures on the left sidebar

## L7|MASTER

### Hard Limits (MES)

MES Workflow Chain developers can now associate an additional signature flow with a Workflow Chain/MES Product. This allows users to sign off on hard limit violations during the manufacturing process.

### Improved Batch Entity Type design in MES Product

MES process and model designers can now specify the Entity Type to be used as the Batch entity in the MES Product entity type itself, instead of at the process level, i.e. in the first workflow of the workflow chain, in a simplified design.

### Procedures to Facilitate Looping at the Protocol Level (MES)

The Workflow Chain builder now allows the creation of Procedures, which are workflow chains composed of single-protocol workflows. Validation rules for Protocol Chains (one start and one end node, containing only single-protocol workflows) are checked upon saving.

MES now supports building a virtual batch record with Procedures, enabling the creation of more flexible MES batches at the protocol level. Users can create a batch and enter data into the first workflow node.



Workflow Chain builders can now utilize versioning with Procedures. This includes specifying explicit workflow versions within Procedures, pinning Procedures for specific versions, and using explicit Procedure versions in Workflow Chain nodes. Pinning functionality is supported for both creating protocol chains and using them in workflow chain nodes.

The system now enforces rules around Procedures to prevent downstream errors in Workflow Chains that include them. This includes error checking when saving Procedures and Workflow Chains.

The L7|Master > Workflow Chain builder home page has been updated to include a column that distinguishes between Procedures and Workflow Chains, improving management efficiency.

Recipe builders can now include Procedures as nodes within MES Workflow Chains that enable looping, branching, and repetition at the protocol level. Procedures, created using single-protocol workflows, are now available for inclusion in the Workflow Chain builder and are distinguishable from traditional workflows. Creation of new Procedures is limited to the top-level workflow list. Rapid Add Node allows creating new workflows but not new workflow chains.

### Capability to schedule an MES batch (Scheduling)

Planning time or "waiting time" is now incorporated into the protocol duration when setting up protocols for an MES process.

### Simplify Kit Creation

A point-and-click UI interface has been added to the "Only use items in containers:" configuration for inventory item use fields. This enhancement allows protocol builders to easily specify a kit by identifying its particulars, eliminating the need to write ESP Expression code.

The system will automatically build the necessary expression in the background. This change will not require modifications to existing protocols or alter the runtime behavior of expressions.

## LIMS

The Client LIMS API has been enhanced to support showing and hiding columns in the "shared fields" grids. Previously, this functionality was only available for "unshared fields" grids. This improvement allows for dynamic control over the display of shared fields, similar to regular grids.

## MES

### MES - Bill of Equipment

A new "BOE" (Bill of Equipment) tab has been added to MES. This tab, positioned between the Sample Plan and BOM tabs, displays a single table containing all "Equipment Use" fields for the batch. It includes the same filtering and sorting functionalities as the Specifications tab, and its header follows the design of the Sample Plan, BOM, and Specifications tabs.

A standalone "Bill of Equipment" report has been introduced, and it has also been integrated into the Final Batch Report, Production Batch Record, and Master Batch Record. This report lists all "Equipment Use" fields associated with the batch, adhering to the specified sort order.

### MES - Observe Hard Limits

In the Quality Review/Editor Portal, if a hard limit is violated, the system now attaches a signature flow to the violating field and sets all subsequent fields in the protocol to read-only until the signature flow is completed. A signature is required for hard limit violations, preventing further progress until the issue is addressed. This functionality applies when a Hard Limit Signature Flow is associated with the Workflow Chain and the violated field has Hard Limits defined.

In the Electronic Batch Record (EBR), if a hard limit is violated, the system now attaches a signature flow to the violating field and sets all subsequent fields in the protocol to read-only until the signature flow is completed. This ensures that hard limit deviations are reviewed and signed off before the batch can proceed. This functionality is active only when the Workflow Chain has an associated Hard Limit Signature Flow and the relevant numeric field has Hard Limits configured.

### MES Product - Move batch entity selection onto MES Product

The Create Batch modal has been optimized to improve user experience and accommodate new features like scheduling and Execution Plans. The updated design aims to make it easier for planners to find and input necessary batch information, ensuring a less cluttered and more intuitive interface with consistent terminology across MES.

The system will now create a batch entity based on the entity type linked to the selected MES Product. This shifts the determination of the batch entity type from the first workflow in the chain to the MES Product, ensuring the creation of the desired batch type.

### MES QR - Ensure data enterer cannot review their batch

The system now prevents users from reviewing their own work to ensure more robust checks on entered data. When a step is marked Complete, the system identifies the user logged in and any user who signed (or was nominated to sign) a signature flow within that step as participants. When a participant opens the Reviewer Portal for a step, the Review button will be visible but disabled.

### Procedures to Facilitate Looping at the Protocol Level

Dynamic Execution Plans (DEPs) can now be applied to procedure nodes within Workflow Chains (WFC). This allows for batch-based modifications to defined protocols without requiring the creation of new protocols, workflows, procedures, or workflow chains. DEPs applied to procedures function similarly to those applied to protocols within workflows, supporting all four DEP types with specialized plans overriding general plans for the same field. Both instantiated and virtual procedure nodes reflect DEP updates.

Users can now navigate Procedure protocols within the Electronic Batch Record (EBR) in the same way as traditional workflow protocols. Based on the virtual batch record, a nested chain is displayed as a series of protocols, allowing users to progress through the steps without needing to submit to the next unit operation in a nested chain node. A "Unit Operations" button (formerly "Batch Sections") allows users to view subsequent nodes in the nested chain.

The term "Batch Section" has been replaced with "Unit Operation" throughout the MES interface, online help, and reports to align with common life sciences manufacturing terminology.

### MES Equipment Search modal

In MES, the search modal for selecting equipment via a resource link field now displays the Status of the equipment.

### Scheduling: Introduce pending batch creation in MES

A manufacturing supervisor can now view scheduled batches to print labels and access batch information. Until a scheduled batch is officially started, it is viewable with MES permissions, but all input fields are read-only except for printing labels. A banner and a button to start the batch (for users with appropriate permissions) are displayed, similar to the interface for failed batches.

The MES Create Batch modal now includes the ability to schedule an MES batch, allowing planners to manage resource and equipment usage, and supply chain needs. The scheduling capability has been added at the bottom of the modal. If a batch is indicated as scheduled, all components except the worksheet will be created. Additionally, the Create Batch modal in MES has been updated to prevent the scheduling of batches with unpinned Workflow Chains, Workflow Chains containing Procedures, or Workflow Chains with zero duration.

A "Scheduled" tab has been added to the MES landing page, allowing manufacturing supervisors, planners, and operators to view scheduled batches separately from in-process batches.

Manufacturing supervisors with Create Batch or Operations Review permission can now manually start a scheduled batch from the EBR, initiating worksheet creation. This allows for the explicit commencement of a scheduled batch.

The batch creation process has been updated to separate worksheet creation from the instantiation of other batch objects (experiment, workflow chain, first workflow, first protocol). This separation allows for new scheduling capabilities, allowing batches to be scheduled and viewed without immediately signaling the start of the process in the Scheduling app.

## Projects

### Procedures to Facilitate Looping at the Protocol Level

The workflow chains listed for creating experiments in Projects now exclude Procedures. This prevents users from accidentally creating an experiment with a Procedure, as Procedures are currently only supported in MES Workflow Chains.

## Scheduling App

### Scheduling Support for MES batches

Users now have the capability to schedule an MES batch through the Scheduling App and view the batch progress in the MES app as well as monitor the batch progress within the Scheduling App. Auto-generated tasks for MES batches scheduled from the MES app are now displayed in the Calendar section and listed in the unscheduled task panel. This utilizes the same Planned Action Chains functionality as scheduling experiments from Projects.

- Users can now view, edit, and initiate MES batch tasks scheduled on the Calendar.
- Unscheduled MES batch processes can now be scheduled by dragging and dropping them onto the calendar or by specifying a start date and time.
- Detailed task information and track progress based on the status of the corresponding batch and unit operations in the MES app.
- Users can now filter tasks in the Calendar and Monitor tabs based on their source (LIMS experiment or MES batch).
- Aligned with the Containers and Equipment within the new Assets App.
- The task displayed in the unscheduled task panel on the Calendar tab now allows users to differentiate between tasks originating from LIMS experiments and MES batches.
- A new filter option allows users to filter tasks based on the workflows from which they were created.
- The Scheduling App now displays the status of unexecuted planned actions for completed or failed batches, aligning with the status of unit operations in the MES app.

Additional improvements in Scheduling App include:

- Users can now view archived unscheduled LIMS experiment-based tasks on the Unscheduled task panel, but cannot edit or schedule them.
- The Edit Task modal for unscheduled LIMS experiments and MES batches has been updated to allow viewing and editing of details, with clear differentiation between task sources.
- Users can now sort and filter tasks in the unscheduled task pane on the Calendar tab.
- The Monitor tab and Resources tab now clearly distinguishes between LIMS experiments and MES batch-related workflow chains.
- Timestamps are now recorded to track the start and completion times of protocols, enabling monitoring in the Scheduling App's Monitor tab.

## Workflow Chains (WFC)

### Procedures to Facilitate Looping at the Protocol Level

Back-end APIs now enforce rules around Procedures to ensure that Procedures and Workflow Chains that include them function correctly within MES.

## Resolved Issues

Known Issues from previous release resolved in 3.5.0.0

Key	Summary	Application	ZenDesk ID
<b>APPS-22416</b>	Assets-Kit: Adding and removing items in the kits are not documented in the History tab	Assets	
<b>APPS-21163</b>	[Devops/CI] ESP Stubs package has the wrong version (0.0.0) in ESP 3.4	Build tooling, ESP Client	
<b>APPS-20963</b>	espclient: Deeply nested configurations get keys stripped to serve as "name" keys erroneously	Configuration, Core, ESP Client	
<b>APPS-19107</b>	Protocol names overflow their container	Core	
<b>APPS-20133</b>	Core: synchronize_field_values protocol action is no longer tolerant of errors, blocking synchronization	Core	
<b>APPS-20177</b>	response for POST /user/api-keys has wrong content type	Core	
<b>APPS-20193</b>	content_aware_tsvector breaks for large contents of rich text.	Core	
<b>APPS-20253</b>	Fix JSON.stringify recursion in LIMS cache	Core	
<b>APPS-20308</b>	Core: ReportTemplate's Report breaks if ReportTemplate has resource_dependencies to more than 1 Pipeline	Core	ZD3269
<b>APPS-20344</b>	Upgrades: Alembic Migration: References to the `public` schema break migrations if the database doesn't use the default schema	Core	
<b>APPS-20491</b>	pipeline and pipeline instance undelete handlers are reversed	Core	
<b>APPS-20584</b>	Espclient: import cannot delete archived users from workgroup members	Core	
<b>APPS-20626</b>	Core: IAM & SSO - Password Expiration (for signature) with SSO blocks users from logging in	Core	
<b>APPS-20943</b>	Core: Updating haproxy "global" or "defaults" sections makes ESP unreachable	Core	
<b>APPS-20944</b>	Core: haproxy daemonization is not controlled by supervisord, preventing failure detection and log capture	Core	
<b>APPS-21645</b>	Inventory-Core: Celery fails to retrieve result for InventoryItems /graphql call	Core, Inventory	
<b>APPS-20130</b>	LIMS: Sample Protocols: Signature Flow: Fails to sign signature flow if it is located in a sample protocol	Core, LIMS	
<b>APPS-20319</b>	LIMS - unsetting shared signatureflow/approval columns bleeds across SampleSheets	Core, LIMS	ZD3451
<b>APPS-20411</b>	LIMS/Core: Uncaught Protocol Action Errors are not reported to the submitting User, only admin	Core, LIMS	
<b>APPS-20413</b>	LIMS: Protocol Actions triggered with 0 affected rows leading to failures	Core, LIMS	ZD3264
<b>APPS-20462</b>	LIMS: PipelineInstance shown as Queued with PipelineInstance uuid recorded, but PipelineInstance UUID does not exist	Core, LIMS	
<b>APPS-20825</b>	Signature Flows Resetting Incorrectly During Admin Edit of Completed Rows in LIMS	Core, LIMS	ZD3450
<b>APPS-21189</b>	Core / LIMS: POST /api/samples and POST /graphql CreateEntities do not enforce blacklist	Core, LIMS	

<b>APPS-21570</b>	LIMS [performance]: list_entities function will query_samples without a filter, pulling all samples in the system	Core, LIMS	
<b>APPS-20280</b>	[MES] Batch Name same as MES Product Name results in Protocol Action error	Core, MES	
<b>APPS-21750</b>	MES: [performance] meta -> augment -> imported_content bloats MES batch_record queries	Core, MES	
<b>APPS-22425</b>	CLONE - MES: [performance] meta -> augment -> imported_content bloats MES batch_record queries	Core, MES	
<b>APPS-20891</b>	CORE/Multitenant: Missing Tenants Table Schema Alembic Migration	Core, Search	
<b>APPS-21742</b>	PSQL16+ incompatibility with the `json_array` variable name	Core, Search	
<b>APPS-19286</b>	Notebooks - Rich Text Widget bold and italics hotkeys are not always responsive	Notebooks	
<b>APPS-19782</b>	Notebooks: The formula list in spreadsheet widget does not display the second time	Notebooks	
<b>APPS-20188</b>	Notebooks - Video Upload Functionality Inside Image Widget: Preview and Delete Options	Notebooks	
<b>APPS-20279</b>	Notebooks: Library "show archived" is treated as change to library metadata	Notebooks	
<b>APPS-20455</b>	Notebooks: All Entries are NOT loaded in library details, My Entries and Entries page	Notebooks	
<b>APPS-20762</b>	Notebooks: Graph widget does not chart categorical data from the Spreadsheet widget	Notebooks	
<b>APPS-21899</b>	Notebooks: Embedded Worksheet onRender behavior is wrong	Notebooks	ZD3628
<b>APPS-21982</b>	Notebooks: Embedded Worksheet onRender not working properly in expanded mode	Notebooks	
<b>APPS-22009</b>	Notebooks: Wrong onRender behavior when there are multiple worksheets in an entry	Notebooks	ZD3732, ZD3628
<b>APPS-22103</b>	Notebooks: Fix window view for shared agrid	Notebooks	
<b>APPS-22133</b>	Notebooks: Cannot sign as owner when other_user_approval is enabled for an entry	Notebooks	
<b>APPS-22187</b>	Notebooks: PDF generation issues with table widget	Notebooks	ZD3693
<b>APPS-22615</b>	Notebooks: Data saved in the entry is not visible when the ownership is changed	Notebooks	
<b>APPS-22663</b>	3.5.0.0 CLONE - Notebooks: When email notification link is used to complete final signature for an entry, a PDF is not generated	Notebooks	
<b>APPS-21194</b>	LIMS: Flexview Editor fails to render new widgets in some Environments (Notebooks env)	Notebooks, LIMS	
<b>APPS-22421</b>	LIMS AND Notebooks: Entity Type Restriction Not Enforced for Workflow Definitions	Notebooks, LIMS	ZD3735
<b>APPS-20142</b>	Core: 204 Status Code in Tornado is incompatible with sending response bodies, results in invalid JSON response	ESP Client	
<b>APPS-20307</b>	espcient: ReportTemplate is reused if name exists, causing failures in PipelineInstance Report generation	ESP Client	ZD3269
<b>APPS-20515</b>	Core: 206 Status Code is seen as error by espcient	ESP Client	
<b>APPS-20527</b>	Client [PERFORMANCE]: Projects model should always default to `[]` params if not provided	ESP Client	
<b>APPS-20929</b>	ESP Client: Client produces fail messages but succeeds anyway	ESP Client	

<b>APPS-19751</b>	Master > Item Type: Picklist is displaying replication of an option upon import	ESP Client, L7 MASTER	
<b>APPS-20082</b>	ESP Client: Masters: Protocol: ESP Client doesn't export the Item Field option "defaultItemAndQuantity"	ESP Client, L7 MASTER	
<b>APPS-20546</b>	Upgrades to 3.3 and 3.4 are dropping and creating new WFC nodes, even when no changes were made	ESP Client, L7 MASTER, LIMS	ZD3361
<b>APPS-20606</b>	Entities: Date pickers for "Created" and "Updated" filters shift to the other side of the screen after first selection	Entities	
<b>APPS-20642</b>	In 3.3+, Entities with numeric custom fields will not load correctly if NaN is supplied as a value	Entities	ZD3405
<b>APPS-21089</b>	Entities: [Performance] Bulk Edit of Entities triggers N API calls to pull all unique resource vars for all edited entity type definitions	Entities	
<b>APPS-22742</b>	Entities: Display name changes to entity type are clearing field entries when migrating entities	Entities	ZD3794
<b>APPS-22197</b>	Inventory: [performance] CTMC-QA Inventory loads in 15-30 seconds	Inventory	
<b>APPS-20483</b>	Hub - exporting classes and types: schedulability flag set to 'None' when it should be 'false'	L7 HUB	
<b>APPS-20790</b>	L7 Hub: Retired Workflow Chains appear	L7 HUB	
<b>APPS-20179</b>	Protocol Actions - Create MES Batch creates a batch with the entity type of the calling protocol	L7 MASTER	
<b>APPS-20196</b>	WFC builder - Users cannot retire a WFC version unless they are the owner	L7 MASTER	
<b>APPS-20494</b>	Protocols: Tags added to the field details are automatically saved in the lower case	L7 MASTER	
<b>APPS-21395</b>	Client - Pinned WorkflowChains not imported correctly	L7 MASTER	
<b>APPS-22719</b>	L7 MASTER - Create MES Batch protocol action fails	L7 MASTER	
<b>APPS-21476</b>	Number of children and linked fields are not filled out in a fan-out sample protocol if a sample is failed in the preceding protocol	L7 MASTER, LIMS, UI/UX	
<b>APPS-21530</b>	WFC Builder: Incorrect duration is displayed in the WFC after the workflow (protocol) duration change	L7 MASTER, Scheduling App, Workflow Chains (WFC)	
<b>APPS-19531</b>	LIMS: Protocol Default view defaults to table view unless override specified	LIMS	
<b>APPS-20171</b>	LIMS: Expressions: Using any ESP expression in a shared column to gather data from a preceding protocol's regular column results in inconsistent values	LIMS	ZD3837, ZD3812
<b>APPS-20252</b>	3.5 CLONE - Column fields are not observed when worksheet is opened	LIMS	ZD3475
<b>APPS-20258</b>	LIMS - mouse clicks do not exit cell editors like they should	LIMS	
<b>APPS-20259</b>	LIMS: order of shared columns is reset after checking a checkbox	LIMS	
<b>APPS-20273</b>	LIMS: renderers.js can block rendering of Shared Protocol Fields if the custom manipulateColumnDefs throws an uncaught exception	LIMS	
<b>APPS-20294</b>	LIMS: error prevents onRender execution	LIMS	
<b>APPS-20459</b>	LIMS: Clearing filter state of the worksheet table is not retained	LIMS	ZD3458, ZD3377
<b>APPS-20837</b>	LIMS- Can't view vector field data in the UI if the field is read-only	LIMS	



<b>APPS-20864</b>	LIMS - mouse clicks do not exit cell editors when clicking action button	LIMS	
<b>APPS-21087</b>	LIMS: [Performance] Copy Down (Cmd-Shift-D) and Paste Down (Cmd-V) can freeze tab (100% CPU)	LIMS	
<b>APPS-21143</b>	LIMS: Container Location Column Not Exported in CSV/XLS and cannot be Copied to Clipboard	LIMS	
<b>APPS-21489</b>	3.5.0 CLONE - LIMS: client-lims-api.js api.allSamplesComplete() behavior change only in 3.3 - all rows report `true` in update xact	LIMS	
<b>APPS-21538</b>	LIMS: Default view specified in the Protocol builder is not shown when 'Default View Overrides User Preferences' checkbox is selected	LIMS	ZD3658
<b>APPS-21543</b>	LIMS: onChange `api.setDataAt` fails to trigger grid refresh, breaking onChange functionality	LIMS	
<b>APPS-21559</b>	LIMS: Advancing to Second protocol refreshing the page changes from Transpose view to Table view	LIMS	
<b>APPS-21674</b>	LIMS: updated onChange handling fails to rerender modified values when async calls are present	LIMS	
<b>APPS-21876</b>	LIMS: Updated grid rendering logic fails to re-render expression updates from Insights panel	LIMS	
<b>APPS-21992</b>	3.5.0 - LIMS: Copy range down always propagate the changes	LIMS	
<b>APPS-22274</b>	LIMS: Copy down can write in uneditable cells	LIMS	
<b>APPS-22296</b>	Fix value_grouped_by behavior for fan-in sample protocols	LIMS	
<b>APPS-21990</b>	MES, LIMS & Notebooks: Other user unable to sign for owner using owner credentials	LIMS, MES	ZD3678
<b>APPS-20210</b>	MES > EBR: Signature Flow: Owner signature is to be completed by creator of batch entity, but other user credentials were able to be used	MES	
<b>APPS-20505</b>	MES: Scanning barcodes for equipment/items triggers onChange each time a character is entered	MES	
<b>APPS-21215</b>	MES: EBR tab - Save button gets enabled when user adds and saves an input in the QR tab - Editor Page.	MES	
<b>APPS-21766</b>	MES: [performance] Unnecessary Expression Evaluations during MES batch_record retrieval	MES	
<b>APPS-21973</b>	MES: Can't Complete Step if field is changed after Signature Flow is signed	MES	ZD3620
<b>APPS-22075</b>	Cannot attach more than one custom report to an MES batch per day in Reports tab	MES	
<b>APPS-22426</b>	CLONE - MES: [performance] Unnecessary Expression Evaluations during MES batch_record retrieval	MES	
<b>APPS-22171</b>	MES Quality Review Dashboard: Align Missing Assessments' count with rest of the counts	MES, UI/UX	
<b>APPS-20874</b>	units numeric type is blocked by API validation	N/A	
<b>APPS-21233</b>	SQL Injection vulnerability in graphql -> ExperimentWorksheetTab operation	N/A	
<b>APPS-20086</b>	Projects > Experiments: error when trying to open archived experiments	Projects	
<b>APPS-21602</b>	Projects: Clicking on archived experiments makes projects app unusable unless refreshed	Projects	

<b>APPS-20717</b>	Bundles should seed before custom content	SDK	
<b>APPS-21265</b>	Scheduling: Entities belonging to "non-schedulable" entity types continue to be shown in Availability tab	Scheduling App	
<b>APPS-21284</b>	Several search related issues during migrations from 3.x to 3.5	Search	

## Known Issues

Known Issues in 3.5.0.0

Key	Summary	Application	ZenDesk ID
<b>APPS-21958</b>	MES - Incorrect Execution Order: Unexecuted protocol step of a procedure appears at the end of last unit operation instead of its respective unit operation	MES	
<b>APPS-21883</b>	L7 Hub: Missing dependencies in the collection are not shown correctly for a pinned WFC after switching apps and returning.	L7 HUB	
<b>APPS-22734</b>	Equipment: Last maintenance date not updating to previous next maintenance date after maintenance performed	Assets	
<b>APPS-22730</b>	DEP: The created DEP is duplicated when the product name is copy pasted while creating a batch in MES	MES	
<b>APPS-22700</b>	Equipment: Not able to log maintenance when the equipment is migrated after adding new maintenance type	Assets	
<b>APPS-22684</b>	MES: No warning or error toast is displayed when added item quantity exceeds available container stock	MES	
<b>APPS-22612</b>	L7 Master: Container Type custom field accepts numeric data exceeding hard limit and container gets saved	Assets	
<b>APPS-22607</b>	L7 Hub: After Install & override of workflow chain with new pinned version of procedure from a remote instance. In local, the workflow chain is not set to new pinned version of procedure	L7 HUB	
<b>APPS-22475</b>	LIMS>Performance: OnRender test with 100 samples soft-locks LIMS when attempting to move to fan-out protocol	LIMS	
<b>APPS-22474</b>	LIMS Performance: Attempting to do a bulk delete of ~5k values with onChange handlers locks up LIMS	LIMS	
<b>APPS-22397</b>	LIMS: Saving while one of the grids is updating halts further changes in that grid	LIMS	
<b>APPS-22383</b>	Assets-Containers: Equipment does not get scanned into container slot	Assets	
<b>APPS-22382</b>	Assets-Containers: Items do not get scanned into the container	Assets	
<b>APPS-22289</b>	LIMS>Assets>Equipment Selection: Invalid key constraint error when adding a 'duplicate' entity to an Equipment	LIMS	
<b>APPS-22262</b>	LIMS: Save and Save and Continue buttons are disabled even after filling all required fields after "Edit Completed Sample" option is used to change the value of a required field to null initially	LIMS	
<b>APPS-22248</b>	HUB: Archived pinned workflow are displayed in L7 hub.	L7 HUB	



<b>APPS-22082</b>	L7 Master-ItemType: Non-numeric inputs are not restricted in the 'Reorder Threshold' field within the 'New Item Type' modal and the 'Item Type Details' page.	L7 MASTER	
<b>APPS-21828</b>	DATA: Some PDF file names display as "static."	Data	
<b>APPS-21741</b>	MES: When DEP applied for Protocol Resource Link to Container Type & Inventory Item Use Item Type, incorrect kit is listed in BOM tab	MES	
<b>APPS-21651</b>	MES: Unable to view the unpinned version of the in-process Batch record with the changed WF name	MES	
<b>APPS-21630</b>	MES: Protocol fields Link & Container Location do not appear in MES whether part of Workflow or Procedure	MES	
<b>APPS-21621</b>	MES: 'List is empty' is displayed in the 'Next Step' of the workflow node for the finished batch record, instead of the subsequent workflow node	MES	
<b>APPS-21544</b>	L7 Hub: Pinned Workflow Chain with Signature Flow - Bundle contents include Signature Flow & Signature Flow queued install toast during installation	L7 HUB	
<b>APPS-21391</b>	WFC & Procedure YAML file: Workgroup field is not being exported in the WFC and Procedure YAML files	ESP Client	
<b>APPS-21313</b>	Projects: When creating a new experiment, Workflow & Workflow Chain field is empty space when there are no WFs or WFCs	Projects	
<b>APPS-21212</b>	L7 Master>WFCs: First transition created between nodes is invisible if you don't use 'Rapid add node'	L7 MASTER	
<b>APPS-20692</b>	L7 Hub: Dependencies added during Bundle creation of a pinned Collection do not contain the dependencies	L7 HUB	
<b>APPS-20655</b>	MES: EBR onChange self-referential/cascading changes don't allow update after change	MES	
<b>APPS-20652</b>	MES: onRender call to api.showModal appears on incorrect step after save	MES	
<b>APPS-20651</b>	MES: onRender calls to api.showModal appear behind QR editor portal	MES	
<b>APPS-20646</b>	MES: api.setDataAt() not working in second step	MES	
<b>APPS-20611</b>	Core: Missing toasts in L7 Hub when incorrect credentials used for approve, retract & reject Bundle; download Bundle review history & attempt to install content without its dependencies	Core	
<b>APPS-22693</b>	Assets > Equipment: Last Maintenance date and Next maintenance date are being copied from existing equipment of the same equipment type	Assets	
<b>APPS-22682</b>	L7 Master: The WFC filters in the landing page of the MES displays Workflow instead of WFC.	L7 MASTER	
<b>APPS-22658</b>	Experiments: Timestamp and Version number is not displayed for the created experiment in the Experiments tab	LIMS	
<b>APPS-22384</b>	Assets-Kit: Item Type/Item dropdown re-expands automatically on scanning a barcode after being manually closed	Assets	
<b>APPS-22856</b>	Notebooks : Adding samples fails if user saves and switches tabs immediately after worksheet creation	Notebooks	
<b>APPS-22661</b>	Scheduling: User with Create, Update, Delete Permissions in Pas (Planned Action's) Scheduling unable to edit PA' (Planned Action) of a PAC (Planned Action Chain)	Scheduling App	

Testing activities for L7|ESP 3.5.0.0 were successfully concluded on Jun-27<sup>th</sup>-2025.

VERSION HISTORY

Release Notes for L7|ESP Core 3.5.0.0  
(v1.0)

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Initial release

ELECTRONIC SIGNATURES

Approvals

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