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Integration with remote storages could potentially cause errors and inconsistencies, which require manual intervention. For managing such situations reports should be generated. Possible options for reporting are: 16

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Glossary

- **Remote storage system** - management tools to administer the remote storage of physical library items. It is a form of warehouse inventory management.
- **Remote storage provider** - Dem.
- **Remote storage configuration (aka Remote storage)** -
- **CaiaSoft** - remote storage system provider (CaiaSoft site link)
- **Dematic** - automated storage retrieval system provider (Dematic site link)
- **MVP** - minimum viable product, is a version of a product with just enough features to satisfy early customers and provide feedback for future product development.
- **Accession** – process of adding an item to Remote Storage database.
- **Deaccession** – process of removing an item from Remote Storage database.
- **Instance** – Instance records may be derived from full bibliographic records (in MARC or other formats) and are intended to provide enough information for library staff to identify & select records in order to perform work on associated holdings and items. Instance records can also be in the native FOLIO format when full bibliographic description is not required.
- **Holding** – Holdings records provide information needed, such as location, call number, and volumes owned, for staff to locate and manage library holdings. Holdings records may describe library holdings that are physical, electronic, or other formats. Holdings records are created and edited in Inventory.
- **Item** – An Item record provides the information needed to identify and track a single item or piece, such as barcode, availability, and material type. Item records are created and edited in Inventory.
- **Inventory** – Inventory is the FOLIO app where bibliographic information from a variety of sources can be presented in a uniform, abstracted form for management of the collection regardless of the format or content rules used to describe a resource. It is a sort of staff discovery layer, which represents bibliographic, holdings, and item data and integrates with apps like Order, Check in, Check out, and Request. Inventory exists primarily to manage collections (physical and/or virtual).
- **Effective location** is used to know the current home location for the item. This will be used to determine the appropriate loan policy, where it needs to be reshelved etc. See details in “Background information”
- A **service point** is FOLIO terminology for a library staff work location. See details in “Background information”.
- **Circulation** comprises the activities around the lending of library materials to users of a lending library.

Background information

- Items that are on the shelf have the item status “Available”
- When patrons or FOLIO operators request an item that is “Available”, the request type is always “Page”
- FOLIO tenants can set up their own locations, naming them as they like
- FOLIO tenants can set up “service points” (functional locations like circ desks)
- Locations can be assigned as permanent or temporary locations at the holding or item record
    - Ring down logic calculates an “effective location” for the item which is the only location that matters from a circulation perspective
    - See wiki for more information: https://wiki.folio.org/display/RA/Effective+Location+Logic
- There is a many-to-many relationship between locations and service points because:
    - One service point can cover/be “home” for many shelving locations AND
    - One shelving location may be equidistant between two service points, so institutions may want to allow two service points to cover/be “home” for one shelving location

    - When a location has more than one service point, it has a primary which is used for when an item is transited to that location
- As items are circulated, they are checked in (circulation check in app, not the check in feature in acquisitions) at service points
    - If item has been requested, the system will look at the desired pickup service point for the request
        - If the desired pickup service point IS the current service point, the item is put on the hold shelf (item status = “Awaiting pickup”, request status = “Open - Awaiting pickup”, hold slip is printed, patron notice is sent)
        - If the desired pickup service point is NOT the current service point, FOLIO will route the item there (item status = “In transit”, request status = “Open - In transit”, transit slip printed (if desired))
    - If the item is checked in and there are no open requests, it is routed back to its home location (effective location) for reshelving
        - If the current service point is one of the service points associated with the location, the location is home (item status becomes “Available”)
        - If the current service point is not one of the service points associated with the location, FOLIO routes the location to its primary service point (Item status becomes “In transit”)

Remote storages configuration in FOLIO

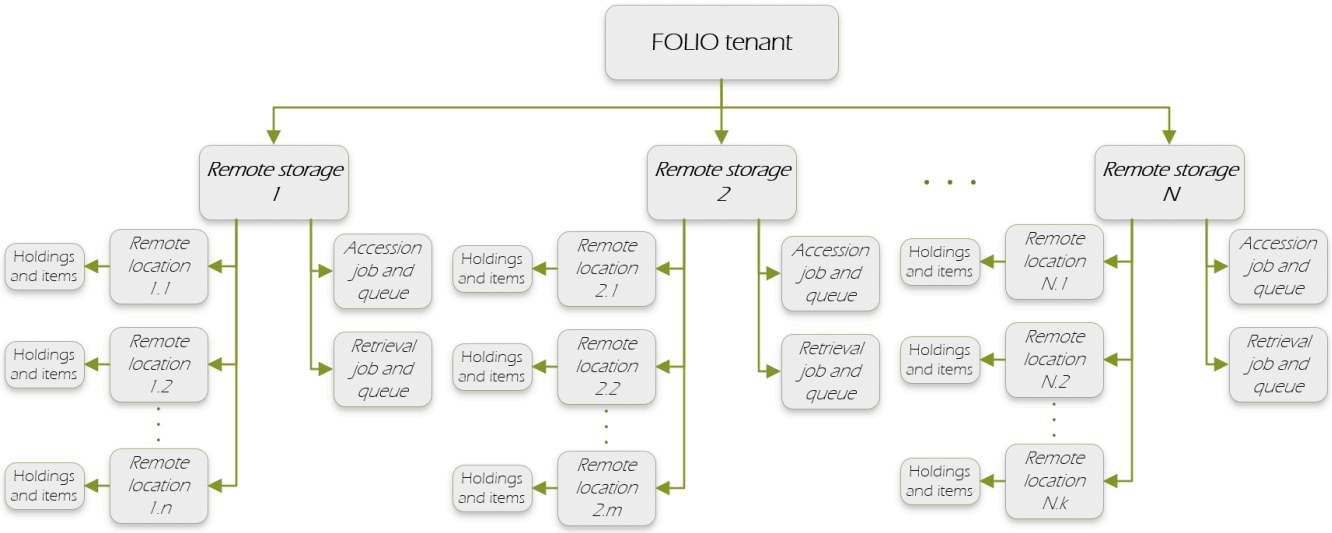
This configuration is dedicated to support:

- several Remote Storage Systems (providers) per one tenant
- several domains of one remote storage provider (e.g. for libraries consortia with Caiasoft provider and such domains as *https://**first_library**.caiasoft.com/api/* and *https://**second_library**.caiasoft.com/api/*)
- Remote Storage integration flows flexibility (diversity in processes)

However, for the first iteration, the development of this configuration is not required. Later in the document, the phrase “*for implementation with remote storages configuration only*” shows functionality to be affected.

Remote storage configuration basics:

- Located in FOLIO App “Settings” as a separate section “Remote storages”.
- User with appropriate permissions is allowed to CRUD remote storages
- Remote storages appear to be the set of rules and configurations
- Remote storages are created to be then assigned to FOLIO locations. It marks the location as “remote”.
- If a remote location is assigned to the item, it is being accessioned and it circulates as configured in associated with location remote storage.
- Each new remote storage might launch 2 scheduled jobs and queues - accession and retrieval.
- The whole interconnection could look like it is shown on the diagram below



The list of possible configurations for remote storages (*can be modified and elaborated if needed*):

- General configurations
  - Remote storage name - for unambiguous identification
  - Provider name - to help FOLIO understand which API to use
  - URL - to let FOLIO know the address of the Remote Storage system
  - Credential properties (APIkey?)
- Accession configurations
  - Accession initiation (might be set up only in case provider supports several options)
    - FOLIO gathers items for accession in the queue and pushes them into Remote Storage by schedule Dematic Staging director, MVP
    - FOLIO gathers items for accession in the queue and Remote Storage polls FOLIO for newly accessioned items Dematic EMS, MVP
    - Remote Storage pushes accessioned items to FOLIO on schedule CaiaSoft through API, R1, could also work for GFA/LAS
    - FOLIO polls Remote Storage for newly accessioned items by schedule LAS/GFA (Generation Fifth Applications) not MVP or R1
  - *Accession job* settings are visible if either
    - FOLIO gathers items for accession in the queue and pushes them into Remote Storage by schedule or item in queue, batch of items/holdings to be accessioned
    - FOLIO polls Remote Storage for newly accessioned items by schedule
  - *Accession job* settings are when and how push happens, R1 Dematic Staging Director
    - enable/disable job not sure there's a situation where we would not want job sent
    - schedule for enabled job how frequently queue is pushed to remote storage/dematic
    - e-mail notifications (user look-up or e-mail address, whether to send notification on success/error job result) email for failed job
  - *Accession queue* settings are visible if either
    - FOLIO gathers items for accession in the queue and pushes them into Remote Storage by schedule or Dematic Staging director, MVP

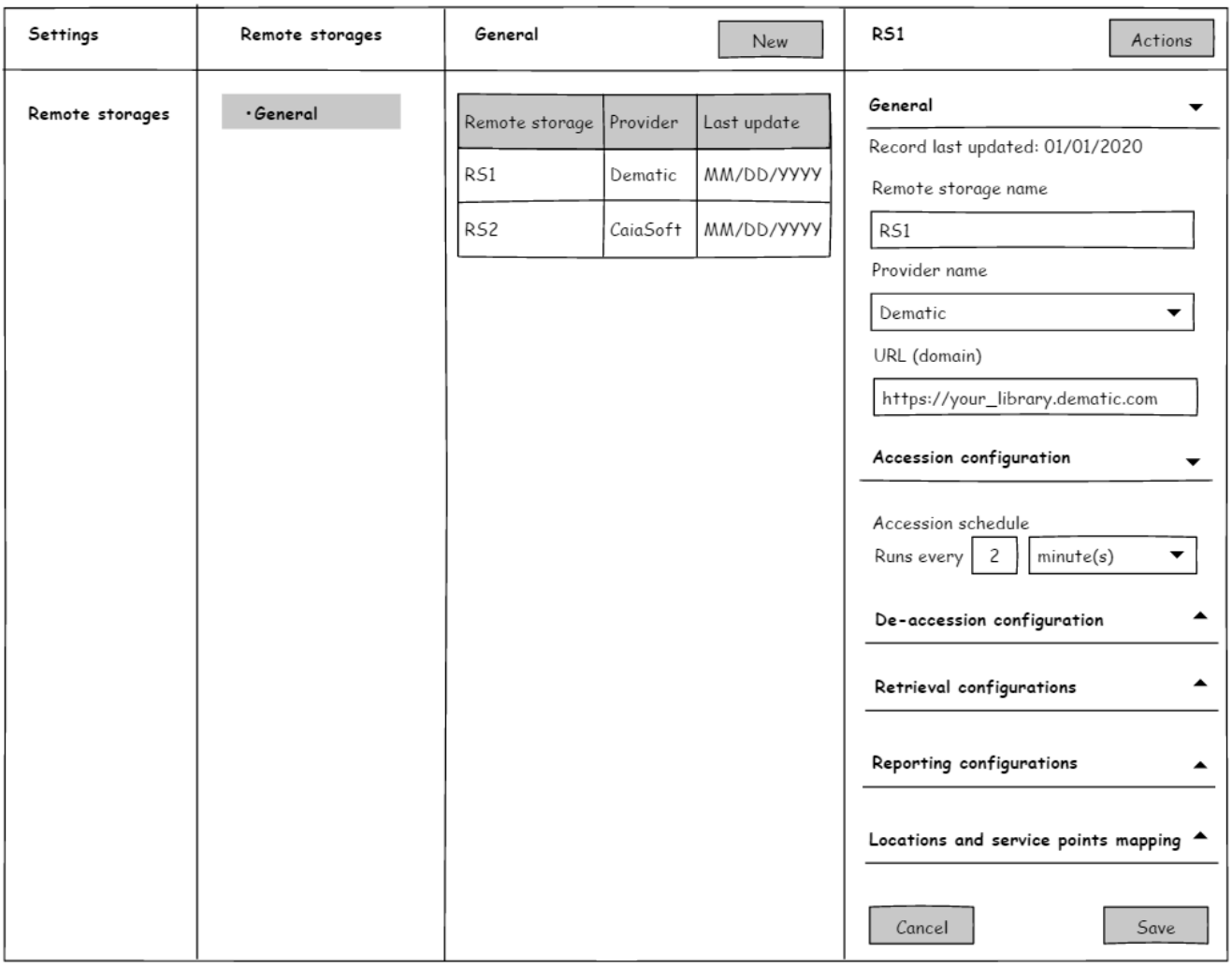
        - FOLIO gathers items for accession in the queue and Remote Storage polls FOLIO for newly accessioned items Dematic EMS, CaiaSoft, MVP
    - *Accession queue* settings allow to select the condition(s) for an item to go to the queue: All, MVP
        - item permanent location has been changed to a remote storage location
        - item temporary location has been changed to a remote storage location
        - permanent location remote of associated holding has been changed to a remote storage location
        - temporary location remote of associated holding has been changed to a remote storage location
    - *Location changes* settings are visible if either
        - Remote Storage pushes accessioned items to FOLIO or
        - FOLIO polls Remote Storage for newly accessioned items by schedule
    - *Location changes* settings define which locations are to be affected by accession:
        - only item location (doesn't require item's permanent location be consistent with holding's permanent location)
        - only holding location (assumes that item's location is inherited from holding location)
        - both holding and item location (default flow described in Accession flow initiated by Remote storage system, where both permanent locations of item and its holding should be consistent)
- De-accession configurations
    - Might have setting which are similar to accession configurations
    - TBD
- Retrieval configurations (Page request)
    - Retrieval initiation (might be set up only in case provider supports both options)
        - FOLIO gathers retrieval requests in the queue and pushes them into Remote Storage by schedule Dematic Staging director done immediately currently, not on schedule
        - FOLIO gathers retrieval requests in the queue and Remote Storage polls FOLIO for new retrieval requests Dematic EMS checks around every 8 seconds, CaiaSoft local setting
    - *Retrieval job* settings are visible only if *FOLIO gathers retrieval requests in the queue and pushes them into Remote Storage by schedule*
    - *Retrieval job* settings are:
        - enable/disable job All, MVP
        - schedule for enabled job All, MVP
        - e-mail notifications (user look-up or e-mail address, whether to send notification on success/error job result) Dematic EMS email sent through page request process
          Andrea thinks CaiaSoft the same - will confirm
          Dematic Staging email sent through page request process
          Doesn't need to be separate setting
    - *Retrieval queue* settings allow to select the condition(s) for an item request to go to the queue:
        - item permanent location is location of current remote storage
        - item temporary location is location of current remote storage
        - item effective location is location of current remote storage
        - permanent location remote of associated holding is location of current remote storage

        - temporary location remote of associated holding is location of current remote storage
          FOLIO has to have the information about the location of the item no matter what kind of request it is

          If you have 1000 page requests and 10 are for remote storage location, FOLIO needs to know that they are remote storage setting - must work quickly (page to retrieval)
          FOLIO needs to act upon flag to send paged item to remote storage by placing into retrieval queue
          This should be solved by remote flag at location setting

- Reporting configurations
    - TBD
- Locations/service points mapping (TBD)
    - For accession initiated on the Remote Storage side, new location is defined using, e.g. Accession table (Duke). This is a place where such a table might be configured.
    - Retrieval request to Remote Storage sometimes requires service point as input information. FOLIO service points should be synchronized with service points (or circulation stops) in Remote Storage System.
    - These settings might be initially defined for the tenant or synchronized on the background and not taken out to the UI.

Settings draft mock-up is added below for visualization.



Work with remote storage locations (MVP)

Remote storage can include multiple locations or a library can even have several off-site buildings. Therefore, FOLIO should support multiple remote location hierarchy the same as regular tenant locations concept.

- Remote storage flag “Remote storage” is to be added to Settings=>Tenant=>Locations=>Location properties. This flag will indicate that a location is in remote storage. Such locations might be referred to as “remote locations”.
    - This flag would be presented as dropdown with configured earlier remote storage - e.g. {none, Caiasoft remote storage, Dematic ASR}
    - When “none” is selected, it means the location isn’t remote. This option should be associated with an empty field in database (null), so that data transferring goes smoothly.
    - When one of the remote storages is selected, the location is considered as remote and points to the correct API (specified in remote storage configuration).
    - The list in dropdown would be formed out of configured remote storages within the FOLIO tenant plus “none” value.
    - For simplification (if remote storage configuration is not implemented from the start), the “Remote storage” dropdown could consist of only two values - {none, yes}, where “yes” indicates the location is remote and there is only one remote storage API for this tenant.

- Modification of the Remote storage flag must be available only for empty locations, i.e. in case, there is no any holdings or item record with this location specified as a permanent or temporary one. This is required in order to not allow the situation when changing regular location to remote causes treatment of item as it has gone through the accession process while it hasn't or vice versa.
- Service points could be associated with remote locations as well as with regular ones.
- When holdings/item record with remote location or associated preceding record (e.g. instance) is edited, metadata update should be sent to remote storage system.
    - Update process is triggered by the "save" action related to the items stored remotely and its flow is similar to FOLIO-initiated accession flow, but might use another endpoint.
- Items/holdings records shouldn't be restricted from moving between holdings and instances
    - For integrations, where accession starts in ILS, such cases might initiate accession process
    - For integrations, where accession starts in remote storage, such cases should be represented in locations mismatch reports
- Editing location (permanent or temporary) in an item or holding record could cause some actions related to remote storage integration, which sometimes depends on the accession initiator side (see table below):
    - None
    - Accession (described below in Accession features)
    - De-accession (described below in De-accession features)
    - Reporting discrepancy (described below in Reporting)

	FOLIO-initiated accession	**Remote storage initiated accession**
Location change from non-remote to non-remote	No actions or Reporting	No actions or Reporting
Location change from non-remote to remote	Accession	Reporting
Location change from remote to remote (same storage)	Remote storage update	Remote storage update
Location change from remote to remote (another storage)	Accession	Reporting
Location change from remote to non-remote (CaiaSoft report Cornell)	De-accession or Reporting	Reporting

Backlog:

- Ability to flag FOLIO locations as "remote storage locations"
    - [mod-inventory-storage] Add new "remote storage flag" property to location record

    - [ui-tenant-settings] Make “remote storage flag” be editable in Settings => Tenant => Locations
- ~~[ui-inventory] Restrict remote locations from regular editing of holdings and items locations in Inventory~~
- [edge-caiasoft, mod-caiasoft] Implement POST Item Attribute Update request triggering

Accession (adding an item to remote storage) features

Single holding/item accession (MVP)

As long as the accession initiator (remote storage or FOLIO) depends on the individual processes of each library, there are 2 alternatives of the accession flow.

FOLIO-initiated accession flow (Dematic)

1. Accession flow is initiated on the FOLIO side by next starting actions:
    a. Starting actions on item:
        i. Changing **item’s** permanent/temporary location to remote location
        ii. **Moving an item to** the holding with permanent/temporary remote location
        iii. **Creating an item in** the holding with permanent/temporary remote location
    b. Starting actions on holding:
        i. Changing **holding’s** permanent/temporary location to remote location
2. After one of the starting actions was performed, FOLIO defines the corresponding to the remote location API (*for implementation with remote storages configuration only*) and sends to the accession queue:
    a. just one item, if it was starting action on the item
    b. all items within the holding, if it was starting action on the holding

    ! *Note: consider setting item status to “In transit” or introduce new item status for accession period, when item is added to the accession queue but has not been successfully accessioned yet.*
    Items in this state can not be requested.
    Item status should not be changed unless it is “Available”. Don’t forget to change this status back to “Available” after successful accession.

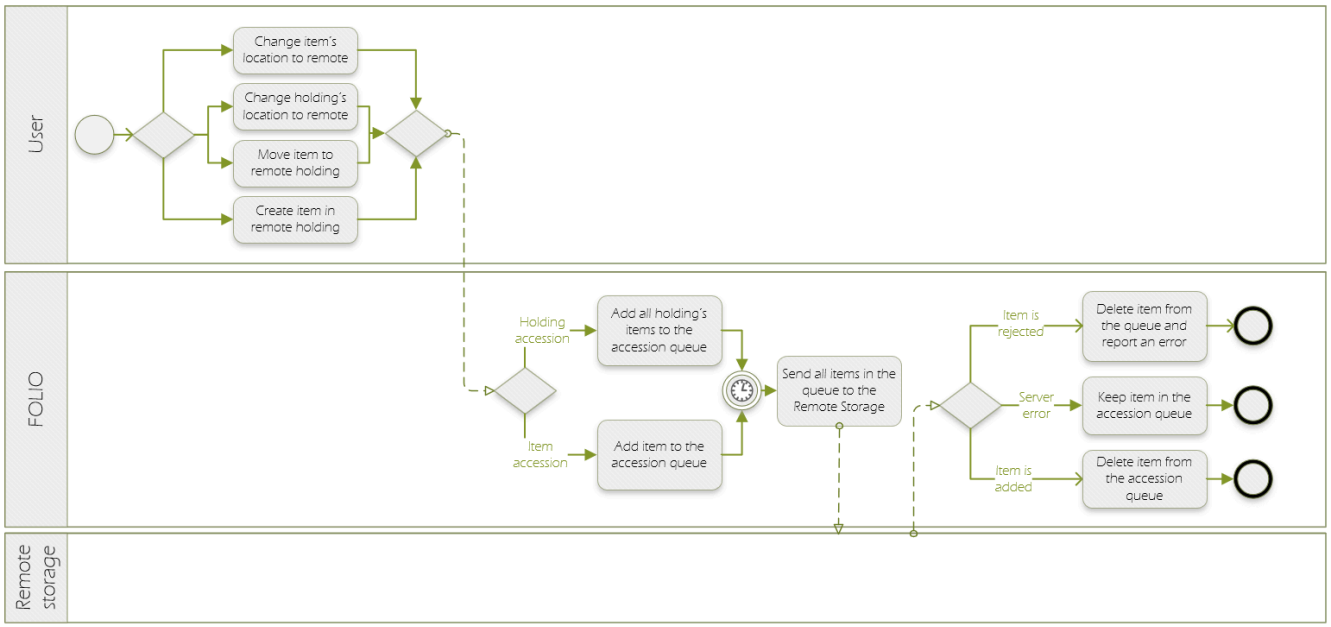
3. There is a background accession job which operates by schedule (schedule can be configured individually for each remote storage). Each run the job takes all items in the queue and sends them to the Remote Storage accession endpoint along with some item’s bibliographic metadata.

    ! *Note: consider accession flow started by Remote Storage System asking for items from accession queue in FOLIO*

4. Remote Storage accession response indicates whether an item is successfully stored or rejected (with rejection details).

a. If item accession goes successfully, the item is deleted from the queue. FOLIO could also check for new requests for the item here, in order to send the first remote retrieval request, if it was created, not filled.
b. If an item is failed to be sent because of the server error, FOLIO keeps the item in the queue.
c. If an item is rejected because of logical reason (incorrect format, already exists, not enough metadata etc) then the item is deleted from the queue and error is reported.

5. Process ends here.



Accession flow initiated by Remote storage system (CaiaSoft)

1. **Accession flow is initiated on the remote storage system side** by creating the accession job.
2. Remote storage system calls into Folio Edge API to retrieve bibliographic metadata related to item. The item will be identified by barcode. (title, primary contributor, ISBN, call number, enumeration [volume and year], ISSN, identifier, holdings record)
3. FOLIO responds with item's (item and holding, but only the item that was accessioned) bibliographic information and automatically changes item's permanent location to remote location (as per accession table) FOLIO checks the permanent location of current holdings record. Holding doesn't get accessioned, but it needs to be changed to the remote location when the item is changed to remote location. It is fine to have items with a different location from the holding. If one item is remote location, the holding must have the same remote location.
   a. If holding permanent location matches the new item's permanent location, the accession process successfully ends here.
   b. If holding permanent location doesn't match the new item's permanent location, then the accession flow continues.
4. FOLIO checks items in current holding and compares them with items from remote storage request.
   a. If all other items from current holding have the same permanent location, as currently accessioned item, or should have the same permanent location according to the barcodes list in

the request, then current holdings permanent location is changed to the new remote location of the item. Accession process successfully ends here.

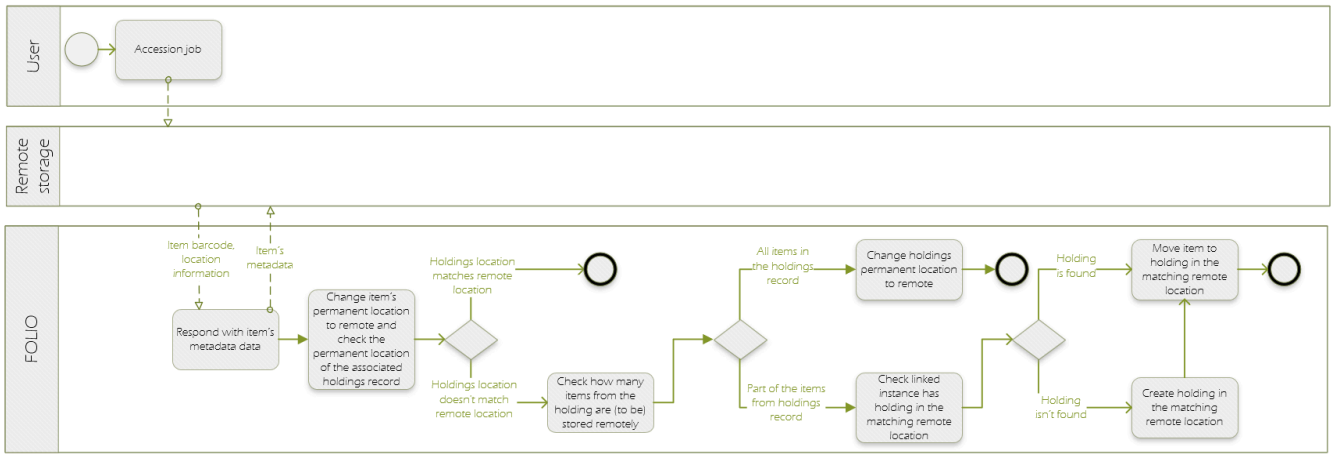
b. If not all items from current holding have or will have the same remote permanent location, then the accession flow continues.

5. FOLIO checks current instance for the existence of holdings record with location which matches the new item's permanent location.
   a. If such holdings record is in place, accessioned item is automatically moved to this holding
   b. If there isn't such holdings record,
      i. current holdings record is automatically duplicated,
      ii. holdings permanent location is changed to new item's permanent location
      iii. item is automatically moved to created holdings record

! *Note: if a retrieval request is created before item's effective location becomes remote, this request won't be sent to the Remote Storage System.*

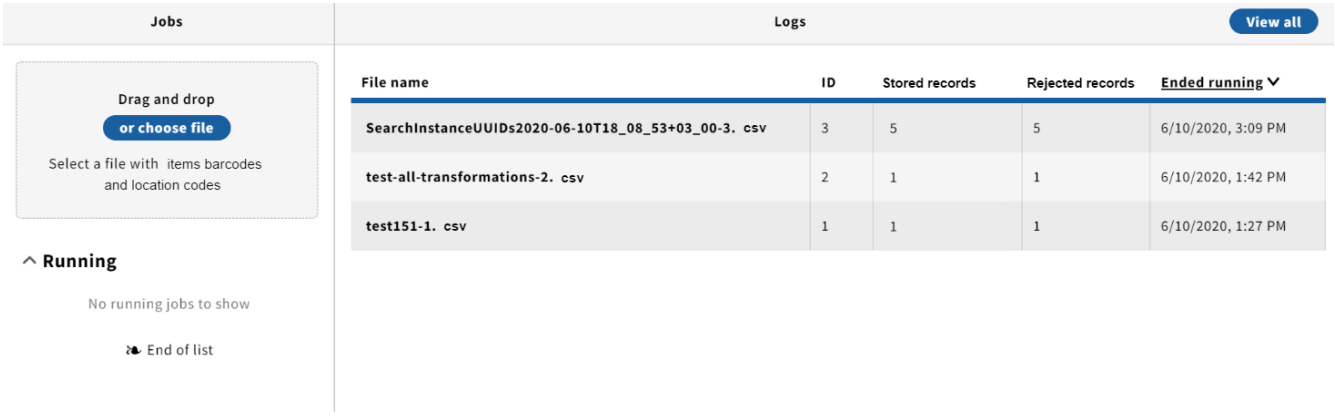
Goals:

- Items permanent locations are consistent with their holdings permanent locations
- New holdings records aren't created unless it is necessary



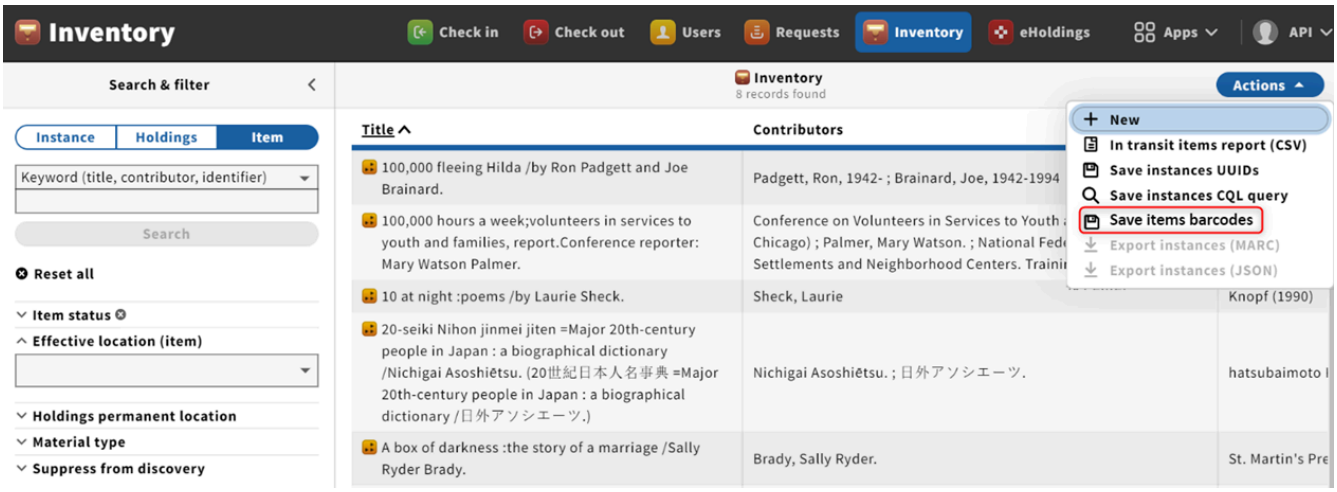
Bulk items accession (possible for FOLIO-initiated accession)

1. Accession flow for multiple items might be initiated on the FOLIO side by loading a file with a list of item barcodes



2. Before confirming bulk accession user should be asked for
    a. new location value in the items
    b. type of location to be changed in the items (permanent, temporary or both).
3. After bulk accession confirmation the background process starts
4. Each item is checked whether it exists in the system
5. For those items which passed the check, location is changed to the new one according to the new location value and type of location, which were selected before bulk accession confirmation
6. New locations is checked whether it is marked as remote
7. Those items that passed both checks are added to the accession queue
8. When all items in the file were handled, the system shows how many items were accessioned and rejected.
9. By clicking on the file name, the user can see the logs: which items passed all the process successfully and which didn't with reasons described.

Bulk accession must be supported by an ability in the Inventory to generate and download a list of item barcodes. It should work the same as the "Save instances UUIDs" action, which generates the .csv file with the list of instances UUIDs that fulfill Inventory search criteria.



Backlog (TBD):

Item level

- [mod-inventory-storage] Create endpoint to retrieve brief item information based on provided barcode
- [ui-inventory] Add "Send to remote storage" action in item detail view (with pop-up)

- [edge-caiasoft, mod-caiasoft] Handle Incoming Accession Items request-response collaboration
- [mod-caiasoft] Implement logic for selection/creation of remote storage holding for accession item
- [ui-caiasoft] Create user interface for bulk items accession
- [edge-caiasoft, mod-caiasoft] Parse file for starting bulk accession process

Holding level

- [ui-inventory] Add “Send to remote storage” action in holding detail view (with pop-up)
- [edge-caiasoft, mod-caiasoft] Implement holding accession

De-accession (removing an item from remote storage) features

For now deaccession flow is not an MVP and requires deeper discussion. For the moment being it is known, that:

- Dematic (EMS): offers a way to delete single items or batches of items, but Delete Items is purely an EMS function and not part of the FOLIO integration. However it involves custom code that must be retained alongside any changes or updates to EMS.
- Dematic (StagingDirector): has Inventory Delete message, which is sent by ILS when an item is changed from a status of "in storage" to “on shelf”. It indicates that the item is no longer in storage and is the means by which a SKU is removed from the StagingDirector database.
- Caiasoft: has a request type “DEA” (Deaccession), sent by ILS to Caiasoft and changes item status there to “DEA”.

For the first step it might be enough to handle items removal manually. Deaccession flow also can be treated the same as FOLIO-initiated accession flow with the next differences:

- Triggered only by changing permanent item’s location from remote to non-remote.
- Checks that item is out of the storage before deaccession. Removing an item from the database before it was physically retrieved makes it impossible to pull out an item in future.

Backlog (TBD):

- [ui-inventory] Add “Remove from remote storage” action in item detail view (with pop-up)
- [edge-caiasoft, mod-caiasoft] Implement item deaccession
- [edge-caiasoft, mod-caiasoft] Parse file for starting bulk deaccession process
- [ui-inventory] Add “Remove from remote storage” action in holding detail view (with pop-up)
- [edge-caiasoft, mod-caiasoft] Implement holding deaccession

Requesting a Remote Storage Item for Circulation (MVP)

1. Process can be started only from Page request (created either by library staff via FOLIO or by patron via Discovery service), since Hold or Recall request mean item isn’t in the remote storage for sure.
    a. Item status: “Paged”
    b. Request status: “Open – Not yet filled”
2. FOLIO understands whether the request to remote storage should be done by checking item’s effective location:
    a. If item’s effective location is not remote – standard circulation process applies here
    b. If item’s effective location is remote - Circulation Request is sent to retrieval requests queue
3. FOLIO defines the corresponding to the remote location API (*for implementation with remote storages configuration only*)

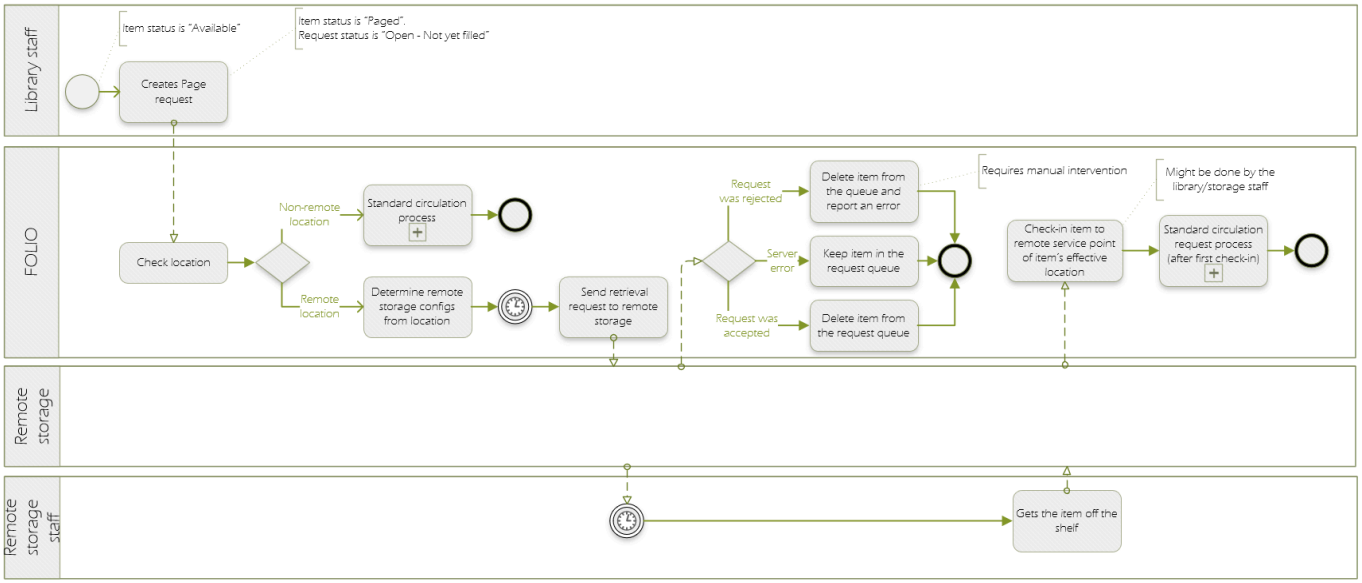
4. There is a background retrieval request job which operates by schedule (schedule can be configured individually for each remote storage). Each run the job takes all items in the queue and sends them to the Remote Storage retrieval request endpoint
    a. Some remote storages (like Caiasoft) require request information such as request pickup service point, so for successful integration service points in FOLIO and remote storage should be mapped/synchronized somehow (maybe within configuration of the remote storages in FOLIO or using hardcoded file on the server).
    b. Delivery requests in FOLIO don't have service points at the moment, so it is unclear what should be sent to remote storage circulation requests in this case. However, delivery service points are being designed - see Delivery Requests. Fulfillment Service Point.

    ! *Note: consider retrieval request flow started by Remote Storage System asking for items from retrieval request queue in FOLIO*

5. Remote Storage response indicates whether an item is successfully requested or rejected (with rejection details).
    a. If item was successfully requested, item is deleted from the retrieval request queue.
    b. If an item is failed to be requested because of the server error, FOLIO keeps the item in the queue.
    c. If an item is rejected because of a logical reason (item not found, item is locked, item is out of the container etc) then the item is deleted from the queue and error is reported.
6. After receiving a request, remote storage staff gets the item off the shelf and Remote Storage System sends a notification to FOLIO, which should trigger automatic check-in of the item in FOLIO to the service point which is a primary SP for the item's effective remote location.
    a. FOLIO allows printing slips (hold, transit etc) only after manual item check-in. However, FOLIO allows checking item in to the same service desk several times.
7. At this point item check-in launches the standard circulation process.

Deviations from the standard circulation request process:

- Additional integration points
    - Send retrieval request to the Remote Storage System
    - Receive notification from Remote Storage System regarding item's retrieval
- Possible automatic check-in after retrieval notification



Backlog (TBD):

- [mod-circulation-storage] Trigger request to remote storage
- [edge-caiasoft, mod-caiasoft] Handle Circulation Request Item request-response collaboration
- [edge-caiasoft, mod-caiasoft] Catch and process “in transit” status from Remote Storage system

Returning an Item to remote storage (MVP)

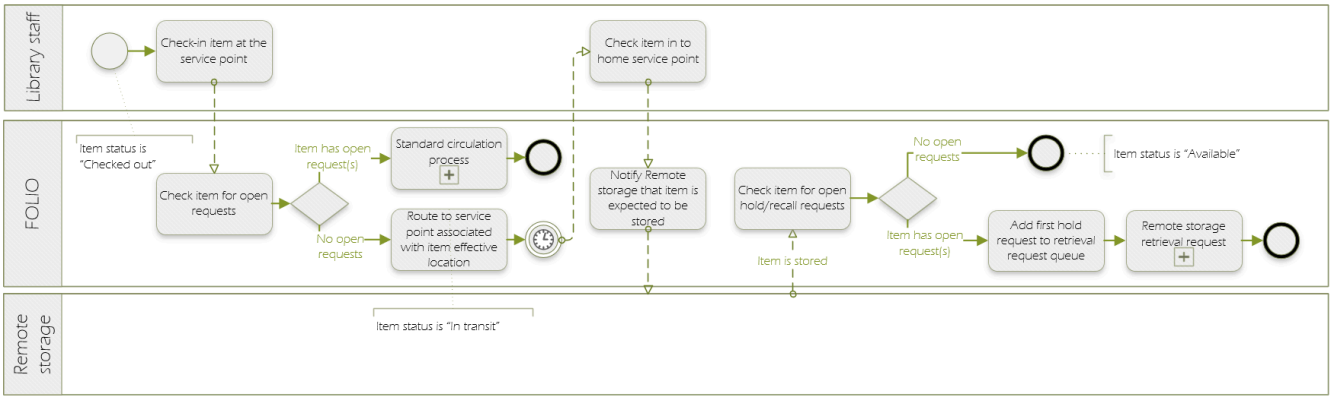
1. This process is triggered when an item with remote storage as effective location is returned after being checked out or request was cancelled, i.e. the next statements should be true:
    a. Item is being checked in
    b. Item’s effective location is remote
    c. Item doesn’t have any open requests
2. Item is checked-in to the current (on-site) service point of the library employee.
3. FOLIO checks if there are any requests for returned item (standard circulation process)
    a. If the item has been requested, the system will look at the desired pickup service point for the request
        i. If the desired pickup service point IS the current service point, the item is put on the hold shelf (item status = “Awaiting pickup”, request status = “Open - Awaiting pickup”, hold slip is printed, patron notice is sent)
        ii. If the desired pickup service point is NOT the current service point, FOLIO will route the item there (item status = “In transit”, request status = “Open - In transit”, transit slip printed (if desired))
    b. If the item is checked in and there are no open requests, it should be routed back to its home location (effective location) for reshelving
        i. If the current service point is one of the service points associated with the location, the location is home.

ii. If the current service point is not one of the service points associated with the effective location, FOLIO routes the location to its primary service point.

4. For an item stored remotely and returning back to its home location, its status becomes “In transit”, since it should not become “Available” until it is reshelved in Remote Storage.
5. When a remote item is checked-in to the service point, associated with home (effective) location, the notification is sent to Remote Storage System indicating that item is expected to be stored (if applicable).
6. Item arrives at remote storage facility. Item scanned to refile (holding place for items back in remote storage but not yet on the shelf) in CaiaSoft.
7. **Item scanned to refile** prompts CaiaSoft to tell FOLIO the item is available again via API. Most of the time the item will return to the shelf.
8. FOLIO checks if new hold or recall requests have been created while an item was in transit home.
    a. If there are one or more open requests on an item, the first of them (in priority) is added to the remote retrieval requests queue to be sent to the Remote Storage System. Request status becomes “Open - In transit”, item’s status is kept as “In transit”.
    b. If an item is not requested, its status becomes “Available”.
9. In case the notification from Remote Storage was received and item still hasn't been checked-in to the service point associated with its effective location, FOLIO can check it in automatically at its primary service point to complete circulation.

Deviations from the standard circulation request process:

- Additional integration points
    - Notify Remote Storage System that item has been checked in at the nearest circulation desk and is expected to be stored
    - Receive notification from Remote Storage System regarding item’s arrival at the storage.
- Don’t allow an item to change its status to “Available” until the item's arrival notification from Remote Storage System is received.
- (?) Possible automatic check-in after item’s arrival notification



Backlog (TBD):

- [edge-caiasoft, mod-caiasoft] Send notification to Remote storage about item’s returning

Reporting

Integration with remote storages could potentially cause errors and inconsistencies, which require manual intervention. For managing such situations reports should be generated. Possible options for reporting are:

- Generating reports
    - by schedule
    - on demand
- Provide reports
    - as e-mail notifications
    - displaying on the separate UI page in FOLIO

Cases for reporting:

- Statuses inconsistencies:
    - Item was accessioned in status other than “Available” or “In transit”
    - Item statuses in Remote Storage and FOLIO don’t match
        - Remote Storage shows item is IN, but FOLIO status is not “Available”
        - Remote Storage shows item is OUT, but FOLIO status not “Available”
- Locations inconsistencies:
    - No information available to determine what the location should be
    - Holding’s permanent location doesn’t match to its items’ permanent locations (ignore for empty items’ locations)
    - Item’s location is remote, but it is not found in the Remote Storage
    - Item is available in the Remote Storage, but none of associated with this item locations is remote
- Jobs failures:
    - Accession job failures (server errors and rejected items)
    - Retrieval requests failures (server errors and rejected requests)
- Other:
    - Barcode is changed on the FOLIO side for the item stored remotely
    - New holding was created as a result of accession
    - Holding was left without items as a result of accession

Lost/missing items from remote storage (TBD)

- Item loss can be discovered either
    - from offsite (remote) storage or
    - from onsite storage.
- In the first case, Remote Storage should notify FOLIO about the loss
    - FOLIO cancels the request
    - Item status is changed to “Missing”
- In the second case, FOLIO should notify Remote Storage about the loss, if item’s effective location is remote.

Cancel retrieval requests in the remote storage (TBD)

- Circulation retrieval request, which is sent to the remote storage, should be available for cancellation.
- Integration should be performed for remote requests in status “Open - Not yet filled” (if an item is still placed IN).

- When a remote storage request is canceled, an item is still in the Remote storage, but it has new hold or recall requests in FOLIO, the first by priority request should be sent to the Remote Storage System.

Technical backlog (TBD)

- [mod-caiasoft] Create mod-caiasoft module
- [edge-caiasoft] Create edge-caiasoft module
- [ui-caiasoft] Create ui-caiasoft module