



Data Sync

Plug-in Version 1.2

ATAK Version 4.7

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Data Sync

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Overview



The Data Synchronization Plug-in is used to synchronize multiple TAK devices involved in the same exercise or event. This plug-in should be utilized in conjunction with the latest TAK Server version and no earlier than 1.3.3+. TAK Server stores all data for a “mission” in a server-side database.

Feed List



The list of available feeds on the currently connected server will be visible when Data Sync is launched. From the Data Sync feed list, the user can see the name of the TAK Server that is currently populating the list. The user also has options available to refresh

the feed list, create a new feed, view the list in timeline view, clear locally stored feeds, sort the feed list by status, update time, or alphabetically, and search for feeds by name or any associated hashtags.

Creating a Feed



To create a new feed, select the [**Create New Feed**] button. During the new feed creation process several parameters of the feed may be configured. The Name will be used to identify the feed and the server determines which TAK Server the feed can be accessed on. Additional options that can be configured include:

Default Roles – This is the role that is automatically assigned to a user when they join the feed. There are three role types: Read-Only, Subscriber and Owner. Each role is given a specific set of access permissions, but all are given the ability to invite others to the feed. Read-Only users may access and re-view feed content but are unable to add/modify/delete it. Subscribers can add/modify/delete feed content but are unable to perform admin duties such as assigning user roles or modifying feed settings. Owners gain access to the previously discussed admin duties in addition to all the actions that can be performed by a Subscriber. Owners are also able to delete the feed from the server when it is no longer needed.

Password - Restricts feed access to require a password when attempting to join unless an individual is invited.

Description - Additional information text that will appear beside the feed name.

Chatroom - An XMPP conference room can be added to the feed if the TAK Chat plug-in is installed. This chatroom can be accessed from the Feed Dashboard.

Hashtags - The tag(s) that will be assigned to the feed and the individual map items that it contains. These tags can be searched for and categorized so that it is easier to determine which items belong with which feed.

After all the options pertaining to the feed have been configured, select [**Done**]. The new feed should now appear in the feed listing for others to find.

Create New Feed

Name: Feed name

Server: [Empty field]

Optional Fields:

Group: Public [Edit icon]

Default Role: **Subscriber**

Password: Feed password [Eye icon]

Description: Feed description

Chat Room: Enter XMPP Conference Room JID, or press search [Search icon]

Hashtags: I.e. #planning #Pittsburgh #team

Cancel Done

Feed Dashboard



After joining a feed, the dashboard will be displayed. The Sync Status, Feed Name and Feed Description will appear in the top-left corner. This information is followed by the five tools that are fundamental for using Data Sync.



Add Items – Allows users to add map items, files, user logs, images, video aliases, geo fences and invite other users to the feed.

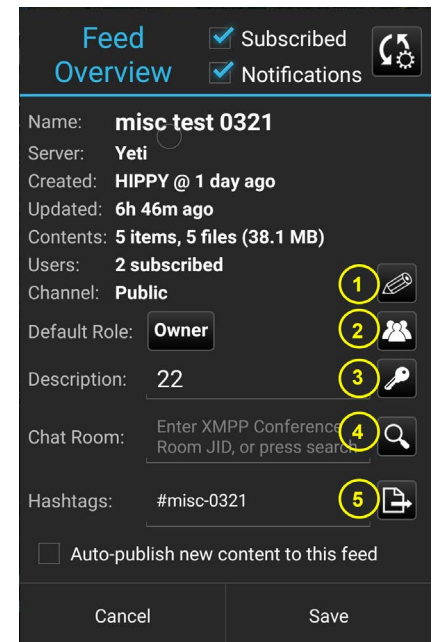
Timeline View – Transitions the feed from the dashboard view to the timeline view. Timeline view will be discussed in more depth in the “Timeline View” section.

Download Items – Any items that were added to the feed but weren’t automatically downloaded can be acquired here. This includes files that are larger than the default Large File Prompt setting or older than the Sync Threshold setting.

Feed Settings – A configurable Feed Overview settings window will appear. Here, users with the Owner role can change the feed’s Default Role, Description, Chat Room, Password (Key icon) and Hashtags. Additionally, all users in the feed can unsubscribe from feed changes and disable feed notifications, as well as view the current active members and their roles. Lastly, the option to “Auto-publish new content to this feed” can be enabled from here. This option will allow the local user to automatically add any new map items that are created to the feed.

1. **Channel Group** – Edit the user group/channel the feed was created for, if the TAK Server supports this ability.
2. **Active Members** - View active members and add new members
3. **Set Feed Password** - Add/Change/Remove feed password.
4. **TAK Chat** - TAK chatroom configuration, requires XMPP (TAK Chat) plug-in installation.
5. **Feed Share Options** – Exports the feed as a Data Package, Feed Log or Feed Config JSON.

Search – Search for specific items in the feed. The search can include the item’s name or hashtags associated with it.

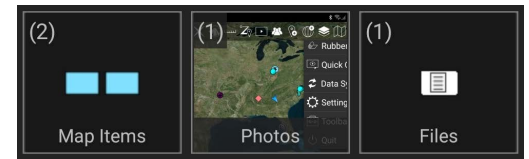


Items added to a feed are organized by type, Map Items, Photos or Files and placed into the appropriate category. Selecting one of the labeled tiles will reveal a list of the individual items within that category.

Feed Dashboard (Continued)

Items within the Map Items and Files categories will also have additional options that can be accessed on the right-hand side of the entry, for the specific item. These options include:

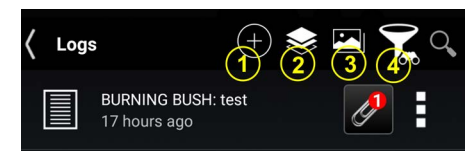
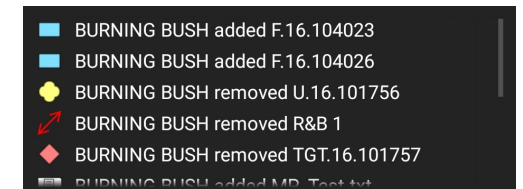
1. **Export** – A copy of the item is exported to the ATAK/Export directory.
2. **Set Content Type** – This option applies only to files. If a file supports multiple content types the user can choose which will be used.
3. **Set Hashtags** – Add, update or remove hashtags that are associated with the item.
4. **View Details** – Displays details about the content including the map item type, file type, file size, file path, hashtags, etc. The map item details dialog also has a History tab where the user may view different versions of the map item published to the server. Selecting one of these versions gives the user the option to download and/or publish that version of the map item to the feed.
5. **Delete** – Items can be deleted from the feed locally or server-wide.



As items are added, edited and removed from the feed the changes will be logged in the feed change log.

Select **[Log]** to open the logs section of the feed. Here, user logs and the items associated with them can be viewed. Four additional tools are available here:

1. **Create User Log** – Allows the user to quickly create a new User Log. More information on User Logs can be found in the “Adding to a Feed” section.
2. **Overlays** – Displays the map items that are associated with User Logs.
3. **Gallery** – Displays the images that are associated with User Logs.
4. **Filter** – The logs displayed in this window can be filtered by type. The available filters are User Logs, Map Items, Files and All.



Adding to a Feed

To add items to a feed, first select the feed from the feed list, then from the feed dashboard, select **[Add Items]**. Choose from the following selection methods:

Map Select – Individual items on the map can be selected/deselected by tapping on them. Select either **[Done]** to add the chosen items to the feed or **[Clear]** to remove any chosen items from the list of items to add.

Overlays – Individual items/categories can be selected from the Overlay Manager. Select **[Done]** to add the selected items to the feed.

File Select – Individual files/folders can be selected from the ATAK file explorer. Select **[OK]** to add the selected items to the feed.

User Log – The Create User Log window will appear. Text can be added to the entry field, choose a DTG for the log and add any associated hashtags, map items or attachments. Select **[Done]** to add the user log and all the associated items to the feed.

Gallery – An individual image can be selected from the Android image gallery. The selected image will appear under the Photos category in the feed.

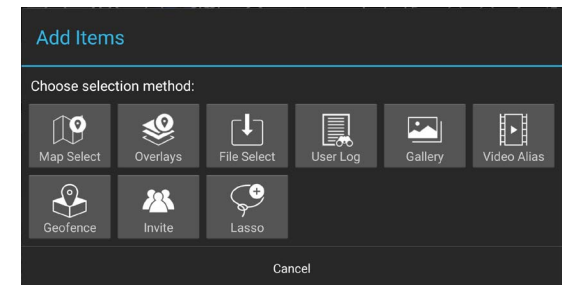
Video Alias – A list of Videos Aliases that have been added to the ATAK Video Player will appear. They can be individually selected and then added to the feed by selecting **[OK]**.

Geofence – Similar to Map Select, the user can select/deselect any shapes on the map that have a geofence associated with them, by tapping on them, selecting **[Done]** will add them to the feed.

- **Note:** If a Geofence is added to a feed and a user's self-marker crosses its boundaries, matching the geofence parameters, they will be automatically invited to the feed if they haven't joined already.

Invite – Individual users can be selected and then invited to the feed by selecting **[Invite]**. Users can also be invited while offline and will receive the invitation the next time they connect to the TAK Server.

Lasso – A group of items can be selected from the map by drawing a lasso around them. Once the items have been selected, individual items captured by the lasso that are not needed can be deselected before adding the remaining items to the feed.



Adding to a Feed (Continued)

Items that can be added to a Data Sync feed include:

Map Items – These are items created by Drawing Tools, Routes, Range & Bearing, Point Dropper and CASEVAC.

Photos - JPG and PNG images.

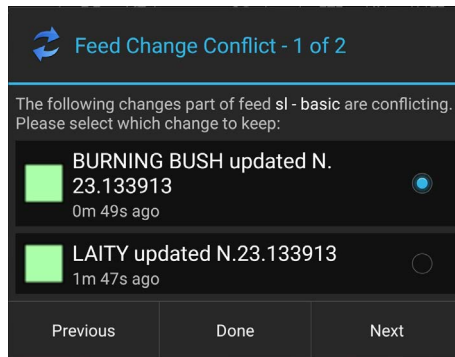
Mobile Files - SQLite, XML, GeoPackage and MB Tiles.

Imagery Files - GeoTiff, GRG-TIFF, GRG-KMZ, KMZ w/Imagery, JPEG2000, MrSid and NTIF.

Overlay Files - DRW, GPX, KML, LPT and Shape.

Any items that are added while online will become immediately available to other users in the feed that are online. Items that are added while offline will be automatically added to the feed when the user rejoins the network.

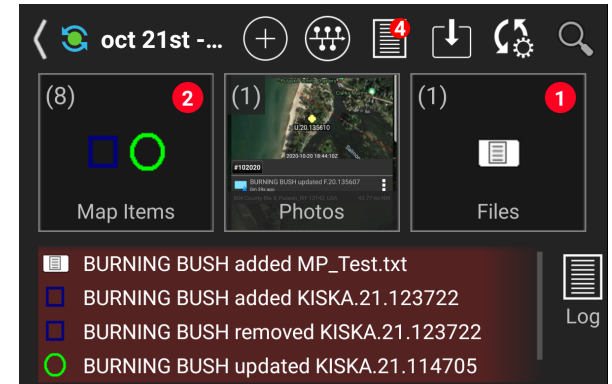
Updating Items Within a Feed



Items within a feed can be updated at any time, even if a user is offline. When a user performs an update, such as re-positioning a map item, making a change to a map item's details or editing the points in a shape or route, the user will be asked if they would like to publish the changes to the feed.

If any changes are published while online, other online users that are currently subscribed to the feed will see the changes immediately. Offline users will be notified of the changes the next time they rejoin the network. If any changes are published while offline, they will be automatically uploaded to the feed the next time the user rejoins the network. If the same item was changed by an offline user and an online user, a deconfliction window will appear for the offline user the next time they rejoin the network. The offline user will have the choice of which version of the item will be kept, changes can be reverted at any time.

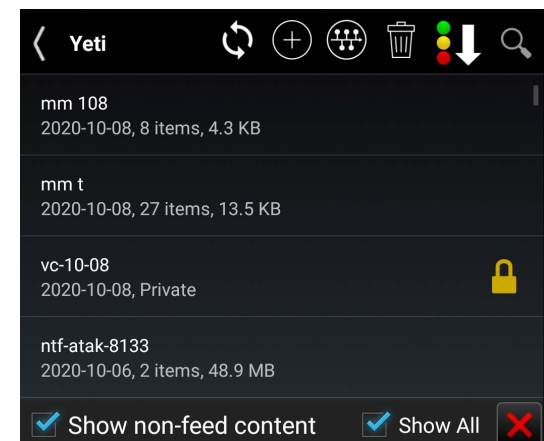
Any items in a feed that have been changed will be highlighted in red, in the feed change log, and indicated as such in the individual feed categories. Selecting **[Mark Read]** will allow the user to dismiss the change notifications.



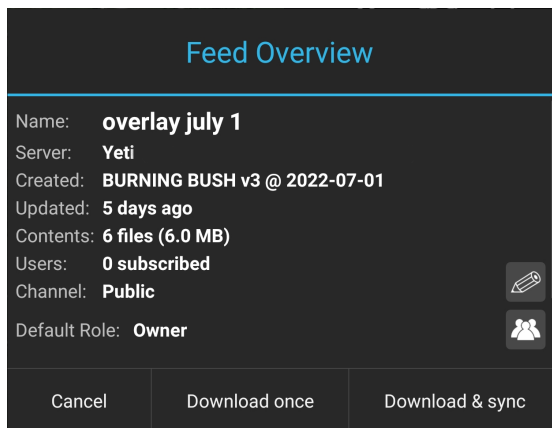
Downloading a Feed

To download a Data Sync feed, return to the feed list. Each entry in the list will include the feed's name, description, date of creation, item count and file size. If a feed is password protected a lock icon will be present.

Tap one of the feed entries to bring up the Feed Overview. In this window additional information about the feed will be displayed, including who created the feed, the last time it was updated, number of currently subscribed users, the feed's default role and an active members list. The user can then select from three options: Cancel, Download Once or Download & Sync.



Downloading a Feed (Continued)



Selecting [**Cancel**] will close the Feed Overview window and return the user to the feed list. Selecting [**Download Once**] will grant access to the feed and download its contents but the user will not receive any updates that are made to the feed, or its contents. To receive updates, the user can manually request them by selecting [**Download**] on the feed dashboard. Selecting [**Download & Sync**] grants access to the feed, downloads its contents, and allows the user to receive updates to the feed and its contents as they occur. If attempting to download a password protected feed, the user will be required to enter the correct password before being granted access to the feed and its contents.

After a feed has been downloaded, it will appear at the top of the feed list. A downloaded feed can have four different statuses, indicated by the color at the center of the sync icon.

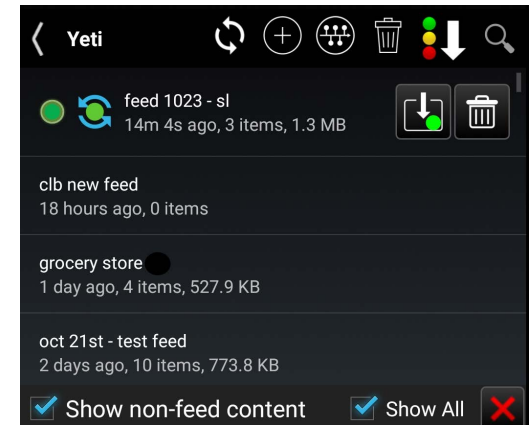
The following summarizes status by color:

Grey – The feed is downloaded but is set to not check for updates. This occurs if the [**Download Once**] option was selected or the user decides to unsubscribe from feed changes at a later point.

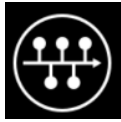
Green – The feed is downloaded and up to date. Changes made to the feed are currently being actively checked for.

Yellow – The feed is downloaded and checking for updates, but it is not currently up to date. This can occur if a file larger than the Large File Prompt setting was added to the feed. The user can manually download any missing files from the Feed Dashboard.

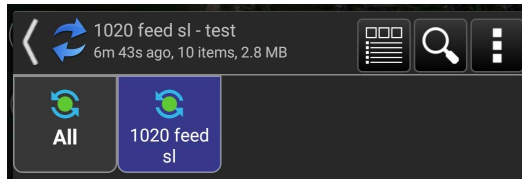
Red – The feed is downloaded and accessible, but the user is currently offline. Either the TAK Server is currently disconnected, or the device doesn't have a data connection. In this instance the user can still interact with the feed and the items it contains but won't be able to publish or receive updates until they reconnect.



Timeline View



Timeline view can be accessed from the feed list, or a feed dashboard by selecting the Timeline icon. The first time the Timeline View is used the user will be asked if they would like to switch the device orientation from landscape to portrait. Portrait is the recommended orientation to get the most out of this viewing mode.



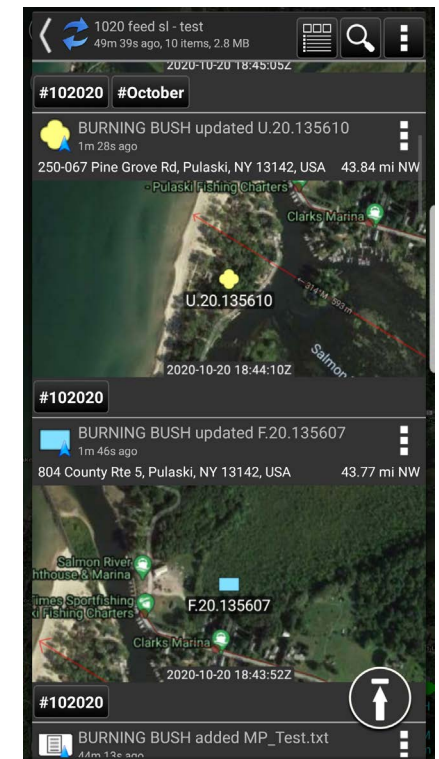
Timeline View offers users a different perspective for viewing Data Sync feeds, and the items they contain. At the top of the Timeline View, information is available regarding the currently selected feed. There are also options to return to Dashboard View, Search, and reveal an additional options drop-down. Underneath these options the user can choose which timeline to view, by selecting the corresponding tile. Additional tiles will appear as more feeds are downloaded.



When viewing an individual feed, the user will have options identical to what was offered in Dashboard View. Items can be added to the feed by selecting **[Add]**. The user can perform a full re-sync of the feed, and download any missing items, by selecting **[Sync]**. The Feed Settings can be accessed by selecting **[Edit]**. A user list, including each user's role, can be viewed by selecting **[Users]**. Select **[Delete]** to perform one of the feed deletion options.

Timeline View captures snapshots of individual items that are added to Data Sync feeds to which the user is currently subscribed. If changes are made to any of the items in a feed an updated snapshot will appear in the timeline. Snapshots of map items will usually include: the callsign of the user that added/updated the item; a timestamp for when the item was added/updated; the item's name, address/location, distance/direction from the local device's self-marker; a screen capture of the item on the map and any hashtags that are associated with the item.

Selecting the snapshot will show the item on the map. Return to the Timeline View by selecting the timeline icon. Snapshots for other item types, such as images and files, will appear without the location information and instead of a map screen capture will have an image preview or a text snippet.



Timeline View (Continued)

Each timeline snapshot has a list of additional options that can be accessed on the right-hand side, like what was available in the Dashboard View. While Export and Set Hashtags function identically in both views, Timeline offers the following additional options:

Refresh screenshot – Refreshes the snapshot image in the timeline.

Save screenshot – Saves a copy of the snapshot image in the ATAK/Export directory.

View Details – Shows an overview of the item's type and the callsign of the last user that updated the item. Selecting [**More**] will reveal additional information and selecting [**History**] will show every instance that the item was updated, and the timestamp when it occurred. Select one of the entries in the History to revert the item to that moment in time.

More like this – Filters the Timeline to only show items of a similar type (i.e., Map items, Images or Files).

Contact Author – Displays the location and callsign information of the user that updated or added the item to the feed.

Undo – This option can be used to undo a change/addition/deletion of an item.

Data Sync Preferences

Data Sync Preferences can be found in the ATAK settings under Tool Preferences > Specific Tool Preferences. Preferences are available to make managing feeds, feed updates and user activity easier.

Deleting a Feed

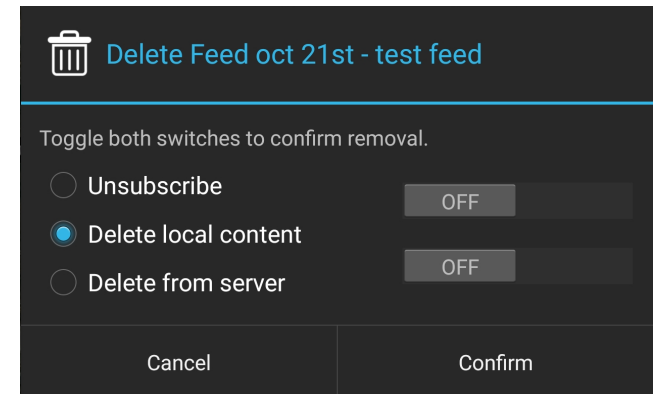
Once a feed is no longer needed, the user has several options available for what to do with the feed and its content. First, find the entry for the feed to be deleted and select [**Delete**]. Up to three options will be presented depending on the role the user was assigned in the feed.

Selecting [**Unsubscribe**] removes the user from the feed so they will no longer receive feed updates, but the feed content can be kept on the local device.

Selecting [**Delete local content**] removes the user from the feed and removes its contents from the local device.

The [**Delete from server**] option is available to users assigned the role of owner in the particular feed. Selecting this option will remove the feed and its contents from the server. Anyone currently subscribed to the feed will be asked if they would like to keep its content locally when it is deleted from the server.

Before any deletion options can be confirmed, both sliders must be moved to the “locked” position. This is to prevent accidental deletions.



If the user is subscribed to multiple feeds that they wish to delete, the [**Clear Feeds**] option is available next to the Sort feature on the Feed List.