
YubiEnterprise Services

Yubico

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USER GUIDE AND RELEASE NOTES

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YUBIENTERPRISE SUBSCRIPTION & DELIVERY

1.1 Introduction

1.1.1 Overview

YubiEnterprise Services

YubiEnterprise Services enable organizations to procure YubiKeys efficiently, distribute them rapidly, and remotely manage YubiKey strong authentication solutions at scale. These services are the gateway to value-added service offerings.

YubiEnterprise Subscription

YubiEnterprise Subscription provides cost-effective and flexible YubiKey procurement and rollout. It simplifies the acquisition and rollout of phishing-resistant authentication, with future-proofed flexibility.

Benefits

- **Lower cost to entry:** Gain phishing-resistant multi-factor authentication for very low prices per user per month (OPEX) with additional entitlements and discounts.
- **Flexibility:** Enable user choice to select preferred YubiKeys with the option to upgrade as needs evolve.
- **Future-proofed:** Ensure security is always prioritized as your business evolves and you experience employee turnover and/or replace lost or stolen keys.
- **Faster rollouts:** Quickly deploy and protect your workforce and your brand. Stay connected to security experts via Professional Services, a dedicated Customer Success Manager, and Priority Support.

Subscription Use Cases

Connecting to an IDP or Authenticating only to FIDO-enabled sites

Choose Base Tier (FIDO-only) Security Key Series

Securing both legacy and modern apps and/or services

Choose Advanced Tier (Multi-protocol) YubiKey 5 Series

Achieving compliance (i.e., FIPS, CSPN)

Choose Compliance Tier (Certified) YubiKey 5 FIPS Series, YubiKey 5 CSPN Series

The tiers and their contents are described in detail in *Modes of Purchase*.

YubiEnterprise Delivery

Providing distribution and logistics for YubiKeys, YubiEnterprise Delivery is a cloud-based service for streamlined distribution of YubiKeys to end-users' offices or residential addresses, both domestic and foreign.

- Ship Yubico products to end-users, tracking them through the system with seamless support from the experts at Yubico
- Access the service through the YubiEnterprise Delivery Console or integrate the service into your own IT flows using YubiEnterprise Delivery public APIs
- Place individual shipment requests or upload shipment requests in bulk using CSV files
- Check current inventory levels at a glance
- Get immediate information on product and shipping costs, as well as all other details relating to purchasing and shipment.
- Generate reports on all shipment requests over time for interdepartmental cross-charging.

Our [Getting Started](#) video shows how quickly you can get up and running with YubiEnterprise Delivery.

1.1.2 Workflow

In the typical use case, an enterprise or organization purchases a subscription to cover their security key needs over time. *Modes of Purchase* describes the options in detail.

The enterprise or organization then uses YubiEnterprise Console to ship the security keys to their end-users as required. Some of the keys might be shipped to head office and/or branch offices for distribution in person, and many will be shipped to the home addresses of employees working remotely. To help perform these tasks, the YubiEnterprise account owner usually assigns privileges (roles) to others in their organization so that they too (or instead) can use YubiEnterprise Delivery to ship security keys to the end-users.

1.1.3 Prerequisites

Through your Yubico sales person or a distributor, Yubico's channel partner, your organization issues a purchase order for:

- YubiEnterprise Subscription Services (or non-subscription products)
- YubiEnterprise Delivery Services
- Delivery Services (Shipping) Credits. For details on what this covers, see *Delivery Services Credits*.

The YubiEnterprise Delivery Console (GUI) requires only a browser such as Chrome, Firefox, or Edge, with the popup-blocking function disabled. For the API requirements, see *API Onboarding Playbook*.

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.2 Modes of Purchase

The mode of purchase affects the selections you make when using YubiEnterprise Delivery for shipment requests. You can purchase directly from Yubico or you can purchase from Yubico's channel partners (see *Purchasing Through a Channel Partner* below).

There are two modes of purchase, *Subscription* or *Non-subscription (Perpetual)*.

1.2.1 Subscription

Since the exact numbers and models of YubiKeys you will need may be difficult to predict - especially for an organization in a rapidly changing environment - Yubico offers the option of purchasing licenses that allow you to select the model and form factor you require according to need as and when it arises.

Subscriptions are charged at a fixed price per user per month for a user license, granting you access to a range of products within a tier, for a specified number of users and maximum flexibility. You and/or your end-users choose any YubiKey with the assurance that when your needs change (e.g., upgrade from computer with USB-A to USB-C) or new keys within the same tier become available, you can upgrade immediately.

The tables in *Tier Options* show which models of YubiKey and Security Key by Yubico are available in which tier(s).

Subscription Support Services

As you experience employee turnover and/or need to replace lost or stolen keys you are covered. Priority Support with a Customer Success Manager to help you in your journey are included. The Plus plan even includes credits that you can use towards Professional Services to help you deploy YubiKeys quickly to protect your workforce and your brand.

The *Features and Benefits* of YubiEnterprise Services subscriptions provides more detail.

Non-subscription (Perpetual)

Outright purchase of physical keys): Purchasing set numbers of specified models of key on a perpetual basis assumes that you know exactly how many end-users you will have, as well as how many and what kinds of keys those end-users will need. It also assumes that you have accurately estimated your employee turnover rate, and the number of end-users who will lose their keys. None of the advantages of the subscription purchasing model are available to those who only purchase physical keys.

1.2.2 Features and Benefits

As of 24 January 2023, YubiEnterprise Services presents Subscription (2.0). If you purchased YubiEnterprise Subscription before this date, the options that came with *Subscription (1.0)* are shown in your Console, but that subscription version is no longer available for sale.

Subscription (2.0)

All Plans

- Procurement that is fast, predictable, and cost-effective
- Organizations can upgrade to higher tiers as needs evolve
- Subscriptions available for 500 users or more
- Form factor flexibility
- Purchase backup YubiKey subscriptions at a discount to ensure your backup authentication mechanism is as strong as your primary one and to enable easy self-service account recovery.
- 24x7x365 Priority Technical Support included: easy access to Yubico security experts. Yubico Support Services Overview can be found here <https://www.yubico.com/support-services/>
- Extended warranty: warranties cover the initial term of the subscription plus the first renewal.

Plus Plan

- Replacement licenses allow you to cover up to 25% of subscribed users per year, with an option to add on additional users as needed a la carte, due to turnover, lost or stolen keys, and upgrades
- Maximum discount on licenses for backup subscriptions
- 5% of base purchase as funds available to apply toward Professional services
- Option for one bulk customization event per year included.

Standard Plan

- Choose the number of replacement licenses for turnover, lost or stolen keys, and upgrades.

Subscription (1.0)

- Procurement that is fast, predictable, and cost-effective
- Organizations can upgrade to higher tiers as needs evolve
- Subscriptions available for 500 or more users
- Replacement licenses allow you to cover up to 25% of subscribed users per year to cover turnover, lost or stolen keys, and upgrades.
- Maintain buffer stock to accommodate urgent needs: keep an extra stock of 5% of your order at no additional cost. If you subscribed to multiple tiers, the buffer stock is proportionately distributed across those tiers.
- Purchase backup YubiKey subscriptions at a discount to ensure your backup authentication mechanism is as strong as your primary one and to enable easy self-service account recovery.
- Technical support included: easy access to Yubico security experts. Yubico Support Services Overview can be found [here](#).
- Extended warranty: warranties cover the duration of the subscription.

1.2.3 Terms & Conditions

For detailed information, see the [terms relevant to your subscription](#).

1.2.4 Tier Options

Tier options apply to subscription modes of purchasing.

The enterprise tiers available are two *Base* subscriptions, Standard and Plus, with Replacements for both, each with Primary and Backup, while *Advanced* and *Compliance* follow the same pattern, as shown in the **Tiers** table below.

Plus: Most services and a base level of entitlements are included. **Standard:** Most entitlements are available only a la carte and priced accordingly.

Table 1: **Subscription (2.0) Full List of Inventory (Stock) Types**

Name of Tier	Initial or Replacement	Primary or Backup	Console: "From Stock" dropdown Inventory Option
Base Tier Standard (FIDO-only key license(s)) Security Keys only	Initial	Primary	Base Standard Primary
		Backup	Base Standard Backup
	Replacement	Primary	Base Standard Primary Replacement
		Backup	Base Standard Backup Replacement
Base Tier Plus	Initial	Primary	Base Plus Primary
		Backup	Base Plus Backup
	Replacement	Primary	Base Plus Primary Replacement
		Backup	Base Plus Backup Replacement
Advanced Tier Standard (Multiprotocol key license(s)) YubiKey 5 Series including YubiKey 5 Ci	Initial	Primary	Advanced Standard Primary
		Backup	Advanced Standard Backup
	Replacement	Primary	Advanced Standard Primary Replacement
		Backup	Advanced Standard Backup Replacement
Advanced Tier Plus	Initial	Primary	Advanced Plus Primary
		Backup	Advanced Plus Backup
	Replacement	Primary	Advanced Plus Primary Replacement
		Backup	Advanced Plus Backup Replacement
Compliance Tier Standard (Certified key license(s)) FIPS, CSPN	Initial	Primary	Compliance Standard Primary
		Backup	Compliance Standard Backup
	Replacement	Primary	Compliance Standard Primary Replacement
		Backup	Compliance Standard Backup Replacement
Compliance Tier Plus	Initial	Primary	Compliance Plus Primary
		Backup	Compliance Plus Backup
	Replacement	Primary	Compliance Plus Primary Replacement
		Backup	Compliance Plus Backup Replacement

Table 2: Subscription (2.0) Key Models per Tier

MODEL	TIER		
	Base	Advanced	Compliance
Security Key NFC by Yubico	X	X	X
Security Key C NFC by Yubico	X	X	X
Security Key NFC - Enterprise Edition	X	X	X
Security Key C NFC - Enterprise Edition	X	X	X
YubiKey 5 NFC		X	X
YubiKey 5C NFC		X	X
YubiKey 5C		X	X
YubiKey 5 Nano		X	X
YubiKey 5C Nano		X	X
YubiKey 5Ci		X	X
YubiKey 5 Nano FIPS/CSPN			X
YubiKey 5C FIPS/CSPN			X
YubiKey 5C Nano FIPS/CSPN			X
YubiKey 5 NFC FIPS/CSPN			X
YubiKey 5C NFC FIPS/CSPN			X
YubiKey 5Ci FIPS/CSPN			X

The YubiKey Bio Series - FIDO Edition (YubiKey Bio - FIDO Edition and YubiKey C Bio - FIDO Edition) is an optional add-on to any Subscription tier.

Table 3: Subscription (1.0) Key Models per Tier

MODEL	TIER			
	Base	Advanced	Premium	FIPS
Security Key NFC by Yubico	X	X	X	X
Security Key C NFC by Yubico	X	X	X	X
YubiKey 5 NFC		X	X	X
YubiKey 5C		X	X	X
YubiKey 5C NFC		X	X	X
YubiKey 5 Nano		X	X	X
YubiKey 5C Nano		X	X	X
YubiKey 5Ci			X	X
YubiKey 5 Nano FIPS/CSPN				X
YubiKey 5C FIPS/CSPN				X
YubiKey 5C Nano FIPS/CSPN				X
YubiKey 5 NFC FIPS/CSPN				X
YubiKey 5C NFC FIPS/CSPN				X
YubiKey 5Ci FIPS/CSPN				X

Example Subscriptions

Subscription (2.0) Example

Plus Plan

Purchase a subscription for 400 users, two per user, from the Base tier (800 licenses), and for 600 users, two per user, from the Advanced tier (1200 licenses). You are entitled to upgrade annually 25% of the license units in each tier as Replacement stock, so 200 license units are automatically provided to you in the Base tier and 300 in the Advanced tier. Although you only paid for 2000 license units (800 + 1200) in your *Initial* order, you actually get a total of 2500 licence units in the first year of your subscription. You also get a discount on additional replacement or backup licenses.

Subscription (1.0) Example

Purchase a subscription for 400 users, two per user, from the Base tier (800 licenses), and for 600 users, two per user, from the Advanced tier (1200 licenses). You automatically get 5% more license units free as **Buffer stock** for each of the tiers to which you subscribed, so in this example, 40 licenses from the Base tier and 60 from the Advanced tier. You are entitled to upgrade 25% of the license units annually in each tier as **Replacement stock**, so 200 license units are automatically provided to you in the Base tier and 300 in the Advanced tier. Although you only paid for the 2000 license units in your **Initial** order, you actually get a total of 2600 license units in the first year of your subscription. In addition, you get a discount on backup licenses.

1.2.5 Purchasing Workflow

The subscription contract is a signed order form that covers Yubico terms and supersedes all other documents, followed by a purchase order (PO), which is required for invoicing and payment. The start date of the subscription determines when the annual replenishment of the Replacement stock takes place.

As soon as a PO is accepted, it is entered into the system, where it can be accessed to get information for requesting shipments, such as quantities of each product purchased and channel partner ID.

1.2.6 Subscription Renewal

Subscription (2.0)

The subscription automatically renews for original subscription term length unless one party provides the other party with written notice of non-renewal at least 30 days prior to the end of the current term.

Subscription (1.0)

The subscription automatically renews for a one-year term unless one party provides the other party with written notice of non-renewal at least 30 days prior to the end of the current term.

Co-Terming

Yubico supports co-terming for YubiEnterprise Delivery Subscription, allowing organizations to add users and services at any time during the term of the subscription. The added users and/or services will have the same term end date as the original subscription. Customers pay based on the pro-rated term of the remaining subscription period.

1.2.7 Purchasing Through a Channel Partner

The entity through which you submit a PO is always referred to as a channel partner, even if it was a direct purchase. Yubico's Channel partner ID (or ChannelPartnerId or channelpartner_id) is "1".

Note: The selection of channel partner is not supported in the /shipments API.

Because inventory is sorted according to the source from which it was purchased, when requesting shipment, distinguish between inventory purchased directly from Yubico and inventory purchased from Yubico's channel partners. The **Dashboard** shows your *total* inventory of any given product, combining quantities purchased from all sources: both directly from Yubico and indirectly through channel partners. To find out what is in which inventory, check your purchase orders.

To find out what the channel partner ID is:

BEFORE shipment

The name and ID of the channel partner are shown on the purchase order detail page, accessible by clicking the ID of the PO on the **Purchase orders** page.

AFTER shipment

The **Channel partner ID** is shown on the shipment request detail page, accessible by clicking the ID of the shipment request on the **Shipments tab**.

When a customer purchases through a channel partner, the customer's view of the console shows neither the cost of the products nor the shipping costs. Only the shipment status is shown.

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.3 Costs of Shipping and Taxes

For up-to-date shipment pricing to our supported destinations, please see our [YubiEnterprise Delivery pricing table](#).

1.3.1 Delivery Services Credits

YubiEnterprise Delivery service customers will be invoiced for Delivery Services Credits to cover shipping and taxes after the fact.

Note: Customers with credits remaining after having paid in advance for them will continue to be able to draw them down until those credits are exhausted.

YubiEnterprise Delivery Shipping/Services Credits are shipping fees, a Shipping Credits SKU that is invoiced after shipment. For each shipment request, YubiEnterprise Delivery will automatically deduct the appropriate shipping fees and calculate the product taxes based on destination address and shipping taxes based on location from which the products are shipped.

At the end of every month in which shipment requests are made, Yubico invoices you.

The apportioning of the taxes / VAT across shipping and product is shown:

- On the invoice sent at the end of the month in which shipping was requested.
- On the Console - each shipment request that is made is assigned an ID. To display the tax or VAT charged for any given shipment, on the **Shipments** tab or the **Dashboard** tab, click on its **Id** in the lists of shipments and recent shipments.

1.3.2 Shipping

Shipping costs are determined at the time of shipping. They are based on:

- The weight/size of the package - this is affected by the way the keys are packaged, in trays or in blister packs. It is cheaper to ship large volumes of keys in trays than in blister packs, because the blister packs result in heavier, more voluminous packages.
- Destination
- Type of shipment, expedited or normal.

Sales Tax/VAT on Shipping

The VAT or sales tax charged for shipping is distinct from the VAT or sales tax charged for the product itself. Sales tax or VAT is charged on shipping costs at the rate imposed by the location where the shipment originates (see *Delivery Policies*).

1.3.3 Sales Tax/VAT on Product

Yubico calculates product taxes based on shipment destination. When the Delivery Services Credits are purchased and invoiced in advance, the rate charged is 10% for US and Canadian destinations. Products are taxed at the actual tax rates of shipping destination, and the customer is charged by aggregating individual shipments at the end of each month in a consolidated invoice. At the end of each month in which shipments are dispatched, Yubico's invoice shows the reconciliation of the Delivery Services Credits purchased with the amounts actually charged.

Note: Sales tax/VAT on product is not calculated until the shipment has been shipped.

Method of Calculating VAT

- If you are based in the Netherlands, Yubico charges VAT on the initial invoice.
- If you are based in the EU but not in the Netherlands and you provide a valid non-Netherlands EU VAT number, no VAT is charged on the initial invoice.
- If you are based in the EU but not in the Netherlands and you do not provide a valid non-Netherlands EU VAT number, VAT is charged based on shipment source, which is the Netherlands.

1.3.4 Exemptions

Sales Tax

To claim exemption from sales tax, you must present to Yubico the sales tax exemption certificate for the location to which the product is being shipped.

VAT

To claim exemption from VAT, you must present the VAT number; treatment varies depending on the country. Yubico does VAT reconciliation at the end of the month. It will then credit the customer with the amount of the tax charged on both product and shipping.

1.4 Delivery Policies

1.4.1 Shipment Sources

Shipments to EU countries

Fulfilled out of the warehouse in the Netherlands until 3 April 2023, after which date these shipments will be fulfilled out of Yubico's facility in Stockholm.

Shipments to UK

Fulfilled out of the warehouse in Great Britain.

Shipments to US, Canada and the rest of the world

Shipped out of Yubico's facility in Santa Clara, California.

Each organization has business rules applying to delivery policies, some unique to the particular organization. These rules specify which combinations of parameters are allowed for the organization and are therefore fundamental to determining whether a shipment request can succeed. Business rules are applied before undeliverability and similar such issues are determined.

1.4.2 Post Office Box as Destination

Post Office boxes (PO Boxes) are acceptable for shipment requests for US destinations; however, this is not true for destinations outside the United States.

Although the system can deliver to Post Office (PO) Boxes within the United States, delivery to the equivalent elsewhere in the world is unlikely to succeed.

1.4.3 Key Quantities

Each destination country has a maximum number of keys per shipment request.

Products cannot be shipped via YubiEnterprise Delivery to countries that do not appear in the lists below.

500 Keys

Up to 500 keys per shipment request can be shipped to the following countries:

- Austria
- Belgium
- Bulgaria
- Canada
- Croatia
- Cyprus
- Czechia
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Iceland
- Ireland
- Italy
- Latvia

- Liechtenstein
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Norway
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- UK
- USA

Single Keys

No more than one (1) key per shipment request can be shipped to the following countries:

- Australia
- New Zealand
- Philippines
- Indonesia
- Singapore
- Japan
- Thailand
- Saudi Arabia
- Taiwan
- UAE
- Mexico
- Israel
- Chile
- Hong Kong
- India

For bulk shipment to these countries, contact [YubiEnterprise Delivery Support](#).

1.4.4 Modes of Delivery: Normal vs Expedited

Only Normal shipping is supported for the countries listed below. Therefore the Expedited option cannot be selected for these countries.

- Australia
- New Zealand
- Philippines
- Indonesia
- Singapore
- Japan
- Thailand
- Saudi Arabia
- Taiwan
- UAE
- Mexico
- Israel
- Chile
- Hong Kong
- India

To file a support ticket with Yubico, click [Support](#).

1.5 Onboarding

The current guide (<https://console.yubico.com/help/>) is available without logging in.

1.5.1 Prior to Onboarding

After the *Prerequisites* have been met, Yubico does the following:

1. Creates a YubiEnterprise Delivery account for your organization
2. Enters the purchased products and delivery shipping credits into your organization's YubiEnterprise Delivery account
3. Assigns YubiEnterprise Delivery login privileges to your organization's enterprise account owner (Org Owner), who is nominated when the first purchase order (PO) is submitted
4. Emails the login credentials to the Org Owner.

1.5.2 Onboarding Workflow

Logging in to your YubiEnterprise Delivery account always requires a YubiKey except in the first phase of onboarding.

In this first phase, Yubico creates a new account in YubiEnterprise Delivery and the system creates a *demo user* with restricted permissions for the first Org Owner. Until the org owner enrolls a YubiKey or Security Key by Yubico, the permissions of that user/role remain restricted:

- Able to ship no more than ten keys
- Unable to invite new members
- Unable to generate API tokens
- Unable to edit the email template informing recipients that they will receive shipments from YubiEnterprise Delivery.

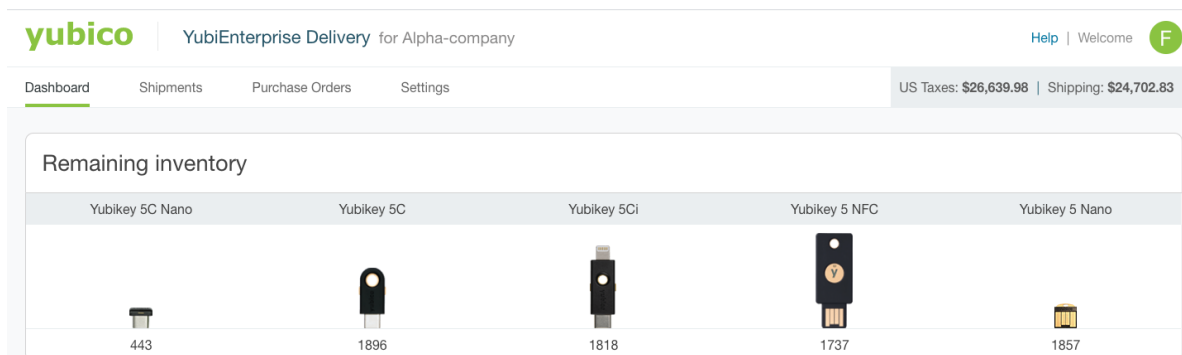
A banner on the Console informs the user of these limitations during this initial phase of onboarding. It tells the user to register a WebAuthn credential (i.e., a security key) to finish enabling their account. The banner provides a link to the user management page where the org owner can register their credential. For instructions, see [Adding WebAuthn Credentials](#).

If the Org Owner has not already got a YubiKey, that person should use this window of opportunity to ship keys to themselves and up to nine other people who are to become YubiEnterprise Delivery members.

Once the demo user registers a security key with YubiEnterprise Delivery, that person acquires the full permissions of an Org Owner, and all capabilities of the account are fully enabled.

Procedure

1. The Org Owner (demo user) logs in, and clicks the privacy policy link to accept Yubico's terms and conditions. At this point, the org owner can already verify that the YubiEnterprise Console dashboard displays the information corresponding to the initial purchase order:
 - The expected quantities of products
 - The expected value of delivery shipping credits



Verifying quantities purchased

2. The Org Owner uses the system to request shipment of a bare minimum of one key to themselves. To avoid losing access to the system if the original security key is lost, all users should make sure to register at least one additional key with YubiEnterprise Delivery.
3. The Org Owner receives and registers at least one YubiKey with the system, thereby ending the first phase of onboarding and gaining access to the full capabilities accorded to an org owner.

4. The Org Owner configures new YubiEnterprise Delivery accounts for the other key recipients on the **Settings** tab by:
 - Entering the email addresses of the Org Members who will be managing the YubiKeys
 - Assigning roles to those Org Members. See *Managing Users*.
 - A second Org Owner should be created in case the first Org Owner becomes unable to perform their duties and/or leaves the organization.
4. The system automatically emails login credentials to the Org Members. However, they will not be able to activate their accounts until they register their keys.
5. The Org Members log in to the Console, register their keys, review the privacy policy, and accept Yubico's terms and conditions before starting to manage and/or audit the organization's inventory of Yubico products and shipping thereof.

1.5.3 Logging In

The following instructions are for users of YubiEnterprise Delivery. (Your own organization could decide to implement a very similar process for its own end-users of YubiKeys and/or Security Keys by Yubico.)

1. Click the link supplied in the email from YubiEnterprise Delivery, which opens in a browser. (The browser requirements are given in *Prerequisites*)
2. Enter the username and password supplied in the same email.

Note: Usernames must be email addresses. Any username entered without the "@" will return an error when the user tries to log in.

Note: If you allow your browser to fill in your username and password automatically, the **Submit** button might be grayed out. To activate the button, click in the password field.

3. Click the **Submit** button. The browser displays a message instructing you to insert the YubiKey and touch it when it flashes its LED(s).
4. When the LED(s) flash, touch the YubiKey until it stops flashing. (If you have dry skin, you may need to dampen your finger so the key recognizes your touch.)
5. If your organization has more than one account—for example, the EMEA organization and the US/CAN organization—the list of accounts is displayed. Click the name of the appropriate organization.

Session Limits

YubiEnterprise Delivery users do not stay logged in indefinitely. After an hour of inactivity, you are automatically logged out. If the screen does not react after a period of inactivity, log out by going back to the home page and clicking the profile button at the top of the page. Then you can log in again.

After 24 hours you will need to log in again in any case.

Password Requirements

The password for logging into the YubiEnterprise Delivery Console must adhere to the following requirements:

- Must be between 8 and 64 characters, which can be any of the following:
 - Alpha-numeric characters
 - Symbols
 - Punctuation marks, etc.
- Must not contain any part of the username.
- Must be different from the current password.

Managing Passwords, etc. with SSO: Single Sign-On

This ability is associated with the User role. Owners and Admins can manage their passwords and so on, but Auditors cannot. If your organization is using the single sign-on (SSO) method, you cannot change your password and/or your authentication method when you log in via SSO. You must use your credentials (username, password and YubiKey) to log in. Only then can you manage your credentials.

To change any of your credentials,

Step 1

Log in to <https://console.yubico.com/> with username, password, and YubiKey. If you belong to more than one organization, select the one you want to access.

Step 2

Select the **Settings** page. To edit your profile, on the **Users** tab, select your own username (you might have to scroll to find it) and click the pencil icon.

Step 3

On the subsequent page, **Edit member Somebody@company.com**,

- To change your username or email address, click the **Reset user** button.
- To change your password, click the **Reset password** button.
- To change your role (a capability only available to org owners), select the role from the dropdown list under the **Change role** heading and click the **Save** button.

Step 4

With your YubiKey at the ready, on the login page, enter:

- The email address associated with your YubiEnterprise account
- The password (which must be between 8 and 64 characters, and must not contain any parts of your username)

Insert and touch the YubiKey when prompted.

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.6 Dashboard

The Dashboard gives an overview of most activities and provides Org Owners and Org Admins with a shortcut to requesting shipments. Org Owners, Admins, and auditors can:

- View product inventory
- View recent shipments
- View recent purchase orders (POs).

For more information on YubiEnterprise user permissions, see *Roles/Permissions*.

Since the Dashboard provides an overview of YubiEnterprise Delivery functionality, more detailed descriptions of each function are given in the corresponding chapters, *Shipments: Overview*, *Requesting Shipment: Introduction*, *Purchase Orders*, and *User Management*.

The screenshots below show a representative Org Owner’s view of the **Dashboard** tab of the YubiEnterprise Delivery console with the applicable subsections.

The **Dashboard** for Subscription (2.0) customers shows the inventory available in the tiers subscribed to.

Subscription inventory

Tier	Quantity
Advanced - Plus - Backup	700
Base - Standard - Primary	100
Base/Bio - Plus - Backup - Replacement	99
Compliance - Standard - Backup (Text)	900
Base - Plus - Primary - Replacement	80
Advanced/Bio - Plus - Backup - Replacement	800

Recent shipments






ID	Channel partner name	Date	Shipment address	Recipient email	Delivery	Status	Tracking	Ship date	Delivery date
8YqzU...	--	1/23/2023	Example Co., A Str., Pittsburgh, Pennsylvania, 15220, US	--	Normal	Processing: Sent for Fulfillment	--	--	--
QzzX2...	--	1/19/2023	Example Co., A Str., Pittsburgh, Pennsylvania, 15220, US	--	Normal	Processing: Sent for Fulfillment	--	--	--

Subscription (2.0) Org Owner’s view of Dashboard tab

In the Subscription (1.0) example shown below, we see outright purchases of physical products, plus non-subscription and subscription inventory, as well as *Recent Shipments*, and *Recent Purchase Orders (POs)* described below. Which keys are displayed depends on the subscription tier(s). For example, if you did not have the FIPS tier, no FIPS keys would be displayed. You might need to scroll horizontally to see the full selection of tiers (for more information on tiers, see *Tier Options*).


The screenshot displays the 'Dashboard' tab of the YubiEnterprise Services console. At the top right, it shows tax and shipping information: 'US Taxes: \$951.21 | VAT: \$907.05 | Shipping: \$9,754.94'. The main content is divided into three inventory sections and a shipment section.

Standard products inventory






YubiKey 5C	YubiKey 5C Nano	YubiKey C Bio - FIDO Edition	YubiKey C Nano FIPS	YubiKey Lanyard
				
7	10	100	191	99

Non subscription inventory

Non-subscription - FIPS Tier


39

Subscription inventory

Primary Subscr - FIPS Tier: Initial	Primary Subscr - FIPS Tier: Buffer	Backup Subscr - FIPS Tier: Initial	Primary Subscr - Prem. Tier: Initial	Primary Subscr - Prem. Tier: Buffer
				
7	49927	100	70	968

Recent shipments [Create shipment request](#)

Subscription (1.0) Org Owner's view of Dashboard tab

1.6.1 Recent Shipments

Only recent shipments are displayed on the Dashboard of the Console. To view all shipments, click **View all shipments**, which takes you to the *Shipments: Overview* tab. The information displayed in the table in the **Recent Shipments** section is explained in *Column Headings - Shipments Tab*.

1.6.2 Creating a Shipment Request

From the Dashboard, Org Owners and Admins can request products be shipped to end-users. See *Requesting Shipment: Introduction*.

Editing a Shipment Request

From the Dashboard, Org Owners and Admins can also update a shipping address by clicking **View Incompletes** or delete a shipment request. For both, see *Editing or Deleting a Shipment*.

1.6.3 Recent Purchase Orders (POs)

Only recent POs are shown on the Dashboard of the Console. To view all POs, click **View all purchase orders**, which takes you to the *Purchase Orders* tab. The information displayed in the table in the **Recent purchase orders** section is explained in *PO Tab Column Headings*.

To file a support ticket with Yubico, click [Support](#).

1.7 Shipments: Overview

Manage shipments from your inventory of purchased products on the **Shipments** tab. Even if not all your products are being shipped through YubiEnterprise Delivery, you can track shipment requests without regard to the manner in which those shipments are processed by Yubico. Shipments that are processed through YubiEnterprise Delivery (Console, API, or CSV) are considered “Automatic”, whereas the shipments created by Yubico or a channel partner at your request (e.g., by telephone) are considered “Manual”. Any given shipment request displayed on the Console’s **Shipments** tab will show which kind of shipment it is in the **Type** column.

Org Owners and Admins can request (create) shipments and edit the requests if the shipment is of the Automated type and has not yet been processed. The **Status** column shows the *Shipment Request Status*.

Shipments Tab

ID	Channel partner name	Date	Shipment address	Recipient email	Delivery	Type	Status	Tracking	Ship date	Delivery date
QZzX2...	--	1/19/2023	Example Co., 5000 A Str., Suite 1, PITTSBURGH, Pennsylvania, 15220, US	--	Normal	Automated	Processing: Sent for Fulfillment	--	--	--

Shipment-related Actions:

- *Shipping to a Single Address (Console)*
- *Bulk Upload: Shipping to Multiple Addresses*
- *Shipping Request Via API*
- *Downloading the CSV File of Shipment Requests*

- *Notifying End-Users of Shipment and Delivery*

1.7.1 Viewing Shipments

On the Shipments tab, you can sort on the *Channel partner name*, the *Date*, the *Recipient email*, the *Delivery*, *Type*, *Status*, *Ship date*, and *Delivery date* columns. To view all the details for a given request, including the email address of the person who made the request and the status of the request, click on the ID of the request.

Column Headings - Shipments Tab

Id

To view the details of a particular shipment request, click its **ID** to display it as a popup. To view an example of the details of a shipment request, see [Shipment Request Status](#) below.

Channel partner name

All purchase orders (POs) show the channel partner name, which can even be Yubico itself..

Date

Date on which the shipment request was made.

Shipment address

The address to which the shipment was or will be sent.

Recipient email

Emails are sent automatically to the recipient about the shipment status: sent out, in transit, etc.

Delivery

Normal or Expedited (rush)

Type

How the shipping request was created, **Manual** or **Automated** (these terms are explained in [Shipments: Overview](#) above).

Status

For a list of the different statuses and their meanings, see the **shipment_state_message** column on the far right of [Shipping Status Codes](#).

Tracking

To see where a shipment has got to, click its tracking number to go to the site of the shipper.

Ship date

Date on which the shipment was despatched.

Delivery date

Date on which the shipment arrived at its destination.

Search

The **Search term** field on the upper left of the **Shipments** tab enables you to locate any element in a shipping request, even partial words or numbers. **Clear filter** refreshes the search functionality.

A list of shipments filtered by your parameters is displayed.

To return to viewing the list of search results after clicking into one of the list items, click **Go back**. The list remains available even after refreshing the browser window while on a page of search results.

To begin again with new search parameters, reset the search by clicking **Clear filter**.

Advanced Search

Advanced search enables you to enter any specific parameters as shown in the screenshot below. On the **Shipments** tab, click **Advanced search**. Enter search terms in the fields you would like to filter for. If applicable, click the corresponding **Exact match** checkbox(es). Finally, click **Search**.

Advanced search

Advanced search

Close



Exact match

Shipment
address

Philadelphia

Recipient name

Country code

Shipment type

Any



Recipient

Recipient email

ID

Status

Tracking

Date

from

to

Shipped
date

from

to

Delivery
date

from

to

Reset

Search

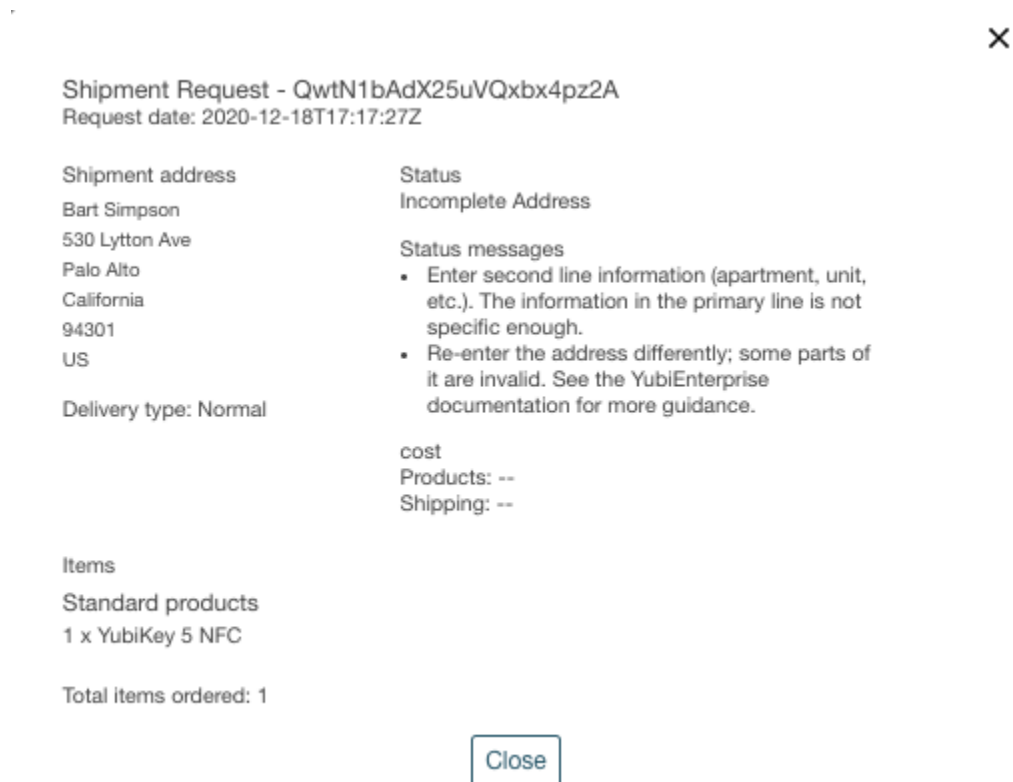
Shipment Request Status

To find out whether individual shipment requests have been processed, have been delivered, the prices, the inventory from which they came, etc., either:

- Click the shipment request ID in the **ID** column on the **Shipments** tab
- Click the shipment request ID in the **Recent Shipments** section of the **Dashboard**.

The screenshot below shows one of the most common errors: the recipient's company name is missing, and in the cases where this error appears, there are multiple companies at the address given. No costs are displayed because nothing was shipped.

Shipment Request ID Popup



The delivery shipping costs are covered in *Shipping*.

Note: Sometimes the information on the shipment request ID popup is so voluminous that to dismiss the popup, you need to hit the Escape key.

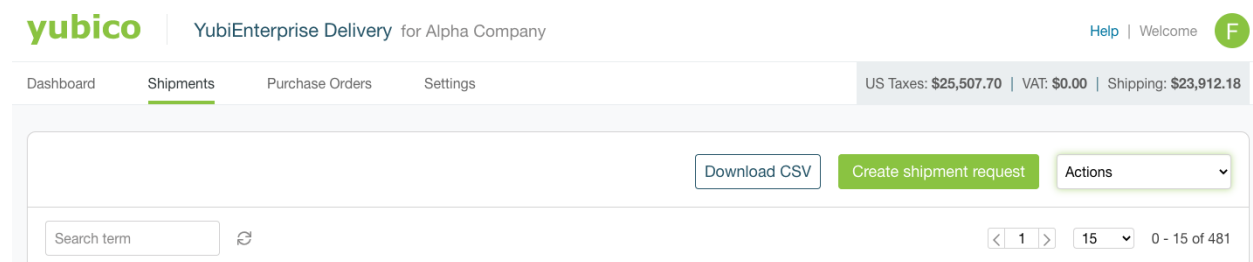
1.7.2 Downloading the CSV File of Shipment Requests

Organization owners, admins, and auditors can download a record of the shipment requests that have been made (the information on the **Shipments** tab) as a CSV file by clicking the **Download CSV** button next to the **Shipment request** button on the Shipments tab. There are two options:

- The entire contents can be downloaded - i.e., all the rows in the table, even if there are multiple pages.
- Search results. If a search term is entered into the Search field, the rows containing the search term will be downloaded as a CSV file.

To download the shipments table as a CSV file,

- To get the *whole* table, ensure the **Search** field is empty, and click **Download CSV**.
- To get only those rows of the table that contain a particular word or partial word, enter your search term into the **Search** field, and click **Download CSV**:



Column Headings in the Shipment Requests Table (Download CSV)

The Shipment Requests table downloaded as a CSV file combines the information in the shipment ID popup with what is shown on the **Shipments** tab plus additional information. The column headings are listed below.

Note: Although all currency amounts displayed by the system are in US dollars, contracts, purchase orders, and invoices, etc. use the currency applicable to the parties involved.

- A - `shipment_id` - The unique identifier assigned by YubiEnterprise Delivery to every shipment request
- B - `shipment_request_date` - month/day/year
- C - `shipment_update_date` - month/day/year
- D - `organization_name` - Name of the customer organization on behalf of which the shipment request was made (typically the same throughout the file)
- E - `channelpartner_id` - Identifier of the distributor (Yubico's channel partner) - this is 1 if it was a direct sale by Yubico
- F - `user_email` - The email address of the YubiEnterprise Delivery user who made the shipment request
- G - `country_code_2` - Two-letter country code provided in `available_countries.csv`
- H - `inventory_type` - Depends on items entered in customer PO; e.g.,
 - Standard Inventory Keys,
 - Subscription Initial Stock,
 - Subscription Buffer Stock,
 - Subscription Replacement Stock,

- Tier Perpetual Key,
- YubiKey Shipment,
- YubiKey Tier SKU Shipment
- I - `is_delivered` - TRUE or FALSE
- J - `is_shipped` - TRUE or FALSE
- K - `shipped_date` - month/day/year - Date of shipping
- L - `delivered_date` - month/day/year - Date of delivery
- M - `tracking_number` - Tracking number assigned by fulfillment agency
- N - `recipient_company` - Name of recipient's company
- O - `recipient_email` - Recipient's email address
- P - `recipient_firstname` - First name of recipient
- Q - `recipient_lastname` - Last name of recipient
- R - `recipient_telephone` - Recipient's telephone number
- S - `street_line1` - First line of street address
- T - `street_line2` - Second line of street address
- U - `street_line3` - Third line of street address
- V - `city` - Name of village, town, or city
- W - `region` - Name or region, state, or province
- X - `postal_code` Postal code, post code, zip code
- Y - `shipment_type` - Automated (entered into the YubiEnterprise system by you) or Manual (entered into the system by Yubico)
- Z - `delivery_type` Normal or Expedited
- AA - `shipment_state_code` - see *Shipping Status Codes*
- AB - `shipment_state_id` - see *Shipping Status Codes*
- AC - `shipment_state_message` - see *Shipping Status Codes*
- AD - `shipment_summary_description` - Total number of keys plus number of each type, e.g., *Total Keys: 2 yk5c:1, sky2:1* means two keys were shipped, one a YubiKey 5C and one a Security Key 2
- AE - `shipment_product_cost` - Cost of product alone, without tax, VAT, or shipping
- AF - `shipment_product_taxes` - Cell is populated if products are shipped to location where sales tax is applicable. Amount of sales tax levied on product
- AG - `shipment_product_vat` - Cell is populated if products are shipped to location where VAT is applicable. Amount of VAT levied on product
- AH - `shipping_service_cost` - Cost of shipping
- AI - `shipping_service_taxes` - Cell is populated if products are shipped to location where sales tax is applicable. Amount of sales tax levied on shipping
- AJ - `shipping_service_vat` - Cell is populated if products are shipped to location where VAT is applicable. Amount of VAT levied on shipping

- AK - `total_shipment_product_cost` - Cost of product(s) with tax or VAT; does not include shipping costs or tax or VAT on them
- AL - `total_shipment_tax_cost` - Cell is populated if products are shipped to location where sales tax is applicable. Total sales taxes levied on product(s) plus shipping costs
- AM - `total_shipping_service_cost` - Total shipping costs including taxes or VAT levied on them
- AN - `total_keys_shipped` - Total number of products shipped
- AO - `purchaseorder_numbers` - If multiple POs were drawn on for a single request, they are separated by a pipe, e.g., PQR_123|PO-0721a
- AP - `channel_partner_name` - Name of the distributor from whom you purchased, i.e., Yubico's channel partner, whose ID is given in column E.

1.7.3 Notifying End-Users of Shipment and Delivery

The YubiEnterprise Delivery system automatically notifies recipients by email when products are sent to them (see the *SHIPPED* template below) and when they are delivered (see the *DELIVERED* template below) .

If there is a problem with delivery, the system automatically sends an email notification to the person who made the shipping request (see the *DELIVERY EXCEPTIONS* template below).

The variables in angle brackets in the templates below are automatically replaced.

SHIPPED

```
Subject: YubiKeys shipped!
To: <Email address of recipient provided in shipping request>

Hello, <Name of recipient, or if absent, company name>
Your YubiKeys have been shipped. If you have any questions,
please reach out to your company administrator.

<Custom text, if any>

YubiKeys Shipped:
<Type of YubiKey> <Quantity>
Delivered To: <Name and address of recipient>
<Name of Carrier> Tracking Number: <TrackingNumber>

Sincerely,
Your YubiEnterprise Delivery Service Team
This is an automatically generated message from Yubico.
Replies are not monitored or answered.
```

DELIVERED

```
Subject: YubiKeys Delivered!
To: <Email address of recipient provided in shipping request>

Hello, <Name of recipient, or if absent, company name>
Your YubiKeys have been delivered. If you have any questions,
please reach out to your company administrator.

<Custom text, if any>
```

(continues on next page)

(continued from previous page)

YubiKeys Delivered:
<Type of YubiKey> <Quantity>
Delivered To: <Name and address of recipient>
<Name of Carrier> Tracking Number: <TrackingNumber>

Sincerely,
Your YubiEnterprise Delivery Service Team
This is an automatically generated message from Yubico.
Replies are not monitored or answered.

DELIVERY EXCEPTIONS

Subject: YubiKeys Delivery Exceptions!
To: <Email address of end-user, intended recipient>

Hello <Name of end-user>

Your Shipment request for YubiKeys has delivery exceptions.
Please reach out to your company administrator. You can also
reach out to us at YubiEnterprise Support
<<https://www.yubico.com/products/yubienterprise/contact-support/>>

<Custom text, if any>

Delivery Details:
<Type of YubiKey> <Quantity>

Deliver To:
<Address of intended recipient>
<Name of Carrier> Tracking Number: <TrackingNumber>

<Error text>

Sincerely,
Your YubiEnterprise Delivery Service Team

This is an automatically generated message from Yubico.
Replies are not monitored or answered.

Customizing the Automated Emails

One of the primary reasons for customizing the automated emails is when you do not need your end-users to reach out directly to Yubico if they have questions. Usually it is desirable for end-users to contact your own organization's IT department if they have issues understanding how YubiKeys fit into your organization's services access model.

These standard emails can be customized by **adding** text to the existing standard email templates. Note that the *SHIPPED* and *DELIVERED* emails are sent to **every** recipient, so customization is not suitable for sending an individual greeting.

Note: If you make a mistake in the HTML code when customizing the template, you can click the **Restore** button to return to the default. However, if your HTML is correct and you click **Update**, you can no longer click **Restore**. For

this reason, consider making a copy of the default template before you customize it.

Step 1

On the **Settings** page, go to the **Email** tab and select the template to be customized: SHIPPED, DELIVERED, or DELIVERY EXCEPTIONS.

The screenshot shows the 'Settings' page with the 'Email' tab selected. The 'Modify custom email text' section is active, showing the 'Shipped' template. The 'Custom email subject' is 'YubiKeys Shipped!'. The 'Custom email body' is a text area containing HTML code for an email template. A green banner at the bottom of the text area indicates 'Your HTML code has no errors!'. Below the text area are three buttons: 'Update', 'Send sample', and 'Restore'.

```

30 | //empty
31 | </p>
32 |
33 | <p style="margin: 20px 0; line-height: 22px;">Deliver To:<br>{{nl2br .Address}}</p>
34 |
35 | <p style="margin: 20px 0; line-height: 22px;">Carrier: {{.Carrier}} <br>Tracking Number: {{.TrackingNumber}} </p>
36 |
37 | <p style="margin: 20px 0; line-height: 22px;">
38 | Sincerely,<br>
39 | - Your YubiEnterprise Delivery Service Team
40 | </p>
41 |
42 | </td>
43 | </tr>
44 | <tr>
45 | <td style="border-top: 1px solid #080808; padding: 25px; line-height: 22px;">
46 | | This is an automatically generated message from Yubico. Replies are not monitored or answered.
47 | </td>
48 | </tr>
49 | <tr>
50 | <td style="border-top: 1px solid #080808; padding: 25px; line-height: 22px;">
51 | | If you have any issue with your key or keys, please notify me at example@example.com.
52 | </td>
53 | </tr>
54 | <tr>
55 | <td style="color: #4A4A4A; background:#080808; text-align: center; font-size: 14px;line-height: 22px;padding-bottom:40px; padding-top: 40px;">
56 | &copy; 2022 Yubico<br />
57 | 5201 Great America Parkway #122, Santa Clara, CA 95054 <br/>

```

Step 2

Insert the text into the template. It can accept any valid HTML, including scripts. Web and email links can be inserted as HTML link elements. Put the link target in the href attribute, and put the display text for the link between the angle brackets. For example:

Please visit [Yubico's webpage](https://yubico.com) for more information, or email someone@yourcompany.com.

Step 3

Your HTML code is validated as you type. If your code is correct, a green banner announcing its correctness appears, and you can continue editing or click **Update**. However, once you click **Update**, the **Restore** button is deactivated.

If the HTML is wrong, a red banner describing the errors appears, and you can correct it and click **Update** once the red banner disappears, or click **Restore**.

Step 4

To view the customized email just created, click **Send Sample**.

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.8 Requesting Shipment: Introduction

Shipments: Overview provides general information about requesting shipment, whereas this section provides more specific information.

The different methods of requesting shipment each have their own subsection; the information in this current section applies to all methods.

Note: Although Console users can specify the inventory they want to draw from for individual shipment requests, this option is not available for bulk shipments. Bulk shipment requests allow only the selection of initial, replacement, or buffer stock. When inventory is not specified or cannot be specified, the system uses the “first in, first out” rule, which means it will deduct from the oldest PO first.

1.8.1 Methods of Requesting Shipment

- *Shipping to a Single Address (Console)*
- *Bulk Upload: Shipping to Multiple Addresses*
- *Shipping Request Via API*

1.8.2 Address Validation

When Yubico’s address validation service catches a discrepancy between an address in a shipment request and post office standards, the system flags the affected shipment request. Requests with such discrepancies are shown as “Incomplete” in the **Status** column of the Console. Incompletes must be reviewed and the proposed change accepted or rejected before the request can be processed. For instructions, see *Reviewing Incompletes*.

1.8.3 Restrictions

Post Office Boxes

Although the system can deliver to Post Office (PO) Boxes within the United States, delivery to the equivalent elsewhere in the world is unlikely to succeed.

Inventory: Channel Partners

The entity through which you submit a PO is always referred to as a channel partner, even if it was a direct purchase. Yubico's Channel partner ID (or ChannelPartnerId or channelpartner_id) is "1".

Note: The selection of channel partner is not supported in the /shipments API.

Because inventory is sorted according to the source from which it was purchased, when requesting shipment, distinguish between inventory purchased directly from Yubico and inventory purchased from Yubico's channel partners. The **Dashboard** shows your *total* inventory of any given product, combining quantities purchased from all sources: both directly from Yubico and indirectly through channel partners. To find out what is in which inventory, check your purchase orders.

To find out what the channel partner ID is:

BEFORE shipment

The name and ID of the channel partner are shown on the purchase order detail page, accessible by clicking the ID of the PO on the **Purchase orders** page.

AFTER shipment

The **Channel partner ID** is shown on the shipment request detail page, accessible by clicking the ID of the shipment request on the **Shipments tab**.

Limits and Constraints

Line 1: recipient_firstname and recipient_lastname map to the first line on the shipping label. This applies to all methods of requesting shipment - on the **Console**, in the **API** and in the **CSV file**.

Line 2: The recipient field in the API and the **recipient_company** column in the CSV require the **name of the recipient's company** (if applicable) in the shipment address. This maps to the second line of the address. Do not use the /shipments recipient field to specify the name of the individual to whom products are to be shipped. Use the recipient_firstname and recipient_last name fields instead. If the recipient's address is residential, leave the **recipient_company** column in the CSV and the recipient field in the API empty.

Long names: Long recipient names can be problematic for all methods of requesting shipment, because the shipment request will fail if the contents of the name and/or **Company** / recipient fields exceed the maximum number of characters permitted in these fields (shown in the table below). **Workaround:** When a recipient's full name or company name exceeds the fields' maximum lengths, split the names across the three fields, for example:

Location	Field (limit=15)	Limit	Field (limit=20)	Limit	Field (limit=20)	Limit
API	recipient_firstname	15	recipient_lastname	20	recipient	20
CSV	recipient_firstname	15	recipient_lastname	20	recipient_company	20
Console	First name	15	Last name	20	Company	20
Example of an overly long name before adjustment to fit the fields						
	Johannes-Maximilian		von Derschowitz-Dampfloch zu Querdenker			
Example after adjustment						
	Joh.-Maximilian		v.DerschowitzDampfloch		zu Querdenker	

Address validation takes place every 15 minutes. This means that you might have to wait up to 15 minutes to find out if your shipment request has been queued for fulfillment (see *Shipping Status Codes*).

Non-subscription purchases: Shipment requests can be made for up to one year after a PO is submitted.

Subscription purchases: Availability of products in shipment requests depends on the stock/inventory from which the products are drawn. (For details, see [Tier Sub-categories](#).)

1.8.4 Inventory Matters

Subscription (2.0)

Table 4: Subscription (2.0) Full List of Inventory (Stock) Types

Name of Tier	Initial or Replacement	Primary or Backup	Console: "From Stock" dropdown Inventory Option
Base Tier Standard (FIDO-only key license(s)) Security Keys only	Initial	Primary	Base Standard Primary
		Backup	Base Standard Backup
	Replacement	Primary	Base Standard Primary Replacement
		Backup	Base Standard Backup Replacement
Base Tier Plus	Initial	Primary	Base Plus Primary
		Backup	Base Plus Backup
	Replacement	Primary	Base Plus Primary Replacement
		Backup	Base Plus Backup Replacement
Advanced Tier Standard (Multiprotocol key license(s)) YubiKey 5 Series including YubiKey 5 Ci	Initial	Primary	Advanced Standard Primary
		Backup	Advanced Standard Backup
	Replacement	Primary	Advanced Standard Primary Replacement
		Backup	Advanced Standard Backup Replacement
Advanced Tier Plus	Initial	Primary	Advanced Plus Primary
		Backup	Advanced Plus Backup
	Replacement	Primary	Advanced Plus Primary Replacement
		Backup	Advanced Plus Backup Replacement
Compliance Tier Standard (Certified key license(s)) FIPS, CSPN	Initial	Primary	Compliance Standard Primary
		Backup	Compliance Standard Backup
	Replacement	Primary	Compliance Standard Primary Replacement
		Backup	Compliance Standard Backup Replacement
Compliance Tier Plus	Initial	Primary	Compliance Plus Primary
		Backup	Compliance Plus Backup
	Replacement	Primary	Compliance Plus Primary Replacement
		Backup	Compliance Plus Backup Replacement

Subscription (1.0)

The full list of options that were potentially available in Subscription (1.0) is given below. The actual list depends on what you have purchased. Explanations for the terms in the list are given in the table below the list. For more details on subscription and non-subscription purchasing, see *Modes of Purchase*.

Subscription (1.0): Full List of Inventory Types

- Primary Subscr - Base Tier: Initial
- Primary Subscr - Base Tier: Buffer
- Primary Subscr - Base Tier: Replacement
- Primary Subscr - Adv. Tier: Initial
- Primary Subscr - Adv. Tier: Buffer
- Primary Subscr - Adv. Tier: Replacement
- Primary Subscr - Prem. Tier: Initial
- Primary Subscr - Prem. Tier: Buffer
- Primary Subscr - Prem. Tier: Replacement
- Primary Subscr - FIPS Tier: Initial
- Primary Subscr - FIPS Tier: Buffer
- Primary Subscr - FIPS Tier: Replacement
- Backup Subscr - Base Tier: Initial
- Backup Subscr - Base Tier: Buffer
- Backup Subscr - Base Tier: Replacement
- Backup Subscr - Adv. Tier: Initial
- Backup Subscr - Adv. Tier: Buffer
- Backup Subscr - Adv. Tier: Replacement
- Backup Subscr - Prem. Tier: Initial
- Backup Subscr - Prem. Tier: Buffer
- Backup Subscr - Prem. Tier: Replacement
- Backup Subscr - FIPS Tier: Initial
- Backup Subscr - FIPS Tier: Buffer
- Backup Subscr - FIPS Tier: Replacement
- Non-subscription - Base Tier
- Non-subscription - Advanced Tier
- Non-subscription - Premium Tier
- Non-subscription - FIPS Tier
- Standard Products

Standard Products	Subscription	Non-subscription
Standard products are physical keys purchased outright (on your PO you will not find “Standard Products”, but instead the actual products/models that you purchased).	There is a primary subscription and a backup subscription for each tier (product grouping): Base, Advanced, Premium, and FIPS. Each of those tiers has Initial, Buffer, and Replacement sub-categories, explained in the table below, <i>Tier Sub-categories</i>	The non-subscription tiers are for virtual keys. Unlike subscription tiers, non-subscription tiers have no sub-categories.

Tier Sub-categories

Table 5: **Stock: Initial, Buffer, Replacement**

Initial	The stock in this category reflects the total number of users on the subscription. This lot can be drawn upon for 12 months from the start of your subscription term.
Buffer	This category is made available to you free of charge when your subscription begins. You can draw on it throughout the term of your subscription.
Replacement	This category is intended for those who have lost their YubiKeys or want to upgrade. The stock in this category is reset each year of the subscription to the Replacement limit.

1.8.5 Timing

Shipment requests can be edited or deleted until **2am PST (10am GMT)**, the day **after** they were entered.

Normal (standard) shipping: Shipments typically will take 5-7 days for transit in North America and Europe. Other parts of the world will incur longer transit times.

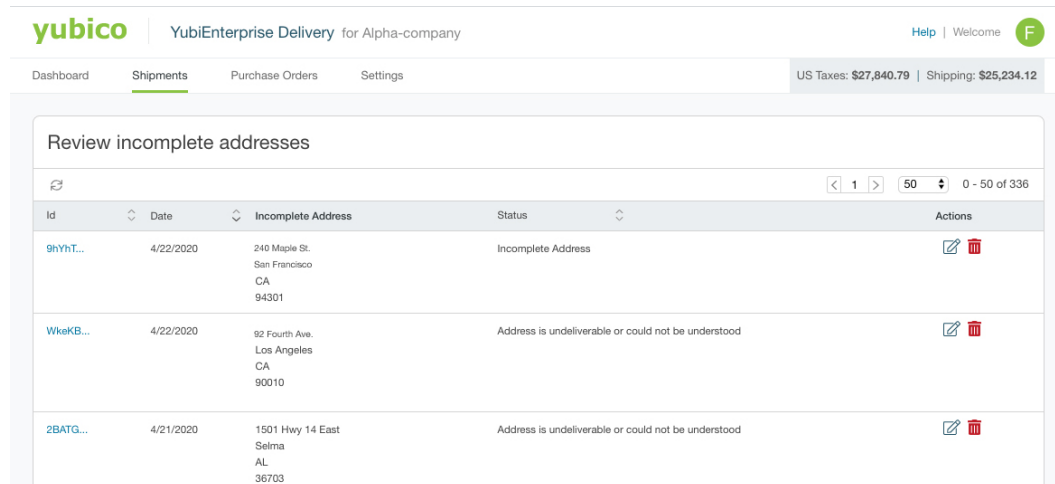
Expedited (rush) shipping: Shipments typically will take 1 business day for transit in North America. Other parts of the world may incur longer transit times, but will leverage the fastest time frame reasonably available.

1.8.6 Reviewing Incompletes

The address validation service flags addresses that are problematic or defective in some way, and displays this information on the Console in the **Status** column on the **Dashboard** tab. For a complete list of the different statuses and what they indicate, see *Shipping Status Codes*. To ensure your shipping request is accepted and processed, always verify that it has not been flagged Incomplete.

Step 1

On the **Shipments** tab, in the **Actions** menu next to the **Create shipping request** button, select **Review incompletes**. The list of shipping requests with incomplete addresses is displayed:



The screenshot shows the YubiEnterprise console interface. At the top, there is a navigation bar with the Yubico logo, the text 'YubiEnterprise Delivery for Alpha-company', and a user profile icon 'F'. Below the navigation bar, there are tabs for 'Dashboard', 'Shipments', 'Purchase Orders', and 'Settings'. The 'Shipments' tab is active. On the right side of the navigation bar, there are two summary items: 'US Taxes: \$27,840.79' and 'Shipping: \$25,234.12'. The main content area is titled 'Review incomplete addresses'. It features a table with the following columns: 'Id', 'Date', 'Incomplete Address', 'Status', and 'Actions'. The table contains three rows of data:

Id	Date	Incomplete Address	Status	Actions
9hYhT...	4/22/2020	240 Maple St. San Francisco CA 94301	Incomplete Address	[Edit] [Delete]
WkeKB...	4/22/2020	92 Fourth Ave. Los Angeles CA 90010	Address is undeliverable or could not be understood	[Edit] [Delete]
2BATG...	4/21/2020	1501 Hwy 14 East Selma AL 36703	Address is undeliverable or could not be understood	[Edit] [Delete]

Review incomplete addresses

Step 2

To find out what is wrong with an address and/or correct it, click the Edit icon at the end of the row containing the item. See *Editing or Deleting a Shipment*. The Edit shipment screen indicates the problem, as shown in the screenshot below, for example.

The screenshot shows a web form titled "Edit Shipment - WkeKBRZG1pAiQpFvtYUDLQ". The form is divided into two columns. The left column contains fields for Country (United States), Address Line 1 (240 Maple St.), Address Line 2 (empty), City (Los Angeles), Region / state (CA), and Postal code (90010). The right column contains fields for Attention to (Undeliverable Name), Contact phone (1234567890), and Contact email (optional) (empty). At the bottom of the form is a dropdown menu set to "Normal".

Error in name of recipient

Step 3

The address validation process stops at the first error it finds in a given request (or in the case of a CSV file, in a given row). In the screenshot above, it stopped at the name of the recipient, but the address in the example above would not be validated either. For this reason, continue to run the **Review Incompletes** activity until no more errors are found in your shipment request.


1.8.7 Editing or Deleting a Shipment

You can update an address or delete a shipping request until it is locked for processing and fulfillment - see *Timing*. This applies for both Automated and Manual type requests. Note, however, that to edit or delete a Manual request, you must contact Yubico directly. Yubico staff will then go into your console and override the data they input originally and update in accordance with your wishes.

To delete shipment requests made via CSV file, see *Deleting Multiple Shipments*.

Step 1

To edit a shipment, click the Edit icon in the appropriate row of the table. The **Edit shipment - <ID>** screen appears, as shown below.

Id	Date	Shipment address	Delivery	Fee	Status
Kq6rS...	4/23/2020	Yrieix, 10, boul. Magenta apt 32 , Paris, F-75010, RO	Normal	--	Awaiting Validation 

Edit Shipment - Kq6rS4kg26SmWCzPEBa77J

Country Romania	Attention to Yrieix
Address Line 1 10, boul. Magenta	Contact phone 33 1 38 25 45 2
Address Line 2 apt 32	Contact email (optional)
City Paris	
Region / state	
Postal code F-75010	

Normal

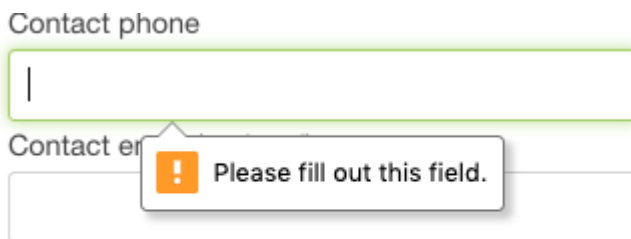
Current inventory	Ship quantity
Yubikey 5C Nano (473)	475
Yubikey 5C (1916)	
Yubikey 5Ci (1838)	
Yubikey 5 NFC (1768)	
Yubikey 5 Nano (1866)	

Update Cancel Delete shipment

Edit shipment screen

Step 2

Either make the required changes and click **Update** or click **Delete shipment**. The update function validates the fields, with a mouseover warning on any fields requiring input, as shown in the screenshot below:



Mouseover warning

Step 3

Verify that the system is able to validate all the input in your shipment request by running the **Review Incompletes** activity (see *Reviewing Incompletes*).

1.8.8 Refunds

When shipments fail to arrive at their destination, the price of product(s) plus shipping is refunded. The status of such a shipment is recorded as “Lost/Missing”.

Viewing Refunds

Org Owners, Admins, and Auditors can access refund details from the **Shipments** tab. On the upper right, click the **Action** dropdown menu and select **Processed Refunds**.”

US Taxes : \$20,959.83 | VAT: \$0.00 | Shipping: \$13.05

Download CSV Create shipment request

✓ Actions
Review incompletes
Bulk operations
Processed refunds

< 1 >

The list of processed refunds appears. To see further details, click the Shipment ID of the desired item.

Shipment Request - CbeR3H2hmXIMoEXyGzxx6t Go back

Request date: 2021-10-01T19:20:59.254Z Channel partner name: Yubico (Direct sale) Total: \$68.75
Requestor: jan.lindbergh@goodtogo.com Channel partner ID: 1 Product cost: \$57.83

Status: Shipment Lost/Missing

Status	Status messages
Shipment requested	--
Shipped: In transit	
Shipment Lost/Missing	
Shipment refunded	

Address	Shipping & tax
Jan Lindbergh	Shipping fee: \$10.00
Good To Go	Shipping tax: \$0.92
530 Lytton Ave #301	VAT: --
Palo Alto	Product tax: \$4.83
CA	Delivery type: Normal
94301	Provider: FedEx
US	Tracking: TESTFEDEXGROUND
jetako@dd.com	
Tel: 2151234567	

Downloading List of Refunds

To download a CSV file listing all the data shown on the list of processed refunds, click the **Download refund CSV** button.

Dashboard Shipments Purchase orders Settings US Taxes : \$20,959.83 | VAT: \$0.00 | Shipping: \$13.05

Processed refunds Download refund CSV Back to shipments
Download all the refunds issued as a CSV file

Search term

< 1 > 15 1 - 6 of 6

Shipment ID	Inventory type	PO reference	Refund quantity	Product name	Refund date	Refunded amount
CbeR3...	Primary Subscr - Prem. Tier: Initial	PO-1116	1	YubiKey 5 Nano	10/13/2021	\$57.83
2Ugfl...	Primary Subscr - Prem. Tier: Initial	PO-1116	1	YubiKey BIO A	11/11/2021	\$53.00
28RVm...	Primary Subscr - Prem. Tier: Initial	PO-1116	1	YubiKey BIO A	11/11/2021	\$53.00
17h6f...	Primary Subscr - Prem. Tier: Initial	PO-1116	1	YubiKey BIO A	11/11/2021	\$53.00
152d9...	Primary Subscr - Prem. Tier: Initial	PO-1116	1	YubiKey BIO A	11/11/2021	\$53.00
13Jwf...	Shipping	N/A	--	--	11/11/2021	\$5.00

1.9 Bulk Upload: Shipping to Multiple Addresses

The information in *Requesting Shipment: Introduction* applies to this method.

Note: Although Console users can specify the inventory they want to draw from for individual shipment requests, this option is not available for bulk shipments. Bulk shipment requests allow only the selection of initial, replacement, or buffer stock. When inventory is not specified or cannot be specified, the system uses the “first in, first out” rule, which means it will deduct from the oldest PO first.

1.9.1 Template

To create a bulk request in the form of a CSV file, use the shipment spreadsheet template supplied by the Console, `bulk_shipment_template.csv`. Each row - i.e., each individual shipping request - is processed independently, so that issues with one request do not hold up other requests.

Always download the latest version of the template. The template is autogenerated based on your inventory. When a new CSV template becomes available, the outdated version of the template no longer produces valid shipping requests. The CSV template changes frequently; for example, when:

- Yubico releases new products in tiers to which your organization is subscribed. Therefore, new fields are added to the template to take account of them.
- We release a new version of the YubiEnterprise Delivery software that includes updates to the template such as columns for additional information.
- You add new products to your inventory through a new PO. Subscription customers have columns for each of the keys in their subscription tier(s).

The CSV bulk upload does not support combining subscription and non-subscription products in a **single** shipment. If you want to create a shipment request that includes both types of products within a single shipment, see *Shipping Request Via API* or *Shipping to a Single Address (Console)*.

Ensure that:

- The columns of your own CSV file correspond exactly to those in the CSV template.
- The header row from the template is included in your own CSV file.
- The contents of the cells do not exceed the limits. The columns with table cells that have limits on the number of alpha-numeric characters (including spaces) are listed in *Shipment Request Fields* below. Not all columns have limits. Note that the only products listed in *your bulk_shipment_template.csv* are those your organization has purchased, whereas the table in *Shipment Request Fields* lists *all* products.

Post Office Boxes

Although the system can deliver to Post Office (PO) Boxes within the United States, delivery to the equivalent elsewhere in the world is unlikely to succeed.

Shipping Label Content

Line 1: `recipient_firstname` and `recipient_lastname` map to the first line on the shipping label. This applies to all methods of requesting shipment - on the **Console**, in the **API** and in the **CSV file**.

Line 2: The recipient field in the API and the `recipient_company` column in the CSV require the **name of the recipient's company** (if applicable) in the shipment address. This maps to the second line of the address. Do not use the `/shipments recipient` field to specify the name of the individual to whom products are to be shipped. Use the `recipient_firstname` and `recipient_last_name` fields instead. If the recipient's address is residential, leave the `recipient_company` column in the CSV and the `recipient` field in the API empty.

Long names: Long recipient names can be problematic for all methods of requesting shipment, because the shipment request will fail if the contents of the name and/or **Company** / `recipient` fields exceed the maximum number of characters permitted in these fields (shown in the table below). **Workaround:** When a recipient's full name or company name exceeds the fields' maximum lengths, split the names across the three fields, for example:

Location	Field (limit=15)	Limit	Field (limit=20)	Limit	Field (limit=20)	Limit
API	<code>recipient_firstname</code>	15	<code>recipient_lastname</code>	20	<code>recipient</code>	20
CSV	<code>recipient_firstname</code>	15	<code>recipient_lastname</code>	20	<code>recipient_company</code>	20
Console	First name	15	Last name	20	Company	20
Example of an overly long name before adjustment to fit the fields						
	Johannes-Maximilian		von Derschowitz-Dampfloch zu Querdenker			
Example after adjustment						
	Joh.-Maximilian		v.DerschowitzDampfloch		zu Querdenker	

Inventory Sources

The entity through which you submit a PO is always referred to as a channel partner, even if it was a direct purchase. Yubico's Channel partner ID (or `ChannelPartnerId` or `channelpartner_id`) is "1".

Note: The selection of channel partner is not supported in the `/shipments` API.

Because inventory is sorted according to the source from which it was purchased, when requesting shipment, distinguish between inventory purchased directly from Yubico and inventory purchased from Yubico's channel partners. The **Dashboard** shows your *total* inventory of any given product, combining quantities purchased from all sources: both directly from Yubico and indirectly through channel partners. To find out what is in which inventory, check your purchase orders.

To find out what the channel partner ID is:

BEFORE shipment

The name and ID of the channel partner are shown on the purchase order detail page, accessible by clicking the ID of the PO on the **Purchase orders** page.

AFTER shipment

The **Channel partner ID** is shown on the shipment request detail page, accessible by clicking the ID of the shipment request on the **Shipments tab**.

Note: You have an inventory from each channel partner. To request shipment from two or more inventories, make a shipment request for each inventory. For example, to have three YubiKey 5C NFC delivered to Jan Lindberg, even if your dashboard shows that you have three such keys, if one of those keys was purchased from Yubico, the second from channel partner A and the third key from channel partner B, you need to make three shipment requests, each one of them drawing on a different inventory.

1.9.2 Procedure for Bulk Uploads

Step 1

Click **Create shipment request**. The **New shipping request** popup appears.

Step 2

From the **Bulk Shipment** tab of the **New shipping request** popup, click **Download shipment spreadsheet template (csv)**, the name of which is **bulk_shipment_template.csv**.

Do not confuse this button with the **Download CSV** button next to the **Shipment request** button on the **Shipments** tab.

Step 3

Get the country codes required for populating this file: still on the **Bulk Shipment** tab of the **New shipping request** popup, click **Download available countries (csv)**.

Step 4

Save the CSV file preparatory to populating it with your information. The only purpose of the file-name is to enable you to identify it correctly when you upload it. The following steps call out only certain fields. *Shipment Request Fields* below covers all the fields.

Step 5

In the **InventoryType** column, use the integers in the table below:

Table 6: **Inventory Types (Stock)**

Integer	inventory_type (Stock)	Purchase Mode
1	Product	Outright purchase
2	Non-subscription	Purchase of virtual keys
3	Subscription - Initial key Shipment	Subscription
4	Subscription - Buffer Stock Shipment	Subscription (1.0)
5	Subscription - Replacement key Shipment	Subscription

Note: Although Console users can specify the inventory they want to draw from for individual shipment requests, this option is not available for bulk shipments. Bulk shipment requests allow only the selection of initial, replacement, or buffer stock. When inventory is not specified or cannot be specified, the system uses the “first in, first out” rule, which means it will deduct from the oldest PO first.

Step 6

The **ChannelPartnerId** column also calls for an integer.

The entity through which you submit a PO is always referred to as a channel partner, even if it was a direct purchase. Yubico's Channel partner ID (or ChannelPartnerId or channelpartner_id) is "1".

Note: The selection of channel partner is not supported in the /shipments API.

Because inventory is sorted according to the source from which it was purchased, when requesting shipment, distinguish between inventory purchased directly from Yubico and inventory purchased from Yubico's channel partners. The **Dashboard** shows your *total* inventory of any given product, combining quantities purchased from all sources: both directly from Yubico and indirectly through channel partners. To find out what is in which inventory, check your purchase orders.

To find out what the channel partner ID is:

BEFORE shipment

The name and ID of the channel partner are shown on the purchase order detail page, accessible by clicking the ID of the PO on the **Purchase orders** page.

AFTER shipment

The **Channel partner ID** is shown on the shipment request detail page, accessible by clicking the ID of the shipment request on the **Shipments tab**.

Step 7

When you have finished populating the CSV file:

- a) On the **Bulk Shipment** tab, click **Choose file**.
- b) Select your CSV file, and then click **Upload**.

If your CSV file uploads successfully, after pre-checks have been performed, notification of success appears under the **Upload** button.

- c) You are prompted to confirm the file you are uploading (by line count).

If you later find that there were errors in the uploaded file, you can delete some or all of the rows (see [Editing or Deleting a Shipment](#) and/or [Deleting Multiple Shipments](#)).

Note: It can take some time before your requests appear in the list of shipment requests. Always allow time for corrections in case the system finds addresses marked as Incomplete - see below, [Reviewing Incompletes](#).

Shipment Request Fields

In the table below, all fields not marked as mandatory are optional. The **Limit** column displays the maximum number of alphanumeric characters permitted per field/table cell.

Table 7: Shipment Request Fields

	Console: Field Label CSV: Column Heading	Description	Limit
	Country code country_code_2	Mandatory. Country code from available_countries.csv	2
1	Company recipient	Mandatory if name of recipient is not provided	20
	First name recipient_firstname	Name of recipient. Mandatory if company name not given	15
	Last name recipient_lastname	Recipient's family name. Mandatory, absent company name	20
	Address 1 street_line1	Mandatory. First line of address	60
	Address 2 street_line2	Mandatory if address undeliverable without (e.g. suite #)	60
	Address 3 street_line3	Not supported for expedited/rush orders	60
	City	Mandatory. City, town, or township	60
2	Region/State region	For the US and Canada, USPS codes are mandatory. See <i>USPS Codes for US and Canada</i> . (Console users: Select code from dropdown). For other countries, region or state is mandatory if the address is not deliverable without it. To check address deliverability, see footnote to table.	50

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Table 7 – continued from previous page

	Console: Field Label CSV: Column Heading	Description	Limit
	Postcode postal_code	Zip code or postal code	50
	RecipientEmail recipient_email	Recipient's email address	80
3	Contact Phone RecipientTelephone recipient_telephone	Mandatory. Telephone number of shipment recipient The limit is 40 of the alphanumeric characters "0-9+-()" unless the country code is IN, in which case the limit is 255. Any format is acceptable, with or without spaces	40
4	DeliveryType delivery_type	Type of shipping, "Normal" (1) or "Expedited" (2). Integers (mandatory for API) OR words	–
5	InventoryType	Mandatory. Console users select from dropdown. For bulk orders and API users, see <i>Product ID and Inventory Product ID</i> .	–
6	ChannelPartnerId Mandatory. If inventory was purchased directly from channel_partner_ID Yubico, enter "1"; if not, enter the ChannelPartnerId		3
	Yubikey 5 NFC	Number of keys to be shipped	3
	YubiKey 5 Nano	Number of keys to be shipped	3
	YubiKey 5C	Number of keys to be shipped	3

continues on next page

Table 7 – continued from previous page

	Console: Field Label CSV: Column Heading	Description	Limit
	YubiKey 5C Nano	Number of keys to be shipped	3
	YubiKey 5Ci	Number of keys to be shipped	3
	YubiKey 5Ci FIPS	Number of keys to be shipped	3
	YubiKey 5C NFC FIPS	Number of keys to be shipped	3
	YubiKey 5C Nano FIPS	Number of keys to be shipped	3
	YubiKey 5C FIPS	Number of keys to be shipped	3
	YubiKey 5 NFC FIPS	Number of keys to be shipped	3
	YubiKey 5 Nano FIPS	Number of keys to be shipped	3
	YubiKey C Bio - FIDO Edition	Number of keys to be shipped	3
	YubiKey Bio - FIDO Edition	Number of keys to be shipped	3
	Security Key NFC by Yubico (Black)	Number of keys to be shipped	3
	Security Key C NFC by Yubico (Black)	Number of keys to be shipped	3
	Security Key NFC by Yubico - Enterprise Edition	Number of keys to be shipped	3
	Security Key C NFC by Yubico - Enterprise Edition	Number of keys to be shipped	3

Footnote: To find out if an address is deliverable, make a shipment request and see what status code or message it gets. Deliverability is determined by our shipping partners, and it is their codes and messages we display when it comes to questions of deliverability. For a fuller explanation, see [Troubleshooting](#).

Deleting Multiple Shipments

This capability applies only to requests that are still editable. To delete multiple shipment requests simultaneously,

Step 1

On the **Shipments** tab, go to the **Actions** list dropdown, and select **Bulk operations**. The **Bulk Operations** screen appears, showing only the shipment requests that can be deleted (i.e., those that have not yet been processed).

Step 2

Select the checkbox in the header row, then hit the **Delete shipments** button on the upper right. The selected shipment requests are deleted.

To revert the **Select all** action, i.e., to deselect all the shipment requests, click the checkbox in the header row again.

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.10 Shipping to a Single Address (Console)

The information in *Requesting Shipment: Introduction* applies to shipping to a single address using the console; see the *Restrictions* section, which lists the limits on field content and gives guidance on format.

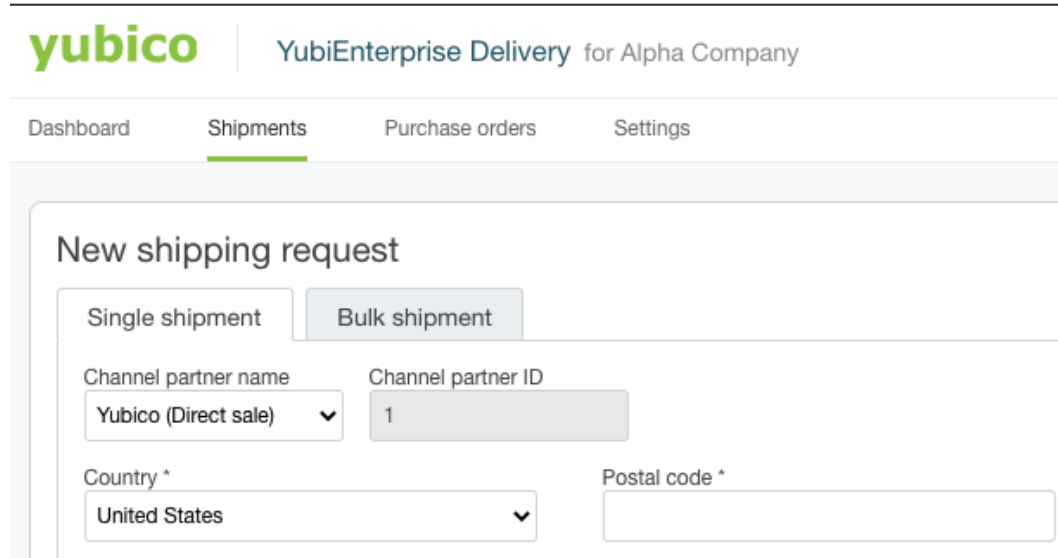
Note: Although Console users can specify the inventory they want to draw from for individual shipment requests, this option is not available for bulk shipments. Bulk shipment requests allow only the selection of initial, replacement, or buffer stock. When inventory is not specified or cannot be specified, the system uses the “first in, first out” rule, which means it will deduct from the oldest PO first.

1.10.1 Procedure

To use the Console to request shipping of keys from your inventory to one address,

Step 1

Click **Create shipment request**. The **New shipping request** popup appears. The tab on the left, **Single shipment** is shown on top by default.



Step 2

Fill in the address fields using Google Maps address formats (see [Troubleshooting](#)) and selecting from the **Region/State** dropdown. The limits on the various fields and the options for the dropdown are shown in [Shipment Request Fields](#).

- For *commercial/business* addresses, enter the name of the recipient’s company in the **Company** field.
- For *residential* addresses, leave the **Company** field empty, unless the recipient’s name is too long to fit into the first and last name fields.

Step 3

For the **Delivery Type** dropdown, select one of the two shipment types, **Normal** or **Expedited**. Your selection determines the shipping fee, which is calculated after you complete the shipping request.

Step 4

Select the inventory that you are drawing on in the **From stock** dropdown list by clicking on the list, then on the appropriate checkbox(es). Multiple selections simultaneously are possible.

For a complete list and explanations of the options, see [Inventory Matters](#). In the screenshot below, the number 4 on the right in the **From stock** field shows that four inventories were selected - those shown below the field. (The field itself is too short to name more than one of them; the three dots following in the field indicate that further selections were made).

Dashboard **Shipments** Purchase orders Settings

New shipping request

Channel partner name:
 Channel partner ID:

Country*:
 Postal code*:

Address line 1*:
 First name*:

Address line 2:
 Last name*:

Address line 3:
 Company*:

City*:
 Contact phone*:

Region / State*:
 Contact email:

Delivery type:

From stock:

Inventory	Quantity	Product type	Shipping quantity
Advanced - Plus - Backup	<input type="text"/>	Base - Standard - Primary	
Base - Standard - Primary	<input type="text"/>	Security Key NFC by Yubico (Black)	<input type="text"/>
Base/Bio - Plus - Backup - Replacement	<input type="text"/>	Security Key C NFC by Yubico (Black)	<input type="text"/>
Compliance - Standard - Backup	<input type="text"/>	Security Key NFC by Yubico - Enterprise Edition	<input type="text"/>
Base - Plus - Primary - Replacement	<input type="text"/>	Security Key C NFC by Yubico - Enterprise Edition	<input type="text"/>
Advanced/Bio - Plus - Backup - Replacement	<input type="text"/>		
YubiKey SC	<input type="text"/>		
YubiKey SC Nano	<input type="text"/>		
YubiKey SCi	<input type="text"/>		
Security Key NFC by Yubico (Black)	<input type="text"/>		
Security Key C NFC by Yubico (Black)	<input type="text"/>		
Security Key NFC by Yubico - Enterprise Edition	<input type="text"/>		
Security Key C NFC by Yubico - Enterprise Edition	<input type="text"/>		
Base/Bio - Plus - Backup - Replacement		Compliance - Standard - Backup	
YubiKey C Bio - FIDO Edition	<input type="text"/>	YubiKey 5 NFC	<input type="text"/>
YubiKey Bio - FIDO Edition	<input type="text"/>	YubiKey 5 Nano	<input type="text"/>

If you select an inventory, but do not fill in any of the product fields, no shipment request is created.

Step 5

As soon as you have selected the stock and clicked in the **Shipping quantity** field for a key, any quantities you previously entered in that field are displayed.

From stock

Standard products x 1 v

Product type	Shipping quantity
YubiKey 5C Nano	<input type="text"/>
YubiKey 5C	59
YubiKey 5Ci	1
YubiKey 5 NFC	<input type="text"/>
YubiKey Lanyard	<input type="text"/>
YubiKey 5 Nano	<input type="text"/>

Create single shipment Cancel

Enter the desired quantities in the appropriate fields.

Step 6

Click **Create shipment request**. The **Shipment confirmation** popup appears:

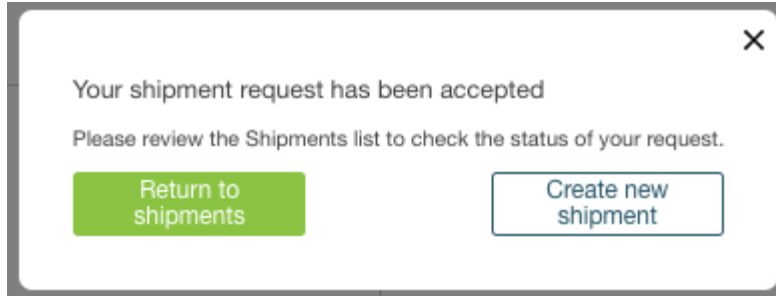
Shipment Confirmation

Primary Subscr - Prem. Tier: Initial

YubiKey 5 NFC - 1
YubiKey 5Ci - 27
YubiKey 5C Nano - 59

Confirm Cancel

Click **Confirm**. If all went well, you are notified that your request was accepted:



Shipment Request Fields

In the table below, all fields not marked as mandatory are optional. The **Limit** column displays the maximum number of alphanumeric characters permitted per field/table cell.

Table 8: **Shipment Request Fields**

	Console: Field Label CSV: Column Heading	Description	Limit
	Country code country_code_2	Mandatory. Country code from available_countries.csv	2
1	Company recipient	Mandatory if name of recipient is not provided	20
	First name recipient_firstname	Name of recipient. Mandatory if company name not given	15
	Last name recipient_lastname	Recipient's family name. Mandatory, absent company name	20
	Address 1 street_line1	Mandatory. First line of address	60
	Address 2 street_line2	Mandatory if address undeliverable without (e.g. suite #)	60
	Address 3 street_line3	Not supported for expedited/rush orders	60
	City	Mandatory. City, town, or township	60

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Table 8 – continued from previous page

	Console: Field Label CSV: Column Heading	Description	Limit
2	Region/State region	For the US and Canada, USPS codes are mandatory. See <i>USPS Codes for US and Canada</i> . (Console users: Select code from dropdown). For other countries, region or state is mandatory if the address is not deliverable without it. To check address deliverability, see footnote to table.	50
	Postcode postal_code	Zip code or postal code	50
	RecipientEmail recipient_email	Recipient’s email address	80
3	Contact Phone RecipientTelephone recipient_telephone	Mandatory. Telephone number of shipment recipient The limit is 40 of the alphanumeric characters “0-9+-()” unless the country code is IN, in which case the limit is 255. Any format is acceptable, with or without spaces	40
4	DeliveryType delivery_type	Type of shipping, “Normal” (1) or “Expedited” (2). Integers (mandatory for API) OR words	–

continues on next page

Table 8 – continued from previous page

	Console: Field Label CSV: Column Heading	Description	Limit
5	InventoryType	Mandatory. Console users select from dropdown. For bulk orders and API users, see <i>Product ID and Inventory Product ID</i> .	–
6	ChannelPartnerId Mandatory. If inventory was purchased directly from channel_partner_ID Yubico, enter “1”; if not, enter the ChannelPartnerId		3
	Yubikey 5 NFC	Number of keys to be shipped	3
	YubiKey 5 Nano	Number of keys to be shipped	3
	YubiKey 5C	Number of keys to be shipped	3
	YubiKey 5C Nano	Number of keys to be shipped	3
	YubiKey 5Ci	Number of keys to be shipped	3
	YubiKey 5Ci FIPS	Number of keys to be shipped	3
	YubiKey 5C NFC FIPS	Number of keys to be shipped	3
	YubiKey 5C Nano FIPS	Number of keys to be shipped	3
	YubiKey 5C FIPS	Number of keys to be shipped	3
	YubiKey 5 NFC FIPS	Number of keys to be shipped	3
	YubiKey 5 Nano FIPS	Number of keys to be shipped	3
	YubiKey C Bio - FIDO Edition	Number of keys to be shipped	3
	YubiKey Bio - FIDO Edition	Number of keys to be shipped	3
	Security Key NFC by Yubico (Black)	Number of keys to be shipped	3

continues on next page

Table 8 – continued from previous page

	Console: Field Label CSV: Column Heading	Description	Limit
	Security Key C NFC by Yubico (Black)	Number of keys to be shipped	3
	Security Key NFC by Yubico - Enterprise Edition	Number of keys to be shipped	3
	Security Key C NFC by Yubico - Enterprise Edition	Number of keys to be shipped	3

Footnote: To find out if an address is deliverable, make a shipment request and see what status code or message it gets. Deliverability is determined by our shipping partners, and it is their codes and messages we display when it comes to questions of deliverability. For a fuller explanation, see [Troubleshooting](#).

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.11 API Onboarding Playbook

1.11.1 Introduction

While YubiEnterprise Delivery can be driven entirely through the pre-built console, it also comes with an API that provides the ability to extend the functionality to custom applications. This API will enable your organization’s developers to integrate the API into custom solutions that precisely meet the requirements of your business.

1.11.2 YubiEnterprise Delivery Self-Service Web Portal

This [example in YubicoLabs GitHub repository](#) will demonstrate an end-to-end solution with the ability to integrate the YubiEnterprise Delivery API into a web application that users in your enterprise (or beyond) could use to create YubiKey shipment requests drawing on your organization’s inventory.

In this project you will:

1. Stand up an environment in Amazon Web Services (AWS) to handle the server-side operations for the YubiEnterprise Delivery API and for handling user authentication/authorization
2. Use the YubiEnterprise Delivery API to create, delete, edit, and retrieve shipment requests as well as verify a shipment address
3. Create a front-end application for your end users to request shipment of a YubiKey that has been defaulted by your organization.

Guide

GitHub Repository: This repository contains the code and steps required to stand up an application in AWS capable of sending requests to your organization's instance of YubiEnterprise Delivery.

Considerations

The aim of this guide is to demonstrate a barebones application that utilizes the YubiEnterprise Delivery API. The application should not be considered "production ready". Below are a few of the considerations to keep in mind to ensure the success of your integration.

Policies to prevent abuse

This demo will allow a user to request shipment of as many keys as they desire. Additional logic will need to be built in to limit the number of shipment requests based on your requirements.

Selectable security Key

This demo is configured to order the YubiKey 5 NFC, and can be extended a variety of ways to allow different keys.

Error handling

There is one section in this guide that describes handling methods if an error is sent during the initial order. For a production deployment, there are a variety of different error cases that should be considered such as low inventory, shipment failure, undeliverable address, etc.

Auto-filling address

Currently this guide assumes that the user will be shipping their key to the address listed in ServiceNow. The catalog item may need to be extended to allow the user to input their personal address (for example, if they are not located at one of your main offices). You may want to consider leveraging the YubiEnterprise Delivery Verify Address API to allow your users to correct any address errors prior to submitting a shipment request.

Configuration based on your security requirements

This includes swapping the system out to use your identity provider, secrets management in AWS Lambda, and other controls used by your organization.

People and process impacts to customer service

If your application is intended for external end users then your internal CX team needs to be prepared to handle inquiries relating to YubiEnterprise Delivery/YubiKey. Either an internal team should be established and trained to handle these items OR you can engage Yubico Professional Services.

Multi-region PO support

The current demo is configured for a purchase order covering a single region. You will need to use the proper API token for the user's region, e.g. North America / Canada is one region, EMEA is a different region and each have their own associated API token.

More information can be found [here](#).

1.11.3 ServiceNow Integration

For an organization that has fully integrated YubiEnterprise Delivery into its own internal systems via the APIs, the fulfillment experience is streamlined: the end-user receives an email notifying them that they are eligible for a YubiKey and/or that they are required to use the key for specific system access. The email directs the end-user to the corporate fulfillment system (e.g., ServiceNow). For more information, see *ServiceNow Integrations*.

1.11.4 Setting up API Caller and Generating Token

With regard to the API token,

- Protect access to the API token, because whoever is in possession of the token is authorized to perform API operations for your organization.
- Accounts that use machine tokens should have the Admin role, not the Owner role. This reduces the risk if the token is compromised, since the token has only the permissions associated with its role.
- The fact that API tokens can easily be issued and revoked helps to assure the security of accounts that use machine tokens.
- To handle machine token expiry, we recommend using the API (`/auth/machine-token`) to renew the API token. Ideally, logic should be put in to renew by calling the API to get a new token before the existing one expires.
- If a user is removed from an organization and has a token in that organization, the token is revoked. If a user is suspended, all tokens are revoked. The tokens are left untouched if the user is reset or the password is reset.
- Before an API token expires, the system generates and sends a notification to the associated email address. The email notifies that the token will expire in 7 days/1day and will not be accepted by our system after that.

Step 1

Set up a sub-account for the application that will be calling the YubiEnterprise Delivery API. Detailed instructions for b and c below are given in *Adding or Deleting an Org Member*.

- a. Set up an email account for the application that will be calling the API. Ensure that you have access to it. The system automatically sends an email with login instructions to the new user.
- b. Use the YubiEnterprise Delivery Console (GUI) to create an account used *solely* by the API caller, for example, `jan+api@example.com`.
- c. Assign to the API caller's account the **YubiDelivery Admin** role.

Step 2

Activate the new API-calling account by clicking the login link in the email and following the on-screen prompts.

Step 3

Associate a YubiKey for the API caller account with the YubiEnterprise login credentials:

- a. On the upper right of any YubiEnterprise Console page, go to the profile page of the API caller by clicking the initial for that account.
- b. Click **Manage login credentials** and enroll a YubiKey as a roaming credential.

Note: Consider registering a second YubiKey in case the first YubiKey becomes unavailable due to loss or theft.

Step 4

Generate the API token:

- a. On the YubiEnterprise Console **Profile** page, click **Generate new API token**.
- b. Make a copy of the token and store it in a secure location.

The token is displayed on the Console *only at this time*. Once you navigate away from the page you will no longer be able to view it.

Note: The API token is tied to an account AND an organization.

Authenticating with HTTP

The YubiEnterprise Delivery API supports the HTTP Bearer Authentication scheme. In order to authenticate with HTTP, you must provide your API token in the header of the request.

Copy your API token from its secure location and paste it into into a curl command in a bash script as shown below (the full token is not shown here).

```
curl "https://api.console.yubico.com/v1/inventory" \  
--header "Authorization: Bearer eyJhb..."
```

Once you are logged into YubiEnterprise Delivery, you can view the YubiEnterprise Delivery public API at <https://console.yubico.com/apidocs>.

1.11.5 Dates and Times

All dates and times in requests from the API are UTC in the [RFC-3339](#) format.

1.11.6 Users, Roles, and Organizations

Since API tokens are scoped to organizations, if an organization is shipping YubiKeys to both United States/Canada and to Europe, two API tokens are required: one for the US/CAN organization and one for the European organization.

An individual user can have one role in one organization and the same or a different role in another organization; for example, user Jan could be an owner in a company's US/CAN organization and an Admin in the same company's EU organization. However, because these are separate organizations, if Jan is logged in to the US/CAN YubiEnterprise, Jan cannot use that login to perform operations in the company's EU YubiEnterprise.

Because it is possible to change the role of a user already in an organization, it is worth noting that deleting a user both:

- Deletes that user's association with the organization, and
- Removes from that user the permissions associated with their role.

It is therefore possible in theory (though undesirable) for a user to be a member of an organization without having a role.

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.12 Shipping Request Via API

Before starting, please review the information in *Requesting Shipment: Introduction* because it applies to executing shipment requests with the API (as well as to the other methods for making shipment requests).

Using the API you can make individual shipment requests or you can make shipment requests in bulk. This latter method requires the CSV file. Many of the necessary parameters are shared by the two methods. Instructions for filling out the shared fields as the system expects are set out below in the lettered sections (corresponding to the columns in the CSV file), whereas the general instructions for individual and bulk requests are set out in separate sections.

1.12.1 Verify Inventory Before Requesting Shipment

Verify that all the products you intend to ship are currently available in inventory.

- `/shippablekeys` returns **all** products associated with your organization's account, including any products that have a current available inventory of 0.
- When `inventory_type` is 1, products that have zero inventory are not listed. The quantities of the products available are shown next to the names of the products. Therefore, even if a product is shown on a PO, if its inventory is exhausted by the time you want to request it be shipped, this API will not return it.

`/inventory` Example Output

```
{
  "count": 3,
  "total_count": 3,
  "organization_product_inventory": [
    {
      "organization_product_inventory_id": "Cym9ypJsmVEshX9qzSQc7S",
      "is_subscription_product": true,
      "is_virtual_product": true,
      "organization_id": "UEayb8v4LTHdAshpnlGmd",
      "organization_product_quantity": 978,
      "product_id": 15,
      "inventory_type": 3,
      "product_name": "Primary Subscr - Adv. Tier: Initial",
      "product_tier": 2
    },
    {
      "organization_product_inventory_id": "Ky8VzJWpftEk2hiMsJDjVW",
      "is_subscription_product": true,
      "is_virtual_product": true,
      "organization_id": "UEayb8v4LTHdAshpnlGmd",
      "organization_product_quantity": 10,
      "product_id": 44,

```

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```

    "inventory_type": 3,
    "product_name": "Backup Subscr - Prem. Tier: Initial",
    "product_tier": 3,
    "product_mapping": [
      1,
      2,
      3,
      4,
      5,
      6,
      7]
  },
  {
    "organization_product_inventory_id": "UPjT3FU8oqCoHPCr9mNUzD",
    "is_subscription_product": true,
    "is_virtual_product": true,
    "organization_id": "UEayb8v4LTHdAshpnk1gMd",
    "organization_product_quantity": 964,
    "product_id": 18,
    "inventory_type": 3,
    "product_name": "Primary Subscr - Prem. Tier: Initial",
    "product_tier": 3,
    "product_mapping": [
      1,
      2,
      3,
      4,
      5,
      6,
      7]
  }
]
}

```

1.12.2 Individual Shipment Requests via API

To order keys via API from inventory purchased through channel partners, the new `/shipments_exact` APIs **must** be used. The APIs modified to handle channel partners are:

- GET `/shipments_exact`
- POST `/shipments_exact`
- GET `/shipments_exact/{shipmentId}`
- PUT `/shipments_exact`

The corresponding deprecated `/shipments` have not been modified and can only handle inventory purchased directly from Yubico.

Example: Without Subscription

For example, if you do not have a subscription and simply bought outright a number of YubiKey 5C Nanos (no virtual keys, no tiers), your request for a single shipment would look like this:

```
{
  "delivery_type": 1,
  "country_code_2": "US",
  "recipient": "string",
  "recipient_email": "string",
  "recipient_firstname": "string",
  "recipient_lastname": "string",
  "recipient_telephone": "string",
  "street_line1": "string",
  "street_line2": "string",
  "street_line3": "string",
  "city": "string",
  "region": "string",
  "postal_code": "string",
  "shipment_items": [
    {
      "product_id": 4,
      "inventory_product_id": 4,
      "shipment_product_quantity": 1
    }
  ]
}
```

Example: With Subscription

With a subscription, your `product_id` value and your `inventory_product_id` value would not coincide, and your individual shipment request would look like this:

```
{
  "delivery_type": 1,
  "country_code_2": "US",
  "recipient": "string",
  "recipient_email": "string",
  "recipient_firstname": "string",
  "recipient_lastname": "string",
  "recipient_telephone": "string",
  "street_line1": "string",
  "street_line2": "string",
  "street_line3": "string",
  "city": "string",
  "region": "string",
  "postal_code": "string",
  "shipment_items": [
    {
      "product_id": 4,
      "inventory_product_id": 15,
      "shipment_product_quantity": 1
    }
  ]
}
```

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```
}  
  ]  
}
```

1.12.3 Shipping Products to a Single Address

Use the `/shipments_exact` APIs for any new development and to update clients in existence prior to YubiEnterprise Delivery 1.6.0.

Specifying the stock/inventory to be used for an individual shipment request provides a much larger range of options than those available for bulk shipments.

Single Shipment Example Input

The following Curl example sends an HTTP POST to the `shipments_exact` resource URI to ship a YubiKey 5 NFC to a fictional employee, Jan Lindberg:

```
curl "https://api.console.yubico.com/v1/shipments_exact" \  
--header "Content-Type: application/json" \  
--header "Authorization: Bearer eyJhb..." \  
--data '{  
{  
  "delivery_type": 1,  
  "country_code_2": "US",  
  "recipient": "Example Inc.",  
  "recipient_email": "jan.lindberg@example.com",  
  "recipient_firstname": "Jan",  
  "recipient_lastname": "Lindberg",  
  "recipient_telephone": "555-5555",  
  "street_line1": "7788 Foxrun Street",  
  "street_line2": "",  
  "street_line3": "",  
  "city": "Dedham",  
  "region": "MA",  
  "postal_code": "02026",  
  "shipment_items": [  
    {"product_id": 3,  
     "inventory_product_id": 15,  
     "shipment_product_quantity": 16}  
  ]  
}'
```

In the example above, you will notice the `delivery_type` is set to 1 which means it is a normal shipment. A value of 2 would request an expedited shipment. The `recipient_email` gives the address at which the recipient will receive an email with the tracking number of the shipment.

Single Shipment Example Output

```
{
  "shipment_id": "U89bvfkKctQfhnqaFBrAZW",
  "shipment_items": [
    {
      "inventory_product_id": 15,
      "shipment_product_id": "MZ9bmEYFpKKviHe8nSiq4W",
      "shipment_id": "U89bvfkKctQfhnqaFBrAZW",
      "product_id": 3,
      "product_name": "YubiKey 5C",
      "product_sku": "5060408461488",
      "product_tier": 2,
      "shipment_product_quantity": 16
    }
  ],
  "organization_id": "UEayb8v4LTHdAshpnl1gMd",
  "user_id": "WMktp3sgPSFt4zsgpLDF46",
  "country_code_2": "US",
  "is_delivered": false,
  "is_sent_to_fulfillment": false,
  "is_shipped": false,
  "recipient": "Example Inc.",
  "recipient_email": "jan.lindberg@example.com",
  "recipient_firstname": "Jan",
  "recipient_lastname": "Lindberg",
  "recipient_telephone": "555-5555",
  "street_line1": "7788 Foxrun Street",
  "city": "Dedham",
  "region": "MA",
  "postal_code": "02026",
  "delivery_type": 1,
  "shipment_state_code": "ShipmentStateAwaitingValidation",
  "shipment_state_id": 3,
  "shipment_state_message": "Awaiting Validation",
  "shipment_summary_description": "Total Keys: 16 yk5c:16",
  "shipment_request_date": "2020-12-10T19:56:57Z",
  "shipment_updated_date": "2020-12-10T19:56:57Z",
  "total_keys_shipped": 16
}
```

1.12.4 Shipping Products to Multiple Addresses

The system chooses the stock (inventory) from which products are drawn.

Example

The following example of a Bash script calls Curl to upload a CSV file with multiple shipment requests. To scroll horizontally, click in the code box below.

```
#!/bin/bash

token="apitokengoeshere"

curl -F "file=@/path/to/file/bulk_shipment.csv" https://api.console.yubico.com/v1/
↪shipments/bulkvalidate \
--header "x-authorization: Bearer ${token}"
```

For instructions on creating and populating the CSV file, see *Bulk Upload: Shipping to Multiple Addresses*.

Validating CSV Uploads

lines-in-file	Lines in the file, including header.
lines_read	Lines that were able to be read in as CSV, excluding the header. lines_read should thus be one less than lines_in_file
lines_parsable	Lines that passed basic validation. lines_parsable + lines_not_parsable = lines_read.

Example: If a file that is not in the CSV format is uploaded, even if it had 100 lines, 0 lines would be read, because the CSV reader function cannot read the lines in as CSV.

Example: If a file has too many columns - i.e., more columns than the header row has - 0 lines would be read.

Examples of Error Messages

- Error with GetCountryByTwoLetterCode for CountryCode2: TT
- InventoryType not set for Shipment, defaulting to 1
- DeliveryType not set for Shipment, defaulting to 1 - *normal*
- Wrong number of fields

1.12.5 Bulk Shipment Requests via API

Bulk orders using the API are still handled through the following APIs:

- GET /shipments/bulk
- POST /shipments/bulk
- POST /shipments/bulkvalidate
- POST /shipments/bulkdelete

The API parameters and request body themselves did not change to work with channel partners. Instead, it is the content of the .csv file used in the upload that has been changed to include the new **channel_partner_ID** field. The channel partner ID is a non-zero integer shown as a field on the purchase order table and on the purchase order details page.

Note: To ensure you are using the latest .csv file format, download the template file each time you prepare to upload a new batch of shipment requests.

Shipment Request Fields in CSV File

Use the CSV file for bulk shipments via API.

Note: Although Console users can specify the inventory they want to draw from for individual shipment requests, this option is not available for bulk shipments. Bulk shipment requests allow only the selection of initial, replacement, or buffer stock. When inventory is not specified or cannot be specified, the system uses the “first in, first out” rule, which means it will deduct from the oldest PO first.

In the table below, all fields not marked as mandatory are optional. The **Limit** column displays the maximum number of alphanumeric characters permitted per field/table cell.

Table 9: Shipment Request Fields

	Console: Field Label CSV: Column Heading	Description	Limit
	Country code country_code_2	Mandatory. Country code from available_countries.csv	2

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	Console: Field Label CSV: Column Heading	Description	Limit
1	Company recipient	Mandatory if name of recipient is not provided	20
	First name recipient_firstname	Name of recipient. Mandatory if company name not given	15
	Last name recipient_lastname	Recipient's family name. Mandatory, absent company name	20
	Address 1 street_line1	Mandatory. First line of address	60
	Address 2 street_line2	Mandatory if address undeliverable without (e.g. suite #)	60
	Address 3 street_line3	Not supported for expedited/rush orders	60
	City	Mandatory. City, town, or township	60
2	Region/State region	For the US and Canada, USPS codes are mandatory. See <i>USPS Codes for US and Canada</i> . (Console users: Select code from dropdown). For other countries, region or state is mandatory if the address is not deliverable without it. To check address deliverability, see footnote to table.	50
	Postcode postal_code	Zip code or postal code	50

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	Console: Field Label CSV: Column Heading	Description	Limit
	RecipientEmail recipient_email	Recipient’s email address	80
3	Contact Phone RecipientTelephone recipient_telephone	Mandatory. Telephone number of shipment recipient The limit is 40 of the alphanumeric characters “0-9+-()” unless the country code is IN, in which case the limit is 255. Any format is acceptable, with or without spaces	40
4	DeliveryType delivery_type	Type of shipping, “Normal” (1) or “Expedited” (2). Integers (mandatory for API) OR words	–
5	InventoryType	Mandatory. Console users select from dropdown. For bulk orders and API users, see <i>Product ID and Inventory Product ID</i> .	–
6	ChannelPartnerId Mandatory. If inventory was purchased directly from channel_partner_ID Yubico, enter “1”; if not, enter the ChannelPartnerId		3
	Yubikey 5 NFC	Number of keys to be shipped	3
	YubiKey 5 Nano	Number of keys to be shipped	3
	YubiKey 5C	Number of keys to be shipped	3
	YubiKey 5C Nano	Number of keys to be shipped	3
	YubiKey 5Ci	Number of keys to be shipped	3

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	Console: Field Label CSV: Column Heading	Description	Limit
	YubiKey 5Ci FIPS	Number of keys to be shipped	3
	YubiKey 5C NFC FIPS	Number of keys to be shipped	3
	YubiKey 5C Nano FIPS	Number of keys to be shipped	3
	YubiKey 5C FIPS	Number of keys to be shipped	3
	YubiKey 5 NFC FIPS	Number of keys to be shipped	3
	YubiKey 5 Nano FIPS	Number of keys to be shipped	3
	YubiKey C Bio - FIDO Edition	Number of keys to be shipped	3
	YubiKey Bio - FIDO Edition	Number of keys to be shipped	3
	Security Key NFC by Yubico (Black)	Number of keys to be shipped	3
	Security Key C NFC by Yubico (Black)	Number of keys to be shipped	3
	Security Key NFC by Yubico - Enterprise Edition	Number of keys to be shipped	3
	Security Key C NFC by Yubico - Enterprise Edition	Number of keys to be shipped	3

Footnote: To find out if an address is deliverable, make a shipment request and see what status code or message it gets. Deliverability is determined by our shipping partners, and it is their codes and messages we display when it comes to questions of deliverability. For a fuller explanation, see [Troubleshooting](#).

C. and D. Names

Line 1: recipient_firstname and recipient_lastname map to the first line on the shipping label. This applies to all methods of requesting shipment - on the **Console**, in the **API** and in the **CSV file**.

Line 2: The recipient field in the API and the **recipient_company** column in the CSV require the **name of the recipient's company** (if applicable) in the shipment address. This maps to the second line of the address. Do not use the /shipments recipient field to specify the name of the individual to whom products are to be shipped. Use the recipient_firstname and recipient_last name fields instead. If the recipient's address is residential, leave the **recipient_company** column in the CSV and the recipient field in the API empty.

Long names: Long recipient names can be problematic for all methods of requesting shipment, because the shipment request will fail if the contents of the name and/or **Company** / recipient fields exceed the maximum number of characters permitted in these fields (shown in the table below). **Workaround:** When a recipient's full name or company name exceeds the fields' maximum lengths, split the names across the three fields, for example:

Location	Field (limit=15)	Limit	Field (limit=20)	Limit	Field (limit=20)	Limit
API	recipient_firstname	15	recipient_lastname	20	recipient	20
CSV	recipient_firstname	15	recipient_lastname	20	recipient_company	20
Console	First name	15	Last name	20	Company	20
Example of an overly long name before adjustment to fit the fields						
	Johannes-Maximilian		von Derschowitz-Dampfloch zu Querdenker			
Example after adjustment						
	Joh.-Maximilian		v.DerschowitzDampfloch		zu Querdenker	

E. Post Office Boxes

Although the system can deliver to Post Office (PO) Boxes within the United States, delivery to the equivalent elsewhere in the world is unlikely to succeed.

I. Region/State

USPS Codes for US and Canada

For shipments going to the US and Canada, the region field requires the standardized two-letter USPS code. These codes are listed below.

Table 10: USPS Codes for US and Canada

State (US) / Province or Territory (Canada)	Code
Alabama	AL
Alaska	AK
Alberta	AB
Arizona	AZ
Arkansas	AR
British Columbia/Colombie-Britannique	BC
California	CA
Colorado	CO
Connecticut	CT

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State (US) / Province or Territory (Canada)	Code
Delaware	DE
District of Columbia	DC
Florida	FL
Georgia	GA
Hawaii	HI
Idaho	ID
Illinois	IL
Indiana	IN
Iowa	IA
Kansas	KS
Kentucky	KY
Louisiana	LA
Maine	ME
Manitoba	MB
Maryland	MD
Massachusetts	MA
Michigan	MI
Minnesota	MN
Mississippi	MS
Missouri	MO
Montana	MT
Nebraska	NE
Nevada	NV
New Brunswick/Nouveau-Brunswick	NB
New Hampshire	NH
New Jersey	NJ
New Mexico	NM
New York	NY
Newfoundland/Terre-Neuve	NF
North Carolina	NC
North Dakota	ND
Northwest Territories/Territoires du Nord-Ouest	NT
Nova Scotia/Nouvelle-Écosse	NS
Nunavut	NU
Ohio	OH
Oklahoma	OK
Ontario	ON
Oregon	OR
Pennsylvania	PA
Prince Edward Island/Île-du-Prince-Édouard	PE
Puerto Rico	PR
Quebec/Québec	QC
Rhode Island	RI
Saskatchewan	SK
South Carolina	SC
South Dakota	SD
Tennessee	TN
Texas	TX
Utah	UT

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Table 10 – continued from previous page

State (US) / Province or Territory (Canada)	Code
Vermont	VT
Virginia	VA
Washington	WA
West Virginia	WV
Wisconsin	WI
Wyoming	WY
Yukon	YK

L. Telephone Number

It is mandatory that the `recipient_telephone` field be populated. This is the number at which the recipient of the shipment can be reached, designated on the Console as **Contact Phone**.

The permissible content of this, `[+()\-0-9\s]+`, should match regular expressions.

For `/v1/shipments_exact` the API validates the existence of `recipient_telephone` in the request body. For CSV upload via `/v1/bulkvalidate`, the API validates the existence of `recipient_telephone` on each row. In both cases, if the country code is IN, the limit is 255 of the alphanumeric characters specified above while all other country codes limit `recipient_telephone` to 40.

M. Delivery Type

`ShipmentDeliveryTypeEnum` specifies the method of shipping:

- 1 - Normal (standard) shipping (default)
- 2 - Expedited (rush) shipping.

N. InventoryType

The `inventory_type` requires one of the values given in the *Inventory Types (Stock)* table below.

Table 11: **Inventory Types (Stock)**

Integer	inventory_type (Stock)	Purchase Mode
1	Product	Outright purchase
2	Non-subscription	Purchase of virtual keys
3	Subscription - Initial key Shipment	Subscription
4	Subscription - Buffer Stock Shipment	Subscription (1.0)
5	Subscription - Replacement key Shipment	Subscription

- Customers who have purchased Subscription (2.0) will be selecting only Inventory Type **3** or **5**.
- If you have purchased keys on the perpetual mode and/or lanyards, use Inventory Type **1**.
- If you are not a subscription customer, but have purchased one or more **tiers of virtual keys** instead of physical keys, use Inventory Type **2**.
- Subscription (1.0) customers: Use Inventory Types **3**, **4**, and/or **5**.

Table 12: **Stock: Initial, Buffer, Replacement**

Initial	The stock in this category reflects the total number of users on the subscription. This lot can be drawn upon for 12 months from the start of your subscription term.
Buffer	This category is made available to you free of charge when your subscription begins. You can draw on it throughout the term of your subscription.
Replacement	This category is intended for those who have lost their YubiKeys or want to upgrade. The stock in this category is reset each year of the subscription to the Replacement limit.

- Use up all of your Inventory Type 3, Initial, within the first year of your subscription.
- Use Inventory Type 4 at any time: Buffer stock expires only at the end of your subscription term.
- Use Inventory Type 5, Replacement, for users who have lost their keys or want to upgrade. Any keys not used in a given year are forfeited at the end of that year.

O. Channel Partners

To order keys via API from inventory purchased through channel partners, the new `/shipments_exact` APIs must be used; see *Deprecated APIs* below. The older, deprecated `/shipments` API only supports ordering keys from inventory purchased directly from Yubico.

The following APIs related to bulk shipments have been updated to handle channel partners:

- POST `/shipments/bulk`
- GET `/shipments/bulk`
- POST `/shipments/bulkvalidate`
- POST `/shipments/bulkdelete` - For the sake of completeness, this is included in the list, but it has not changed.

The GET `/shipments/csv` API will also be updated to support channel partners.

Product ID and Inventory Product ID

The `product_id` is the unique identifier for the product, e.g., 4 is the YubiKey 5C Nano. The `inventory_product_id` can be thought of as the ID for a “bucket” containing credits that your organization bought to cover the purchase of keys, lanyards, etc. Typically organizations with subscriptions have multiple “buckets”, while organizations without a subscription might have only a single “bucket.”

Both `product_id` and `inventory_product_id` are mandatory fields.

Use the `inventory_product_id` to specify which inventory you are pulling from. The inventories correspond exactly to:

- The inventories shown on the YubiEnterprise Console Dashboard and
- The options in the **Choose from stock** dropdown on the **Single shipment** tab accessed by clicking **Create Shipment Request** on the **Shipments** screen.

The *Stock/Inventory* table below lists both `product_id` and `inventory_product_id` in the same column, and contains all inventories and products except custom products.

- To get the complete list of products and inventories **available to your organization**, make a call to GET `/inventory`.
- If you have custom products, calling GET `/inventory` will return a list that also contains your custom products (see also *Custom-programmed YubiKeys*).
- When making requests, use the `/inventory` end point to find the `product_id` to use for that and/or `inventory_product_id`.

Note: The `inventory_product_id` can have the same value as the `product_id` field in the individual `inventory_records`.

Table 13: **Stock/Inventory: ``product_id``, and ``inventory_product_id`` mapped to Product Name**

<code>inventory_product_id</code> and/or <code>product_id</code>	<code>product_name</code>
1	YubiKey 5 NFC
2	YubiKey 5 Nano
3	YubiKey 5C
4	YubiKey 5C Nano
5	YubiKey 5Ci
7	Security Key NFC by Yubico
8	YubiKey FIPS
9	YubiKey Nano FIPS
10	YubiKey C FIPS
11	YubiKey C Nano FIPS
12	Primary Subscr - Base Tier: Initial
13	Primary Subscr - Base Tier: Buffer
14	Primary Subscr - Base Tier: Replacement
15	Primary Subscr - Adv. Tier: Initial

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Table 13 – continued from previous page

inventory_ product_id and/or product_id	product_name
16	Primary Subscr - Adv. Tier: Buffer
17	Primary Subscr - Adv. Tier: Replacement
18	Primary Subscr - Prem. Tier: Initial
19	Primary Subscr - Prem. Tier: Buffer
20	Primary Subscr - Prem. Tier: Replacement
21	Primary Subscr - FIPS Tier: Initial
22	Primary Subscr - FIPS Tier: Buffer
23	Primary Subscr - FIPS Tier: Replacement
24	Non-subscription - Base Tier
25	Non-subscription - Advanced Tier
26	Non-subscription - Premium Tier
27	Non-subscription - FIPS Tier
28	YubiKey Lanyard
29	YubiKey 5C NFC
38	Backup Subscr - Base Tier: Initial
39	Backup Subscr - Base Tier: Buffer
40	Backup Subscr - Base Tier: Replacement
41	Backup Subscr - Adv. Tier: Initial
42	Backup Subscr - Adv. Tier: Buffer
43	Backup Subscr - Adv. Tier: Replacement
44	Backup Subscr - Prem. Tier: Initial
45	Backup Subscr - Prem. Tier: Buffer
46	Backup Subscr - Prem. Tier: Replacement
47	Backup Subscr - FIPS Tier: Initial
48	Backup Subscr - FIPS Tier: Buffer
49	Backup Subscr - FIPS Tier: Replacement
54	YubiKey 5 NFC FIPS
55	YubiKey 5C NFC FIPS
56	YubiKey 5Ci FIPS
57	YubiKey 5 Nano FIPS
58	YubiKey 5C FIPS
59	YubiKey 5C Nano FIPS
68	YubiKey C Bio - FIDO Edition
69	YubiKey Bio - FIDO Edition
82	Security Key NFC by Yubico (Black)
83	Security Key C NFC by Yubico (Black)
84	Security Key NFC by Yubico - Enterprise Edition
85	Security Key C NFC by Yubico - Enterprise Edition
86	Base - Standard - Primary
87	Base - Standard - Backup
88	Base - Standard - Primary - Replacement
89	Base - Standard - Backup - Replacement
90	Base - Plus - Primary
91	Base - Plus - Backup

continues on next page

Table 13 – continued from previous page

inventory_ product_id and/or product_id	product_name
92	Base - Plus - Primary - Replacement
93	Base - Plus - Backup - Replacement
94	Base/Bio - Standard - Primary
95	Base/Bio - Standard - Backup
96	Base/Bio - Standard - Primary - Replacement
97	Base/Bio - Standard - Backup - Replacement
98	Base/Bio - Plus - Primary
99	Base/Bio - Plus - Backup
100	Base/Bio - Plus - Primary - Replacement
101	Base/Bio - Plus - Backup - Replacement
102	Advanced - Standard - Primary
103	Advanced - Standard - Backup
104	Advanced - Standard - Primary - Replacement
105	Advanced - Standard - Backup - Replacement
106	Advanced - Plus - Primary
107	Advanced - Plus - Backup
108	Advanced - Plus - Primary - Replacement
109	Advanced - Plus - Backup - Replacement
110	Advanced/Bio - Standard - Primary
111	Advanced/Bio - Standard - Backup
112	Advanced/Bio - Standard - Primary - Replacement
113	Advanced/Bio - Standard - Backup - Replacement
114	Advanced/Bio - Plus - Primary
115	Advanced/Bio - Plus - Backup
116	Advanced/Bio - Plus - Primary - Replacement
117	Advanced/Bio - Plus - Backup - Replacement
118	Compliance - Standard - Primary
119	Compliance - Standard - Backup
120	Compliance - Standard - Primary - Replacement
121	Compliance - Standard - Backup - Replacement
122	Compliance - Plus - Primary
123	Compliance - Plus - Backup
124	Compliance - Plus - Primary - Replacement
125	Compliance - Plus - Backup - Replacement

Custom-programmed YubiKeys

If your organization has custom-programmed YubiKeys, to make a shipment request, use the `/inventory /products` APIs to get the `inventory_product_id` and `product_id`. Using standard `product_id` codes in shipment requests will result in errors.

Error Messages

In the API

The following response is sent if `recipient_telephone` is not included in the request to create shipment at `shipments_exact` as per POST `/v1/shipments_exact`:

```
400 Bad Request {
  code: 'validation_error',
  message: 'We were unable to create the shipment',
  errors: [
    {
      field: 'recipient_telephone',
      message: 'recipient_telephone is a required field'
    }
  ]
}
```

In the CSV

When uploading a CSV file with no `recipient_telephone` provided in one or more rows:

```
YRIEIXLECHAT-01:shipments yrieix.lechat$ cat my-shipments.csv
Country code 2,Company,First name,Last name,Address 1,Address 2,Address 3,City,Region/
↪ State,Postcode,RecipientEmail,RecipientTelephone,DeliveryType,InventoryType,
↪ ChannelPartnerId,YubiKey 5 NFC,YubiKey 5 Nano,YubiKey 5C,YubiKey 5C Nano,YubiKey 5Ci,
↪ Security Key NFC by Yubico,YubiKey FIPS,YubiKey Nano FIPS,YubiKey C FIPS,YubiKey C
↪ Nano FIPS
US,My Company,Yrieix,LeChat,123 Home Ave,,Brooklyn,NY,11111,y.lechat@yubico.com,,Normal,
↪ 1,1,0,0,0,0,0,1,0,0,0,0
YRIEIXLECHAT-01:shipments yrieix.lechat$ curl -v -s -X POST -H "Authorization: Bearer ..."
↪ -F file=./my-shipments.csv http://api.console.local/v1/shipments/bulkvalidate |
↪ json_pp
...
> POST /v1/shipments/bulkvalidate HTTP/1.1
> Host: api.console.local
...
< HTTP/1.1 200 OK
...
{
  "csv_filename" : "my-shipments.csv",
  "failed_rows" : [
    {
      "fatal_messages" : "recipient_telephone is a required field",
      "row_number" : 2
    }
  ]
}
```

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```
    }
  ],
  "lines_in_file" : 2,
  "lines_not_parsable" : 1,
  "lines_read" : 1
}
```

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.13 Shipment Requests via API: Listing, Tracking, Searching, Status, etc.

1.13.1 Listing Shipment Requests

There is a 100-record limit on all API calls. To illustrate, using `/shipments_exact` to retrieve a list of all shipments would be unsuccessful unless there were only one hundred or fewer shipments, as only the first 100 records are returned.

Note: The `/shipments_exact{id}` route returns the shipment type ('Automated' or 'Manual') as part of the response. The field is sortable. The `/shipments/search-description` route returns the `Type` field as a filterable field.

Obtaining Further Records

In cases where there are more than 100 shipments, iterate through the shipments based on the number of shipments provided by the `total_count` parameter.

Use the optional parameters to obtain more records. For example:

```
// get the first 100
/shipments_exact?limit=100&offset=0

// get the second 100
/shipments_exact?limit=100&offset=100

// get the third 100
/shipments_exact?limit=100&offset=200
```


1.13.2 Single Shipment Request Tracking Example

A successful response from the `shipments_exact` resource will include a `shipment_id` which can be used to get the tracking information for this shipment request.

```
{
  "shipment_id": "U89bvffKKCtQfhnqaFBrAZW",
  "shipment_items": [
    {
      "inventory_product_id": 15,
      "shipment_product_id": "MZ9bmEYFpKKviHe8nSiq4W",
      "shipment_id": "U89bvffKKCtQfhnqaFBrAZW",
      "product_id": 3,
      "product_name": "YubiKey 5C",
      "product_sku": "5060408461488",
      "product_tier": 2,
      "shipment_product_quantity": 16
    }
  ],
  "organization_id": "UEayb8v4LTHdAshpkn1gMd",
  "user_id": "WMktp3sgPSFt4zsgpLDF46",
  "country_code_2": "US",
  "is_delivered": false,
  "is_sent_to_fulfillment": false,
  "is_shipped": false,
  "recipient": "Example Inc.",
  "recipient_email": "jan.lindberg@example.com",
  "recipient_firstname": "Jan",
  "recipient_lastname": "Lindberg",
  "recipient_telephone": "555-5555",
  "street_line1": "7788 Foxrun Street",
  "city": "Dedham",
  "region": "MA",
  "postal_code": "02026",
  "delivery_type": 1,
  "shipment_state_code": "ShipmentStateAwaitingValidation",
  "shipment_state_id": 3,
  "shipment_state_message": "Awaiting Validation",
  "shipment_summary_description": "Total Keys: 16 yk5c:16",
  "shipment_request_date": "2020-12-10T19:56:57Z",
  "shipment_updated_date": "2020-12-10T19:56:57Z",
  "total_keys_shipped": 16
}
```

1.13.3 Tracking a Shipment Using the `shipment_id`

```
curl "https://api.console.yubico.com/v1/shipments_exact/Bj4pfrBJ1SCvkTbTP88Ak2" \
--header "Content-Type: application/json" \
--header "Authorization: Bearer eyJhb..." \
```

1.13.4 Search

Some of the lines of code are very long, so it may be necessary to click in the line and scroll horizontally.

You can get a list of shipments filtered by query parameters. We introduced `/search-description` on searchable resources to provide a description of the searchable fields. To look up a shipment using the parameter “Shipping error, contact support” state, for example, set the `search_field` to `shipment_state_id` and set the ID to 99, which is the ID for that shipment state. (See the *Shipment Status Codes* table below for explanations of the various shipment states.)

Example

```
curl "https://api.console.yubico.com/v1/shipments_exact?search=99&search_field=shipment_
↪state_id" \
--header "Content-Type: application/json" \
--header "Authorization: Bearer eyJhb..."
```

Advanced Search

To enable advanced search, add the query string parameter `&advanced_search=true`. Note that the `&search` query parameters will need to respect a different structure: `search=field_name::operation_type::value`. An example search with curl (`--data-urlencode` is used because many characters introduced are illegal in the old query string, such as `:` and `|`):

```
curl -H "$YED_AUTHORIZATION" -G --data-urlencode 'search=shipment_request_
↪date::range::2020-05-10T00:00:00Z|2020-12-10T00:00:00Z' --data-urlencode
↪'search=organization_name::like::alpha comp' --data-urlencode 'search=organization_
↪name::exact::demo_org' 'http://api.console.local/v1/shipments_exact?offset=0&limit=10&
↪sort_by=shipment_request_date&sort_direction=DESC&advanced_search=true'
```

This is the encoded URL.

```
GET /v1/shipments_exact?offset=0&limit=10&sort_by=shipment_request_date&sort_
↪direction=DESC&advanced_search=true&search=shipment_request_date%3A%3Arange%3A%3A2020-
↪05-10T00%3A00%3A00Z%7C2020-12-10T00%3A00%3A00Z&search=organization_name%3A%3Alike%3A
↪%3Aalpha%20comp&search=organization_name%3A%3Aexact%3A%3Ademo_org HTTP/1.1
```

Fields with different names will be searched in an AND, while fields with the same name will be ORed, so the resulting query fragment will be:

```
WHERE (shipment_request_date BETWEEN ? AND ?) AND ((organizations.organization_name = ?)
↪OR (organizations.organization_name LIKE ?)) ORDER BY shipment_request_date DESC LIMIT
↪?
```

with the following array to fill in the `?` in the fragment:

```
[2020-05-10 00:00:00 +0000 UTC 2020-12-10 00:00:00 +0000 UTC demo_org %alpha comp% 10]
```

Note: The old search will continue to work as before.

1.13.5 Filtering and Pagination

Refer to the [API docs](#) for the `GetShipmentsExact` operation .

1.13.6 Status

Shipment Status Codes

A shipment request can be edited at any of the states between 1 and 9. From this point on, a shipment request is either processed through to an end state, or set back to state 99.

For information on how address validation affects the success of a shipping request, see the [Troubleshooting](#) chapter.

This table is very wide; scroll horizontally to see all four columns.

Table 14: Shipment State Codes

shipment_state_id	shipment_state_code	shipment_state_description	shipment_state_message
1	ShipmentStateIncomplete	Shipment request received by YubiEnterprise Delivery system but contained some data that could not be processed. (2), (3)	Incomplete Shipping Request
2	ShipmentStateDraft	Shipment request is being edited and is not ready for processing.	Draft
3	ShipmentStateAwaiting-Validation	Shipment request received, no validation done yet.	Awaiting Validation
4	ShipmentStateProcessingAddress	Shipment request locked as it undergoes country check, address validation, sales tax rate lookup (US), DPL check.	Processing
5	ShipmentStateAddress-Valid	Shipment request address has been validated, ready to be picked up by fulfillment processor.	Accepted for Fulfillment
6	ShipmentStateAddressInvalid	Shipment request address is invalid but an alternative address has been found and suggested. (2), (3)	Incomplete
7	ShipmentStateAddress-Fail	Shipment request address could not be validated and no alternative could be found for suggesting.	Address is undeliverable or could not be understood
80			

- (1) Refer to *Timing* for cutoff times.
- (2) Incomplete Address: Secondary line information such as apartment (apt), suite, unit is missing. Therefore it is not possible to guarantee delivery to the correct recipient.
- (3) Address is Undeliverable or could not be understood: The address is either not physically deliverable or it could not be resolved to a real location.
- (4) Any shipping request with a recipient name and/or address found on the US government’s *DPL (Denied Parties/Persons List)* cannot be fulfilled.

Shipment Status Messages

Scroll horizontally to see the entire width of the table.

As the following table is wide, you may need to scroll horizontally. In the Explanation column, the source of the message is given: YubiEnterprise Delivery system for internal messages, US Validation for the US Postal Service, and finally, International Validation. Messages originating from the last two are simply passed on to you by YubiEnterprise Delivery.

Table 15: YubiEnterprise Delivery API /shipment_exact Status Messages

Message	Explanation
InventoryProductId not specified for ProductId %d - ShipmentStateError	Step 4 in <i>Bulk Upload: Shipping to Multiple Addresses</i> YubiEnterprise Delivery system
Too many keys in shipment - TotalKeysShipped %d > %d - ShipmentStateError	See <i>Limits and Constraints</i> YubiEnterprise Delivery system
Not enough Inventory for Shipment - ShipmentStateError	See <i>Purchase Orders</i> YubiEnterprise Delivery system
Re-enter the address differently; some parts of it are invalid. See the YubiEnterprise documentation for more guidance.	See <i>Troubleshooting</i> US Validation
The address is invalid. See the YubiEnterprise documentation for more guidance.	See <i>Troubleshooting</i> US Validation
The address is valid.	No further explanation required US Validation

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Table 15 – continued from previous page

Message	Explanation
Remove the ‘secondary unit designator’ (apt, suite, department, etc.) because it is superfluous.	Remove the apartment number, unit, etc.: it is considered wrong or unnecessary US Validation
Enter second line information (apartment, unit, etc.). The information in the primary line is not specific enough.	Add the apartment number, unit, etc. US Validation
The address is a valid military address.	No further explanation required US Validation
The address is a valid General Delivery address where individuals without permanent addresses can receive mail.	No further explanation required US Validation
The address is valid. An organization such as a government agency can have its own zipcode because it receives a large volume of mail.	No further explanation required US Validation
Enter a street number; for example, for Yubico ‘Lytton Ave’ alone is not sufficient, it needs to be ‘530 Lytton Ave’.	The number on the primary line, e.g., the “185” in “185 Berry Street” is missing
Enter a valid street number.	The number on the primary line, e.g., the “185” in “185 Berry Street” is not valid US Validation
Enter a PO Box, Rural Route, or Highway Contract box number.	US Validation
Enter a valid PO Box, Rural Route, or Highway Contract box number.	US Validation
Enter the Private Mailbox (PMB) identifier or the # sign, followed by the PMB number.	PMB number is Private Mailbox Number US Validation
This address is not eligible to receive mail.	US Validation

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Table 15 – continued from previous page

Message	Explanation
The address is that of a Commercial Mail Receiving Agency (CMRA) a private business that accepts mail for recipients, and the required private mailbox information is present.	US Validation
The address is missing some important secondary line information (apartment, unit, etc).	No further explanation required International Validation
Mail is unlikely to arrive at this destination - please verify input.	No further explanation required International Validation
This street could not be found within the city or postal code.	No further explanation required International Validation
Invalid OrganizationId for Shipment	YubiEnterprise Delivery system
Country Code not set for Shipment	YubiEnterprise Delivery system
Country could not be found from CountryCode2: %s	Country code entered is not in YubiEnterprise Delivery system list
Shipment has no shipment items	YubiEnterprise Delivery system
DeliveryType not set for Shipment, defaulting to 1 - normal	YubiEnterprise Delivery system
Invalid DeliveryType %s for Shipment	YubiEnterprise Delivery system
InventoryType not set for Shipment, defaulting to 1	YubiEnterprise Delivery system
InventoryType %s not valid set for Shipment	You cannot use this InventoryType for this shipment - YubiEnterprise Delivery system
Negative quantity entered for ShipmentItem with ProductId=%d defaulting to 0	You set the quantity of the specified ProductID to be shipped to less than zero. YubiEnterprise Delivery system
Invalid ShipmentProductQuantity for ShipmentItem %d	You probably do not have sufficient inventory - YubiEnterprise Delivery system
Invalid ShipmentProductLineCost for ShipmentItem %d	YubiEnterprise Delivery system
Invalid Shipment - Total keys in shipment greater than 500	You cannot ship more than 500 items at once - YubiEnterprise Delivery system

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Table 15 – continued from previous page

Message	Explanation
Shipment has zero total item quantity	The number of items to be shipped must be > than 0 - YubiEnterprise Delivery system
US Address is missing the state name/abbreviation in region field	No further explanation required YubiEnterprise Delivery system
Bad ProductId in ShipmentProduct for NewShipment-Product	ProductID is wrongly specified or invalid YubiEnterprise Delivery system
Input for %s exceeded limit of %d characters	Specified field cannot accept the number of characters that were entered. YubiEnterprise Delivery system
Shipment of these products to this country using this delivery type is not supported. For more information, see <i>Delivery Policies</i> .	Shipment request contravenes one or more business rules. YubiEnterprise Delivery system.

- See the [USPS FAQ](#).

Response Request Status Codes

The responses to your requests indicate what is happening on the server side. Below are the common status codes in responses from the YubiEnterprise Delivery API, and what they mean.

Table 16: Status Codes

Code	Meaning	Explanation
200	OK	The request was successful and the response body contains the representation requested
302	FOUND	A common redirect response; this will redirect to the OAUTH login page
400	BAD REQUEST	API validation failed for the request
403	FORBIDDEN	API denied permission to fulfill the requested resource
404	NOT FOUND	The requested resource was not found

1.13.7 Deprecated APIs

Table 17: Deprecated APIs and their Replacements

Deprecated	Replacement
GET /shipments	GET /shipments_exact
POST /shipments	POST /shipments_exact
GET /shipments/{shipmentId}	GET /shipments_exact/{shipmentId}
PUT /shipments/{shipmentId}	PUT /shipments_exact/{shipmentId}
DELETE /shipments/{shipmentId}	DELETE /shipments_exact/{shipmentId}
/UpdateShipmentById	shipments_exact/{shipment_id}
/organization/update-setting	none

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.14 API: Best Practices and FAQ

The following best practices are specific to API use; others are in *Best Practices and Troubleshooting*.

1.14.1 Control Access to your Accounts

- Protect access to the API token, because whoever is in possession of the token is authorized to perform API operations for your organization.
- Accounts that use machine tokens should have the Admin role, not the Owner role. This reduces the risk if the token is compromised, since the token has only the permissions associated with its role.
- The fact that API tokens can easily be issued and revoked helps to assure the security of accounts that use machine tokens.
- To handle machine token expiry, we recommend using the API (/auth/machine-token) to renew the API token. Ideally, logic should be put in to renew by calling the API to get a new token before the existing one expires.
- If a user is removed from an organization and has a token in that organization, the token is revoked. If a user is suspended, all tokens are revoked. The tokens are left untouched if the user is reset or the password is reset.
- Before an API token expires, the system generates and sends a notification to the associated email address. The email notifies that the token will expire in 7 days/1day and will not be accepted by our system after that.

1.14.2 Lifecycle Management

API tokens expire precisely one year after generation. Since a user can have only one API token at a time, you must have a plan to roll-over to a new API token before the old one expires.

Notification of API Token Expiry

The system automatically emails notification that the API token will expire:

- 7 days beforehand
- 1 day beforehand
- on the day of expiry.

Notification is emailed to:

- the user / holder of the API token
- Org owner (in cc)

Revoking and Deleting an Active API Token

An account can have 0 or 1 API access (machine) tokens. Once you have a token, it must be revoked and deleted before you can get a new one - *even if the old one has expired.*

API

The GET /auth/machine-token request revokes any existing tokens and creates a new machine token. This could therefore cause outages. GET in this instance is not a safe idempotent operation.

Console

While logged in to YubiEnterprise Delivery Console as the user with the relevant API token, go to the profile page by clicking on the profile icon on the top right. Click **Revoke and delete active API token**. Once you revoke and delete the old token, the button to generate a new token appears.

1.14.3 API: FAQ

Q. Who should use the API?

A. Customers of YubiEnterprise Delivery.

Q. Does Yubico charge for API calls?

A. No.

Q. How do I get access to the API?

A. Get login credentials from the YubiEnterprise Delivery account owner in your organization, and see *Onboarding Workflow*.

Q. How should I set up an account to call the API?

A. After you have been given a YubiEnterprise Delivery account, follow the instructions in *API Onboarding Playbook*.

Q. How do I test the API?

A. In the API Onboarding Playbook in the current guide, see *YubiEnterprise Delivery Self-Service Web Portal* and *ServiceNow Integrations*.

Q. How do I revoke an API token?

A. See *Revoking and Deleting an Active API Token* above.

Q. Where do I go if I need help?

A. Get help now from our support team: to file a support ticket for YubiEnterprise Delivery, click [Support](#), or reach out to the customer success representative who was assigned to your company.

Q. Can I get notification of YubiEnterprise Delivery API changes?

A. Subscribe to the Yubico Developer Program mailing list. Go to <https://www.yubico.com/why-yubico/for-developers/developer-program/>. Although this page looks as if it is just for a coupon, it is actually the sign-up page for the mailing list.

Q. Where do I find official Yubico product images and descriptions?

A. On Yubico's [Press room images and logos page](#) are the logo and product images.

Q. What is the maximum number of YubiKeys that can be included in a shipment request?

A. It depends on the country to which you are shipping. See *Delivery Policies*.

Q. Can a shipment request be cancelled?

A. Shipment requests can be edited or deleted until **2am PST (10am GMT)**, the day **after** they were entered.

Q. What shipping delivery options are available?

A. Depending on the country being shipped to, one or both of the following will be available:

Normal (standard) shipping: Shipments typically will take 5-7 days for transit in North America and Europe. Other parts of the world will incur longer transit times.

Expedited (rush) shipping: Shipments typically will take 1 business day for transit in North America. Other parts of the world may incur longer transit times, but will leverage the fastest time frame reasonably available.

Q. Does the country code look-up API return the countries to which Yubico can ship, or does it return all countries in the world?

A. It returns all the countries in the world. Currently we can ship only to the countries named in *Delivery Policies*.

Q. What do you do with the zip_code field if it is not applicable, for example, for Canada and the EU countries?

- A. Leave the `zip_code` field blank and use the `postal_code` field instead.

Q. Do I need to validate addresses via the API prior to submitting them?

- A. “Pre-qualifying” the address does not eliminate the address validation step. Every shipping request is sent for address validation. Status is updated when address validation is complete. Once the request reaches the “Accepted for Fulfillment” status, it has passed the address validation phase. If the status is “Incomplete Address”, edit or delete the request. See *Reviewing Incompletes*.

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.15 ServiceNow Integrations

1.15.1 Introduction

ServiceNow IntegrationHub is a centralized location to build and manage integrations. It is made up of a series of “spokes,” self-contained, scoped applications that contain all of the artifacts that make up an integration, primarily “Actions”.

With the aid of the following example, we will demonstrate how to integrate the YubiEnterprise Delivery API into a ServiceNow spoke in order to enable your end users to order YubiKeys from your organization’s inventory with just a few clicks.

This guide will cover:

1. How to add a YubiKey to your service catalog
2. How to configure your form to send a request to the YED API to create a shipment
3. How to send shipment tracking information to your end user

1.15.2 Step-by-step Guide

The [YubiEnterprise Delivery for ServiceNow Tutorial](#) will walk you through configuring your custom spoke.

Considerations

The aim of this guide is not to create a production-ready prototype, but instead to familiarize you with ServiceNow and the method of integrating it with YubiEnterprise Delivery. Below are a few of the considerations to keep in mind to ensure the success of your integration.

Policies to prevent abuse

This demo will allow a user to request shipment of as many keys as they desire. Additional logic will need to be built in to limit the number of shipment requests based on your requirements.

Selectable security Key

This demo is configured to order the YubiKey 5 NFC, and can be extended a variety of ways to allow different keys.

Error handling

There is one section in this guide that describes handling methods if an error is sent during the initial order. For a production deployment, there are a variety of different error cases that should be considered such as low inventory, shipment failure, undeliverable address, etc.

Auto-filling address

Currently this guide assumes that the user will be shipping their key to the address listed in ServiceNow. The catalog item may need to be extended to allow the user to input their personal address (for example, if they are not located at one of your main offices). You may want to consider leveraging the YubiEnterprise Delivery Verify Address API to allow your users to correct any address errors prior to submitting a shipment request.

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.16 Purchase Orders

The **Purchase Orders** tab displays the purchase orders (POs) that have been submitted for both products and delivery shipping credits.

Note: POs are not made *from* the YubiEnterprise Delivery Console, but instead by contacting your Yubico sales representative or your channel partner.

The **Purchase Orders** tab is for reference, and therefore the information displayed is read-only. It lists all your order information as shown in the example in the screenshot below:

Order date	Order number	Contact	Closing date	Status
3/25/2020	PO-126	jimmy@example.com	4/25/2021	Available for Shipment
3/20/2020	PO-124	kim.lee@example.com	4/20/2021	Available for Shipment
3/18/2020	PO-123a	a.sing@example.com	4/18/2021	Available for Shipment
3/18/2020	PO-125	sam.ramero@example.com	4/22/2021	Available for Shipment

Purchase Orders tab

You can view the number and type of products you currently have in inventory by clicking on the PO number to display the *PO Detail View*. Your **Available credits** are shown on the most recent *PO Detail View* as well as on the Dashboard.

More details - particularly those relating to subscriptions - can be found in *Modes of Purchase*.

1.16.1 PO Tab Column Headings

Order date

Date on which the order was received.

Purchase order number

PO number. This is a link to a *PO Detail View* showing what was purchased and your existing inventory. If you purchased from a channel partner, unit prices are not shown.

Channel partner name

This field is empty if you purchased directly from Yubico.

Contact

Email address on the PO.

Status

The extent to which the selected PO has been consumed. As shipping requests are processed, inventory and shipping credits will be depleted.

- **Available for shipment** - you have products in inventory
- **Order consumed** - all products purchased have been shipped
- **Order Expired, contact sales** - the PO expired before the keys were shipped, so you should contact your Yubico sales person.

PO Detail View

For more information about a PO, click on its **Purchase order number**. The PO popup shows:

- **The purchase order number**, or if applicable, the **channel partner name** and the **channel partner ID**
- **Available inventory**: The name and quantity of each product **available**/purchased:
 - Number shown in bold indicates number of keys ordered. Number not bolded indicates number of keys currently in inventory.
 - If the purchase was direct (not through a channel partner), the unit price per item is shown.
 - For subscription customers, the tiers are shown.
 - **[US] Taxes**: Amount of tax assessed on product; in square brackets is name of applicable entity
 - **VAT**: Amount of value-added tax assessed on product (UK and EU).
 - **Shipping**: Fees for shipping (US and Canada).

Inventory	Cost per item
0 / 250 - Base - Plus - Primary - Replacement	\$60.00
90 / 100 - Base - Plus - Primary - Replacement	\$60.00
99 / 100 - Base/Bio - Plus - Backup - Replacement	\$90.00
100 / 100 - Base - Standard - Primary	\$65.00
900 / 900 - Compliance - Standard - Backup	\$70.00
800 / 800 - Advanced/Bio - Plus - Backup - Replacement	\$90.00
700 / 700 - Advanced - Plus - Backup	\$70.00

PO # Window: Direct purchase showing [placeholder] unit prices

To file a support ticket for YubiEnterprise Delivery, click [Support](#).

1.17 User Management

The initial **Org Owner** for YubiEnterprise Services is set up by YubiEnterprise Services customer support.

In the case of a multinational organization shipping YubiKeys to both the EU and the US, two separate organizations will be set up. Even if the same person is the Org Owner for both, there is a separate account for each.

1.17.1 Managing Users

The following capabilities are available to org owners:

- Invite a user to register for YubiEnterprise Delivery (or re-register if they have lost their YubiKey - i.e., account recovery by resetting the user)
- Reset a user's password
- Change or remove a user's role (removing the role has the effect of removing all permissions from that user)
- Remove a user from an org

- Suspend a user

Roles/Permissions

In addition to the org owner role, there are org admin roles and org auditor roles. Together they make up the org members. The names and email addresses of the org members are displayed on the **Users** tab of the **Settings** page. All users can **view** the role and email address of each org member.

Org members cannot have multiple roles within the same organization.

Admins and auditors do not see the controls for downloading CSV files or adding new members. The permission levels of the different members/roles are set out in the table below.

Table 18: Org Member/Role Permissions

Permission	Owner	Admin	Auditor
Add / Delete org members	yes	no	no
Change member roles	yes	no	no
Reset member login credentials	yes	no	no
Make / Edit Shipment Requests	yes	yes	no
Correct shipping addresses	yes	yes	no
View Shipments / Purchase Orders / Org settings	yes	yes	yes
Manage personal login credentials	yes	yes	yes
View other roles' details	yes	yes	yes
Generate API token	yes	yes	no

Downloading Org Member Details Spreadsheet

Org Owners can download a list of all the Org Members and their details in the form of a spreadsheet by clicking **Download CSV** from the **Users** tab of the **Settings** screen.

1.17.2 SSO: Single Sign-On

Single sign-on (SSO) is an authentication method that enables users to use a single set of credentials to access multiple applications and services securely. Employers frequently use SSO to safeguard their resources and streamline work processes by enabling employees to access a whole range or subset of applications and platforms without having to log in to each one separately. Most employees of an enterprise have already encountered SSO by logging in to a service provider using the enterprise's Identity Provider (IdP), for example, Azure AD, Google for Workgroups, or Okta.

YubiEnterprise Services supports SSO. For an organization with SSO enabled, users do not have to register. Although they are added the same way as non-SSO-enabled users, instead of remaining in the *Pending* state until they follow the emailed instruction to register a security key, they are *immediately* added to the organization in the *Active* state. They can therefore use the service-provider-initiated login link to log in to the Console. For details, see [Single Sign-On \(SSO\)](#).

1.17.3 Managing Your Own Profile

To manage your own login credentials and API tokens, click on the profile icon (the green button with your initials) on the top right of any page. The profile page appears, showing your username and a button for each option.

If you have login credentials for more than one organization, the **Authentication** field lists those organizations. To change from one organization to another, click on the name of the desired organization.

Managing Login Credentials

Important: There is no going back if you click **Manage Login Credentials**: you *must* enter your current password. If you do not know your password, you will be automatically logged out immediately, and you will need to request a new password from your administrator.

To change your own password, click **Manage Login Credentials**, enter your current password, then your new password and confirm that new password by re-entering it.

1.17.4 Account Recovery and Password Reset

Org owners have the ability to:

- Enable a user to recover their account, for example when they have lost their YubiKey
- Reset a member's password (sufficient if the member still has their YubiKey)
- Change a member's role

As an org owner, do any of the above by going to the **Edit member** page by clicking the Edit icon next to the red trashcan icon to the right of the member's name.

The commands for these options are illustrated in the following screenshot of the **Edit member** page:

1.17.5 User Account States

All YubiEnterprise Services users have one of the following account states. To locate a user's account state, go to the **Settings** tab and click on **Users**. Locate your desired user, and check the **State** column to view the user's account state.

- **Invited**
 - The user has been invited to the system, but they have not yet activated their account. Most users have this state initially.
- **Active (demo mode)**
 - The user has activated their account, but they have not yet registered a WebAuthn credential (e.g. a YubiKey). Console activity is restricted to the activities described in the *Onboarding Workflow*.
- **Active**
 - The user has activated their account and registered a WebAuthn credential.
- **Account Reset**
 - An Org Owner would do this if a user's account has been compromised. The user state is displayed as "Account Reset" until the user follows the instructions in the Account Reset email the system sends.
- **Deactivated**



Edit member `jan.lindberg@example.com`

Last logged in: Feb 17, 2021, at 6:35 AM (PST), 9 months ago

Reset user

The user recovery process usually entails

1. The user is sent a recovery email
2. The email contains a link that takes them to the account recovery flow
3. The account recovery flow asks the user for a new password and to enroll a security key

Reset user

Reset password

The password reset process entails:

1. The user's password is reset
2. The user is sent a password reset email
3. The user remains logged in if they already have an open session, but cannot log in again before they complete the password reset
4. The email contains a link that takes them to the password reset flow
5. The password reset flow authenticates the user with their security key, if they have one enrolled, and then asks the user for a new password

Reset password

Change role

Role

YubiEnterprise Owner

Save

Fig. 1: Org Owner's View of the **Edit member** Page

- The user has been removed from all orgs, and they can no longer log in to the console. All associated access tokens have been revoked. Org Owners may add the user to the org again at a later date.

- **Suspended**

- All access tokens have been revoked, but the user remains associated with their org. Users in this state are no longer allowed to log in to the console. Contact customer support to suspend a user in order to disable their YED access in response to a security concern. Only Yubico can put a user into this state or move them out of it. Any API token the user has is deleted, and login credentials are reset.

Putting users into this state does not alter their org mappings; in other words, from the perspective of Yubico, they still exist, so if their access is re-instated, nothing further needs to be done.

All owners of the user’s org receive an email notifying them that this user is suspended and that these owners must contact customer support for re-activation, since they themselves cannot edit this user at all.

If a suspended user tries to log in, they get the userID / password invalid message.

1.17.6 Adding or Deleting an Org Member

Org Owners can add an Org Member by clicking **Add new member** from the **Users** tab of the **Settings** screen. The **Add new member** popup appears. Enter the new user’s email address and role (YubiEnterprise Auditor, YubiEnterprise Admin, Owner):

Add new member popup

For each new Org Member added by an Org Owner, the system generates the following email inviting the member to register:

```
From: no-reply@yubico.com
Date: Sep 10, 2020, 12:34 PM -0700
To: <new-user@example.com>
Subject: Welcome to YubiEnterprise!
```

(continues on next page)

(continued from previous page)

```

**Please activate your account**

Hi,

Your system administrator has created a YubiEnterprise Delivery account for you.

To help you get started with YubiEnterprise Delivery Console, please see
Yubico's `Getting Started <https://www.youtube.com/watch?v=IHW5Qt-r-qM>` _ video.

Click the following link to activate your account:

**Activate your YubiEnterprise account**

This link expires in 7 days.
Your username is: <new-user@example.com>

This is an automatically generated message from Yubico. Replies are not monitored
or answered.
    
```

To delete an Org Member, on the **Users** tab of the **Settings** screen, the Org Owner clicks the trashcan icon to the right of the member's role.

1.17.7 Lost or Reset YubiKey

If a user loses or resets their YubiKey, they can no longer log in to YubiEnterprise Delivery. Such a user must contact an org owner for their organization to have their account reset as described in [Account Recovery and Password Reset](#). When the user acquires another security key to register, they can log in and register that second key. To avoid this scenario, it is best to register at least one other YubiKey at the same time as the first one, and to keep the additional YubiKey(s) in a safe place. For more information and instructions, see [Spare YubiKeys](#).

1.17.8 Adding WebAuthn Credentials

To add WebAuthn credentials (register a security key), click your login icon - your initial - on the top right of any screen, then click **Manage login credentials**. The **Account** page is displayed:

The screenshot shows the Yubico 'Account' page. At the top left is the 'yubico' logo. The page title is 'Account' and there is a 'Profile page' button in the top right. The page is divided into two main sections:

- Change password:** Includes a text box for password requirements (8-64 characters, no username parts, different from current), and three input fields for 'Current password', 'New password', and 'Confirm new password'. A 'Change password' button is at the bottom right.
- WebAuthn credentials:** Includes instructions to enroll backup keys or delete existing ones. Below, it shows 'Your registered WebAuthn credentials:' with one entry: 'Authenticator' (Last used: April 16 2021, 10:42 AM). This entry has 'Edit' and 'Remove' buttons. At the bottom of this section are 'Identify' and 'Add' buttons.

Click **Add**, and the ensuing dialog prompts you to insert a security key, then asks you if you will allow the YubiEnterprise Delivery site (the Console) to “see” that key. Click **Allow**. In the screenshot above, the item registered as Authenticator is actually a YubiKey from the 4 Series.

Managing API Tokens

For information on API tokens and the relevant guidelines, see *API Onboarding Playbook* and *API: Best Practices and FAQ* respectively.

To file a support ticket with Yubico, click [Support](#).

1.18 Single Sign-On (SSO)

Note: This feature capability is only available upon request. You will be able to see the **Configure SSO** tab once Yubico has enabled the SSO feature for you.

SSO enablement introduces a new category of user, i.e., those who are able to log in *only* via SSO. Users added after SSO is enabled fall into this new category. The credentials of users enrolled prior to SSO enablement will still be available after SSO is enabled, which means they will still be able to log in using username and password. Org Admins and Auditors who log in this way will be directed to authenticate via the SSO link in order to perform Console operations.

API tokens will not be affected by SSO enablement or disablement. They will keep working as usual.

User can only use SSO to log into a single org. If a user is a member of multiple orgs, they cannot use SSO logged in sessions and switch between orgs via the org selector in Profile page. Org selection is only available if user logs in with credentials instead, immediately after login as well as on the Profile page. If user needs to switch from a SSO enabled org to another SSO enabled org, they will need to log out from Org 1 SSO logged in session and use the SP login link for Org 2.

See also *Managing Passwords, etc. with SSO: Single Sign-On*.

1.18.1 Permissions after SSO Enablement

Logging in With Credentials

Org Owners, Admins, and Auditors who log in with credentials can update those credentials: change password, edit, delete, and add new YubiKeys.

Org Owners who log in with credentials can also configure SSO.

All other Console operations require logging in via SSO.

This permissions setup guards against Org Owners who have forgotten their passwords logging in via SSO, then disabling or misconfiguring SSO and thereby locking themselves out.

Logging in Via SSO

All users will be able to use the SSO login link immediately.

Users who log in using credentials will be redirected to log in via SSO.

Users who are invited to join YubiEnterprise Services after SSO enablement will not be asked to enroll credentials and will immediately acquire the **Active** status, in contrast to users invited to join before SSO enablement, who go into the **Pending** state until they enroll their credentials.

Updating credentials after logging in via SSO is not possible for any role. The credential management page is not accessible via SSO.

Although Org Owners can configure SSO, the SSO configuration page is read-only if they log in using SSO.

Only when logging in via SSO (using the Service Provider link) can users perform the usual operations permitted by their roles (e.g., shipment listing and creation, listing POs, inviting users, etc.).

Logging in via SSO does not allow for switching between orgs. If a user is a member of multiple orgs, they cannot use a session into which they have logged using SSO to switch between orgs via the org selector on their Profile page. Org selection is only available if the user logs in with credentials. If a user logged in via SSO needs to switch from org-1 to org-2, they will need to log out from org-1 and use the identity provider's login link for org-2.

1.18.2 Requirements for SSO Enablement

To enable an SSO integration you need to:

- Be using SAML 2.0 with Azure AD or Okta as your Identity Provider (IDP)
- Have owner / admin access to the SSO app in your IDP account for permissions to manage the SAML configuration and users
- Know how to enable, edit and disable your IDP's SSO offering
- Be able to share the SSO link with the YubiEnterprise Services users in your org out-of-band after SSO is enabled: this is not something that the system does automatically
- Be an Org Owner in YubiEnterprise Services
- Be able to log in to YubiEnterprise Services with username and password and have a YubiKey enrolled (i.e., with credentials as opposed to via SSO)
- Request Yubico to enable the SSO feature

1.18.3 Known Limitations

- For this initial SSO release only Service Provider initiated authentication is supported; more specifically, only Azure AD and Okta are supported as Identity Providers.
- Since users invited to join YubiEnterprise Services **after SSO enablement** are not required to have username/password, they will not be able to log in if SSO access is disabled. **Workaround for enabling access via credentials:** Users invited to join YubiEnterprise Services **after SSO enablement** must be reset in order to enable them to enroll credentials. Resetting a user triggers the system to send the user an email directing them to reset their username/password and enroll a YubiKey.

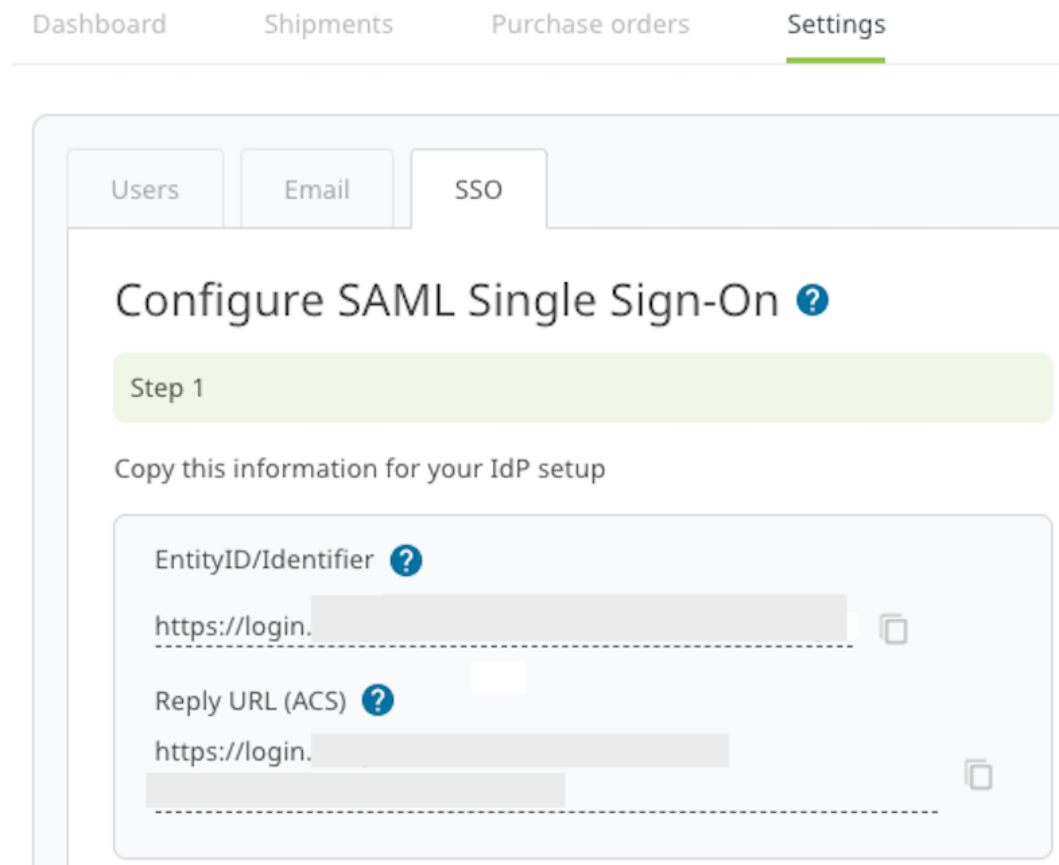
1.18.4 Enabling SSO with Azure AD

These instructions assume that your company's SAML application has already been created in Azure AD.

Copy Entity ID from Console to Azure AD

Step 1

As Org Owner, use credentials (i.e., password and MFA) to log in to the YubiEnterprise Console, then go to **Settings > SSO**. The **Configure SAML Single Sign-On** page appears. Click the copy icon at the end of the **EntityID/Identifier** field under "Step 1".

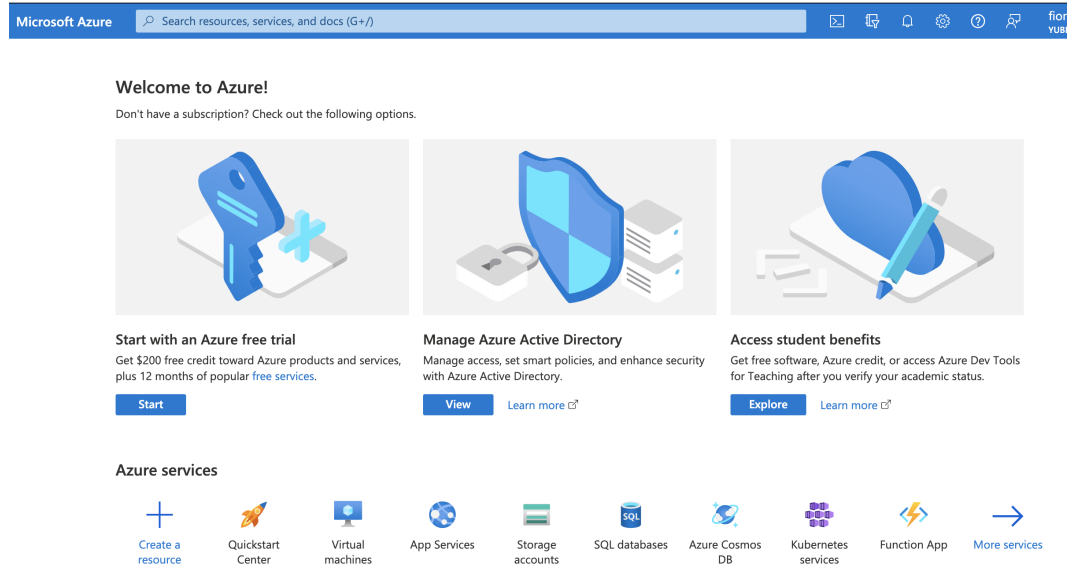


Step 2

Log into your Azure tenant <https://portal.azure.com/signin/index/>.

Step 3

Set up the new application in Azure AD (note that this does not mean "create the new application") by going to **Manage Azure Active Directory** and clicking **View**.



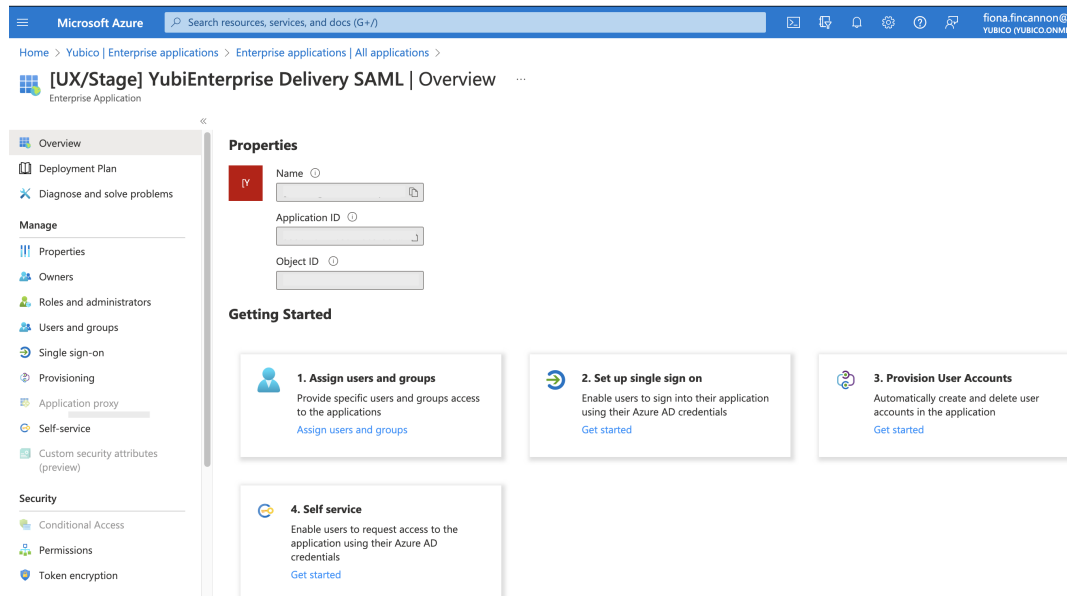
Your company's **Overview** page for Azure AD appears.

Step 4

From the menu on the left-hand side, select **Enterprise Applications**. Your company's Overview page for all applications appears.

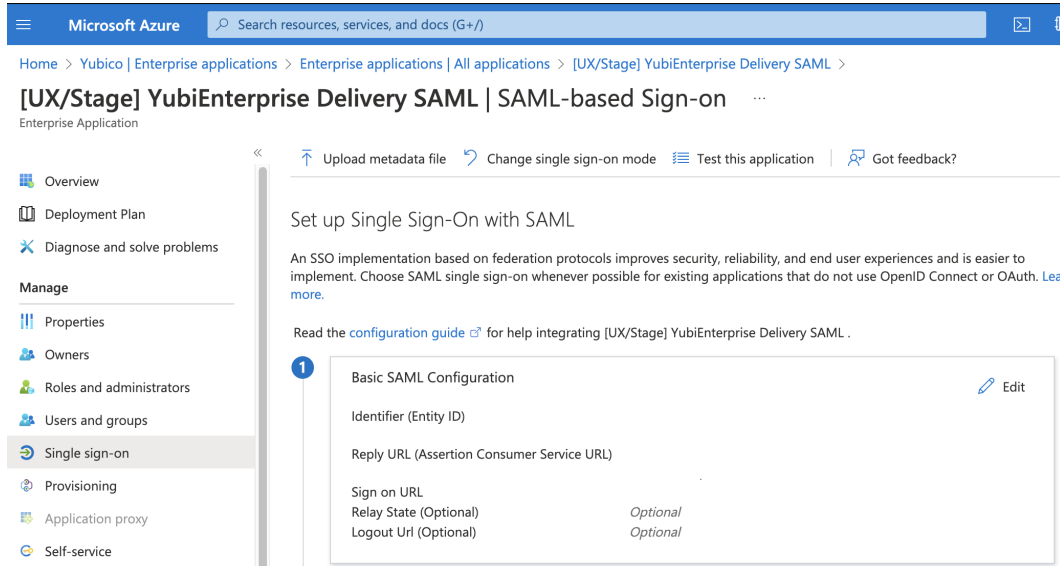
Step 5

From the list in the center pane, select the appropriate SAML application. The **Overview** page for that application appears.



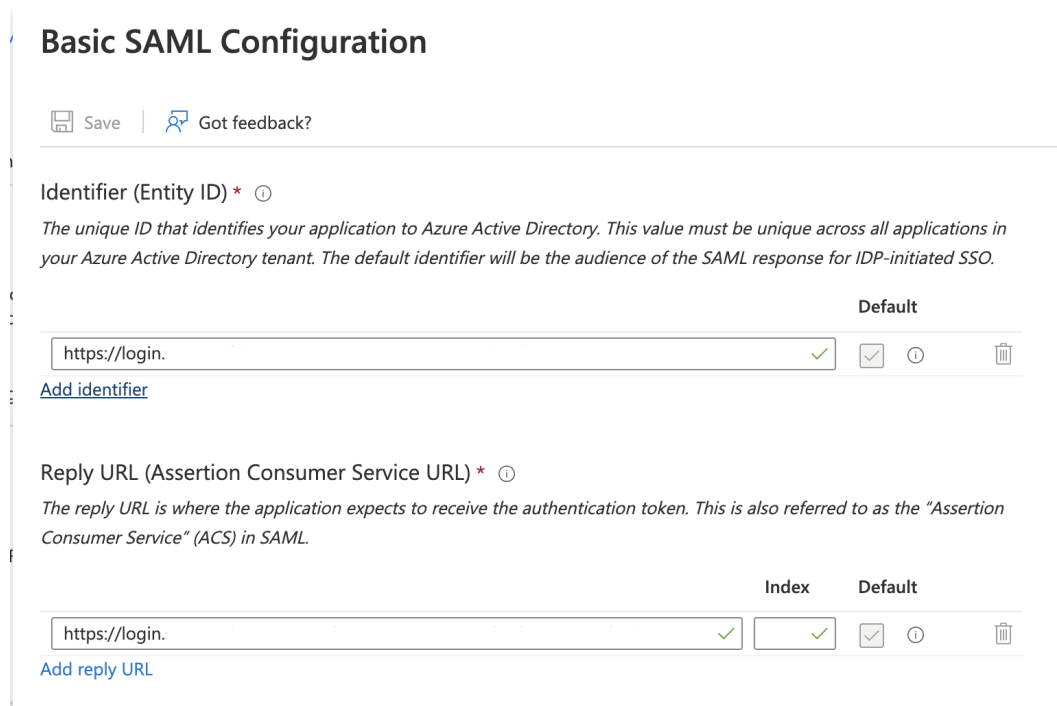
Step 6

Click **Get started** in the second box **Set up single sign on**. The **[Name of your organization's enterprise application] SAML | SAML-based Sign-on** page appears.



Step 7

Click the Edit icon for **1 Basic SAML Configuration**. The **Basic SAML Configuration** window appears.



Step 8

Under **Identifier (Entity ID)**, click **Add identifier**. A new field appears.

Basic SAML Configuration

 Save |  Got feedback?

Identifier (Entity ID) * ⓘ

The unique ID that identifies your application to Azure Active Directory. This value must be unique across all applications in your Azure Active Directory tenant. The default identifier will be the audience of the SAML response for IDP-initiated SSO.

	Default
<input type="text" value="https://login...url..."/>	<input checked="" type="checkbox"/> ⓘ 
<input type="text"/>	<input type="checkbox"/> ⓘ 

[Add identifier](#)

Step 9

Paste what you copied from the Console (in step 1) into the **Identifier (Entity ID)** field in Azure. If you select the **Default** checkbox, you will be marking this as primary. This will be the identifier sent for IDP-initiated SAML responses.

Step 10

Save your settings by clicking **Save** in the top left corner of the **Basic SAML Configuration** Edit window.

Copy Reply URL from Console to Azure AD

Step 1

As Org Owner, use credentials (i.e., not SSO) to log in to the YubiEnterprise Console, then go to **Settings > SSO**. The **Configure SAML Single Sign-On** page appears. Click the copy icon at the end of the **Reply URL (ACS)** field under “Step 1”.

Dashboard Shipments Purchase orders **Settings**

Users Email **SSO**

Configure SAML Single Sign-On ?

Step 1

Copy this information for your IdP setup

EntityID/Identifier ?
https://login. [redacted] [copy icon]

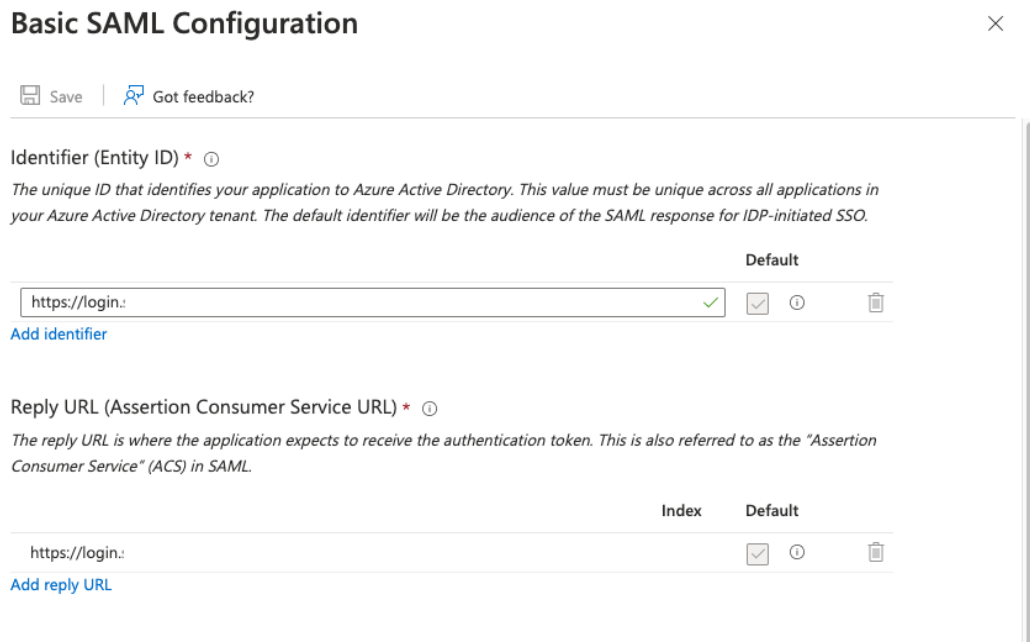
Reply URL (ACS) ?
https://login. [redacted] [copy icon]

Step 2

Unless you are already logged into Azure and on the **Basic SAML Configuration** Edit window, log into your Azure tenant <https://portal.azure.com/signin/index/> and perform steps 2-7 in *Copy Entity ID from Console to Azure AD* above.

Step 3

Under **Reply URL (Assertion Consumer Service URL)**, click **Add reply URL**. A new field appears.



Step 4

Paste what you copied from the Console’s **Reply URL (ACS)** field (in “Step 1”) into the **Reply URL (Assertion Consumer Service URL)** field in Azure. If you select the **Default** checkbox, you will be marking this as primary, and IDP-initiated SAML responses will be sent to this reply URL.

Step 5

In Azure, save your settings by clicking **Save** in the top left corner of the **Basic SAML Configuration** Edit window.

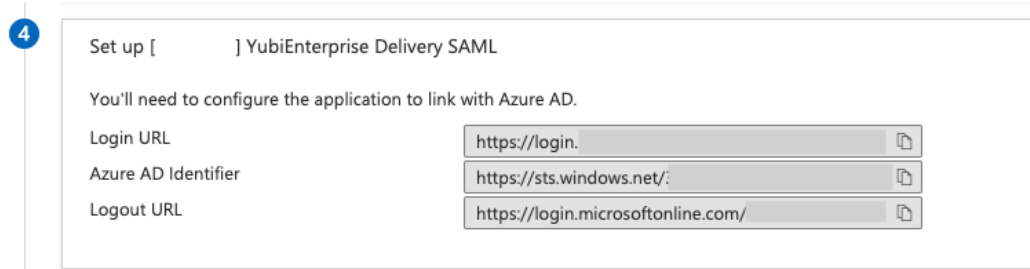
Copy Login URL + Azure AD Identifier from Azure to Console

Step 1

Unless you are already logged into Azure and on the **Basic SAML Configuration** Edit window, log into your Azure tenant <https://portal.azure.com/signin/index/> and perform steps 2-7 in *Copy Entity ID from Console to Azure AD* above.

Step 2

In Azure, in section **4 Set up [your company’s] SAML**, click the copy icon at the end of the **Login URL** field.




Step 3

As Org Owner, use credentials (i.e., not SSO) to log in to the Console, then go to **Settings > SSO**. The **Configure SAML Single Sign-On** page appears. Paste the content from the **Login URL** field in Azure into the **IDP login URL** field in the **Step 2** box in the Console.

Step 2

Fill in metadata




EntityID/Issuer* IDP login URL* X.509 cert (Base64)* 

Step 4

Go back to Azure, and in section **4 Set up [your company's] SAML**, click the copy icon at the end of the **Azure AD Identifier** field.

4 Set up [] YubiEnterprise Delivery SAML

You'll need to configure the application to link with Azure AD.


Login URL	<input type="text" value="https://login."/>	
Azure AD Identifier	<input type="text" value="https://sts.windows.net/"/>	
Logout URL	<input type="text" value="https://login.microsoftonline.com/"/>	

Step 5

In the Console, in **Settings > SSO**, on the **Configure SAML Single Sign-On** page in the **Step 2** section, paste the content from the **Azure AD Identifier** field in Azure into the Console's **EntityID/Issuer** field.

Step 2

Fill in metadata

EntityID/Issuer* 

https://sts.windows.net/

IDP login URL* 

https://login.microsoftonline.com/

X.509 cert (Base64)* 

MIIC8DCCA digAwIBAgIQTmcP7IoRMKVMDLPCIF1gizANBgkqhkiG

Copy X509 Certificate from Azure AD to Console

Step 1



Unless you are already logged into Azure and on the **Basic SAML Configuration** Edit window, log into your Azure tenant <https://portal.azure.com/signin/index/> and perform steps 2-7 in *Copy Entity ID from Console to Azure AD* above.


Step 2

In section 3, **SAML Certificates**, download the **Certificate (Base64)** by clicking on the **Download** button.

3

SAML Certificates

Token signing certificate		 Edit
Status	Active	
Thumbprint		
Expiration	1/25/2026, 9:06:06 AM	
Notification Email	r@yubico.com	
App Federation Metadata Url	<input type="text" value="https://login.microsoftonline.com/"/>	
Certificate (Base64)	Download	
Certificate (Raw)	Download	
Federation Metadata XML	Download	

Verification certificates (optional) (Preview)		 Edit
Required	No	
Active	0	
Expired	0	

Step 3

Open the file in a text editor like Notepad (not something like Microsoft Word, which deposits all kinds of undesirable artifacts into a simple text file), and copy it. It is not necessary to remove the header and footer lines:

```

1  -----BEGIN CERTIFICATE-----
2  MIIC8DCCAdigAwIBAgIQVZsDKHjKF6NPyzrfqvT3bDANBgqhkiG9w0BAQsFADA0MTIwMAYDVQQD
3
4
5
6
7
8
9
10
11
12
13
14
15
16  -----END CERTIFICATE-----
17

```

Step 4

In the Console, in **Settings > SSO**, on the **Configure SAML Single Sign-On** page in the **Step 2** section, paste the certificate content into the **X.509 cert (Base64)** field. (The header and footer in the file will be automatically stripped out when you save.)

Step 5

Click the **Save settings** button at the bottom of the Console page.

Set Attributes & Claims in Azure AD

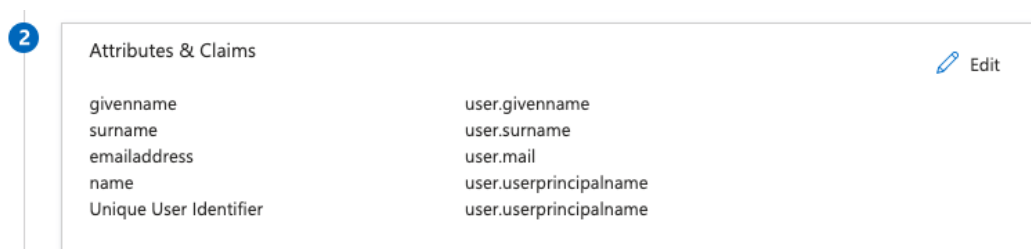
There is always a required claim. Ensure that the name identifier format is **Email address**.

Step 1

Unless you are already logged into Azure and on the **Basic SAML Configuration** Edit window, log into your Azure tenant <https://portal.azure.com/signin/index/> and perform steps 2-7 in *Copy Entity ID from Console to Azure AD* above.

Step 2

In section 2, **Attributes & Claims**, click the Edit icon.

**Step 3**

In the **Attributes & Claims** window that appears, click the **Unique User Identifier (Name ID)** in

the **Required claim** section.

Attributes & Claims ×

+ Add new claim
+ Add a group claim
☰ Columns
|
🗨️ Got feedback?

Required claim

Claim name	Type	Value
Unique User Identifier (Name ID)	SAML	user.userprincipalname [...]

Additional claims

Claim name	Type	Value
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/emailadd...	SAML	user.mail ***
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/givenname	SAML	user.givenname ***
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/name	SAML	user.userprincipalname ***
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/surname	SAML	user.surname ***

∨ Advanced settings

Step 4

In the **Manage claim** window that opens, if the **Name identifier format** is not **Email address**, select it from the dropdown list.

... > SAML-based Sign-on > Attributes & Claims >

Manage claim ...



Save Discard changes | Got feedback?

Name

Namespace

^ Choose name identifier format

Name identifier format *

Source * Attribute Transformation
 Directory schema extension (Preview)

Source attribute *

∨ Claim conditions

∨ Advanced SAML claims options

Step 5

Save your settings in Azure by clicking **Save** in the top left corner of the **Manage claim** window. The **Attributes & Claims** window reappears.

Step 6

In the **Attributes & Claims** window, directly underneath the title, click **+ Add new claim**. The **Manage claim** window appears.

Microsoft Azure Search resources, services, and docs (G+)

Home > [UX/Stage] YubiEnterprise Delivery SAML | SAML-based Sign-on > SAML-based Sign-on > Attributes & Claims >

Manage claim

Save Discard changes Got feedback?

Name * emailAddress

Namespace Enter a namespace URI

Choose name format

Source * Attribute Transformation Directory schema extension (Preview)

Source attribute * user.mail

Claim conditions

Advanced SAML claims options

Step 7

In the **Manage claim** window, in the **Name** field, enter `emailAddress`, and for **Source** leave the default setting with the **Attribute** radio button. From the **Source attribute** dropdown, select `user.mail`. Click **Save**. The **Attributes & Claims** window reappears with your new claim listed.

Microsoft Azure Search resources, services, and docs (G+)

Home > [UX/Stage] YubiEnterprise Delivery SAML | SAML-based Sign-on > SAML-based Sign-on >

Attributes & Claims

+ Add new claim + Add a group claim Columns Got feedback?

Required claim

Claim name	Type	Value
Unique User Identifier (Name ID)	SAML	user.userprincipalname [...]

Additional claims

Claim name	Type	Value
emailAddress	SAML	user.mail
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/emailadd...	SAML	user.mail
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/givenname	SAML	user.givenname
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/name	SAML	user.userprincipalname
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/surname	SAML	user.surname

Verify and Save SSO Settings in Console

Step 1

In the Console, look at **Settings > SSO Configure SAML Single Sign-On** to make sure that the content you pasted in is correct.

Step 2

In the last section, **Step 3**, copy the **SP Initiated Login URL** by clicking the copy icon at the end of it. Save the URL so that you can send it to YubiEnterprise Services users.

Step 3

Save this link in a safe place to share with your users later

SP Initiated Login URL

https://login. [redacted] 📄

Save settings

Cancel

Enable SSO

Step 3

Before enabling SSO, make sure to send all users who will be enabled for it this **SP Initiated Login URL**. The same link will also be shown on the login screen after you have enabled SSO.

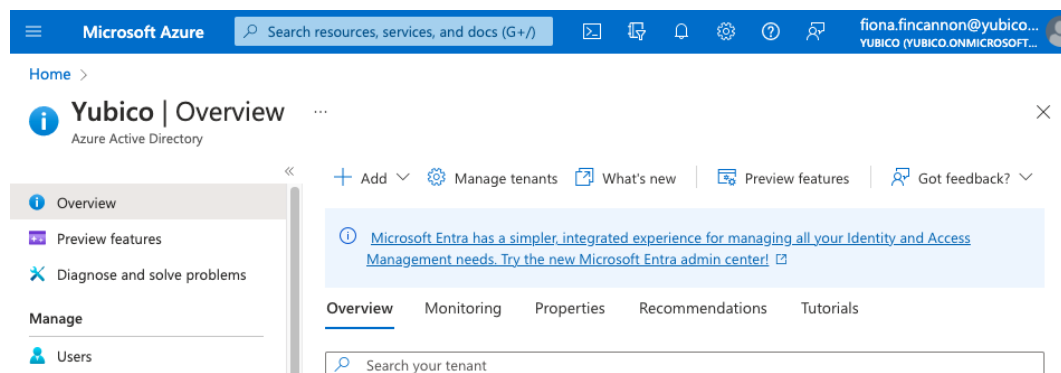
Add Users and Enable User Login via SSO

Add users first to Azure, then to YubiEnterprise Services. Before you can add them to your company's SAML application in Azure, the users must be added to your company's Azure AD instance at the top level.

If necessary, make sure that you have the permissions in Azure to have groups available for assignment.

Step 1

On your company's Overview page in Azure, from the menu on the left under **Manage**, select **Users**.



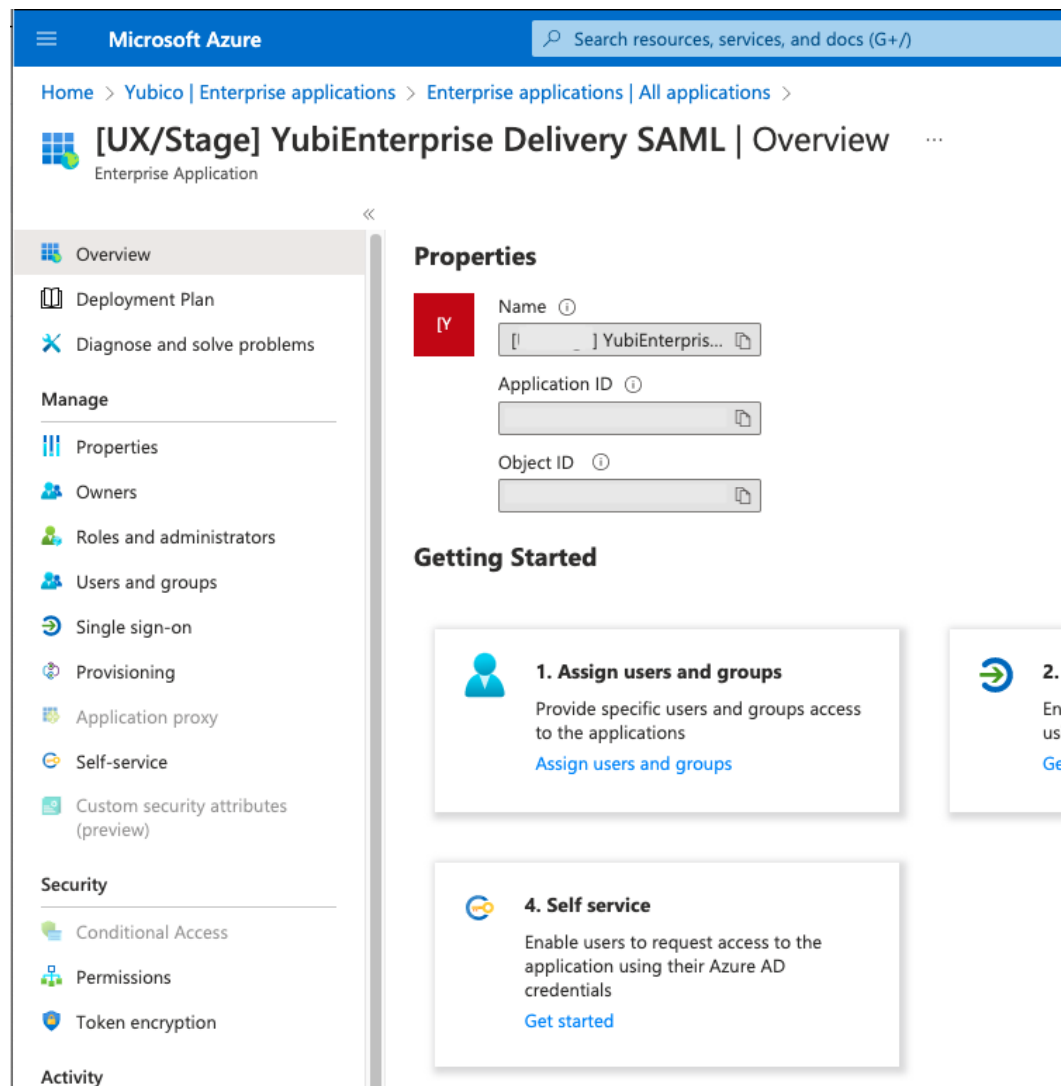
On the **Users** page, the entire list of your company's users appears.

Step 2

To add entirely new users to Azure as opposed to adding them to the SAML organization, click **New user** at the top of the page and follow the directions provided in the subsequent pages. Otherwise select the users for whom you are enabling SSO by clicking on the checkbox next to the respective **Display name**.

Step 3

From [your company's] **SAML Overview** page, click **Assign users and groups**.



The **Users and groups** window appears.


Step 4

Click **Add user/group** at the top of the window. The **Add Assignment** screen appears.

Home > [|] YubiEnterprise Delivery SAML | Users and groups >

Add Assignment

Yubico

 Groups are not available for assignment due to your Active Directory plan level. You can assign individual users to the application.

Users

None Selected

Select a role

User

Underneath **Users**, click **None Selected**, and a list of your total users in Azure appears.

Step 5

Select the checkboxes for the requisite users, then click the **Select** button.

Step 6

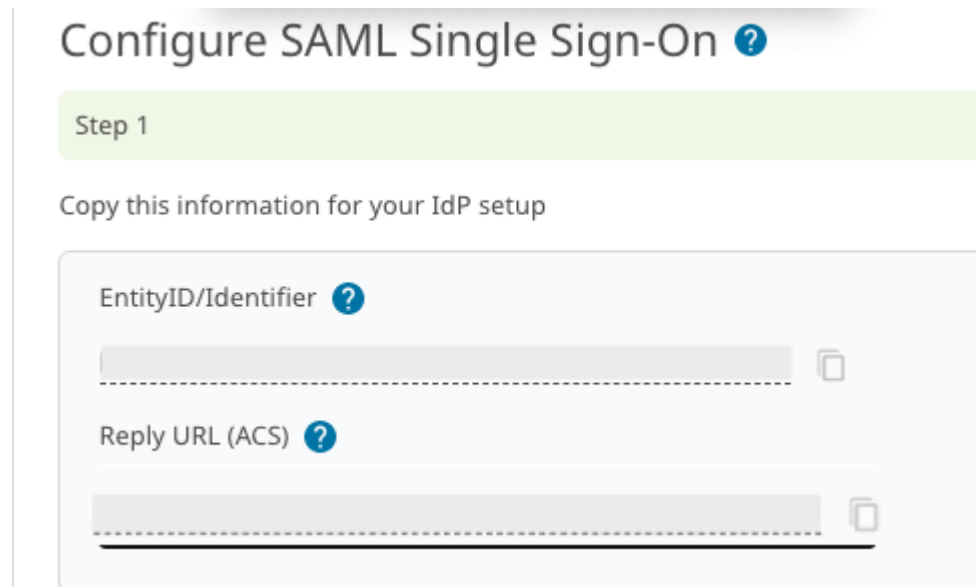
As Org Owner or Admin, log in to the Console, go to **Settings > Users**, and add any necessary users to YubiEnterprise Services from Azure.

1.18.5 Enabling SSO with Okta

These instructions assume that your company's SAML application has already been created in Okta.

Step 1

Log in to the YubiEnterprise Console with username and password and navigate to **Settings > SSO**. This is the location from which you will be copying information.



Configure SAML Single Sign-On ?

Step 1

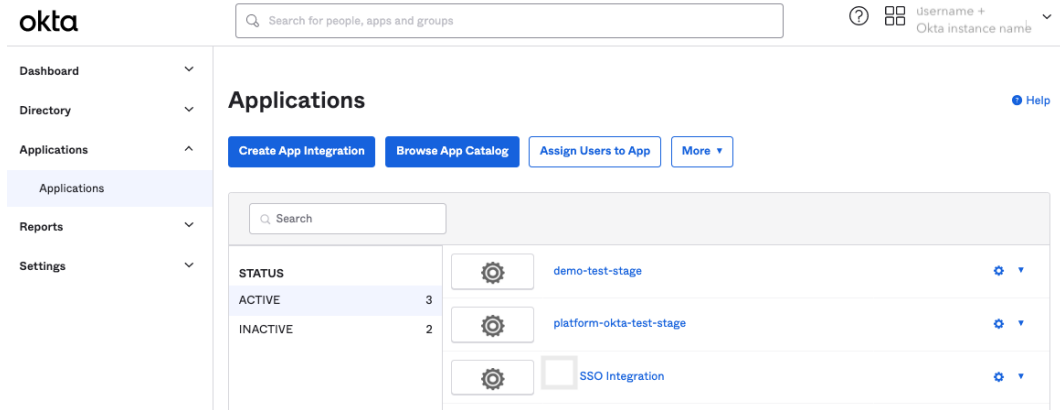
Copy this information for your IdP setup

EntityID/Identifier ?

Reply URL (ACS) ?

Step 2

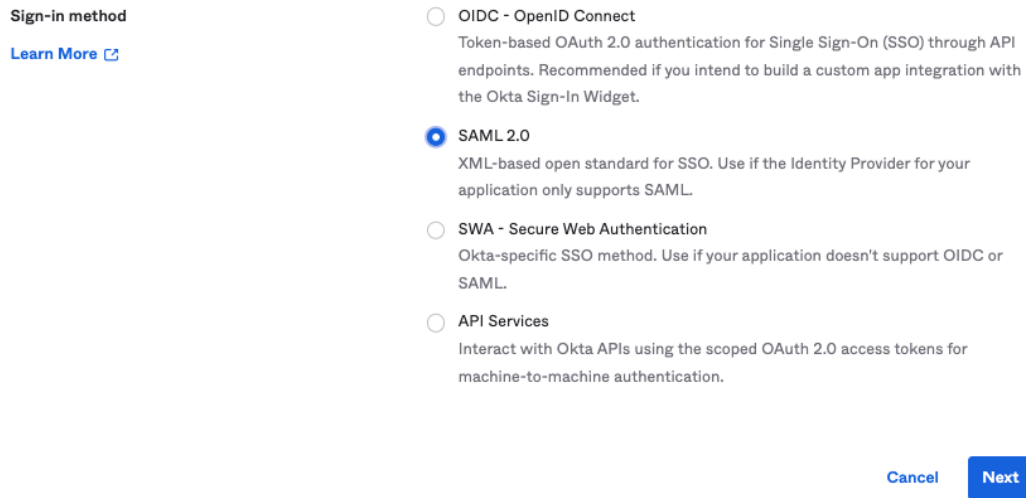
Log in to the Okta test tenant <https://developer.okta.com/login/> as Admin, and navigate to **Applications > Applications**.



Step 3

Click **Create App Integration**. The **Create a new app integration** window appears.

Create a new app integration



Select **SAML 2.0** and click **Next**. The **Create SAML Integration** window appears.

- Dashboard ▼
- Directory ▼
- Applications ▼
- Reports ▼
- Settings ▼

Create SAML Integration

1 General Settings


2 Configure SAML



1 General Settings

App name

Bite-Me

App logo (optional)



App visibility

Do not display application icon to users

Cancel

Next

Step 4

On the **1. General Settings** tab, enter the appropriate name in the **App name** field, make any other necessary settings and click **Next**. The **Configure SAML** tab of the **Create SAML Integration** window appears.

A SAML Settings

General

Single sign-on URL ?

Use this for Recipient URL and Destination URL

Audience URI (SP Entity ID) ?

Copy Entity ID from Console to Okta

In the Console **Settings > SSO** page from Step 1 in *Enabling SSO with Okta*, click the copy icon to copy the **EntityID/Identifier** from the Console.

Configure SAML Single Sign-On ?

Step 1

Copy this information for your IdP setup

EntityID/Identifier ?

Copy content to Okta's *Audience URI (SP Entity ID)* field ✓

Reply URL (ACS) ?

Paste it into the **Audience URI (SP Entity ID)** field in Okta's **Configure SAML** tab.

- Dashboard
- Directory
- Applications
- Reports
- Settings

Create SAML Integration

1 General Settings 2 Configure SAML

A SAML Settings

General

Single sign-on URL ?

Use this for Recipient URL and Destination URL

Audience URI (SP Entity ID) ?

Default RelayState ?

If no value is set, a blank RelayState is sent

Copy Reply URL from Console to Okta

In the Console **Settings** > **SSO** page from Step 1 in *Enabling SSO with Okta*, click the copy icon to copy the **Reply URL (ACS)** from the Console.

Configure SAML Single Sign-On ?

Step 1

Copy this information for your IdP setup

EntityID/Identifier ?

Reply URL (ACS) ?

Copy content to Okta's *Single sign-on URL* field

Paste it into the **Single sign-on URL** field in Okta's **Create SAML Integration** window on the **Configure SAML** tab. Enable the checkbox for **Use this for Recipient URL and Destination URL**.

Create SAML Integration

1 General Settings

2 Configure SAML

A SAML Settings

General

Single sign-on URL ?

Use this for Recipient URL and Destination URL

Audience URI (SP Entity ID) ?

Set Name ID Format, Application Username, and Attribute Statement

Step 1

In Okta, still in the **General** section on the **A SAML Settings** tab, from the **Name ID format** dropdown, select **EmailAddress**.

Step 2

From the **Application username** dropdown, select **Email**.

A SAML Settings

General

Single sign-on URL ? Use this for Recipient URL and Destination URL

Audience URI (SP Entity ID) ?

Default RelayState ? If no value is set, a blank RelayState is sent

Name ID format ?

Application username ?

- Okta username
- Okta username prefix
- Email
- Email prefix
- Custom
- (None)

Update application username on

Attribute Statements (optional) [Show Advanced Settings](#) [LEARN MORE](#)

Step 3

Scroll down to the **Attribute Statements (optional)** section, and

- Under **Name**, enter `emailAddress`
- Leave the **Name format** unspecified
- Under **Value** enter `user.email`.

Attribute Statements (optional) [LEARN MORE](#)

Name	Name format (optional)	Value
emailAddress	Unspecified	user.email

[Add Another](#)

Step 4

Scroll down to the bottom of the tab and click **Next**. The **Feedback** tab appears.

Step 5

On the **Feedback** tab under **Create SAML Integration**, select either:

- **I'm an Okta customer adding an internal app** or
- **I'm a software vendor. I'd like to integrate my app with Okta,**

provide feedback as desired (or not) and click **Finish**. The **Sign On** tab for your application appears.

General **Sign On** Import Assignments

Settings [Edit](#)

Sign on methods

The sign-on method determines how a user signs into and manages their credentials for an application. Some sign-on methods require additional configuration in the 3rd party application.

Application username is determined by the user profile mapping. [Configure profile mapping](#)

SAML 2.0

Default Relay State

Metadata details

Metadata URL https://
.
m/metadata /sso/sa

[Copy](#)

More details

About

SAML 2.0 streamlines the end user experience by not requiring the user to know their credentials. Users cannot edit their credentials when SAML 2.0 is configured for this application. Additional configuration in the 3rd party application may be required to complete the integration with Okta.

Application Username

Choose a format to use as the default username value when assigning the application to users.

If you select **None** you will be prompted to enter the username manually when assigning an application with password or profile push provisioning features.

SAML Setup

Single Sign On using SAML will not work until you configure the app to trust Okta as an IdP.

[View SAML setup instructions](#)

Copy IDP SSO URL + X509 Certificate from Okta to Console

Step 1

On the bottom right of Okta's **Sign On** tab, click the **View SAML setup instructions** tab.

The screenshot shows the Okta application settings interface. At the top, there's a header with a gear icon, a checkmark, and the text "Name of your application integration". Below this are buttons for "Active", "View Logs", and "Monitor Imports". A navigation bar includes "General", "Sign On", "Import", and "Assignments". The "Sign On" tab is active, showing a "Settings" panel with an "Edit" link. The "Sign on methods" section is expanded, showing "SAML 2.0" as the selected method. Under "Metadata details", the "Metadata URL" field contains a redacted URL with a "Copy" button. A "More details" link is at the bottom of the settings panel. On the right, the "About" section explains SAML 2.0, and the "Application Username" section provides instructions. At the bottom right, a blue button labeled "View SAML setup instructions" is highlighted with a red box.


The **How to Configure SAML 2.0 for [name of your] Application** window appears.

Step 2

Fill in metadata

EntityID/Issuer* 

IDP login URL* 

X.509 cert (Base64)* 

X509 certificate in the form of a very long string

Step 3

From the Okta **The following is needed to configure [application name]** window, copy the **Identity Provider Issuer** to the Console's **EntityID/Issuer**.

Step 4

In Okta, click **Download certificate** under **X.509 Certificate**, then paste the content to the Console's **X.509 cert (Base64)** field.

Step 5

In the Console, click **Save settings**.

Step 6

From the Console, copy the **SP Initiated Login URL** and send it to your users.

Add YubiEnterprise Services Users to Okta's SAML App Integration

To Okta, add the YubiEnterprise Services users for whom you intend to enable SSO. (Detailed instructions for this can be found in Okta's documentation.) In order to be available for adding to an application integration, the users need to be in Okta itself first. In Okta, navigate to **Applications > Applications** and click **Assign Users to App**. The **[name of app]** page for your app appears.

[← Back to Applications](#)

bite

Active ▾

Monitor Imports

i

Once you have a working SAML integration, submit it for Okta review to publish in the OAN.

[General](#)
 [Sign On](#)
 [Import](#)
 [Assignments](#)

Assign ▾

Convert assignments ▾

Q Search...

People ▾

Filters	Person	Type
People		
Groups		01101110 01101111 01110100 01101100 01101101 01101110 01100111
		No users found

Assign YubiEnterprise organization members as a group or as individuals. In the Console, enable SSO.

1.18.6 Disabling SSO

To disable SSO, in the Console, go to **Settings > SSO Configure SAML Single Sign-On** and click the **Disable SSO** button.

Step 3

Save this link in a safe place to share with your users later

SP Initiated Login URL

https://login. _____

Save settings Cancel

Disable SSO

Note: None of the users added after SSO was enabled will be able to login once SSO is disabled. To determine which users were added after SSO enablement, log in with credentials, then go to **Settings > Users**. The **MFA** column in the table tells you whether they have credentials or not. To enable those users to enroll credentials and log in again, reset them (see *Account Recovery and Password Reset*).

1.19 Best Practices and Troubleshooting

1.19.1 Best Practices

Note: The best practices specific to YubiEnterprise APIs are in the *API: Best Practices and FAQ* section of *Shipping Request Via API*.

- Have at least two Org Owners who can manage members (see *User Management*).
- Inform both your YubiEnterprise users and your end-users in advance that they will receive email from Yubico's YubiEnterprise Delivery. Without this advance notice, they are likely to regard these emails as phishing attempts.
- Subscription customers:
 - To ensure that you do not let keys in any of your inventories expire unused, create a spreadsheet to plan the allocation of products across users and inventory types. See *Example Subscriptions*.
 - When creating a shipment request, select the inventory type before selecting the item(s) to be shipped.

Limits and Constraints

When planning and executing shipment requests, keep in mind the primary limits and constraints set out in *Delivery Policies*, but also the following:

Although the system can deliver to Post Office (PO) Boxes within the United States, delivery to the equivalent elsewhere in the world is unlikely to succeed.

The entity through which you submit a PO is always referred to as a channel partner, even if it was a direct purchase. Yubico’s Channel partner ID (or ChannelPartnerId or channelpartner_id) is “1”.

Note: The selection of channel partner is not supported in the /shipments API.

Because inventory is sorted according to the source from which it was purchased, when requesting shipment, distinguish between inventory purchased directly from Yubico and inventory purchased from Yubico’s channel partners. The **Dashboard** shows your *total* inventory of any given product, combining quantities purchased from all sources: both directly from Yubico and indirectly through channel partners. To find out what is in which inventory, check your purchase orders.

To find out what the channel partner ID is:

BEFORE shipment

The name and ID of the channel partner are shown on the purchase order detail page, accessible by clicking the ID of the PO on the **Purchase orders** page.

AFTER shipment

The **Channel partner ID** is shown on the shipment request detail page, accessible by clicking the ID of the shipment request on the **Shipments tab**.

Line 1: recipient_firstname and recipient_lastname map to the first line on the shipping label. This applies to all methods of requesting shipment - on the **Console**, in the **API** and in the **CSV file**.

Line 2: The recipient field in the API and the **recipient_company** column in the CSV require the **name of the recipient’s company** (if applicable) in the shipment address. This maps to the second line of the address. Do not use the /shipments recipient field to specify the name of the individual to whom products are to be shipped. Use the recipient_firstname and recipient_last name fields instead. If the recipient’s address is residential, leave the **recipient_company** column in the CSV and the recipient field in the API empty.

Long names: Long recipient names can be problematic for all methods of requesting shipment, because the shipment request will fail if the contents of the name and/or **Company** / recipient fields exceed the maximum number of characters permitted in these fields (shown in the table below). **Workaround:** When a recipient’s full name or company name exceeds the fields’ maximum lengths, split the names across the three fields, for example:

Location	Field (limit=15)	Limit	Field (limit=20)	Limit	Field (limit=20)	Limit
API	recipient_firstname	15	recipient_lastname	20	recipient	20
CSV	recipient_firstname	15	recipient_lastname	20	recipient_company	20
Console	First name	15	Last name	20	Company	20
Example of an overly long name before adjustment to fit the fields						
	Johannes-Maximilian		von Derschowitz-Dampfloch zu Querdenker			
Example after adjustment						
	Joh.-Maximilian		v.DerschowitzDampfloch		zu Querdenker	

Address validation takes place every 15 minutes. This means that you might have to wait up to 15 minutes to find out if your shipment request has been queued for fulfillment (see *Shipping Status Codes*).

Non-subscription purchases: Shipment requests can be made for up to one year after a PO is submitted.

Subscription purchases: Availability of products in shipment requests depends on the stock/inventory from which the products are drawn. (For details, see *Tier Sub-categories*.)

The full list of options that were potentially available in Subscription (1.0) is given below. The actual list depends on what you have purchased. Explanations for the terms in the list are given in the table below the list. For more details on subscription and non-subscription purchasing, see *Modes of Purchase*.

Subscription (1.0): Full List of Inventory Types

- Primary Subscr - Base Tier: Initial
- Primary Subscr - Base Tier: Buffer
- Primary Subscr - Base Tier: Replacement
- Primary Subscr - Adv. Tier: Initial
- Primary Subscr - Adv. Tier: Buffer
- Primary Subscr - Adv. Tier: Replacement
- Primary Subscr - Prem. Tier: Initial
- Primary Subscr - Prem. Tier: Buffer
- Primary Subscr - Prem. Tier: Replacement
- Primary Subscr - FIPS Tier: Initial
- Primary Subscr - FIPS Tier: Buffer
- Primary Subscr - FIPS Tier: Replacement
- Backup Subscr - Base Tier: Initial
- Backup Subscr - Base Tier: Buffer
- Backup Subscr - Base Tier: Replacement
- Backup Subscr - Adv. Tier: Initial
- Backup Subscr - Adv. Tier: Buffer
- Backup Subscr - Adv. Tier: Replacement
- Backup Subscr - Prem. Tier: Initial
- Backup Subscr - Prem. Tier: Buffer
- Backup Subscr - Prem. Tier: Replacement
- Backup Subscr - FIPS Tier: Initial
- Backup Subscr - FIPS Tier: Buffer
- Backup Subscr - FIPS Tier: Replacement
- Non-subscription - Base Tier
- Non-subscription - Advanced Tier
- Non-subscription - Premium Tier
- Non-subscription - FIPS Tier

- Standard Products

Standard Products	Subscription	Non-subscription
Standard products are physical keys purchased outright (on your PO you will not find “Standard Products”, but instead the actual products/models that you purchased).	There is a primary subscription and a backup subscription for each tier (product grouping): Base, Advanced, Premium, and FIPS. Each of those tiers has Initial, Buffer, and Replacement sub-categories, explained in the table below, <i>Tier Sub-categories</i>	The non-subscription tiers are for virtual keys. Unlike subscription tiers, non-subscription tiers have no sub-categories.

Table 19: **Stock: Initial, Buffer, Replacement**

Initial	The stock in this category reflects the total number of users on the subscription. This lot can be drawn upon for 12 months from the start of your subscription term.
Buffer	This category is made available to you free of charge when your subscription begins. You can draw on it throughout the term of your subscription.
Replacement	This category is intended for those who have lost their YubiKeys or want to upgrade. The stock in this category is reset each year of the subscription to the Replacement limit.

Shipment requests can be edited or deleted until **2am PST (10am GMT)**, the day **after** they were entered.

Normal (standard) shipping: Shipments typically will take 5-7 days for transit in North America and Europe. Other parts of the world will incur longer transit times.

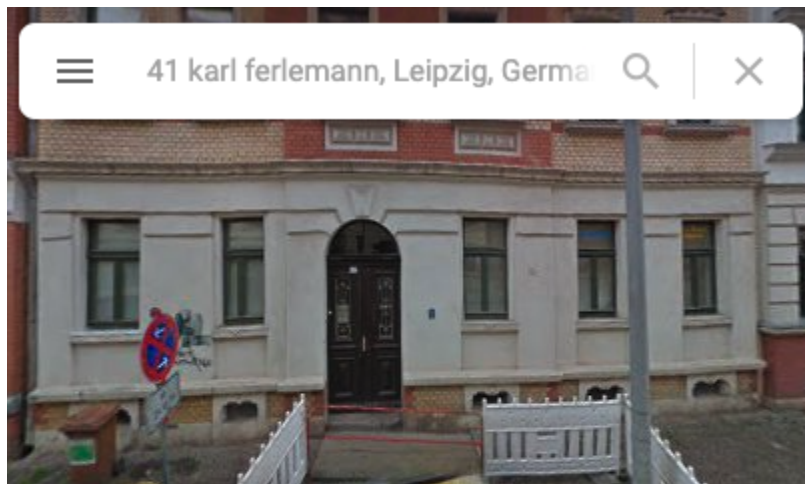
Expedited (rush) shipping: Shipments typically will take 1 business day for transit in North America. Other parts of the world may incur longer transit times, but will leverage the fastest time frame reasonably available.

1.19.2 Troubleshooting

This section addresses issues that can arise with shipping. YubiEnterprise Delivery notifies you of the situation of any given shipment via the codes in the Status column of the **Shipments** tab. The table below, *Shipping Status Codes*, lists the error codes and their explanations.

YubiEnterprise Delivery uses address validation services to reduce the incidence of issues, but it is important to be aware that just because an address exists in Google Maps, it does not mean that the address is deliverable. ‘Deliverable address’ is a United States Postal Service (USPS) classification for designating addresses to which the USPS has historically been able to deliver. YubiEnterprise Delivery’s ability to deliver is based on address information being input in the format acceptable to the relevant address validation service. The USPS-acceptable formats are set out in detail in the USPS’s [Postal Addressing Standards](#).

Note: When revising an address, the best option is to use the format Google Maps presents, because it usually does use the address format preferred by the validation service. In the example below, the address format that was input appears in the upper field, and Google Maps’ format is shown below the photo of the location.



Karl-Ferlemann-Straße 41

04177 Leipzig
Germany
Building

Address Validation Outside the US and Canada

For parts of the world with less standardized address formats, the fact that YubiEnterprise Delivery can accept an address does not mean that it is deliverable. An address will often be classified as “partially deliverable”, which means that we rely on local couriers who are familiar with the complexities of their urban systems and their delivery routes to deliver to the intended recipient.

Typically packages sent to European addresses and some parts of Asia reach their destination. Packages sent to South-east Asia and Eastern Europe typically arrive at the right street. In those parts of the world where there are no numbers in the postal addresses, the local courier’s capability is crucial to ensuring that the package actually arrives at its destination as opposed to ending up in its general area.

Shipping Status Codes

At any of the states between 1 and 9, a shipment request can be edited. From this point on, a shipment request is either processed through to an end state, or set back to state 99.

This table is very wide; scroll horizontally to see all four columns.

Table 20: Shipment State Codes

shipment_state_id	shipment_state_code	shipment_state_description	shipment_state_message
1	ShipmentStateIncomplete	Shipment request received by YubiEnterprise Delivery system but contained some data that could not be processed. (2), (3)	Incomplete Shipping Request
2	ShipmentStateDraft	Shipment request is being edited and is not ready for processing.	Draft
3	ShipmentStateAwaiting-Validation	Shipment request received, no validation done yet.	Awaiting Validation
4	ShipmentStateProcessingAddress	Shipment request locked as it undergoes country check, address validation, sales tax rate lookup (US), DPL check.	Processing
5	ShipmentStateAddress-Valid	Shipment request address has been validated, ready to be picked up by fulfillment processor.	Accepted for Fulfillment
6	ShipmentStateAddressInvalid	Shipment request address is invalid but an alternative address has been found and suggested. (2), (3)	Incomplete
7	ShipmentStateAddress-Fail	Shipment request address could not be validated and no alternative could be found for suggesting.	Address is undeliverable or could not be understood
130			

- (1) Refer to *Timing* for cutoff times.
- (2) Incomplete Address: Secondary line information such as apartment (apt), suite, unit is missing. Therefore it is not possible to guarantee delivery to the correct recipient.
- (3) Address is Undeliverable or could not be understood: The address is either not physically deliverable or it could not be resolved to a real location.
- (4) Any shipping request with a recipient name and/or address found on the US government’s *DPL (Denied Parties/Persons List)* cannot be fulfilled.

Shipment Status Messages

As the following table is wide, you may need to scroll horizontally. In the Explanation column, the source of the message is given: YubiEnterprise Delivery system for internal messages, US Validation for the US Postal Service, and finally, International Validation. Messages originating from the last two are simply passed on to you by YubiEnterprise Delivery.

Table 21: YubiEnterprise Delivery API /shipment_exact Status Messages

Message	Explanation
InventoryProductId not specified for ProductId %d - ShipmentStateError	Step 4 in <i>Bulk Upload: Shipping to Multiple Addresses</i> YubiEnterprise Delivery system
Too many keys in shipment - TotalKeysShipped %d > %d - ShipmentStateError	See <i>Limits and Constraints</i> YubiEnterprise Delivery system
Not enough Inventory for Shipment - ShipmentStateError	See <i>Purchase Orders</i> YubiEnterprise Delivery system
Re-enter the address differently; some parts of it are invalid. See the YubiEnterprise documentation for more guidance.	See <i>Troubleshooting</i> US Validation
The address is invalid. See the YubiEnterprise documentation for more guidance.	See <i>Troubleshooting</i> US Validation
The address is valid.	No further explanation required US Validation
Remove the ‘secondary unit designator’ (apt, suite, department, etc.) because it is superfluous.	Remove the apartment number, unit, etc.: it is considered wrong or unnecessary US Validation

continues on next page

Table 21 – continued from previous page

Message	Explanation
Enter second line information (apartment, unit, etc.). The information in the primary line is not specific enough.	Add the apartment number, unit, etc. US Validation
The address is a valid military address.	No further explanation required US Validation
The address is a valid General Delivery address where individuals without permanent addresses can receive mail.	No further explanation required US Validation
The address is valid. An organization such as a government agency can have its own zipcode because it receives a large volume of mail.	No further explanation required US Validation
Enter a street number; for example, for Yubico 'Lytton Ave' alone is not sufficient, it needs to be '530 Lytton Ave'.	The number on the primary line, e.g., the "185" in "185 Berry Street" is missing
Enter a valid street number.	The number on the primary line, e.g., the "185" in "185 Berry Street" is not valid US Validation
Enter a PO Box, Rural Route, or Highway Contract box number.	US Validation
Enter a valid PO Box, Rural Route, or Highway Contract box number.	US Validation
Enter the Private Mailbox (PMB) identifier or the # sign, followed by the PMB number.	PMB number is Private Mailbox Number US Validation
This address is not eligible to receive mail.	US Validation

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Table 21 – continued from previous page

Message	Explanation
The address is that of a Commercial Mail Receiving Agency (CMRA) a private business that accepts mail for recipients, and the required private mailbox information is present.	US Validation
The address is missing some important secondary line information (apartment, unit, etc).	No further explanation required International Validation
Mail is unlikely to arrive at this destination - please verify input.	No further explanation required International Validation
This street could not be found within the city or postal code.	No further explanation required International Validation
Invalid OrganizationId for Shipment	YubiEnterprise Delivery system
Country Code not set for Shipment	YubiEnterprise Delivery system
Country could not be found from CountryCode2: %s	Country code entered is not in YubiEnterprise Delivery system list
Shipment has no shipment items	YubiEnterprise Delivery system
DeliveryType not set for Shipment, defaulting to 1 - normal	YubiEnterprise Delivery system
Invalid DeliveryType %s for Shipment	YubiEnterprise Delivery system
InventoryType not set for Shipment, defaulting to 1	YubiEnterprise Delivery system
InventoryType %s not valid set for Shipment	You cannot use this InventoryType for this shipment - YubiEnterprise Delivery system
Negative quantity entered for ShipmentItem with ProductId=%d defaulting to 0	You set the quantity of the specified ProductID to be shipped to less than zero. YubiEnterprise Delivery system
Invalid ShipmentProductQuantity for ShipmentItem %d	You probably do not have sufficient inventory - YubiEnterprise Delivery system
Invalid ShipmentProductLineCost for ShipmentItem %d	YubiEnterprise Delivery system
Invalid Shipment - Total keys in shipment greater than 500	You cannot ship more than 500 items at once - YubiEnterprise Delivery system

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Table 21 – continued from previous page

Message	Explanation
Shipment has zero total item quantity	The number of items to be shipped must be > than 0 - YubiEnterprise Delivery system
US Address is missing the state name/abbreviation in region field	No further explanation required YubiEnterprise Delivery system
Bad ProductId in ShipmentProduct for NewShipment-Product	ProductID is wrongly specified or invalid YubiEnterprise Delivery system
Input for %s exceeded limit of %d characters	Specified field cannot accept the number of characters that were entered. YubiEnterprise Delivery system
Shipment of these products to this country using this delivery type is not supported. For more information, see <i>Delivery Policies</i> .	Shipment request contravenes one or more business rules. YubiEnterprise Delivery system.

- See the [USPS FAQ](#).

Insufficient Inventory

To maintain the window during which orders can be updated, edited, or recalled/deleted, orders are held and processed in batch. Therefore there might be less inventory available by the time an order is processed than what was shown in purchase order details when the request was created. For example, the person starting to create a shipment request assumes that the 50 keys the console shows they have in inventory will still be available by the time the shipment request is submitted. When this is not the case, any shipment requests processed after the inventory is exhausted will be flagged with this error message:

```
Error: Processing Error, contact support.
Reason is Not enough Inventory for Shipment
- ShipmentStateError
```

A second issue arises from the same source: when the user clicks on the shipment request ID with that error, part of the status message displayed is “Insufficient Inventory of Product X” where “X” is an integer. To find out what X means, consult the [Product Name](#), [Stock/Inventory](#), [product_id](#) and [inventory_product_id](#) table.

A third issue arises from the same source: it is not possible to make single shipment requests for products that are not available in inventory - which is expected if insufficient product has been purchased, but an insufficiency of inventory can also be caused by Yubico itself running out of stock.

Workaround

Either contact [Support](#) to get more inventory, or edit the request to switch to another product for which inventory is available.

To file a support ticket with Yubico, click [Support](#).

1.20 FAQs

- **Are there any limits or constraints on shipment requests? Yes:**

Address validation takes place every 15 minutes. This means that you might have to wait up to 15 minutes to find out if your shipment request has been queued for fulfillment (see [Shipping Status Codes](#)).

Non-subscription purchases: Shipment requests can be made for up to one year after a PO is submitted.

Subscription purchases: Availability of products in shipment requests depends on the stock/inventory from which the products are drawn. (For details, see [Tier Sub-categories](#).)

The full list of options that were potentially available in Subscription (1.0) is given below. The actual list depends on what you have purchased. Explanations for the terms in the list are given in the table below the list. For more details on subscription and non-subscription purchasing, see [Modes of Purchase](#).

Subscription (1.0): Full List of Inventory Types

- Primary Subscr - Base Tier: Initial
- Primary Subscr - Base Tier: Buffer
- Primary Subscr - Base Tier: Replacement
- Primary Subscr - Adv. Tier: Initial
- Primary Subscr - Adv. Tier: Buffer
- Primary Subscr - Adv. Tier: Replacement
- Primary Subscr - Prem. Tier: Initial
- Primary Subscr - Prem. Tier: Buffer
- Primary Subscr - Prem. Tier: Replacement
- Primary Subscr - FIPS Tier: Initial
- Primary Subscr - FIPS Tier: Buffer
- Primary Subscr - FIPS Tier: Replacement
- Backup Subscr - Base Tier: Initial
- Backup Subscr - Base Tier: Buffer
- Backup Subscr - Base Tier: Replacement
- Backup Subscr - Adv. Tier: Initial
- Backup Subscr - Adv. Tier: Buffer
- Backup Subscr - Adv. Tier: Replacement
- Backup Subscr - Prem. Tier: Initial

- Backup Subscr - Prem. Tier: Buffer
- Backup Subscr - Prem. Tier: Replacement
- Backup Subscr - FIPS Tier: Initial
- Backup Subscr - FIPS Tier: Buffer
- Backup Subscr - FIPS Tier: Replacement
- Non-subscription - Base Tier
- Non-subscription - Advanced Tier
- Non-subscription - Premium Tier
- Non-subscription - FIPS Tier
- Standard Products

Standard Products	Subscription	Non-subscription
Standard products are physical keys purchased outright (on your PO you will not find “Standard Products”, but instead the actual products/models that you purchased).	There is a primary subscription and a backup subscription for each tier (product grouping): Base, Advanced, Premium, and FIPS. Each of those tiers has Initial, Buffer, and Replacement sub-categories, explained in the table below, <i>Tier Sub-categories</i>	The non-subscription tiers are for virtual keys. Unlike subscription tiers, non-subscription tiers have no sub-categories.

- **Does YubiEnterprise Delivery track YubiKey serial numbers?** No.
- **What is the data retention policy, i.e., how long is data held within the YubiEnterprise Delivery Console before being purged?** Data is kept for seven (7) years to comply with export control and financial legal requirements.
- **What happens to YubiKeys purchased on a subscription basis after expiry of the corresponding PO/term?** Any keys not shipped are forfeited, but the date of forfeiture or expiry depends on their inventory type: see “Are there any limits or constraints on shipment requests” above.
- **What happens to YubiKeys purchased outright (perpetual) after one year in inventory?** YubiEnterprise Delivery enables customers to request shipments for up to 12 months after the initial PO. YubiEnterprise Delivery will hold the customer’s inventory, regular or custom keys. When the twelve-month period is up, YubiEnterprise Delivery will ship the remainder of the keys to the original customer address on file. The customer will also be notified 60 and 30 days prior to the period expiry via email.
- **What taxes will be charged to the customer?** See *Shipping*.
- **How will the customer be invoiced for the cost of shipping and taxes or VAT charged on shipping?** See *Shipping*.
- **How does Yubico handle customers who are exempt from VAT/sales tax?** See *Exemptions*.

- **What Personally Identifiable Information (PII) is retained by Yubico?** Yubico retains data only as long as necessary to operate our business and to comply with statutory and regulatory requirements. We do not use this data for any purpose other than meeting our obligations to our customers (e.g. shipping YubiKeys) and to comply with applicable laws. In accordance with export controls and tax law, Yubico is required to retain shipment data for up to seven years.
- **What is the warranty on keys on a subscription contract?** The warranty is extended to cover the full term of the subscription and applies as long as the subscription is active.
- **Where is YubiEnterprise Delivery available?** YubiEnterprise Delivery is available in USA, Canada, EU, UK, Norway, Switzerland, Iceland, and Liechtenstein. YubiEnterprise Delivery is not available in EU Overseas Countries or Territories.
- **Can organizations that already have accounts with FedEx and UPS use those accounts with YubiEnterprise Delivery?** No, at the moment, YubiEnterprise Delivery cannot use customer-provided shipping partner accounts.
- **Can Yubico's security keys and YubiKeys be custom programmed by Yubico for a customer?** Yes: the minimum initial order is 10,000 or more, with subsequent orders being at least 5,000.
- **What reports are available to customers to help better manage their YubiEnterprise Delivery?** YubiEnterprise Delivery customers can log into the YubiEnterprise Delivery Console and access their purchase orders, shipment requests, address book etc. They can also download all their shipment requests and status / tracking numbers over the period.
- **Our business is based in the US but has locations in Europe. Can YubiEnterprise Delivery support distribution of YubiKeys in this setup?** Yes, this use case is supported. A business headquartered in North America, but having office locations and users in Europe will be able to receive YubiKeys at their respective locations, including residential addresses.
- **We may need to have several people in the company place orders for YubiKeys. How does YubiEnterprise Delivery satisfy that requirement?** Any individual who has administrative rights to the YubiEnterprise Delivery Console can place orders for keys through the console. Admins can be delegated across locations so that they can best gauge the numbers of users who will need YubiKeys and request shipments all at once, or over time as needed.

1.21 Release Notes

The changes reported in the release notes are cumulative. We include all customer-visible functionality updates as well as any known issues and suggested workarounds.

1.21.1 Release 1.32.0 (23 March 2023)

New Features & Enhancements

- **SSO:** YubiEnterprise Services now supports Single Sign-On (SSO). For details, see [Single Sign-On \(SSO\)](#).
- **System Email Upgraded** to UTF-8 in order to support many languages and more email clients.
- **Additional YubiKey Models**
 - The YubiKey 5C NFC is available in Advanced, Premium, and FIPS tiers.
 - The Security Key C NFC by Yubico is available in Base, Advanced, Premium and FIPS tiers.

- **Demo Password Reset:** Org Owners can now reset passwords for Demo users. Those users follow the reset link from the email the system sends them and register passwords. They are not required to have YubiKeys in order to authenticate.

Resolved Issues

- Expedited shipping is not supported for certain countries. Those countries are listed in *Modes of Delivery: Normal vs Expedited*. It is therefore no longer possible to select this option when shipping to those countries.

Known Limitations

- **Inventory/From Stock:** Although Console users can specify the inventory they want to draw from, this option is not available when using the CSV file with the API or when creating bulk shipments. These latter two methods only permit specifying the kind of stock (initial, replacement, buffer). When inventory is not specified or cannot be specified, the system uses the “first in, first out” rule, which means it will deduct from the oldest PO first.
- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx (“Evaluate the expression” means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.2 Release 1.31.0 (16 February 2023)

Known Limitations

- **Inventory/From Stock:** Although Console users can specify the inventory they want to draw from, this option is not available when using the CSV file with the API or when creating bulk shipments. These latter two methods only permit specifying the kind of stock (initial, replacement, buffer). When inventory is not specified or cannot be specified, the system uses the “first in, first out” rule, which means it will deduct from the oldest PO first.
- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).

- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx (“Evaluate the expression” means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.3 Release 1.30.2 (24 January 2023)

New Features & Enhancements

- **New Products:** As of the current release, 1.30.2 on 24 January 2023, YubiEnterprise Services offers the following new products:
 - Security Key NFC by Yubico
 - Security Key C NFC by Yubico
 - Security Key NFC by Yubico - Enterprise Edition
 - Security Key C NFC by Yubico - Enterprise Edition

Subscription (2.0)

- **Subscription (2.0):** YubiEnterprise Services is launching Subscription (2.0) with this release 1.30.2 on 24 January 2023. Available for 500 users or more, it provides:
 - Procurement that is fast, predictable, and cost-effective
 - The opportunity upgrade to higher tiers as needs evolve
 - Form factor flexibility
 - The option to purchase backup YubiKey subscriptions at a discount to ensure your backup authentication mechanism is as strong as your primary one and to enable easy self-service account recovery.
 - 24x7x365 Priority Technical Support, which offers easy access to Yubico security experts ([Yubico Support Services Overview](#))
 - Extended warranty: Warranties cover the initial term of the subscription plus the first renewal - the duration of the subscription.

Plus Plan

- Replacement licenses allow you to cover up to 25% of subscribed users per year, with an option to add on additional users as needed a la carte, due to turnover, lost or stolen keys, and upgrades.
- Maximum discount on backup licenses
- 5% of base purchase as funds available to apply toward Professional Services
- Option for one bulk customization event per year included.

Standard Plan

- Choose the number of replacement licenses for turnover, lost or stolen keys, and upgrades.

Known Limitations

- **Inventory/From Stock:** Although Console users can specify the inventory they want to draw from, this option is not available when using the CSV file with the API or when creating bulk shipments. These latter two methods only permit specifying the kind of stock (initial, replacement, buffer). When inventory is not specified or cannot be specified, the system uses the “first in, first out” rule, which means it will deduct from the oldest PO first.
- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx (“Evaluate the expression” means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.4 Release 1.30.0 (19 January 2023)

Resolved Issues

- **Console** When a user and/or a password was reset, there was no indication whether the action had been successful. This issue has now been fixed: now a message confirming success is displayed after a user and/or a password is reset.
- **Console:** When you created a custom email and your HTML code was validated, the display of your actual code was stuck on the far right of the frame. This issue occurred whether the code had errors or not, and whether or not it exceeded the 65,000-character limit. This issue has now been fixed, and your HTML code is readable as expected, distributed evenly across the whole area of the frame.
- **Console** The Advanced Search by address did not work as expected unless you had street lines 2 and 3 in the address. The workaround was to add a space after each potential line of the address, including lines whose potential was unrealized, i.e., unoccupied fields. Therefore, when you were searching on an address that did not have a street line 2 or 3 you would have needed to add three spaces between `street_line1` and `city`. This issue has now been fixed.

Known Limitations

- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx (“Evaluate the expression” means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.5 Release 1.29.2 (22 December 2022)

Resolved Issues

- The refunds CSV download button now works as expected.

Known Issues

- The .csv file created when downloading processed refunds is showing the wrong data in the inventory_product_type column. Instead of showing information such as “Standard Products”, “Shipping”, or “Primary Subscr - Adv. Tier: Initial, it is showing the name of the product that was refunded (e.g. YubiKey 5 NFC) or in the case of Shipping, it is showing an empty field.

Known Limitations

- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx (“Evaluate the expression” means do the arithmetic displayed in the box to prove

that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.6 Release 1.29.0 (15 December 2022)

New Features & Enhancements

- **Console and API** Shipments initiated without using YubiEnterprise Services are now tracked within the Console and via the API. In order to distinguish between requests shipped using YubiEnterprise and those shipped without, we have introduced two types of shipment: “Automated,” which are those requested using YubiEnterprise Delivery, and “Manual,” which are shipments requested directly from Yubico or a Channel Partner. Therefore the table on the Shipments tab and the CSV download both now have a new column, “Type,” upon which one can filter. For more information, see *Shipments: Overview*.

Resolved Issues

- **Console and API** The limit for the number of alphanumeric characters in the recipient email address, formerly 40, has been expanded to 80 characters. For more information, see the [Shipment Request Fields](#) table.

Known Limitations

- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx (“Evaluate the expression” means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.7 Release 1.28.0 (17 November 2022)

New Features & Enhancements

- **Console:** A search produces a filtered list of shipments. Until now, when you investigated one of those results and then clicked the **Go back** button, the results of that search were no longer available. With the current release, YubiEnterprise Delivery 1.28.0, the list of search results is retained even after clicking into a particular result or refreshing the browser window while on a page of search results. (For more details, see *Search*.)

- **Console:** Customization of the SHIPPED/DELIVERED/DELIVERY EXCEPTION email template - An owner or an admin can edit the templates for these emails notifying a YubiKey recipient about a shipment. The HTML code for the new template is validated as the content is entered. When the user clicks **Update** the **Send sample** button becomes active so that the user can send themselves a sample email from the customized template. For more details, see *Customizing the Automated Emails*.
- **Console:** When creating a new shipment, the single shipment tab is shown by default instead of the bulk shipment tab.

Resolved Issues

- **Console:** When logging into YubiEnterprise Delivery with the wrong email or password, the error message in the past was “Access denied.” Now the error message is “Incorrect email or password.”
- The status of some of the GB-destined shipments carried by Royal Mail was not updating promptly. Expected behavior is for the status to be shown as “Delivered” when that is the case; instead the status of shipments that had already been delivered was sometimes shown as “Shipped:In Transit”. This issue has now been fixed.

Known Limitations

- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx (“Evaluate the expression” means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.8 Release 1.27.3 (28 October 2022)

Resolved Issues

- There was a brief period of time in which the tracking numbers in the links for Blue Dart’s India shipments pointed at nonexistent shipments. Those tracking numbers have been corrected, so the links now point to the appropriate shipments.

Known Limitations

- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- For European shipments using Bpost, also known as the Belgium Post Group, the tracking number is not hyperlinked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and paste it into the field for that purpose on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or into Parcelsapp.com's page for Bpost tracking, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx ("Evaluate the expression" means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.9 Release 1.27.0 (20 October 2022)

Enhancements

- The advanced search feature for shipments has been substantially enhanced (see *Advanced Search*).

Resolved Issues

- Prior to release 1.27.0, API calls that included saving an excessively long string to the street_line3 field such as the POST /v1/shipments_exact API received a peculiar error. Trying to save a string longer than 60 alpha-numeric characters now throws a better error.

Known Limitations

- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- For European shipments using Bpost, also known as the Belgium Post Group, the tracking number is not hyperlinked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and paste it into the field for that purpose on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or into Parcelsapp.com's page for Bpost tracking, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).

- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx (“Evaluate the expression” means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.10 Release 1.26.1 (26 September 2022)

Resolved Issues

- Previously, if the last remaining user of an org attempted to remove themselves from that org, they were automatically logged out of the console. This has been fixed so that users attempting this operation (which is not allowed and will result in an error message) remain logged in.

Known Limitations

- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- For European shipments using Bpost, also known as the Belgium Post Group, the tracking number is not hyperlinked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and paste it into the field for that purpose on Bpost’s page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or into Parcelsapp.com’s page for Bpost tracking, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx (“Evaluate the expression” means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.11 Release 1.26.0 (22 September 2022)

New Features & Enhancements

- Whitespace is now trimmed from the following fields in the bulk order request CSV file:
 - channel partner ID
 - inventory type
 - delivery type
 - key quantities

Trimming will help prevent the CSV file parser from falsely rejecting these fields.

- When a user attempts to change their account password, and the new password violates any of the password requirements, an error message in red containing the first violated rule will appear on screen.
- The items in the top navigation bar (**Dashboard**, **Shipments**, **Purchase orders**, **Settings**) are now clickable from within a subpage of a particular item/tab. For example, a user can now click on **Shipments** from within a shipment detail page to navigate back to the main Shipments screen.

Resolved Issues

- The “Inactive” user status has been renamed as “Deactivated.”
- The unused `/organization/update-setting` API endpoint has been removed.
- Previously, when a console user navigated to the **Users** tab under **Settings** and reduced the number of users shown per page to 5, the delete (trash can) icon for the 4th user disappeared. This has been fixed so that the delete icon is available for all users shown on screen.

Known Limitations

- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- For European shipments using Bpost, also known as the Belgium Post Group, the tracking number is not hyperlinked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and paste it into the field for that purpose on Bpost’s page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or into Parcelsapp.com’s page for Bpost tracking, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for `GET /v1/purchaseorders/{purchaseorderId}` is sent, the response includes (`is_vat_valid`, `is_tax_exempt`, `is_post_pay`).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new `/shipments_exact` APIs must be used. The older, deprecated `/shipments` API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx (“Evaluate the expression” means do the arithmetic displayed in the box to prove

that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.12 Release 1.25.2 (24 August 2022)

New Features & Enhancements

- **API Token:** Notification of token expiry is now emailed not only to the token holder but also to the org owner. (For more information on this, see *Lifecycle Management*.)

Known Limitations

- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- For European shipments using Bpost, also known as the Belgium Post Group, the tracking number is not hyperlinked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and paste it into the field for that purpose on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or into Parcelsapp.com's page for Bpost tracking, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx ("Evaluate the expression" means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.13 Release 1.25.0 (18 August 2022)

Resolved Issues

- **CSV:** If the country code column in the CSV upload file had a space inserted in the country code, for example, a trailing space after "US" so that the system read it as "US ", upload of the CSV file would fail without an error. This issue has now been fixed.
- With shipments to the UK, in rare cases a shipment's status was not progressing beyond Shipped: In Transit, although the carrier's website was showing a delivery exception notice. Without a status update, no delivery exception email could be sent to the shipment recipient. This issue has now been resolved.

Known Limitations

- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- For European shipments using Bpost, also known as the Belgium Post Group, the tracking number is not hyperlinked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and paste it into the field for that purpose on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or into Parcelsapp.com's page for Bpost tracking, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx ("Evaluate the expression" means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.14 Release 1.24.0 (21 July 2022)

New Features & Enhancements

- Shipments destined for the US or Canada have been standardized to use the USPS codes for state or province. Every shipment request method now uses this input: individual shipment requests made via the Console or the API and bulk requests using the CSV file all require the USPS codes. The mappings between full names and codes are given in *USPS Codes for US and Canada*. As of the current release, use of these USPS codes is mandatory. Shipment requests that do not adhere to this standard will generate an error message, and no shipment will be created.

Resolved Issues

- **Console:** In the table on the Shipments tab, shipments were not sorting correctly on the ship_date or the delivery_date columns. Shipment requests should have been sorted into chronological order based on the selected column. Now the sequencing of requests in these columns is displayed correctly in chronological order when the sort icon for either of these columns is clicked.
- Some shipments sent to India have a status of "Delivered," even though the carrier and tracking number are still showing as "coming soon."
- Some shipments sent through India Post and delivered by the Transnet carrier made no progress through the expected statuses; they remained in the Shipped:In Transit state even after the shipment was delivered. This issue has now been fixed; all India Post shipments sent via Transnet are now tracked and therefore make the expected progress through the statuses.

Known Issues

- **CSV:** If the country code column in the CSV upload file has a space inserted in the country code, for example, a trailing space after “US” so that the system reads it as “US “, upload of the CSV file will fail without an error.

Known Limitations

- **CSV:** The CSV bulk upload does not support combining subscription and non-subscription products in a single shipment. **Workaround:** Use the API or the Console (from the **Dashboard** or the **Shipments** tab, Create shipment request > Single shipment) to create single shipment request that includes both types of products.
- For European shipments using Bpost, also known as the Belgium Post Group, the tracking number is not hyperlinked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and paste it into the field for that purpose on Bpost’s page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or into Parcelsapp.com’s page for Bpost tracking, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx (“Evaluate the expression” means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.15 Release 1.23.0 (23 June 2022)

New Features & Enhancements

- Shipments destined for the US or Canada can use the USPS codes for state or province. Every shipment request method has been standardized for this input: individual shipment requests made via the Console or the API and bulk requests using the CSV file all take the USPS codes. The mappings between full names and codes are given in *USPS Codes for US and Canada*. As of YubiEnterprise Delivery release 1.24.0 scheduled for 21 July 2022, use of these USPS codes will be mandatory. After this date, shipment requests that do not adhere to this standard will generate an error message, and no shipment will be created.
- **Console** Each Purchase Order now has its own detail page, showing PO number, whether direct or channel sale, and if the latter, the seller’s name, the expiring date for initial or perpetual stock, address and contact information. The available inventory is shown as before.

Known Limitations

- For European shipments using Bpost, also known as the Belgium Post Group, the tracking number is not hyperlinked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and paste it into the field for that purpose on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or into Parcelsapp.com's page for Bpost tracking, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.
- **India shipments:** Some of our shipments to India use India Post for the last mile. India Post does not support our automated shipment tracking service, and therefore the tracking ID that YubiEnterprise Delivery displays is not actually a link. **Workaround:** Copy the India Post tracking number (typically 13 digits starting with E, R, or C) and paste it into either the India Post website - https://www.indiapost.gov.in/_layouts/15/dop.portal.tracking/trackconsignment.aspx ("Evaluate the expression" means do the arithmetic displayed in the box to prove that you are not a bot) or any of the other tracking service sites that support India Post, such as Ship24.com - (<https://www.ship24.com/couriers/india-post-tracking>).

1.21.16 Release 1.22.1 (25 May 2022)

Resolved Issues

- For shipments sent to India, status emails declaring that the shipment had been sent were being generated every hour. This issue has now been fixed.

Known Limitations

- For European shipments using Bpost, also known as the Belgium Post Group, the tracking number is not hyperlinked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and paste it into the field for that purpose on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or into Parcelsapp.com's page for Bpost tracking, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new /shipments_exact APIs must be used. The older, deprecated /shipments API only supports ordering keys from inventory purchased directly from Yubico. For more information, see :ref:channel-partners-label.

1.21.17 Release 1.22.0 (20 May 2022)

New Features & Enhancements

- With the release of version 1.22.0, the tracking of shipments to India becomes more transparent. On the Console, clickable tracking numbers are now provided for shipments delivered by Blue Dart, one of our main carriers on the Indian subcontinent. The API too returns a `tracking_link` value.

Resolved Issues

- Shipments sent to GB/UK now transition relatively quickly to “Delivered” or “Delivery Exception” instead of remaining in the “Shipped: In Transit” status indefinitely.
- **Console:** The Purchase Order sorting function did not work. Clicking on a column heading did not result in the content of the column being sorted. This issue has now been fixed, and any column can now be sorted as expected.

Known Limitations

- For European shipments using Bpost, also known as the Belgium Post Group, the tracking number is not hyperlinked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and paste it into the field for that purpose on Bpost’s page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or into Parcelsapp.com’s page for Bpost tracking, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for `GET /v1/purchaseorders/{purchaseorderId}` is sent, the response includes (`is_vat_valid`, `is_tax_exempt`, `is_post_pay`).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new `/shipments_exact` APIs must be used. The older, deprecated `/shipments` API only supports ordering keys from inventory purchased directly from Yubico. For more information, see [:ref:channel-partners-label](#).

1.21.18 Release 1.21.0 (26 April 2022)

Resolved Issues

- If a field has been selected for sorting on any of the console list screens, that field title will now be shown in bold.
- Email addresses are now validated during shipment request creation for single and bulk shipments.
- The channel partner name field in the shipments .csv file is now populated for all entries, including direct sale shipments.
- Previously, when an order received a **Delivery Exception** status, an internal message was shown in the console. This has been fixed so the message is no longer shown.
- The API documentation has been updated to reflect that the suggested address fields (`suggest_street_line1`, `suggest_street_line2`, `suggest_street_line3`, `suggest_city`, `suggest_region`, and `suggest_postal_code`) are largely deprecated and will return an empty string. This applies to the following APIs: `GET /shipments_exact`, `POST /shipments_exact`, `GET /shipments_exact{shipmentId}`, and `POST /shipments_exact{shipmentId}`.
- The `suggest_recipient` field of the API, which is never returned in responses, has been removed from the API.

- On the **Users** screen under **Settings**, the alphabetic sort was not working properly when trying to sort users by email address. The sort function has been fixed and now behaves as expected.
- Role and State are no longer sortable fields on the **Users** screen under **Settings** in the console.

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET `/v1/purchaseorders/{purchaseorderId}` is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new `/shipments_exact` APIs must be used. The older, deprecated `/shipments` API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.

1.21.19 Release 1.20.0 (24 March 2022)

New Features & Enhancements

- **Console/CSV/API:** Consistency in the requirement for **recipient telephone number** in shipment requests is now system-wide. When creating a single shipment request in the Console (i.e., using the GUI), phone number has always been a required field. Now bulk shipment requests via CSV upload also require phone number, as do shipment requests made via API. With the current release of YubiEnterprise Delivery - 1.20.0 - shipment requests that do not include recipient telephone number (“Contact phone”) will no longer be processed. Although the `/shipments` API is deprecated, this requirement will be enforced on that API too.
- **Console/CSV/API** Shipment request statuses will now be updated to reflect changes reported after requests have reached the “Delivery Exception” state.

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET `/v1/purchaseorders/{purchaseorderId}` is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new `/shipments_exact` APIs must be used. The older, deprecated `/shipments` API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.

1.21.20 Release 1.19.0 (24 February 2022)

New Features & Enhancements

- **Console:** The detail view of the shipment request now displays **Total cost** and **Product cost** in the **Shipping and tax** section of the page instead of at the top, where it was previously shown.

Resolved Issues

- The POST `validate-address` API that is used to determine whether an address is acceptable by YED for delivery contradicted the POST `shipments_exact` API in that the first deemed an address without a city acceptable, while the second deemed it unacceptable, since `city` is a required field. The `validate-address` API has now been fixed; it too requires the `city` field and its rules are consistent with the rules of the `shipments_exact` API.

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner, <https://parcelsapp.com/en/carriers/belgium-post>.
- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET `/v1/purchaseorders/{purchaseorderId}` is sent, the response includes (`is_vat_valid`, `is_tax_exempt`, `is_post_pay`).
- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new `/shipments_exact` APIs must be used. The older, deprecated `/shipments` API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Inventory: Channel Partners*.

1.21.21 Release 1.18.0 (20 January 2022)

New Features & Enhancements

- **API Holders** of API tokens are notified before expiry of a token via an automatically generated email sent to the address associated with the token. The email is sent 7 days before expiry, the day before expiry, and on the day of expiry.

Resolved Issues

- When the CSV file containing shipment requests was generated, the `inventory_type` column was not always populated for every row in the file. This issue has now been fixed.
- In the email that the system sends to notify recipients that a shipment will arrive, the `carrier` field was not consistently populated, nor was the link added to the carrier's tracking number. This issue has now been fixed, and both the carrier and the tracking link are included in the email. **API:** This also resolves the issue of the incomplete response that was returned for the shipment order in the GET `/shipments_exact` and GET `/shipments_exact/{shipmentId}` responses: they now return comprehensive information.
- In the user guide, the section entitled [Using the API to Execute a Shipping Request](#) had a typo in the second sentence, which prevented the following information from being displayed at that location. "Although the system can deliver to Post Office (PO) Boxes within the United States, delivery to PO Boxes (or the equivalent) elsewhere in the world is unlikely to succeed." This has now been fixed, so that the information now appears in this location.

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. However, the delivery status does update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner, <https://parcelsapp.com/en/carriers/belgium-post>.
- API When getting a purchase order by its ID, extra, undocumented fields are returned. When a GET `/v1/purchaseorders/{purchaseorderId}` is sent, the response includes `is_vat_valid`, `is_tax_exempt`, `is_post_pay`.

1.21.22 Release 1.17.2 (10 December 2021)

Enhancements

- Fifteen more countries have been added to the list of deliverable shipment destinations. The lists of countries and the corresponding limitations are given in *Key Quantities*.

Resolved Issues

- **Console:** Shipments to overseas PO boxes (non-USA) are not delivered; instead, they are returned by all carriers. The Console now displays a warning to this effect when a shipment request is created using an overseas PO box. This limitation is referenced in *Post Office Box as Destination*.

1.21.23 Release 1.17.0 (18 November 2021)

New Features & Enhancements

- **Console:** Owners, Admins, and Auditors can now view the list of refunds for lost or missing shipments, drill down into the details of each item, and download a CSV file containing this data. For more information, see *Refunds*.

Resolved Issues

- **Console:** Including leading or following whitespace with a term entered in the Search field yielded no results, even if the search term ought to have produced results. This issue has now been resolved; the system automatically trims any whitespace of this kind before the search is performed.
- When a shipment request was made providing a company name as recipient, plus either recipient first name or recipient last name, a validation error was returned. This issue has now been resolved: no error is thrown when the company name plus either first name or last name is provided.
- **Console:** The edit icon on the shipments page redirected the user to the shipment details page instead of showing the edit view in the same page. This issue has now been resolved, and it is now possible to edit in the same view.
- The status summary for shipments that were cancelled indicated that the shipments had been delivered, even though they were not. This issue has now been fixed: the status summary correctly shows canceled shipments as such.
- **API integrations:** The API documentation for the GET `/shipments_exact` API (to get all shipments) erroneously said that all the items included in the shipment (`shipment_items`) would be returned; that was incorrect - the field (`shipment_items`) was not returned in the response. This is no longer the case, and the API documentation now accurately reflects that the `shipment_items` field is not returned in the response.

- **Console:** After login, the Dashboard did not show any data. Only when the page was refreshed or one was redirected back from another page did the page load and show relevant data. This issue has now been resolved: the Dashboard page loads upon login and displays all data.

Known Issues

- **API** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).
- When the CSV file containing shipment requests is generated, the inventory_type column is not always populated for every row in the file.

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. However, the delivery status does, update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner,

1.21.24 Release 1.16.0 (21 October 2021)

New Features & Enhancements

- Eight new countries are available for existing and new organizations to ship to. They are: India, Saudi Arabia, the United Arab Emirates, Mexico, Chile, Israel, Taiwan, and Hong Kong.
- Fulfillment partner ["Provider"] information is now displayed:
 - On the Console, on the shipment details page, in the **Shipping & tax** section
 - In the API, in the carrier field.
- **API** PUT /shipments/makedraft has been deprecated and is therefore no longer available.

Known Issues

- **API:** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET /v1/purchaseorders/{purchaseorderId} is sent, the response includes (is_vat_valid, is_tax_exempt, is_post_pay).

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. However, the delivery status does, update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner, <https://parcelsapp.com/en/carriers/belgium-post>.

1.21.25 Release 1.15.0 (23 September 2021)

New Features & Enhancements

- **Seven new countries:** It is now possible to have shipments sent to Australia, New Zealand, Japan, Singapore, the Philippines, Indonesia, and Thailand.

Resolved Issues

- In cases when particular carriers were used to ship an order, shipments were not progressing beyond the `SentForFulfillment` state. The system now handles additional carriers correctly.
- Very occasionally, shipments did not have their `delivered_date` set. This issue has now been resolved, and all shipments that reach their target recipient have a `delivered_date`.
- On the Purchase Order popup, the channel partner name and partner ID were not shown the same way as they were in the shipment popup. The presentation of this information has now been rationalized so that it appears with the same formatting and in the same detail in both locations.
- **Disabled Update Button** When a shipment request was in the `Awaiting validation` state, it was not possible for the creator of the request to edit any field other than the **from stock/key counts** field. Even though the user was able to click the **Shipment id** link to open the shipment details page, the **Update** button remained disabled by default. This issue has now been resolved: it is possible to update all fields on the shipment details page even when the request is in the `Awaiting validation` state.
- **Insufficient inventory**
 - To maintain the window during which orders can be updated, edited, or recalled/deleted, orders are held and processed in batch. Therefore there might be less inventory available by the time an order is processed than what was shown in purchase order details when the request was created. For example, the person starting to create a shipment request assumes that the 50 keys the console shows they have in inventory will still be available by the time the shipment request is submitted. When this is not the case, any shipment requests processed after the inventory is exhausted will be flagged `Error: Processing Error, contact support. Reason is Not enough Inventory for Shipment - ShipmentStateError`.
 - A second issue arises from the same source: when the user clicks on the shipment request ID with that error, part of the status message displayed is “Insufficient Inventory of Product X” where “X” is an integer. To find out what X means, consult the `Product Name, Stock/Inventory, product_id and inventory_product_id` table.
 - A third issue arises from the same source: it is not possible to make single shipment requests for products that are not available in inventory - which is expected if insufficient product has been purchased, but an insufficiency of inventory can also be caused by Yubico itself running out of stock.

Workaround: Either contact [Support](#) to get more inventory, or edit the request to switch to another product for which inventory is available.

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. However, the delivery status does, update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner, <https://parcelsapp.com/en/carriers/belgium-post>.

1.21.26 Release 1.14.0 (19 August 2021)

New Features & Enhancements

- **Shipment requests:** The alphanumeric character limits on the Console fields and the cells in the CSV upload file and the API have been expanded. For exact details, see the table detailing these limits in *Shipment Request Fields*.
- The shipment request detail popup has been expanded to a full page in order to display more information.

Resolved Issues

- **API:** For POST `validate-address`, `street_line1` limit is 60 alpha-numeric characters.
- The unit price of the products is shown on the Purchase Order popup if the products were purchased directly from Yubico (as opposed to from a channel partner).
- **Single shipment request:** The product list is now filtered by the partner selected. In other words, selecting a channel partner determines which products are available for shipment and the quantities thereof.
- **Bulk shipment request:** The CSV file's **ChannelPartnerId** column requires that the ID be explicitly entered instead of defaulting to "1" for Yubico (direct sale). This facilitates the avoidance of errors.

Known Issues

- **API** When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET `/v1/purchaseorders/{purchaseorderId}` is sent, the response includes (`is_vat_valid`, `is_tax_exempt`, `is_post_pay`).

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. However, the delivery status does, update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner, <https://parcelsapp.com/en/carriers/belgium-post>.

1.21.27 Release 1.13.0 (22 July 2021)

New Features & Enhancements

- **Channel Partners:** This feature enables the inclusion of Yubico’s channel partners in YubiEnterprise Delivery. Customers can distinguish between inventory purchased directly from Yubico and inventory purchased through our channel partners. This information is displayed on the Purchase Order (PO) tab by clicking on the individual PO IDs (see *PO Detail View*). When requesting individual shipments using the Console, the channel partner is specified via the **Channel Partner** dropdown (see *Shipping to a Single Address (Console)*), while for bulk upload of shipment requests, the **ChannelPartnerId** column in the CSV file is must be populated see: *Shipment Request Fields*). This feature is fully described in *Purchasing Through a Channel Partner* in “Requesting Shipment” in this guide. The updated APIs are listed under a heading with the same name, *Purchasing Through a Channel Partner*, in the “API Onboarding Playbook” in this guide.
- The default Delivery Exception email no longer references and links to Yubico’s support website. This enables enterprise customers to divert any support requests from shipment recipients (end users) to their own IT team.
- **Download CSV:** A new field, **recipient_company**, is now included in the exportable .csv file containing all shipment requests. This is the equivalent of the **Company** field in a single shipment request.

Resolved Issues

- **API:** To order keys via API from inventory purchased through channel partners, the new `/shipments_exact` APIs **must** be used. The older, deprecated `/shipments` API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Purchasing Through a Channel Partner*.
- There was an issue where the user ID associated with a shipment request was being updated to the ID of the last user to edit the shipment. The requester ID is supposed to be the ID of the user who originated the request and should not change once the order is created. A side effect of this was that it was possible for the shipment to get into a state in which it was not viewable/editable/delete-able. The fix was to ensure that the requester ID always remains unchanged.
- **API:** Now `suggest_postal_code` returns the correct information. Previously, this was never correctly returned, which affected the following APIs:
 - GET `/shipments_exact`
 - GET `/shipments_exact/{shipmentId}`
 - PUT `/shipments_exact/{shipmentId}` because the response to that is the full shipment payload, which includes the `suggest_postal_code` field.

It had no effect on the POST `/validate-address` API.

Known Issues

- When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for GET `/v1/purchaseorders/{purchaseorderId}` is sent, the response includes (`is_vat_valid`, `is_tax_exempt`, `is_post_pay`).

Known Limitations

- **Channel Partners:** To order keys via API from inventory purchased through channel partners, the new `/shipments_exact` APIs **must** be used. The older, deprecated `/shipments` API only supports ordering keys from inventory purchased directly from Yubico. For more information, see *Purchasing Through a Channel Partner*.

1.21.28 Release 1.12.0 (24 June 2021)

Resolved Issues

- **Search function:** when a search had 0 results, you could type any page number without an error being displayed. This issue has been resolved.

Known Issues

- When getting a purchase order by its ID, extra, undocumented fields are returned. When a request for `GET /v1/purchaseorders/{purchaseorderId}` is sent, the response includes (`is_vat_valid`, `is_tax_exempt`, and `is_post_pay`).

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. However, the delivery status does, update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner, <https://parcelsapp.com/en/carriers/belgium-post>.

1.21.29 Release 1.11.2 (26 May 2021)

Resolved Issues

- The status of shipment requests that had already been sent out for fulfillment was not updating as expected. The status of those orders remained stuck at "Processing: Queued for Fulfillment" instead of progressing to "Processing: Sent for Fulfillment". This issue has now been resolved.

Known Issues

- Search function: when a search has 0 results, you can type any page number without an error being displayed.
- The `.csv` template for bulk shipment requests sometimes contains a column for a product that you do not have, e.g., the YubiKey 5 NFC might not be available to you and yet the template has a column for it. If you attempt to use this column, your bulk shipment request will be rejected for containing an invalid product ID.

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. However, the delivery status does, update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner, <https://parcelsapp.com/en/carriers/belgium-post>.

1.21.30 Release 1.11.0 (20 May 2021)

New Features & Enhancements

- API Token: timestamps for creation, last use, and expiry are now shown on the profile page for that user. This information is shown for all tokens used since YubiEnterprise Delivery release 1.10.
- Automated emails sent by the system to end-users upon shipment / delivery / delivery-exception are now fully customizable. Formerly an organization owner or admin could use the Console to customize a paragraph that was then inserted into the standard email template. Now the UI shows one field for the subject of the email and a second for the email body. The customization performed here will apply to all emails sent by the system for that organization.
- The ability to search shipments by recipient_email has now been enabled.
- The Shipped_date now appears on the Dashboard of the Console and on the Shipments tab, as well as in the .csv download file containing the shipment requests.
- The Delivered_date now appears on the Dashboard of the Console and on the Shipments tab, as well as in the .csv download file containing shipment requests. This field is searchable.

Resolved Issues

- CRLF characters (Carriage Return (ASCII 13, r) Line Feed (ASCII 10, n)) were allowed in the address fields of individual shipment requests made via the Console. This resulted in unexpected line breaks in the corresponding row of the download CSV file. Those characters are now stripped from the input, so the CSV file no longer shows those line breaks.
- Data contained in downloaded .csv files of shipment requests was problematic, in that it caused a lack of alignment. This issue has now been corrected.
- When the same item was ordered from different types of inventory, e.g., primary/backup subscription, advanced tier, initial/replacement/buffer, the total quantity of the item from all types of inventory did not always add up correctly. This issue has now been fixed.
- If you entered a product type or quantity that was not available or inactive in the system, the shipping request was rendered incomplete, and the status message used the numeric ID of the product instead of its name (e.g., "ProductId 3 not active in the system"). This issue has now been resolved, so that the actual name of the product is shown, e.g., "YubiKey 5C not active in the system".
- If you canceled a bulk shipment request after having uploaded a .csv file, the previously selected file name was displayed next to the **Choose file** button. This issue has now been resolved.
- If you hovered over your profile icon on the Console, instead of your organization name in the tooltip, you would see its ID in the YubiEnterprise Delivery system. This issue has now been resolved, and so the actual name of your organization is displayed in the tooltip.

Known Issues

- Search function: when a search has 0 results, you can type any page number without an error being displayed.
- The .csv template for bulk shipment requests sometimes contains a column for a product that you do not have, e.g., the YubiKey 5 NFC might not be available to you and yet the template has a column for it. If you attempt to use this column, your bulk shipment request will be rejected for containing an invalid product ID.

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. The delivery status does, however, update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner, <https://parcelsapp.com/en/carriers/belgium-post>.

1.21.31 Release 1.10.0 (22 April 2021)

New Features & Enhancements

- The .csv file for bulk import has always been limited to 10MB, but now the system returns a clear error message along with the 400 response code when a user attempts to upload a file that is too large.
- **User Account Management:** The list of users on the Settings > Users tab now displays a user status column. This enables adherence to compliance procedures when reviewing which users have access to the system.
- **Enhanced Security:** Session login limits: YubiEnterprise Delivery users do not stay logged in indefinitely. They are automatically logged out after 24 hours.

Resolved Issues

- Console search widget: the page counter is now reset to 1 for each new search.
- Console search widget: It was not possible to enter a page number that would have contained no search results; in other words, if there were only 10 pages of search results, you could not enter 100. It is now possible to enter a page number that does not exist because there were not that many results, but an error message explaining this is now shown.
- The available inventory displayed on the Purchase Order popup is now sorted.
- Making an /auth/machine-token API request with an expired token used to fail with a 500 error. Now such a request correctly returns a 401.
- When a user created a new API token and then switched orgs, the view did not update - the new token still appeared under the other org, even though the active token reference did update correctly. This has now been fixed.
- The email address of the user who created a shipment request is now shown in the pop-up window displayed by clicking on the ID of the shipment request.
- Broken links in the documentation have now been fixed.
- Users in demo mode are no longer able to edit the email template informing new recipients that they will be receiving shipments from YubiEnterprise Delivery. This capability is reserved for org owners and admins whose accounts are fully enabled (i.e., no longer in demo mode).

1.21.32 Release 1.9.0 (18 March 2021)

The initial API documentation link on Swaggerhub (<https://app.swaggerhub.com/apis/yubico/yubi-enterprise-delivery-public/v1-oas3>) is no longer updated and has therefore been removed. Please refer to: <https://console.yubico.com/apidocs/> for the latest API documentation.

Enhancements

- User input is validated in such a way that the user is able to confirm or change input as required before submitting shipment requests; for example:
 - Indications of the allowed input for any given field are provided
 - Character rules are now provided for each API
 - The verification results for uploaded CSV files are now provided
 - Error codes have been standardized.
- YubiEnterprise Delivery users can now give their security keys (nick)names so that a user with multiple keys can distinguish them from each other. The console displays the keys in the order in which they were registered.
- API: Validation error responses are now consistent across the APIs.
- API Security:
 - If your request body does not contain valid JSON, the system informs you that the JSON contents you presented could not be verified and were therefore discarded.
 - When a user with permissions to change user roles attempts to grant a disallowed privilege level, the requested role is checked against a list of available roles and the error displayed to the user says only “a match was not found for a valid role”.
- When selecting products during the creation of a shipment request, users can now see the entire range of custom product options available to their organization.
- Organization owners can now reset just users’ passwords in addition to the existing option of resetting users entirely.

Resolved Issues

- Telephone numbers entered in shipment requests are now validated. If a mistake is found, the user is given the opportunity to correct it before the request is processed.
- API: Submitting invalid values for the `delivery_type` or `inventory_type` fields now triggers INFO-level errors instead of 500s.
- API: A JSON unmarshall error resulting from a malformed payload for the `/shipments POST CreateShipment` API used to send ‘500 / “unknown error”’. This type of error now sends ‘400 / “invalid payload”’.
- When your login has expired, clicking on the Generate API token on the profile page does not work. This issue has now been fixed.
- API: The auditor role can delete API tokens as well as create them.
- Transaction rollbacks are now logged at INFO level instead of at WARNING level, which was too severe.
- When an attempt is made to delete a shipment request that does not exist, the error code returned is now 404 instead of 500, which erroneously indicated a server problem. This issue has now been fixed.

- API: When Organization Products are returned, the TotalCount is now set.
- API: When calling InviteUserToCurrentOrganization for a user already in an organization, an AlreadyExists response is now returned.
- API: GET /shipments was missing the advanced_search parameter. This is now present.
- The CSV download was timing out. This issue has now been resolved.

Known Limitations

- For European shipments using Bpost, also known as the Belgian Post Group, the tracking number is not hyper-linked. The delivery status does, however, update correctly. **Workaround:** To find out where a Bpost shipment is, copy the tracking number and input it on Bpost's page for that purpose, http://www.bpost2.be/bpostinternational/track_trace/find.php?lng=en or that of their partner, <https://parcelsapp.com/en/carriers/belgium-post>.

1.21.33 Release 1.8.3 (9 March 2021)

Enhancements

- Support for Transport Layer Security (TLS) v1.0 and v1.1 has been removed; the earliest version YubiEnterprise Delivery now supports is TLS 1.2. This update to the cryptographic protocols renders network communication less vulnerable to attack.

1.21.34 Release 1.8.0 (18 February 2021)

Features & Enhancements

- **Security Enhancement:** YubiEnterprise Delivery 1.8.0 implements an infrastructure enhancement that requires all users to reset their passwords. All users will have received an email from Yubico announcing this one week prior to the 1.8.0 release. The email explains the procedure to be followed: click on the link in the email, which takes you to a page enabling you to update your password. If you do not update it within one week, contact your YubiEnterprise Delivery organization owner for an account reset. If you are an Org Owner, contact [YubiEnterprise Support](#).
- Using the API and the Console (GUI) for single shipments, it is now possible to include products from different inventory types within the same shipment. For details, see *Shipping to a Single Address (Console)*.
- **Advanced Search for API** Advanced search capabilities have been introduced for API users. Fields with different names will be searched in an AND, while fields with the same name will be ORed.

Resolved Issues

- When browsers truncated redirection URLs, or users manually copy-pasted incomplete URLs, the missing OAuth authorize parameters caused the login backend to crash.

Known Issues

- When your login has expired, clicking on the **Generate API token** on the profile page does not work.
Workaround: Log in to the Console again.

1.21.35 Release 1.7.0 (21 January 2021)

Features & Enhancements

- **API: Advanced search** Lists of shipment requests can be filtered by query parameters. We introduced `/search-description` on searchable resources to provide a description of the searchable fields.
- Timestamps for shipment requests and for orders being shipped are now provided with millisecond precision from the Console (the GUI) and via the API.
- **API** We now return “404 Not Found” response `{"message":"Product Id <> could not be found"}` for GET `/products/{product id}` on an invalid product ID, as per the API contract.
- The CSV file download containing shipment requests shows streamlined shipment status, including for shipments carried out before the 1.7.0 release. For details, see [Column Headings in the Shipment Requests Table \(Download CSV\)](#).
- The tracking number for each shipment is now associated directly with the shipping date, just as the “Shipped - in transit” status is directly linked to the date of shipment.

Resolved Issues

- Organization names were not being displayed correctly. This issue has now been fixed.
- Some European shipments did not show the correct tracking number link. This issue has now been fixed.
- When selecting shipments for bulk deletion, the number of shipment requests listed as available for deletion may not have matched the number displayed directly underneath the **Back to Shipments** button (e.g., “1 - 11 of 32” and yet there would be only a single item shown in the list). The number of items listed in the table was correct, not the number shown on the upper right. This issue has now been fixed.
- When the API was used to create a shipment request against a subscription that did not include the product you wanted to ship, the shipment details page (the popup for the shipment ID) on the Console (the GUI) for that request would show that the “ghost product” request was made against Standard products inventory. This issue is now fixed.
- In the YubiEnterprise Console (the GUI), the limit on the number of characters in the “Company” field has been raised from 15 to 20, so it now matches the limits on that field in the bulk upload as a CSV file and the API.
- Shipment requests with `shipment_state_id=104` (ShipmentStateDelivered) will always have `is_delivered=TRUE`.
- Upon completing a single shipment request using the YubiEnterprise Console (the GUI), the button for creating another shipping request did not appear to be functional. Its name is now properly displayed, and this secondary button changes from white to dark blue when you mouse over it.
- When using the Console (GUI) to create a single shipment request and selecting first *Standard products* from the **From stock** dropdown, entering a quantity for any product, then selecting another item from **From stock**, the quantity previously selected in conjunction with *Standard products* disappears from view. However, the number entered is still in the system; it shows up in the confirmation message when you click **Create Shipment**.
- **API** In the `validate-address` API, some fields in the response payload and the US Address Component did not match the LOB API. This issue is now fixed.

1.21.36 Release 1.6.0 (19 November 2020)

Features & Enhancements

- With the release of YubiEnterprise Delivery 1.6.0, customers have more granular control in determining the stock inventory from which products are shipped. Previously, the system would choose the stock from the oldest Purchase Order in the system to ensure that the customer's stock did not expire before use.
 - Explicit selection is now available for single shipment requests (see *Shipping to a Single Address (Console)*).
 - Bulk shipment orders will continue to use the original method whereby the system chooses the stock. Bulk shipment ordering will convert to the exact choice method in a future release.
 - A new set of delivery APIs has been made available to support the exact choice method, the suite of `/shipments_exact` APIs. The original `/shipments` APIs are deprecated starting in this 1.6.0 release but they will continue to be available until at least **May 2021**. Customers are encouraged to use the `/shipments_exact` APIs for any new development and to update existing clients soon.

Table 22: Deprecated APIs and their Replacements

Deprecated	Replacement
GET <code>/shipments</code>	GET <code>/shipments_exact</code>
POST <code>/shipments</code>	POST <code>/shipments_exact</code>
GET <code>/shipments/{shipmentId}</code>	GET <code>/shipments_exact/{shipmentId}</code>
PUT <code>/shipments/{shipmentId}</code>	PUT <code>/shipments_exact/{shipmentId}</code>
DELETE <code>/shipments/{shipmentId}</code>	DELETE <code>/shipments_exact/{shipmentId}</code>
<code>/UpdateShipmentById</code>	<code>shipments_exact/{shipment_id}</code>
<code>/organization/update-setting</code>	none

- Before adding Backup subscriptions to new Purchase Orders (POs), existing POs should be exhausted.
- Download of CSV file with shipment requests has been accelerated.
- Expedited shipments in the US will no longer use USPS Priority (for 1-99 items) and UPS Ground (for 100-500 items) but instead will be using UPS Overnight for 1-500 products. The cost of shipping has been adjusted accordingly.
- A new version of the original `/address-validation` API checks addresses more closely to ensure acceptance by the system. The deprecated API is `/address-validation` and the new one is `/validate-address`. The deprecated API will continue to be available until at least May 2021. Users are encouraged to use the `/validate-address` API for any new development and to update existing clients soon.
- The online Help can now be accessed from the login screen; it is not necessary to log in to access Help.
- Better navigation: When reviewing Incompletes, a new **Go Back to Shipments** button facilitates acceleration of the workflow.
- The Dashboard view more accurately reflects modes of purchase and stock in inventory. The new sections are **Standard products inventory**, **Non-subscription inventory**, and **Subscription inventory**.

Resolved Issues

- It is now possible to create a single shipment request combining different types of stock/inventory, for example both a lanyard from the Standard products option and a key from the Primary Subscr. Advanced Tier - Init option in the **From stock** dropdown.
- The Search function for the online help (User Guide and Release Notes) has now been fixed.
- Purchase Order (PO) display: Inventory counts of zero on POs are no longer shown as just a forward slash, but instead as expected, for example “0/100 - YubiKey 5C”.
- The detail view of Purchase Orders with “ghost” inventory is now available. “Ghost” inventory was caused by Yubico adding a product to an Organization and then removing it.

1.21.37 Release 1.5.0 (22 October 2020)

Features

- It is now possible to delete multiple shipment requests simultaneously. This is useful when the system is unable to validate multiple addresses or when the wrong CSV file was uploaded by mistake.
- The CSV file upload now accepts alternative values for `DeliveryType`: instead of just 1 for Normal and 2 for Expedited, the words `Normal` and `Expedited` are now acceptable input. Integer parsing will be retained for backwards compatibility.

API

- GET `/inventory` has been extended so that it always returns `product_mapping`.

Resolved Issues

- Outstanding error messages are now cleared between shipment updates.
- Products no longer in inventory cannot be selected from the **New shipping request** page in the Console for a single shipment request. In the API, `/shippablekeys` returns only products still in inventory for `inventory_type = 1`.

Known Issues

When selecting shipments for bulk deletion, the number of shipment requests listed as available for deletion may not match the number displayed directly underneath the **Back to Shipments** button (e.g., “1 - 11 of 32” and yet there is only a single item shown in the list). The number of items listed in the table is correct, not the number shown on the upper right.

1.21.38 Release 1.4.0 (24 September 2020)

Features

- Improved /products API endpoint behavior: GET /products returns the list of products that are both a) in inventory and b) shippable.
- The delivery exceptions email feature has been completed.

Resolved Issues

- Inventory type in shipment requests always displays correctly now.
- The product images for multiple subscription tiers concurrently displayed are now consistent.

1.21.39 Release 1.3.1 (10 September 2020)

Known Issue

- When requesting shipment for a YubiKey Lanyard, the Inventory Type must be set at type 1, YubiKey Shipment, even if you are a subscription customer. This means that if you want to send a person both a lanyard and a key from subscription stock, you must make two separate shipment requests. Set the other inventory types as follows:

Table 23: **Inventory Types (Stock)**

Integer	inventory_type (Stock)	Purchase Mode
1	Product	Outright purchase
2	Non-subscription	Purchase of virtual keys
3	Subscription - Initial key Shipment	Subscription
4	Subscription - Buffer Stock Shipment	Subscription (1.0)
5	Subscription - Replacement key Shipment	Subscription

- Use Inventory Type 1 if you have purchased keys on the perpetual mode and/or for lanyards.
- Use Inventory Type 2, YubiKey Tier SKU Shipment, if you are not a subscription customer, but have purchased tiers of keys instead of physical keys.
- Inventory Types 3, 4, and 5 are for subscription customers only.
 - * Make sure to use up all of your Inventory Type 3, Initial, within the first year of your subscription.
 - * Use Inventory Type 4 at any time: Buffer stock expires only at the end of your subscription term.
 - * Use Inventory Type 5, Replacement, for users who have lost their keys or want to upgrade.

1.21.40 Release 1.3.0 (28 August 2020)

Features

- Enhanced and extended address validation status messages: error messages displayed as a result of failed address validation now give instructions for achieving successful validation.
- Improvements to the downloadable shipments CSV. It now shows for each shipment:
 - Organization name as well as org-ID
 - Purchase Order number

- User email as well as user-ID
- Delivery type indicating “normal” or “expedited”
- Both shipment state ID and actual shipment state message
- Both shipment product cost and shipment product taxes.
- Added YubiKey Lanyard to the product list.
- Begin preview of API to retrieve the available subscriptions.

Resolved Issues

- The customized email for DELIVERY EXCEPTIONS can now be sent as a preview sample to the logged-in YubiEnterprise Delivery user.

1.21.41 Release 1.2.0 (23 July 2020)

Features

- **Updated Pricing**
 - Introducing flat-fee shipping for up to 2 keys:
 - Introducing support for expedited shipping (1-3 days)
- **Email customization and preview:** The notification emails automatically sent to YubiKey recipients can be customized, and can also be previewed. Clicking the *Send Sample* button below the *Customize Email* field sends a sample of the customized email to the email ID logged into YubiEnterprise Delivery. For more details, see *Notifying End-Users of Shipment and Delivery*.
- **PREVIEW: Ability to download shipments table:** Organization owners, admins, and auditors can download the information on the **Shipments** tab as a CSV file. There are two options:
 - The entire contents can be downloaded - i.e., all the rows in the table, even if there are multiple pages.
 - Search results. If a search term is entered into the Search field, the rows containing the search term will be downloaded as a CSV file.
- **Subscription Shipping through YubiEnterprise Delivery:** Subscription customers can view their inventory on the **Dashboard**, with:
 - Premium Tier Subscription
 - Premium Tier Subscription Replacement
 - Premium Tier Subscription Buffer.

Subscription customers can specify shipment types:

- Initial shipment
- Buffer stock shipments
- Replacement YubiKey shipment

Subscription customers can download a CSV file with the contents of the shipments table (see “Ability to download shipments table” above), showing all the YubiKeys in the subscription tier and Subscription-Fulfillment-Type.

Known Issues

- The customized email for DELIVERY EXCEPTIONS cannot be sent as a preview sample to the logged-in YubiEnterprise Delivery user.

1.21.42 Release 1.0.0 (18 June 2020)

Features

YubiEnterprise Delivery enables organizations to manage orders of Yubico's security keys (including YubiKeys), encompassing:

- Ordering shipment of a key or keys to a single address through the YubiEnterprise Delivery Console (the GUI) or the API
- Bulk upload of shipping orders for fulfillment using CSV files
- Shipping orders via the API
- Inventory management
- Tracking shipping costs
- Tracking shipment of the security keys you purchase from Yubico to the end-user
- Customizing auto-generated delivery notification emails
- Support for Virtual Product Tiers.

Known Limitations

- The following character limitations (including spaces) apply to all three methods of requesting shipment: Console (GUI), CSV, and API:
 - First Name: 15
 - Last Name: 20
 - Company: 20
 - Address lines 1, 2, 3: 40
 - City: 20
- In certain situations, if your computer has a platform FIDO authenticator such as Windows Hello and you want to enroll a YubiKey, the Windows UI displayed may ask you to enroll that other platform authenticator. **Workaround:** Hit **Cancel** to get to the YubiKey enrollment option.

Known Issue

- A shipment request whose status is indicated as `ShipmentStateError` must be recreated and resubmitted.

1.22 Copyright

This guide is available as help text accessible from each screen of Yubico's YubiEnterprise Delivery Console. There is a help page for each tab in the Console, describing the functions available from that tab, and listing input parameters for actions such as requesting shipping or giving someone YubiEnterprise Delivery console privileges. The table of contents for the YubiEnterprise Delivery User Guide appears to the left of the help text.

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Getting Help

Documentation aiding in deploying and using YubiEnterprise Delivery, Subscription & Services is continuously updated on the Console and on <https://docs.yubico.com/>. To ask for help with YubiEnterprise Delivery, file a ticket at [YubiEnterprise Support](#).

Otherwise, click the links to:

- [Submit a general support request](#)
- [Send a Contact Me request](#)
- [See additional contact options for getting touch with Yubico.](#)

Feedback

Yubico values and welcomes your feedback. If you think you may have discovered a flaw in our product, please submit a support request at <https://support.yubico.com/hc/en-us> and provide as much detail as you can.

Document Updated

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