

Technical Specifications

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 **S.M.A.R.T.**TM



Change Control

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1 Overview

This document presents the system and network requirements for the S.M.A.R.T. application to function correctly within a customer's environment. Product workflow diagrams and import file structures appear at the end of this document.

2 Computer Requirements

2.1 Operating Systems

Operating System
Microsoft Windows® 10 Professional and Enterprise, 32-bit or 64-bit
Microsoft Windows® 11 Professional, 64-bit

2.2 PC Hardware

Item	Minimum	Recommended
Processor	Intel® Pentium® Dual Core, 2.6 GHZ or Higher	Intel® Pentium® Dual Core, 3.0 GHZ or Higher
Memory (RAM)	8 GB	16 GB
Hard Drive	250 GB	500 GB
Network Card	10/100 Mbps	10/100/1000 Mbps
Ports (USB, LTP)	4 USB, 0 LTP1	8 USB, 0 LTP1

2.3 Supported Web Browsers

Browser	Version
Mozilla Firefox®	Latest version
Google Chrome™	Latest version
Microsoft Edge	Latest version



2.4 Supported Peripherals

Item	Models
Mailing Systems	iX-3, iX-5, iX-7, iX-7 PRO, iX-9
Label Printers	Mailroom ONLY: Zebra ZD420, ZD421 & SATO WS408 Desktop Print/R.T.S.: Brother QL-1100, QL-1100NWB, Zebra ZD 420 & ZD421
WP Scales (Mailing System platforms)	5, 10, 30, 70 lb.
USB Scales	Mailroom ONLY: Mettler-Toledo 30, 70, 149 lb. Desktop Print/RTS: Elane 10, 30, 70 lb.; Mettler-Toledo 30, 70, 149 lb.
USB Scanners	Symbol LI-4278, POS-X Linear Scanner, Zebra DS2278

3 Network Requirements

3.1 Physical Requirements

A S.M.A.R.T. installation requires two (2) network connections to the customers' network.

3.2 S.M.A.R.T. and socket.io access

The table below indicates the URLs, IP addresses, and ports that S.M.A.R.T. requires access to function properly. The Device Manager utilizes socket.io. The Device Manager does not support proxy configurations.

Connection Type	URL	IP Destination	Protocol (PORT)	Certificate
S.M.A.R.T. Connection	smart.quadient.com api.quadient.com	Variable IP Addresses	HTTPS (TCP 443)	Entrust
Device Manager Connection	socket- io.quadient.com	Variable IP Addresses	HTTPS (TCP 443)	3rd Party certificate authorities

smart.quadient.com utilizes an RCS and a Quadient Apps Certificate; 3rd party certificate authorities sign both.



3.3 Mailing System Access

Connection Type	URL	IP Destination	Protocol (PORT)	Certificate
Postal Server Connection	us-imi-meterservices.neopost.com us-imi-meterservices.QDTmail.com	40.141.82.122 192.196.186.37 198.105.7.204	HTTPS (TCP 443)	Quadient self-signed
Online Services Connection	us-imi-olsservices.neopost.com us-imi-olsservices.QDTmail.com	23.253.147.97	HTTPS (TCP 443)	Quadient self-signed
Amazon Web Services (AWS) connection for Remote Communication	a1fsq5zuelfoi-ats.iot.us-east-1.amazonaws.com or a1fsq5zuelfoi-ats.iot.us-west-2.amazonaws.com	Variable IP addresses	MQTT (TCP 443)	3rd Party certificate authorities
S.M.A.R.T. connection for Remote Control	rcs-us-east-1.neoservice-aws.com or rcs-us-west-2.neoservice-aws.com	Variable IP addresses	HTTPS (TCP 443)	3rd Party certificate authorities

3.4 Remote Support Access

Quadient, Inc. utilizes TeamViewer as the application to provide remote assistance. The following must be allowed for TeamViewer to function correctly:

- Users need to be able to download and run the TeamViewer applet
- Ports 80 HTTP or 443 HTTPS must be open to allow WAN connections to local P.C.
- Security measures are available at this link: <https://www.teamviewer.com/en/security/>

An additional application, BeyondTrust, is also available for use. Details on requirements for BeyondTrust can be found on their website at:

<https://www.beyondtrust.com/resources/datasheets>

or

<https://www.beyondtrust.com/resources/whitepapers>



4 Components

4.1 Mailing System

The iX Series Mailing Systems are the ONLY Mailing Systems supported to integrate into the S.M.A.R.T. application. For an iX Mailing System to communicate with S.M.A.R.T., the Mailing System MUST have a valid contract for WebRemoteControlAuthorization in OLS

4.2 Online Services (OLS)

Online Services contains a listing of all iX series Mailing Systems with a WebRemoteControlAuthorization contract enabled. Every time a S.M.A.R.T. session attempts to connect to a Mailing System, OLS validates that the contract is active and the Mailing System is available to be controlled.

4.3 Remote Control Service (RCS)

The Remote Control Service manages secured access to the Mailing System over the internet and ensures access between users and their corresponding Mailing System. RCS is composed of several Amazon Web Services (AWS) components.

RCS has two access points (one per region). S.M.A.R.T. and the Mailing System manage the access point depending on the ZIP Code configured on the PSD.

The available AWS zones for RCS and S.M.A.R.T. are:

- The USA East (North Virginia) (us-east-1)
- The USA West (Oregon) (us-west-2)

4.4 Device Manager

The Device Manager is a local application that allows S.M.A.R.T. to communicate with locally attached hardware, such as printers and scales. In addition, the use of the Simple Integration feature requires Device Manager. Device Manager requires local administrator access for installation and potential firewall settings. Device Manager may be able to support certain proxy server configurations. Please review the specific technical documentation for the Device Manager for further details relating to supported alternative configurations.



4.5 S.M.A.R.T. Application

S.M.A.R.T. is a web browser-based application for shipping and mailing system control. See above for supported web browsers and configurations.

4.6 Single Sign On (SSO)

4.6.1 SSO Setup Details

When Single Sign On is purchased and activated on the customer's tenant, the below URLs serve as the customer's endpoints to be entered into their Identity Provider.

Description	S.M.A.R.T. URL
S.M.A.R.T. Entity ID (Service Provider)	https://api.quadient.com/sp
S.M.A.R.T. Asserting Consumer Service	https://api.quadient.com/sso/acs

The above details should be provided to a customer's IT Department to allow for preparation of the Identity Provider.

4.6.2 SSO Requirements

Item	Description
Protocol	SAML 2.0 ONLY
Parameters	S.M.A.R.T. does not support any parameters being passed with SSO
User Management	Users MUST be configured and created within S.M.A.R.T. before they can access via SSO
User ID	S.M.A.R.T. requires the user within the product to have a unique login ID. This unique ID MUST be a valid email address. S.M.A.R.T. will only support an email address being passed as the login ID when using SSO



5 Communication Ports

Windows Firewall may prevent the various modules and Carrier utilities from communicating. Ensure the following ports are open for communication. S.M.A.R.T. utilizes Device Manager to communicate with devices (printers and scales). The communications between the Mailing System and RCS as well as Device Manager and socket.io require mutual SSL authentication. Devices and software that disrupt mutual SSL authentication cause connection interruptions between S.M.A.R.T. and the attached peripherals. SSL Inspection and proxy servers are two examples of this type of disruption.

Port Requirements:

- Port 80 - HTTP Internet communications automatically redirect to Port 443 for security
- Port 443 - HTTPS Internet communications (secured)

6 Mailing System / Server Communications

The Mailing System always initiates outgoing Internet connections.

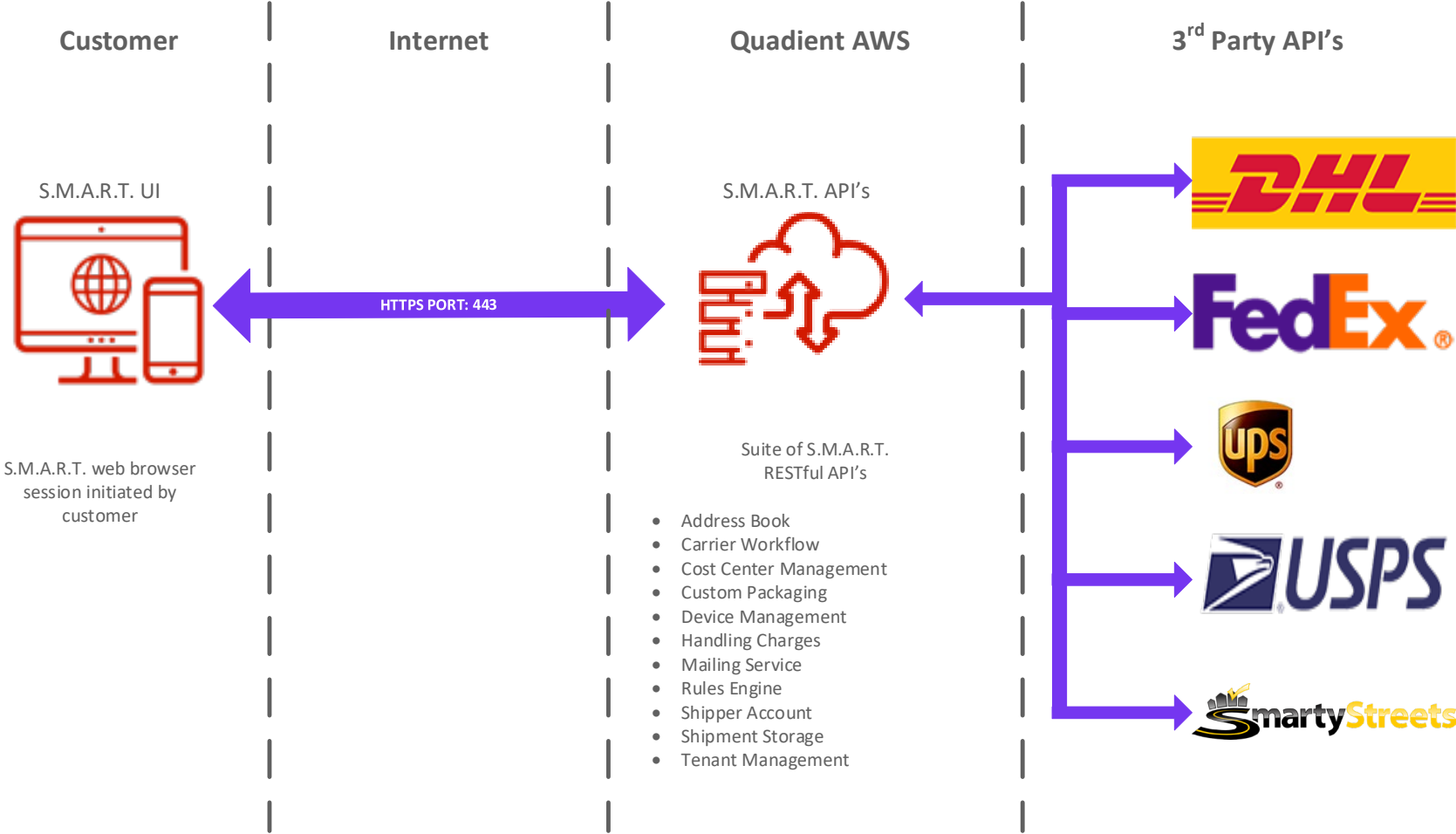
All outgoing communications from the iX Mailing System are TLS1.2.

An initiated connection creates two communication tunnels for these data exchanges:

- **For Machine connection to A.W.S.:**
 - ✓ ECDHE-RSA-AES128-GCM-SHA256 with 2048 bit for RSA keys
- **For Machine connection to Quadiant Servers**
 - ✓ Key Exchange: 1024, RSA 1536/2048
 - ✓ Cipher Suite: DHE_RSA_AES128_SHA256
 - ✓ Mac: HMAC-SHA-256

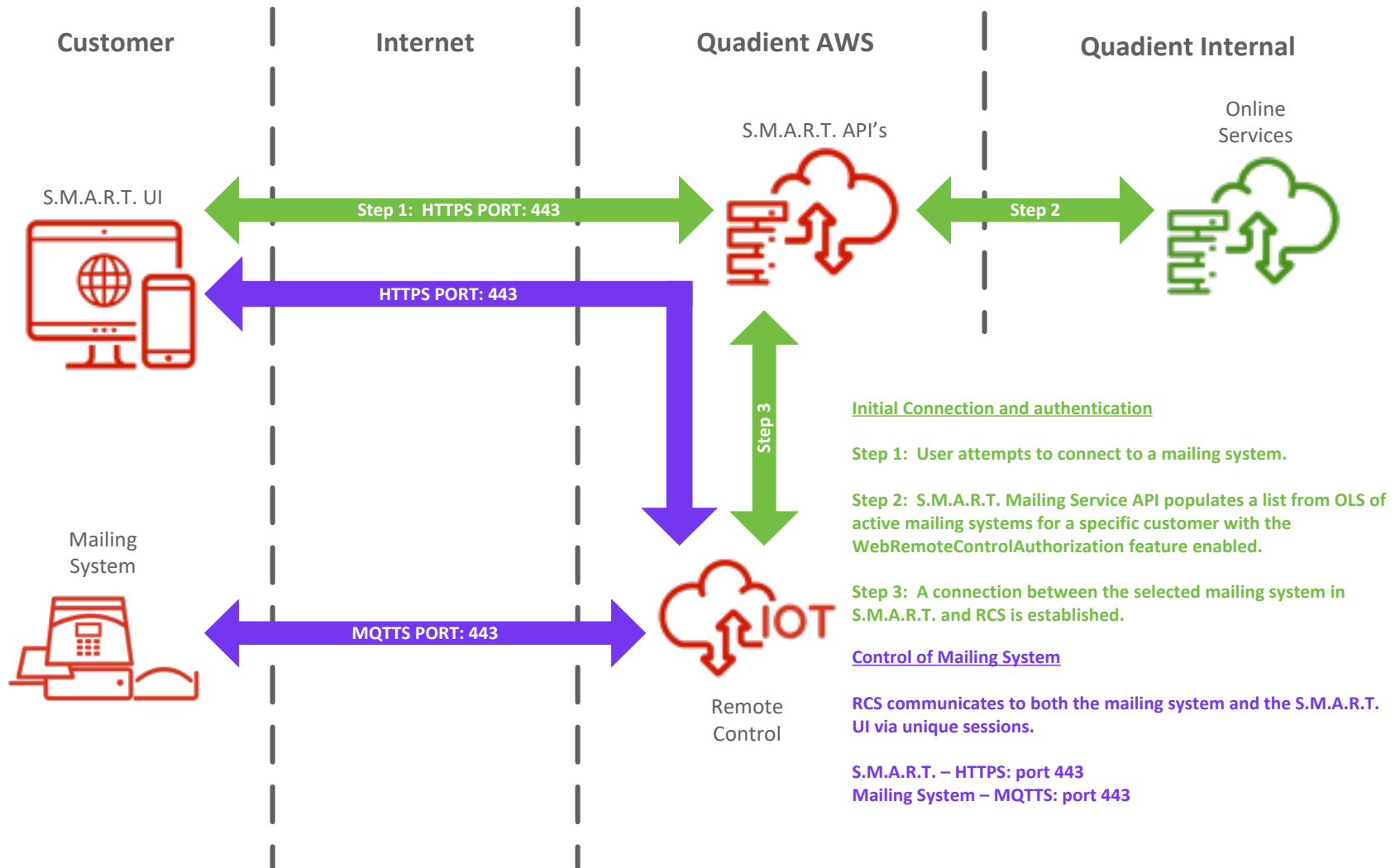


7 S.M.A.R.T. Communication Diagram



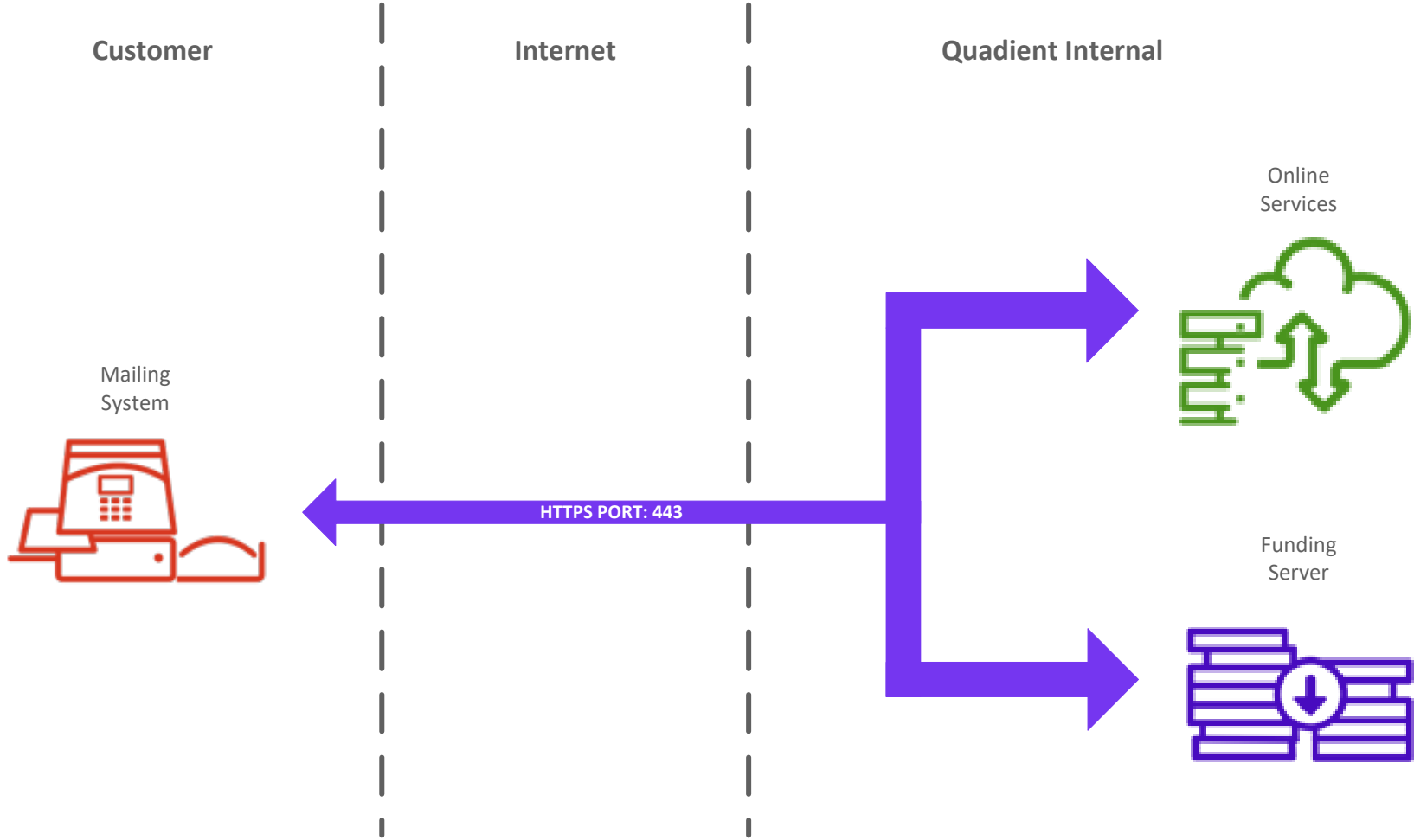


8 S.M.A.R.T. with Mailing System Communication Diagram





9 Mailing System Communication Diagram





10 Import File Structures

All files imported into S.M.A.R.T. must meet the following criteria:

1. MUST be a *.csv file
2. MUST contain all required fields
3. Can contain text delimiters example: "text."

10.1 Account Import File

Field Name	Required?	Description	Length/Value
Account Code	YES	Alphanumeric code entered into account fields	200
Account Status	NO	TRUE/FALSE for active Default if blank = TRUE	enabled/disabled
Account Name	YES	Account name displayed for reporting	200
Account Level	YES	MUST be the level of the account in number format (1-5)	1
Account Parent	NO	Account Code for a parent account	200
Account Budget – Status	NO	TRUE/FALSE for active Default if present in file = TRUE	enabled/disabled
Account Budget – Period	NO	Becomes required if Budget Active set to TRUE	Monthly/ Annually
Account Budget – Value	NO	Numeric Value	6
Account Budget - Limit	NO	0 to 100 percent value Default if blank = 100	3
Account Budget - Warning	NO	0 to 100 percent value Default if blank = 100	3
Site	NO	Name of the site created in Site Management	MUST exist previously and match a valid selection



10.2 Address Import File

Field Name	Required?	Description	Length
Address ID	NO	Auto-generated if not provided	20
Attention	NO		250
Company	NO		250
Address 1	YES		250
Address 2	NO		250
Address 3	NO		250
Postal Code	YES		50
City	NO		250
State	NO		2
Country	NO	2 Character ISO Code, can be defaulted	2
Is Residential	NO	Any data in this field marks the address as residential	
Email	NO		320
Phone	NO		10
Reference Field 1	NO	Not the same as a package reference field	250
Reference Field 2	NO	Not the same as a package reference field	250
Reference Field 3	NO	Not the same as a package reference field	250
Site	NO	Name of the site created in Site Management	MUST exist previously and match a valid selection



10.3 User Import File

Field Name	Required?	Description	Length/Value
Username	YES	Email address for the user	40
First Name	YES	First Name of the user	250
Last Name	YES	Last Name of the user	250
User Role	NO	Role MUST exist by Name within S.M.A.R.T.	user
User Profile	NO	Profile MUST exist by Name within S.M.A.R.T.	MUST exist previously and match a valid selection
Site	NO	Name of the site created in Site Management	MUST exist previously and match a valid selection
Experience	NO	Experience assigned to a user	mailroom, desktop:rts, desktop:print
User Group	NO	A group MUST exist by Name within S.M.A.R.T.	50
Default Carrier	NO	Default carrier when entering a shipping page	U.S.P.S., U.P.S., F.E.D.E.X., DHL, NONE
Default FedEx account	NO	Default FedEx account for user	Account must be available in S.M.A.R.T. before import
Default U.P.S. account	NO	Default U.P.S. account for user	Account must be available in S.M.A.R.T. before import
Default DHL account	NO	Default DHL account for user	Account must be available in S.M.A.R.T. before import
Account Level 1	NO	Account Code for Level 1	Account Code MUST exist in S.M.A.R.T.
Account Level 2	NO	Account Code for Level 2	Account Code MUST exist in S.M.A.R.T.
Account Level 3	NO	Account Code for Level 3	Account Code MUST exist in S.M.A.R.T.
Account Level 4	NO	Account Code for Level 4	Account Code MUST exist in S.M.A.R.T.
Account Level 5	NO	Account Code for Level 5	Account Code MUST exist in S.M.A.R.T.



10.4 Simple Integration – Import File

Field Name	Required?	Description	Length/Value
Package ID	YES	Record identifier in file	20
Attention Name*	NO		250
Company Name*	NO		250
Address 1*	NO		250
Address 2	NO		250
Address 3	NO		250
City*	NO		250
State*	NO		2
Postal Code*	NO		50
Country*	NO	MUST be ISO code (2 character)	2
Ship To Number	NO		10
Phone	NO		10
Residential	NO	Any data in this field mark the address as residential	
Recipient Email	NO		320
3rd Party Email	NO		320
Pounds	NO	Numeric value	3
Ounces	NO	Numeric value	3
Length	NO	Numeric Value (in inches)	5
Width	NO	Numeric Value (in inches)	5
Height	NO	Numeric Value (in inches)	5
Girth	NO	Numeric Value (in inches)	5
Carrier	NO	Carrier to use	DHL, FEDEX, UPS, USPS
Reference Fields 1 - 5	NO	Free Text Field	250
Account Code 1 - 5	NO	Account Code	200
Account Name 1 - 5	NO	Account Code	200

*field is required to process a shipment using Simple Integration – Import



10.5 Simple Integration – Export File

Field Name	Required?	Description	Length/Value
Package ID	NO	Record identifier in file	20
Attention Name	NO		250
Company Name	NO		250
Address 1	NO		250
Address 2	NO		250
Address 3	NO		250
City	NO		250
State	NO		2
Postal Code	NO		50
Country	NO	ISO code (2 characters)	2
Ship To Number	NO		10
Phone	NO		10
Residential	NO		
Recipient Email	NO		320
Carrier Code	NO	Carrier to use	DHL, FEDEX, UPS, USPS
Weight	NO	Numeric value	3
Weight Unit	NO	Always LB	LB
Length	NO	Numeric Value (in inches)	5
Width	NO	Numeric Value (in inches)	5
Height	NO	Numeric Value (in inches)	5
Girth	NO	Numeric Value (in inches)	5
Reference Fields 1 - 5	NO	Free Text Field	250
Created Date/Time	NO	Date item was processed	20
Tracking Number	NO		50
Total Charges	NO		10
Base Charges	NO		10
Extra Charges	NO		10



Field Name	Required?	Description	Length/Value
Handling Charges	NO		10
Service Code	NO		20
Service Name	NO		100
Format	NO	The format selected for mailing transactions	100
Shipping Date	NO	Shipping Date of item	10
Accounts Codes 1 – 5	NO	Account Code	200
Account Names 1-5	NO	Account Name	200
Piece Count	NO		10
Meter Serial Number	NO		20
Username	NO		100