Spok Go® —File Upload Specifications
User Info

Version 2.0

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Introduction

This document is intended to be a guide to help the reader understand the Spok Go User Info File Upload.

Scope

This document describes the requirements and technical specifications for the proper use of the data file upload.

Intended Audience & Use

This document is intended for all personnel involved in the administration and support of the data file upload (specific to user data) as well as the users of the Spok Go system to which the uploaded user data will be inserted or updated. The document has the following intended uses:

- Validation of data to be loaded and understanding of the processes and requirements/business rules for the data file upload.

- Understanding by Spok's Professional Services Group (PSG) as well as the Spok Go customer regarding the technical specification and supported layout of the data file upload.

- A development specification and reference for the data file upload.

Requirements

The following sections will outline the various requirements for the success of the Spok Go User Info File Upload.

System Requirements

The following are system requirements.

- A comma separated file called `userinfodataload.[CCYYMMDDHHMMSS].csv` (where [CCYYMMDDHHMMSS] is the date/time of the file's creation by the source system) with fields in the order that is defined later in this document.

- An SFTP client (SFTP enables file transfers over SSH) that is capable of transferring files to Spok Go's on-premises Gateway.

Resource Requirements

The following resources will be required for implementation of the Spok Go User Info File Upload:

- A Customer's Source System Data Administrator - this resource is responsible for the creation of the previously mentioned `userinfodataload.[CCYYMMDDHHMMSS].csv` as well as for the data integrity of the file.

- Spok Professional Service Group (PSG) resource - this resource is responsible for enabling the Spok Go File Upload connector for the Customer's Spok Go system as well as for guiding the Customer through using these specifications for the creation and transfer of the user info file.

Connection Requirements

The following are the connection parameters to the on-premise Gateway for the Spok Go User Info File Upload:

GATEWAY	: [FQDN or IP address of the Gateway's Load Balancer]
USERNAME	: [Auto-generated during setup, provided by PSG resource]
PASSWORD	: [Auto-generated during setup, provided by PSG resource]
PORT	: 22

File Formatting Expectations

Each row in the CSV file represents one user record. The v2.0 version of the Spok Go User Info File Upload specifications supports a maximum of 30 fields and therefore expects 29 "," commas to delimit the first 29 fields.

Then, instead of a "," comma, the 30th or last field for each record should be terminated with a carriage return/line feed combo (CRLF) unless it is the last or only record in a file in which case the terminating CRLF is optional.

Field Formatting Expectations

The `userinfodataload.[CCYYMMDDHHMMSS].csv` file will utilize a simple set of three characters to separate fields, sub-fields separators and repetitions within fields.

- A "," comma is used to separate fields
- A ";" semi-colon is used to separate sub-fields within a single field
- A "|" pipe character is used to separate one-to-many repetitions of data in a single field

The use of any of these characters as actual data within any of the fields that are defined below is not supported.

Operation Expectations

This file supports two types of operations. This can be specified in column 3 (C):

- 'FULL' = This operation will process all supported fields in the specification.
- 'STATUS' = This operation will only process the 'Status' field for an existing record. All other fields will be ignored. This operation looks at users by unique ID. If no record is found, an error is logged.
  - Refer to column Operation STATUS Required

Field Mapping

The following table shows which user-related attributes can be loaded into the Spok database in the field order that follows.

Fields in this table are both numbered and lettered (ex: 5(E)) to aid in counting and referring to specific fields as well as for providing an easy cross-reference to alpha column headers if the file is viewed in a spreadsheet application.

Field		Description	Required for FULL Operation	Supports Repeats for FULL Operation	Required for STATUS Operation	Format	Spok attribute
1(A)	Targeted Spec Version	Version of the specs that the provided file is targeting	✓		✓	Expected value: 2.0	[1]
2(B)	File Type	Specifies the file's purpose for subsequent processing within Spok Go	✓		✓	Expected value: USER	
3(C)	Operation	Indicates whether the import will be a full metadata import or status only	✓		✓	Expected value: "FULL" or "STATUS"	
4(D)	Unique ID	A unique ID for an employee from the file's source system	✓		✓	uniqueID	External ID
5(E)	Other Known IDs with Producer Codes [3]	Other IDs that identify the user with supported Producer Codes		✓		otherID;producerCode	External reference ID(s) and Attribute(s)
6(F)	Title	Employee title					User's title
7(G)	Salutation	An employee's preferred salutation					Common salutations include Mr., Ms., Mrs. and Miss
8(H)	First Name	First name	✓				User's first name
9(I)	Preferred Name	An employee's preferred name					An alternative name that is preferred by the employee. Something like "Joe" or "Kris" instead of "Joseph" or "Kristin".
10(J)	Middle Name	Middle Name					User's middle name
11(K)	Last Name	Last name	✓				User's last name
12(L)	Suffix	Suffix (i.e. Jr, Sr, I, II, etc.)					User's suffix
13(M)	Post-Nominals	Employee Credential Abbreviations (ex: MD, RN)		✓ Snapshot Update [4]			User's credentials

Field	Description	Required for FULL Operation	Supports Repeats for FULL Operation	Required for STATUS Operation	Format	Spok attribute
14(N) User Aliases	Other names by which the user might be known		✓ Snapshot Update [4]		A single repetition for each unformatted alias name (ex: "firstname middlename lastname")	A list of a user's aliases

Field	Description	Required for FULL Operation	Supports Repeats for FULL Operation	Required for STATUS Operation	Format	Spok attribute
15(O) Email [5] with Public/Private Flag [6]	Email Address	✓			email;publicFlag	email;"PUBLIC" or "PRIVATE" User's email address and username for new users If the Public/Private flag is not received, the email will be set with a "PUBLIC" flag by default.
16(P) Phone 1 [7] with Public/Private Flag [6]	1st phone number(s) (WORK NUMBERS)				15 numeric digits (other chars ignored);publicFlag	Phone #;"PUBLIC" or "PRIVATE" The same layout of the two supported sub-fields that are supported for a user applies to each phone number field. If the Public/Private flag is not received, the number will be set with a "PUBLIC" flag by default.
17(Q) Phone 2 [7] with Public/Private Flag [6]	2nd phone number(s) (MOBILE NUMBERS)				15 numeric digits (other chars ignored);publicFlag	
18(R) Phone 3 [7] with Public/Private Flag [6]	3rd phone number (HOME)				15 numeric digits (other chars ignored);publicFlag	
19(S) Phone 4 [7] with Public/Private Flag [6]	4th phone number (OFFICE)				15 numeric digits (other chars ignored);publicFlag	
20(T) Phone 5 [7] with Public/Private Flag [6]	5th phone number (ASSISTANT)				15 numeric digits (other chars ignored);publicFlag	
21(U) Phone 6 [7] with Public/Private Flag [6]	6th phone number (ANSWERING SERVICE)				15 numeric digits (other chars ignored);publicFlag	
22(V) Phone 7 [7] with Public/Private Flag [6]	7th phone number (FAX)				15 numeric digits (other chars ignored);publicFlag	

Field		Description	Required for FULL Operation	Supports Repeats for FULL Operation	Required for STATUS Operation	Format	Spok attribute
23(W)	.1 Pager ID	Paging device		✓		Pager ID/Phone Number or PIN	Pager ID
Pager Info	.2 Pager Type	Numeric or alpha Pager		✓		"NUMERIC", "ALPHA" or "TWO-WAY"	Pager Type
	.3 Public/Private Flag [7]	Allow pager to be viewable by any Spok Go user?		✓		"PUBLIC" or "PRIVATE"	Public Flag for Pager
	.4 Pager Manufacturer	Manufacturer of the Pager	Pager details are not required; however, select pager fields are required to add a pager to a user.	Field 20(T) is one field that is made up of 8 sub-fields, all of which can be repeated as many times as needed, in order, for each of a user's pagers. Snapshot Update [5]	✓		Pager Manufacturer
	.5 Pager Model	Pager Model					Pager Model
	.6 Encrypted Pager	Is this pager subscribed to Spok's pager encryption service?				"ENCRYPTED" or other	[Pager Classification] [8]
	.7 Paging Network	Paging Service Provider				"SPOK", "VERIZON", "AMERICAN" or "LOCAL"	[Pager Classification] [8] If a Paging Network value is not sent, "SPOK" will be the assumed network.
	.8 Paging Server Address	Local network address of on-premises paging server.				The TCP/IP, HTTP or HTTPS address of a local, on-premises paging server.	[Pager Classification] [8] Only applicable for "LOCAL" Paging Network records. Must correspond to a paging connector configuration (ex: TAP, SNPP, WCTP) within the on-premises Gateway.

Field	Description	Required for FULL Operation	Supports Repeats for FULL Operation	Required for STATUS Operation	Format	Spok attribute
24(X) Communication Preference	An ordered list of employee's preferred communication methods		✓ Snapshot Update [4]		commType;commID [9]	User Communication Preferences
25(Y) Specialties [10]	Doctor Specialties		✓ Snapshot Update [4]		Specialty name(s)	User's list of specialties
26(Z) Department [11]	Practitioner Departments		✓ Snapshot Update [4]		Department name(s)	User's list of departments
27(AA) Associated Locations [12]	Location(s) to which the employee is most closely associated		✓ Snapshot Update [4]		Location name(s) Or UniqueID	User's location association(s)
28(AB) Security Role(s)	Spok Go defined security roles that apply to the user		✓ Snapshot Update		Security Role(s)	The "User" security role will be defaulted to any user record for which specific Security Role(s) are not received.
29(AC) Status	Activate or Inactivate a User Record	✓		✓	"ACTIVE" or "INACTIVE"	User's status value
30(AD) Timestamp	Date and time the new/updated user record was written to the file	✓			CCYYMMDDHHMMSS	

Data Upload Details

The following section explains field-level specifics that should help ensure the successful implementation of the Spok Go User Info File Upload.

Fields and/or sub-fields that are grayed-out are reserved for future use and will not be used when adding or updating a Spok Go user's info at this time. However, these fields and sub-fields can still be populated in preparation for their planned purpose without negatively impacting the processing of a user record.

1) Note that if this file is viewed in a spreadsheet application, these fields may not display as intended due to the application's default field formatting. Changing the displayed format of these fields' columns should allow a reviewer to see the column's contents as expected.

2) The Unique ID in the 4th field will be used for identifying records in the Spok Go application and be able to determine the need of adding new or update existing user records. The only caveat to that processing is that a new user with an email that already exists for another user record will be rejected with a logged error/exception that would require the intervention of an Organization Admin to correct in either the originating source system or within Spok Go.

3) Other known IDs that are supported and which would be visible and maintainable by a customer's Spok Go Admin would be user identifiers from Epic (producer code "Epic") and Cerner (producer code "Cerner") as well as provider NPI numbers (producer code "NPPES").

   Other possibly known IDs for a user, if sent, will simply be ignored without affecting the processing of the rest of the user's info.

4) Repeating fields noted with "Snapshot Update" will replace a user's existing values with new values as they are received in one of these fields. This handling also applies to the receipt of empty fields which will remove any existing data for a previously populated field.

5) Further validation of the uniqueness of each user's email address will occur at the time a user record is added/updated. Non-unique email addresses will result in logged errors/exceptions that will require the intervention of an Organization Admin to correct in either the originating source system or within Spok Go.

6) For communication methods where the Public/Private field or sub-field is supported, any value other than "PRIVATE", even an empty field, will result in the related communication method being set as "PUBLIC" (viewable by any Spok Go users). Only the word "PRIVATE" in the correct field or sub-field will cause a communication method to be set as "PRIVATE" (only viewable by operators, Administrators, and by the user).

7) Seven phone types (one of each) for phone numbers per user is supported by this specification.

8) While some of these pager-related fields may be stored as distinct pieces of data that are part of a user's pager details in Spok Go, they may also be handled in an aggregated manner so that logic can be applied that will be used to determine Spok Go's "Classification" of the user's pager.

9) The Communication Preference field supports repetitions of "commType" and "commID" values. Supported "commType" values include "SPOKGO", "PAGER", "EMAIL", "SMS", and "PHONE". The possible "commID" values for each "commType" would be as follows…

commType	commID
SPOKGO	SPOKGO
PAGER	The Pager ID/Phone Number or PIN of the user's preferred pager
EMAIL	The user's email address.
SMS	The user's preferred mobile number for receiving text messages. *Must match a mobile number that was received for the user.*
PHONE	The user's preferred phone number for receiving phone calls. *Must match a phone number that was received for the user.*

The order of the "SPOKGO", "PAGER", "EMAIL" and "SMS" "commType" values in this field are used to set/indicate the order of the user's messaging-related communication preferences.

The "PHONE" "commType" value is used to indicate the user's preferred phone number for receiving phone calls (if more than one phone number exists for the user).

If no Communication Preference is received for a user, Spok Go will be defaulted as the user's primary method for communication.

10) Specialty values for an employee will be matched against a customer's existing list of possible Specialties within Spok Go. Received Specialties that match a customer's existing Specialty list will be added to a user's record. Received Specialties that do not match a customer's existing Specialty list will be skipped and logged for possible follow-up by an Organization Admin.

11) Department values for an employee will be matched against a customer's existing list of possible Departments within Spok Go. Received Departments that match a customer's existing Department list will be added to a user's record. Received Departments that do not match a customer's existing Department list will be skipped and logged for possible follow-up by an Organization Admin.

12) Any region(s), campus(es), facility(ies) or unit(s) to which a user is associated. Must match existing location values that has already been built in Spok Go. Any location association at one level (ex: unit) will roll up and will also associate any existing location hierarchy above that level (ex: unit->facility->campus->region) to the user.

Integration Risks

The following are possible risks that have been identified:

- Non-curated source data with duplicates or inaccurate data.

- Irregular or inconsistent output of files from source system.

- Poorly formatted CSV files

- Inclusion of incorrect data that cannot be corrected by subsequent user info file uploads (ex: user specialties and departments)

Integration Success Criteria

The integration will be considered successful if the following criteria are met:

- The Spok Go User Info File Upload is implemented per the specifications in this document and users and their user data are being added and updated as expected.

Revision History

The table that follows will provide a history of changes that are made to this document.

Date	Comment(s)	Author
2019.10.09	Initial v1.0 of these specs	Todd Thomas
2019.12.02	Added column for field numbers/Excel columns to the Field Mapping table.	Todd Thomas
2019.12.11	Added support for multiple pagers per user.	Todd Thomas
2019.12.18	Added concept of external IDs and Producer Codes for a user's departments and specialties to allow for their population in the file but marked them as unsupported at this time due to other limitations.	Todd Thomas
2019.12.19	Removed external IDs and Producer Codes for a user's departments and specialties.	Todd Thomas
2019.12.19	Added handling for explicitly deleting data from select fields.	Todd Thomas
2019.12.23	Added concept of public/private availability for each of a user's communication types	Todd Thomas
2019.12.23	Revised "DATA UPLOAD DETAIL" related fields and sub-fields that are included in the specs, but which are not supported at this time, and updated the footnote numbering.	Todd Thomas
2020.02.12	Corrected field numbers in File Formatting Expectations section.	Todd Thomas
2020.05.26	Minor changes to the formatting of title page, footer layout and file name.	Todd Thomas
2020.07.27	Added future support of "Security Role(s)" field.	Todd Thomas
2020.09.14	Changed font color of previously unsupported "Suffix" and "Post Nominals" fields to indicate that they are now supported.	Todd Thomas
2020.09.14	Added "Salutation" field as the 6th field and incremented all subsequent field numbers. 28 fields now included in spec.	Todd Thomas
2020.09.14	Renamed the "Nickname" field to "Preferred Name" revised the description, moved it to the 8th field and adjusted the field numbers of the 4 fields that followed.	Todd Thomas
2020.09.15	Updated handling of user phone number fields to support public/private flags and repeating phone numbers (for fields where repeating phone numbers weren't previously supported).	Todd Thomas
2020.09.22	Changed field 14(N) from a user's phone extension to their work number and changed the field's font color to indicate that it is now supported.	Todd Thomas
2020.09.28	Added "User Aliases" field as the 13th field and incremented all subsequent field numbers. 29 fields now included in spec.	Todd Thomas
2020.09.28	Changed the expected version of the Targeted Spec Version field along with any other references to the "1.0" version in the specs to "1.1".	Todd Thomas

Date	Comment(s)	Author
2020.11.10	Added field to represent external ID's from Spok consoles or other third party systems. Removed requirement for producer code.	Zach Hanson
2020.11.18	Remove repeat support for Phone Numbers as this was not implemented and remove Unique ID support for Specialty and Department as this was not implemented.	Paola Gonzalez
2020.11.22	Mark the 3(c) as required	Paola Gonzalez
2020.11.23	Updated expected value for Targeted Spec Version to "1.2"	Zach Hanson
2020.11.24	Added "Operation" field to indicate a full update or a status update on the entity. Also changed version to 2.0 to be in synch with other import specifications.	Zach Hanson
2020.12.5	Added additional explanation on 'Operation' functionality and new column for 'Operation Status Required'. Removed the support for Deletes as this was not implemented. Corrected descriptions on Unique ID and corrected phone number section under 'Data Upload Details'	Paola Gonzalez
2021.3.10	Fixed incorrect file formatting expectations	Zach Hanson