

Setting up CARLI Voyager SIP2 connections

Audience and Scope of this Document

CARLI I-Share libraries that purchase equipment or resources that use the SIP2 protocol to communicate with Voyager will need to follow these instructions to establish a SIP2 connection. Products using SIP2 include “self-check machines” for self-service circulation, and some hosted ebook services for authentication. At the end of this document is a list of the SIP2 services with which CARLI has worked.

Voyager includes a subset of the formal 3M Standard Interchange Protocol 2.00 (SIP2), to provide authentication for and communication with self-check machines. Ex Libris develops and defines this subset. While Voyager SIP2 does not include or reference all elements of 3M’s protocol, Voyager libraries can use SIP2 effectively for transactions involving self-check hardware and/or patron authentication for electronic resources.

In this document CARLI combines information from Ex Libris documentation with practical knowledge we have gained from product implementations with member libraries.

Initial Setup

Regardless of the application for which you need SIP2, you will need to perform the following setup in the Voyager System Administration client. You will need SysAdmin permissions for Security, System-Wide Configuration, and Circulation Policy Groups to complete all steps. You may refer to the Voyager Circulation User Guide, Appendix C, “Circulation Self Check,” for detailed instructions on the following steps.

Setup that library staff must do:

1. Create a unique SIP2 location in Voyager

Voyager requires that SIP2 applications log in to a designated happening location to perform transactions. CARLI recommends that you create a location that is different from your standard circulation happening locations, so that reports will show SIP2 transactions distinct from regular circulation, and so that you can troubleshoot any access problems more effectively.

Choose a location code that you can easily distinguish from shelving locations, as well as other happening locations. (For instance, start the location code with a “Z” or include “SIP2” in the location code.)

To create a location, follow the directions in Voyager System Administration in I-Share Libraries, Part 1: System, pp. 3-10. www.carli.illinois.edu/sites/files/i-share/documentation/secure/system.pdf Since the Self Check location is a Circulation Happening location, the Location Name should be entered in all capital letters, example SELFCHECK. Add an address including the ILDS code as the first line, even though it is a virtual location.

Make sure you add this new location to all "Master" security profiles before you continue. See Voyager System Administration in I-Share Libraries, Part 2: Security, pp. 28-32, for directions. www.carli.illinois.edu/sites/files/i-share/documentation/secure/security.pdf

2. Create a SIP2 operator

Create a unique username and password that your SIP2 application will use. You will share this operator credential with the application or hardware vendor, so it should not be the same as any existing account.

To create an operator, see the Voyager System Administration in I-Share Libraries, Part 2: Security, www.carli.illinois.edu/sites/files/i-share/documentation/secure/security.pdf, pp. 5-7.

3. Create a SIP2 circulation security profile

A SIP2 operator's privileges do not need to be extensive, since this operator will not use a regular Voyager client. The self-check operator also will not require access to any other happening or shelving location than the one you established for your SIP2 application.

- Create the security profile with a unique name.
- Add the self-check operator on the Operators tab.
- Add the self-check happening location on the Locations tab.
- On the Profiles tab, keep "Charge/Renew," "Mask Patron Social Security Number," and "View-Only Patron Records" checked; leave other settings unchecked.

Note: To prevent other circulation staff from seeing the self-check location as a happening location when they log in to the Circulation client, do not add the self-check location to other security profiles.

See Voyager System Administration in I-Share Libraries, Part 2: Security, www.carli.illinois.edu/sites/files/i-share/documentation/secure/security.pdf, pp. 14-21

4. Create a new circulation policy group, and add the SIP2 location

To establish the SIP2 location as a happening location, you must add it to a circulation policy group. CARLI recommends that you create a separate policy group for SIP2 applications. Doing so enables the library to test and implement applications without impacting existing circulation policies.

A SIP2 policy group may be created with minimal settings. If a SIP2 location will be used only for SIP2 authentication, you do not need to create any matrix entries beyond the "all/all" entry. This same location may be used to charge items without creating matrix entries, as Voyager will use the policy group for the location of the item being charged.

To create a new policy group for SIP2, see *Voyager System Administration for I-Share Libraries, Part 3: Circulation and Universal Borrowing*, pp. 15-16. You must complete at least the following steps:

- Create a policy group with a unique name.
- Add at least one calendar on the Calendars tab.
- Add the SIP2 location on the locations tab.
- Edit the SIP2 location, and check the Circulation Location box to make it a valid happening location. Set the Shelving Interval, In Transit Interval, and Hold Life to be the same as your main policy group.
- Add or edit the “all/all” entry on the Matrix tab in order to establish default circulation settings for the policy group. You may leave all settings unchecked and blank if you will only be using the policy group for authentication.
- Edit the settings on the Policies tab to be the same as your main policy group.

Additionally, you may choose to apply similar blocking conditions to SIP2 activity as you use at your circulation desk. If so, edit the patron groups on the Patrons tab to reflect the limits you want to set. If a patron has exceeded any of these limits, that patron will be blocked from authentication and circulation activities over SIP2.

Note: Regardless of whether you establish patron limits in the policy group, UB blocks incurred will result in blocks applied over SIP2.

5. Notify CARLI via support@carli.illinois.edu that you will be using the SIP2 self-check port

CARLI needs to enable the port for SIP2 operations before you can begin using it. If you know what IP addresses will be connecting to the SIP2 port, please share that information as well.

Testing with the SIP2 Product’s Vendor

Once you have defined the SIP2 location, operator and policy settings you can begin to work with the application/hardware vendor to test connectivity, communications and functionality. The vendor will require the information on your setup as well as server details from CARLI:

Username: the SIP2 operator login you created in step 2.

Self-check password: the SIP2 operator password you created in step 2.

Self-Check Location Code: the SIP2 location code (not the location name) you created in step 1.

Server address: voyager.carli.illinois.edu (if the vendor requires a numeric IP address, contact CARLI).

Port: XXX31, where XXX are the first three digits your library uses in Voyager.ini port numbers.

CARLI strongly recommends you test new SIP2 hardware and/or applications against your library's test server before you commit to using them in production. For testing, your server address is voyager-test.carli.illinois.edu. Once you and the hardware/application vendor have verified that the connection is performed as expected, you can begin to use SIP2 on the production server, voyager.carli.illinois.edu.

You may need to communicate to the vendor that Voyager uses a modified version of the 3M SIP 2.00 protocol: one that does not use every message or feature. Voyager also includes some proprietary elements, which you may review in the Voyager 7.2 Interface to Self Check Modules Using 3M SIP User's Guide. Some specific differences that CARLI has observed and that you will need to communicate to your application/hardware vendor:

- Voyager expects communication over a socket connection type.
- Messages must be terminated with return characters only. Voyager will not respond correctly if vendor system messages contain newline characters.
- Voyager does not use check-sums in messages.
- Voyager does not support PINs.
- For the login message (msg93), Voyager expects the self-check operator username, operator password, and the self-check location that you defined above.
- For the patron information response message (msg 64), Voyager will return the patron group code in field "PT" at the end of the message; this field is proprietary to Voyager, so you will need to inform your vendor of its location.
- When a patron is not eligible to borrow an item, the patron information response message (msg 64) will include the value "N" in field "CQ." Some vendor systems will interpret this response as "invalid PIN" or "invalid password."

Please note that not every SIP2 application or device will perform identically or communicate correctly with Voyager immediately. Even if your library already uses SIP2 for other applications or hardware, each new vendor may have unique expectations about how the protocol should perform.

CARLI will provide support on how to configure your System Administration for SIP2. CARLI will activate the port, XXX31, and perform an adjustment on the server to enable SIP operations. Other aspects of the SIP interface are proprietary to Ex Libris, and libraries may need to submit a support case directly to Ex Libris for any troubleshooting of application or hardware issues. For advanced troubleshooting, the library should open a support case with Ex Libris via the Ex Libris Customer Center Support Portal. If you use your CARLI institutional Support Portal account, CARLI will be able to monitor progress on any cases that you open. Contact CARLI if you need assistance in filing a support case with Ex Libris.

Specific Applications

CARLI is aware of the following SIP2 applications in use or being tested at I-Share libraries. However, CARLI encourages libraries to consult their peers before implementing any hardware or application with Voyager, including those systems listed below. If at all possible, ask the vendor whether it has successfully implemented its system with another Voyager site and whom you can contact at that site.

Self-Check Vendors

- 3M (various models)
- Laptops Anytime

E-Book authentication

- OverDrive
- Baker & Taylor Axis 360
- 3M Cloud Library (in testing)

EZ Proxy authentication

- EZ Proxy supports connections to SIP2 as a means of authenticating patrons. Choose the "Socket connection with SIP username and password" script with EZProxy; however, Voyager will ignore the password. (in testing)