OLE - 3M Interface Technical Document

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Purpose

The 3M SelfCheck (SC) System allows patrons to check out and check in library resources without necessitating the presence of an operator/user. It communicates with the Library Management System (LMS), OLE, using a proprietary protocol, Standard Interchange Protocol ver 2.0. (SIP2) to cross verify the authenticity of the patron and for other circulation related policies.
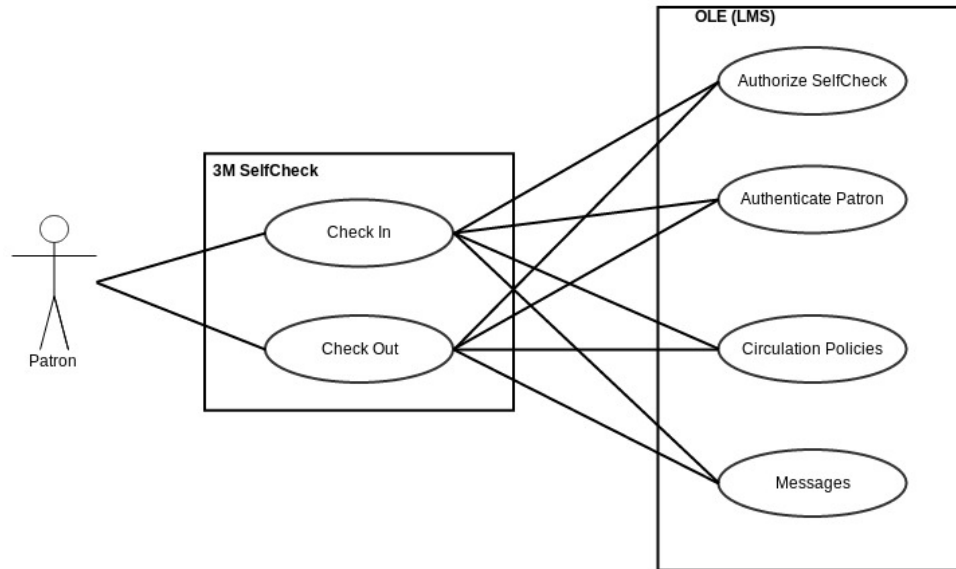
The following services are coded as part of the OLE-3M Interfacing effort
- Patron Status
- Check Out
- Check In
- Block Patron
- SC Status
- Request ACS Resend
- Login
- Patron Information
- End Patron Session
- Fee Paid
- Item Information
- Patron Enable
- Hold
- Renew
- Renew all

# Dependencies / Logical Data Model / Physical Data Model

The data from 3M SelfCheck Machine is just parsed and fed to OLE and similarly sent back and none of this is stored in any table in the Database.

Service Interface Design (Java)
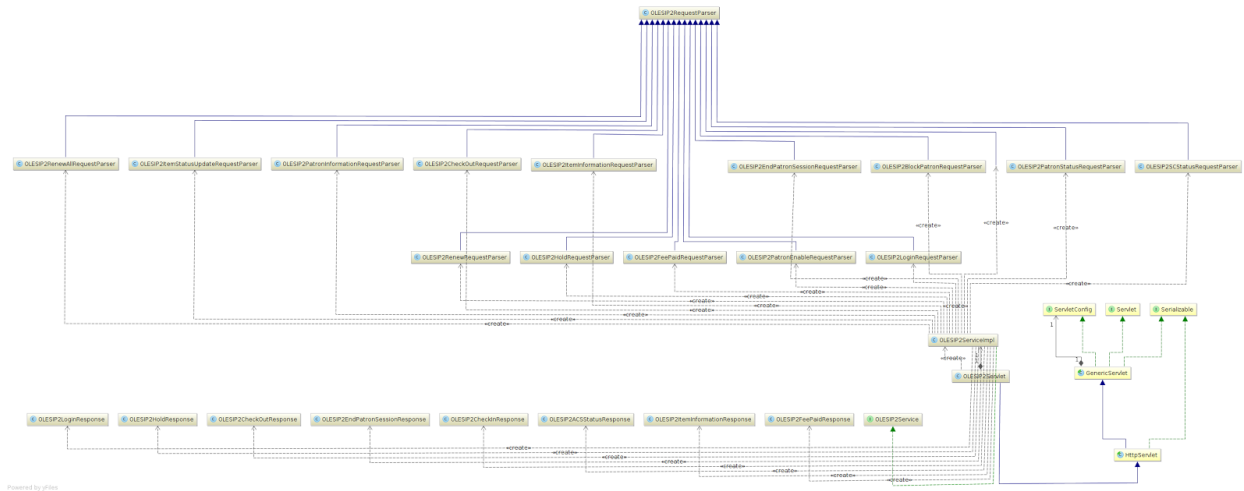
(Please Zoom-in to read text)

The design is based on Java Servlet. The class *OLESIP2InitializeListener* implements ServletContextListener and is responsible to initialize the SIP2 Socket connection. The listener class is mentioned in the *web.xml* file. The starting of the socket server can be done manually or automated depending on the configuration (sipp2.startOnLoad) made at *olefs-config-defaults.xml* file. The port and URL details are also specified in the file.
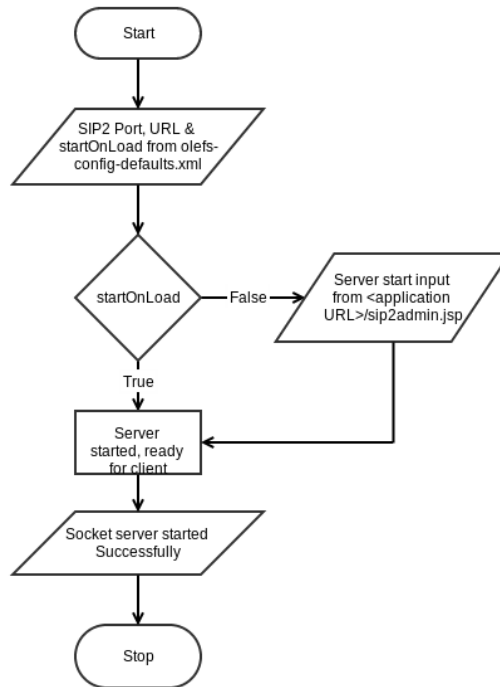
The *OLESIP2Servlet* class extends the HttpServlet and is responsible to collect requests and send responses from and to the 3M machine. The *processRequest* method of OLESIP2ServiceImpl class parses the request from the 3M machine in the proprietary format and passes the request to OLE circulation service as parameters and collects the response. The response is converted to JSON format in OLECirculationErrorMessageConverter class and sent back to 3M SelfCheck Machine.

The SIP2 Translator is involved in translating SIP2 proprietary messages to formats OLE can take as input and respond. It also converts the response to SIP2 proprietary formats for the 3M machine to interpret.

For example, the message from 3M SelfCheck for Login function looks as below
Example:
9300CNLoginUserID|COLoginPassword|CPLocationCode|AY5AZEC78<CR>
Description of Example:
(93)(No user identifier algorithm)(No password algorithm) (LoginUserID)(LoginPassword)(LocationCode)(Sequence Number 5)(Checksum)(CR)

For more details, please refer to the SIP2 Developer Guide and SIP2 Protocol Definition files. These are also available as attachments in JIRA OLE-2733.
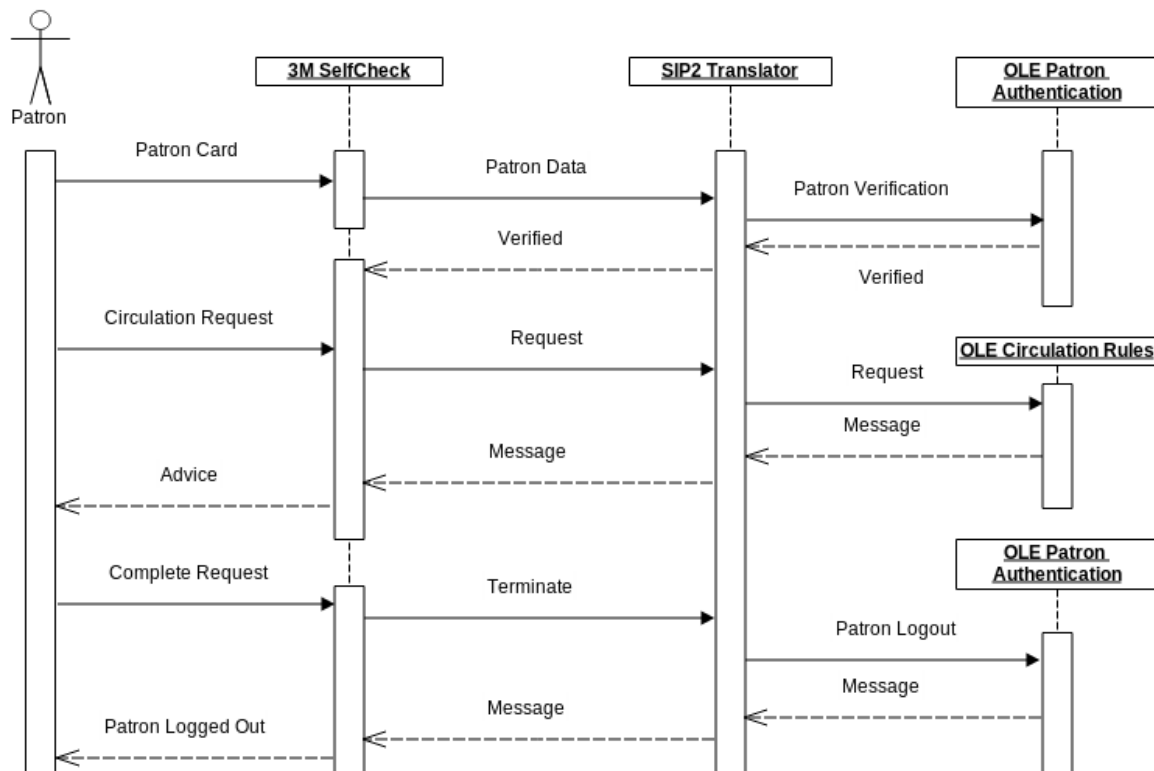
An Institution can decide to switch off one or a few services provided by OLE to the 3M SelfCheck Machine through a configuration in the *sip2-config.properties* file.

For more information, Javadocs can be found here.

Service Interface Design (REST if applicable)

OLE doesn't expose these services through web services.

User Interface Design

There is no User Interface associated with this process except for a simple screen with a Start, Stop and Status buttons and Text area to display messages. The Start button is to start the socket server for the use of operators in institutions which disable socket server startup along with OLE server in the *olefs-config-defaults.xml* file. Stop button is to stop the server and the status button to display the current status of the socket server. The file, *sip2admin.jsp*, is a simple JSP with embedded JavaScript.

The screen is accessed by entering <application-url>/sip2admin.jsp. In case of staging environment, this would be http://staging.ole.kuali.org/sip2admin.jsp.

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Data Importing

Not Applicable

Data Exporting (if applicable)

Not Applicable

Workflow

The whole process is automated and is for patrons to carry out circulation activities without library personnel involvement. No workflow is involved.

System Parameters

No System Parameters are currently defined.

Roles and Permissions

Permissions are linked to roles which are in turn linked to Users to give them access to screens and functions.

The 3M SelfCheck machine being involved in circulation activity would need to use a person identity having the Roles and Permissions of a circulation staff to be able to carry out the activity.