



# Migrating ILS to Koha

By Carlos Lopez

Dalton McCaughey Library

*In 2018, the Dalton McCaughey Library migrated ILS from SirsiDynix's Horizon to the open source Koha. This was not a painless process (no system migration ever is) but it was not particularly painful either: There were problems to overcome and issues to work around but the library now uses an open, modern system that is much cheaper to maintain and use.*

*I've worked at the Dalton McCaughey Library (and before that the Joint Theological Library) since 1997 in a variety of roles. Since 2005, I've been a cataloguer and system administrator and was involved in our migration from Dynix to Horizon (though that mostly involved maintaining the Linux servers that Horizon was to run on and looking over Hal Cain's shoulder, as he was our main liaison with the Dynix company). These are some of my recollections and meditations on our migration to a Koha system.*

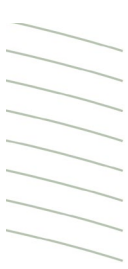
## Why Migrate From Horizon in the First Place?

The main reason for migrating to Koha was cost-driven: system support for Horizon is expensive and subject to an annual increase. There was the risk to continuity of service with one staff member maintaining the LMS in-house in a server room with little protection. Horizon, like all SirsiDynix products, is complex, requiring systems knowledge to obtain reports and maintain data, carrying costs in staff time. Other staff were limited to working with data entry and simple, pre-set functions for running regular jobs at set workstations. The DML staff needed more flexibility and more control.

Compounding this, Horizon is an old system: Horizon was conceived in the 1980s<sup>1</sup> and it shows its age. It still works, and works well, but its limitations and inflexibilities become more apparent year by year. We'd been using Horizon since 2005 and had found most of the quirks that would limit how we worked with it. We had to come up with workarounds for all sorts of tasks from keeping track of course reserves, to printing spine labels, sending overdue notice emails, performing batch

---

<sup>1</sup> <https://librarytechnology.org/document/12736>



searches of ISBNs, circulation reports, acquisition reports, cataloguing reports and so on. We could write our own tools because we had access to the underlying database, but this also took up staff time and energy.

## Why Migrate to Koha?

Koha is an open source system, initially developed for the Horowhenua Library Trust in New Zealand in 1999<sup>2</sup>. It has been in constant development since then and has a six-monthly release cycle. It is run cooperatively by and for a community of libraries (and librarians), vendors and developers. It is an entirely web-based system (no need to install client software on a workstation). Koha is used in libraries of many sizes.

The software is free and open source, accessible for anyone to view, review and edit. It is also free of charge: Getting a company to host a Koha instance costs a tiny fraction of what we were paying for Horizon maintenance alone. The upkeep of server hardware and maintenance of the Horizon database were additional costs.

Just as importantly for us, Charlotte Clements (our Chief Librarian and CEO), had migrated the NIWA<sup>3</sup> library system from a SirsiDynix product to Koha and the Dalton McCaughey Library had previously flagged Koha as a possible replacement to Horizon (the project was at that time dropped because of lack of staff time available). Koha was already very much on our radar.


## Timeline

- 28 September 2018 - We had been in discussion with Calyx Information Essentials (Calyx) for a few weeks but did not sign off on the scope of work for the migration and the terms of service until 28 September 2018.
- 2 October 2018 - Calyx installed what would be the Development instance (where any migration problems or other issues would be spotted and worked through) and the Training instance of our new Koha system. Both instances were run on virtual machines, by Calyx, on a data server in Sydney. The plan was for Calyx to integrate data exported from Horizon and write tools and instructions for how they were going to deal with that data so that it would fit into the Koha table structure. That way they would know exactly how they would have to deal with our final data extract from Horizon (just before cutting over to the new system) as they would be more familiar with how the data fit into both the Horizon system and the Koha

---


<sup>2</sup> <https://koha-community.org/about/history/>

<sup>3</sup> <https://library.niwa.co.nz/cgi-bin/koha/opac-main.pl>



system. The data would be exported from Horizon in either MARC files (for bibliographic and authority data – item data would be written into 984 tags in the bibliographic record) or tab-delimited text files (for everything else).

- 12 October 2018 - System preferences were configured (after conferring with library staff) and tables on the Development instance were populated with our new item types, ‘branches’, collection, ‘authorised values’, borrower categories, Z39.50 targets and an initial set of circulation rules. We used this opportunity to review the number of borrower types, item types and other system categories that had been accreting in the Horizon system.
- 26 October 2018 - Initial export from Horizon (and import into Koha) of bibliographic and authority data, initial linking of bibliographic headings/access points to authority records, initial migration of borrower data (including loans and historical circulation data). These steps took some time, as Horizon and Koha don’t have perfectly analogous database structures. Calyx had to move data from one or more Horizon database tables to one or more Koha tables, sometimes joining data from multiple sources into the one table and sometimes splitting data from one source to several tables. Sometimes data from one field in Horizon would have to be split over several fields in Koha (for example, the Horizon borrower record has a single field for a user’s name, while Koha has ‘surname’, ‘firstname’, ‘othernames’ and ‘title’: Calyx had to come up with a way to split that data reliably).
- 9 November 2018 - Acquisitions data migration. As with circulation data earlier, Calyx had to work out how to fit acquisitions data from Horizon into the Koha data structure.
- 16 November 2018 - Serials data migration. Bibliographic records had already been migrated, but data from the Serials module (subscriptions, predictions, etc.) was then exported from Horizon.
- 19 November 2018 - OPAC home page delivered. . Koha can act as a simple Content Management System (CMS) and we were able to readily set up a small set of information pages and replace our existing web site (Koha would become our web site).
- 21 November 2018 - By this time the final migration plan had been worked out. We closed operations on Horizon (other than to use the OPAC) and exported all the data again (bibliographic and authority MARC files, tab-delimited files with borrower data, circulation data, acquisitions data, serials data). At this point we had to wait for all the data to be imported into our new Koha Production instance. For loans during the cutover period we used the Koha



Offline Circulation Tool (we used the Firefox extension, which recorded loans and returns while we didn't have access to the database).

- 26 November 2018 - Transition to Production system. I think it was around mid-morning that we got a call from Calyx to let us know that our new Koha system was live (a very exciting moment!). We imported the files saved from the Koha Offline Circulation Tool and commenced business as usual with the new system.

## Problems and Issues

One of the problems we faced during the migration was that, though Horizon and Koha perform almost identical functions, they have very different data structures. Calyx had to reach out to 3rd parties with some knowledge of Horizon (sometimes the responses were in languages other than English, so language barrier became a small problem too) and to library staff. Assumptions on the part of Calyx, 3rd parties and library staff did not always match and so there were some confusing data requests and some tasks took longer than they should have.

Not all the acquisitions data migrated well. We did not migrate orders from Horizon because it was difficult to do and we could manage by closing orders early, since we were close to the end of the year. Vendor records were successfully migrated as were serial subscription records. Historical data could not be separated but this is a continuing clean-up job that does not interfere with the receiving processes.

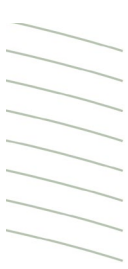
Serials data was purposely only partly migrated: MARC and item data was moved but subscription data was curtailed to only existing subscriptions (and so we imported subscription data for 372 titles rather than the over 1,200 titles we had on Horizon). We did encounter a problem with serials holdings: Horizon gave us the ability to provide “Summary of holdings” notes attached to copy records, which were migrated to individual item records (because Koha treats incoming serial issues as items), some of which had to be cleaned up.

Finally, there was a problem with character encoding of MARC records: Horizon has limited support for Unicode characters (it is essentially a MARC-8<sup>4</sup> system) while Koha supports the full UTF-8<sup>5</sup> standard. This was not a problem in itself, but it did trip us up; at one point we sent

---

<sup>4</sup> <https://en.wikipedia.org/wiki/MARC-8>

<sup>5</sup> <https://en.wikipedia.org/wiki/UTF-8>



bibliographic and authority MARC files in MARC-8 encoding rather than UTF-8. We had to run all the MARC export files through MARCEdit<sup>6</sup> to change their encoding, so that was easily fixed.

In the end, despite any problems we faced, we completed the migration project on time and it went very smoothly and very quickly: It took almost exactly 2 months from the time we signed the contract with Calyx until we had a live system (not bad for a system with over 150,000 bibliographic records and nearly 1/3 million volumes). A longer time frame might have helped us avoid some of the migration problems (or perhaps not) but we would not have had as long to acclimatise staff to the new system before the start of Semester 1 2019.

### Are We Better Off?

The Dalton McCaughey Library is better off with the new Koha system than it was with Horizon. Like Horizon, Koha is a mature integrated library automation system with all the functions one would expect. According to Marshall Breeding's 2019 Library Automation survey,

Koha has been implemented by both academic and public libraries and receives generally positive ratings in these diverse libraries contrary to the trend toward specialization by library type.<sup>7</sup>

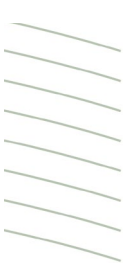
Unlike Horizon (which is only getting bug fixes and very few new feature enhancements), Koha is in constant development, with new releases every 6 months and bugfixes for earlier releases for 18 months. Unlike Horizon, all parts of Koha are free and available to anyone (we pay for hosting and support but the software itself is free). Unlike Horizon, the Koha community is built around a community of practice of librarians and developers (and some who are both), not around a group of customers (or worse, controlled by a company).

Koha is not endlessly customisable, but it is VERY customisable (Koha uses web standards for its front ends, so even hosted libraries have ready access to tools to change the look and feel of both the staff client and the OPAC). The reports functions in Koha allow librarians to choose from a small set of statistical wizards and guided reports, but also allow the use of SQL to design new reports (and so match the reports to the needs of the individual library). Koha will fill the needs of most libraries (it's used in consortia) but it would also suit the needs of a small library with little or no in-house IT skills. The key is in the support you get from your hosting company: The DML's Koha implementation is now being hosted by CatalystIT (Calyx sold their Koha business to them), which

---

<sup>6</sup> <https://marcedit.reeset.net/>

<sup>7</sup> <https://librarytechnology.org/perceptions/2019/>



is a company specialising in supporting open-source software. Catalyst provides us with excellent customer support and advice for a fraction of the cost we paid annually to keep Horizon running.