



How Infor V-smart makes library standards, protocols, and interfaces easier to use

Forming the glue that creates tight system integration

Because libraries need the disparate systems they use to be interoperable, the “glue” that holds these systems together has become more important. As these various applications have become more like “black boxes,” and as IT and library standards have become easier to use and implement, it is now possible to use lightweight interfaces to “glue together” our applications and other systems used by libraries to provide real interoperability. Infor® V-smart, an integrated library system (ILS)—along with its affiliate applications Iguana used for websites, personalization, and communication, and V-insight for data and trend analysis—can enable tight integration of data and functionality through these protocols and interfaces.

Making protocols and interfaces easier to manage and implement

This paper discusses the elements of Infor V-Smart that make library standards, protocols, and interfaces easier to use and implement. Infor V-smart can help you to manage:

1. IT standards

Infor V-smart, Iguana, and V-insight are all browser-based. Their technical foundations are a robust database server environment and a front-end based on HTML, JavaScript, and CSS. Other frequently used IT standards are XML (or JSON) and web services—the glue between our front-end and both Infor and third-party server applications. Other supported IT standards include SMTP and POP3 for email and EDI for interaction with many book and materials suppliers.

Even though some applications do not always follow standards, everyone uses them—so Infor’s applications interface to them. The prime example is Microsoft® Office (including CSV, Excel, and mail merge). Other examples are Google’s sitemaps (for SEO), links to Google Books™, and links to Amazon™. In addition, Google Scholar™ is supported as part of the (OpenURL based) V-link linking product.

2. Widgets and mashups

All of Infor’s products are now based on—or use—techniques such as web services, XML, JSON, iframes, and widgets. It’s as if the whole world has become one huge mashup.

The Iguana personalization and communication portal is a prime example of this. The application is fully widget-based. The whole application is one big wrapper around a huge set of data and functionality. Each function or element of data is a building block in the whole application.

The widget technology allows Infor to integrate any data and functionality out there: information (functionality and/or data) from Amazon, Twitter, Nielsen, Syndetics, PNB/Dilicom, Electre, FNAC, NBD/Biblion, BibNet (to name just a few) and others are integrated—as is our own server data and functionality.



3. SIP2 protocol and financial interfaces

Over the last few decades, a large number of PC-based devices have made their way into library buildings. It started with self-check stations and now there are also printer and workstation reservation devices, payment stations, and book rental machines.

Almost all these devices use the V-smart customer database for user authentication via a relatively simple protocol called SIP2. The introduction of RFID in libraries has served to increase the use of SIP 2. SIP2's ease of use and the native extensibility of the protocol has led to the emergence of many variants of it: every provider created his own extensions. As an ILS supplier we have had no alternative but to implement these variants, simply because our customers use them in real life.

With the introduction of RFID and the growth of self-check device functionality, vendors have often replaced SIP2 with home-grown web services—e.g., for communication between V-smart and RFID Tracking Pads which again we have had to support. NCIP, the standard XML SIP2 successor, is also partially supported by our applications.

Infor's applications also include a wide array of interfaces to financial applications and ERP systems (such as Afas, Exact and SAP) and to payment applications such as iDeal or Ogone.

We also support many other financial interfaces, including automatic invoicing and cash management data exports. Unfortunately, this is also an area with few standards: each provider and each bank typically has its own standards, the Swift protocol being an exception.

Thanks to the tight integration of data and functionality, Infor V-Smart makes library standards, protocols, and interfaces easier to use and implement for your

integrated library system.

4. Library search standards

Nor should we forget searching—an area where standards have been in use longer than most. Naturally our applications support the relevant standards—for example, Z39.50 and SRU/SRW.

5. The wild bunch: Other interfaces, standards, and protocols

Infor supports a long list of protocols. It encompasses interfaces with solutions for requests, lending rights exports, and SMS text messaging in multiple countries.

There are also many interfaces to bibliographic reference managers, such as EndNote (via the RIS format), RefWorks (also RIS), and Zotero (via a format called COinS). But this is a wild bunch: Some interfaces follow standard protocols, while others are completely vendor-specific.

The applications support SMS text messaging (with multiple vendors, in a fairly “standard” way), links to a number of ILL systems, search engine optimization (SEO), permalinks and both open archive initiative (OAI) Client and Server. (To learn more, see the unified resources handling white paper “How Infor V-smart manages unified resources handling for e-resources and printed materials” for a discussion of the OAI protocol.)

6. Simple file import and export

Many of the interfaces discussed in this paper are quite modern and high-tech. But we should not underestimate the importance of old fashioned file import and export.

Infor V-smart’s format-agnosticism (for both bibliographic and authority records) has huge implications. Not only is the storage of records format-agnostic, so also are record import and export. Records can be imported and exported in many formats such as ISO2709, MARCXML, CSV (comma delimited), and others. Sophisticated user defined conversion profiles are used to handle format changes (MARC21, UNIMARC, Dublin Core, and others). File export of bibliographic records is also available in RIS format. All this makes import and export independent of the storage format. For example, a record stored in MARC can be exported in DC, and vice versa.

Simple file import is also available for borrowers, item copies, print files (for external providers, or to be used internally), and others.



Enabling the open integration of data and functionality

Over the last few decades more applications and devices have found their way into the library world. Because Infor V-smart supports an array of interfaces for these applications and devices—it is truly the spider in this complex web. All this enables the open integration of the data and functionality that are supplied by a miscellaneous group of third parties.

[Learn more about Infor V-smart.](#)



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INF-1470811-en-US-0815-1