

A new IT infrastructure at the National Library of Luxembourg

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The National Library Luxembourg (Bibliothèque nationale de Luxembourg, BnL) sees itself as a public institution for all citizens in the centre of Luxembourg City. Since 1973 it is accommodated in the renovated former Athenaeum, next to the Notre Dame Cathedral on the Boulevard Roosevelt.

The BnL is a multifunctional library, in which all publications published in Luxembourg and all works published abroad regarding the Grand Duchy are stored, collected and catalogued. Since its



inception, the BnL is the most important science and research library with a collection mandate in the country. The BnL moreover has an encyclopaedic function: About two-thirds of the stock come from abroad and pertain to all fields of knowledge, in order to meet the needs of the users as much as possible. In addition to the more than 1.7 million publications on paper the BnL also offers its 17,100 active readers a growing number of digital documents: electronic journals, ebooks and databases.

The BnL has several reading rooms on the ground floor and the first floor. Here the user has free access to around 37.000 reference books sorted by topic areas. All reading rooms are accessible for people with reduced mobility. They are equipped with Wi-Fi. The login information is available at the reception desk of the library. In the periodical-room users can find current issues of international magazines as well as Luxembourg titles and a selection of weeklies. The media library has televisions and DVD players for viewing multimedia documents.

To meet the requirements of the readers in the best possible way, the BnL took a new IT infrastructure for their reading rooms into operation at the end of December 2015. The aim was to replace the classical system operated on the basis of PCs with a new Virtual Infrastructure (VDI). Currently 40 terminals are accessible in the reading rooms. However, in the course of commissioning a new location of the National Library, a total of 200 terminals are planned until 2018.

The following objectives have been achieved:

- a stable IT infrastructure that can be monitored and managed on distance
- a centralized payment system
- a user-friendly and easy operating of the scan stations
- the integration of scan stations into the payment system

The technical scope of the solution consists of following hardware and software components:



- 3 HP servers, 2 HP storage systems
- 40 IGEL UD10 terminals
(<https://www.igel.com/de>)
- 2 microfilm scanners Minolta MS6000 MKII
(<http://kmbs.konicaminolta.us/kmbs/technology>)
- Mifare DESFire EV1 card reader
- 7 Multifunction Copier the company Lexmark
(https://www.lexmark.com/en_US/products/series/printer-and-multifunction/finder.shtml)
- VMware Horizon View 6.1
(<https://www.vmware.com/products/horizon-view>)

2 Bookey 4 Professional (<http://http://www.imageaccess.de>)

By using Horizon View we can transfer the desktops into the virtual world. A "desktop" in the sense of Horizon View a complete workstation which is provided as a virtual machine. This is run in the data centre. The operating system including Windows applications belongs to the Horizon View desktop. At the moment we offer readers the Windows 7 and the Microsoft Office package.

- PaperCut V15.1 (<http://www.papercut.com>). PaperCut is used for capturing, analysing and billing scan jobs in the reading rooms of the BnL.
- BCS-2 Express (V6) (<http://www.imageware.de>)

Printing and digitisation orders are billed centrally via Papercut. The reader has to identify himself with his identity card both at the digitisation stations as well as the copiers and printers. Scanning and printing (copying) are chargeable. BCS-2 Express is operated in kiosk mode and controls the Bookey scanner and the microfilm equipment and is integrated in Papercut for cost accounting.

The digitisation stations allow the user to print his works, save them on USB sticks or to send himself a temporary download link via email.

The new infrastructure has been very well received by readers and is stable. It also forms the core for new services that are currently in development. Thus the BnL is planning the automation of the Loan based on RFID technology, as well as a simplified authentication in the WIFI Network in the course of 2016.



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