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Cloud Computing

We've all seen the commercials or have heard it at workshops or conferences, but what is cloud computing? It depends who you ask. The National Institute of Standards and Technology defines cloud computing as:

"Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction."[1]

A more simplified definition of the cloud is any server usage or software application you can access outside of your local server. In most situations this would mean anything outside of the server your library or organization maintains. On a personal level it means anything beyond your home computer.

There are two aspects of cloud computing. There is the idea of providing software or applications and the idea of providing hardware. An excellent example that illustrates both of these concepts is Google Docs. Google Docs allows you to store information and run a number of document creation programs such as spreadsheets, text files, and drawings on a remote server instead of your own computer. Your computer is merely the access point to these resources. It is doing very little other than communicating with the remote server which is actually running the software and maintaining your storage space.

Why is this so important? In order to see how important the idea of cloud computing is you need only look around you at the ever increasing number of mobile devices. These devices are getting smaller and smaller, yet are able to do more than larger older devices were able to do in the past. This is partly due to increased speed and processing power of the device itself, but it is also due to cloud computing. How so? Let's say you have a hand held device that connects to the web. This device only needs to support a web connection, some sort of user interface (i.e. a keyboard or its equivalent), and power supply. Your mobile device then connects to a server or servers in the cloud and you are able to access a host of high end applications. These applications are software your device itself is unable to run since it lacks the processing power. Instead this software is run on a remote server which can then display the program on your mobile device. The idea is simple. Your local device, whether it is a phone, an iTouch, etc. doesn't need to be a high end, overly expensive piece of equipment, it just needs to be able to connect to one and you can then run whatever apps you want, in theory at least. This means you don't have to lug around a laptop to get all the functionality of a laptop. So thank the cloud next time you're watching a YouTube video, buying a book from Amazon, or using an app to find a restaurant on your phone.

Another reason cloud computing is so revolutionary is that it will give even the smallest organizations the ability to use the power of network computing with a minimal infrastructure. Currently, many libraries have their own servers, with a number of personnel maintaining these servers. This requires continuous upgrades, purchasing certificates, training for staff, and a host of other functions that can drain a library's resources. With cloud computing, a library could pay a monthly fee to a vendor and have the same server functions and support at a fraction of the cost. This approach also offers a greater degree of flexibility. In the past if you wanted to change your server configuration it meant replacing or adding to existing equipment, and probably purchasing various software licenses. However, with cloud computing, the vendor would probably already have the existing hardware for your reconfiguration.

Cloud computing could also change the way we think about software licensing. Currently, if an organization wants to provide a copy of Photoshop, for example, it needs to purchase a license for it from anywhere from $500.00-$1200.00 per user. Then when the next version of Photoshop is published they need to invest in a new license. With cloud computing, this approach could be a thing of the past. Instead you could pay a fee to access the software on a remote server at a fraction of the license cost. Also when the software upgrades to a newer version you don't have to purchase a new license. This would give you a greater level of flexibility to offer software at the point of need, since you could purchase access when needed instead of having it just in case someone needs it. An added benefit would be that your PC wouldn't even need to be able to run Photoshop itself; the server would provide the computing power.

So what does cloud computing mean for libraries? For one thing it could mean the end of the ILS server. OCLC recently introduced their Web-scale Management Services which is supposed to make the functions of the acquisitions, subscription licensing, and circulation easier and more efficient by leveraging the cooperation of libraries. For instance, OCLC could provide all its Web-scale subscribers with a vendor database which lists vendor contacts by company, division, or region, instead of each library duplicating this work in their own ILS. The idea is for libraries to work cooperatively in a flexible environment where they can share solutions to problems instead of having to reinvent the wheel at each library.[2]

Other vendors are taking advantage of the cloud. Vendors such as LibGuides can provide a remotely hosted service which allows for the creation of modular content, which many libraries wouldn't be able to create on their own. It also lowers the technical skills needed to create web pages. LibGuides also allows libraries to share content with each other. If there is a guide you like at another library and you want to use that guide you just need to ask and you can begin to use that guide. Finally, like other cloud applications, it is accessible from any internet connection, so you don't need a client on your local PC.

Cloud computing is still in its infancy but could change the way libraries fuction. In 1960 John McCarthy, one of the fathers of computer science, "surmised that computing power someday may be purchased the way we buy electricity from the power utility".[3] With cloud computing we are getting closer to this reality. This will free libraries from the shackles of IT management and allow us to focus on services and resources, just like they did before the digital age.

References

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North Carolina Libraries

Official Publication of the North Carolina Library Association
ISSN 0029-2540

The subscription cost to North Carolina Libraries is $50/yr.

All issues are available online free-of-charge at
http://www.ncl.ecu.edu.

Back issues are available from the North Carolina Library Association office at 1811 Capital Blvd., Raleigh, NC 27604, for $8 an issue for those years prior to going online in 2002, or $50 for the annual print compilation beginning with Vol. 60 (2002).