The Future of Enterprise Information Technology

The following excerpt is based on an interview conducted at the EDUCAUSE Enterprise and Information Technology Conference 2011. To listen to the full podcast, go to <http://www.educause.edu/er/Antolovic>.

Gerry Bayne: What are your major concerns about the future of enterprise information technology for higher education?

Laurie Antolovic: I think right now is a very interesting time for enterprise information technology. There are a lot of innovations and factors out there that are making us reconsider the standard model for what we term “administrative computing” or enterprise information technology.

It is no longer easy to compartmentalize. When we talk about storing research data and the process that researchers go through to submit proposals to ensure that they’re in compliance with regulations, is that an enterprise system or is that research? Maybe it’s a little bit of both. But then you throw in factors like cloud computing or cloud services, and we begin to understand that the same considerations apply to things that are not traditionally business or administrative computing.

At Indiana University (IU) I’ve been closely managing budgets and funding for many years, and I would say that the model we have today is broken.

Bayne: How is it broken?

Antolovic: It’s broken because we have allowed ourselves to migrate away from our homegrown systems, which we have termed “fragile” and “difficult to maintain” and have characterized as “lumbering giants that do not give us the agility we need.” We are in a different kind of bind, but still a bind. Paying my bills to the corporate sector for use of enterprise licenses is just as much a burden as it was to keep twenty, ten, or five people onboard to maintain specific systems. So I’m not sure that we got out of that bondage. We simply submitted ourselves to a different master.

Bayne: Are you saying that using third-party systems is just as restrictive as doing it yourself?

Antolovic: That’s what I’m saying. I realize that there’s fragility to a system that only you and your own people know how to maintain, as opposed to something that a large corporation has a lot of resources to support and maintain. The proposition is that the corporation will continue to support the system and make sure it works for you, in return for an annuity that you guarantee to pay over a period of time. In good economic times, we probably would accept that as the norm. We’re used to doing that. But when times are lean, with serious budget constraints, one begins to look for alternatives.

It’s no secret that at IU, for at least a few systems, we have thrown ourselves into the community source model. We believe in the economics of the community source model. We believe that the community source model represents the best of everything. You’re not the lone wolf with only five people knowing the code for your system. You’re not as vulnerable. You have other people, other universities, that have some knowledge of the system and can help maintain it. At the same time, it’s something that you collectively own and control.

With the community source model, you basically free yourself from the burden of the enormous licensing fees. A lot of times, the licensing fees don’t bear economic resemblance to the situation. If you enroll a few more students, your licensing fees go up. But what goes into delivering that service has not really changed simply because your population increased a bit.

I realize there are economic models for how expenses need to be recouped, but in lean times, it’s difficult to simply say: “OK, that’s just how it is.”

Bayne: Does the idea of letting third parties run your data centers or using third-party cloud systems to provide services concern you at all? I’m hearing other IT leaders talk about loss of control.

Antolovic: Obviously, there are things that we need to be concerned about. Some externally imposed conditions need serious consideration, such as FERPA and export control laws. These days we talk a lot to our lawyers, and we encourage them to talk to lawyers at other higher education institutions as much as possible. Because we want to know, for example, if other university counsels have decided that it’s OK to store research data in a cloud with platforms that may not be within the boundaries of the United States.
Bayne: What do you see as the future for data centers? Will they survive as we “do it ourselves”? Or do you think they’re going to be mostly virtualized?

Antolovic: We actually built a hardened data center at IU a few years ago. We have been able to persuade our campus community to give up servers. Having servers all over campus is not a very efficient model for reasons of hardware costs and support. They also have a lot of exposure in terms of security related to the consistency of system administration and patches, for example. Before we had a data center, we couldn’t ask people to bring their servers over or to buy into our virtual environment. We didn’t have the capacity.

There is a lot of talk about clouds and how we don’t need data centers. If I were to try to persuade schools to give up their servers, and I said, “I’ll buy you some space over at that cloud,” that would be a hard sell. It’s easier to convince people by saying: “It’s still IU’s data center. You can go look at it. You can check it out. You know where it is.”

Bayne: Do IT leaders who deal with enterprise systems need new skillsets? Are their roles changing?

Antolovic: The model of computing has changed, which means that the skillsets of leaders need to change as well. If you are a CIO who is used to setting your own plans, executing your own plans, and being basically an independent entity that doesn’t have much contact with the rest of the campus community, you’re outdated.

Ten years ago, CIOs did not have to worry as much about students’ technology expectations. They did not have to worry about funding cuts across campus. Today, IT leaders need to help their institutions discover potential solutions that might be worth considering.

I do think the role of CIOs and other IT leaders will change. Are they going away? No. Somebody still, at the end of the day, must get a group of people to collaborate. Somebody still has to lead. Collaboration is not going to happen on its own. Certain forces, motivations, and fears need to come into play, and somebody must be responsible for making sure that those conversations, those collaborations, are encouraged and are taking place. I don’t know who can take on that responsibility other than the senior IT leader.

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