Digitization is changing the industry and society at a massive scale. Every industry sector is involved in some form of digital transformation, whether it’s moving to the cloud, relying on big data to develop insights or foresights along with some business value, or deploying some form of the Internet of Things.

The wisdom in the street is that enterprises can move all applications to the cloud and have “really” very few people to manage them. This is by far the biggest misunderstanding of them all. Most enterprises have a mix of standard and customized applications. Customized applications will usually remain in the enterprise, depending on the degree of customization. Even standard applications might need to remain in the enterprise, depending on the data’s location, its specific requirements (including security/privacy aspects), and how much of it there is.

Additionally, the challenge is that most applications developed in the last decades were developed with almost no ability to benefit from cloud features such as rapid elasticity or its pay-per-use model. That said, the inability to benefit from cloud features is not a showstopper when it comes to migrating applications to the cloud. Enterprises might feel that it’s more cost effective if they move certain applications to the cloud, whether or not those applications can exploit cloud features. Otherwise, they might not have the manpower to operate their applications.

Enterprises should always conduct extensive due diligence before attempting to migrate applications to the cloud because many things can go wrong in the process. Cloud migration usually involves considerable manual processes, which are prone to error. Enterprises should also experiment or start small and expand migration as they build the required expertise. They should also use the process to define a strategy or at least do some IT housecleaning or some degree of application optimization, or optimize the whole IT infrastructure, for that matter. Even when enterprises adopt specific tools for the migration, they still need to seriously look at performance, security, compliance, governance, and even possibly some type of applications refactoring. Additionally, users should identify the tools that best fit their environment and applications characteristics. Finally, enterprises might want to have a backup strategy in case things change in the future.

The columns and departments in this issue focus on the migration of applications from traditional IT shops to the cloud. Joe Weinman’s “Cloud Economics” column touches on various techniques to migrate to the cloud and their total cost of ownership. In “Cloud and the Law,” Massimo Ficco, Christian Esposito, Henry Chang, and Kim-Kwang Raymond Choo talk about some of the regulatory challenges that need to be considered when migrating to the cloud. In his “Cloud Tidbits” column, David Linthicum provides a high-level view of what an independent software vendor needs to do to be enabled for the cloud. Michaela Iorga and Karen Scarfone present a capability-oriented methodology to build cloud ecosystems in “Cloud and the Government.” In “Standards Now,” Alan Sill takes a look at the increasingly strengthening role of cloud standards and community-based guideline documents in setting directions for cloud migra-
tion. Finally, “Blue Skies” authors Michael Vögler, Johannes M. Schleicher, Christian Inzinger, Schahram Dustdar, and Rajiv Ranjan address the research challenges involved in migrating applications to the cloud to establish the future Internet of Cities.

**THESE COLUMNS ARE VERY INTERESTING READING.** I urge readers to provide feedback on the quality of these and previous columns by sending email to me at mazin@computer.org. ***

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