# Where the cloud is likely to grow

**The shift to the cloud will happen sooner than many think. Two-thirds of corporate applications once considered too risky or complex to move will be part of the migration, IT executives say.**

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Cloud computing has attracted much attention over the past few years. Has actual deployment measured up to expectations? What tasks are IT executives comfortable placing on the cloud and in cloudlike virtualized platforms?[1] We surveyed 250 CIOs of large companies across a range of industries. Their response? Support for cloud-based solutions and virtualization is strong and growing.

By 2014, CIOs expect more than two-thirds (68 percent) of corporate applications to be virtualized or housed in public and private clouds[2] (exhibit). That shift, an 11 percent uptick from today's levels, will affect all categories of applications—even proprietary, mission-critical ones, such as investment trading platforms, normally considered too risky or complex to move. Areas poised for the biggest overall jump include nonmission-critical line-of-business applications (for example, development-code repositories), as well as applications for supply chain management, operations, and manufacturing.

Virtualization and private clouds will account for the lion's share of that migration as CIOs balance cost and operating flexibility against security concerns. Companies may even retreat from less

secure public clouds in favor of private ones in some areas, such as supply chain management, manufacturing, and development. In certain cases, companies are finding that implementing and operating a private cloud is less daunting than they had expected and that the economic case for the two kinds of clouds isn't substantially different.

Mature applications, such as those for customer relationship management (CRM) and e-commerce, are already well established on public clouds. CIOs now indicate an increasing degree of comfort using them for other, mission-critical applications, perhaps because, for some companies and applications, public clouds offer higher availability and resiliency than internal IT does. By contrast, engineering applications and supply-chain-management systems, which typically require more hand tuning, are less likely to be turned over to public clouds. They will continue to be located on premises in private clouds, virtualized environments, or bare-metal IT configurations.

Fine-tuning elements of cost, flexibility, and risk will help CIOs to decide on future cloud investments. Our survey data suggest, however, that CIOs feel, increasingly bullishly, that the benefits of cloud-based deployments outweigh the negatives. ○

[1] Virtualization creates virtual IT resources that emulate actual IT resources (such as servers, storage devices, or networks) and improves utilization of IT resources by allowing multiple workloads to run on a single machine.

[2] Cloud computing is a computing model in which users purchase IT resources as a service, allowing them to access infrastructure capacity, system platforms, and software services on a pay-per-use basis. Public clouds, managed by third parties, provide services to multiple customers through shared infrastructure. Private clouds do so exclusively for one organization, trading some of the cost and scale benefits for added security and control.

## Exhibit
## By 2014, CIOs expect more than two-thirds of corporate applications to be virtualized or housed in clouds.

■ Virtualized or   ■ Public cloud   ■ On premises
in private cloud                    (traditional)

**Overall distribution of applications by primary deployment in 2014,** % of applications
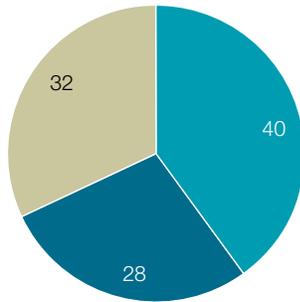


**Application categories**

**Distribution of deployment models across application categories in 2014,**[1] %

| Application categories | On premises | Virtualized or in private cloud | Public cloud |
|---|---|---|---|
| Nonmission critical, line of business | 23 | 45 | 32 |
| Customer relationship management (including sales force automation) | 24 | 38 | 38 |
| E-commerce and Web presence | 25 | 37 | 38 |
| Communication and collaboration | 27 | 42 | 31 |
| Enterprise resource planning (including financial and accounting, HR, procurement) | 29 | 40 | 30 |
| Document and content management | 31 | 44 | 25 |
| Operations and manufacturing | 32 | 39 | 29 |
| Development and testing | 33 | 39 | 28 |
| IT management and security | 33 | 40 | 27 |
| Supply chain management | 33 | 50 | 17 |
| Mission critical, custom line of business | 35 | 34 | 31 |
| Data warehouse, business intelligence, decision support | 38 | 37 | 25 |
| Engineering applications | 50 | 37 | 14 |

[1]Some figures do not sum to 100%, because of rounding.

Source: 2011 McKinsey survey of 250 CIOs of large companies across a range of industries

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