

# Forrester Consulting

HELPING BUSINESS THRIVE ON TECHNOLOGY CHANGE

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## **Moving IT From Application Deployment To Application Delivery**

A Guide to Application Delivery for  
CIOs and Senior IT Executives

**Spotlight: All Applications**  
(Part one in a series of four)

*A commissioned study conducted by Forrester Consulting on  
behalf of Citrix Systems*

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# Application Delivery Definition

"Application delivery" is the process of getting applications from the data center to the user as efficiently as possible. "Application delivery infrastructure" refers to the technology components that enable this efficiency across any network. A comprehensive application delivery infrastructure includes technologies that improve performance, availability, and security without compromising flexibility. Specifically, this includes components like application accelerators, desktop and application virtualization, application firewalls, secure remote access, WAN optimization, and performance monitoring.

# Executive Summary

If CIOs want to achieve business success in today's highly dynamic world, they must first architect an IT organization that can rapidly respond to new business requirements. This means placing a greater strategic priority on application delivery. Why? Because applications are the foundation of today's businesses, yet IT struggles to continuously deliver applications in a timely, agile manner. We see that IT is no longer just about squeezing out costs or incremental automation. IT is now the platform for improving business processes, delivering revenue-generating apps, enhancing customer experience, and raising workforce productivity. None of this is possible on yesteryear's architecture. The traditional hard-coded "application deployment" model has left IT with an inflexible nest of legacy technologies that make it very difficult to succeed in a world where the requirements are changing faster than ever before.

To address these emerging requirements, Forrester recommends a twofold approach:

- **Make application delivery a strategic priority.** CIOs today are faced with increasingly challenging requirements — improving business processes, improving customer experience, and making IT more agile and responsive to today's fast-paced business environment — all while reducing IT costs. This means moving from the traditional mindset of incremental application and infrastructure improvements to a system that can change on-demand. By fostering an application-centric mindset and investing in an application delivery infrastructure, CIOs will have a single policy-driven infrastructure that provides the necessary business relevancy, agility, and focus to tackle these requirements.
- **Designate key application delivery owners across IT.** The goal is simple: Allow any user to connect to any app with a great user experience and the right level of security. Unfortunately traditional organizational silos often prevent this goal. As a result, each new application roll out involves fixed assumptions about the app and users that are hard-coded into the infrastructure. This creates severe business limitations the moment one of those assumptions changes, which inevitably occurs. To break this chain, CIOs must visibly and publicly designate key IT owners who are responsible for maintaining a flexible delivery infrastructure that is built once and reused for any new application. We recommend charging network architects with the delivery infrastructure for Web applications; IT infrastructure operations for Windows client/server applications; and desktop operations for the desktop application suites and operating systems needed to keep end users productive.

# From Fragile To Agile: Why CIOs Must Focus On Partnering With The Business

As part of a study commissioned by Citrix, Forrester Consulting recently surveyed CIOs and senior-most decision-makers in charge of all of IT and found that a mere 31% of their time is spent linking

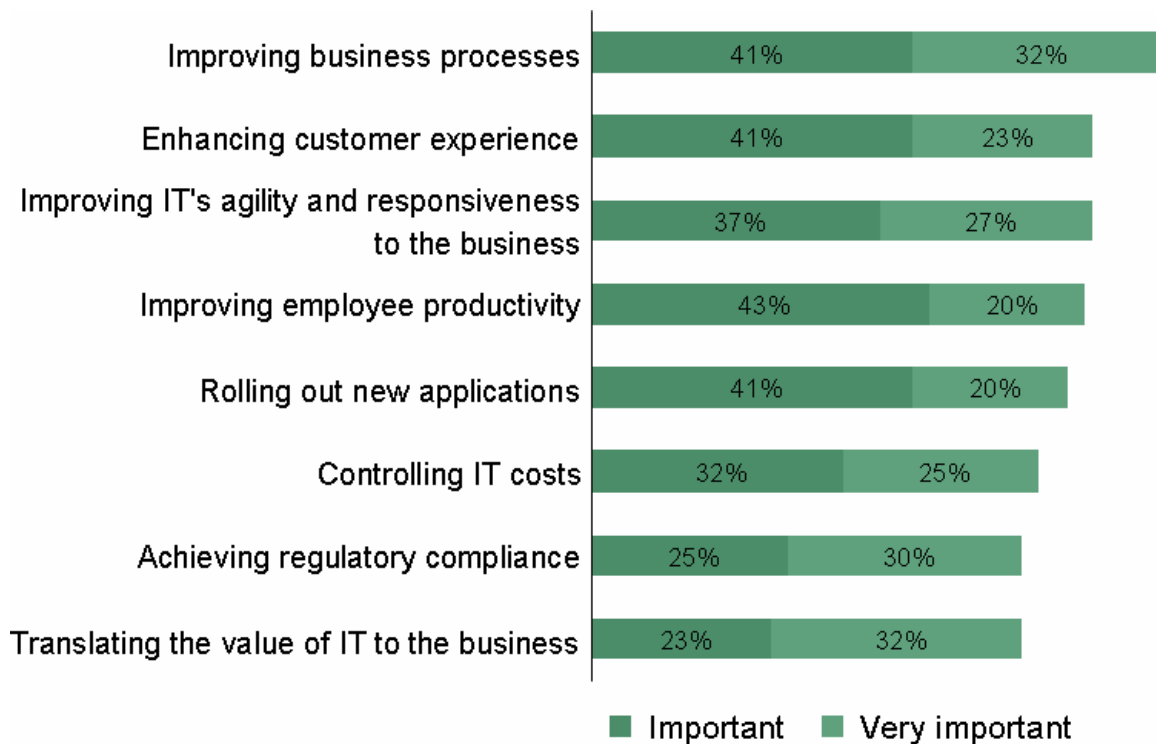
the strategy of IT to the business. We also found that nearly two-thirds of the IT budget is spent “keeping the lights on” with ongoing operations and maintenance costs. Why is this important? Because today’s CIOs are too bogged down with legacy infrastructure limitations to focus on improving the business. Insufficient time is spent partnering with other executives to improve the top line. In fact, approximately half of respondents claimed that current trends in applications (e.g., Web 2.0, SOA, AJAX, software-as-a-service, and enterprise mashups) and user support (e.g., mobility, globalization, outsourcing, device proliferation, and the changing expectations of a new workforce) will only make the environment more complex.

### **CIOs Prioritize Business Processes Optimization And IT’s Responsiveness**

The changing business climate means IT must be more agile. The last 30 years of IT have instilled a methodology of “incrementalism” where bits and pieces were deployed over time. The result is a siloed, fragile infrastructure that can’t accommodate the velocity of change in an increasingly competitive, flat world. To overcome this, CIOs must become more responsive and business-savvy. We already see this transformation underway, with today’s CIOs focusing on (see Figure1):

- **Improving business processes.** For years, IT’s mantra has been to align IT with the business. But how? The key for CIOs is to change the focus. It’s less about how IT runs, and more about how IT can make the business run smoother. So, it’s no surprise that 74% of respondents responsible for all of IT cited improving business processes an important initiative — making it the No. 1 priority for 2007.
- **Increasing responsiveness and agility.** It’s hard for IT to run efficiently with only 37% of the IT budget going to new initiatives and projects. To be effective, CIOs must be able to do more with less and overcome fragile IT infrastructure. In fact, CIOs cited the No. 2 priority for 2007 as improving IT’s agility and responsiveness to the business. CIOs can’t focus on deploying more servers, more storage, more bandwidth, and different security and access technologies every time a new application is rolled out. They must have flexible application delivery infrastructure that can adapt to the inevitable changes on both the application and user side of the equation. By increasing agility in this way, CIOs can reduce operational costs and make the most of their sluggish 7% growth in IT budgets.
- **Enhancing customer and employee satisfaction.** Customers and employees expect a top-notch experience when dealing with today’s businesses, especially as more of those interactions are driven electronically. Even traditional brick-and-mortar businesses need to provide digital services. Thus, business-minded CIOs must focus on using IT as a platform for remaining competitive, and 64% cited addressing customer experience as a priority. But it’s not all external; employees must have a superior experience with IT to remain productive. Respondents with responsibility for all of IT noted that improving employee productivity was only a hair behind customer experience with 63% citing it as a 2007 priority.
- **Introducing new applications while controlling costs.** Progressive enterprises treat CIOs as business executives, often highly visible to the CEO. Successful CIOs don’t spend a lot of time focusing on technical aspects, which are often left to capable architecture and operations directors. When polling respondents responsible for all of IT for their priorities, we didn’t come across a technology-oriented item until fifth and sixth on the list. Sixty-one percent listed rolling out new applications as a priority, while 57% cited controlling IT costs. We increasingly see empowered enterprise architecture teams responsible for application delivery and IT operations on cost control — freeing up CIOs to focus more on enabling business strategies.

Figure 1: Business Process And IT Agility Top The 2007 CIO Priority List



Base: 44 CIO and senior-most IT decision-makers

Source: A phone survey of 153 IT decision-makers and influencers across North America, Europe, and Asia-Pacific in March 2007 commissioned by Citrix and conducted by Forrester Consulting

## How Application Delivery Helps CIOs

Here's a common scenario facing today's CIOs: On the business front, you've recently been tasked with improving quote-to-cash processes and reducing customer churn. However, your company is encumbered by outdated transactional applications running on a mainframe. You're exploring new application architectures using Web 2.0, Web services, and service-oriented architectures. But your current infrastructure is simply too siloed and can't easily accommodate new technologies or the new business requirements.

There is an emerging technology solution that helps, which Forrester refers to as application delivery infrastructure. We define this as:

*Technologies that streamline the connection of any user to any application by minimizing deployment burdens, reducing management costs, optimizing performance, and increasing security.*

## Application Delivery Shifts The Emphasis From Deployment To Delivery

Application delivery *isn't* about adding incremental resources for each application roll out. Instead, it's about a shared platform that bridges that gap between your applications, infrastructure, and

changing business requirements. It provides the necessary abstraction layer to make rapid adjustments in application requirements without hard-coding the changes to the underlying infrastructure.

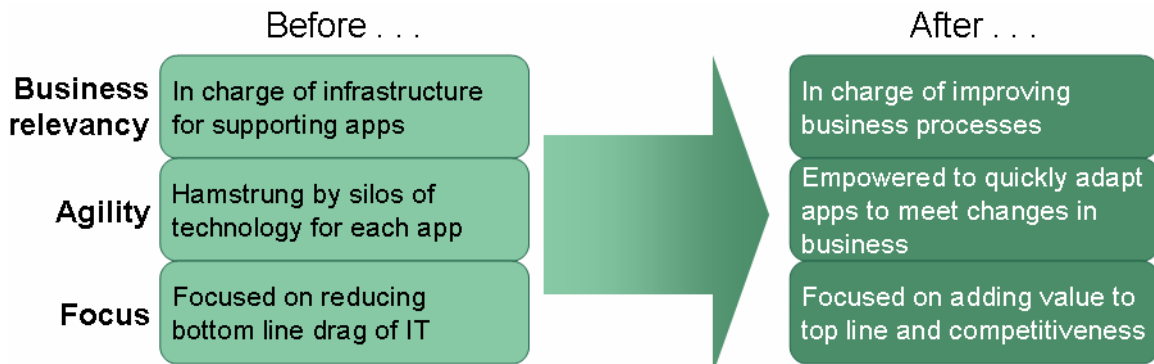
Application delivery infrastructure means CIOs don't need to focus on the "technology stack" each time an app or user scenario changes. It breaks the traditional cycle of adding resources top-down: application dictates middleware platform, platform dictates server infrastructure, server infrastructure dictates storage requirements, storage requirements dictate bandwidth capacity, and so on. Instead, it turns the conversation on its side and connects any user — be it a customer, employee, partner, or vendor — to any of your application resources and data. This decoupling of infrastructure means a simpler, more flexible architecture.

To change the way your IT organization thinks about application delivery, you must first educate your staff on the difference between "deployment" and "delivery." Deployment implies that to get an application operational, you must bind it to underlying infrastructure and allocate the appropriate capacity to ensure performance. When you deploy something, it requires an enormous effort, takes a long time, and often ends up costing more than expected. Furthermore, once something is deployed, it's hard to change, and you must replicate your efforts for each new app. To change this mindset, we recommend CIOs drop the traditional "IT stack" mentality and instead think about applications from a user-driven model.

From a CIO's perspective, application delivery infrastructure provides (see Figure 2):

- **Business relevancy.** CIOs must be able to partner with the business to ensure IT is in line with corporate goals. Application delivery focuses on users and applications — and not underlying technology — which means business processes are easily exposed for ongoing improvement.
- **Responsiveness.** Complex and quickly changing business requirements mean CIOs must be proactive. Flexible, policy driven infrastructure ensures applications are quickly delivered and repurposed for any business need.
- **Focus.** IT doesn't need to be just a cost center. Improving revenue, customer experience, and employee productivity — all while reducing the operational burden of application maintenance — means CIOs can shift more time to the top line.

**Figure 2: Application Delivery Provides Better Relevancy, Agility, And Focus**



Source: A study commissioned by Citrix Systems and conducted by Forrester Consulting.

## Application Delivery Infrastructure Addresses Emerging CIO Requirements

Implementing a flexible application delivery infrastructure allows IT organizations to transform their goal from maintaining technology to providing on-demand application value (see Figure 3). For a CIO, it means IT must cost effectively:

- **Tackle business-level issues and improve processes.** Application delivery exposes application flows in an easily adjustable manner. As a result, CIOs spend less time and energy on low-level architecture and more time on handling emerging business requirements. Moreover, application delivery creates a twofold platform to provide 1) a policy “dashboard” to easily define and input business requirements, and 2) an abstracted management interface to easily put these new processes into effect.
- **Build agile, reusable infrastructure.** Services-oriented architectures (SOA) are the nirvana for agile and flexible IT shops. But implementing SOA is a disruptive and timely transition. Application delivery effectively decouples infrastructure from today’s applications and provides the perfect onramp for SOA tomorrow. Application delivery infrastructure improves Web services, Web 2.0, and other emerging IT architectures.
- **Improve IT from an end-user perspective.** IT typically runs heads down. Most CIOs struggle to connect the dots between technology components and the actual end users that consume IT services. By focusing on end-to-end application delivery, CIOs can manage users’ needs without calculating every application scenario in advance. This simplifies the process of improving experience and productivity — regardless of a user being a customer, employee, partner, supplier, or contractor — by removing all the “moving parts” in between.
- **Relieving the pressure of project management and reducing costs.** In an ideal world, CIOs assign the lowest-cost, most effective labor to handle IT tasks. But legacy infrastructure and complex processes often mean CIOs are overly involved in application and infrastructure rollouts. If a legacy system fails, then downtime costs the business millions of dollars. However, application delivery provides an operationally efficient platform that allows architects and operations managers to migrate to new applications and address application security, performance, and cost issues — all tasks that were top-of-mind for CIOs just two years ago.

Figure 3: Application Delivery Addresses Emerging CIO Requirements

| Emerging requirement   | How application delivery helps  |
|--|---|
| IT needs to be more relevant to business execs                             | Exposes policies to deliver applications that streamline business processes               |
| IT must become more agile to keep up with business change                  | Simplifies application infrastructure so that it more easily adapts                       |
| Customers and employee satisfaction are becoming increasingly top-of-mind  | Connects the dots between users and the applications they need                            |
| Legacy applications must be upgraded or transitioned to new architectures  | Allows current applications to perform better and streamlines migrating legacy to the Web |
| IT costs must be contained but are escalating while budget is flat or down | Frees up time spent on routine operations and shifts time to strategic applications       |

Source: A study commissioned by Citrix Systems and conducted by Forrester Consulting.

## The Dos And Don'ts Of Application Delivery

It's important to make sure you have a consistent architectural approach so you can ensure business relevancy, agility, and focus. Forrester recommends that CIOs:

- Do free up cycles to focus on business requirements, not technology requirements.** Only 18% of CIOs strongly agreed that it's difficult to find IT leaders who think like business people. Yet twice as many strongly agreed it can be a struggle to translate the value of IT to the business. Why? Because most CIOs are still too busy trying to keep up with an increasing volume of architectural and application rollout decisions on a project-by-project deployment basis. While this may have worked in the past, it is a losing battle today; there are too many moving parts. Instead, charge the appropriate teams within IT to prioritize application delivery issues like performance, security, and cost: Web applications to network architects; Windows applications to IT infrastructure operations; and desktop productivity applications to desktop operations. This allows you to leverage this more agile application delivery platform to improve business processes and keep pace with whatever the business throws your way.
- Do transition legacy applications to newer delivery architectures . . .** Most companies have already started down the application delivery path. Why? According to the CIOs we surveyed, approximately a third of applications today are Web-based, growing to nearly half of the IT portfolio over the next five years. In most cases, this shift will require a flexible delivery infrastructure that accommodates the transition of legacy applications and processes to the Web. In other cases, it may involve supplementary infrastructure for legacy apps that are still mission-critical, but which don't justify investing in the move to a more modern app architecture. In either case, application delivery ensures the necessary

security and performance to provide a consistent — if not improved — experience for IT managers and end users alike.

- . . . **But don't just default to your standard vendors.** Most CIOs were on the fence when asked if they already have an application delivery vendor; 48% said yes, 52% said no. But application delivery is a shift in mindset. It's not about deploying applications in the previous manner where pieces are bolted on in a Frankenstein manner. Instead, it's part application, part middleware, and part networking. It requires a vendor that provides a platform proficient in all three categories but not tightly coupled to any of the underlying infrastructure.

## Conclusion

Today's CIOs are under tremendous pressure. They must focus not only on growing IT but increasingly on directly growing the business. Information technology is becoming business technology. CIOs are expected to take a seat with the rest of the executive suite to improve overall revenue, profitability, competitiveness — and still reduce operating expenses. Application delivery infrastructure provides the foundation. Its architectural flexibility moves applications — the heart and soul of any IT organization — from a static deployment model to on-demand delivery. Application delivery means CIOs have the business relevancy, agility, and focus to move beyond legacy technologies and mindsets to bridge the gap between any user and any application.

## Appendix

### Research Methodology

In March 2007, Forrester Consulting conducted a phone survey of 153 IT decision-makers and influencers across North America, Europe, and Asia-Pacific as part of a study commissioned by Citrix Systems. In this survey:

- Fourteen percent of respondents were senior-most decision-makers in the company, 27% were executives in IT, and 59% were manager or directors of IT that report into an executive in IT.
- Twenty-nine percent of respondents had authority over all of IT, 27% had authority over IT infrastructure and server operations, 22% had authority over desktop or client services operations, and 22% had authority over network architecture.
- One hundred and one respondents were from North America (US and Canada), 27 were from Europe (UK, Germany, and France), and 25 were from Asia-Pacific (China).
- Four percent of respondents were from enterprises that had 500 to 999 employees, 58% had 1,000 to 4,999 employees, 19% had 5,000 to 19,999 employees, and 19% had 20,000 employees or more.
- Thirty-six percent of respondents were from companies with revenues less than \$500 million, 11% were from companies with revenues of \$500 million to \$1 billion, 22% were from companies with revenues of \$1 billion to less than \$10 billion, and 11% were from companies with revenues greater than \$10 billion. Twenty percent of respondents did not disclose company revenues.

- Respondents represented a broad range of industries.