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# Application Deployment Or Delivery?

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## Executive Summary

The global enterprise today relies on hundreds of applications to keep its business processes running smoothly and efficiently. Its business ecosystem is becoming increasingly distributed as it expands its boundaries across new and emerging markets around the world. Its employees work from home, remote offices and from coffee shops on sidewalks across a continent.

Designing a comprehensive solution that brings business applications to the information worker in such a workplace context becomes a challenge for the Information Technology (IT) department. The expectation is that the solution should be designed to deliver business critical applications to the end user, in a way that makes best possible use of hardware, software and IT policies.

Adopting an Application Delivery model does present a set of challenges as compared to the option of persisting with the existing application *deployment* model. Application Delivery as a Service (ADaaS) is rapidly being recognized as the solution that helps an Enterprise overcome these challenges of adoption and consequently realize the business benefits that Application Delivery has to offer. ADaaS architects, secures and manages delivery of business critical applications to a local/remote workforce on a multitude of computing devices.

## The case for Application Delivery over Application Deployment

The business enterprise of yesterday relied on a traditional application deployment model to meet the expectations of its user base. Such a model entailed installing, supporting and maintaining the applications on each individual computing device. Enterprise-wide deployment involved a phase-wise rollout at the end of a software design-develop-test-QA cycle. End-user training was planned as a follow-up to deployment. After initial roll-out, there were maintenance and support activities planned to implement update, patch and fix cycles. Since application data resided on end user devices, backup and retrieval processes had to be planned to minimize loss of data due to system failure. However, this model of application deployment has come under severe pressure in the changing world of business today.

### Traditional application deployment is inefficient

The end user has a far greater choice in selecting the vendor, form factor, operating system, hardware configuration and even the browser while deciding the computing device to adopt. Many enterprises today either already have or are contemplating a Bring-Your-Own-Device (BYOD) policy in place. Simultaneously IT teams are shifting towards Software-as-a-Service (SaaS) and Platform-as-a-Service (PaaS) vehicles for delivering technology. The use of physical and virtual environments existing concurrently and further virtual environments which could be private or public clouds or even hybrids adds several layers of complexity to application delivery. All these developments in technology imply that the IT department needs to support a more diverse mix of computing devices and

deployment models today. The labour and resources required for managing the application deployment and user experience for every usage scenario is huge. Quite often, there is duplication of efforts and update processes are prone to conflict in requirements. In the business context today, traditional application deployment models are inefficient.

### The deployment model is costly

An application *deployment* model expects that the platform on every computing device is kept up to date with the latest operating system patch and fix. This directly demands a higher budget allocation for software systems, compute hardware and network elements. But this also means that the IT department is expected to maintain a team with a large and diverse skill set that has to keep itself updated on a variety of technology advances.

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*An Application Delivery model delivers, not deploys, only what is needed for the end user to interact with the application, and only when needed.*

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### Deployment of application means a greater turnaround time

A higher demand for bandwidth, skilled resources, hardware and money always implies a finite delay between user expectation and action. If the end user's expectation cannot be met, there is a direct impact on his performance and business productivity.

### Application deployment is less secure

The modern workforce is highly mobile, works from home or a remote office, and uses a home computer or mobile device. A deployment model implies that the application and data is transferred to reside on all these devices. These devices are often taken along with the resident data outside the security perimeter of the enterprise. When these devices get lost, hacked or stolen, enterprise data and systems get compromised.

**An Application Delivery model delivers, not deploys, only what is needed for the end user to interact with the application, and only when needed.**

## Application Delivery Challenges and ADaaS

There are several challenges that confront the office of the CTO when the enterprise begins to rate its IT service capabilities in terms of the performance of the entire Application Delivery chain seen as a single entity from server to end-user screen.

Very often, different components of the Application Delivery chain are supplied by different technology vendors (server, network, storage, software, desktop, platform and so on). Consequently, the task of monitoring the performance of the application delivered to the end user is split across several silos. It is often observed that even though the performance of individual components of the delivery chain measured within a silo is acceptable, there is still an overall slowing down (“brown-out”) of the application delivered. It then becomes difficult for the IT staff of the CTO to identify that part of the delivery chain that is at fault and **single-point accountability is missed**.

A piece-meal approach to the design of the Application Delivery chain contributes, in part, to the problem of realizing its promised value. Such a design approach also makes it **difficult for Application Delivery to scale up** as the business grows.

Further, the piece-meal design approach also makes it **difficult to measure cost** of Application Delivery as a function of the business growth parameters. In the absence of such figures, **planning the incremental growth of the enterprise often sees an IT and business**

**disconnect**. Provisioning for end user growth becomes inefficient and slow.

There are certain operational activities that are routine for most business enterprises –platform and operating system upgrades, security patch installs, new application version roll-outs can be mentioned as examples. Without the right technology and approach to Application Delivery, these routine tasks of **technology refresh become very complex to**

**implement and take months to complete**. It is also typical to observe errors reported at the end of such an exercise, with **absence of standardization of the IT environment** being identified as the root cause of the situation.

The era of **cloud computing and enterprise mobility** technology poses new challenges to Application Delivery. In the absence of a service provider to oversee the introduction of these technologies, the Application Delivery chain is exposed to **more vulnerability points** and the enterprise faces **greater technology risk**.

*These challenges have created a market need, a need for a managed service gradually becoming known within the industry as Application Delivery as a Service (ADaaS).*

However, as is often the case, the minutiae in the various service components distinguish the various providers of ADaaS.

Ideally, an ADaaS provider brings takes accountability for the entire delivery chain without leaving blind spots in between, whether or not he owns all constituent links in the chain. He is thus able to reduce brownouts, establishing cause and initiating corrective action proactively.

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*Single-point accountability, scalability in step with business growth, support for measuring cost of delivery, absence of standardization of IT and support for planning of incremental growth are some of the challenges of Application Delivery.*

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The ADaaS provider includes unified, end-user experience monitoring as part of its services. His services make the outsourcing of the various components of the Application Delivery chain to multiple vendors, possible while protecting end-user performance. The ability to choose the best options from multiple vendors directly translates to cost savings for the enterprise.

Further, an ADaaS provider can differentiate its services from the others in the market by offering SLAs that are based on how well the service meets business needs, focusing on parameters that directly measure business success. For example, if Payroll happens to be the application the metric included in the SLA would be availability of the desired payroll processing functionality at the promised performance level.

The box alongside lists these and other ways in which an ADaaS provider can help the business overcome the challenges of Application Delivery and realize the potential benefits.

## Business Benefits of ADaaS

The features that characterize Application Delivery as a Service translate into several business benefits for the Enterprise.

### Productivity

Application brownouts and slowness directly impact productivity. Research studies show that in a back office environment almost 30% of revenue generation opportunity is lost due to application brown-outs. ADaaS provides the enterprise with an opportunity to

focus on brownouts as well as other aspects of application performance from an end user perspective. This focus allows the enterprise to directly link business productivity to IT performance.

### Remote Worker Support

ADaaS readily supports a remote access policy and satisfies the telecommuting needs of the enterprise workforce. As applications are centrally managed, troubleshooting end user issues can happen at the datacenter. There is no need to deploy IT support staff to all the distant physical locations.

### Mergers and Acquisitions

ADaaS removes the need to deploy applications on to the end user compute environment. The technology that streams applications to the end user is largely independent of the destination operating environment. Large scale rollout of applications can be planned better with an ADaaS model in place. These factors enable faster and smoother business integration, a key contributing factor towards realizing successful mergers and acquisitions.

### Business Continuity

If there is a planned or unplanned outage, business applications delivered as a service can be accessed from another device, over another network or via an alternate website. Since applications and application data is centrally stored and managed by an ADaaS provider, recovery from backup is quicker and easier and does not involve desktop platform and operating system re-installations from disc images.

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#### Business Perspective

- Improved employee productivity*
- Predictability in IT cost of growth*
- Lower cost of incremental growth*
- De-risked cloud adoption*

#### IT Department Perspective

- Single point accountability*
- Scalable IT*
- Standardization of IT Environment*
- Faster roll-outs*
- Faster provisioning*
- Logical security*

#### End User Perspective

- Improved application availability*
- 'Anytime, anywhere, any device' access*
- Consistent application performance*
- Reduced dependence on IT staff*

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## **Regulatory Compliance**

There is a strong connection between the enhanced internal controls that the various regulatory compliance Acts demand and the information systems that deliver workflows, analytics and dashboards via application and enterprise data warehouses to the end users.

Companies now consider audit and validation of IT systems as one of the several steps to be taken to ensure compliance. ADaaS centralizes data and applications at the data center, where it can be validated and audited, easily and securely. Secondly, change management can be defined and implemented

in a better way in a virtualized Application Delivery scenario.

## **Green Initiatives**

When applications are delivered as a service, the end user computing device can be a thin client, one that consumes a lot less power. With ADaaS in place, power consumption patterns in general shift to the data center where power management becomes more effective. The data center can afford more efficient cooling solutions as compared to the end-user desktop. Thus not only are costs kept lower, but the carbon footprint of the solution is also kept low.

## Conclusion

Application delivery scores over application deployment in many ways - it is more efficient, less costly, faster and more secure. It provides a link to productivity and hence business outcomes can be directly measured.

An ADaaS provider offers Application Delivery as a managed service that combines designing and sizing of Application Delivery architecture, systems integration, and monitoring and management. The ADaaS provider manages the entire Application Delivery chain from server to screen and makes possible a predictable, deterministic way of delivering applications and maximizing end user performance.

## Anunta Worldwide

### Corporate Headquarters

Anunta  
4th Floor, Paradigm,  
B Wing, Mindspace,  
New Link Road,  
Near Toyota Showroom,  
Malad (West),  
Mumbai 400064  
INDIA  
Tel: +91 (22) 6703578

*Find out how Anunta can bring the benefits of “Application Delivery as a Service” to your enterprise. Visit [www.anuntatech.com](http://www.anuntatech.com).*

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### About Anunta

Anunta is a cloud generation IT services company that has developed a unique “Application Delivery as a Service” (ADaaS) offering on its own proprietary platform. Anunta designs cloud-based application delivery architectures, provides on-going management and delivers services on a pay per user billing model with guarantees on end-user experience. Anunta’s solution has proven business benefits like improving employee productivity, lowering cost of application delivery and, simplifying IT management to make it more agile and scalable. See [www.anuntatech.com](http://www.anuntatech.com) or follow Anunta on Twitter: @anuntatech

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