



FROM BUILD TO CONSUME:
**WHY AEC COMPANIES ARE
ADOPTING AS-A-SERVICE MODELS
FOR THEIR IT INFRASTRUCTURES**



Creative ITC



FOREWORD

Mastering disruptive technologies has become a dominant force for business success. Nowhere is this more apparent than in Architecture, Engineering and Construction (AEC) where trends like generative design, building information modelling, drones, laser scanning surveys and augmented and virtual reality offer fresh competitive edge.

To make the most of these opportunities, AEC companies are increasingly turning to infrastructure-as-a-service (IaaS). Not least because it allows them to super-quickly transform networks, storage and compute. Acquiring the digital foundation they need for an affordable monthly price – escaping large upfront investment and recruitment of costly IT specialists – so the business can drive for growth, lower overheads and better margins.

This paper looks at the impact of IaaS right across the AEC sector, including best practices and use cases.

A handwritten signature in purple ink, appearing to read 'Rob Smith'.

Rob Smith, CTO, Creative ITC



IAAS DRIVERS

The big takeaway from the McKinsey ITaaS Cloud Survey of 800 CIOs and IT executives was a strong shift from build to consume, as enterprises look to reduce the number of IT workloads housed in on-premise traditional and virtualized environments. A view shared by Gartner who predict IaaS will be the fastest growing market with a 27.6% surge.

So, who's driving this trend and why? Mostly it originates from IT people. They're expected to keep the business ahead of the curve. Yet, the luxury of employing large, multi-skilled teams has long gone. Usually the only option is to bring in highly-paid specialists to fix issues involving specific technologies, or IT generalists to cover ever-widening daily operations.

The problem is keeping hold of them. Those not tempted by better offers usually get itchy feet due to lack of variety. And then you're back where you started. In a recent PwC survey of IT professionals, 48% of responders said they were actively looking for new jobs, with only 10% planning to stick around for the long term.

IaaS – whether deployed as a fully managed or blended IT support model – takes this problem away and offers several extra advantages. Nearly half of participants surveyed by McKinsey plan to use tier-two and tier-three IaaS providers for at least one off-premise workload. The following section examines these advantages in more detail.

AEC BUSINESS CASES

Frequent business justifications for AEC companies moving to IaaS include:



STAYING SECURE AND COMPLIANT

Increasing protection against cybercrime and data loss, while removing audit stress and hassle



GREATER SPEED TO MARKET

Allowing resources to be focused on DevOps and value-creating tasks, rather than managing infrastructure



TIME AND MONEY SAVINGS

Switching from CapEx to OpEx IT models and eliminating the expense of owning, maintaining and refreshing IT assets



INCREASING CLIENT SATISFACTION

More tightly aligning IT delivery across all service touchpoints for superior client experience



EMPOWERING THE WORKFORCE

Raising productivity by ensuring staff can always access data, applications and resources











DRIVING GROWTH

Accelerating expansion plans and M&A projects using a more agile IT model

BEST PRACTICE CHECKLIST

So, what should you look for when choosing an IaaS provider? Here are some all-important questions to ask:

-  **SERVICE LEVELS**
Do they offer 24x7x365 cover and the required SLA performance for uptime and fault response, for example?
-  **SERVICE AND SUPPORT**
Will you have direct access to the technical support team? What channels do they offer? Will you get a dedicated account manager?
-  **CONTRACTING**
How easy are they to work with? Do they offer clear, single billing, or will you be buried under even more paperwork? How simple is it to make moves, adds and changes? How much of the admin task is automated?
-  **SERVICE MANAGEMENT**
How will they ensure you retain overall visibility and control of your IT services? Do they provide a portal? What features and rights does it offer? Does the helpdesk and ticketing process meet your requirements (and those of your end users)?

-  **CERTIFICATIONS**
How qualified are the engineers you're trusting with your most prized assets? What specific certifications do they hold?
-  **TECHNOLOGY**
Are critical services built on dedicated technology? Does the provider offer all the value added services you need (see the Getting Started section)? Do they have strong relationships with the leading technology vendors?
-  **REACH**
Can they provide engineering presence and the right level of coverage you need?
-  **DATA CENTRE**
Does the provider's cloud platform fulfil all required certifications? Are their data centres highly reliable and available?



GETTING STARTED

The first step is to identify the prime activities for moving to a managed service, typically as part of a phased migration or discrete work packages. Within the AEC industry the scope of IaaS deployments covers the complete IT stack and multiple business case focus areas, as illustrated in the table below. They all share one big plus point that can be easily overlooked – releasing internal resources to focus on transformational work instead of mundane IT tasks.



DESCRIPTION	MAIN BUSINESS CASE BENEFIT
<p>BACKUP-AS-A-SERVICE</p> <p>Managed onsite, remotely or as a mix of both. Covers customer, product, financial and employee information on physical servers, VMs, containers, desktops, laptops, smartphones, tablets, SaaS-based applications or cloud-based platforms</p>	<ul style="list-style-type: none">• Faster speed of recovery• Eliminating tape-based storage• Cheaper access to the latest backup technologies• Savings on equipment, people and offsite data warehousing• Rapid scaling, instead of ordering and waiting for new hardware to arrive
<p>NETWORK-AS-A-SERVICE</p> <p>Custom-built packages for telephony, switches, routers, load balancers, and so on, backed by around-the-clock monitoring and remote and/or onsite support. Engineers can be hired for hourly rates, avoiding the time and expense of recruiting full-time qualified resources for niche roles.</p>	<ul style="list-style-type: none">• Improved management with faster issues resolution• Save time and hassle opening and tracking cases• Faster provisioning with ability to rapidly scale up and down• Upskilling internal teams with cost-effective, on-the-job training• Access to the latest technologies, spreading the cost as monthly OpEx• Better IT planning with results geared around SLAs and business outcomes
<p>STORAGE-AS-A-SERVICE</p> <p>Managed storage for specific workloads on any type of media – flash, hard disk, SSD, object storage, tape or cloud.</p>	<ul style="list-style-type: none">• Simpler budgeting with predictable monthly costs, charged per TB or GB• Shorter project lead times with ability to quickly spin-up services• Savings from not having to oversize storage domains and carry spare capacity• No more worrying about products reaching end-of-life or end-of-support• Additional time and money savings, for example on patch management• Greater uptime with clear SLAs
<p>MONITORING-AS-A-SERVICE</p> <p>Onsite monitoring systems, licenced and consumed on demand, or fully managed monitoring services with engineers remotely accessing on-premise monitoring equipment.</p>	<ul style="list-style-type: none">• Less chance of downtime due to 7/24 proactive intervention• Reduction in false positive alerts, one of the biggest time-wasters for IT Ops staff• Savings on staff productivity and support costs• Better IT visibility and insight into risks, such as equipment at end of life or outside warranty and support• More accurate asset registers• Better capacity forecasting and prioritisation of IT investments





DESCRIPTION

MAIN BUSINESS CASE BENEFIT

DISASTER RECOVER-AS-A-SERVICE

Ensures full recovery of data backups, getting the business up-and-running within the shortest possible window. DR-as-a-Service can leverage VDI solutions, rather than sinking money into DR infrastructure that may never be used.

- Less business disruption with users quickly back online
- Better experience and productivity for remote workers
- Cost avoidance and lower TCO
- Greater agility with staff relocated to temporary workspaces and/or equipped with VDI thin clients



DESKTOP-AS-A-SERVICE

Managed VDI service with support for design, hosting and managing of virtual desktops.

- People work more efficiently and interact more effectively
- Data stored in one location, saving time on version control and rework
- Shorter project lead times
- Software updates completed faster in a controlled fashion
- IT teams spend less time dealing with desktop-related issues
- Reduced risk of data loss
- Savings from not having to frequently upgrade expensive PCs and laptops



SECURITY-AS-A-SERVICE

Security assessments, endpoint and device management, helpdesk and monitoring support, reporting and analysis, and vulnerability and patch management.

- Enhanced IT security
- Reduced business risk
- Increased compliance
- Additional time to innovate
- Reduced staff costs

IAAS IN PRACTICE

There's strong evidence to show that IaaS is being widely deployed throughout the AEC sector to good effect. Here are a couple of examples.

GLOBAL CONSTRUCTION GROUP

The company, one of the world's largest construction groups, had multiple lines of business with different systems churning out streams of incompatible data. Independent, bespoke-built solutions that were only suitable for a specific purpose. The prospect of building more dashboards and costly integrations was hardly attractive. So, the CIO used IaaS as a strategy to standardise IT practice and procurement, with the end goal of replacing disparate finance and project management tools with single ERP and CRM systems.

Retaining balance was key. The IaaS contract enables certain things to be run globally or left in-country where it makes sense. For example, to comply with local legislation or encourage entrepreneurship and innovation. The company is currently producing an IT services catalogue and is about to build a store for around 6,000 applications.

SHEPPARD ROBSON

In addition to supporting rapid growth, Sheppard Robson wanted to reduce the risk of network downtime and data loss. Moving to a managed service would also release the IT team to focus on higher value work. Using automated software tools to collect network data, the IaaS provider uncovered known vulnerabilities and products at or approaching end-of-life. The audit fully documented IT infrastructure, providing recommendations to help the company correctly plan so it only spent money where it was really needed.

Now, staff at five UK offices benefit from superfast network connections powered by the latest switching technology. Twin, on-premise FlexPod systems have improved application performance and disaster recovery. Data is replicated between sites and bandwidth is no longer a constraint.

DALLEMC
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GOLD



HOW CREATIVE CAN HELP

To learn more about how IaaS is helping AEC companies to successfully transform, go to creative-itc.com or contact enquiries@creative-itc.com