
Content and application providers are major investors in the networks that make up the Internet

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The Internet is often abstracted as a ‘cloud’, but in practice it relies heavily on bricks, mortar, cables and computer boxes – the intangibility and ubiquity of the cloud is built on real, physical infrastructure. Many different market participants invest in the networks, facilities and equipment that make up the Internet: Internet backbone providers; Internet access providers; content and application providers; and a range of specialised service providers. This article examines the investments of content and application providers.

Our study found that content and application providers are major investors in the networks that make up the Internet

In a recent study, we focused on the investment that content and application providers make in Internet infrastructure.¹ These investors include ‘pure’ online companies such as Facebook, Google and Spotify, but also the online businesses of multi-platform players such as the BBC or The New York Times. We found that these players are major investors in Internet infrastructure, from data centres to submarine cables and the multitude of servers that store, process and serve content to end users.

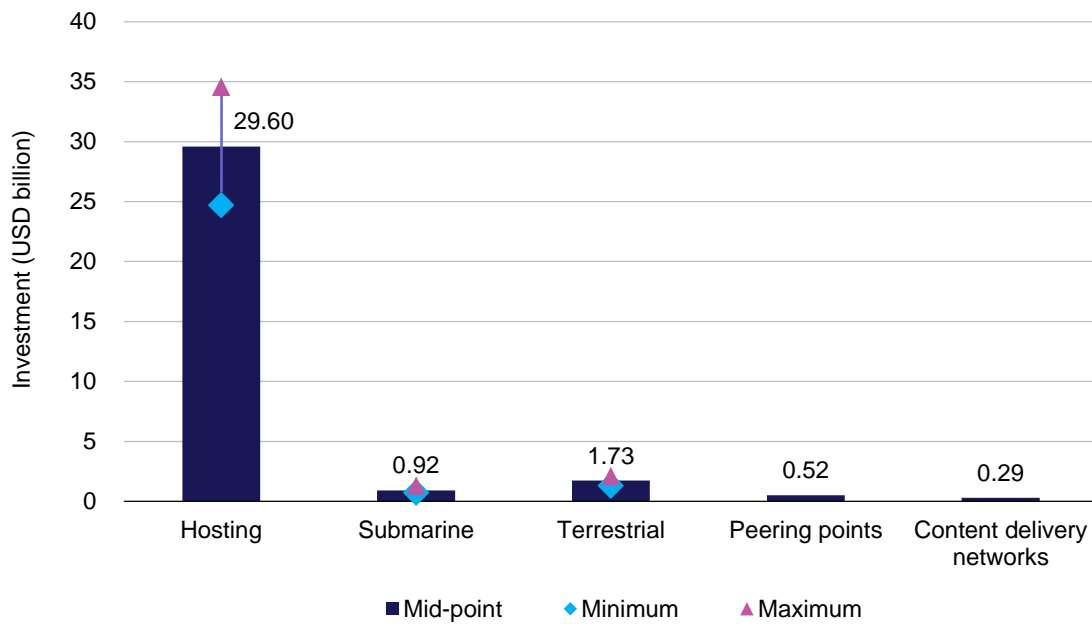
This investment relates to three major activities.

- **Hosting** of content and data – this includes the storage devices and servers that reside in large data centres located around the world.
- **Transport** includes the high-capacity fibre-optic cables (terrestrial or submarine) that are used to carry content from the hosting location to the edge of the Internet access provider’s network.
- **Delivery** includes the equipment necessary to hand over the content to the Internet access provider, which then delivers it across the ‘middle and last mile’ to the end user. This includes in particular equipment used in Internet exchanges, private peering points, and content delivery networks (CDNs).

Based on this categorisation, we found that the investment attributable to content and application providers was approximately USD33 billion per year during 2011–2013 (this includes direct investment as well as investment from third parties such as backbone providers or data centre operators that support and are sold to content and application providers). Investment is growing rapidly as demand for content and applications delivered over the Internet increases – this investment grew by 13% per year between 2011 and 2013. Figure 1 summarises these investments.

¹ For more information, see Analysys Mason’s [Investment in networks, facilities and equipment by content and application providers](#).

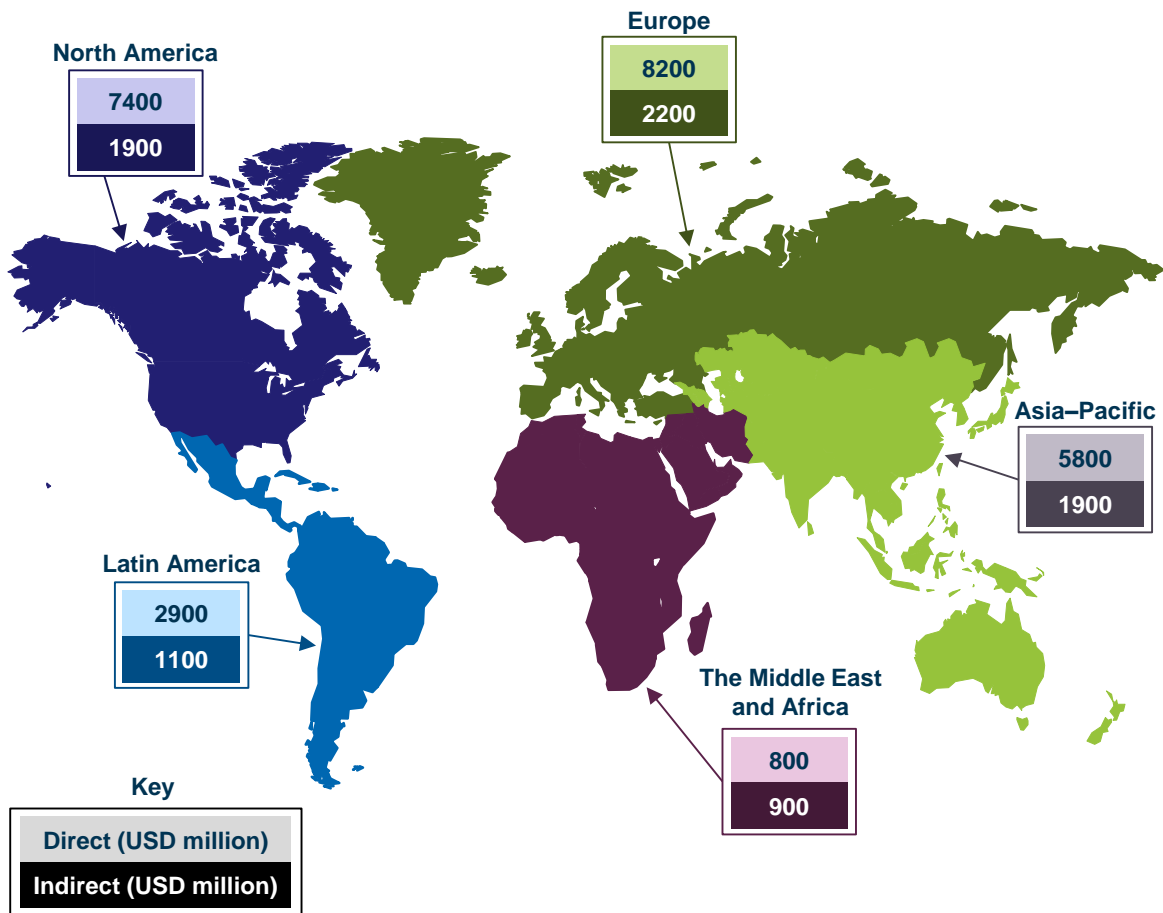
Figure 1: Approximate annual investments by content and application providers, 2011–2013 [Source: Analysys Mason, DatacenterDynamics, TeleGeography, Informa, company data, news reports, PeeringDB, comScore, Sandvine, 2014]



This level of investment is significant, particularly because it is additional to the investment that content and application providers make in their core businesses, which may be software, digital content or ecommerce.

We also found that Europe appears to be the largest destination for this investment. This region is a hub for Internet traffic, where many international cables meet, it hosts the world's largest IXPs, and has a large population of Internet users. This is attracting investment by US companies, particularly in data centre facilities, as well as investment by local content and application providers such as the BBC and Spotify. Figure 2 shows the geographical breakdown of this investment.

Figure 2: Regional split of annual direct and indirect investment by content and application providers, 2011–2013
 [Source: Analysys Mason, DatacenterDynamics, TeleGeography, Informa, company data, news reports, PeeringDB, comScore, Sandvine, 2014]¹



¹ Regional investment data is scarcer than global numbers; as such, this regional split is indicative, although the regional breakdowns are more reliable for larger investments (data centres, transport) than for smaller investments (IXPs, CDNs).

The Internet relies on ever more complex infrastructure, which encompasses data centres, transmission networks, connectivity as well as access. The source of investment in this infrastructure is evolving, and content and applications Providers are responsible – directly or indirectly – for a material and constantly increasing amount.

Analysys Mason works across the telecoms, media and Internet value chains to deliver research, analysis and strategic recommendations to some of the largest companies in the world, policy makers, governments and investors. Please contact David Abecassis (david.abecassis@analysismason.com) or Andrew Kloeden (andrew.kloeden@analysismason.com) with any questions.