

# The growth sector most property investors overlook



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With direct property valuations peaking, investors are searching for new ways to invest for growth. The continued adoption of the internet has been very strong globally, with a current estimated 3.4 billion internet users and over 2 billion smart phone accounts. Our Head of Global Property Securities, Stephen Hayes, gives three reasons to consider investing in data centres, specialist buildings which house the infrastructure required to power modern internet usage.

**“I think there is a world market for about five computers”  
– Thomas Watson Sr, IBM Chairman, 1943**

## 1. Cloud computing is an established trend powered by data centres

Where does your data really reside? The growth of cloud computing is creating a huge opportunity for data centre landlords. Cloud computing simply means storing and accessing data and programmes over the internet instead of a local server or a computer hard drive.

The practical uses of cloud computing are driving large efficiencies for businesses and their customers, from Software-as-a-Service (SaaS), such as Salesforce.com, to in-house developed web based applications known as Platform-as-a-Service (PaaS), to Infrastructure-as-a-Service (IaaS) where the networking and data storage can be rented out. The large players in IaaS are Amazon Web Services, Microsoft Azure, Google Cloud Platform and Oracle Cloud. Corporates directly linked to these ecosystems can also create direct interconnections (cross connects) to clients, customers, business partners and other industry participants through private and hybrid clouds forming unique ecosystems. An example would be a healthcare vertical made up of hospitals, government agencies, pharmaceuticals and medical device technology companies. They could be directly interconnected creating efficiencies through direct access to patient health care records, health care professionals' remote interaction, digital imaging, streamlining direct and government subsidised payment systems, compliance and regulatory monitoring, ordering and management of inventories.

In 2016, cloud computing revenues grew 25% year over year (yoy) to US\$148 billion. This outstripped all previous growth estimates. Cloud computing is expected to continue to grow strongly owing to the many efficiencies it creates and its cost competitiveness compared to leasing or payment for physical facilities. With the strong corporate adoption of cloud computing, some forecasters expect that on-site data storage for corporates will soon be a thing of the past.

## 2. Reliable data centres are expensive to build

The largest data centres use 100 megawatts of power which is equivalent to the amount of power used by 100,000 households. Data centres are very expensive to build due to the cost of the highly specified plant and equipment required. A turn-key data centre in the US can cost as much as US\$1,000 per square foot to build. This is approximately double the cost of building an office skyscraper. Data centres contain state of the art floor vented cooling systems. These are built with redundant cooling towers and in some cases permanently chilled water storage.

A data centre is typically cooled to 22 degrees Celsius (74 degrees Fahrenheit). A failure in the cooling system will see the interior of the building heat up approximately 1 degree per minute. At 50 degrees Celsius, data integrity is compromised, highlighting the importance of having system redundancy. Ideally, data centres should be connected to two power grids. In the event of a power system failure, a battery storage system and/or a fly wheel system that rotates a cylindrical mass in a vacuum at very high speeds storing kinetic energy will be used during the time it takes for the backup generators to start up. Usually data centres will store 100,000 litres of diesel fuel on site which can run the backup generators for up to 48 hours. Data centres come in a range of specifications or ratings. A Tier 1 data centre, the lowest rating, typically has no redundant capacity components, while a Tier 4 data centre, typically has two power sources and fully redundant systems. The highest rating guarantees “five nines”, that is, 99.999% reliability. To put this in perspective, that is no more than 5 minutes total downtime in a year. This compares to 99% reliability which is equivalent to 3.5 days downtime a year.

## 3. Data centres have a wide range of business models appealing to a wide range of customers

Customers vary from governments to telecommunication companies to very large corporates like Facebook, Google, Dell, Amazon and Microsoft. These customers may also develop and own data centres for their private use. Wholesale data centres are typically leased to large corporates on long triple net leases of 15 years or more. Co-location data centres are managed by data centre specialists who lease out pods or server racks to a variety of corporates. While leasing can be calculated on a per square foot basis, it is typically determined by the contracted power usage purchased. A tenant will usually purchase more power than they require to allow for peak period usage and growth.

The large, publicly traded data centre landlords are focusing on the “carrier neutral data centre” concept. This involves having multiple telecommunication companies and internet providers in the one facility, which are then combined with the major cloud service providers. This combination creates very valuable “ecosystems” for corporates as it enables them to link directly to the cloud service providers over a single physical port. This greatly increases efficiencies through faster data download speeds and reduced internet latency. The end result is a series of very network dense data centres. These network dense data centres can then be linked to other network dense data centres, in some instances all around the world. This infrastructure setup means corporates' data need not sit in one location but instead, can sit in the most efficient location; for instance closer to their sales force, or closer to their customers. This also allows the computation of data to occur closer to the user and the data. Duplicating and splitting data across multiple locations also greatly reduces the risk of loss of data or server downtime, which may disrupt corporates' daily operations.

### Some ways to invest in data centres

From a real estate perspective the development of wholesale data centres can be lucrative. However, long term ownership of an asset is less appealing. This is because a long term triple net lease to a single tenant, with the expertise and capital to build their own data centres, such as Google or Facebook has all the pricing power at the end of the lease. Co-location data centres which are made up of multiple tenants are somewhat more attractive for long term ownership. However, barriers to entry are lower now than they were a decade ago due to the availability of bank financing and improved modular design building techniques. A Dallas based data centre landlord recently developed a 30mw (22.5mw leasable to N2 99.999% reliability standard) data centre in Northern Virginia for \$145 million. This equates to a low cost of \$6.4 million per leasable MW, with the bolt-on design of power rooms and off-site component prefabrication and testing.

Network dense data centres are very valuable assets ideal for long term ownership. They are very difficult to replicate, creating high barriers to entry. The direct linking of a portfolio of network dense data centres becomes a compelling investment proposition. Network dense data centres appeal to telecommunication companies, cloud service providers and corporates, thus greatly increasing the asset's

rental appeal. Network dense data centres are usually expanded in stages. The return on development of the expanded stages is very high, typically 15% -20% cash flow returns on employed capital. Also, on top of simply charging for tenant contracted power usage, network dense data centres can also generate revenues from other services such as interconnections.

With the industry thematic of a high rate of adoption of the internet globally and the large growth in cloud computing, network dense data centres are very well placed to generate very high cash flow returns well into the future. Data centre landlords are contributing to the infrastructure needed for further systematic industry growth – and a great way for investors to access this growth segment is through listed property.

**Stephen Hayes oversees the Colonial First State Wholesale Global Property Securities strategy, which held a 12.8% exposure to data centres in the major US MSAs, as well as in London, Paris, Amsterdam and Frankfurt as at March 2017. The strategy's focus is on urban real estate located in the world's most economically vibrant cities. They invest in listed assets that trade at a discount to direct property valuations.**



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