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Data centres huge energy guzzlers

Industry urged to invest in new cooling technology to reduce carbon footprint

THE AIMS Group (AIMS), South-East Asia's leading carrier-neutral data services provider, said according to experts, data centres would consume three times as much energy over the next decade. It said this rate of increase was a worrying trend for the local data centre industry.

In 2015, worldwide data centres consumed more than 416 Terawatt-hours of electricity – significantly more than the entire power electricity consumption of the UK at 300 Terawatt-hours.

Despite the advancements in server storage capacity and data centre cooling technologies, energy consumption by data centres accounts for about 2% of total greenhouse gas emissions; or roughly the same carbon footprint as the airline industry.

AIMS chief operating officer Mohammad Azman Abdul Rahman said many were still unaware that power-hungry applications were the main culprit behind this voracious consumption.

"Every Facebook 'like', Instagram post, or Pokemon Go session you play, or any Internet activity for that matter, actually requires a huge amount of data that needs to be stored somewhere.

"Today, statistics show that global data centres consume 3% of the global electricity supply. And with the Internet of things (IoT) set to bring in even more Internet-driven applications and innovations, energy consumption will increase exponentially in the very near future," Azman said.

"What people don't realise is that, as much as 50% of a data centre's operating costs are contributed by power consumption to support both the IT and the cooling power requirements. Over the past three years,

Azman says application developers need to prioritise creating apps that are not power guzzlers.

AIMS has seen a more than 20% increase in power consumption at our data centres alone," he said, adding that the local industry was in a conundrum on how to resolve this power consumption crisis.

As of June 2016, there were 2.2 million apps available for Android download while the Apple Store came a close second with two million applications. Apple also recently announced that a total of 130 billion applications had been downloaded from Apple Stores globally between July 2008 and June 2016.

"More data means more business for data centres. In fact, the hugely successful application industry is the No 1 driver for data centre businesses to thrive and continue to be in demand," said Azman

However, the massive explosion of applications has also been one of the driving contributors to the energy consumption of data centres and on personal devices.

The recent Pokemon Go worldwide frenzy saw more than 100 million downloads of the application within a month of its launch. In that time, users have experienced crashes and mobile battery drains and many players have resorted to carrying extra power banks on their "hunts".

"While everyone knows these applications drain mobile battery power, how many people realise that these applications are also energy-guzzlers for data centres?

"Application developers are constantly looking at ways to develop apps that are fast and interactive. But what we don't see is an emphasis on developing applications that consume less power. Application developers need to prioritise creating apps that are not power guzzlers.

"This is a serious point if the industry wants to continue to enjoy the advancement of technology and Internet innovations in the future without further damaging the sustainability of the environment," Azman said.

While the Malaysian data centre industry has been urging Tenaga Nasional Berhad (TNB) to re-tariff the electricity classification for data centres, Azman said much could be done by the industry and its eco-system.

"The hardware sector has seen massive innovation to address growing data and energy consumptions in the data centre industry. Equipment that is eight to 15 years old is inefficient. But local players may not have the money to reinvest – this is something that all data centre players need to prioritise," Azman said.

"In the next two years, AIMS will continue investing to make our data centres more energy-efficient through new cooling technology and power distribution systems," he added.

Renewable energy and cooling measures are another key area that needs to be looked into, he stressed.

"Today's servers can run at much higher temperatures than the perceived average industry standards. Servers used to be kept at temperatures of 22°C so it does not break down due to overheating. Now, server technology advanced and we can easily run server rooms at temperatures between 27°C and 32°C.

"The temperature on a cool night in Malaysia is actually enough to keep today's servers cool, but the market is not yet ready to accept free air-cooling instead of power-hungry mechanical cooling. That's where the industry needs to take a proactive measures to re-educate clients.

"While Malaysian Digital Economy Corporation (MDEC) has been at the forefront of conducting studies on this, it is the data centre players that are key to push for market acceptance.

"AIMS is working closely with MDEC in re-educating clients. Unless we start making changes across the ecosystem, the data centre industry is going to be one of the key contributors to global warming," he warned.