Covid-19 and Data Centres
Sector position statement

Introduction

As infection rates of Covid-19 increase, the virus has obvious implications for business continuity across the entire economy and data centres[i] are no exception. The sector has a number of characteristics that should aid resilience such as high security with all movements to, from, and within facilities tracked; highly automated operations; a very strong focus on business continuity and risk management and low levels of human traffic.

This note explains why data centres matter and looks at the precautions operators are taking to ensure that sites continue to provide uninterrupted service to their customers. It also outlines the key challenges we are facing that we cannot tackle alone.

Why data centres matter

Data centres receive, process, manage, store and transmit digital data and are part of our core digital infrastructure[ii]. Every time we read a post on Facebook, order our shopping from Sainsbury's, get directions for a journey, download a film, send an email or check the weather forecast, a data centre is involved. In fact, a single transaction usually depends on many data centres interacting – not just one. Behind that, of course, it is data centres that enable supermarkets to resupply, retailers and banks to process financial payments, delivery companies to manage logistics and government to deliver services. Data centres are the physical manifestation of our digital economy: we cannot lead connected lives without data centres.

The spread of Covid-19 means that the demand for digital communications, and therefore for the data centre services that underpin them, is rising sharply: Europe's largest internet exchanges have seen record traffic this week[iii] as more and more people move to remote working, teleconferencing (and possibly for those with time on their hands, some extra Netflix streaming). As schools close, many pupils are already switching to remote learning through Google Classroom and similar tools. And as social distancing bites, online shopping for food and other commodities is rocketing, with many supermarket delivery services at capacity. For people self-isolating, especially those living alone, tools like Skype and WhatsApp help keep them connected to friends and family. Internet communications, underpinned by data centres, also enable government to share the latest information and advice to individuals, especially those in isolation.

What are operators doing to ensure business continuity?

Although data centres are highly automated, they still need maintenance, management, security and servicing to ensure that the computer servers they house continue to work reliably. So what are operators doing to ensure that Covid-19 does not compromise their ability to operate?   Quite a lot, it appears.

At sector level, techUK has been running weekly calls to share best practice and identify challenges. Operators have been comparing notes on how they are identifying and managing these Covid-19 risks and on the precautions they are putting in place. Competitors are working together to share information on procedures to limit infection, on quarantine, on decontamination routines, on HR and supply chain issues, on security of utility supplies and other operational matters. These calls will continue until they are no longer needed.

At operator level, the key priority is to balance staff safety with availability. So the emphasis is currently on limiting routes for infection whilst ensuring that facilities remain adequately staffed. Precautions reflect location and distribution of sites, the footfall to those sites, and individual site characteristics. All operators have implemented new guidelines and upgraded security controls. Intra company communications have been stepped up with the usual reporting lines shortened or removed. Operators are working closely with suppliers and with customers to ensure that SLAs (service level agreements) continue to be met, to ensure that critical spares can be obtained and to explore potential scenarios.

At operational level, data centres, especially those with multiple sites, were quick to implement precautions like shift segregation with no movement of personnel between shifts and no-contact handovers. Similarly staff movement between sites has been restricted for some time, and within sites workloads are no longer shared between staff where possible. There has been a widespread ban on industry gatherings for operational staff and both foreign and domestic travel constraints have been in place for all staff for some time. Non-operational staff are largely working from home and the supply chain is under intense scrutiny. It goes without saying that standard measures like increased levels and frequency of cleaning, use of viricidal wipes, sanitisation measures, changes to sign-in procedures and reduced person to person contact have all been applied across the board.

Looking further ahead, operators are already planning post-contamination cleaning procedures, irrespective of whether these will be needed. These accommodate current PHE guidance for non-clinical settings. Tracking will help to focus cleaning activity. Specialist services are being identified and provision for deep cleaning appropriate to data centre environments is being planned.

Challenges facing the sector
We mentioned above that the key challenge for operators is to minimise routes for infection whilst keeping enough staff on site to manage facilities safely. However, operators are considering external challenges beyond their sphere of influence that they cannot address by themselves.

The first of these is access: ensuring that operational and key support staff will be able to get to site, especially in the event of a lockdown scenario. Although data centres underpin almost all our economic activity in one way or another, very few facilities are formally designated as CNI (Critical National Infrastructure). Operators urgently need an undertaking from Government that data centre staff will be recognised as key workers and allowed access to their facilities - and prioritised for child care if needed. The sector is on hand to work with officials and policy makers to implement this in practice.

The second is energy: The reliability of utility supply is not an immediate concern for operators: all have emergency standby capacity and are equipped for outages. However, very long-term outages could put pressure on the gasoil distribution network and this second-tier risk is being addressed by operators, although likelihood of such a scenario is considered to be low.

The third is supply chain: Operators are already ensuring that equipment coming from high risk areas is uncontaminated and are sourcing commissioning and installation staff from elsewhere. However, the complexity of the data centre supply chain means that even equipment sourced from low risk areas contains components from high risk areas. Besides these short-term concerns there is the potential problem of longer-term shortages due to a slowdown or cessation of manufacturing output.

Contacts

Emma Fryer
Associate Director, techUK
Tel: 01609 772 137
Mob: 07595 410 653
emma.fryer@techuk.org

Lucas Banach
Programme Assistant
Tel: 020 7331 2006
Lucas.banach@techuk.org

About techUK: techUK is the UK's leading technology membership organisation, with more than 850 members spread across the UK. We are a network that enables our members to learn from each other and grow in a way which contributes to the country both socially and economically. www.techuk.org

Further information

Operator statements
Digital Realty: https://www.digitalrealty.com/coronavirus-statement
Equinix: https://www.equinix.com/lp/equinix-coronavirus-statement-to-customers-and-partners/
4D Data Centres: https://www.4d-dc.com/insight/4d-data-centres-covid-19-latest-response-plan-statement

Useful URLs
WHO Guidelines: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public
Latest Advice: https://www.gov.uk/guidance/coronavirus-covid-19-information-for-the-public
PHE: Decontaminating non healthcare environments: https://www.gov.uk/government/publications/covid-19-decontamination-in-non-healthcare-settings/covid-19-decontamination-in-non-healthcare-settings

For further information on techUK's data centres programme see our programme overview:
https://www.techuk.org/insights/news/item/272-data-centre-programme-overview

Or visit our website https://www.techuk.org/focus/programmes/data-centres

---

[i] **What is a data centre?**
A data centre is a building (or self-contained unit) used to house computing equipment such as servers along with associated components such as telecommunications, network and storage systems. A data centre is equipped with a guaranteed power supply and high bandwidth connectivity. Resilience is critical so redundancy (duplication) of networks, power and other infrastructure is common to ensure continuity. Building management controls such as air conditioning maintain the environmental conditions for the equipment within a specified envelope of temperature and humidity, and security systems ensure that the facility and its data remain secure.[i]

We estimate that there are around 500 data centres in the UK, depending on definitions. 200 or so of these are colocation (commercial) facilities, operated by specialist data centre service providers. These include our very largest facilities. The rest are known as enterprise, which loosely means "in house" although they may be remote from other business operations. These underpin corporate IT functions for all sorts of organisations like universities, banks and supermarkets. Sizes vary but on average these facilities are smaller. Many organisations use a mixture of outsourced and in-house provision to minimise costs and risk.

Data centres underpin an internet economy that contributes over 16% of domestic output, 10% of employment and 24% of total UK exports and is growing faster than any other in the G-20. Our sector provides the technical infrastructure for financial services, aerospace, transport, healthcare, retail and utilities. Each new data centre contributes between £397 M and £436 M GVA per year to the UK economy while that of each existing data centre is estimated to lie between £291 M and £320 M per annum.

[ii] **What is digital infrastructure?**
Our core digital infrastructure is not a single system but multiple systems and networks that interoperate. The three main constituents are fixed line telecommunications (made up of the high capacity and highly resilient core network plus the access network that runs from the exchanges to tens of millions of individual customer premises), mobile telecommunications (that interact with the core network but provide customer coverage through a cellular network) and data centres (that manage, transmit, process and store data for government, businesses, individuals and academia).

[iii] Recent stats on European internet exchange traffic can be found here: https://blog.cloudflare.com/on-the-shoulders-of-giants-recent-changes-in-internet-traffic/. The German commercial internet exchange in Frankfurt (DE-CIX) is currently setting world records for traffic. Widely covered in the trade press with one record broken around 11 March and a further record broken on 17th March 2020. Typical coverage includes: https://www.de-cix.net/en/about-de-cix/media-center/press-releases/de-cix-sets-a-new-world-record and https://www.controleng.com/articles/internet-exchange-world-record-achieved-at-frankfurt/