DataCentred

"This is at-the-edge stuff. Not many people are doing this and it is actually very cool."

TOM KIRCHMAIER, FELLOW, LSE

openstack POWERED   ceph   LINUX FOUNDATION SILVER MEMBER   ubuntu   ARM   HM Government G-Cloud Supplier

Tom Kirchmaier is a Fellow of the Financial Markets Group at LSE and the UK academic representative of the Foundation of German Business. He first met DataCentred's Dr Mike Kelly when Mike spoke with Tom's MBA students at Manchester Business School.

Tom has a particular interest in optimising business processes and managing risk by leveraging large datasets of structured and unstructured data – commonly known as 'Big Data'. He's worked with BMW to reduce risk in its global   supply chain and is currently working with a large UK police force to improve performance and manage risk through empirical optimisation.

By combining various data sources, big data analyses create novel and powerful insights. Tom has found the results of this kind of analysis very useful when optimising systems. It also has some use for predicting outcomes.

Two years' ago Tom began working on a classic Big Data project with the UK police force. Initially the analysis focused on just one aspect of its operations: understanding the causes and impact of sickness. The findings identified some key early pointers which could be picked up by internal policy makers to reduce absences. This early success in mitigating sickness within the organisation led to Tom being given access to the Force's full data set. However, this required a rethink in terms of technical

infrastructure. "In reality we could not deliver the kind of powerful analyses we needed with their systems. Cloud computing was an obvious choice because it is cheap and freely scalable," explains Tom.

"We had started with a small interim project at LSE and that was fine initially. But, moving forward, we could foresee some limitations in terms of security. What attracted me to DataCentred was that it offers a fully-encrypted secure space with fully-dedicated people and high data security. This is vital when dealing with sensitive public data like that used in our work."

Tom's analyses would now focus on three additional key areas:

- Incidence data – looking for patterns in crime and incidents to improve resource planning.
- Organisational Citizenship Behaviours (OCB) – looking at factors that impact performance.
- Domestic abuse – understanding perpetrators allows for targeted interventions.

By analysing wide-ranging datasets, Tom's team was able to identify surprising, compelling and, ultimately, highly useful

correlations, including:

- Crime is highest at moderate temperatures – rates peaked at 18°C
- Staff turnover is disruptive: hiring affects both speed and outcome
- New call handlers were more prone to induce a quick response, but less likely to solve a crime
- Solving a crime depends on response times – for some crimes more than others
- Social class and deprivation affect rates of domestic abuse – but not in ways you might expect.

Good statistical work is very time consuming and this project involved very large datasets and demanding econometrics. The sheer quantity of data being handled by the team and the need for secure collaboration were powerful drivers towards the DataCentred solution, as Tom explains: "We're working with large datasets and it makes sense to hold these centrally; we all login to the same place and never move the data out, which is advantageous in terms of both data consistency and data security. Without a cloud solution this would be hard to achieve so simply."

DataCentred's highly performant infrastructure on demand has freed Tom from any technical constraints on his analysis. Now, the results of his analysis are being used to target resources more effectively – vital for this public sector

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organisation in today's austerity era. Following budget cuts, the Force had been forced to consider more creative solutions.

He says: "The kind of large-scale empirical analysis we are doing with this organisation has just not been done in the UK before. This creative approach has delivered real cost DataCentred has assisted with this because its price-to-performance ratio is phenomenal."

DataCentred is able to achieve such a phenomenal price-to-performance ratio thanks to its commitment to innovation and its use of leading-edge Open Source technologies, such as OpenStack and Ceph. Deploying Open Source technologies drives down price and the DataCentred team's eminent technical capabilities ensure the high performance Tom requires.

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"A new world of Big Data requires new solutions and this world is moving so fast. The DataCentred concept is very cool intellectually. It is really scalable and you can stack it whichever way you want it. We simply call up and whatever we need we just get it. This makes a lot of sense because we don't always need capacity, especially in terms of computational power. But when we do need it, we need a lot."

Tom has been very impressed with the service he has received from DataCentred.

He says: "We are quite tech-savvy compared to other researchers, but we are like advanced fools when compared with the team at DataCentred. I call them quite often with more-or-less silly questions. For me, this is one of the big advantages using DataCentred has over the big US cloud companies. If I went with those high-profile players it would end up costing more. I'd be paying extra for support and I wouldn't have access to the expertise to design the solution exactly as I need it, so I could end up paying more there too."

DataCentred is committed to a Dev-Ops environment, so the engineers who built the platform are the ones

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supporting it. Customers have unique access to engineers – without needing to go through multiple layers of support. The DataCentred culture is also highly orientated around personalisation and delivering real-world solutions to answer specific business problems.

"The DataCentred team made an effort to understand what I wanted to do and drive me in the right direction," says Tom.

"Because they tailor the solution to what you need, it is actually much cheaper. DataCentred is a good package: good service at a good price and you get the support where you can actually do something. I don't feel like I am being exploited. I am able to ask questions and we got off the ground quickly and cheaply and I know I have what I need. They are doing something very cool and they fully deserve success."

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