# Opus 2 Develops the "legal cloud of the future" on Ubuntu Openstack

## Highlights

- Opus 2 Magnum™ users report 66% reduction in costs; 32% time saving (The Lawyer Research Service survey)
- Opus 2 Magnum™ scaled twice as fast, in more verticals, with Ubuntu OpenStack than with alternatives

## Company background

London-based Opus 2 International is an independent software and services provider specialising in technology for the legal profession. Its founder, Graham Smith-Bernal, pioneered the revolutionary electronic transcription methodology, launching LiveNote in 1999 and, after transforming British courtrooms and US litigation practices, sold it for an estimated $70 million to Thomson Reuters (owners of Westlaw).

Opus 2 Magnum™, the company's flagship service – built entirely on Ubuntu OpenStack – has dramatically simplified the way in which evidence is managed and is making paperless trials more of a reality than ever before. Opus 2 is the only worldwide legal services company that blends sophisticated cloud technology with excellence in court reporting to modernise evidence management during high-stakes cases.

## The challenge

Recent reports have cited technology (adoption and management) as one of the biggest challenges facing law firms in 2015 / 2016. Traditionally paper-based, the legal sector groans under mountains of paperwork; creating tonnes more with every case. This costs enormous amounts of money to produce, manage and store.

Smith-Bernal, CEO and Founder of Opus 2, elaborates: "The cost of producing paper documentation can spiral out of control. If both sides have a team of lawyers, all carrying a full set of documentation (multiple bound files) the costs and time it takes to produce this can be eye-watering. Documentation costs per case are often in the hundreds of thousands – nonsensical in this digital age. We've worked hard to help reduce reliance on paper by developing smart cloud technology solutions to manage the administration of cases."

The Paper-Free Courtroom, powered by Opus 2 Magnum™ and Ubuntu OpenStack

## Drivers for change in the legal sector

### Mitigating legacy solutions

In 2013, the Ministry of Justice launched its Criminal Justice System Strategy and Action Plan committing to turning courtrooms paperless and fitting them with Wi-Fi. Law firms worldwide developed a host of proprietary solutions designed to migrate physical records to electronic repositories in order to integrate new courtrooms. The short term benefits were evident; practice managers reduced time file-wrangling but solutions weren't built with scale in mind.

### The drive to economise

In the recent $5 billion litigation between Russian oligarchs Roman Abramovich and Boris Berezovsky, each hard copy set of documents would have cost £30,000 to produce. If at least 15 hard-copies are required, it's easy to see how costs can spiral. The pressure is on for law firms to modernise.

### Changing ingrained habits; a need to simplify

Advocates are schooled in using paper documentation as a critical component of a case. Physical documentation is a notional and psychological, as well physical assertion of 'formal proof', and confidentiality. Litigators want their information close; at their fingertips. Re-training an industry with such an ingrained relationship with paper was always going to be a challenge.

### Clients expect their advisors to work in a modern, efficient way

Successful law firms count the largest and technologically sophisticated organisations as clients. If a client is doing business with the latest technology, they expect their legal representatives to operate in a similar way. Law firms are under pressure to be as advanced as their clients; focus turns to pulling litigation into line with big business.

### Demand from courts and judges

In the Abramovich and Berezovsky trial, it was the presiding judge, Lady Justice Gloster, that overruled printing cost estimates - demanding paper use must be minimised. This trend continues as courtrooms such as the Royal Courts of Justice set a new more technological benchmark for modern justice.

## The solution

A cloud-based approach would be the key to the success of this solution, providing an agile and highly scalable virtual environment in which to design, build, deploy and run Opus 2 Magnum™, Opus 2's answer to many of the sector's challenges. In choosing a cloud provider, the answer had to be flexible and offer the ability to scale rapidly as the client base, and caseload, grew.

"The solution had to be robust and powerful enough to process, manage, organise and deliver time-critical data to lawyers in order to prise them away from their box files. Our clients had to be convinced and, at the same time, we wanted to be free to make unplanned decisions and innovate quickly – Ubuntu OpenStack was the obvious choice."

**Graham Smith-Bernal, CEO and Founder of Opus 2**

The priority was to be free of legacy IT systems that would slow development, it also had to be agile enough to scale at speed – Ubuntu OpenStack met these and a number of other criteria. After installing on a range of other Linux distributions, Opus 2 committed to Ubuntu noting that Ubuntu Server LTS continues to be updated."

Opus 2's Head of Software Engineering, Billy Kelly continues: "Not having to rely solely on physical technology estates means we can respond more quickly to demand – we can build both physical or virtual servers whenever and wherever we choose without being locked into a license agreement. The real beauty of Ubuntu OpenStack is we don't have to plan too far ahead. We can scale quickly, confident we have the latest software so we can test and launch new projects at a moment's notice."

## Magnum: powered by Ubuntu OpenStack

Opus 2 Magnum™ was developed as the antidote to these issues and has become a preferred service for the UK's top 50 law firms. The solution has even forced the courts and law firms to move away from Microsoft's Internet Explorer; adopting modern web browsers like Chrome and Firefox. Opus 2 Magnum™ has a host of features in its armoury. It provides a secure, cloud-based interface for accessing, annotating, tagging, and managing transcripts, documents, and web pages. It is built entirely on Ubuntu OpenStack; delivered to courtrooms such as those at the Royal Courts of Justice using a range of devices (Windows laptops for running Excel and Project, iPads or large format monitors); linked to a local Ubuntu server located within the Court itself.

The Paper-Free Courtroom, powered by Opus 2 Magnum™ and Ubuntu OpenStack

Opus 2 Magnum™ is available to customers via the company's international cloud network. Three of these currently run Ubuntu OpenStack with the others presently running VMWare; now on the upgrade path to join their sibling clouds on Ubuntu OpenStack. Kelly, explains: "We have currently 50+ large instances running (16GB, 16 core, 500GB) in the Denver cloud with access to a large expanding swift array and working server farm instances. Every server runs ubuntu 12.04 or 14.04, which gives us confidence we're working with the most up-to-date version of Ubuntu at all times. Each country runs in Primary and backup site config with replication via our code, ceph, third party replication, and rsync."

As the technology matures, Opus 2's research and development team is working on a Software-Defined Network (SDN) based on its existing worker server farm technology which will make it possible to Ceph replicate to each cloud.

## The benefits Of Ubuntu OpenStack

For Opus 2, the benefits of working with Ubuntu OpenStack have been numerous. The cost savings associated with working in a license-free, Ubuntu-based environment represent an obvious benefit but, further, Opus 2 believes it's Ubuntu's host of other benefits that have made the implementation successful.

"The cost savings speak for themselves but Ubuntu OpenStack makes sense for a number of other reasons. Firstly, the community. No other distribution has such an embedded, active and enthusiastic developer community. This gives us great confidence in the future evolution of the technology as a community-based approach galvanises true innovation."

**Billy Kelly, Head of Software Engineering, Opus 2**

Flexibility and speed of testing and deployment also figure highly as key benefits as Opus 2 found the perfect environment to trial legacy VM migration quickly and simply.

"We were able to build a stack very quickly in London to test how we would migrate our legacy VM environment across for the US side of the business." Smith-Bernal continues: "We have tested the deployment four times by building, tearing down and rebuilding; something we couldn't dream about doing with VMware. Furthermore, the ability to integrate the API code directly into our app was a major benefit."

The team has also found it's possible to scale according to vertical with Ubuntu OpenStack – using Ceph, Swift and their own APIs the team can design a cloud experience that is tailored with specific industries in mind.

Finally, having the flexibility to test scripts in a live environment has impressed the team. "Having members of our team able to test scripts live from locations around the world without being pushed into a Windows world is amazing. Our global offices needed a flexible, and consistent way to access our web and shell interface and so an open, platform agnostic approach is of paramount importance," comments Smith-Bernal.

To further improve security and on-demand access in local deployments, the team are keen to move away from a cloning model which, whilst being efficient for scaling hardware needs, creates issues when building on-demand nodes at small scale. Using Ubuntu's MAAS and Juju tools, the team can better deploy new machines as the estate grows. Then, with Juju and the wider Ubuntu OpenStack toolkit, a courtroom has the Opus 2 stack pre-built and ready to deploy. Opus 2 believes this approach lends itself to the rigorous security requirements public sector projects require.

Opus 2 estimates it has been able to scale Magnum much more quickly than would be possible with other license-based models. According to the team, Ubuntu LTS allows them to move testing, sandbox, production and R&D in the same direction, using the same technology; simplifying and streamlining as they go. Ubuntu is the most popular host and guest operating system for OpenStack, with more than half of all OpenStack instances running Ubuntu, and over 70 percent of the Public Cloud Guest operating system market.

## Benefits of Opus 2 Magnum™

Trials and arbitrations using the Opus 2 method finish sooner and cost less. According to 2014's Lawyer Research Service survey, Opus 2 Magnum users report a 66% reduction in relevant costs and a 32% time saving.

The Berezovsky v Abramovich trial was a great example of Opus 2 Magnum™ in action. After Judge Lady Justice Gloster ruled this would be a paper-free trial, Magnum stepped in to save an estimated five million sheets of paper and countless associated hours of organisation.

Working to traditional methods would have meant the creation of at least 30 sets of documents, each comprising over 200,000 pages, copies going to every team member on either side. Added to this the cost of shipping and updating the documentation, the costs would have run into the hundreds of thousands. Magnum replaced the need for almost all physical documentation and transformed the way teams could access, review and share case notes. An estimated five million pieces of paper were saved as a result.

"There were also a number of other features which significantly contributed to the smooth running of the trial. Perhaps most importantly, the extensive documentation was presented in a highly organised and easily accessible electronic format. There can be no doubt that this enabled the trial to be concluded within the allotted timetable, and with the maximum efficiency."

**Lady Justice Gloster**

Word has spread fast and, now, partners from all 'Magic Circle', Top 10 global law firms, 'Sweet Sixteen' transatlantic law firms and 'Big Four' consulting firms have used Opus 2 Magnum™ to collaborate in litigation. Since UK launch in 2012, it is rapidly finding a niche with high profile private cases in the US. It was recently recognised in both the ILTA Awards for 'Most Innovative Technology Solution', and the LegalTech Awards for best collaboration tool.

## What's next for Opus 2

The future, for Opus 2, continues to look orange – Ubuntu orange – as it sets course for global expansion. The company's cloud estate will continue to grow as the client base proliferates. As such, the company will maintain focus on performance and ongoing innovation on behalf of its clients. Opus 2's work with Ubuntu will continue to evolve; not just on OpenStack projects but also across LTS, server, desktop, landscape, containers, Snappy and, potentially, in-court tablets / PDAs.

Plans are afoot for a large R&D project involving snappy Ubuntu Core running on smaller devices such as Raspberry Pi / Nooks and Intel Compute Sticks. The company is also soon to release its own APIs and is considering API integrations with Landscape and an exciting LXD project that will facilitate even faster and more secure deployments of Magnum in their UO clouds.

The company is also considering a public cloud strategy to complement its existing infrastructure and as international portability becomes a focus.

"Public cloud providers have come a long way in terms of solving pernicious security issues and many seem much more 'fully-baked'. Whilst there's still work to do, we're interested in public solutions as a way to expand our compute power economically whilst maintaining top level security measures in secure private environments as befits our clients' needs."

Graham Smith-Bernal, CEO and Founder of Opus 2

The role for Ubuntu OpenStack in the legal industry's continued evolution looks bright. Smith-Bernal comments: "OpenStack technology opens the door for entrepreneurial solutions providers to harness its power. We're excited to see how we can collaborate with others; integrating our award-winning technology with other vertical apps and services. We've already demonstrated that Magnum scales twice as fast, in more verticals with Ubuntu OpenStack and so we're rallying developers across all industries to innovate."

The company intends to galvanise developers by allowing them to access and innovate on Opus2 APIs.

"We have the cloud – we're looking for people who want to integrate with us. We've opened access to our code and created a set of APIs that businesses can harness; allowing them to integrate our technology with their apps. We're already integrated with the three biggest e-discovery products in the legal sector; it'll be exciting to see how we can bring benefits to organisations in other industries."

Graham Smith-Bernal, CEO and Founder of Opus 2

To find out more about Opus 2's open API initiative, visit **opus2.com/api**

To learn about OpenStack Autopilot, the fastest way to deploy and manage an OpenStack cloud, visit **ubuntu.com/autopilot**

OPUS 2 INTERNATIONAL



ubuntu
Supported by Canonical