ECONOMIC DEVELOPMENT AND INFRASTRUCTURE COMMITTEE

Inquiry into Improving Access to Victorian Public Sector Information and Data

Melbourne — 27 November 2008

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Mr M. McLaren, Managing Director, and

Mr P. Took, Account Executive, Red Hat Asia-Pacific.

The CHAIR — A warm welcome to the Economic Development and Infrastructure Committee's public hearings. The committee is an all-party parliamentary committee, and its evidence today is being taken on the Inquiry into Improving Access to Victorian Public Sector Information and Data. I welcome our two witnesses. I invite you to state your full name and address and to say whether you are attending in a private capacity or representing an organisation, and if you are representing an organisation, your position within it.

Mr McLAREN — My name is Max McLaren, and I am the General Manager for Australia and New Zealand for Red Hat. Our offices here are in Bourke Street, Melbourne, and in North Sydney.

Mr TOOK — My name is Paul Took. I am an Account Executive representing Red Hat Asia-Pacific here in Melbourne. Our address in Melbourne is level 5, 455 Bourke Street in the city.

The CHAIR — Thank you. Evidence you give today will be taken by Hansard, and copies will be forwarded to you for typographic corrections should there be any necessity for that. You are not free to change the content of what you say. Over to you.

Overheads shown.

Mr McLAREN — Thanks very much for hearing us. The basis of our submission is quite lengthy, and we talk very much about information as well as data in the open source development sense of the word. Red Hat is one of the primary open source software providers in the world, if not the primary open source software provider in the world. That is the basis for what I want to talk to you about specifically today. I think the references to, for example, open information with Creative Commons were made in our submission, and I ask you to look at our submission if that is of particular interest.

Let me talk to you a little bit about open source and Linux in particular, which has been Red Hat's specific focus and probably the primary application or infrastructure environment that has characterised the success of open source development. I am going to talk about half a dozen things: the drivers for it, the speed of adoption, the speed of applications leveraging open source, the speed and quality of development, how it is different from a traditional software development process, and the things that come along with it like freedom of choice and supplier.

Effectively one of the primary reasons that drove organisations to be interested in open source is that they were tired of being locked into proprietary software vendors — proprietary vendors in the sense that you buy a licence and you are obligated to use that licence. If you want to change vendors, you have to buy a completely new software licence. That vendor lock-in is something that a number of organisations in the world, especially governments, did not appreciate. Open standards was something that characterised open source development, and as a result the incorporation of open standards creates that reduction of vendor lock-in.

Turning to application interoperability between different suppliers, if one has open standards, if one has the source code available to be accessed by any user and if one has seen how that software is developed and how it can be leveraged, it gives you the opportunity to create more interoperability. The biggest challenge in the IT world is that there is never enough time in the day and enough money in the world to meet the demands of organisations. As a result of those reduced costs and reduced lock-ins we were able to help organisations to reduce that application backlog.

Interestingly, IT security is almost counterintuitive to organisations that open source code. In other words code that is available to everyone is more secure than proprietary code — you cannot get access to that code if you purchase proprietary software. But our view is that more eyes from the goodies as well as from the baddies allow you to uncover the bugs and address them. In fact we have research which shows that something like 95 per cent of all of our bugs are addressed with

24 hours and 100 per cent within 48 hours in the Linux code that we distribute, which is well faster than any proprietary software vendor.

The CHAIR — You might like to expand on that a little more in question time, because it is a key point.

Mr McLAREN — Sure.

The CHAIR — But keep going.

Mr McLAREN — Okay. Also we are leveraging assets that often need to be replaced in order to run the latest proprietary software, which enhances the cost of leveraging proprietary software by providing the lowest common denominator in terms of the technology we deliver. We are allowing you to use assets that perhaps may have extended past their lifecycle with proprietary software.

The speed of adoption: how is it being used? These statistics — and there are never-ending supplies of statistics — indicate some of the adoption of different open source projects. We think we have around a 20 per cent-plus market share of Linux servers, and that is pretty significant because it keeps increasing every year. The Apache web server, which is the predominant open source web server for most websites today, is at least 65 per cent if not more. I believe the Mozilla Firefox alternative to the traditional Microsoft Internet Explorer browser is up to around 20 per cent today. With the application server, JBoss, that we distribute we have at least one-third of the market in that space, and then other technologies address that. In fact, Gartner came out with a statement this week that 85 per cent of all organisations use open source today and the other 15 per cent will do so by the end of this fiscal year.

Who is moving towards it? Most organisations will significantly increase, or at least moderately increase, their use of open source. What are they using it for? They are replacing workloads that were traditionally on Unix environments and more and more on Windows environments. Those Unix environments and Windows environments are made up of things like AIX, Solaris and HP-UX, as you can see up on the chart. That has been the primary driver of the replacement.

Where is it being used? It started out being used at what we call the edge of the network on web-type environments, and more and more it is moving into everyday customer relationship management systems or accounting systems, ERP systems, into database systems — in other words, across the board. More and more organisations are using open source technology across the stack. As a leading provider of the open source world we believe that the stack of applications that rise from the operating system up to all the interfaces with users will continue to increase. As you will see in this representation, mission-critical businesses will continue to migrate in ever-increasing numbers into this open source Linux environment.

This is a study showing that IDC believes that over the next few years you will see more and more non-Linux or non-operating system adoption of open source technologies, so in infrastructure software and application development software and in applications like enterprise resource planning or accounting-type software in CRM-type applications you will see ever-increasing adoption. It is not just the core Linux technology which is where a lot of the adoption of open source started; it is moving into a number of different applications.

One of the things that Red Hat does is work with many, many proprietary vendors of software and proprietary providers of hardware as you can see represented on the screen — organisations like Veritas, EMC, IBM, HP et cetera. These organisations certify their applications to run on Linux on our open source environment. The mix and match of open source and proprietary is also provided. One can start in a certain sphere of open source adoption without having to replace the whole stack of technology, or one can go for a whole stack approach.

Why is open source creating this trend? I think it is important to understand how open source technology is developed. So there are many, many what we call open source projects — things like the Linux kernel or things like, for example, the Kerberos security system — that are worked on by communities of developers. Those communities of developers will be organisations like Red Hat, IBM, HP and Intel, and organisations like the Victorian Government if they wanted to contribute. The nature of open source technology means that anyone can contribute to it. Effectively any organisation, as long as one has some valid input, can contribute to the code. That code can be incorporated into a package, and what Red Hat does is take all those community packages, first of all test and quality assure them and integrate them, and we release an open source operating system called Fedora every six months. It has over 2 million lines of code in it.

A study was done recently in the US to highlight that if one used the average development salary of US$75 000 per developer, it would cost approximately $10.8 billion every six months to produce that type of technology. No proprietary software organisation has those levels of investment, and therefore no proprietary organisation can realistically compete with an operating system that is produced as often and with as many updates as our technology.

We then take that open source project — Fedora — which is freely available and released to the community every six months, and we take the prize enterprise versions of those packages and test them, quality assure them and get the IBMs of this world, the SAPs of this world and the Oracles of this world to certify that their software and hardware will work with that operating system. That means that you have the comfort that an operating system like Red Hat Linux will be able to run on your hardware and software, and you will be able to get support from those vendors for their applications and their hardware. That is very important. And that is effectively how we do it. We have these ever-decreasing circles of many, many products that we incorporate into an enterprise version of Red Hat Linux and distribute it. We do the same sort of thing with our JBoss Middleware technology.

What does that give you? That gives you the freedom to choose from a variety of different technologies, and it gives you the freedom to leverage whichever of those technologies you see fit in your organisation. As the provider of Linux, Red Hat has had a reasonably successful period, and this just illustrates that our revenues continue to improve, which is important when an organisation is investing in technology like ours.

The differing factor to the traditional way software has been procured, which is a licence fee and then an ongoing maintenance fee every year, is that we provide something called a subscription. For just one annual fee customers can then take advantage of all the things that Red Hat offers, which are the software; all those certifications that come from the hardware and software vendors; some intellectual property and patent assurance, which I will get to in due course; and then a service-level agreement that ranges from two-day web response at a relatively low cost to a more comprehensive 24/7 1-hour response for critical issues.

That is the type of service we provide. You can go from a very small footprint to a very large footprint, from a very unimportant application to a very important application, leveraging this technology. The importance is more that Red Hat can support that technology. If you should not choose to renew that subscription, you can continue to run that software with no obligations to change, and you can go and get support from another vendor if you should so wish.

One of the biggest concerns for enterprises and organisations is whether they are buying something that they can rely on and the patent problems associated with open source. One of the reasons Red Hat has been successful and open source organisations subsequent to Red Hat have been successful is that they have taken on the mantle of removing that problem. So we have something called the Red Hat patent promise where we will open all our technology and all our patents to anyone who wants to use them. We are part of the open intervention network with a number of organisations like, for example, Sony and IBM where we make our patents freely interoperable with each other so that we do not prosecute any patent rights between any of those

open intervention partners. We offer the open source assurance policy, which means that if there is a concern by any customer or consumer of our technology around our patent and we agree with that concern, we will replace that technology at no additional cost. That is what our software subscription offers.

For any infringement we will obtain the right for the client to continue using that code, modify that code or replace the infringing portion. Also we will indemnify any organisation up to the amount of money they have spent with us in the preceding period and use that to defend any customer. That generally removes any concerns from organisations in terms of their consumption of open source in an enterprise environment.

To sum up, how can the Victorian Government leverage this? We believe the adoption of standards within the document format or in the open source technology will allow you to adopt open standards and interoperate with your constituents as well as other organisations. We have important members of our development community from Melbourne who are the primary drivers of a number of open source projects, and you are encouraged to actively get involved in contributing to those if you should so wish. We would welcome your encouragement of the community to get involved and contribute. We provide access to a variety of different forums where you can be part of that — for example, things like CIO forums or consumer forums.

We believe the opportunity for the Victorian Government to reduce their costs associated with IT is provided by open source technology, and I think providing guidelines around your tendering processes to incorporate open source technology as an option in every tender would make sense because generally that will reduce costs. And we believe that tendering processes should be enhanced so they are distributed not, for example, on proprietary technologies like Microsoft Word but on open PDF formats so that anyone can use them or open data formats so that anybody can use them and contribute accordingly. As a result, we think governments will give themselves choice in terms of how they consume technology.

The CHAIR — Thank you. Before you go off that slide, as Chair I have the first question. If you were writing our report and making recommendations, would those eight points be the key recommendations you would make?

Mr McLAREN — Yes.

The CHAIR — Or would there be something else you have said earlier?

Mr McLAREN — I think the background is important, to understand open source and to understand where it comes from, and that is what I have tried to give you today. But in terms of consuming and leveraging open source technology, these absolutely provide you with some core guidelines.

The CHAIR — Can you describe some of the examples of Australian government agencies employing open source software solutions? I have actually used the word ‘agencies’ deliberately, because there is some discussion and we have to come up with some thoughts on whether we just address state government or whether we are also looking at agencies. Feel free, if you want to, to actually talk about government but particularly government agencies.

Mr McLAREN — It is extensive and it is across all state governments. I will let Paul talk specifically about Victoria. I will talk about federal government in particular to begin with and then I will talk about some of the other states.

The Federal Government in the defence community, because of the security certifications, uses the highest security certification that you can get for an operating system. It is called the common criteria EAL4+ certification. It is used extensively in the defence communities and in the intelligence communities and a number of environments — to run what, we do not know. It is used extensively in those areas. It is used in a number of other federal agencies, primarily as a

driver of cost reduction. That was the first driver for adoption, but now it is in its own right providing better performance than some of the traditional proprietary environments. It helps reduce cost in terms of ongoing operating costs, because one can use much fewer full-time equivalents, or people, to administer and manage a Linux environment than is the case in traditional proprietary environments. It is used in terms of reducing costs in a number of educational departments across Australia — from WA to New South Wales to, I believe, Victoria — for hosting anything from your Oracle database environment or your Oracle CRM environment to running your websites to delivering teaching capabilities to Victorian schools.

The CHAIR — And the agencies?

Mr McLAREN — In terms of agencies, there is extensive use of agencies.

Mr ATKINSON — Anyone in particular in Victoria?

Mr TOOK — The big users in Victoria are the Department of Education. It is using quite a bit of Linux. One of the things I am finding — —

Mr McLAREN — Is that an agency perspective, though?

The CHAIR — By 'agency' I mean like Melbourne Water.

Ms THOMSON — The statutory authorities.

Mr TOOK — I am trying to think of the breakdown from the Department of Education guys.

Mr McLAREN — I would suggest, for example, in Country Energy, Sydney Water, Powercor, SPARQ in Queensland, Western Power — they are a referenced customer; we can give you the reference — et cetera. It is extensive.

Mr CRISP — We went through some of the pluses, but there are obviously some barriers to the development of open source community in Australia.

Mr McLAREN — The barriers, I believe, are a lack of proactive government support. In a number of countries around the world governments take the view that they are importers and consumers of technology without contributing to technology. The opportunity for us to get our constituents or our individuals or our organisations to actively contribute to open source and therefore keep a lot of that intellectual capital within Australia is extensive. I do not believe a reactive stance from government has helped. A proactive stance would help. For example, Malaysia in the ASEAN region has taken the view that, if they get involved in open source, it will not always be net importers of technology; it will export.

We have, as I said, a guy by the name of Gavin King who produced the technology in his home office in Melbourne and now is one of the primary contributors to our technology. It is called Hibernate. It interfaces between pretty much every website and the database, and it dramatically reduces the time and effort it takes to integrate databases and websites, which is the primary function of most websites that deliver information. That was developed and delivered by a local lad, but unfortunately he had to go to the US and join an organisation like ours in order to get that technology commercialised and used. I think the opportunity for us to develop an open source community and keep a lot of that intellectual capital in Australia is offered with open source.

The CHAIR — Would you like to outline that a little more? Part of our brief, as you know, is the economic and non-economic perspective, because the eyes of government, whether state, federal or local, all light up if there is economic development.

Mr McLAREN — Indeed. It is interesting that Queensland has sponsored a survey into this to try to evaluate how many of their local organisations are involved in the open source world.

It is relatively nascent. I believe the opportunity is pretty easy. It is pretty easy for organisations, whether they are in their home office or in the bedroom or in their garage or whether they are actually major organisations, to contribute to the technology; it is open source code.

We have a number of individuals — I think there is one in particular, for example, in Western Australia, where he is the primary contributor of a piece of technology for storage. It is called automount and it is incorporated into every Linux technology, and he was the primary developer of it. We recruited him. He works out of his home office in Perth. He just started contributing to the code, and we took him on board and he works out of his home office in Perth.

The CHAIR — Has anyone quantified what kind of economic benefit this is to Australia?

Mr McLAREN — It is very difficult.

The CHAIR — I am sure it would be.

Mr McLAREN — That is what Queensland was trying to do, and we are still awaiting the results of that study.

Mr TOOK — As an extension of what Max mentioned earlier with, for example, Gavin King, we will be able to start identifying it in true numbers as these guys start to come back to Australia, which is what we are starting to see. Some of our employees who are Australian-born started developing code while in Australia and were drawn to the US or Europe — to follow the money, to follow the jobs, all that sort of stuff — are starting to at least consider coming back to Australia to be based here full time, if they have not started to move back already.

Ms THOMSON — There is a flood coming from the UK, I hear.

The CHAIR — How much is the difference in income if they are based here, taking into account the Australian dollar variation?

Mr McLAREN — I have no idea; we have not quantified it. But the point is that you can create a burgeoning industry. We have got a very strong proprietary software industry in Australia, but I think open source creates more extensions to that. The barriers to entry are much lower, because an individual can get involved without raising a large amount of capital. As a result they can start providing capability to contribute and organisations can get involved.

The security model in Linux was developed by the NSA in the US because no other operating system allowed its code to be used by the NSA. The NSA said, 'We want to get a certain level of security developed and delivered. We will develop it and we will give it back to the Linux community', and then the Linux community takes that and makes it consumable by an enterprise and makes it easier to implement and adopt. As a result, we have got the highest level of security certification for our operating system.

Mr CRISP — If a government were to adopt an open source approach, then what are your thoughts on training opportunities, the migration in style within government departments to open source, and some of the issues you see surrounding that?

Mr McLAREN — One of the opportunities that open source technology gives the individuals engaged in maintaining and running it is access to a more fulfilling role. We often find that job satisfaction improves with administrators in the space of administrating Linux. It happened in the Unix world, but it is more prevalent in the Linux world, purely and simply because they get more involved in the actual code and the technology in terms of maintaining it. I believe the government has the opportunity to create a reduced operational cost in terms of running and maintaining this, and acquisition costs in terms of acquiring it, and then hopefully an educational environment. We, for example, provide a number of learning services capabilities and

a certification that is very sought after in the IT world, purely and simply because the people that come out of it actually have a tradeable certification that is valued by both government and commercial organisations. In addition, we provide at a very low cost, for example, to TAFES in Victoria, the opportunity to take our technology and teach the first entry level of that certification, the Red Hat certified technician.

Mr TOOK — To give you some anecdotal evidence as well, I can give you two examples. In terms of a technical person in a Unix environment moving from proprietary Unix skills to Linux skills, historically that has been a fairly short step for them to take because Linux was based on Unix. Interestingly we see a lot of excitement coming from people with a Microsoft Windows background when they are getting into Linux because suddenly they are allowed to see the code, which changes their role and their excitement about their job.

An interesting thing for the Victorian Government to scrape below the surface of a little is the JBoss space, or the Java space. There is actually quite a lot of JBoss in the Victorian Government, particularly in the development sphere. What we see is Java developers using JBoss as their development tool. When it goes into a production environment they might go to a proprietary equivalent, like a Web sphere or a Web logic. Those Java skills are already there; it is just a matter of scraping below the surface, seeing them and attuning them to moving the open source stuff from development into a production-type environment.

The CHAIR — I have two questions. Firstly, is there a future for desktop in its application to other main opportunities in back-end or server applications?

Mr McLAREN — We believe there is an opportunity for Linux on the desktop. A fellow state government in Australia did an evaluation over a number of months; we were one of the invitees to that. They put a trial in place in a number of their government departments, and we ran for three months from basic task workers up to knowledge workers. We are still waiting for the formal response, but they stood up at the end of our trial and said, 'We have debunked the myth that Linux cannot be used in government or in an office environment on the desktop, and we have also debunked the myth that one cannot use Linux in the office and Windows at home because the skills are transferable'. So we believe there is an opportunity to reduce costs and gain productivity benefits in terms of managing this environment.

We have recently procured some technology that we will be able to deliver to government something like thin clients and dramatically reduce the cost of administering desktops. The primary cost associated with running a desktop fleet in any organisation is getting out to that fleet and updating it and fixing it. We believe there absolutely is an opportunity on the desktop as well as in the server and the back end.

The CHAIR — When that report becomes public it might be handy for Vaughn or Yuki to have a copy of it if you would not mind.

Mr McLAREN — Sure, I am awaiting its release with bated breath.

The CHAIR — Thank you. The other question is: what document and file standards could be implemented in the Victorian Government to facilitate the adoption of open source software?

Mr McLAREN — I think the open document format is an acceptable open standard in the document space. It now has a number of different editors that allow you to produce open document format, and it is freely interchangeable. You can do round-tripping with proprietary documents that come, for example, in a Word format and convert them to an open document format. We do that all day every day, and for the last three and a half years I have not had a problem in doing that. I believe there is common sense in adopting an open document format as a standard.

Mr TOOK — For example, in Red Hat as a company we all use a Linux-based desktop. There are no Microsoft products involved in our daily work.

The CHAIR — That concludes the questions. You gave a very comprehensive overhead presentation. Thank you for that plus your very comprehensive documentation which was forwarded beforehand. You will be provided with a copy of the Hansard transcript in about a fortnight to correct any typographical errors; then it will go onto the internet for everybody to read.

Witnesses withdrew.