

MEDIA ADVISORY

**"Paycheck Target Challenge" to be announced during Monday 30 April Event.
"Two Lessons from the Phoenix Payroll Puzzle"**

Ottawa, 27 April, 2018—A high-tech challenge will be issued to the team implementing the Phoenix payroll system at a breakfast event this Monday co-hosted by Richard Stallman, President of the Free Software Foundation, and Joseph Potvin, Executive Director of Ottawa's Xalgorithms Foundation.

WHEN: Monday, 30 April 2018, 08:00 AM to 10:30 AM. Advance interviews available 26-29 April.

WHERE: Sheraton Ottawa Hotel (Penthouse Conference Room), 150 Albert Street, Ottawa, Canada.

AUDIO:

LIVE: <https://meet.jit.si/PaycheckTargetChallenge>

RECORDED: Download after the event from:

<https://xalgorithms.org/participate/> and <https://www.fsf.org/events/rms-20180430-ottawa>

WHO:

Dr. Richard Stallman, President of the Free Software Foundation, Boston. Founder of the global movement for software freedom.

Joseph Potvin, Executive Director, Xalgorithms Foundation, Ottawa. Former Manager for IT Expenditure Analysis & Reporting, TBS, CIOB (2006-12), PIPSC Member (2002-2012).

Root Causes & Core Principles

The root causes of the Phoenix payroll system failure, and a new free/libre (i.e. freedom-respecting) software initiative to help resolve it, will highlight a breakfast discussion this coming Monday, co-hosted by Richard Stallman, President of the Free Software Foundation, and Joseph Potvin, Executive Director of Xalgorithms Foundation.

The Canadian Government's "Payroll Modernization Project" was supposed to provide "an employee self-service vehicle to decentralize data entry and increase access to information". Xalgorithms will announce and describe work on a new solution called "*MyPayChecker*", which is also named in French, « *CheckerMaPaye* » to provide employees and payroll officers of the federal government a way to check whether or not Phoenix is issuing their pay correctly.

Stallman contends that a government running a set of computer programs, such as a payroll system, can only safeguard its accountability to citizens and employees if all the computer programs that do its computing are its own copies of free (libre) programs. This means the government has the source code, and can change it, redistribute it, republish it, and use which ever version it prefers for each job.

He says: "Government exists for the people, and does its computing—all of it—for the people. So every public agency's responsibility to the people includes maintaining control of that computing. Any time government uses a non-free computer program, then logically, its owner controls that part of government's computing. We the people must insist that our government maintains full control of its computing, and must not let any other party take control of it."

Furthermore, he says, a government using data-driven decision algorithms, for example to determine compensation, or to analyze HR data, remains accountable only when those algorithms are accessible. Transparency is necessary so that the people affected can easily validate whether or not the payments they receive are correct, and to ensure that their confidential data is being used appropriately.

The "Paycheck Target Challenge"

"People have a right to know if they are being dealt with correctly", explained Potvin.

"But we're not here merely to complain", he said. "We're going to throw down the gauntlet and issue a clear challenge to the companies behind the Phoenix project. We claim that a free software community can independently finance, create and operate within a year, a more respectful, more accurate, and more economical self-service portal for pay validation to support employees and payroll officers, than those companies can provide within a year."

The "Paycheck Target Challenge" (« Défi des salaires ciblés ») will begin officially on June 1st. Some lead time is required for the rules of this unusual competition to be discussed and finalized with stakeholders, and to invite other investors, companies, and technically inclined individuals, including Canadian Government employees, to collaborate with Xalgorithms in making MyPayChecker the service to beat.

This tech bravado is competitive, but not hostile. "We're going for bragging rights", said Potvin. One way or another, the winners will be federal employees. Because there's now going to be serious competition to see who can provide those employees and payroll officers the most consistently accurate and transparently documented pay information, while also respecting their privacy.

For Xalgorithms Foundation, solving an important problem that some major companies have not been able to solve, is a great motivator. And if the free software community wins this bet, the companies behind Phoenix can adopt it, since MyPayChecker will 100% shared. "Of course, it will be like having to wear the other team's hockey jersey", Potvin smiled.

Technical Know-How

"We wouldn't take this on if we didn't know how to do it", said Potvin. Xalgorithms is a start-up, but from the outset it has been receiving financial and technical assistance from DataKinetics (DKL), one of the longest-established Ottawa fintech companies. For decades DKL has provided transaction processing solutions to three of the world's five largest banks, three of the top five global credit card companies, and half of the top ten American insurance firms. Xalgorithms' lead system designer, Don Kelly, is an experienced full-stack developer from Ottawa, now based in Europe.

"The other group is a tech-clique, sole sourced, and they've been sputtering for years" said Potvin. "They famously claim there are around 80,000 rules. But we say: How many rule patterns are? Less than a hundred?"

The founding President and CTO of DataKinetics, Bill Olders, provided the background: "As the first-round angel investors in Xalgorithms, we not only funded the alpha-stage R&D to the tune of about half a million dollars. We've also been sharing some of our core technical know-how under free/libre licensing, and that's where the greater value is. We do this because we want rules automation to be globally ubiquitous. It's not just for payroll rules, but for computational algorithms generally."

For the technical audience, Kelly offers the following details: "The Xalgorithms infrastructure is a containerized, distributed 'big data' computing system. It's built on foundations laid by GNU/Linux and the Apache project, in particular the SMACK stack (Spark, Mesos, Akka, Cassandra, Kafka). We designed a high-level domain-specific rule expression language. Our generalized document-based map/reduce process ties rules to transaction data following the UBL business document standard."

Potvin says that, with some hesitation, he and his Xalgorithms colleagues have nicknamed this an "Internet of Rules", or IoR. "But really it's just putting algorithms on the Internet in a systematic way." Stallman says he would rather call it an "Interlibrary of Rules". In any case it has three parts: *Xalgo* for rule authorship; *Lichen* for transaction data exchange; and a distributed processing platform in between.

Towards Automated Collective Agreements, Trade Policy Agreements and Legislation

The Xalgorithms team is working to enable the world's first digitally automated collective agreements for the labour market, and the first digitally automated international trade policy agreements. This means every computational clause, deduction and entitlement, and every priority notification, must be expressed in a transparent executable form, and it must be be swiftly retrievable online.

Craig Atkinson is a Visiting Research Fellow, sponsored by Xalgorithms Foundation, at the World Trade Institute (University of Bern) in Switzerland. On 26 April his article "Disruptive trade technologies will help usher in an 'Internet of Rules'" was published in the London School of Economics (LSE) Business Review. Also later this year, Potvin's forthcoming doctoral dissertation "An Internet of Rules and the Future of Commerce", prepared under research supervisor Dr. Stéphane Gagnon, will be submitted for review at Université du Québec en Outaouais in Gatineau.

The Xalgo4Trade part of this initiative began in 2016 when Olders represented Xalgorithms as an accredited NGO at the fourteenth session of the United Nations Conference on Trade and Development (UNCTAD 14) in Nairobi, Kenya. Meanwhile, throughout 2016 and 2017, Potvin represented Xalgorithms on the US Federal Reserve's "Faster Payments Task Force", and participated in one of its most highly reviewed new payment solutions. More recently the group was invited to the Canada-ASEAN Business Council Forum 2018 in Singapore. Two weeks later, the core team was asked to present its solution to the head of R&D for a major Asian bank considering its potential use in automating cross-border tariffs and taxes. At the United Nations eCommerce Week 2018 earlier this month, several representatives from public and private sector organizations commented approvingly on the Xalgo4Trade project and the potential of an Internet of Rules for global trade facilitation.

For its part, DKL also has its own commercial research underway to combine this new rules networking capability with the latest generation of distributed ledgers such as blockchain and iota for smart contracts, as well as for entire value chains. They are also working quickly to introduce a whole new generation of "mutual loyalty" programs that they believe will greatly enhance customer-retailer relationships.

Some Canadian parliamentarians have also been thinking about the new possibilities. A year ago Xalgorithms was invited to present to the Digital Caucus on Parliament Hill about how their free/libre system for publishing rules to the Internet could be used in automating legislation. This was inspired by the article "Algorithmic Law to Automation-friendly Legislation" by Dr. Dag Wiese Schartum at the Norwegian Research Centre for Computers and Law, University of Oslo, Norway. Xalgorithms was joined in that event by Ottawa-based Ken Holman who is Chair of the OASIS Technical Committee on the Universal Business Language (UBL), a global XML standard schema for commerce, also known as ISO 19845.

CONTACTS & LINKS: Available for interviews in English or French, from 26 April.

Dr. Richard Stallman, President
Free Software Foundation
rms-assist@gnu.org

<https://gnu.org> <https://fsf.org>

Internet Hall-of-Fame: <https://www.internethalloffame.org/inductees/richard-stallman>

Joseph Potvin, Executive Director
Xalgorithms Foundation
jpotvin@xalgorithms.org cell: 819.593.5983

www.xalgorithms.org

www.internetofrules.org

Source code and technical documentation: <https://github.com/Xalgorithms/general-documentation>

Twitter: @Xalgorithms and @Xalgo4Trade

LSE Business Review article: <https://tinyurl.com/lse-br-atkinson-2018-04-26>

Overview video: <https://vimeo.com/173809271>