

FLOW Licensing and Contracting: Applied Intellectual Resource Economics in the Canadian Public Sector

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A. INTRODUCTION

The paper explains and illustrates a generic approach to licensing and contracting for free-libre-open works (FLOW). Concepts in economics, accounting, and copyright law are summarized to provide a view of the business purposes of free-libre-open resource availability. An original way is presented to summarize the differences amongst various major free-libre-open licence types, emphasizing their rules for the distribution of derivative works. The paper also offers a generic naming convention for comprehensive models that combine sets of licensing and contracting choices for communities working on free-libre-open resources. A particular model described in the paper is named FLOW.through.1, and the example used to illustrate its application is the first free-libre-open project to be initiated by the Treasury Board Secretariat of the Canadian Government.

* This article was prepared and submitted by Joseph Potvin as a private citizen. Nothing he expresses in this article, or in discussions related to it, can be taken to represent the views, directions, or policies of his employer, the Treasury Board Secretariat of the Canadian Government. This article is licensed under the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/2.5/ca/> in Canada, and <http://creativecommons.org/licenses/by/3.0/> elsewhere). It is a detailed elaboration and extension of the presentation given by the author at the F/LOSS as Democratic Principle conference (April 2007), which was licensed Creative Commons Attribution, under Crown Copyright (Treasury Board Secretariat, Government of Canada).

B. FLOW

FLOW refers to any data, information, or knowledge resource created and distributed under free or open source software licensing, under similar licensing for content, or under “public domain” status. The “flow” metaphor emphasizes that intellectual works constitute dynamic “streams” of meaning. This idea is opposed to treating intellectual works as fixed property¹. In the book *I Seem to Be a Verb*, R. Buckminster Fuller wrote: “I live on Earth at present, and I don’t know what I am. I know that I am not a category. I am not a thing—a noun. I seem to be a verb, an evolutionary process.”² Accordingly, in this paper, FLOW is used in place of FLOSS (Free/Libre Open Source Software).³

C. CONSIDERATIONS IN ECONOMICS, ACCOUNTING, AND COPYRIGHT LAW

In his *Principles of Economics*,⁴ Alfred Marshall described “land,” “labour,” “capital,” and “organization/knowledge” as the four primary factors of production. The boundaries cannot depend solely upon their biophysical

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- 1 Richard Stallman, “Did You Say ‘Intellectual Property’? It’s a Seductive Mirage” (2008), online: www.gnu.org/philosophy/not-ipr.html
 - 2 R. Buckminster Fuller, Jerome Agel, & Quentin Fiore, *I Seem to Be a Verb* (New York: Bantam Books, 1970) at 1.
 - 3 It was in the trivial act of creating a filename for this article that typing “Free-Libre-Open” led me to think that all I needed was a good “W” word to complete what could be a deeply metaphorical acronym. “Works” is the generic term used in law and economics for all sorts of creative output. “Flow” is usually perceived first as a verb, and even when it is a noun, such as in “the flow of water,” it refers to movement. The result is that the subject of discussion is less likely to be mistaken for a commodity, as in: “Yes, please, I’ll have another flow.” (Though, if you did say that at the pub, the second one would probably be delivered!) I’ve never liked FLOSS (Free/Libre Open Source Software), because it is meaningless within the licensing context, and brings to mind the dental hygiene context to anyone outside the jargon circle. Furthermore, FLOSS refers just to software, whereas I find that most of the issues we concern ourselves with in this community are relevant to a wide spectrum of intellectual resources. I had already reinterpreted FLOSS in the original title of my presentation at the April 2007 workshop, to refer to services instead of software: “Licensing in a Free/Libre Open Source Services (FLOSS) Oriented Architecture: An Experiment in Applied Intellectual Resource Economics in the Canadian Public Sector.” As an economist, I have always held the view that a software programmer is a service provider, not a manufacturer.
 - 4 Alfred Marshall, *Principles of Economics*, 8th ed. (London: Macmillan, 1920).

characteristics. Whether landscaped features should be treated as capital or land, and whether management strategy is to be considered labour or knowledge, will always be debatable, due to different legitimate objectives underlying various accounting or analytical efforts. Marshall also did not clearly distinguish organization/knowledge from capital. But he did observe:

The distinction between public and private property in knowledge and organization is of greater importance than that between public and private property in material things; and partly for that reason it seems best sometimes to reckon Organization apart as a distinct agent of production.⁵

A hundred years earlier, on 13 August 1813, Thomas Jefferson wrote a letter to Isaac McPherson to articulate the practical distinction between public/private property considerations in relation to intellectual versus material things:

If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of every one, and the receiver cannot dispossess himself of it. Its peculiar character, too, is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me.⁶

Jefferson's emphasis that the possession of intellectual things can be infinitely concurrent, while the possession of material things is ultimately exclusive, even when held "in common," is obviously critical to any consideration of licensing and contracting. In general, it is useful to maintain a distinction between intellectual "organization/knowledge" and physical "capital."

The significance of distinguishing between organization/knowledge and physical capital is most evident today in relation to software. In legislation, software is considered to constitute a type of literary work. Under the Canadian *Copyright Act*,⁷ the term "literary work" explicitly "includes

⁵ *Ibid.* at 114.

⁶ Letter from Thomas Jefferson to Isaac McPherson (13 August 1813) in Philip Kurland & Ralph Lerner, eds., *The Founders' Constitution*, vol. 1 (Chicago: University of Chicago Press, 1987) c. 16, Document 25.

⁷ R.S.C. 1985, c. C-42.

tables, computer programs, and compilations of literary works.”⁸ It further specifies that “computer program” means “a set of instructions or statements, expressed, fixed, embodied or stored in any manner, that is to be used directly or indirectly in a computer in order to bring about a specific result.”⁹ The *Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)*,¹⁰ similarly states: “Computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention (1971).”¹¹ Accordingly, an expression in the C programming language, such as:

```
#include
int main()
{
    std::cout << "Hello, world!\n";
}
```

... or in the Ruby programming language, such as

```
for i in 1..1
    puts "Hello World!"
end
```

has the same essential characteristics in law as the English statement in preformatted text, such as:

```
Print: ?Hello World!?
```

The text you are reading presently is machine-readable via optical character recognition technology; the C++ source code of the word processor used by the author to write this text is readable by someone fluent in that programming language.

In 1928–29, the Belgian surrealist painter René Magritte depicted a pipe on canvas, below which he also painted the words: “Ceci n’est pas

8 *Ibid.*, s. 2.

9 *Ibid.*

10 *Agreement on Trade-Related Aspects of Intellectual Property Rights*, 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299 [TRIPS]. On terminology, see Richard Stallman, “Did You Say ‘Intellectual Property’? It’s a Seductive Mirage” (2008), online: www.gnu.org/philosophy/not-ipr.html.

11 *Ibid.*, art. 10(1).

une pipe,” (this is not a pipe).¹² His intent was to play with the human propensity to confuse the mere depiction of something, with the thing itself. His paradox is solved with the realization that one is not looking at a pipe, but at a painting of a pipe. As obvious as it may seem here, this type of misunderstanding frequently characterizes current perceptions of digital works, as many feel the software and the hardware are similar. But each, in their own ways, of Jefferson, Marshall, Magritte, and Canadian federal legislators have all emphasized the essential difference between a folder and an image of a folder, used as a metaphor.

Nevertheless, many public sector organizations institutionalize the confusion between the computer and the algorithmic instructions for the computer in their management of licensing and contracting. We can see the problem right in the name of the “Software Commodities Division” of the Acquisitions Branch of the Department of Public Works and Government Service Canada. The name suggests that federal acquisition of computer programming code is like acquiring hard drives, as one might consider stories to be similar to books. The methods of commerce applied to trade in licences for “seats” of restricted-access software since the early 1990s have made it seem common sense for procurement professionals to treat software programs in terms of commodity units. But spending for programming code that is prepared under contract is accounted for under “professional services”; and when the code is written in-house, the money shows up as “salaries.” There are no financial transactions to be accounted for at all when code is downloaded under free-libre-open licence terms, or when personnel from other organizations volunteer improvements or extensions to software that one’s in-house developers created and published under free-libre-open licence terms. Yet all of these are genuine “software acquisitions.” A higher-level of common sense suggests we can probably find common ground by treating computer programs as literary works; that is to say, as they are already considered as such in federal and international law.

Unfortunately, we cannot turn to the Canadian Institute of Chartered Accountants (CICA) for clarity. From 2001 forward the CICA has also allowed the treatment of spending on software as tangible capital expenditure for accounting purposes, whether in the form of licence purchases, contracted development, or own-account development. Recently, Professor

12 René Magritte, *La trahison des images*, 1928–29. Oil on canvas. Los Angeles County Museum of Art.

Charles Mulford and Jack Roberts¹³ at the Georgia Institute of Technology analyzed how the capitalization of software expenditure by firms causes financial reports to significantly overstate earnings for the fiscal year in which the money is spent, and then through amortization, to cause earnings to be understated in subsequent years. Finding that the majority of software development companies, in fact, do not capitalize software spending, and that amongst firms where it is done, the methods are arbitrary, they recommend that accounting standards bodies should revoke the provisions that permit this practice. Their study is in reference to the US market, however the issue they discuss is not significantly different in Canada.

Payments to vendors for unit licences are really “rental fees” (usage royalties), bundled with fees for financial services and support services. A typical end-user licence agreement, such as for the Microsoft XP operating system, states: “The Product is protected by copyright and other . . . laws and treaties. Microsoft or its suppliers own the title, copyright, and other . . . rights in the Product. The Product is licensed, not sold.” Clearly, the vendor is emphasizing that no asset ownership is acquired by the customer. The organization purchasing a licence cannot logically capitalize this expenditure. In March 2008 the quasi-judicial Commissioner of Income Tax (Appeals) in New Delhi ruled on the very point:

A copy of software supplied by the appellant admittedly did not amount to a sale but it is a licence to use the software as stipulated in software licence agreement.¹⁴

Accounting and acquisitions policies and practices that perceive royalties and service agreements as commodity unit sales are at best inadequate, and at worst misleading. From a pragmatic point of view, they tend to restrict an organization’s consideration of licensing and contracting options to the confines of a single business model.

Mulford and Roberts propose that software development costs should be returned to the pre-2001 treatment as research and development (e.g., new capabilities), which is expensed, or as operations and maintenance expenditures (e.g., bug fixes), which will depend upon the type of work

13 Charles Mulford & Jack Roberts, “Capitalization of Software Development Costs: A Survey of Accounting Practices in the Software Industry” (2006), online: <http://smartech.gatech.edu/handle/1853/15598>.

14 Tax India Online Legal Bureau, “Microsoft Softwares: The Product is Licensed, Not Sold” (2008), online: www.taxindiaonline.com/RC2/inside2.php3?filename=bnews_detail.php3&newsid=7095.

actually undertaken. Such a step “would be more closely aligned with the realities of the software industry today.”¹⁵

D. SOMETHING GAINED IN TRANSLATION: COPYRIGHT AND DROITS D'AUTEUR

In this global digital age of data warehouses, mash-ups, wikis, and free-libre-open licensing, it is useful, albeit frustrating, to realize that the key concepts and definitions in each country's copyright legal tradition started off and remain a little different, which inevitably leaves much room for confusion. Even within our own Canadian legal context, it is challenging for software and database professionals to steer clear of misunderstanding due to the conceptual differences between the English copyright tradition that emphasizes artistic and literary works as articles of commerce, and the *droits d'auteur* continental *civiliste* tradition that emphasizes personal reputation. There's value in briefly reviewing the historical origins of Canadian copyright, and their implications for licensing and contracting.

After Johann Gutenberg invented the printing press in 1440, it became easier for people to disseminate heretical and seditious works, challenging both church and state. In order to control what was being said, Henry VIII of England invoked a royal prerogative in 1538, on dubious constitutional grounds, to establish printing patents as a form of censorship. By a royal charter in 1557, the Stationers' Company was created by the British Crown to oversee a guild system in which the right to print a book was limited to members of the guild, who were the printers and sellers of books, not the authors. Much has changed in 450 years, but Canada's own current *Copyright Act*¹⁶ should still be viewed in its historical context, with attention to the evolution of the legislation, caselaw, and international conventions.

When the UK ratified the *Berne Convention for the Protection of Literary and Artistic Works* in 1887,¹⁷ they also ratified it on behalf of Canada. Under section 91(23) of the *Constitution Act, 1867*,¹⁸ the federal government was granted exclusive power to enact laws within Canada related to copyright. But Canada remained under British copyright until 1921, when the Canadian Parliament passed its own *Copyright Act*. This came into force in

15 Above note 13 at 18.

16 *Copyright Act*, R.S.C. 1985, c. C-42.

17 9 September 1886, as revised at Paris on 24 July 1971 and amended in 1979, S. Treaty Doc. No. 99-27 (1986).

18 (U.K.), 30 & 31 Vict., c. 3, reprinted in R.S.C. 1985, App. II, No. 5.

1924,¹⁹ although it was still closely modelled on the English *Copyright Act of 1911*.²⁰ As a separate country Canada only ratified the *Berne Convention* in 1928.

It is a common experience in bilingual and multilingual settings to encounter problems of confusion when semantic meaning gets lost in translation. In Canada's case, we find something has been gained in translation with the French phrase *droits d'auteur*, which is evidently not "*droit de copier*." The English word "copyright" refers to a straightforward economic right to make copies of a work. The meaning is extended in the French *droits d'auteur* in a way that draws upon the European continental civil law (*civiliste*) tradition. It holds that the right of reproduction goes beyond the simple right to make new copies of a work to the more complex notion of protecting the integrity and paternity of the work, because it is linked to the author's reputation in society.

In Canadian legislation, Parliament has sought to draw upon both English and French traditions in an attempt to balance a right that is centred on the reputation of the person of the author with a right centred on the economic role of the work as an object of commerce. (In the English language, the reputation element is denoted "moral right," although this would have been better communicated with the word "morale.") *Droits d'auteur*, or "author's rights," does not refer strictly to the dollars-and-cents linkage between an author and the creative work. Instead, the work is considered to represent something about the author, whose dignity deserves protection, and thus the right to defend the integrity of a work and, where reasonable in the circumstances, to be associated with the work as its author by name or under a pseudonym, or to remain anonymous. Under international agreements and national legislation, authors of creative works hold moral rights of integrity, association, and attribution, although how these rights are understood varies from country to country. Section 28.2(i) of Canada's *Copyright Act* specifies that "the author's right to the integrity of a work is infringed only if the work is, to the prejudice of the honour or reputation of the author" as a result of the work being "distorted, mutilated or otherwise modified" or "used in association with a product, service, cause or institution."²¹ In Canada, the reputation (moral) rights of an author can be waived but not transferred through assignment or sale, whereas copyright can be sold or assigned to a person or entity other than the original author.

19 *An Act to amend and consolidate the Law relating to Copyright*, S.C. 1921, c. 24.

20 *Copyright Act 1911* (U.K.), 1 & 2 Geo. V, c. 46.

21 Above note 7, s. 28.2(i)(b).

The *Theberge v. Galerie d'Art du Petit Champlain Inc.*²² case provides an excellent description of these concepts.

E. RELEVANCE AND LIMITATIONS OF COPYRIGHT FOR DATA AND DATABASE PROFESSIONALS

The application of copyright should be considered by parties to contracts involving the use of or creation of databases, which are implemented in software. The boundary line regarding the applicability of copyright law to data was clarified in a 1997 case at the Canadian Federal Court of Appeal (*Tele-Direct (Publications) Inc. v. American Business Information, Inc.*).²³ In his decision, Judge J.A. Denault explained:

Under subsection 5(1) of the (Copyright) Act, copyright subsists not in a compilation of data per se, but in an original work . . . the selection or arrangement of data only results in a protected compilation if the end result qualifies as an original intellectual creation.²⁴

He reiterated a US Supreme Court decision,²⁵ which found that listings of routine factual data, such as names, towns, and telephone numbers in a telephone directory, are “uncopyrightable” facts, because they are not selected, coordinated, or arranged in an original way.

The *TRIPS* agreement also states:

Compilations of data or other material, whether in machine readable or other form, which by reason of the selection or arrangement of their contents constitute intellectual creations shall be protected as such. Such protection, which shall not extend to the data or material itself, shall be without prejudice to any copyright subsisting in the data or material itself.²⁶

Further, subsection 2.1(2) of the *Copyright Act* states that the “mere fact that a work is included in a compilation does not increase, decrease or otherwise affect the protection conferred by this Act in respect of the copyright in the work.” The courts have consistently found that the amount of effort required to collect and manage the information is not a criterion for copyrightability.

22 *Theberge v. Galerie d'Art du Petit Champlain inc.*, 2002 SCC 34.

23 [1997] F.C.J. No. 1430, 1997 CanLII 6378 (C.A.).

24 *Ibid.* at para. 16.

25 *Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991).

26 *TRIPS*, above note 10, art. 10(2).

Rights in the other constituent parts of a database warrant separate consideration. Copyright title to generic documentation of the source data model and metadata schema may be held by an international standards body, such as the International Public Sector Accounting Standards Board. However, technical documentation, implemented database tables, indices and functions, data entry forms, queries, and output views are typically covered by copyright. Title to these discrete parts of the database would be determined according to what organizations the database analysts/architects worked for, their terms of employment with those organizations, and the terms of the federal contracts under which the work was performed.

F. TERMS AND CONDITIONS OF AVAILABILITY DISTINGUISH INTELLECTUAL ASSETS FROM INTELLECTUAL RESOURCES

A *resource* is any available supply of wealth that may be drawn upon when needed. Only that part of an asset, such as an in-ground mineral deposit or oil *reservoir*, that is technologically and financially available for extraction is correctly referred to as a *reserve*, or natural *resource*. *Intellectual resources* refer to the available supply of data, information, or knowledge assets that may be drawn upon when needed. Therefore the terms and conditions of availability associated with an intellectual asset, especially provisions related to the creation and distribution of derivative and associated works throughout a community of creators and users, establish whether that asset can be considered a resource.

Figure 1: An Intellectual Resource Community

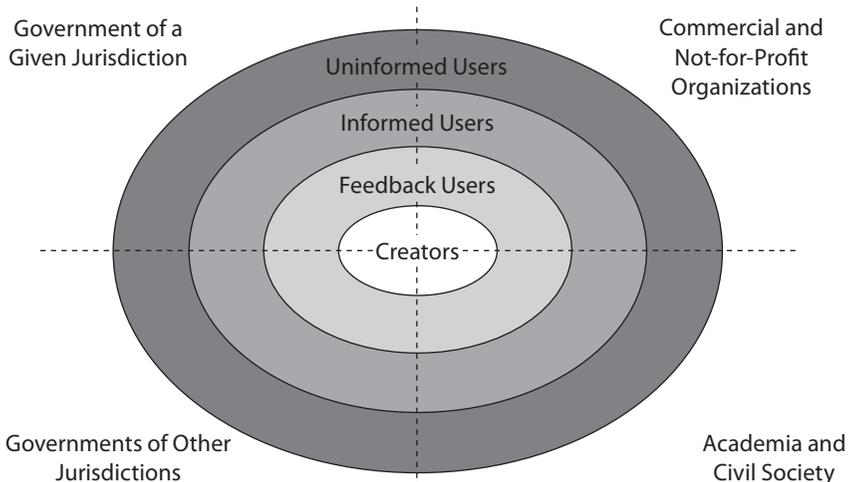


Figure 1, developed in conversation with Mike Lachapelle of Public Works and Government Services Canada, illustrates creators of intellectual resources at the centre of a given community. The resource may be used by people who are unaware that they are using it, such as visitors to www.canada.gc.ca,²⁷ who do not realize that the site is delivered from a system running a compilation of more than 200 software community resources distributed as the “Apache Webserver.”²⁸ The name is derived from an early reference to this compilation of complementary resources, by one of its original creators, as “a patchy webserver.” Being told this fact, users of the site are introduced into the group of informed users, which includes some who locate and download a copy of this set of resources for use in other contexts. A small part of this group may have reason, on occasion, to offer feedback to the creators of a given intellectual resource like Apache. By communicating with the creators, these “feedback users” can influence its further evolution. They can also have the source code to Apache and modify it themselves. To the extent that some contribute substantively to the Apache resources themselves, they participate as co-creators.

Formal access rules, such as nondisclosure agreements, licences, and role-based access protocols, as well as informal “us/them” social dichotomies, may restrict participation in an intellectual resource community to a defined group within one of the sector quadrants indicated, such as a single branch of a given organization, or to identified participants within or across sectors.²⁹ To anyone outside that boundary, those exclusive assets are not resources. Business interests in restrictive licensing and contracting of intellectual assets depend upon the ability of rights owners to maintain some degree of exclusive possession of these assets, as if they were physical.

There are numerous business reasons for creators in various contexts to declare their asset to be a free-libre-open resource for any participant from any sector, under an explicit or implicit governance agreement and management process. Their reasons can be grouped as augmenting benefits, reducing costs, and managing risk, summarized in Table 1. Some of the terminology in this list reflects its origins relating to software. But most of the elements can be easily interpreted in connection with other intellectual resource types.

27 Government of Canada, “Canada: The True North Strong and Free,” online: www.canada.gc.ca.

28 The Apache Software Foundation, online: www.apache.org.

29 An example across sectors would be a public-sector study, or software project team, the design of which is exclusive to staff and selected external commercial contractors, even if it invites public feedback on the results.

Table 1: Business interests in FLOW Licensing and Contracting

Augment Benefits	Reduce Costs
<ul style="list-style-type: none"> • Knowledge-sharing and innovation through agile private-public-academic collaboration <ul style="list-style-type: none"> » International » Cross-sector/Cross-departmental » Cross-industry • Leverage of intellectual assets that have already been paid for • Leverage of the most competitive approaches • Better in-house and independent security, management, and financial control • Diversify and decentralize <ul style="list-style-type: none"> » Customization for niche requirements » Opportunities for participation of small and medium enterprise outside major cities • Engage internal and external expertise <ul style="list-style-type: none"> » Designers/architects/ planners » Quality assurance community » Implementation community 	<ul style="list-style-type: none"> • Cost management <ul style="list-style-type: none"> » Configuration flexibility » Migration flexibility (no forced obsolescence) » Reuse components (own and others') » Externalize certain costs » Simplify licence management • Reduce start-up and delivery times • Engage international standards by default • More elegant modular architecture • More agile systems development
	<p data-bbox="586 677 728 703">Manage Risk</p> <ul style="list-style-type: none"> • Provide/obtain independent security assurance • Distribute risk amongst multiple investors • Protect the “knowledge commons” • Sustainability (outlast team/organization) • Learn from peer review feedback <ul style="list-style-type: none"> » Praise and/or criticism » Confirmation/rejection of assumptions • Employee retention and succession management

One of the primary business interests/reasons for creators in an intellectual community to choose FLOW arrangements is that the scope of feedback influences the depth of learning. Almost half a century ago, Jay Forrester observed that the basic structural element of an organization (or a community) is the “information-feedback loop.”³⁰ He believed that it is really the set of interacting feedback loops that comprise the underlying structure of a system. More recently, Chris Argyris described learning that takes for granted certain goals, values, and frameworks as “single-loop

30 Jay W. Forrester, *Industrial Dynamics* (Cambridge: MIT Press, 1961) and Jay W. Forrester, “Industrial Dynamics: A Major Breakthrough for Decision Makers” (1958) 36 Harvard Business Review 37.

learning.”³¹ Since participants in open communities are more often challenged to reconsider their goals, strategies, and assumptions, these influences lead to what Argyris called “double-loop learning,” by which he means they learn how to learn more effectively.

FLOW terms and conditions of supply around data, information, or knowledge, and the associated provisions for derivative and associated works, are expressly designed to foster the most diverse set of interacting feedback loops possible. If Forrester and Argyris are correct, participants in FLOW communities can be expected to experience more opportunities to learn, and to learn more deeply, than those operating under restrictive arrangements.

G. A SPECTRUM OF FLOW LICENCE TYPES

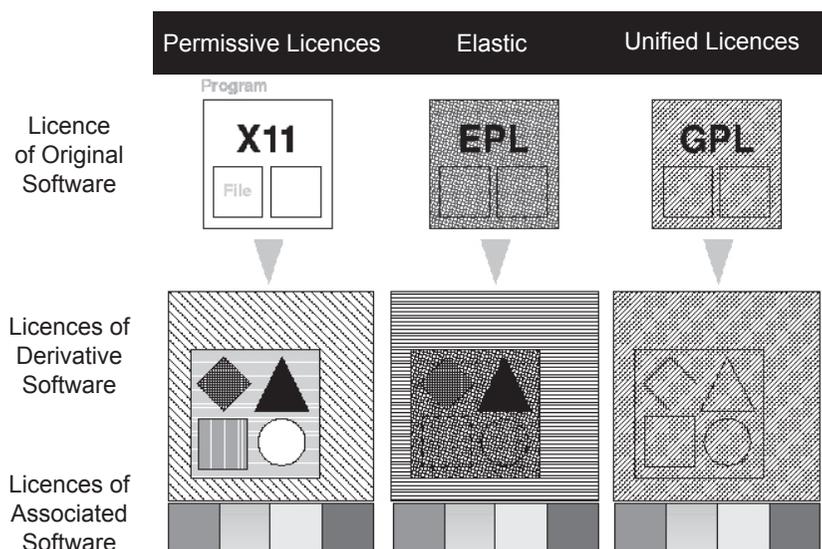
The key to understanding the differences amongst alternative FLOW licences is to consider how they accommodate derivative and associated works. Figure 2 is an original way to illustrate the three basic types of software licences used by FLOW communities. The large squares at the top represent software “programs,” and their smaller internal squares represent component “files” that constitute the functional elements of those programs. (As before, the terminology here is related to software because that is the most advanced area of FLOW licensing, offering the clearest examples. The essential concepts can be leveraged for many other types of works also, such as for “stories” that contain chapters.)

For software, the most popular “unified licence” is the GNU General Public License (GPL).³² Under its terms, anyone is free: to change elements of the work, represented here as a square that is modified to be a circle; to add new elements into it, seen as the addition of the diamond and the triangle; and, to “wrap” other software around it, on the condition that the entire resulting program is distributed under the same GPL, the shading of the illustration with diagonal lines. The business intent of such a licence is to ensure that terms and conditions for users, contributors, and distributors remain simple and consistent for the whole resource, hence the term “unified.” It also establishes a prohibition against distribution of elements or derivatives under any other licence. This protects the interests of the original software creators where competitors would make derivatives of their

31 Chris Argyris, *On Organizational Learning*, 2d ed. (Oxford: Blackwell, 1999).

32 GNU Operating System, “GNU General Public License,” online: www.gnu.org/copyleft/gpl.html.

Figure 2: How Different FLOW Licences Accommodate Derivative and Associated Works



creative work. This licence does accommodate the distribution of other intellectual resources under different licences in association with the program that is under the unified licence, and this is represented by the multi-shaded squares along the bottom. Only derivatives and extensions of the original work must remain under the unified licence.

At the other end of this FLOW licensing spectrum are options such as the “X11” licence and revised BSD License.³³ This “permissive” class of licences leaves anyone the right to maintain or change elements of the original work, to add new elements, and to “wrap” other software around it, under any licences at all. The main business intent of permissive licences is to propagate a given solution. For this reason it is particularly suited to reference implementations of international standards because the business goals of these resource creators are met even when others re-licence the solution under restrictive royalty-based terms and conditions.

A hybrid approach is referred to here as “elastic” licensing of intellectual resources, best represented by the Eclipse Public License (EPL).³⁴ The GPL-styled share-alike requirements of unified licensing apply to component

33 X11 License, online: www.xfree86.org/3.3.6/COPYRIGHT1.html#1

34 Revised BSD, online: www.xfree86.org/3.3.6/COPYRIGHT2.html#5

files and their derivatives and extensions, but the XII style of laissez-faire permissive licensing applies to the whole functional program. Under this scenario, anyone may change discrete elements of the work, shown here as a square that is modified to be a circle, on the condition that the derivative element is redistributed under the original EPL licence, the inner box inside the box shaded with horizontal lines. Anyone may also add new elements, and “wrap” other software around the entire set, under any licences at all. The business intent of this type of licence is to ensure that terms and conditions for users, contributors, and distributors of individual components and their derivatives remains consistent, but that anyone can create derivative programs by adding different features and functions under any licence at all, including restrictive royalty-based terms and conditions. The elastic licence fosters more complex, composite licensing scenarios for complete programs than either the unified or permissive scenarios:

- The unified GPL requires application of the original single licence to the whole program
- The permissive XII permits the option of applying any other single licence to all adopted components licensed under it
- The elastic EPL restricts licensing to some parts, but not all.

H. THE FLOW.through.1 MODEL FOR LICENSING AND CONTRACTING BY AN INTELLECTUAL RESOURCE COMMUNITY

1) A Naming Convention for Licensing and Contracting Models

FLOW licences provide rules governing the wide availability and distribution of intact, derivative, and associated works from an intellectual resource community. But none of these licences are designed to address, nor do they imply, any assumptions about the original intellectual rights of creators, whether they are individuals or organizations, as autonomous original contributors of data, information, and knowledge to the community.

Walter Pitkin of Columbia University observed that “there are a few right ways of doing anything (some say there is only one, but that is not true); and there are a million easy ways of doing each thing wrongly.”³⁵ There are several potential “right” ways for an intellectual resource community as a whole, and its contributors individually, to complement FLOW

35 Walter B. Pitkin, *A Short Introduction to the History of Human Stupidity* (London: George Allen & Unwin Ltd., 1935) at 16.

licensing with contractual foundations for intellectual rights in original contributions, as well as for ongoing rights and licence management. But at present there is no easy way to name alternative approaches to contracting and licensing.

A three-part generic-naming convention is suggested here for comprehensive models that combine sets of licensing and contracting choices. The first part is the FLOW acronym, which refers to any stream of data, information, or knowledge that is created and distributed under free or open source software licensing, under similar licensing for content, or under “public domain” status. The second part is any word in lowercase to distinguish each model, the preference being to select words that extend or qualify the metaphor. The third part appends conventional version numbering to the model’s name, so that incremental improvements can be easily signalled. A particular model described below is named “FLOW.through.1.” A similar naming convention can be used to distinguish FLOW from exclusive models. For example, the label RENT (“Restrictive/Exclusive/Negotiated Title”) emphasizes particular terms of compensation, and can be used in the following form: “RENT.thought.1.”

2) FLOW.through.1 Intellectual Rights Contract Provisions Among Contributors

The FLOW.through.1 model outlined in this section borrows ideas from four sources. Its treatment of primary copyright ownership is derived from the Canadian Government’s “Policy on Title to Intellectual Property Arising Under Crown Procurement Contracts,” specifically Appendix A, Part 1: “Contractor Owns.”³⁶ Provisions for community copyright management are adapted from the “Joint Copyright Assignment” of OpenOffice.org.³⁷ Risk management relating to potential and perceived liability builds upon the rationale presented by the CICA regarding the application of joint and several liability to professional defendants, and incorporated into subsequent recommendations by the Canadian Senate Standing Senate Com-

36 Treasury Board of Canada Secretariat, “Policy on Title to Intellectual Property Arising under Crown Procurement Contracts (Appendix A, Part 1: Contractor Owns)” (2006), online: www.tbs-sct.gc.ca/Pubs_pol/dcgpubs/Contracting/tipaucpca_e.asp.

37 Sun Microsystems, “OpenOffice.org Open Source Project Joint Copyright Assignment by Contributor to Sun Microsystems, Inc.,” online: www.openoffice.org/licenses/jca.pdf.

mittee on Banking, Trade and Commerce.³⁸ The synthesis of all of these elements into an approach for FLOW licensing and contracting that maintains an attractive incentive structure for voluntary knowledge sharing and inter-organizational learning, is the outcome of many conversations with private, public, and academic participants in the GOSLING Community.³⁹

The FLOW.through.I model vests authors' rights to original work with the contributor most directly associated with authorship, whether the author's legal status is as a contractor, subcontractor, organization, employee, or individual. When an author is subcontracted through another firm, such as a professional services broker that holds a standing offer with a paying client, the brokering firm and the paying client will need to waive all intellectual rights claims to the creative work contributed in favour of the author.⁴⁰ When the author is an employee, an employer gaining original title would assign independent joint copyright to the individual(s).

The FLOW.through.I model for licensing and contracting has each author participating in the intellectual resource community sign an attestation upon first seeking to join the ranks of contributor. It states that any work to be contributed shall be either:

- Directly authored by or herself, such that she holds moral rights of integrity, association, and attribution for the contributions, and also holds author's rights to issue licences and to assert controls on copying and distribution of these contributions (copyright). The FLOW.through.I model then has each author commit to a waiver of her moral rights to the integrity of the work, thereby authorizing anyone else to make derivative works, and a waiver of her moral rights of as-

38 Canada, Parliament, Standing Committee on Banking, Trade and Commerce, "Corporate Governance" in *Journals of the Senate* (August 1996), online: www.parl.gc.ca/35/2/parlbus/commbus/senate/com-e/bank-e/rep-e/cgo-tc-e.htm ["Corporate Governance"].

39 GOSLING (Getting Open Source Logic INto Governments) is a voluntary, informal learning and knowledge-sharing community of practice, involving civil servants and other citizens who actively assist the engagement of free/libre/open methods and software solutions in government operations. Participation in GOSLING involves individuals in their personal capacities, such that activities are driven by the research, interests, and views of the members, which may or may not reflect the official stances of the organizations in which they may work. See online: www.goslingcommunity.org.

40 All brokering firms I have approached with this FLOW.through.I model have agreed to sign such a waiver, or were able to demonstrate that they were making no intellectual rights claims in the work of their contractors.

sociation, which authorizes anyone else to combine or distribute the contributed work in relation to any product, service, cause, or institution. However each author retains the moral right of attribution to the original contributed form of the work (right to claim authorship; to remain anonymous; to use a pseudonym).

- Third-party data, information, or knowledge, accompanied by identification of sources, and documentation of permissions from those who hold moral rights and authors' rights, which may be in the form of licences. The FLOW.through.1 model has each contributor commit to a statement that any such work will only be contributed if it is known to be under permissions and licences that are compatible with the licensing regime use by this community. The statement also commits the contributor to respect all requirements of third-party permissions and licences, and to provide the community clear rights or authorizations to modify and distribute under its chosen community licensing regime. The contributor is obliged to identify in writing any issues or uncertainties regarding appropriate use or distribution. The statement also requires that the terms and conditions of externally acquired supporting resources needed to work with or implement the community resource shall be read and respected by the contributor.

It is essential that an intellectual resource community be able to exercise management authority over licensing and distribution of its resources, under whatever governance structure it happens to engage. This requires that the governing entity of the community obtain unrestricted, independent, joint authors' rights over all contributions taken together, without limiting the intellectual rights of individual contributors. Otherwise, at some future date, the community could find it entirely impractical to implement even the most minor and obvious adjustments to the licensing of the combined works. If authors' rights vest only with each individual contributor, then any change in any licence clause covering the whole would have to be approved by each and every contributor. Some of the contributors may be impossible to reach and, indeed, some may only be represented by their estates. Companies that held rights might have been absorbed by other firms, or they may no longer exist. This is the bind that the Linux kernel community got itself into during the past fifteen years. Since most kernel contributors have always retained exclusive individual rights in their contributions, negotiation related to changing from version 2 to version 3 of the GNU General Public License was significantly complicated beyond any

substantive differences of opinion. Some kernel contributors who did not agree with elements of the version 3 licence viewed this limitation as beneficial. They argue that consent was required from all the authors who had ever contributed to the Linux kernel, which would have remained entirely impractical to obtain. Not everyone agrees that complete expressed consensus was required. However, lingering differences on this point demand that both views be considered.

The present FLOW.through.1 model is suitable for any intellectual resource community whose participants would vest authority with their governing authority to manage licensing of the whole, yet want to leave intact the intellectual rights of individual contributors. Therefore, before any original contribution can be accepted as part of the combined resource, the owner of the authors' rights is required to assign "unrestricted, independent, joint" authors' rights (copyright) to the governing entity. That means both the author and the governing entity will hold full, autonomous rights to distribute, license, and sublicense the contribution, and while the original author will always be attributed (within the limited provisions of the licence), both may independently register a copyright in the contribution in any jurisdiction. But by these means, the governing entity is granted by all contributors, unrestricted and independent derivative and distribution rights in the synthesized whole, or any part, including the right to make these available under any licence, for a fee or otherwise, to re-license, sublicense, and/or multiple-license, without seeking any additional authorizations from any contributors.

3) The FLOW.through.1 Community Risk Management Strategy

The FLOW.through.1 model explicitly does not encompass the supply of financial services, such as warranties, insurance, and indemnifications, to any part of the community, directly, indirectly, or by implication. However, some observers of free-libre-open activities have raised the question of whether an intellectual resource community could be considered a legal partnership, in which case it would be subject to rules about joint and several liability, such that all contributors and distributors could be considered liable for the actions of each contributor and distributor individually. Although the contributors, distributors, and other participants in such a community typically do not intend to establish a legal partnership, some argue that a legal partnership could potentially be deemed to be created, particularly in cases where a community may be managing a fund, maintaining a well-defined Internet presence, sharing management

responsibilities for copyrighted works, and perhaps even referring to itself as a “partnership” in the colloquial sense. These analysts point to numerous cases related to physical property in which courts have found the existence of partnerships, contrary to the intent of the participants, even in cases where signed agreements expressly declared that no partnership was created. The administrative requirement to register partnerships for reporting and taxation purposes gives people the impression that such a declaration is required for a partnership to come into existence. But legally, a partnership exists commercially or does not exist, regardless of what the parties might have declared or believed. In the Australian case *Weiner v. Harris*, Cozens-Hardy M.R. explained:

Two parties enter into a transaction and say “It is hereby declared there is no partnership between us”. The Court pays no regard to that. The Court looks at the transaction and says “Is this, in point of law, really a partnership?”⁴¹

Conversely, in *Commissioners of Inland Revenue v. Williamson*, the Lord President of the Scottish Court of Session, Lord Clyde, said:

My Lords, you do not create . . . a partnership by saying there is one. The only proof that a partnership exists is proof of the relations of agency and of community in losses and profits. . . .⁴²

Therefore, participants in an intellectual resource community should consider whether a court examining the facts of their relationship under their chosen licences and contracts might declare it to be a legal partnership, notwithstanding what their licences or contracts say, in which case joint and several liability would apply.

In 1996, representatives of the CICA appeared before the Standing Senate Committee on Banking, Trade and Commerce⁴³ to explain that auditors were facing just this sort of liability crisis, which they blamed on the application of joint and several liability to professional organizations. The Senate Committee went further and “expressed the view that the issue of joint and several liability . . . affects all professional defendants, not just auditors,”⁴⁴ and agreed to hold hearings on the subject later the same year. Its interim

41 *Weiner v. Harris*, [1910] 1 K.B. 285 at 290 (C.A.).

42 *Commissioners of Inland Revenue v. Williamson* (1928), 14 T.C. 335 at 340.

43 “Corporate Governance,” above note 39.

44 *Ibid.* at 6.

report “Joint and Several Liability and Professional Defendants”⁴⁵ identified Limited Liability Partnerships (LLPs) as a practical solution, because they would:

allow firms to retain their partnership structure while protecting the personal assets of partners who have no involvement in a negligence action. The firm is liable for the acts committed by its members in the ordinary course of the firm’s business, but individual members will not be liable for each other’s acts. Individual partners, however, continue to maintain responsibility for their own acts and for those over which they have a direct supervisory role or knowledge.⁴⁶

With further input from the Canadian Bar Association (CBA) and the CICA, the Committee issued the fourteenth report on “Modified Proportionate Liability”⁴⁷ in September 1998, recommending a limited liability regime for all types of professionals, to replace joint and several liability. Specifically it recommended that

- a form of modified proportionate liability should replace joint and several liability for claims for financial loss arising by reason of an error, omission, statement or misstatement;
- joint and several liability should continue to apply to claims made against a defendant who knowingly or intentionally engaged in fraudulent or dishonest conduct;
- the modified proportionate liability regime should distinguish between sophisticated and unsophisticated plaintiffs.⁴⁸

Subsequently, Canadian provinces updated their legislation to recognize LLPs, but some jurisdictions (such as Ontario) declined to accommodate the Senate Committee’s expressed concern that joint and several liability was inappropriate to professional membership organizations of all types of disciplines. Instead they restricted LLP protections only to chartered accountants, certified general accountants, and lawyers, presumably because

45 Canada, Parliament, Standing Committee on Banking, Trade and Commerce, “Joint and Several Liability and Professional Defendants: Options Discussion Paper” in *Journals of the Senate* (October 1997), online: www.parl.gc.ca/36/1/parlbus/commbus/senate/com-e/bank-e/report-e/report-02-e.htm.

46 *Ibid.*

47 Canada, Parliament, Standing Committee on Banking, Trade and Commerce “Modified Proportionate Liability” in *Journals of the Senate* (September 1998), online: www.parl.gc.ca/36/1/parlbus/commbus/senate/com-e/bank-e/rep-e/rep14sep98-e.htm.

48 *Ibid.*

of the leading roles that the CICA and the CBA played in the Senate Committee's consultations.

To address potential scenarios in which a court examining the facts of an intellectual resource community may deem a legal partnership to exist, the FLOW.through.1 model includes an explicit conditional declaration of intent by each contributor and distributor to the effect that if the relationship would be considered a partnership of some form, then the participants intend that it would exist as an LLP within the jurisdiction of the governing entity of the community, and in every other jurisdiction, as an extra-territorial LLP. Granted, such an interpretation might not be supported in current provincial legislation; however, the declaration stands as a statement of intent by the community to challenge, if necessary, the unwarranted restriction of LLP protections according to field of endeavour in light of the Senate Committee's expressed view that joint and several liability presented a problem relevant to all types of professional defendants, not just auditors. Obviously, further analysis on this question is required.

While some lawyers have expressed concern that there is very little caselaw to review in relation to disputes over work covered by free-libre-open licences, this is because almost all such disputes are settled through negotiation, not litigation. In general, the conflict management environment around FLOW licensing and contracting tends to differ qualitatively from scenarios driven by exclusive rights and restrictive licensing. Most available caselaw stems from incidents at that dangerous intersection on the corner of "Exclusive-Restrictive Road" and "Free-Libre-Open Street," rather than just along Free-Libre-Open Street *per se*.

4) FLOW.through.1 Community-Level Licence Management

The intellectual rights contracts described above are intended to enable effective community-level licence management under a diversity of FLOW licensing scenarios. Since moral rights of integrity and association are waived, and the governing entity is granted unrestricted and independent authors' rights to the community resources, the intellectual resource community is at liberty, by whatever governance process it has adopted, to make the synthesized resources available in whole or in part, for any purpose and under any licence, without seeking additional authorizations from any or all of the contributors. This provides a basis for genuine community-level licence management that is not fettered by the inevitable plurality of views on any future issue.

Under the FLOW.through.1 model, both the individual contributor and the community's governing entity have their own licensing decisions to make, since both autonomously hold authors' rights.

The FLOW concept in general is not congruent with any licences that place conditions on the field-of-endeavour, such as the Creative Commons Attribution Non-Commercial License. A no-royalties licence would be within the scope of FLOW models, because it would address terms of compensation, and remain useable by any type of organization. However, the Creative Commons family of standardized licences does not include a no-royalties option at this time.

Under the FLOW.through.1 model, the governing entity of an intellectual resource community uses licences for resources under management by the community that are optimized to attract back, under unified business terms and conditions, the improved, derivative and/or combined works that anyone may create for distribution. That is to say, a governing entity using this model would select from amongst the major unified licences:

FLOW.through.1 Community Licenses

Software

- GNU General Public License (GPL) Version 3
- GNU Affero License (New adaptation of the GNU GPL, for software run on a network. This licence is not yet "widely used.")

Content⁴⁹

- GNU Free Documentation License Version 1.2
- Creative Commons Attribution Share-Alike License Version 3.0.

Having said this, however, the governing entity of an intellectual resource community under the FLOW.through.1 model does not impose any preconceived licence choices on contributors. Each contributor, having retained full authors' rights in their own creative work, can use, modify, and distribute their work, in whole or in part, through any channel, for any purpose, under any licence at all. They are not required to attach their own licence to these contributions since the governing entity of the intellectual resource community will, under its own authority, apply the appropriate unified licence(s). That contributors, including those internal to the

49 Work that is both programming code and descriptive text or architecture graphics, such as descriptive comments in the source code that are not executable, as well as source-code samples that are used in textual documentation, can be distributed dual-licensed, for example, under the FDL and the GPL.

governing entity, can apply licences distinct from the community licence might appear contradictory or redundant. But there are often good reasons for using different licences for different contexts, and the FLOW.through.1 model maintains each contributor's right to do so. In the interest of licence standardization and compatibility, however, the FLOW.through.1 model suggests, but does not require, that contributors choose from amongst any of the licences that are widely used,⁵⁰ and that they are also compatible with the most widely used unified licences:⁵¹

FLOW.through.1 Contribution Licences (Recommended Only)

Software

- Apache License, 2.0
- Revised (“Modified”; “3-Clause”) BSD License
- GNU General Public License (GPL)
- GNU Library or “Lesser” General Public License (LGPL)
- GNU Affero License
- X11 (MIT) License
- Public Domain (if not licensed)

Content

- Creative Commons Attribution Share Alike License (CC-by-sa)
- Creative Commons Attribution License (CC-by)
- GNU Free Documentation License (FDL)
- Public Domain (if not licensed)

The right of each contributor to license their own creative work does not extend to the combined or derivative works involving contributions of other rightsholders in the community. Nevertheless, any subset of contributors under FLOW.through.1 are at liberty to establish separate written agreements amongst themselves to distribute their synthesized or collective works in any way they please.

50 Open Source Initiative, “Report of License Proliferation Committee and Draft FAQ” (31 July 2006), online: www.opensource.org/proliferation-report.

51 See GNU Operating System, “Various Licenses and Comments about Them,” online: www.gnu.org/philosophy/license-list.html; David A. Wheeler, “The Free-Libre/Open Source Software (FLOSS) License Slide” (27 September 2007), online: www.dwheeler.com/essays/floss-license-slide.html; and Wikipedia, “Life of FSF Approved Software Licences,” online: http://en.wikipedia.org/wiki/List_of_FSF_approved_software_licenses.

I. THE ITERation PROJECT: IMPLEMENTING THE FLOW. through.1 MODEL

Elements of the FLOW.through.1 model were researched and arranged through 2006 and 2007 as the basis for community development of the ITERation project (IT for Expenditure Reporting Automation). This project is an experimental “proof-of-concept” initiative led by the Canadian Government (Treasury Board of Canada Secretariat 2006)⁵² to automate and simplify expenditure data assembly, mapping, and issue management from across multiple, non-confidential, authoritative sources, and to support repeatable trend analysis and reporting according to user-defined profiles. The government’s 2007 “Federal Accountability Action Plan”⁵³ refers to Part III of the International Monetary Fund’s “Manual on Fiscal Transparency,”⁵⁴ entitled “Public Availability of Information,” which states that

Making fiscal information available to the public is a defining characteristic of fiscal transparency. Principles and practices in this regard concern the provision of comprehensive information on fiscal activity and government objectives and the presentation of such information in a way that facilitates policy analysis and promotes accountability. A cornerstone for ensuring the timely and uniform availability of fiscal information is that it can be readily accessed free of charge on the internet.⁵⁵

ITERation is therefore an experiment in applied information management according to the principles of “Open Services Oriented Architecture,”⁵⁶ which requires a process for “integrating structured and unstructured information sources so that they can be dealt with as if they were a single source.”⁵⁷

52 The Treasury Board of Canada Secretariat (TBS) provides advice and support to treasury board ministers in their role of ensuring value for money, and provides oversight of the financial management functions in departments and agencies. The Secretariat makes recommendations and provides advice to the Treasury Board on policies, directives, regulations, and program expenditure proposals with respect to the management of the government’s resources.

53 Government of Canada, *Canada’s New Government Federal Accountability Action Plan: Turning a New Leaf* (Ottawa: Government of Canada, 2006).

54 International Monetary Fund, “Manual on Fiscal Transparency,” online: www.imf.org/external/np/pp/2007/eng/051507m.pdf.

55 *Ibid.* at Part III, Public Availability of Information, paras. 177–78.

56 Jeff Kaplan, “Roadmap for Open ICT Ecosystems,” online: <http://cyber.law.harvard.edu/epolicy>.

57 Mei Selvage, Dan Wolfson, & John Handy-Bosma, “Information Management in Service-Oriented Architecture, Part I: Discover the Role of Information Manage-

The ITERation project involves

- 1) *The ITERation Reference Implementation*.⁵⁸ This is a generic, structured data warehouse that includes data documentation control, business rules management, multi-source data mapping, data issue management, data cleansing, and formal revision control workflow, together with a web application that includes automated statistical analysis and visualization functions, and portfolio, issue management, and revision control systems for user-generated content and system software.
- 2) *The ITERation Web Service*. This is a functioning instance of the Reference Implementation at its ongoing state of development, populated with data that is formally cleared for unencumbered public use.⁵⁹

The project is intended to help multiple organizations share a common approach to

- simplifying and accelerating data assembly, management, statistical analysis, and reporting;
- automating quarterly and annual trend reporting to precise requirements, based on reusable analytical elements;
- ensuring 100 percent auditability of all elements, functions, files, and data sources;

ment in SOA” (22 March 2005), online: www.ibm.com/developerworks/webservices/library/ws-soa-ims; and Mei Selvage, Dan Wolfson, & John Handy-Bosma, “Information Management in Service-Oriented Architecture, Part 2: Explore the Different Approaches to Information Management in SOA” (10 June 2005), online: www.ibm.com/developerworks/webservices/library/ws-soa-ims2.

- 58 The modules that comprise the Reference Implementation are architected to be substitutable with solutions from alternative suppliers. The forthcoming ITERation Version 1.0 operates on the following externally acquired software:
- PostgreSQL database, distributed by the PostgreSQL Global Development Group under the BSD License;
 - R and R-project statistics and graphing environment, distributed by the R Foundation under the GNU General Public License;
 - A web application environment. The alpha implementation was created using the PHP environment distributed by the PHP Group under the PHP License. This may be ported in 2008 to the Ruby Language on the Rails environment, distributed by the Rails Core Team under the MIT License.
- 59 Robert Howell asks: “Should some data, such as non-confidential information held by governments or public authorities, be declared public domain data or information?” See Robert G. Howell, *Database Protection and Canadian Laws (State of Law as of March 31, 2002)*, 2d ed. (Ottawa: Canadian Heritage, 2002).

- supporting user-customizable queries, data sources, adjustments, charts, etc.;
- providing analysts with a simple, secure web interface for analysis and reporting, with role-based access;
- ensuring flexibility, adaptability to change, and extensibility to other purposes; and
- assisting in conformance with policy, legislation, and standards.

The ITERation project is not the first FLOW project to be initiated by the Canadian Government; however, it is the first FLOW project led from within the Treasury Board of Canada Secretariat. It therefore has a demonstrative role as an experimental or “proof-of-concept” implementation of free-libre-open contracting and licensing by the Canadian federal public sector.

In the present author’s role as a public servant, it appeared attractive that the XII and CC-by licences provided a basis for offering unrestricted access to non-confidential intellectual resources that have been paid for by individual and business taxpayers across Canada.

From the present author’s complementary perspective as the initial proponent and manager of the ITERation project, however, the GNU GPL, GNU FDL, Affero GPL, and CC-by-sa licences together afforded a well-understood incentive structure for attracting back to the project improved, derivative, and combined works.

Therefore, FLOW.through.i licensing was arranged to accommodate both the “project manager’s” and the “public servant’s” priorities. This hybrid model evolved through discussions with numerous people inside and outside the public sector. In the particular case of contributions to the ITERation project authored by employees of the governance entity, the Treasury Board Secretariat, this creative work is licensed “prior to” contribution to the project under the XII or CC-by licences, which enable unencumbered public access to these resources on terms as close to “public domain” as Canadian law provides. Once any contributions are “in” the ITERation project, they are at that point sublicensed by the project manager, on behalf of the Crown under the GNU GPL Version 3, Affero GPL Version 3, GNU FDL Version 1.2, or CC-by-sa Version 3.0 licences (or later versions). Putting these unified licences at the centre of the resource community leaves contributors the widest spectrum of options for their own work. The recent

GPL Version 3 licences also provide protections from software-patent litigation risk.⁶⁰

At the time of writing, the ITERation project has not yet released a version 1.0 of the ITERation Reference Implementation, and the proof-of-concept web service is running only on an internal development server. However the ITERation project community from 2006 through 2008 has included public servants, paid consultants, and volunteers. Throughout this time, all FLOW.through.1 arrangements described in this paper have been implemented in the project's licensing, in the statements of work attached to consulting contracts, and in attached agreements.

60 Free Software Foundation, "FSF Releases the GNU General Public License, Version 3" (29 June 2007), online: www.fsf.org/news/gplv3_launched.