

# IN THE SUPREME COURT OF BRITISH COLUMBIA

Citation: *Hootsuite Inc. v. British Columbia*  
(Finance),  
2023 BCSC 358

Date: 20230310  
Docket: S195596  
Registry: Vancouver

Between:

**Hootsuite Inc.**

Petitioner

And

**His Majesty the King in Right of the Province of British Columbia**

Respondent

Before: The Honourable Justice Thomas

## Reasons for Judgment

Counsel for the Petitioner:

G. Cameron  
O. Verenca

Counsel for the Respondent:

S.M.L. Kirkpatrick  
S. Kay

Place and Date of Hearing:

Port Coquitlam, B.C.  
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**Table of Contents**

**INTRODUCTION ..... 3**

- Background ..... 3
- Assessment and Appeal..... 3
- The Hootsuite Platform..... 4
- The AWS Agreements..... 5
- Assumptions and Evidence ..... 6

**AWS SUPPORT ..... 7**

- Issue..... 7
- Software Program ..... 7
  - Facts..... 7
  - Legislation..... 10
  - Interpretative Principles ..... 12
  - Distinction between software and software programs..... 13
    - The cached resources..... 14
    - The Console..... 15
- Telecommunication Services..... 16
  - Legislation..... 16
  - Interpretation..... 18
- Conclusion..... 19

**CLOUD COMPUTING ..... 19**

- Issue..... 19
- Additional Facts..... 20
- Interpretation ..... 22
  - Fundamental Nature ..... 23
  - Potential software programs ..... 23
- Conclusion..... 25

**AWS DIRECT CONNECT..... 25**

- Facts ..... 25
- Interpretation ..... 26
- Conclusion..... 26

**Introduction**

**Background**

[1] This is an appeal of the Minister of Finance’s determination that cloud computing products constitute software programs for use on a computer in British Columbia and are therefore subject to PST.

**Assessment and Appeal**

[2] On March 7, 2017 the Ministry of Finance (the “Ministry”) advised Hootsuite that an assessment would be issued in respect of a failure to self assess PST on the following services purchased by Hootsuite from Amazon Web Services Inc. (“AWS”):

- a) Amazon elastic cloud compute cloud (“EC2”);
- b) Amazon simple storage services (“S3”);
- c) AWS direct connect; and
- d) AWS support

(Together, the “AWS services”).

[3] The Ministry concluded that the products were taxable because they involved either the purchase of software or telecommunication services:

- a) *AWS support*. This provides technical support for AWS products through an online chat feature. An online chat service constitutes a purchase of software or telecommunication services;
- b) *EC2 and S3*. These products allow users to access remote hardware virtually through the use of a stack of software. On this basis, EC2 and S3 constitute a purchase of software; and
- c) *AWS direct connect*. This is a dedicated telecommunication service in the United States that allows AWS to maximize the efficiency of their virtual hardware. A dedicated telecommunication service accessed from British Columbia is a telecommunication service.

[4] Hootsuite appeals the assessment of the minister's decision under s. 212 of the *Provincial Sales Tax Act*, S.B.C. 2012, c. 35 [PSTA].

**The Hootsuite Platform**

[5] Hootsuite's business focuses on the development and maintenance of a social media platform (the "Hootsuite Platform") which it provides to its customers.

[6] The Hootsuite Platform is an online social media management system that simplifies the way in which users and businesses leverage social media by providing advanced tools to engage with their customers and to manage their online presence and communications across multiple social media platforms. It also provides analytics of a user's social media content, marketing efforts and social media presence.

[7] The Hootsuite Platform is accessible by the petitioner's customers online through Hootsuite's websites and through mobile applications.

[8] The Hootsuite Platform is comprised of proprietary custom software programs and website content created and developed by Hootsuite.

[9] Hootsuite requires substantial computing power and storage capacity in order to host, develop and operate the Hootsuite Platform. The platform needs to be available to millions of users worldwide 24 hours a day, seven days a week.

[10] Hootsuite has not made the substantial investment that would be required in servers, information technology equipment, facilities and IT specialists to host their platform and make it available to its customers.

[11] Instead, Hootsuite uses AWS's servers and technology infrastructure to host, run and operate the Hootsuite Platform.

### **The AWS Agreements**

[12] In order to obtain the AWS services, Hootsuite agreed to AWS's contractual terms, set out in the AWS customer agreement, the AWS service terms, and the relevant Amazon Service Level Agreements (the "AWS Agreements").

[13] Under the AWS Agreements, Hootsuite and their customers obtained a limited right to access and use the AWS services in accord with the AWS Agreements.

[14] Though the agreements did not provide any rights to any AWS software programs, Hootsuite was provided the ability to use software pursuant to the AWS Agreements.

[15] AWS charged for each of its services based primarily on the time and extent to which Hootsuite used AWS's technology infrastructure as follows:

- a) EC2 - AWS's charges were based on the hours and seconds of computing capacity used by Hootsuite, at rates based on the size of the computer processing unit, memory and storage chosen by Hootsuite and the location of AWS's servers upon which the Hootsuite platform was hosted;
- b) S3 - AWS's charges were based on the amount of storage used or reserved by the Hootsuite at rates based on the location of AWS's servers upon which Hootsuite's data was stored;
- c) AWS direct connect - AWS's charges were based on a per hour rate based on the capacity of the dedicated connection between the servers and the time the connection was available. AWS also charged a data transfer charge for each outbound transfer of data through AWS direct connect; and
- d) AWS support - AWS's charges were based on a percentage of Hootsuite's totally monthly AWS charges.

[16] AWS provided Hootsuite access to a web interface known as the AWS management console (the “Console”) which allowed Hootsuite to access, subscribe for and manage all of their AWS services. There was no direct charge for access to the Console.

[17] AWS also provided application programming interfaces (“APIs”) to Hootsuite which provides the specifications to utilize their software application programs on and with AWS’s services. The APIs are not software. There was no direct charge for the APIs.

**Assumptions and Evidence**

[18] An appeal to this Court under the *PSTA* is a new hearing that is not limited to the evidence and issues that were before the Ministry.

[19] The assessment of tax is based on assumptions with respect to facts made by the Ministry.

[20] The taxpayer has the onus of disproving on a balance of probabilities any assumption or findings of fact or of showing that the assumptions do not in their entirety support the assessment. It is not sufficient to merely deny the assumptions made.

[21] This case is unusual in that a number of experts were qualified to provide opinion evidence on the factual assumptions, submitted reports, and were cross-examined on their reports after the Ministry made its assumption of facts.

[22] The parties agreed that I would have to make my own findings of fact, on a balance of probabilities, based on the facts and expert evidence filed in the petition record.

[23] In the event that I was unable to make a finding of fact on an issue, the assumption made by the Ministry would remain.

**AWS support**

**Issue**

[36] Is AWS support a “software program” or “telecommunication services” subject to PST because the online chat feature is accessible through Hootsuite’s computers, which are located in British Columbia and accessed through a telecommunication network?

**Software Program**

**Facts**

[24] The parties agreed that software consists of a set of instructions, also known as a program or computer code, that instructs computer hardware to conduct a specific set of tasks.

[25] I found Dr. Dehnavi’s discussion of the difference between software, software programs, hardware, and a software stack to be helpful. Dr. Dehnavi noted as follows:

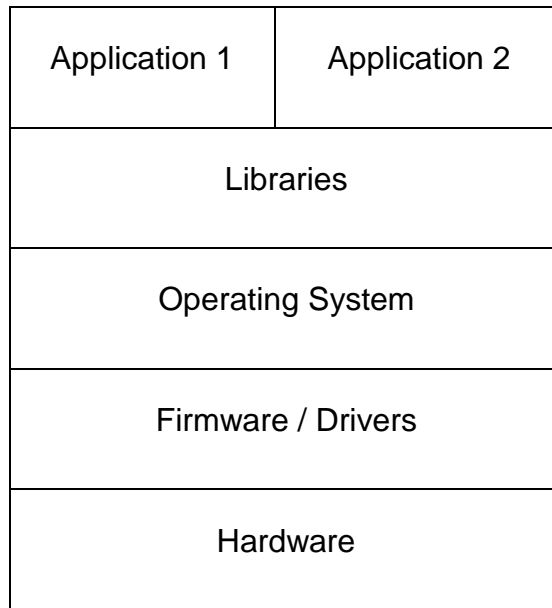
What is “software and what is a “software program”

Software is a collection of instructions and computer code that instructs the computer hardware to conduct a specific set of tasks. Software is classified into system software, application software, and programming software.

- System software is the primary platform that can run application programming software. It is composed of the operating system, firmware and device drivers.
- Application software, typically referred to as software programs, or software that are built to address a specific problem for an application defined by the user. It directs the computer to execute a set of instructions that processes data for the user. For example, word processors and database management tools or software programs.
- Programming software: programming software or software that help programmers develop other types of software, specifically develop application software. Examples are compilers, assemblers and debuggers.

[26] Modern computing environments consist of very large software ecosystems. To make this overwhelming complexity more manageable, software is organized into

layers, with each layer software consisting of one or more multiple programs. These layers can be pictured as being stacked on top of one another.



[27] Lower layers in the stack, such as the operating system and drivers, manage the underlying computer hardware and provide functionality to the higher layers. For example, the operating system provides files for storage, mechanisms for network communication, and application life management. The top layer of the stack consists of software which can be non-public or opaque to users such as a web portal, or public facing applications such as Google Docs, Microsoft 365, word processing programs, database management programs, speech to text conversion, and Gmail.

[28] In my view, a key distinction between different types of software are applications in which a user can interact directly with and create an output based in part on those interactions, and software that is opaque, in the sense that the user cannot interact with the software and create an output. This distinction is user-based, as some users may be able to interact with software while others may not.

[29] Hardware consists of the physical components that the computer is built with. These components are necessary for a computing system to function and include the central processing unit, memory, power supply and other parts.



[30] Hardware is in many cases a combination of physical components and low-level software, such as “firmware” or “drivers”. This low-level software directs the components in the hardware to execute commands instructions, and can be indistinguishable component of the hardware.

[31] AWS support provides Hootsuite with access to experienced technical support from AWS engineers on a one-on-one basis to troubleshoot issues related to the use of AWS services.

[32] Hootsuite communicates with the support personnel in three ways:

- a) through the Console accessed through web browsers located on Hootsuite’s computers situated in British Columbia;
- b) through telephone/internet lines; and/or
- c) through email.

[33] The assessment of tax is based on Hootsuite obtaining support through the Console.

[34] Hootsuite accessed the Console on their web browser which provides a conduit or interface through which Hootsuite can access the expertise of the technical support personnel. The support personnel then interact with Hootsuite through the Console and in some instances may utilize other applications to answer questions which are then communicated through the Console to Hootsuite.

[35] The Console is opaque to Hootsuite, as Hootsuite cannot interact directly with the Console or create an output. The Console is simply a portal through which Hootsuite can communicate with AWS engineers.

[36] The web browser on Hootsuite’s computer interprets the information contained on the Console and then renders the information on Hootsuite’s browser. No software is downloaded or exchanged in the process. The process works the same in each direction.

[37] Since the Console operates as a standard a web interface, the web browser on Hootsuite’s computer temporarily creates a cache of files to improve page load times. The user can turn the feature off in their browser if they wish.

[38] The cached resources are not runnable or executable on their own; the user cannot interact directly with the cached files in a meaningful way.

[39] This is not a unique process to the Console. The creation of a cache file occurs whenever a web browser interacts with a web interface on the internet that utilizes the cache feature on web browsers.

[40] The cost of running and maintaining software is an insignificant part of the AWS support. The cost of the service arises from the technical staff hourly pay and associated services. The pricing for AWS support is based on the user’s monthly gross AWS usage, as opposed to the amount of time spent with AWS support.

[41] The telecommunication network utilized by Hootsuite to communicate with AWS is independent of the purchase. In other words, Hootsuite did not purchase the infrastructure they use to access the support services – they use their own internet connection to access the Console.

**Legislation**

[42] Part 4 of the *PSTA* sets out the rules in respect of the imposition of PST on software programs.

[43] Subsection 105(1) of the *PSTA* imposes a tax on a purchaser who purchases a software program in British Columbia:

**Tax on software**

**105** (1) A purchaser in British Columbia who purchases software for use on or with an electronic device ordinarily situated in British Columbia must pay to the government tax at the rate of 7% of the purchase price of the software.

[44] Subsection 15 of the *PSTA* states the entire consideration of a purchase containing software constitutes the purchase price of the software.

[45] Section 1 of the *PSTA* defines “purchaser” in respect of software, “electronic device” and “software” as follows:

**“electronic device”** means a device by which a person may

- (a) send, receive, download, view or access a telecommunication, or
- (b) use software;

**“purchaser”** means the following:

...

(b) in relation to software, a person who agrees to pay or is otherwise obliged to pay consideration for software

- (i) provided to the person for the person’s own use or benefit,

...

**“software”** means the following:

- (a) a software program that is delivered or accessed by any means;
- (b) the right, whether exercised or not, to use a software program that is delivered or accessed by any means;
- (c) a contractual right

(i) to receive modifications to our new versions of software programs described in paragraph (a) or (b) if modifications or new versions become available, whether or not that right is exercised, and

...

[46] The term “software program” is not defined in the *PSTA*.

[47] The predecessor to the *PSTA* was the *Social Service Tax Act*, R.S.B.C 1996, c. 431 [*SSTA*].

[48] Section 1 of the *SSTA* defined software as follows:

**“software”** means packaged or prewritten software programs, or the right to use such programs, whether the software is delivered by electronic, disc, tape or other means...

[49] Section 22.4 regulations under the *SSTA* defined “software program” as follows:

“Software program” mean software that is a packaged or prewritten software.

**Interpretative Principles**

[50] The proper approach to interpreting a taxing statute is not contentious. That approach was helpfully summarized by Justice Groberman in *Zimmer Canada Limited v. British Columbia*, 2010 BCCA 64, which I repeat here for convenience:

[8] At least since *Stuart Investments Ltd. v. Canada*, 1984 CanLII 20 (SCC), [1984] 1 S.C.R. 536, 10 D.L.R. (4th) 1, it has been clear that taxation statutes are subject to the same principles of statutory interpretation as other statutes. In *Stuart*, the majority of the Court agreed that the “modern rule” of statutory interpretation is applicable, quoting, at 578, from Professor Driedger’s *Construction of Statutes* (2nd ed. 1983) at 87:

Today there is only one principle or approach, namely, the words of an Act are to be read in their entire context and in their grammatical and ordinary sense harmoniously with the scheme of the Act, the object of the Act, and the intention of Parliament.

[9] In *Canada Trustco Mortgage Company v. Canada*, 2005 SCC 54, [2005] 2 S.C.R. 601, 259 D.L.R. (4th) 193, the Court reiterated that the “modern rule” applies to the interpretation of taxation statutes, and added the following comments, at para. 10:

The interpretation of a statutory provision must be made according to a textual, contextual and purposive analysis to find a meaning that is harmonious with the Act as a whole. When the words of a provision are precise and unequivocal, the ordinary meaning of the words play a dominant role in the interpretive process. On the other hand, where the words can support more than one reasonable meaning, the ordinary meaning of the words plays a lesser role. The relative effects of ordinary meaning, context and purpose on the interpretive process may vary, but in all cases the court must seek to read the provisions of an Act as a harmonious whole.

[10] The Court further elaborated on the approach to interpreting taxing statutes in *Placer Dome Canada v. Ontario (Minister of Finance)*, 2006 SCC 20, [2006] 1 S.C.R. 715 at paras. 21-23, 266 D.L.R. (4th) 513. After citing the “modern rule”, the Court continued:

... [B]because of the degree of precision and detail characteristic of many tax provisions, a greater emphasis has often been placed on textual interpretation where taxation statutes are concerned. Taxpayers are entitled to rely on the clear meaning of taxation provisions in structuring their affairs. Where the words of a statute are precise and unequivocal, those words will play a dominant role in the interpretive process.

On the other hand, where the words of a statute give rise to more than one reasonable interpretation, the ordinary meaning of words will play a lesser role, and greater recourse to the context and purpose of the Act may be necessary

...

[13] In my view, the pre-*Stuart* rules for the interpretation of taxing statutes have no application, even as tie-breakers in the event that the ordinary rules of interpretation do not resolve the issue. Several authoritative cases support the appellant's view that where the ordinary rules of interpretation do not favour one view over the other, the court must adopt the interpretation that is most favourable to the taxpayer: *Québec (Communauté urbaine) v. Corp. Notre-Dame de Bon-Secours*, 1994 CanLII 58 (SCC), [1994] 3 S.C.R. 3 at 19-20, 171 N.R. 161; *Placer Dome* at para. 24. It must be emphasized, however, that the use of that presumption will be exceptional. It is only where ordinary principles of interpretation do not favour one interpretation over another that the presumption in favour of the taxpayer will apply.

[51] When interpreting a tax statute, the words must be read in their entire context in their grammatical and ordinary sense, harmoniously with the scheme of the Act, the object of the Act and the intention of Parliament: *Chemainus Gardens RV Resort Ltd. v. British Columbia (Attorney General)*, 2021 BCCA 402 at para. 59.

[52] The essential nature or character of the transaction is the determinative question for tax purposes. This is informed by the whole of the evidence: see *Powell River Energy Inc. v. British Columbia (Minister of Small Business and Revenue)*, 2015 BCCA 372 at para 39-41; *Newfoundland Telephone Co. v. Newfoundland (Minister of Finance)*, 1992 CanLII 7303 at para. 46; and *Merlin's Cabaret Ltd. v. British Columbia*, 1995 CanLII 2573 (BC SC).

***Distinction between software and software programs***

[53] Did Hootsuite purchase:

- a) a software program; and if so
- b) was the software program for use on or with an electronic device ordinarily situated in British Columbia?

[54] It is clear that the AWS support service purchased includes, to some degree, software. This is true for almost every purchase of electronic goods and services ranging from a refrigerator or an automobile to telehealth.

[55] The petitioner argues that I should rely upon the definition of software program contained in the *SSTA* given that in implementing *PSTA* the legislator noted:

The new PST act implements a tax that applies to the same goods and services and provides for all the same permanent exemptions as the old PSTN hotel room tax, but in the new modern, clear and more comprehensive act.

[56] The Ministry says that the legislature chose to remove reference to the definition of software program to account for the fact that computing in the modern world is a rapidly evolving concept.

[57] In my view, because the range and scope of software has expanded so dramatically into so many products and services over the years, the legislature drew a distinction between software and software programs for taxation purposes when it revised the legislation to ensure consistency with respect to how products and services are treated for taxation purposes.

[58] Implicit in this finding is the conclusion that, under the *PSTA*, all “software programs” are “software” but not all “software” constitute “software programs”. Under the *SSTA*, this was not the case.

[59] In my view, the key distinction between “software” and a “software program” for the purposes of the *PSTA* is that a “software program” requires the purchaser to utilize the software as an “application”; that is, the user must be able to interact with the software and create an output based in part on those interactions with the program.

[60] In my view, this is in accord with the common usage of the term “software program” as distinct from “software”.

***The cached resources***

[61] Based on my findings of fact, the cached resources constitute software that is for use on or with an electronic device in British Columbia.

[62] The only purpose of the cached resources is to optimize the efficiency of the web interface between the user’s browser and the Console. The software is not runnable or executable; the user cannot interact with the cached resources in a meaningful way.

[63] In my view, this differentiates the cached resources from being characterized as a “software program” under the *PSTA*. This interpretation arises from my findings of fact and my interpretation of the legislation.

[64] This interpretation is also consistent with the essential or fundamental nature of the transaction. Hootsuite is purchasing technical expertise from a qualified engineer. In no way could one characterize the nature of the transaction as a purchase of cached resources on a web browser. The software is purely incidental to the fundamental nature of the service.

***The Console***

[65] The Ministry says that the fact that Hootsuite uses a computer located in British Columbia to interact with the technical support staff through the Console located outside of British Columbia is sufficient to trigger PST as a purchase of software under the *PSTA*.

[66] In my view, the web interface is an opaque application as the user cannot access or modify the Console; the only purpose of the interface is to facilitate the exchange of technical information from the engineers to Hootsuite. As such, the Console does not constitute a software program taxable to Hootsuite under the *PSTA*.

[67] If I am wrong on this interpretation, the next step to consider is whether the purchased software program was for “use” on, or with an electronic device situated in British Columbia.

[68] In my view the critical element to this section, within the context of software and software programs is the word “use”. Within this context “use” requires the user

to interact directly with the program to create an output. AWS's web interface is simply a conduit that provides the user with access to technical support provided by the engineer.

[69] This interpretation flows from my interpretation of the legislation and my examination of the characteristics and function of the purchase.

[70] In my view, these findings are also consistent with the fundamental nature of the transaction -- the purchase of technical expertise through which software is only one of several ways in which the information is provided to the purchaser.

### **Telecommunication Services**

#### ***Legislation***

[71] Division 5 of part 5 of the PST imposes PST on telecommunication services.

[72] Subsection 130(1) of the *PSTA* provides as follows:

**130(1)** A purchaser of a telecommunication service must pay to the government tax on the provision of the telecommunication service at the rate of 7% of the purchase price of that telecommunication service.

[73] Section 1 of the *PSTA* defines "telecommunication service":

**"telecommunication service"** means any of the following:

- (a) the right whether exercised or not, to utilize a telecommunication system to send or receive a telecommunication by means of an electronic device that is ordinarily situated in British Columbia;
- (b) the utilization of a telecommunication system to send or receive a telecommunication by means of an electronic device that is ordinarily situated in British Columbia;
- (c) a dedicated telecommunication service;
- (d) the right, whether exercised or not, to download, view or access, by utilizing a telecommunication system, one or more of the following telecommunications by means of an electronic device that is ordinarily situated in British Columbia:
  - (i) an audiobook;
  - (ii) an audio program;
  - (iii) music;
  - (iv) a ring tone;



(v) a television program, motion picture or other video.

[74] Section 1 of the *PSTA* also provides a definition for “telecommunication”, telecommunication system”, “dedicated telecommunication service” as follows:

**“dedicated telecommunication service”** means the right, whether exercised or not, to send from British Columbia or receive in British Columbia, a telecommunication by using a circuit, a communications channel, a partial communications channel or any other means of sending or receiving a telecommunication that is dedicated to the exclusive use of the purchaser of the service;

**“telecommunication”** means signs, signals, writing, images, sound or intelligence of any nature;

**“telecommunication system”** means a wire, cable, radio, optical or other electromagnetic system, or a similar technical system, for the transmission, emission or reception of a telecommunication;

[75] Section 1 of the *PSTA* defines “sale” in a manner in which the provision of telecommunication services are excluded for taxation purposes if they are incidental to a contract for the purchase of non-taxable services:

**“sale”**

...

does not include the following:

(k) the provision of tangible personal property, software or a telecommunication service that, in prescribed circumstances, is merely incidental to a contract for the provision of services that are not subject to tax under this Act.

[76] Subsection 7(2) of the *Provincial Sales Tax Regulation*, B.C. Reg 96/2013 defines the circumstances in which the inclusion of telecommunication services will be considered “merely incidental” to a contract for non-taxable services:

**7(2)**...the provision of tangible personal property, software or a telecommunication service is merely incidental to a contract for the provision of services that are not subject to tax under the Act in the following circumstances:

...

(i) the fundamental and overriding objective of the contract is the acquisition of the service and not the acquisition of the tangible personal property, software or telecommunication service,

- (ii) there is no separate purchase price for the tangible personal property, software or telecommunication services, and
- (iii) the total consideration payable for the service including the tangible personal property, software or telecommunication services provided, is the same as, or only marginally different from what would be the total consideration payable for the service if the tangible personal property, software or telecommunication service were not provided...

[77] The circumstances surrounding the addition of the “incidental” exemption in the definition of sale were explained by the Minister of Finance in the second reading of the bill as follows:

The definition of sale is amended in response to a court decision to clarify the treatment of services that are not subject to tax under the act. Architectural, accounting, research and many other services are not subject to provincial sales tax. However, when a person hires an architect to design a building, for example, the end product of the service is often a drawing, which is considered tangible personal property [which at the time, included software in its definition] that is incidental to the provision of a non-taxable service is not a sale and is not subject to the tax.

***Interpretation***

[78] Based on my findings of fact, AWS support received by Hootsuite in British Columbia constitutes a telecommunication service under the *PSTA*.

[79] In my view, the AWS support falls within the incidental exemption for the following reasons:

- a) The Hootsuite is purchasing technical expertise from a qualified engineer. The telecommunication service is incidental to the fundamental nature of the transaction; and as is one of several ways in which the information could be provided;
- b) There is no separate purchase price for the transmissions under the contract; and
- c) As with software, the cost of providing the service is almost entirely composed of paying the technical personal; as such there would only be a

marginal, if any, impact on the price if it were offered without the transmission service.

[80] In my view, the circumstances of this case are analogous to the situation identified by the Minister with respect to architectural drawings.

[81] The same logic would also apply if the AWS support were characterized, which I have not done, as a software program under the *PSTA*; AWS support would fall within the incidental exemption.

### **Conclusion**

[82] I conclude that AWS services are not taxable under the *PSTA* for the following reasons:

- a) The fundamental nature of the purchase was for technical expertise;
- b) If I am wrong on the fundamental nature of the purchase, the services does not contain a “software program”;
- c) If I am wrong on my analysis of “software program”, the service is not used in British Columbia;
- d) If I am wrong on my analysis of “use” the service is exempt under the incidental exemption clause; and
- e) The service does contain telecommunication services, but is exempt under the incidental exemption clause.

### **Cloud computing**

#### **Issue**

[83] Is cloud computing a “software program” for use on or with an electronic device ordinarily situated in British Columbia?

**Additional Facts**

[84] Initially, computer systems were internal to corporations, as servers were housed on-premises and accessed mostly by company employees.

[85] The creation and growth of the world wide web led to the proliferation of web applications that were housed within a corporation’s premises but accessed through the internet by clients from all over the world. Due to the complexity and evolving nature of the internet, it became common practice to depict the internet as an amorphous cloud.

[86] Hardware virtualization is the process by which the computational power of hardware can be parsed into interchangeable computational units that can be formed into multiple virtual machines. The virtual machines can be composed of computational units obtained from different hardware sources located in different geographical locations.

[87] Cloud computing is a further evolution and combination of these processes where the hardware providing the computational power and storage necessary to run applications are no longer located behind a company’s firewall but exist virtually in the cloud.

[88] The result is the creation of on-demand access to a shared pool of configurable computing resources with the result that users can “rent” computing infrastructure instead of having to purchase the computing resources.

[89] There is a spectrum of cloud computing services available. Two broad types are:

- a) Software as a service. This is when cloud providers offer built in application software for their users. Some of the applications are only available through the internet and some are available offline but store data on the cloud. These are the public facing applications described earlier in these reasons; and

- b) Infrastructure as a service. This is when the cloud providers offer access to computational services such as CPUs and storage through virtual machines on an on-demand basis. EC2 and S3 fall within this category of cloud computing services. The AWS user guide clearly states that EC2 provides computing capacity that can scale with the objective of eliminating the need for users to invest in hardware upfront.

[90] EC2 creates a virtual machine to provide computing resources to Hootsuite. The hardware, software stack and utilization of the two that create the virtual machine is opaque to the user - it cannot be manipulated or directly accessed by Hootsuite.

[91] Within the virtual machine an operating system may be necessary to run application software. The standard operating system used is Linux, which is provided as part of the EC2 service. Linux is a widely available free non-proprietary software. A user is free to install their own operating system if they wish as long as it is compatible with the virtual machine. In addition, some application programs do not require an operating system and can be run directly on the virtual machine, in which case Linux would be removed from the virtual machine.

[92] The Linux operating system is not integrated with the EC2 product. It is a free add on included in the purchase of EC2 services to allow application programs to function on the virtual machine. It can be removed or replaced depending on the user's needs or preference.

[93] Hootsuite installed its own proprietary application programs on the virtual machines. The AWS Agreement indicates that other application programs may be available for people using EC2 from AWS. The contract does not specify any programs that form part of the EC2 purchase. I find Hootsuite did not have access to other application programs as part of their EC2 purchase.

[94] Hootsuite's application programs required an operating system. Hootsuite used the Linux operating system provided through their EC2 purchase.

[95] The user can run or execute application programs installed on their virtual machine in two ways:

- a) The programs can be run through the web interface ( the Console ); or
- b) The programs can be run through an API. An API is best described as a contract that stipulates how the application will respond to a remote request. This allows the user, and depending on the scope of the API, the user's customers, to directly access and run application software stored on the virtual machine.

[96] Generally, Hootsuite's applications are run through APIs that they have created inhouse and through APIs provided through the EC2 purchase by AWS. As noted, APIs are not software.

[97] In addition, Hootsuite can run their application programs through the Console. This involves the same technical processes as those involved in accessing AWS support through a web browser.

[98] S3 provides a virtual machine with a different type of computing capacity than the EC2 product. S3 is a hardware storage product in which users install an application program to store and backup data on the virtual machine. AWS offers additional application programs for an additional fee that allow users to store and back up their data if they do not wish to install and use their own application program.

[99] Although S3 and EC2 services are different products, for purposes of consideration under the *PSTA* they are functionally and technically similar.

### **Interpretation**

[100] I must determine if cloud computing is a "software program" for "use" on or with an electronic device ordinarily situated in British Columbia.

[101] In considering this issue I will use the same interpretation of legislation and facts that I utilized in my interpretation of AWS support; in addition to the specific additional factual findings I made specifically to cloud computing.

***Fundamental Nature***

[102] There is no one way to characterize cloud computing services. Some cloud computing products may be taxable, some may not.

[103] In my view, based upon my interpretation of the legislation and review of the underlying facts, the fundamental nature of both the EC2 and S3 product is to provide an on-demand computer infrastructure service. As such, the products are not subject to PST.

[104] If I am wrong in this determination, I will go on and assess the products with respect to potential software programs contained within them.

***Potential software programs***

[105] There are four potential software programs contained within the EC2 and S3 products:

- a) Cached resources on the user's web browser;
- b) The Console;
- c) The software stack; and
- d) The Linux operating system.

[106] For the reasons set out under AWS support the cached resources on the Hootsuite's web browser created through their browser's interaction with the Console do not constitute a software program under the *PSTA*.

[107] The Console acts in the same way with respect to these cloud computing products as it does with the AWS support; with the exception that for EC2 and S3 products the user is able to operate their own proprietary application programs

installed on the virtual machine. For the same reasons set out under my consideration of AWS support the use of the Console with respect to the EC2 and S3 products does not constitute a software program under the *PSTA*.

[108] The same analysis applies to the software stack utilized with respect to EC2 and S3 as was used for the Console. In this case, I am limiting the software stack to the software used to create the virtual machine. This stack is opaque to the user in that it cannot be manipulated or directly accessed by Hootsuite. In this sense the software stack, that forms part of the virtual machine, is not a software program.

[109] I do not have enough evidence to fully analyze whether the Linux operating system constitutes a software program. Therefore, I will treat it as if it meets the criteria of a software program.

[110] The Linux operating system operates as an interface between the virtual machine and the application program installed by Hootsuite on the virtual machine. Linux is installed on the virtual machine which, although located in the cloud, is not situated in British Columbia.

[111] The application programs can be utilized through the Console or through an API.

[112] In no sense is Linux for use on or with an electronic device situated in British Columbia. The operating system is solely used on the virtual machine to allow Hootsuite's application programs, installed on the virtual machine, to interact with the virtual machine.

[113] If I am mistaken in this analysis the Linux operating system falls within the incidental exemption under s. 1(k) of the *PSTA* for the following reasons:

- a) The Hootsuite is purchasing an on-demand computer infrastructure service. Linux is incidental to the fundamental nature of the transaction as the service can be used without Linux or Linux can be replaced with a different operating system;



- b) There is no separate purchase price for Linux under the contract; and
- c) Linux is a free product that is widely available. As such there would be no impact on the price if it were offered without the EC2 or S3 products.

**Conclusion**

[114] I conclude that EC2 and S3 are not taxable under the *PSTA* for the following reasons:

- a) The fundamental nature of the purchase was for an on-demand computer infrastructure service;
- b) If I am wrong on the fundamental nature of the purchase, the services do not contain a “software program” with the exception of the Linux operating system;
- c) The software program is not “used” in British Columbia; and
- d) If I am wrong on my analysis of “used” the service is exempt under the incidental exemption clause.

**AWS direct connect**

**Facts**

[115] AWS direct connect, is a dedicated telecommunication network which links different location within the United States with a high-speed network to maximize the efficiency at which AWS services can be provided. This includes the AWS data transfer charges associated with the service

[116] AWS direct connect is opaque to Hootsuite and is solely controlled by AWS personnel to maximize the AWS services utilized by Hootsuite on the virtual machines.

[117] AWS direct connect does not change the manner in which AWS services are accessed by Hootsuite.

[118] The parties agree that AWS direct connect is a telecommunications service as defined by the *PSTA*.

**Interpretation**

[119] Hootsuite takes the position that the telecommunication service is located solely within the United States and as such is not taxable under the *PSTA*.

[120] The Ministry takes the position that although the infrastructure resides solely within the United states it is a dedicated transmission service utilized by Hootsuite from British Columbia through their local computers.

[121] Dedicated telecommunication service is defined as follows in the *PSTA*:

...the right, whether exercised or not, to send from British Columbia or receive in British Columbia, a telecommunication by using a circuit, a communications channel, a partial communications channel or any other means of sending or receiving a telecommunication that is dedicated to the exclusive use of the purchaser of the service;

[122] Given that the telecommunication link is confined to the United States, my finding of facts and interpretation of legislation set out for the previous AWS products; it is clear that Hootsuite does not receive any telecommunication from AWS direct connect. The dedicated line and transmission are located solely within the United States. The transmissions are solely contained in the United States within the confines of the virtual machine.

**Conclusion**

[123] I conclude that AWS direct connect, and the associated AWS data transfer charges, are not taxable under the *PSTA* because the transmissions are not sent to or received in British Columbia.

[124] For these reasons I allow the petition and set aside the tax assessment relating to AWS support, EC2, S3, AWS direct connect, and AWS data transfer.

“Thomas J.”