August 4, 2016

The Honorable William J. Wilkins  
The Honorable Mark J. Mazur  
Chief Counsel  
Assistant Secretary (Tax Policy)  
Internal Revenue Service  
Department of the Treasury  
1111 Constitution Avenue, NW  
1500 Pennsylvania Avenue, NW  
Washington, DC 20024  
Washington, DC 20220

Re: Comments on Cloud Transactions

Dear Messrs. Wilkins and Mazur:

Enclosed please find comments on the taxation of cloud transactions from a character perspective (“Comments”). These Comments are submitted on behalf of the American Bar Association Section of Taxation and have not been approved by the House of Delegates or the Board of Governors of the American Bar Association. Accordingly, they should not be construed as representing the position of the American Bar Association.

The Section of Taxation would be pleased to discuss the Comments with you or your staff if that would be helpful.

Sincerely,

George C. Howell, III  
Chair, Section of Taxation

Enclosure

cc: Hon. John Koskinen, Commissioner, Internal Revenue Service  
William M. Paul, Deputy Chief Counsel (Technical), Internal Revenue Service  
Marjorie A. Rollinson, Associate Chief Counsel (International), Internal Revenue Service  
Anne O. Devereaux, Deputy Associate Chief Counsel (International), Internal Revenue Service  
Emily S. McMahon, Deputy Assistant Secretary (Tax Policy), Department of the Treasury  
Robert Stack, Deputy Assistant Secretary (International Tax Affairs), Department of the Treasury  
Danielle Rolfe, International Tax Counsel, Department of the Treasury
These comments ("Comments") are submitted on behalf of the American Bar Association Section of Taxation and have not been approved by the House of Delegates or Board of Governors of the American Bar Association. Accordingly, they should not be construed as representing the position of the American Bar Association.

Principal responsibility for preparing these Comments was exercised by Kim Majure of the Committee on Foreign Activities of U.S. Taxpayers (“FAUST”). Substantial substantive contributions were made by Dwaune Dupree, John Karasek, Logan Kincheloe, and Christopher Kotarba; additional contributions were made by a Working Group comprising over 40 members of FAUST and the Committee on U.S. Activities of Foreigners and Tax Treaties (“USAFTT”). The Comments were reviewed by Paul Crispino, Chair of FAUST, and Robert J. Peroni, Academic Vice-Chair of FAUST. The Comments were further reviewed by Sam Kaywood on behalf of the Section's Committee on Government Submissions, by Alan I. Appel, the Section's Council Director for FAUST and USAFTT, and by Peter H. Blessing, the Section's Vice-Chair for Government Relations.

Although the members of the Section of Taxation who participated in preparing these Comments have clients who might be affected by the federal tax principles addressed by these Comments, no such member or the firm or organization to which such member belongs has been engaged by a client to make a government submission with respect to, or otherwise to influence the development or outcome of, the specific subject matter of these Comments.

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Date: August 4, 2016
EXECUTIVE SUMMARY

The tremendous growth in the cloud industry creates a pressing need for guidance from tax authorities. Tax authorities have identified this and are analyzing possible responses. In the fall of 2015, as part of its Base Erosion Profit Shifting (“BEPS”) Action Plan, the Organisation for Economic Co-operation and Development (the “OECD”) has sought to address the challenges of the digital economy. Further analysis from tax authorities and country legislatures should be expected.

As with other cross-border transactions, tax consequences arising from cloud transactions are rooted in the character and source of the income. This comment letter addresses the first of these two critical issues. Subsequent comment letters will address source taxation, as well as additional inbound, treaty, and outbound taxation issues.

The principal suggestions of the Working Group that prepared these Comments regarding the characterization of cloud transactions may be summarized as follows:

1. Address Characterization of Cloud Transactions Directly. While traditional tax principles can be applied to cloud transactions, their current application is unclear. We suggest that the Department of the Treasury (“Treasury”) and the Internal Revenue Service (the “Service”) issue additional guidance clarifying the application of such principles to cloud transactions.

2. Do Not Extend or Modify Existing Software Regulations to Apply to Cloud Transactions. While it would be possible to modify the existing regulations under section 861 governing the treatment of software transactions, we suggest that such regulations not be modified or extended to cover cloud transactions.

3. Promulgate New Regulations Characterizing Cloud Transactions as Services or Leases, as Appropriate, Using Traditional Tax Principles. We suggest that Treasury and the Service promulgate new regulations that, consistently with general U.S. tax principles, would generally characterize cloud transactions as services arrangements, with the exception of certain transactions that, based on relevant facts and circumstances, would be treated as leasing transactions.

4. New Characterization Rules Are Unnecessary. We acknowledge that introducing new characterization of income rules to govern cloud transactions may be a viable option to provide guidance in this area of the law. However, given that there are several traditional characterizations that are relevant to cloud transactions, we suggest that Treasury and the Service issue regulations clarifying when the existing characterization rules apply rather than create new characterization rules.

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1 All “section” references are to the Internal Revenue Code of 1986, as amended (the “Code”), and to the regulations promulgated thereunder.
2 Reg. § 1.861-18.
A. Background

I. Overview of the Cloud Computing Industry

Although the concept behind cloud computing dates to the 1950s, only recently has the cloud computing industry begun rapid expansion and gained widespread usage. The following section is intended to provide an overview of the cloud computing industry, and to introduce terminology that we will use throughout these Comments. First, we describe “cloud service providers” (or “CSPs”), which are generally associated with the cloud computing industry. Second, we discuss “digital content access providers” (“DCAPs”), which rely on similar technologies and raise similar tax issues as cloud service providers. Although the two are very different – and although discussions of the “cloud” generally include the former and not the latter – there seems to be enough overlap to warrant mention of DCAPs, if only to raise awareness of the factual and legal distinctions between them and CSPs.

A. Cloud Service Providers

Conceptually, a cloud computing model involves: (1) servers, (2) an end-user (e.g., a web-site visitor or smartphone user), and (3) a connection between the server and end-user (almost always via an Internet connection). Although there is no single definition of cloud computing, many organizations have adopted the definition offered by the National Institute of Standards and Technology (“NIST”):

[A] model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

For purposes of these Comments, the relevant tax issue is whether the technological advances enabling electronic products, services, and delivery, are sufficiently removed from traditional business models to warrant diversion – and if so, how much – from traditional tax rules.

1. CSP Service Models

CSPs can deliver many different types of services to end-users. The most common nomenclature attached to the various service models - Software as a Service

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3 The reference to “service” providers reflects industry terminology and does not necessarily mean that the offerings are “services” for tax purposes.
4 A “server” generally refers to a computer that processes requests, stores information, and delivers data to users (also known as “clients”) over a public or private computer network. Although the term “server” is sometimes used to refer specifically to a type of software, these Comments use “server” to refer solely to physical hardware.
(“SaaS”), Platform as a Service (“PaaS”), and Infrastructure as a Service (“IaaS”)6 - signals the relative level of control that the end-user and cloud service provider exert over pieces of the cloud infrastructure. At one end of the spectrum, SaaS permits an end-user to use the CSP’s applications, but requires the CSP to manage and control the cloud infrastructure, hosting and running the applications on the CSP’s own server. At the other end of the spectrum, IaaS gives the consumer significant control over a package of the CSP’s computing resources – software as well as hardware – while the CSP plays a relatively passive role of maintaining the infrastructure. PaaS falls somewhere between the two. (Note, CSPs may provide bundles of two or more service models to its customers.) Attachment A illustrates the three service models, as well as some of the practical functions that can be controlled by the end-user versus the provider in each service model.

To take a simple example of a CSP, assume TaxPrepCo provides tax preparation software on-line. TaxPrepCo’s online offerings illustrate the SaaS model. TaxPrepCo creates the software and maintains it on its own servers. The consumer may access the software on TaxPrepCo’s servers and may input his/her tax information online, but cannot control, supplement, or modify the underlying program or access TaxPrepCo’s servers for other purposes. Both the software – the way it runs, its user interface, etc. – and the hardware (e.g. server, operating system, and network) is managed by TaxPrepCo. The end-user is a passive consumer of the software, and the CSP controls virtually every aspect of the product and its delivery.

Contrast the SaaS example with a simple IaaS scenario. The IaaS industry caters to commercial customers that outsource significant portions of their information systems. While the physical hardware (e.g. servers) is owned by the CSP, the customer has flexibility in using the hardware to store and run its own software and operating systems. The customer uses the CSP’s hardware as a replacement for its own, allowing the customer to forego significant infrastructure investments while enabling the company to address its own computing needs directly.

PaaS is directed at companies that develop their own applications for deployment in the cloud. PaaS is used primarily by e-commerce companies to create, test, and run their own customized application software within a hardware and software environment provided by the cloud computing provider. Here, the CSP provides hardware as well as programming languages, services, libraries, or other tools to enable the consumer to deploy whatever applications it wants.

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6 Other service models have been proposed since the NIST released its definition of cloud computing in 2011. See, e.g., Part 1: Introduction to the Cloud Ecosystem: Definitions, Taxonomies, Use Cases and High-level Requirements, Focus Group on Cloud Computing, International Telecommunications Union (Feb. 2012) (proposing to add Network as a Service (“NaaS”) and Communications as a Service (“CaaS”) to the taxonomy of service models). However, as cloud terminology is offered as background information and is not directly relevant to the tax consequences of the services models, these Comments are limited to a discussion of SaaS, IaaS, and PaaS.
2. Deployment Models for Cloud Computing

Not only can a CSP’s service offerings vary, but the manner in which cloud services are made available to users also varies. Cloud services may be made available solely to specific or individual users in a “private cloud” context, to multiple users in a “public cloud” context, or to a specific group of users in a “community cloud” or “hybrid cloud” context. As the names imply, the differences between these formats is driven by their availability to users; the more restricted the availability, the more “private” the cloud offering.

3. Cloud Evolution

One thing that is clear about the cloud services industry – the pace of technology may outstrip any country’s ability to tax developments as they arise. The cloud has already enabled traditional businesses to deliver products and services unhampered by the provider’s physical location. Servers and other physical components of the cloud infrastructure are getting smaller, faster, broader reaching, and more mobile. For example, some cloud service providers currently house servers in shipping containers, which can be easily transported on a truck.\(^7\) And one major cloud service provider has obtained a patent for a floating data center, which would be located and operated offshore.\(^8\) Cloud taxation can be a struggle in today’s technological environment; serious consideration must be given to identifying and applying tax principles that will survive into tomorrow’s significantly changing environment as well.

B. Digital Content Access Providers

For purposes of these Comments, a DCAP refers to an organization or individual that makes available information, educational content, or entertainment content (not software) to consumers via the cloud. While a DCAP may or may not provide consumers with the software used to access the material, these Comments focus on those providers that store their content on servers and deliver the content over the Internet. Such DCAPs typically deploy their content offerings through a public cloud and, in some sense, are similar to SaaS providers except that the user is simply accessing content as opposed to interacting with software.\(^9\) Widely known examples of DCAPs provide streaming video content to end-users or license movies, music, and e-books online.

II. Current State of Authority and Previous Efforts

Because cloud computing is a relatively recent phenomenon, the absence of clear guidance on how cloud income should be taxed is not surprising. This section

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9 Legal database and research sites are good examples of companies that provide both SaaS and digital content because the end-user interacts with the website which provides sophisticated functionality that software would normally provide, and the site is providing digital content (e.g., case law, statutes, etc.) to the end-user from servers which the end-user does not control or manage.
summarizes some of the previous guidance on the cross-border income tax aspects of new information technologies.

A. Policy Statements

1. 1996 White Paper

In 1996, Treasury’s Office of Tax Policy issued a report entitled “Selected Tax Policy Implications of Global Electronic Commerce” (the “1996 White Paper”).10 The purpose of the 1996 White Paper was to reexamine the Internal Revenue Code and international tax policy for the purpose of developing a framework for analyzing transactions involving electronic commerce (“e-commerce”).11 As a gating principle, the Office of Tax Policy found that, as in the context of other policy discussions, the overall tax policy goal in this area should be to maintain neutrality, fairness, and simplicity.12

To this end, the Office of Tax Policy generally rejected the imposition of new taxes on e-commerce transactions and stated that existing tax principles should generally be applied and adapted to new technologies.13 The 1996 White Paper reasoned that basing taxation on existing principles facilitates adaptation as an international standard,14 and concluded that new tax concepts should be developed only in “extreme cases.”15 At the same time, however, the 1996 White Paper acknowledged that e-commerce could make it difficult to maintain the current balance between residence and source taxation, and make source taxation obsolete.16

2. White House Report

In 1997, the Clinton Administration issued an interagency report entitled “A Framework for Global Electronic Commerce” (“White House Report”).17 The White House Report also took the policy position that no new taxes should be imposed on e-commerce and that any taxes should be consistent with established principles of international taxation. The White House Report recommended that any e-commerce tax rules should avoid “inconsistent national tax jurisdictions” and double taxation, and prioritized administrability and simplicity.18 The White House Report also urged use of the OECD as the primary forum for reaching global consensus on e-commerce taxation.

11 See id. at 3-4.
12 Id. at 3.
13 Id. at 4.
14 Id. at 21.
15 See id.
16 Id. at 23.
18 Id.
3. Ottawa Framework

In 1998, the OECD published a set of conditions for establishing e-commerce tax rules (the “Ottawa Framework”). The Ottawa Framework concluded that existing tax principles should be applied to e-commerce transactions, although, like the White House Report, the framework did not entirely preclude new measures. The Ottawa Framework, which was intended to apply in the direct tax context (i.e., through treaties), provided several guiding principles for taxing e-commerce transactions: neutrality between electronic and conventional forms of commerce, certainty/simplicity, effectiveness in minimizing the potential for tax evasion and avoidance, fairness, efficiency, flexibility, the avoidance of double taxation, and the avoidance of non-taxation.

B. OECD Concerns regarding Base Erosion and Profit Shifting

In March 2014, as part of its Base Erosion Profit Shifting (“BEPS”) Action Plan, the OECD issued a public discussion draft to “Address the Tax Challenges of the Digital Economy,” and following consultations released a Final Report in October 2015.

The discussion draft described cloud computing as an application providing services over the Internet instead of in any particular physical location. The discussion draft identified general tax policy challenges raised by the digital economy, particularly the lack of specific tax guidance in the context of cloud computing. In particular, the discussion draft noted the lack of clarity as to whether cloud transactions should be characterized as the provision of services (and, consequently, as business profits for treaty purposes) or as a rent or royalty income (taxable at varying withholding tax rates). The discussion draft outlined proposed options for addressing these BEPS problems, including redefining the scope of permanent establishment to capture certain digital services.
transactions (“PE”), creating a withholding tax on digital transactions, and changing consumption taxes to better address the realities of the digital economy.27

The OECD reiterated these points in its Final Report on BEPS Action 1 issued in October 2015.28 The Final Report also indicates that member countries may pursue these avenues through domestic legislation.

III. Challenges in Applying Existing Tax Principles to the Cloud Computing Industry

Existing tax concepts are not on their face directly applicable to cloud computing. The following section demonstrates this difficulty.

Cloud computing covers a large number of different concepts that are continuously evolving. As noted above, cloud computing may be categorized as three different types of offerings – SaaS, PaaS, and IaaS. But these labels are misleading, as they do not so much represent distinct product offerings as points on a spectrum of offerings, with SaaS and IaaS as endpoints. As the technology advances, it is possible that additional layers may be added, leading to new or hybrid categories.29

Cloud computing is not always easily analogized to traditional concepts. Tax authorities are naturally inclined to analogize cloud computing services to traditional commercial transactions. However, cloud products offer additional features that may call into question the automatic application of the tax treatment of the analogous, traditional transaction to the cloud transaction. For example, while SaaS is similar to a “typical” software license at a high level, the CSP’s ability to exercise control over software, the ability to update and monitor software use, and the remote location of data storage may justify reconsideration.30

Users and providers are extremely mobile. With cloud computing, both providers and users can span multiple physical locations. As a result, a customer’s data are not always stored or routed through the same hardware, nor is it practical or cost-effective to monitor exactly what hardware in which location is being used to serve which customer.

27 See id. at 66-67.
30 Other service models have been proposed since the NIST released its definition of cloud computing in 2011. See, e.g., Part 1: Introduction to the Cloud Ecosystem: Definitions, Taxonomies, Use Cases and High-level Requirements, Focus Group on Cloud Computing, International Telecommunications Union (Feb. 2012) (proposing to add Network as a Service (“NaaS”) and Communications as a Service (“CaaS”) to the taxonomy of service models). However, as cloud terminology is offered as background information and is not directly relevant to the tax consequences of the services models, these Comments are limited to a discussion of SaaS, IaaS, and PaaS.
30 Google, for example, launched Google Reader in 2005 but in 2013 announced that it would discontinue that service offering. See, e.g., A Second Spring of Cleaning, http://googleblog.blogspot.com/2013/03/a-second-spring-of-cleaning.html.
(and when). Data centers may require minimal live maintenance; management and technical support is often conducted remotely. Users may also be mobile, with cloud computing products accessed on cell phones, laptops, or other mobile devices. Similarly, a multinational corporation with offices all over the world may have a single contract to use cloud computing services for all its affiliates. Cloud computing has removed many of the physical aspects of traditional commerce, and traditional tax rules that rely on location – location of services, place of use, etc. – may be increasingly difficult to apply.

Electronic transactions provide opportunities for taxpayers to track and record transactions as never before. To some extent, it is tempting to believe that the cloud computing industry has the power to diagnose its own transactions and determine “where” those transactions occur. Regardless of technological feasibility, however, query whether such monitoring is reasonable, efficient, or administrable from a practical perspective.\(^{31}\)

IV. The Need for Guidance

It can no longer be said that cloud computing has the mere potential to revolutionize the way consumers and businesses interact with technology; potential has become a current reality. In 2011, the cloud computing industry generated an estimated $25 billion in spending; forecasted spending in 2016 is $38 billion in 2016; and, expected spending in 2026 is $173 billion.\(^ {32}\) The tremendous growth in the cloud industry creates a pressing need for guidance from tax authorities. That being said, we fully appreciate the need for any future guidance to be shaped with careful attention towards neutrality, fairness, and administrability.

As with the taxation of income from all cross-border transactions, tax consequences are rooted in the character and source of the income. These Comments focus on the first of those two critical issues - character; source as well as additional inbound, treaty, and outbound taxation issues will be addressed in future comment letters.

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\(^{31}\) Note that in analogous circumstances, the international communications and transportation rules have focused on knowable, transactionally relevant points – under “paid to do” and origin and destination-based rules, respectively – for determining source. See I.R.C. § 863(c), (e).

Attachment A

Table 1.3 - http://venturebeat.com/2011/11/14/cloud-iaas-paas-saas/
B. Substantive Comments

Practitioners have different views on the character of income from cloud transactions. The Working Group that developed these comments discussed several alternatives that generated majority and minority positions. Set forth below is a discussion of these positions.

I. Character of Cloud Income

A. Characterization of CSP Income

The threshold issue with respect to CSP income is characterization. While the technology industry has adopted the “services” nomenclature, that label does not necessarily dictate the characterization of CSP income for U.S. federal income tax purposes. Whether services characterization will be sustained depends on the relevant facts and circumstances regarding any specific CSP offering and the conceptual framework in which it resides. Thus, different providers potentially may generate different types of income.

1. Application of the Software Regulations to CSP Transactions

The first issue to address is whether any CSP offerings fall within the scope of the existing Treasury regulations on the characterization of transfers of computer programs.

Before 1998, the tax characterization of computer programs was unclear due to the complexity of applying traditional tax concepts to computer programs, and the inconsistent treatment of such programs by courts. In 1998, the Service sought to clarify the characterization of transactions involving transfers of computer programs by promulgating Regulation § 1.861-18 (“Software Regulations”). The Software Regulations characterize transactions involving “computer programs” for certain international provisions of the Code. The regulations define a computer program as “a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result . . . , including any media, user manuals, documentation, data base or similar item if the media, user manuals, documentation, data base or similar item is incidental to the operation of the computer program.” Notably, the definition of

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33 The principal source of value for the owner of a computer program is the right to exclude others from using (i.e., copyright protection), and the principal source of value for the user is the right to use the program. Prop. Reg. § 1.861-18 (preamble). These facts suggest that computer programs should be treated as licenses. See id. However, custom-created programs are labor intensive, suggesting that such programs may partially constitute services. See Prop. Reg. § 1.861-18(h), Example 15.

34 Compare Ronnen v. Comm’r, 90 T.C. 74 (1988) (holding that computer software was intangible property under the “intrinsic value” test) with Northwest Corp. v. Comm’r, 108 T.C. 358 (1997) (holding that computer software could constitute tangible personal property).

35 The relevant provisions are: subchapter N of chapter 1 of the Code, sections 367, 404A, 482, 551, 679, 1059A, chapter 3, sections 842 and 845 (to the extent involving a foreign person), and transfers to foreign trusts not covered by section 679. Reg. § 1.861-18(a).

36 Reg. § 1.861-18(a)(3).
a computer program does not include other types of digitized information (e.g., databases that are not incidental to the operation of a computer program, content provided as part of the transaction),\textsuperscript{37} and the Service specifically declined to expand such definition when it promulgated the regulations.\textsuperscript{38}

Generally, the Software Regulations apply when a transfer of a computer program has occurred. The Software Regulations characterize the commercial transactions related to such transfer as one of the following:\textsuperscript{39}

1. A copyright right in a computer program;

2. A copy of the computer program (copyrighted article);

3. The provision of services for the development or modification of a computer program; or

4. The provision of know-how relating to computer programming techniques.\textsuperscript{40}

The Software Regulations clearly indicate that the means by which the computer program is transferred is irrelevant.\textsuperscript{41} Nonetheless, the Software Regulations contain examples that circumscribe our understanding of when a transfer has occurred in the first place. Several of the examples involve a physical transfer of a disk or disks (e.g., Examples 1, 3, 5, 6, 7).\textsuperscript{42} Examples 2 and 4 involve a transfer via download from the internet where no physical transfer, in the traditional sense, has taken place but the customer has obtained a copy of the software for its own use, including the ability to re-transfer its copy of the software.\textsuperscript{43} In Examples 11, 12, and 13, the user has obtained the right to make a computer program available to its employees (to varying degrees) via a local area network.\textsuperscript{44} However, in those three Examples, the user has obtained a physical copy of the computer program to upload onto its own servers to which its employees have access.\textsuperscript{45} From a technological perspective, Examples 11, 12, and 13 are similar to SaaS transactions where users access software remotely. What differentiates Examples 11, 12, and 13, as well as Examples 2 and 4, from a SaaS transaction is that the customer not only has access to, or a right to use, the software program; the customer has also obtained a copy of the software that it deploys on its own device. In each of Examples a transfer (whether physical or electronic) of the computer program has occurred.

Accordingly, we read Treasury Regulation §1.861-18(g)(2) to require an actual transfer.

\textsuperscript{37} Offerings by providers of solely digital content, PaaS, and IaaS, in a strict and narrow sense, may be outside the scope of the Software Regulations.

\textsuperscript{38} T.D. 8785, 1998-2 C.B. 494 (stating that “suggestions to expand the scope of the regulations . . . by applying the regulations to other types of digitized information were not adopted”).

\textsuperscript{39} Reg. § 1.861-18(g)(2).

\textsuperscript{40} Reg. § 1.861-18(b)(1).

\textsuperscript{41} Reg. § 1.861-18(g)(2).

\textsuperscript{42} Reg. § 1.861-18(h).

\textsuperscript{43} Id.

\textsuperscript{44} Id.

\textsuperscript{45} Id.
that results in the transferee obtaining possession (either physical or electronic) of a
computer program. Access to and use of a software program is not enough.

The Software Regulations define the transfer of a copyright right as a transaction
that results in a person acquiring one or more of the following non-*de minimis* rights:46

1. The right to make copies of the computer program for purposes of
distribution to the public by sale or other transfer of ownership, or by rental,
leak or lending;47

2. The right to prepare derivative computer programs based upon the
copyrighted computer program;

3. The right to make a public performance of the computer program; or

4. The right to publicly display the computer program.

The regulations treat the transfer of a copyright right as a license generating
royalty income. However, if, taking into account all of the facts and circumstances, the
transaction results in a transfer of all substantial rights in a copyright,48 the transaction
will be characterized as a sale or exchange of the copyright right and generate sales
income.49

The regulations define a copyrighted article as including:

...a copy of a computer program from which the work can be perceived,
reproduced, or otherwise communicated, either directly or with the aid of a
machine or device. The copy of the program may be fixed in the magnetic medium
of a floppy disk, or in the main memory or hard drive of a computer, or in any
other medium.50

Thus, a copyrighted article in this context includes wholly intangible property and the
transfer may be by any medium, including the internet.

The transfer of a copyrighted article is treated as a lease generating rental income,
unless, under all of the facts and circumstances, the transaction results in the transfer of
the benefits and burdens of ownership (*i.e.*, a sale or exchange).51 Similar to the sale or

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46 Reg. § 1.861-18(c)(2). *De minimis* rights are ignored for purposes of characterizing the transfer of
copyright rights and copyrighted articles. Reg. § 1.861-18(c)(1)(i), (ii).
47 A right to distribute copies is not a right to distribute copies to the “public” if copies are distributed to a
related party of persons who are identified by name or legal relationship to the original transferee. Reg. §
1.861-18(g)(3)(i).
48 Reg. § 1.861-18(f)(1). The regulations provide that the determination of whether a transaction results in
a transfer of all substantial rights in the copyright may be made applying the principles of sections 1222
and 1235. *Id.*
49 *Id.* citing I.R.C. § 865(a), (c), (d), (e), or (h), as appropriate.
50 Reg. § 1.861-18(c)(3).
51 Reg. § 1.861-18(f)(2).
exchange of a copyright, the sale or exchange of a copyrighted article also generates sale income.\textsuperscript{52} Example 2\textsuperscript{53} illustrates a scenario in which a sale of a copyrighted article has taken place. In this example, Corp A, a U.S. corporation, makes a program available via the Internet for download for a fee. Corp A holds a copyright in the computer program. The transferee assents to the license agreement before download. The license agreement prohibits reverse engineering, decompilation, or disassembly of the computer program. The transferee can use the program on two computers, but not simultaneously, and can make one copy of the program. The transferee can also sell its one copy. Corp A has transferred a copyright article and not a copyright right as none of the rights described in Treasury Regulation §1.861-18(c)(2) have been transferred. The benefits and burdens of ownership of the copyright article (i.e., control of the rights acquired, the right to sell the copy, and the risk of loss) have been transferred to the transferee and, therefore, Corp A has sold the computer program.

Examples 3 and 4\textsuperscript{54} illustrate when insufficient benefits and burdens have been transferred to accomplish a sale and, therefore, lease treatment is appropriate. In both examples, Corp A owns a copyright in a computer program, which is subject to a shrink-wrap license. The license agreement prohibits the user from reverse engineering, decompilation, or disassembly. In Example 3 a physical disk of Program X is sent to the user and in Example 4 the user downloads the computer program to their computer (assenting to the terms of the shrink-wrap license electronically). In Example 3, the user must return the disk to Corp A after a stated term. The user can retain the disk for a longer period, however, the user would be subject to a second license agreement. In Example 4, the user downloads the program and after the end of a one-week period an electronic lock is activated preventing continued use of the computer program. The user can return to Corp A’s webpage and pay for an electronic key but would be subject to a second license agreement. Based on all facts and circumstances, and in particular, the temporary nature of the transfer, Corp A has leased the computer program in both Examples 3 and 4.

The Software Regulations provide more limited guidance with respect to transactions within their scope that are characterized as the provision of services or know-how. The regulations characterize a transaction as providing services based on the facts and circumstances of the transaction, including, when appropriate, the intent of the parties regarding ownership of the copyright rights in the computer program and how the risks of loss are allocated between the parties.\textsuperscript{55} In the context of software development, this provision would most likely apply to software development work that is commissioned by the party who will ultimately own the software.\textsuperscript{56}

\textsuperscript{52} Id. citing I.R.C. §§ 861(a)(6), 862(a)(6), 863, 865(a), (b), (c), or (e), as appropriate.
\textsuperscript{53} Reg. § 1.861-18(h) Ex. 2.
\textsuperscript{54} Reg. § 1.861-18(h) Ex. 3, Ex. 4
\textsuperscript{55} Reg. § 1.861-18(d). The regulations provide that the intent of parties is determined based on their agreement and conduct. Id.
\textsuperscript{56} The definition for services appears to be based on the copyright concept of “work-for-hire.” The work-for-hire concept applies when a work that is subject to copyright protection is created for an employer by
In Example 15, Corp H, a Country Z corporation, enters into a license agreement for a new computer program, Program Q, which is to be written by Corp A, a U.S. corporation. Upon completion of Program Q the copyright belongs to Corp H. Corp H pays Corp A a fixed monthly fee during Program Q’s development, which the contract refers to as royalties. If the contract is terminated, Corp A retains all payments, while “any procedures, techniques or copyrightable interests will be the property of Corp H.” Despite the parties labeling the fee as a royalty, the fee is a service payment because (1) Corp H retains all property rights in Program Q at the end of the contract, and (2) Corp H bears all of the risk of loss.

The Software Regulations also provide a limited definition for know-how. A transaction is characterized as providing know-how only if the information provided: (1) relates to computer programming techniques; (2) is furnished under conditions preventing unauthorized disclosure, and is specifically contracted for between the parties; and (3) is considered property subject to trade secret protection. Thus, the definition excludes most traditional methods of providing software to consumers.

Finally, in the event that a transaction involving computer programs consists of more than one transaction described above, each transaction generally will be characterized separately.

Although very helpful in terms of characterizing transactions closely analogous to CSP transactions, the Software Regulations have significant limitations that preclude their direct application in the cloud context. First, the Software Regulations apply if, and only if, a transfer involving computer programs (i.e., software) has occurred. As discussed above, although some CSP offerings clearly involve software (in particular, SaaS transactions) and others may include embedded software, in a traditional sense software is not typically transferred to a customer in the course of these arrangements. The user does not download a software program, but instead obtains some ability to access and use the software, which is hosted on the CSP’s (owned or controlled) server. SaaS substitutes ongoing access for a one-time transfer, and “possession” of the software remains with the CSP. The rights to the software also remain with the CSP. Thus, the customer is not obtaining a “copy” even in an intangible medium, as would be required to be a copyrighted article under the Software Regulations. The

an employee during the course of employment or by an independent contractor. See, e.g., 17 U.S.C. § 201(b).

57 Reg. § 1.861-18(h) Ex. 15.

58 In a similar example, Example 14, Corp A is engaged by Corp G to modify a computer program, which Corp G will deploy to 5,000 of its own users. Unlike Example 15, Corp A retains all copyright rights in the program and, therefore, it is selling an article to Corp G rather than performing services for Corp G.

59 Example 16 illustrates when the provision of know-how has taken place. In that example, Corp A, a U.S. corporation, is sent to Country Z to provide know-how not generally known to computer programmers to Corp I. The know-how will ‘enable Corp I to more efficiently create computer programs.” The knowledge provided is subject to a non-disclosure agreement and is considered property subject to trade secret protection. The transaction is treated as the provision of know-how.

60 Reg. § 1.861-18(b)(2). The regulations do not require de minimis transactions to be characterized separately. Id.; Reg. § 1.861-18(c)(1).
Software Regulations also would not treat the transaction as a license giving rise to a royalty, as the customer cannot make copies of the software or derivative works, has no rights to republish, retransfer, or display any programs to which he is granted access, and has no right to exploit the software commercially.

Moreover, while some software-related services fall within the scope of the Software Regulations, the regulations do not specifically address the consequences of the provision of services via the provision of software. Put another way, the regulations address the provision of services through a transaction involving a newly developed or modified computer program.\(^61\) It appears that this provision in the regulations focuses on the situation where a person is providing programming services that are incidental to software development. The regulations do not apply when the maintenance and transfer of existing programs – a service – is the key component of the CSP’s offering. Consequently, as currently drafted, the classification of CSP transactions, including software as a service transactions, does not appear to be governed by the Software Regulations.

In addition to the Software Regulations, section 199 and the regulations thereunder may shed light on the Service’s and Treasury’s characterization of CSP transactions. Notably, taxpayers have attempted to equate the grant of access to software with a transfer in order to obtain a section 199 deduction for CSP transactions. Section 199 provides a deduction in relation to manufacturing activities but, with limited exceptions, not in relation to service activities. In Notice 2005-14,\(^62\) the Service took the position that online software transactions were the provision of a service ineligible for section 199 benefits. Many taxpayers objected to this characterization, reasoning that the Service had failed to properly differentiate revenue earned from CSP customers who are end-users of software, from service providers that use software in the provision of services to their own customers.\(^63\) While acknowledging these taxpayer objections, Treasury and the Service issued proposed regulations under section 199 consistent with Notice 2005-14 in that the regulations characterized the use of online computer software as a service.\(^64\) Subsequently, however, Treasury and the Service reconsidered this position, and issued final section 199 regulations containing a limited exception that treats certain SaaS transactions as equivalent to physically or digitally distributed software in specific circumstances.\(^65\) Nevertheless, apart from that exception, the final regulations confirm that generally, with respect to online software transactions, customers are provided with remote access to software rather than engaging in a transaction involving the actual transfer of software.\(^66\)

\(^{61}\) Reg. § 1.861-18(d).
\(^{62}\) Notice 2005-14, § 3.04.7(d), 2005-1 C.B. 498.
\(^{63}\) REG-105847-05, 70 Fed. Reg. 67220 (preamble).
\(^{64}\) Id.
\(^{65}\) Reg. § 1.199-3(i)(6)(iii).
\(^{66}\) T.D. 9317 (preamble)
2. Characterization of CSP Income under Traditional Tax Principles

Before discussing whether entirely new rules should be created to address the character of CSP income (e.g., as in the case of transportation, communications, and space and ocean income), we consider how such income would be treated under traditional tax principles. Given the various terms and features of a cloud transaction generally – the provision of digital content (including but not necessarily limited to software programs) and/or hardware components that enable the storage, processing, or transmission of such content – such a transaction could possibly implicate sales, license, leasing, or services treatment. We discuss these characterizations below.

a. No Sales or Royalty Treatment Absent a Transfer

In cases where no transfer of property or rights has occurred, traditional federal income tax principles preclude such income from being characterized as sales income or royalty income.

Generally, in order for a sales transaction to exist, the beneficial ownership of property must be transferred for value. As discussed in greater detail below, unlike a lease, where only some property rights are transferred, a sale requires a transfer of all or substantially all property rights. CSP transactions generally involve a transfer of limited property rights or no property right at all; the user acquires only a right to use the CSP’s programs for a period of time, and in many cases does not even acquire the right to download the programs. The customer is not entitled to the benefits and burdens of ownership – it has no upside or downside risk. Consequently, CSP transactions generally should not be treated as sales for U.S. federal income tax purposes.

Similarly, royalty income can arise only in cases involving a transfer (albeit only a partial one) of intellectual property rights. In Boulez v. Commissioner, the Tax Court was asked to distinguish between royalty income and service income, for purposes of applying a U.S. income tax treaty. The case involved a nonresident alien conductor who was engaged by a foreign corporation to record orchestral works in the U.S. The conductor was compensated based on a percentage of the foreign corporation’s sales receipts. Although the foreign corporation retained all copyright rights in the recording, the parties described the compensation as "royalties" in their contract, which under the relevant tax treaty would exempt the payments from U.S. income tax. The Service asserted that the conductor had earned services income sourced in the United States and was therefore subject to U.S. tax.

The Tax Court premised royalty income on the creation of a property right and considered two key questions in determining whether the conductor earned royalty (as opposed to services) income for purposes of the tax treaty. First, did the parties intend

67 I.R.C. § 863(c) and associated regulations.
68 I.R.C. § 863(e) and associated regulations.
69 I.R.C. § 863(d) and associated regulations.
and purport to license or convey a property interest? Second, did the conductor actually have a property interest that he was capable of licensing?

The Tax Court reviewed the contract between the conductor and the foreign corporation and observed that the contract contained conflicting language.\(^\text{71}\) For instance, the contract consistently referred to the payments made to the petitioner as “royalties,” which were directly tied to the proceeds the foreign corporation earned from the sale of the petitioner’s recordings;\(^\text{72}\) however, the contract characterized the conductor’s activities as personal services exclusive to the foreign corporation.\(^\text{73}\) Significantly, the contract provided that “[a]ll master recordings recorded hereunder and all matrices and phonograph records manufactured therefrom...shall be entirely [the foreign corporation’s] property, free from any claims by [the conductor] or any person deriving any rights or interests from [the conductor].”\(^\text{74}\) Consequently, the foreign corporation, and not the conductor, applied for and obtained all copyrights for recordings produced under the contract.\(^\text{75}\) (The Tax Court acknowledged that U.S. copyright law granted the conductor some property rights in the recordings, but those rights were effectively superseded by his contractual relationship with the foreign corporation.) Without owning any intellectual property rights (either through his own creation or via a transfer from the foreign corporation), the conductor could not have earned royalty income under U.S. tax law principles. Thus, the petitioner’s income was characterized as services income.\(^\text{76}\)

The same principles are reflected in the Software Regulations. As discussed above, the Software Regulations require a transfer of all or substantially all rights\(^\text{77}\) in the copyright right for sales treatment; a transfer of anything less results in royalty treatment.\(^\text{78}\) With regard to a copyright article, the Software Regulations provide for sales treatment if substantially all of the benefits and burdens of ownership have been transferred and lease treatment when a lesser quantum of benefits and burdens are transferred, as discussed in detail below.\(^\text{79}\) Particularly relevant here, Example 15 tracks the analysis in Boulez and distinguishes between a license agreement and the provision of services. Like in Boulez, the parties in Example 15 referred to the payments as royalty

\(^{71}\) Id. at 591.
\(^{72}\) Id.
\(^{73}\) Id. at 592.
\(^{74}\) Id. at 586.
\(^{75}\) Id. at 587.
\(^{76}\) See also Hopag S.A. Holding v. Comm’r, 14 T.C. 37 (1950) (taxpayer could not have “royalty” income without an ownership interest in the underlying intellectual property); Ingram v Bowers, 57 F.2d 65 (2nd Cir. 1932) (income of singer on the creation of records was characterized as services and not royalty income because singer retained no property interest in the underlying records).
\(^{77}\) As discussed supra, the Software Regulations define the relevant rights as the following non-de minimis rights: (1) the right to make copies of the computer program for the purposes of distribution to the public by sale or other transfer of ownership, or by rental, lease or lending; (2) the right to prepare derivative computer programs based upon the copyrighted computer program; (3) the right to make a public performance of the computer program; or (4) the right to publically display the computer program. Reg. § 1.861-18(c)(2).
\(^{78}\) Reg. § 1.861-18(f)(1).
\(^{79}\) Reg. § 1.861-18(f)(2).
fees. However, just like the conductor in Boulez, the party modifying the computer program did not hold any property rights in the computer program beforehand or upon completion of the program’s development, and had no such rights to transfer. On this basis, the Software Regulations treated the transaction as the provision of services.

As discussed above, CSP transactions generally involve no transfer of copyright rights (or articles) to a client. Although, unlike the contractor in Example 15 (or Boulez), a CSP owner by definition owns software, software platforms, and cloud-related equipment and infrastructure, the client is only permitted to access and use in a limited way such property and may not incorporate or exploit it in its own offerings to its own clients. Furthermore, the end-user bears minimal, if any, risk in a CSP transaction, as it is paying for access to software and equipment. The owner of the software and equipment – the CSP provider – bears the risk of loss as it is in physical possession and generally contractually responsible for providing access. As a result, we believe that sales or royalty characterization is inappropriate for CSP income arising from transactions that do not involve a transfer of property rights.

b. Service vs. Lease Treatment

The remaining possibilities for characterization of cloud transactions are as services or leasing transactions. While the two transactions can be superficially similar, in a services transaction, unlike a leasing transaction, the payee does not receive any property interests.

The court in Piedras Negras addressed the character of what is arguably a commercial ancestor of the cloud industry – radio broadcasting. In Piedras Negras, the Board of Tax Appeals examined the character of broadcast activities conducted by a radio station. The radio station was located in Piedras Negras, Mexico, while the vast majority of its listening audience lived nearby in Texas. The broadcast programs were free for listeners, but music and other content included advertising. Approximately 90 percent of the station’s income was from American advertisers, and approximately 95 percent of its listening audience was located in the United States. The Board of Tax Appeals was called upon to determine the character and source (and, ultimately, the U.S. taxability) of the station’s advertising income. Although the source of the radio station’s income was the legal issue in dispute, the Board focused its inquiry on both the personal labor and mechanical aspects of the petitioner’s business, characterizing its broadcast advertising activities as services.

A customer generally is considered to enter into a leasing transaction rather than a transaction for services if it receives a limited, i.e., less than full beneficial ownership, interest in property. The property owner retains the remaining rights in the property. Here, as with a royalty arrangement, a key factor is whether there has been a property transfer from the owner to the customer, as a property transfer generally signals a lease.

80 Although in the CSP transaction, the person paying the remuneration (the customer) is not the IP owner and whereas in Example 15 it is the IP owner, the common denominator is that in neither case is the payment in respect of a transfer of property rights or risk.

81 43 B.T.A. 297 (1941).
or a sale (in the case of a complete transfer of rights), and the absence of such a transfer suggests services. However, while it is readily possible to classify the rights transferred as a property transfer (a license) rather than services where the customer may use the intangible for re-publication or other commercial exploitation, or to develop derivative works, the classification of cloud offerings is more difficult as they are typically used by the customer for its internal purposes. It is much less apparent whether a property transfer has occurred. Characterization is complicated by the fact that the property owner may provide services along with or in addition to the leased property, necessitating an analytical framework distinguishing between leases of property and services.

(1) Pre-Section 7701(e) Authority

Authority distinguishing between services and leasing transactions is rooted in case law and revenue rulings.\(^82\) The Service had set forth initial guidance distinguishing between property leases and services, for purposes of determining whether a taxpayer was eligible for the section 38 investment tax credit.\(^83\) For eligibility, the taxpayer had to be treated as engaged in providing services to its customer, and not leasing the property in question to the customer. The taxpayer, a regulated communications utility, installed communication systems on the property of tax-exempt organizations. The taxpayer entered into a “service contract” in which the taxpayer retained all ownership and control of the equipment. The customer paid the installation charges and operated the equipment. The Service concluded that the taxpayer was engaged in services and thus qualified for the investment tax credit, because the taxpayer retained all ownership in, and possession and control over, the equipment.\(^84\)

Since Rev. Rul. 68-109, courts have identified specific factors relevant to the service-versus-lease determination. In Xerox Corporation v. United States,\(^85\) the taxpayer sought investment credits for the copy machines it provided to its customer as part of a service contract. The contract provided the customer with physical possession and daily use of the copy machines, but granted the customer no right to control the repair, replacement, upgrading, or even movement of the machines. The court, citing Rev. Rul. 68-109 and other rulings, focused its analysis on the possessory interest a taxpayer retains in the property, as well as whether the property is made available as part of an integrated operation. The court described four factors for analyzing the nature of the possessory interest: (1) retention of property ownership; (2) retention of possession and control; (3) retention of risk of loss; and (4) reservation of the right to remove the property and replace it with comparable property. Based on a totality of the facts and circumstances, including the taxpayer retaining a possessory interest in the copy machines, retaining the related risk of loss, and the contract requirements obligating the taxpayer to do more than

\(^{82}\) The prevailing authorities were ultimately codified in section 7701(e).


\(^{84}\) Id.

\(^{85}\) 656 F.2d 659 (Ct. Cl. 1981).
just supply the machines (i.e., maintenance, training, etc.), the court held that the copy machines were provided as part of a service contract and were not leased to the customer.

The U.S. Tax Court revisited the issue in Smith v. Commissioner. In this case, the taxpayer provided medical equipment – a scanner and a camera – to a hospital. The contract required the taxpayer to purchase and maintain the scanner; operate the scanner and interpret the results of procedures using the scanner through personnel provided by the taxpayer; educate the hospital medical staff regarding the scanner’s capabilities, and enhance the scanner by adding optional hardware and software. The hospital paid a monthly fee based on a predetermined level of scanner usage. Unused procedures could be carried forward from month to month. In contrast, the taxpayer simply provided the hospital with the camera for its use and was compensated with a monthly fee.

In its analysis, the Tax Court focused on four factors:

(1) which party had the use and possession or control of the equipment;

(2) which party operated the machine;

(3) whether the hospital paid for the use of the machine for some duration or, instead, paid based upon the number of procedures executed; and

(4) whether the equipment was part of a broader, integrated system of equipment and services.

Based on these four factors, the court concluded that the scanner was provided to the hospital as a service, based on the taxpayer’s nearly complete control over the equipment. That is, the taxpayer not only provided the equipment but also provided the personnel who operated the machine and interpreted its output. The court disagreed with the Service’s argument that a monthly fee based on a set number of procedures performed triggered lease treatment. In contrast, the court concluded that the camera was leased to the hospital, as it was provided for the exclusive use by hospital employees and payments were based on a flat monthly fee. Neither the scanner nor the camera was viewed as part of a larger integrated system within a service contract.

Taken together, the Smith and Xerox cases demonstrate a willingness of the courts to look beyond physical possession of property to determine whether a customer has property interests appropriate to a lessee. Similar to a substance-over-form analysis, while mere possession of property may be indicative of a property transfer, it is not itself determinative when another person has the right to control the property’s use.

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86 Smith v. Commissioner, 57 T.C.M. (CCH) 826, 1989 T.C.M. (RIA) ¶ 89,318..
87 Id. at 831. These four factors also were reiterated by the Eighth Circuit Court of Appeals in Musco Sports Lighting, Inc. v. Commissioner, 943 F.2d 906 (8th Cir. 1991), aff’d T.C. Memo 1990-331 (holding that the provision of lighting systems to athletic facilities was properly characterized as a lease and not services, because, despite maintaining a possessory interest, the customer and not the taxpayer had possession and control of the lighting systems operations).
(2) Authority under Section 7701(e)

The Fifth Circuit Court of Appeals more recently displayed this willingness in *Tidewater Inc. v. United States*\(^{88}\) By 2009, when the case was decided, the various case law factors had been incorporated into a statutory test, as section 7701(e). Section 7701(e) provides that a services contract could be treated as a lease under a facts and circumstances determination that includes the following, which tend to establish a lease:

(1) the service recipient is in physical possession of the property;

(2) the service recipient controls the property;

(3) the service recipient has a significant economic or possessory interest in the property;

(4) the service provider does not bear any risk of substantially diminished receipts or substantially increased expenditures if there is nonperformance under the contract;

(5) the service provider does not use the property concurrently to provide significant services to entities unrelated to the service recipient; and

(6) the total contract price does not substantially exceed the rental value of the property for the contract period.

The *Tidewater*\(^{89}\) court applied the section 7701(e) factors to a ship chartering arrangement. The taxpayer provided vessels, as well as the necessary crew, to its customers pursuant to a “time charter.” Under the terms of the contract, the customer could direct the vessel to undertake any voyage so long as it was considered safe and within the vessel’s capabilities.\(^{90}\) Although the taxpayer had the contractual right to substitute the vessel at any time, its right was subject to the customer’s reasonable consent.\(^{91}\) The customer was even granted the right to modify the vessel provided by the taxpayer.\(^{92}\) The time charter allowed the customer to exercise significant control of the ship, including its modification, although the taxpayer maintained physical possession of the ship through its crew.

The court analyzed the section 7701(e) factors and ruled that the time charter was more like a lease than a service agreement. In analyzing which party had possession of the vessel, the court determined that the amount of control exercised by the customer gave it constructive possession. The fact that the taxpayer’s crew had physical

\(^{88}\) 565 F.3d 299 (5th Cir. 2009).
\(^{89}\) 565 F.3d 299 (5th Cir. 2009).
\(^{90}\) Id. at 303, 305.
\(^{91}\) Id. at 303.
\(^{92}\) Id.
possession was “relatively unimportant in light of the customer’s constructive control of the vessel.”

93 Control of the vessel was the crucial issue for characterization, and more important than the operational control exercised by the taxpayer’s crew. 94

Notably, the Service issued an Action on Decision, disagreeing with the court’s decision and taking the view that the time charter constituted a services contract for U.S. federal income tax purposes. The Service believed that the court overemphasized the control factor to the exclusion of the other factors indicating a services contract.

(3) Software Regulations

As discussed above, the Software Regulations provide for lease treatment generating rental income for transactions involving a copyright article where insufficient benefits and burdens of ownership for a sale are transferred to the user. 95 A key consideration is whether the agreement provides for perpetual use of the computer program, which would indicate sales treatment. 96 Examples 3 and 4, also discussed above, illustrate these concepts.

The Software Regulations differentiate a lease transaction from the provision of services based on all facts and circumstances. 97 They specifically reference “the intent of the parties (as evidenced by their agreement and conduct) as to which party is to own the copyright rights in the computer program and how the risks of loss are allocated between the parties.” 98

Whereas in a leasing transaction the agreement is driven by the transfer (physically or electronically) of a computer program from the copyright holder to a user, a services agreement is driven by something other than a transfer of a computer program—often, the development or modification of a software program by a person other than the copyright holder. Notably, in the CSP space, the user is typically not paying for the modification or development of a computer program in which it will hold the enhanced rights (thus involving a transfer in some sense under the Software Regulations). Rather, a CSP customer is paying for a very different kind of service, access to a software program owned and hosted by the CSP provider (or in a PaaS or IaaS transaction, use of a server or CSP equipment).

c. Application to CSP Transactions

After consideration and debate, substantially all of the Working Group for these Comments believes that, in general, CSP transactions (SaaS, as well as most IaaS and PaaS transactions) should be treated as services transactions under existing law as

93 Id. at 305.
94 Id. at 308.
95 Reg. § 1.861-18(f)(2).
96 See Reg. § 1.861-18(h) Ex. 1, Ex. 10
97 Reg. § 1.861-18(d).
98 Reg. § 1.861-18(d).
extended to reflect technological developments, unless the facts and circumstances clearly dictate otherwise.

We first note that the existing law leaves it unclear where the line should be drawn between a lease and a service in the CSP context. Many if not most of the section 7701(e) factors are not directly applicable. One factor that appears relevant for CSP offerings is the nature of the offerings and the control factor in that context. CSP offerings generally involve a suite of functions provided by the CSP, including software, hosting and maintenance, development, and delivery. Remoteness of the servers, programs, etc., from the customer’s location and control is the norm, thus suggesting a service. The Service’s non-acquiescence to the court’s decision in Tidewater is a strong indicator that many CSP transactions, in particular SaaS transactions, should be characterized as services. In Tidewater, the client had considerable control of the ship yet the Service still favored services over lease treatment. In a typical SaaS transaction, the client has considerably less control than the client in Tidewater as the client has no or limited ability to modify the program and no ability to control where or which server is used.

Two other factors may be noted. One is the duration of access, with a short duration more consistent with a service than a lease (though drawing a distinction solely on that basis in this context may lead to arbitrary distinctions). Another factor to consider is the physical possession of the property. The very business rationale for using cloud technology is inconsistent with a user having physical possession of the servers and software, and taking that a step further, lack of dedicated access to a unique server (i.e., if the service provider may use the server concurrently to provide similar services to other users) would indicate a service rather than a lease.

The Software Regulations, and in particular, Examples 3 and 4 are informative when considering lease treatment for CSP transactions, but nevertheless fail to adequately capture the complexity and spectrum of CSP transactions. First, in both Examples 3 and 4, an actual transfer of a computer program has taken place, whereas in a typical SaaS transaction no transfer occurs and the user never possesses the server or software and only has the limited right to access the server for a specified purposes. None of the numerous examples addresses the issue of whether access to a software program, by itself, can constitute a transfer of the underlying software, and we believe it would be too big a stretch of the concept to include it. Furthermore, CSP transactions in most situations lack certain key attributes of a leasing transaction. Namely, the CSP provider carries the risk of loss (e.g., for equipment failure or software glitch) and maintains possession and complete control of the software and hardware. These factors distinguish CSP transactions from leasing transactions described under the Software Regulations. Although there is a “provision of services” component of the Software Regulations, it only addresses the development or modification of a computer program owned by a client. It does not contemplate providing access to a software program and thus does not address the type of service activity involved in the CSP arena.

In the case of SaaS offerings, software is not downloaded or otherwise clearly transferred to the customer. Instead, it is made available to the customer on the CSP’s
servers, owned by the CSP itself or by a third party server provider, a feature that tends to suggest a service. The customer has the right to use the program as well as the servers on which the program is hosted, but has no right to alter or enhance the program, no right to use the servers outside of that specific software contract, and no right to restrict use of the program or the servers by any other customers. The customer cannot direct activities with respect to the software, the servers hosting the programs, or other CSP functions, and cannot be clearly treated as having constructive possession of the software programs, the cloud infrastructure, or the servers or other equipment needed to deliver the cloud offering. The customer has no economic risk with respect to the nonperformance of either the program or the servers (apart from the impacts of such nonperformance on itself). It is not always clear whether the subscription price substantially exceeds the rental value of the property for the contract term, but it appears that, based on the other relevant facts, SaaS transactions are service agreements between the CSP and its customers.

The majority of the Working Group does not believe, however, that it is appropriate to conclude that all CSP transactions should be treated as services transactions; rather, at least in some limited circumstances, a cloud transaction could give rise to leasing income. The majority believes that lease treatment could be warranted if, for example, the following four factors are identified:

(i) a customer enters into an arrangement to obtain access to, and exclusive use of, a specific server (identified in the contract);
(ii) the CSP has no ability to move the server or substitute another server without advance agreement of the customer;
(iii) the server is dedicated to the customer for the transaction period; and
(iv) no other customer may use or gain access to the server. This fact pattern could occur in IaaS or PaaS scenarios. In such a case, the customer would exercise exclusive control over access to and use of a specified server for a specified period of time. The CSP may be viewed as having physical possession and risk of loss with respect to the server (i.e., if the server malfunctions the CSP could have the obligation to fix it or, with the permission of the customer, to replace it with an equivalent server). However, the CSP may have no right to dispose of, move, or otherwise alter the server contracted out to the customer. In these circumstances where the four factors are satisfied, there is at least some realistic possibility that the customer’s right to control the server warrants leasing transaction characterization.

We also suggest that Treasury and the Service consider providing future guidance setting forth the circumstances in which cloud transactions would not be treated as service transactions. Until that guidance is released, however, all cloud transactions would be treated as services transactions.

B. Characterization of Income from DCAP Transactions

In our view, like CSP transactions, DCAP transactions involve no property transfer. Customers do not download content onto a personal device, a server, or any

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99 This recommendation thus proposes a narrower concept of “lease” than that used in the Software Regulations, where the term could encompass certain payments in respect of the temporary use of intangibles.
other equipment they own or control. A DCAP (as we have defined DCAPs for purposes of these Comments) makes digital content available via streaming. The DCAP hosts the content on its own or third party-provided servers and permits customers to stream the content to their personal devices. DCAPs possess certain characteristics of a leasing transaction, e.g., limited-term use and a limited degree of control. However, on balance, DCAPs should be considered to provide a service as the consumer never obtains sufficient possession or control to warrant lease treatment.

First, streamed content resides on a user’s personal device only temporarily, if at all. The customer has no right to access or dispose of the content beyond the terms of its DCAP agreement, which typically allow for only personal short-term use. Thus, the DCAP maintains not just ownership but also possession (in any realistic sense) of the rights to the digital content.

Second, a DCAP has the risks and the benefits and burdens arising from a customer transaction. A DCAP undertakes the cost and responsibility for delivery of the digital content, and generally enjoys upside potential (and bears the downside risk) related to changes in the market value of the digital content. In addition, the DCAP maintains control over the digital content and its commercial use. A DCAP has the exclusive right to decide whether and to what extent the same content is offered to multiple customers, and controls the price at which the content is offered to its customers. Pricing is generally based on more than simple cost recovery of the digital content; pricing generally reflects recovery of the costs of technology, maintaining as well as acquiring content, servers, and other expenses of the broader enterprise surrounding the digital content.

Furthermore, a DCAP has the right to modify or enhance the content to the extent of its own intellectual property rights, (i.e., full rights in developed or purchased digital content, or limited rights as determined under license). There is no license because customers have no right to restrict the DCAP’s distribution to other customers, and obtain no right to redistribute the content, modify or make derivative versions of the content, or exploit the content for their own commercial gain. Nor, as a passive consumer of the digital content, with limited or no control over the property rights, could a customer be viewed as constructively possessing the content.

As there is not a transfer supporting characterization of a typical DCAP transaction as a lease or license, a fortiori, there is no sale. The customer typically does not obtain the right to use the digital content for a significant portion, much less substantially all, of the content’s useful life.

A typical DCAP transaction also falls outside the Software Regulations. First, it generally does not involve a software program. (That is, although software may possibly be used for the production and delivery of the streamed content, the content itself is not a software program.) More basically, as described above, there is no transfer of rights sufficient for a sale nor any transfer of rights sufficient to qualify as a lease, given that the user has no or meaningless control rights, possession, and benefits and burdens.
Furthermore, absent conveyance to a customer of any intellectual property rights in the content, a DCAP transaction cannot give rise to licensing income.

As discussed above, a DCAP appears to have physical and/or operational possession of the digital content, the economic risks and benefits related to the digital content, control of the content from a substantive perspective, and retention of all related intellectual property rights. Based on these features, the Working Group believes that Treasury and the Service should treat DCAP transactions as giving rise to services income.

In reaching this recommendation, the Working Group considered whether access to digital content via streaming in a DCAP transaction is functionally equivalent to download or other scenarios where a transfer and resulting possession of the content by the customer is considered to have occurred\(^\text{100}\) – and, if so, whether such functional equivalence justifies potential leasing or licensing characterization to preclude distortions between streaming and download. In this regard, we have also noted that a customer may be able to dictate the time and manner of its own content consumption (e.g., by choosing to stream to one device over another). This factor arguably causes a DCAP transaction to resemble more closely a traditional leasing transaction (i.e., a video rental from a physical store) than a traditional services transaction (i.e., viewing a movie in a theater). On balance, however, we believe characterization of the income as from services is closer to the mark, as discussed above.

The Working Group also considered circumstances in which even the time and manner of personal consumption could be affected by a customer’s choice to stream, as opposed to download, digital content. Differences would arise, for example, in any case where internet connectivity was precluded or impaired (e.g., on an airplane). The fact that a customer may not always be able to consume content as it chooses undercuts the practical control the customer has over the digital content and weighs in favor of services treatment. However, we believe services characterization may be called into question if and to the extent these non-control issues are alleviated by current or future technology. In that event, Treasury and the Service could consider providing separate future guidance on these issues.

C. Recommendations regarding Characterization of Cloud Income

As discussed above, the majority of the Working Group does not believe the Software Regulations currently apply to most CSP or DCAP transactions because in many cases such transactions do not involve a transfer and in certain cases do not involve software programs. On the other hand, the majority of the Working Group believes that cloud transactions could be analyzed under traditional U.S. tax principles. The Working Group considered whether the Treasury and the Service should address characterization explicitly and, if so, how. We discuss below the considerations regarding several alternatives, and the Working Group’s overall recommendations.

\(^{100}\) As in Examples 3 and 4 of the Software Regulations.
1. Address Characterization of Cloud Transactions Directly

One option the government has is the continued characterization of cloud transactions under current law (e.g., under the multi-factor test provided in section 7701(e)). The advantage to keeping the status quo may be considered to be familiarity and hence the corresponding simplicity for cloud providers that have established their business in the context of the traditional rules.

On the other hand, the current rules provide no certainty of treatment to taxpayers. As noted above, in the Tidewater case, the courts and the Service recently disagreed over the characterization of a vessel charter, an arrangement that is relatively standard from a commercial perspective and that involved a factual framework comprehensible to the parties, the courts, and the Service. Yet the Service issued an Action on Decision related to the court’s decision; how much more difficult would it be for the courts and the Service to agree on (and for taxpayers to rely upon) the broad and rapidly evolving range of transactions represented in the cloud industry? The Working Group discussions have identified the uneasy and unpredictable application of traditional tax principles to cloud transactions as the single greatest factor weighing against the status quo. Although there is a small minority in favor of simply applying common law tax principles, the majority of the Working Group believes that regulatory guidance is necessary in the cloud arena.

2. Do Not Extend or Modify Existing Software Regulations to Cloud Transactions

Another option the Working Group debated is the expansion of the Software Regulations to include CSP and DCAP transactions.

As noted above, many CSP and DCAP transactions fall outside the scope of the Software Regulations because not all cloud transactions (i.e., IaaS and some PaaS transactions) involve software programs and, more fundamentally, many CSP and DCAP transactions do not involve transfers. Although software is central to SaaS transactions, it is not the exclusive or even necessarily the primary component of a PaaS offering. IaaS transactions, which are focused primarily on hardware, contain an even smaller software component. We believe it of limited use to modify the Software Regulations to include cloud transactions, only to then exclude a significant portion of the cloud industry. In order for the Software Regulations to apply to PaaS and IaaS, the Treasury and the Service may also need to expand the scope of the regulations to govern digital content that is not a computer program or incidental thereto as well as the tangible infrastructure necessary for transmission over the internet. While the Working Group could envision application of the regulations to digital content (e.g., movies, music, e-books), it is not inclined to recommend the extension of the regulations to servers and other equipment necessary in IaaS transactions.
In addition, none of SaaS, PaaS, or IaaS normally includes a transfer of digital content to customers in the most traditional sense of a download. Application of the Software Regulations to SaaS and other “access transactions” is tempting from a functional equivalence perspective, particularly as a customer may not perceive—or pay for—any difference between the access and download transactions. The Working Group has noted, however, that there are situations in which this difference becomes quite apparent. For example, access to software programs assumes a sufficient level of internet connectivity that is often outside of a customer’s control (e.g., on an airplane or in other areas where sufficient internet service is unavailable, although this may be changing). Once downloaded, the customer generally assumes risk of loss, e.g., if a computer malfunction or loss affects the efficacy of the program. In contrast, availability and functionality of the program are responsibilities borne by the CSP in the SaaS context. The current Software Regulations are premised on a property transaction occurring, and base characterization on the extent and effect of the transfer on the parties’ rights in the property. If the regulations are expanded to include access to software or other digital content, it should not be because access is essentially the same as a download.

For these reasons, although it would be possible to modify the Software Regulations to accommodate CSP and DCAP transactions, the majority of the Working Group does not suggest any such modification.

3. Promulgate New Regulations Characterizing Cloud Transactions as Services or Leases, as Appropriate, Using Traditional Tax Principles

The Working Group also considered addressing the characterization of cloud transaction income in the context of new regulations issued under section 861 or section 7701(e). A new regulation would ideally define “cloud transactions” broadly, e.g., to include both DCAP and CSP transactions described in these Comments, while specifying that the Software Regulations govern any cloud transactions falling within their scope. In cases where a transaction includes features falling under both sets of regulations, the majority of the Working Group believes that treatment should be bifurcated, if possible, or otherwise governed by a predominant character test.

The majority of the Working Group also suggests that, under general U.S. tax principles (discussed above), new regulations should generally characterize cloud transactions as services arrangements, with the exception of certain transactions that, based on the relevant facts and circumstances, would be treated as leasing transactions where physical equipment (i.e., servers) are dedicated to a user. Those transactions treated as leasing transactions would have most, if not all, of the following characteristics based on a weighted facts and circumstances analysis:

(i) All or substantially all of the transaction involves the customer receiving access to, or use of, servers or other equipment necessary to, and for the purpose of, the storage, operation, or transmission of digital content;
(ii) Under the parties’ arrangement, the customer receives the exclusive right to access, use, and control the servers or other equipment;
(iii) Specific servers or other equipment are identified and dedicated to the customer under the arrangement;
(iv) The cloud provider has no right to substitute the specified servers or other equipment without the permission of the customer; and
(v) Pricing is not primarily based on the level of the customer’s use, but instead on other factors such as the duration of the agreement.

Based on its conclusion that services or leasing transaction treatment is appropriate in the factual scenarios described above, the majority of the Working Group believes that adoption of new regulations characterizing cloud transactions along these lines is most appropriate. Furthermore, articulation of a clear characterization rule is, in our view, critical for effective administration and enforcement of rules linked to characterization of cloud income.

4. New Characterization Rules Are Unnecessary

Finally, the Working Group considered whether it would be worthwhile to introduce new rules defining “cloud transactions,” which could involve creating a new character of income for U.S. federal income tax purposes. As noted above, this approach has been taken, for example, with respect to transportation income, space and ocean activities income, and international communications income, as defined in sections 863(c), 863(d), and 863(e), respectively. This would give the government the opportunity to determine source rules that make sense from a policy perspective – including administrability – without having to tie the income to, or distinguish it from, the characterization and sourcing authorities that currently exist.

Although this appears to be a viable option, the Working Group believes that this approach may necessitate legislation. Given that there are several traditional characterizations that are relevant to cloud transactions, the Working Group believes that it is preferable to issue regulations clarifying the application of when the existing characterization rules apply rather than creating new characterization rules.