



Frazier  
& Deeter  
CPAs & ADVISORS

# Independent Service Auditor's Report

On a Description of Wolters Kluwer's Indirect Tax Content Services  
and the Suitability of the Design of Its Controls

As of July 27, 2017



Wolters Kluwer  
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## Table of Contents

<b>Section One</b> .....	<b>1</b>
Independent Service Auditor's Report Provided by Frazier & Deeter, LLC.....	1
<b>Section Two</b> .....	<b>4</b>
Assertion by Management of Wolters Kluwer .....	4
<b>Section Three</b> .....	<b>7</b>
System Description Provided by Wolters Kluwer.....	7
I. Overview of Services Performed .....	8
II. Control Environment.....	8
Organizational Structure .....	8
Management's Control Philosophy.....	9
Risk Assessment.....	9
Monitoring .....	9
Information and Communication .....	9
III. Description of Operations .....	10
Data Research and Management .....	10
Compliance .....	10
IV. General Computer Controls.....	11
Information Security .....	11
Information System Operations.....	13
Change Management.....	13
Subservice Organizations .....	13
VI. Complementary User Entity Controls.....	15
<b>Section Four</b> .....	<b>16</b>
Information Provided by Frazier & Deeter, LLC .....	16
I. Introduction.....	17
II. Control Environment Elements .....	17
III. Control Objectives and Related Controls Placed into Operation .....	17

## Section One

Independent Service Auditor's Report Provided by Frazier & Deeter, LLC

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## Section One

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### Independent Service Auditor's Report Provided by Frazier & Deeter, LLC

To the Management of Wolters Kluwer:

We have examined Wolters Kluwer's description of its system of controls entitled "System Description Provided by Wolters Kluwer" (description) for Indirect Tax Content services and related general computer controls as of July 25, 2017, and the suitability of the design of controls included in the description to achieve the related control objectives stated in the description, based on the criteria identified in "Assertion by Management of Wolters Kluwer" (assertion). The controls and control objectives included in the description are those that management of Wolters Kluwer believes are likely to be relevant to user entities' internal control over financial reporting, and the description does not include those aspects of the Indirect Tax Content services system that are not likely to be relevant to user entities' internal control over financial reporting.

CCH Incorporated ("CCH" or the "Company"), a Wolters Kluwer ("WK") company, uses a third-party hosting service provider for hosting of hardware and managed IT services. The description includes only the control objectives and related controls of WK and excludes the control objectives and subservice organization. The description also indicates that certain control objectives specified by WK can be achieved only if complementary subservice organization controls assumed in the design of WK's controls are suitably designed and operating effectively, along with related controls at the service organization. Our examination did not extend to controls of the subservice organization and we have not evaluated the suitability of the design or operating effectiveness of such complementary subservice organization controls.

The description indicates that certain control objectives specified in the description can be achieved only if complementary user entity controls assumed in the design of WK's controls are suitably designed and operating effectively, along with related controls at the service organization. Our examination did not extend to such complementary user entity controls and we have not evaluated the suitability of the design or operating effectiveness of such complementary user entity controls.

In Section Two of this report, WK has provided an assertion about the fairness of the presentation of the description and suitability of the design of the controls and operating effectiveness to achieve the related control objectives stated in the description. WK is responsible for preparing the description and its assertion, including the completeness, accuracy, and method of presentation of the description and the assertion, providing the services covered by the description, specifying the control objectives and stating them in the description, identifying the risks that threaten the achievement of the control objectives, selecting the criteria stated in the assertion, and designing, implementing, and documenting controls that are suitably designed and operating effectively to achieve the related control objectives stated in the description.

Our responsibility is to express an opinion on the fairness of the presentation of the description and on the suitability of the design of the controls to achieve the related control objectives stated in the description, based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform our examination to obtain reasonable assurance about whether, in all material respects, based on the criteria in management assertion, the description is fairly presented and the controls were suitably designed to achieve the related control objectives stated in the description as of July 25 2017. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

## Section One

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### Independent Service Auditor's Report Provided by Frazier & Deeter, LLC

An examination of a description of a service organization's system and the suitability of the design of controls involves:

- Performing procedures to obtain evidence about the fairness of the presentation of the description of the system and the suitability of the design of the controls to achieve the related control objectives stated in the description, based on the criteria in management's assertion.
- Assessing the risks that the description is not fairly presented and that the controls were not suitably to achieve the related control objectives stated in the description.
- Evaluating the overall presentation of the description, suitability of the control objectives stated therein, and the suitability of the criteria specified by the service organization in its assertion.

The description is prepared to meet the common needs of a broad range of user entities and their auditors who audit and report on user entities' financial statements and may not, therefore, include every aspect of the system that each individual user entity may consider important in its own particular environment. Because of their nature, controls at a service organization may not prevent, or detect and correct, all misstatements in Indirect Tax Content services. Also, the projection to the future of any evaluation of the fairness of the presentation of the description, or conclusions about the suitability of the design of the controls to achieve the related control objectives, is subject to the risk that controls at a service organization may become ineffective.

In our opinion, in all material respects, based on the criteria described in WK's assertion in Section Two of this report:

- a) The description fairly presents the Indirect Tax Content services and related general computer controls system that was designed and implemented as of July 25, 2017.
- b) The controls related to the control objectives stated in the description were suitably designed to provide reasonable assurance that the control objectives would be achieved if the controls operated effectively as of July 25, 2017, and user entities applied the complementary user entity controls contemplated in the design of WK's controls as of July 25, 2017.

The specific controls tested and the nature, timing, and results of those tests are listed in Section Four of this report.

This report, including the description of tests of controls and results thereof in Section Four of this report, is intended solely for the information and use of WK, user entities of WK's Indirect Tax Content services and related general computer controls as of July 25, 2017, and their auditors who audit and report on such user entities' financial statements or internal control over financial reporting and have a sufficient understanding to consider it, along with other information, including information about controls implemented by user entities themselves, when assessing the risks of material misstatements of user entities' financial statements. This report is not intended to be and should not be used by anyone other than those specified parties.

*Frazier & Deeter, LLC*

July 27, 2017  
Atlanta, Georgia

## Section Two

Assertion by Management of Wolters Kluwer

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We have prepared the description of Wolters Kluwer's ("WK") system for Indirect Tax Content services and related general computer controls entitled, "System Description Provided by Wolters Kluwer" for processing user entities transactions as of July 25, 2017 (description) for user entities of the system as of July 25, 2017, and their auditors who audit and report on such user entities' financial statements or internal control over financial reporting and have a sufficient understanding to consider it, along with other information, including information about controls implemented by subservice organizations and user entities of the system themselves, when assessing the risks of material misstatement of user entities' financial statements.

WK uses a subservice organization provider for hosting of hardware and managed IT services. The description includes only the control objectives and related controls of WK and excludes the control objectives and related controls of the subservice organization. The description also indicates that certain control objectives specified by WK can be achieved only if complementary subservice organization controls assumed in the design of WK's controls are suitably designed and operating effectively, along with the related controls at WK. The description does not extend to controls of the subservice organization.

The description indicates that certain control objectives specified in the description can be achieved only if complementary user entity controls assumed in the design of WK's controls are suitably designed and operating effectively, along with related controls at the service organization. The description does not extend to controls of the user entities.

We confirm, to the best of our knowledge and belief, that:

- a. The description fairly presents the Indirect Tax Content services and related general computer controls system made available to user entities as of July 25, 2017, for processing their transactions as it relates to controls that are likely to be relevant to user entities' internal control over financial reporting. The criteria we used in making this assertion were that the description:
  - i. Presents how the system made available to user entities of the system was designed and implemented to process relevant user entity transactions, including, if applicable
    - (1) The types of services provided, including, as appropriate, the classes of transactions processed.
    - (2) The procedures, within both automated and manual systems, by which those services are provided, including, as appropriate, procedures by which transactions are initiated, authorized, recorded, processed, corrected as necessary, and transferred to the reports presented to user entities of the system.
    - (3) The information used in the performance of the procedures, including, if applicable, related accounting records, whether electronic or manual, and supporting information involved in initiating, authorizing, recording, processing, and reporting transactions; this includes the correction of incorrect information and how information is transferred to the reports and other information prepared for user entities.
    - (4) How the system captures significant events and conditions, other than transactions.
    - (5) The process used to prepare reports or other information for user entities.
    - (6) Services performed by a subservice organization, if any, including whether the inclusive method or the carve-out method has been used in relation to them.

- (7) The specified control objectives and controls designed to achieve those objectives including, as applicable, complementary user entity controls assumed in the design of the service organization's controls.
    - (8) Other aspects of our control environment, risk assessment process, information and communication systems (including the related business processes), control activities, and monitoring controls that are relevant to processing and reporting transactions of user entities of the system.
  - ii. Does not omit or distort information relevant to the scope of the system for financial institution services and related general computer controls, while acknowledging that the description is prepared to meet the common needs of a broad range of user entities of the system and their user auditors and may not, therefore, include every aspect of the Indirect Tax Content services and related general computer controls system that each individual user entity of the system and its auditor may consider important in its own particular environment.
- b. The controls related to the control objectives stated in the description were suitably designed as of July 25, 2017, to achieve those control objectives if the subservice organization and user entities applied the complementary controls assumed in the design of WK's controls as of July 25, 2017. The criteria we used in making this assertion were that:
  - i. The risks that threaten the achievement of the control objectives stated in the description have been identified by management of the service organization.
  - ii. The controls identified in the description would, if operating effectively, provide reasonable assurance that those risks would not prevent the control objectives stated in the description from being achieved.



## Section Three

System Description Provided by Wolters Kluwer

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## Section Three

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### System Description Provided by Wolters Kluwer

#### I. Overview of Services Performed

CCH Incorporated (“CCH” or the “Company”), a Wolters Kluwer (“WK”) company, provides customer-focused tax, accounting and audit information, software and services for accounting and corporate professionals. The Indirect Tax Content group, the tax research sector of WK, maintains indirect tax data for various industries, such as telecom, construction and manufacturing, energy, food and restaurant, general sales use, retail, environmental disposal, utilities, computer services and provides its customers with information regarding rules, rates, taxability and geography through an extensive research process. The Tax Information Processing System (“TIPS”), an internally developed data maintenance tool, houses the sales and use tax data. Data is gathered in a variety of ways, including telephone calls, email subscriptions, website searches, WK Tracker news, and CoreLogic Dorado, LLC (“CoreLogic”), a third-party research tool used to validate tax rates based on jurisdiction.

The Indirect Tax Content sector of WK is located in Chestnut Ridge, NY. The main data center is located in Plano, Texas. The Company also has a backup data center in Florence, Kentucky.

#### Tax Information Processing System

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TIPS was designed and developed specifically for maintaining taxability, compliance, and tax rate information for USA, Canada, and US territories. The tool contains tax rates for WK indirect tax groups.

#### II. Control Environment

WK’s control environment reflects the overall attitude, awareness and actions of the Company’s owners and management concerning the importance of control and its emphasis on the entity. Relevant aspects of the Company’s control environment, which affect the services provided to the clients, are summarized below.

#### Organizational Structure

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WK maintains clear and concise communication channels to disseminate information regarding control requirements to the appropriate levels within the organization. The Indirect Tax Content sector is comprised of four groups, including a general sales and use group, energy and telecommunications group, local research group, and a production control group. The general sales and use group maintains all taxability, state rates and state administered local rates, geography, and situs rules and is comprised of Juris Doctor (“JD”)/Certified Public Accountant (“CPA”) qualified analysts. The energy and telecommunications group is responsible for energy and telecommunications news sourcing. The local research group researches local tax information and maintains all locally administered rates. The production control group is responsible for ensuring the structural integrity of the content to ensure that it is formatted and packaged in accordance with system standards. Additionally, this group ensures the content is entered completely and accurately. All groups comprising the Company are managed by and under the direction of the executive management team of the Corporate Indirect Tax business unit segment, who is responsible for various operational areas of the Company including general management and administration. Formal organizational charts reflect functions and reporting lines. The organization is hierarchical, which is conducive to control through segregation of responsibilities. Written job descriptions describe the duties and responsibilities of each group. When assigning authority and responsibilities, management considers the nature of the

## Section Three

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### System Description Provided by Wolters Kluwer

position and appropriate segregation of duties. Management meets regularly to discuss a wide range of topics and is also responsible for establishing corporate policies and procedures addressing all operational, financial, cultural and social aspects of the Company.

### Management's Control Philosophy

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WK management has established a high level of ethics and integrity standards throughout the organization. WK's company values focus on customer success, commitment to continuous improvement and innovation, delivering accurate results and success as a team. WK has established personnel policies relating to administrative practices, behavioral standards, expectations and regulatory requirements. These policies are documented in the WK Employee Handbook, and are reviewed on an on-going basis. Updates to the handbook are communicated to employees on an annual basis and employees are required to acknowledge their acceptance. All personnel are required to annually acknowledge the receipt and review of the corporate policies as part of WK's annual Corporate Compliance Training.

### Risk Assessment

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Clearly defined objectives are established within the Company to ensure that a variety of risks, both internally and externally, are addressed. WK management is committed to proactively evaluating risks on an ongoing basis and developing risk mitigation strategies to identify, analyze, and manage risks that could adversely affect operations and implementing appropriate action plans. Management reviews operations and sales metrics on a regular basis. These reviews include cross-functional management discussions and presentations as well as quarterly all employee presentations. Management is also fully aware of the risks attributed to their IT infrastructure, including security and network operations. Risk assessments are based on management's extensive industry experience and reliable and timely information obtained from knowledgeable internal and external sources. WK also relies on its staff members to identify risks through day-to-day operations. Employees are trained in the latest security practices and required to fulfill their training requirements at least annually.

### Monitoring

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The Company's management personnel evaluate and monitor the quality of internal control performance as part of their daily activities. Monitoring is performed across all functions and levels of the organization and occurs through the use of both automated and manual processes. Procedures include supervision and oversight of Company personnel and key partners. Other monitoring includes the use of automated reports and mechanisms to detect error conditions and initiate system generated alerts and error messages. WK employees receive annual training to educate them on the importance of continuing to adhere to the Company policies and procedures.

### Information and Communication

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WK uses various methods of communication to ensure employees understand their individual roles and responsibilities for services and controls, and to ensure significant events are communicated in a timely manner. Orientation, continuing education, and ongoing training programs are utilized to provide information to employees. Management has established an organizational structure that facilitates communication of pertinent business information and is committed to maintaining

## Section Three

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### System Description Provided by Wolters Kluwer

effective communication with all personnel. WK benefits from informal communication channels that result from the regular interaction of all employees participating in product development, customer service and business development activities. Management communicates face-to-face with employees and through a variety of media including e-mail, printed documents and presentations. WK has documented security policies, procedures, and guidelines which establish minimum safeguards, assigns roles and responsibilities, provides accountability, and addresses penalties for noncompliance. Policies are reviewed and approved by management annually, and are available to all employees.

## III. Description of Operations

Internal controls have been designed by WK management to mitigate identified risks that might prevent the Company from accomplishing its control objectives. WK has established several processes that are designed to help manage and maintain the overall quality and control of the development, support and operating environment of the Company.

### Data Research and Management

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Research departments are responsible for researching tax rates, rules, and tax jurisdictional boundary information for customers through a variety of channels. Activities include reviewing daily email subscriptions and distribution lists, contacting cities, counties, and states to determine current and accurate tax information, and staying current with relevant news and regulations. Researchers use TIPS to both view current data and to update tax rates, taxability decisions and boundaries. When updates are identified, whether through proactive research or in response to customer inquiry, the research group enters data into TIPS, which must be approved prior to release. Researchers create TIPS submissions, which include: user name, submission ID number, target release data, status, and table name. Each updated record has a unique identifier (submission ID) that is stored in a submission log. A monthly release schedule is communicated to the Research departments, ensuring all updates are entered into the system, and reviewed and approved by a Data Manager or Supervisor prior to the release date. Prior to release, the Data Manager is responsible for performing a series of queries and data integrity checks to ensure accuracy of information and to avoid issues during the release cycle. Submissions are released on a monthly basis by the Data Manager. Changes to tax rates and applicability are analyzed by the Data Manager, then updated within TIPS.

### Compliance

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WK firmly believes in retaining well-trained staff capable of fulfilling job responsibilities and exceeding client expectations. The Company's management instills a philosophy that enables all employees to contribute to the success and ultimate growth of the Company. The management team is comprised of a well skilled and diverse group that provides guidance for the vision and direction of the Company. Employees are seen as vital elements of the control environment, crucial for supporting a company that values high ethical standards and the promotion of industry leading products and services.

### External Compliance

New employees are screened in accordance with WK's Human Resources policy prior to employment. Screening includes an interview by management, background check, and reference check, which are performed prior to extending an offer of employment. When an employee is hired, they are required to read, acknowledge, and sign the Employee Handbook,

### Section Three

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#### System Description Provided by Wolters Kluwer

which includes a Confidentiality and Non-Disclosure policy, stating their responsibility to protect the Company's interest in its confidential information and trade secrets from disclosure, as well as securing and protecting the Company's obligation regarding third party confidential information. All employee agreements are reviewed to ensure compliance with applicable laws. Upon hire, employees sign an offer letter with terms of employment, a confidentiality form with intellectual property specifications and a company handbook.

#### Internal Compliance

WK delivers annual Corporate Compliance Training to support qualifications required to fulfill their responsibilities. These trainings include, but are not limited to, an annual acknowledgment of corporate policies, cyber security, information security, and ethical compliance. The annual acknowledgment of policies includes, but is not limited to:

- Affirmative Action policy
- Confidentiality and Non-Disclosure policy
- Employee Conduct and Responsibilities policy
- Equal Employment Opportunity policy
- Non Harassment and Anti-Retaliation policy
- Acceptable Use policy
- Travel and Entertainment and Reimbursement policy

When policies are updated, personnel are required to acknowledge the updated policy as part of their annual acknowledgment. The Cyber Security Training includes five modules, including Email Security, Security Essentials, Social Engineering, Security Beyond the Office, and Mobile Device Security.

## IV. General Computer Controls

WK has established several processes that are designed to manage and maintain the overall quality and control of the development, support and operating environment of the company. These controls provide reasonable assurance that new applications and changes to existing applications and systems are authorized, tested, approved, properly implemented and documented.

### Information Security

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The overall responsibility for information systems and technology is assigned to WK executives, managers and supervisors. The WK Acceptable Use Policy and Information Security Policy is applicable to WK's consultants, independent contractors, vendors, suppliers, or other entities or individuals who provide goods or services to the Company.

#### Logical Security

Logical access to the TIPS application is restricted to authorized and appropriate users, and such users are further restricted to performing authorized and appropriate actions. Personnel are granted access following written authorization

## Section Three

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### System Description Provided by Wolters Kluwer

from management in accordance with the principle of least privileged. TIPS password policies are controlled by the WK IT group.

Password policies are enforced on all workstations. Email accounts and passwords must conform to WK standards for complexity on networks and systems containing Company information or other resources, including networks and applications. With the exception of the TIPS application, password policies are controlled by the Dell Support team, a third-party service provider, for all systems. For internally developed and data maintenance applications, the WK Global password policy requires network accounts to maintain minimum settings for password length, complexity, expiration and lockout. Privileged access to production applications, databases and operating systems is restricted to authorized individuals in accordance with job responsibilities. Unused services/accounts/applications are disabled.

Hardware, including handheld devices and remote laptops, are password protected and encrypted. WK utilizes SSL encryption for the transmission of confidential information over public networks, including online portals and VPN connections. The office uses wired internet connections and does not have wireless internet (Wi-Fi) access enabled.

### Termination of Access

Upon notice of termination or anticipated termination of a Company employee or contractor, Human Resources or the direct manager submits a termination request within the Access Request Management System (ARMS) application. Access is then disabled within Windows Active Directory (AD) by a member of the IT department. User access rights, including network, VPN, application/database and key-card access are removed by submitting a request to the Dell Service Desk team, who validates authorization of the request and opens an Operational Process Application Suite (OPAS) request or incident ticket (in case of emergency termination) to the Information Security group. The Information Security group deletes domain-level accounts and/or generates OPAS Request tickets to Intel System Administration team for local account deletion.

### Encryption and Anti-Virus Management

Encryption and anti-virus software are in place to protect WK from unauthorized network access. Encryption software is also used to protect from unauthorized network access and information transmission protection and all WK computers are equipped with McAfee security antivirus.

### Physical and Environmental Security

WK adheres to strict physical security standards, not only to protect the sensitive data that may enter the facility on a daily basis, but also to protect the integrity of the Company's processing environment. The Company's location in Chestnut Ridge, New York, restricts access to authorized individuals. All visitors to WK are required to enter through the main lobby and ring the doorbell at the entrance. All doors are protected by key card access. File and email servers are stored in locked rooms and access is restricted to authorized individuals. WK data is hosted at Dell, WK's third party IT provider, which includes network-based route optimization services, support and security. These facilities provide redundancy, full uninterrupted power supply management devices and generator backup for uptime availability.

## Section Three

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### System Description Provided by Wolters Kluwer

#### Information System Operations

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##### Processing Incidents

Notifications received from WK customers relating to tax rate issues are monitored by WK through a dedicated ticketing system in the WK support center. WK support center then sends notifications or issues to WK which are logged in a Microsoft Team Foundation Server (TFS) system. The Microsoft TFS is used by WK to track, log, and monitor impacts to TIPS. System issues are monitored through resolution by WK management.

##### Change Management

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WK uses a change management system to initiate, record, approve, and track changes to systems requiring change control, including production systems. Functional requirements are created through a User Story, which captures the problem statement and acceptance criteria. Each User Story is split into tasks that define the work, resources, and time required to complete the change and change in status or information is captured as a revision by the system.

WK uses Microsoft TFS to initiate and track requests that do not change the intended functionality or performance of production-class systems. A ticket can be initiated by an authorized customer contact or WK support member.

##### Subservice Organizations

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WK utilizes subservice organizations to perform certain key operating functions, specifically related to hosting of WK hardware and managed IT services. WK monitors controls at the subservice organizations by holding periodic discussions with the subservice organizations, reviewing applicable attestation reports on the subservice organization's systems, and monitoring external communications. The accompanying description of controls includes only those policies, procedures and controls at WK and does not include policies, procedures and controls at the third party subservice organizations described below. The examination by the independent auditors did not extend to policies, procedures and controls at the subservice organizations.

Section Three

System Description Provided by Wolters Kluwer

The controls at the subservice organization significant to WK’s system, in combination with controls at WK are as follows:

Subservice Organization	Services Provided	Expected Controls
Dell	Third party off-site data center housing and managed IT services	<p>Procedures exist to protect against infection by computer viruses, malicious code and unauthorized software.</p> <p>The ability to add, modify or delete operating system access is limited to authorized individuals.</p> <p>Default passwords for operating system accounts have been changed and/or operating system accounts have been disabled.</p> <p>New user add, modify, and delete requests from WK are submitted to the System Administration teams. The System Administration teams validate authorization of the requests and create, modify or delete the user IDs.</p> <p>Domain and logical security configuration parameters in accordance with WK policy requirements.</p> <p>Systems are monitored against logical, physical and environmental threats.</p> <p>Potential security breaches and other incidents involving secure system components are immediately reported to WK.</p> <p>Dell has implemented incident handling processes including preparation, detection and analysis, containment, eradication and recovery as part of the incident response procedures.</p> <p>Dell provides designated support resources for incident handling.</p> <p>Physical access to data center facilities is limited to authorized individuals.</p> <p>Dell has controls in place to protect information against environmental hazards and to provide appropriate environmental controls in facilities that contain information systems.</p> <p>Systems are configured to perform incremental operating system and full data backups. Production teams are notified of failed backups.</p> <p>Annual monitoring of off-site facilities is performed by Dell.</p>
CoreLogics Xiance	Third party used for tax jurisdiction research	<p>Geocodes are reviewed for accuracy and existence in the boundary file.</p> <p>Delta boundary files are reviewed for accuracy.</p> <p>Duplicate boundaries or boundary with same code but different name or same name with different code are reviewed for accuracy.</p> <p>Geocodes are reviewed for the correct and accurate boundaries.</p>



Section Three

System Description Provided by Wolters Kluwer

VI. Complementary User Entity Controls

WK controls were designed with the assumption that certain controls would be implemented by user organizations. The application of such controls by the users is necessary to achieve certain control objectives identified in this report. In addition, there may be control objectives and related controls that are not identified in this report that would be appropriate.

This section describes additional controls that users should consider for achievement of control objectives identified in this report. User auditors should consider whether the following controls have been placed in operation at user organizations:

Complementary User Entity Controls	
1.	Users are responsible for ensuring the accuracy and completeness of tax information.
2.	Users are responsible for ensuring the completeness and accuracy of data uploads.
3.	Users are responsible for ensuring data sent to WK electronically is appropriately protected by means of encryption (i.e., SSL, SSH, and VPN).

## Section Four

Information Provided by Frazier & Deeter, LLC

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## Section Four

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### Information Provided by Frazier & Deeter, LLC

## I. Introduction

This report, when combined with an understanding of the controls at user entities, is intended to assist auditors in planning the audit of user entities' financial statements or user entities' internal control over financial reporting and in assessing control risk for assertions in user entities' financial statements that may be affected by controls at Wolters Kluwer.

Our examination was limited to the control objectives and related controls specified by Wolters Kluwer in Section Three and Section Four of the report, and did not extend to controls in effect at user entities.

It is the responsibility of each user entity and its independent auditor to evaluate this information in conjunction with the evaluation of internal control over financial reporting at the user entity in order to assess total internal control. If internal control is not effective at user entities, Wolters Kluwer's controls may not compensate for such weaknesses.

## II. Control Environment Elements

Wolters Kluwer's internal control represents the collective effect of various factors on establishing or enhancing the effectiveness of the controls specified by Wolters Kluwer. In planning the nature, timing, and extent of our testing of the controls to achieve the control objectives specified by Wolters Kluwer, we considered aspects of Wolters Kluwer's control environment, risk assessment process, monitoring activities, and information and communications.

Our examination of the control environment included a(n):

- a. Inquiry of appropriate personnel and corroboration with management;
- b. Observation of the application, performance, or existence of the control;
- c. Inspection of documents and reports indicating performance of the control; and
- d. Reperformance of the control.

In addition, as required by paragraph .35 of AT-C section 205, *Examination Engagements* (AICPA, *Professional Standards*), and paragraph .30 of AT-C section 320, when using information produced (or provided) by the service organization, we evaluated whether the information was sufficiently reliable for our purposes by obtaining evidence about the accuracy and completeness of such information and evaluating whether the information was sufficiently precise and detailed for our purposes.

## III. Control Objectives and Related Controls Placed into Operation

**Data Research and Management**

**Control Objective 1:** Controls provide reasonable assurance that research is recorded completely, accurately and timely.

Control Number	Control Activities	Tests performed by Frazier & Deeter, LLC	Testing Results
1.1	Research data in Tax Information Processing System (TIPS) is validated and errors are rejected and reported for correction.	Inspected evidence of research data validation within TIPS, noting errors were rejected, reported and corrected and tracked through completion.	No exceptions noted.
1.2	Changes to tax rates, rules and jurisdictional boundary information are researched and updated within TIPS.	For a select change within TIPS, inspected evidence of change researched and updated within TIPS by Local Research Group noting research performed and required changes documented.  Inspected source data indicating change to tax rates and observed Senior Editor update tax within TIPS.  Observed Research Writer/Analyst review change ticket, noting change was researched and updated within TIPS.	No exceptions noted.
1.3	Data entered into TIPS by Researcher or Junior Researcher is approved by a Data Manager or Supervisor.	Inspected roles and options within TIPS, noting Researcher and Junior Researcher roles are unable to approve data entered into TIPS.  For select research data entered into TIPS, noted system requires data entered by a Junior Researcher or Researcher to be approved by a Data Manager or Supervisor.	No exceptions noted.
1.4	Data released in TIPS must be approved by a Data Manager or Supervisor.	For a select change within TIPS, noted approval by a Supervisor prior to release of data.	No exceptions noted.
1.5	On a monthly basis, an internal release schedule is communicated to the WK Indirect Tax Research Group to help ensure updates and changes are submitted timely.	For a select month, inspected the internal release schedule noting communication to the WK Indirect Tax Research group informing the group of deadlines for submission, approval, and data release.	No exceptions noted.

**Data Research and Management**

**Control Objective 1:** Controls provide reasonable assurance that research is recorded completely, accurately and timely.

Control Number	Control Activities	Tests performed by Frazier & Deeter, LLC	Testing Results
1.6	On a monthly basis, the Data Manager conducts a Pre-Release process and review prior to TIPS update.	For a select month, inspected evidence of the Pre-Release process by the Data Manager noting review prior to TIPS update.	No exceptions noted.
1.7	Changes to tax rates, rules, or jurisdictional boundary overrides are requested by customers and approved by WK prior to implementation.	For a select change within TIPS, inspected evidence of customer inquiry in the customer support portal, noting changes to customer data are performed as a result of a customer request and monitored through completion in the TFS application to completion.	No exceptions noted.

## Compliance

**Control Objective 2:** Controls provide reasonable assurance that administration, operation and transaction processing activities are conducted in accordance with applicable laws and regulations.

Control Number	Control Activities	Tests performed by Frazier & Deeter, LLC	Testing Results
2.1	The organization maintains an Employee Handbook that outlines key business practices and employee responsibilities.	Inspected WK's Employee Handbook, noting key business practices and employee responsibilities are documented.	No exceptions noted.
2.2	On an annual basis, personnel complete Corporate Compliance Training to fulfill qualifications necessary to perform their responsibilities.	For a select employee, inspected evidence of corporate compliance training completion.	No exceptions noted.
2.3	On an annual basis, personnel complete Cyber Security Training to fulfill qualifications necessary to perform their responsibilities.	For a select employee, inspected evidence of cyber security training completion.	No exceptions noted.
2.4	Annually, employees are required to sign an acknowledgment form indicating they have read and understand company policies.	For a select employee, inspected evidence of WK's Employee Policy acknowledgement.	No exceptions noted.
2.5	All employees are required to sign a Confidentiality Agreement at the time employment begins and annually thereafter.	For a select employee, inspected evidence of annual acknowledgement of the Company confidentiality agreement.  Inspected WK's Confidentiality and Non-Disclosure Policy, noting employees are required to sign the agreement at the time of employment and annually thereafter.	No exceptions noted.
2.6	All candidates for employment are interviewed by management. Background and reference checks are performed prior to extending an offer of employment.	Inspected WK's Background Policy, noting all prospective candidates are subject to background screenings prior to employment.  For a select employee, inspected evidence of background and reference check, noting screening occurred prior to hire date.	No exceptions noted.

**Incident Management**

**Control Objective 3:** Controls provide reasonable assurance that issues encountered by user entities are identified, recorded, analyzed, and resolved completely and in a timely manner.

Control Number	Control Activities	Tests performed by Frazier & Deeter, LLC	Results of Testing
3.1	Customer incidents are identified, recorded, analyzed, and resolved through resolution.	<p>For a select customer incident, inspected evidence of incident communicated to customer support, documented, analyzed and monitored to resolution.</p> <p>Observed Research Writer/Analyst review customer incident ticket within the support portal, research the request, update tax data within TIPS, and monitor the change to resolution.</p>	No exceptions noted.

**Information Security**

**Control Objective 4:** Controls provide reasonable assurance that logical and physical access restrictions are implemented and administered to ensure only authorized individuals have the ability to access information resources.

Control Number	Control Activities	Tests performed by Frazier & Deeter, LLC	Results of Testing
4.1	WK's security policies are established, periodically reviewed and approved.	Inspected WK's security policies, noting policies are established and periodically reviewed and approved and were last reviewed and approved in July 2016.	No exceptions noted.
4.2	Anti-virus software is in place to protect WK from unauthorized network access.	Inspected evidence of anti-virus and encryption software, noting applications are in place to protect from unauthorized network access and information transmission protection.	No exceptions noted.
4.3	Encryption is used to protect user authentication information transmitted over the Internet or other public networks.	Inspected evidence of anti-virus and encryption software, noting applications are in place to protect from unauthorized network access and information transmission protection.	No exceptions noted.
4.4	Logical access security measures to TIPS restrict access to information resources not deemed to be public.	Inspected TIPS password parameters, noting logical access security measures are in place and restrict access to information resources not deemed to be public.  Inspected evidence of TIPS users and roles, noting logical access to the system is restricted to information resources not deemed to be public.	No exceptions noted.
4.5	Logical access to TIPS is restricted to authorized and appropriate users.	Inspected evidence of TIPS users and roles, noting logical access to the system is restricted to authorized and appropriate users.	No exceptions noted.
4.6	TIPS users are restricted to performing authorized and appropriate actions.	Inspected evidence of TIPS users and roles, noting users are restricted to performing authorized and appropriate actions.	No exceptions noted.
4.7	Procedures exist to restrict physical access to the defined system including, but not limited to, facilities, backup media and other system components including firewalls, routers and servers.	Observed facility entrance, noting procedures exist to restrict physical access. Noted system components, including firewalls, routers, servers and backup media are managed and protected by third party provider.	No exceptions noted.



**Information Security**

**Control Objective 4:** Controls provide reasonable assurance that logical and physical access restrictions are implemented and administered to ensure only authorized individuals have the ability to access information resources.

Control Number	Control Activities	Tests performed by Frazier & Deeter, LLC	Results of Testing
4.8	New user access to network resources, databases and applications is approved by management prior to being granted access.	For a select employee, inspected evidence of new user access, noting approval granted by management prior to granting access.	No exceptions noted.
4.9	Access rights to network resources, databases and applications are removed when no longer required by a user due to position change or separation from the Company.	For a select terminated employee, inspected evidence of access rights removal, noting timely removal of access.	No exceptions noted.
4.10	Annually, management conducts a user access reviews to validate access is appropriate and based on job responsibility.	Inspected evidence of user access review, noting users were reviewed for appropriate access rights.	No exceptions noted.

**Change Management**

**Control Objective 5:** Controls provide reasonable assurance that changes to existing applications and systems are authorized, tested, approved, implemented and documented in accordance with the Company's Change Control Policy.

Control Number	Control Activities	Tests performed by Frazier & Deeter, LLC	Results of Testing
5.1	The TIPS software update process is formalized and documented.	For a select software update to TIPS, inspected documentation of revision, updates, and changes to the system.	No exceptions noted.
5.2	The ability to implement changes into the production environments is restricted to authorized members of the production group.	Inspected segregation of access to the production environment from development personnel. Inspected system generated evidence of access rights to the production environment, noting access is restricted to authorized members of the production group.	No exceptions noted.
5.3	All change requests are accompanied by complete documentation including change approval.	For a select system change, noted change was documented and approved prior to implementation.	No exceptions noted.
5.4	Application enhancements are tested in a test/QA environment prior to implementation into the production environment.	For a select system change, inspected evidence of testing performed in a test/QA environment prior to implementation to production.	No exceptions noted.