



Practice aid

Independence considerations for information systems services

December 2021

Member enrichment

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The practice aid: What's it all about?

Do you know how the technology-related service an attest client asked you to provide will affect your independence under the newly revised "Information Systems Services" interpretation (ET sec. [1.295.145](#))?^{1,2}

This practice aid can help you determine just that. Along with questions for consideration, you'll find factors to consider, examples of permitted and prohibited activities, and references to the AICPA Code of Professional Conduct (code), as well as other nonauthoritative guidance to help you maintain your independence.

Extant or revised interpretation ... where do your services fall?

In June 2019, the AICPA issued revised interpretation "Information Systems Services" (ET sec. [1.295.145](#)) under the "Independence Rule" (ET sec. [1.200.001](#)). The revised interpretation is effective Jan. 1, 2023, and early implementation is allowed.

This means that if you've provided services that are not prohibited under the "Management Responsibilities" interpretation (ET sec. [1.295.030](#)) and are allowed under the extant interpretation but prohibited under the revised interpretation during the [period of the professional engagement](#) or during the period covered by the [financial statements](#), your independence will not be [impaired](#) as long you discontinue those services by Dec. 31, 2022.

This practice aid is nonauthoritative

The code is the only authoritative source of AICPA ethics rules and interpretations. The staff of the Professional Ethics Division developed the nonauthoritative content of this practice aid from hotline inquiries and queries raised during interviews with members to assist all our members and other interested parties in applying the revised interpretation.

The guidance in this practice aid does not address the requirements of other standards setters or regulatory bodies, such as the state boards of accountancy, the SEC, and the U.S. Government Accountability Office (GAO), whose positions may differ from those of the AICPA.

To learn more about nonattest services, consider reading "[Frequently asked questions: Nonattest services.](#)" If you provide nonattest services not addressed in this practice aid, consider using the "[Nonattest services toolkit](#)," which illustrates the steps for evaluating independence and an easy-to-use checklist.

Terms that are defined in the code are italicized. The first instance of a defined term or code citation links to the code.

¹ Formerly the "Information Systems Design, Implementation, or Integration" interpretation

² You can find all ET sections in AICPA *Professional Standards*.

How can this practice aid help you?

The “Information Systems Services” interpretation (ET sec. [1.295.145](#)) applies when a *member* provides nonattest services related to an *attest client’s* information systems. When the subject matter of the *attest engagement* does not involve *financial statements*, you should define a financial information system (FIS)³ as any information system that is subject to your attest procedures.

This practice aid applies to information systems services – a nonattest service – that a *member* provides to an *attest client*. Some examples of these services include operating the *attest client’s* information technology help desk, loading commercial off-the-shelf software (COTS) for the attest client, and being responsible for the maintenance of an *attest client’s* network performance. A *firm’s* tools used in an *attest engagement* are not subject to this interpretation.

The framework in this practice aid focuses on factors and examples to illustrate the application of the rule that a *member* should consider when determining whether *independence* will be *impaired* in accordance with the “Information Systems Services” interpretation.

Keep in mind as you use this practice aid that the term *member* includes the *member’s firm* (ET sec. [1.295.010](#)).

Are the requirements of the “Nonattest Services” subtopic met?

Before agreeing to perform the services related to information systems, determine if the requirements of the “Nonattest Services” subtopic (ET sec. [1.295](#)) are met:

- Has management agreed to assume all management responsibilities as required under the “Management Responsibilities” interpretation (ET sec. [1.295.030](#))?
- Has the *attest client’s* management designated an individual – preferably someone within senior management – who possesses suitable skills, knowledge, and/or experience (SKE) to oversee the service as required under the “General Requirements for Performing Nonattest Services” interpretation (ET sec. [1.295.040](#))?
- Has management agreed to evaluate the adequacy and results of the service and accept responsibility for the results of the service as required under the “General Requirements for Performing Nonattest Services” interpretation?
- If you provide multiple nonattest services, have you evaluated whether the general requirements reduce *threats* to an *acceptable level*, and when necessary, have you applied additional *safeguards* to reduce *threats* to an *acceptable level* as required under the “Cumulative Effect on Independence When Providing Multiple Nonattest Services” interpretation (ET sec. [1.295.020](#))?
- Have you established and documented in writing your understanding with the *attest client* as required under the “Documentation Requirements When Providing Nonattest Services” interpretation (ET sec. [1.295.050](#))?

You can use the practice aid when you determine that the requirements of the “Nonattest Services” subtopic are met.

³ The “Information Systems Services” interpretation defines an FIS as “a system that aggregates source data underlying the financial statements or generates information that is significant to either the financial statements or financial processes as a whole. An FIS includes a tool that calculates results unless (i) the tool performs only discrete calculations; (ii) the attest client evaluates and accepts responsibility for the input and assumptions; and (iii) the attest client has sufficient information to understand the calculation and the results.”

What's included in this practice aid?

There are several steps in this framework to help you identify the type of service being provided and the effect on your *independence*:

We suggest that you use the practice aid to evaluate each individual information systems service prior to providing the service. We are including text boxes for you to document the information you believe is relevant to reach your conclusion or refer to your working papers.

If you provide design, development or implementation service, determine

- If the discrete tool exception is applicable (step 1)
- If services are related to an FIS (step 2)
- Which design, development, or implementation service *impair independence* (step 3)

If you provide post-implementation service, determine

- If post-implementation services *impair independence* (step 4)

Framework



Step 1: Determine if the discrete tool exception is applicable

The “Information Systems Services” interpretation includes an exception that we refer to in this practice aid as the “discrete tool exception.” When specific conditions are met, the information system is considered a “tool” and not an FIS. You can provide an *attest client* with services related to this tool without *impairing independence*.

To meet the discrete tool exception, the tool must perform a discrete calculation, and the *attest client* must evaluate and accept responsibility for the input and assumptions and have sufficient information to understand the calculation and the results.

To help you determine whether the services you plan to provide would qualify for the discrete tool exception, answer the following questions. If you answer yes to all the questions in this section, the *firm’s* service meets the discrete tool exception and, therefore, is not considered an FIS.

- a. Does the service involve a tool that performs only discrete calculations (for example, an Excel spreadsheet that calculates depreciation)?

Here are some factors that may help you determine this:

- Whether the calculation is separate and distinct
- Whether the purpose of the calculation is narrow and specific
- Whether substantially the same result will be produced using a different system

Yes. Proceed to question (b).

No. Proceed to step 2.

Documentation or reference to documentation:

b. Does the *attest client* evaluate and accept responsibility for the inputs to the tool and the assumptions underlying those inputs?

Here are some factors to consider:

- The *attest client* determines the assumptions used as inputs to the tool.
- The *attest client* can articulate why the inputs used in the tool are appropriate (history, market factors and so on).

Yes. Proceed to question (c).

No. Proceed to step 2.

Documentation or reference to documentation:

c. Does the *attest client* have sufficient information to understand the calculation performed in the tool and the results?

Here are some factors that may help you determine the *attest client's* ability to take responsibility for the use or output of the tool:

- Whether the *attest client* can do the calculation another way and receive the same answer
- Whether the *attest client* has sufficient information to obtain a general understanding of the calculation the tool performs
- Whether the *attest client* has sufficient information to evaluate whether the results the tool generates are adequate and to accept responsibility for the output from the tool.

Yes. The service meets the discrete tool exception. The service is permitted under the "Information Systems Services" interpretation as long as all requirements of the "[Nonattest Services](#)" subtopic are met. If the *firm* also provides post-implementation services, proceed to step 4.

No. The service does not meet the discrete tool exception. Proceed to step 2.

Documentation or reference to documentation:

Step 2: Determine if services are related to an FIS

Under the “Information Systems Services” interpretation, design, development, and certain implementation services that are related to an FIS are prohibited services.

In this step, it is critical that you determine whether the system is an FIS. If your *attest engagement* is not related to *financial statements*, replace references to “*financial statements*” and “financial reporting” throughout this section with the phrase “subject matter of the attest engagement.”

If the service affects information systems that the *attest client* will use only in connection with controlling the efficiency and effectiveness of operations, the service is not related to an FIS and is permitted under the “Information Systems Services” interpretation as long as all requirements of the “[Nonattest Services](#)” subtopic are met. A nonfinancial compliance tool and an operational benchmarking tool are good examples of this type of service.

To help you determine whether the services you plan to provide are related to an FIS, answer the following questions. If you answer no to all the questions in this section, the *firm’s* services are not related to an FIS.

- a. Does the system aggregate source data that is significant to the *financial statements*?

Here are some factors that may help you determine this:

- Whether the nonattest service affects a data-gathering system, such as an analytical or reporting tool, that is used in management’s decision-making about matters that could significantly affect financial reporting
- Whether the system is management’s primary source of information for decision-making on matters significant to the *financial statements* or is used only to present alternative formatting or display of information (for example, graph versus table)
- Whether management needs to consider results produced by the system along with other inputs to make a decision on matters significant to the *financial statements*
- Whether the results produced by the system are deterministic and would lead management to a certain conclusion

An example of an analytical tool that is unlikely to significantly affect financial reporting is a tool used in the health care industry to analyze clinical information to improve operations and treatment of patients. Management would consider various inputs in addition to the information produced by the analytical tool before taking any improvement actions.

Yes. Proceed to step 3.

No. Proceed to question (b).

Documentation or reference to documentation:

b. Does the system aggregate source data that is significant to a financial process?

Here are some factors that may help you determine this:

- Whether the nonattest services will affect a data-gathering system, such as an analytical or reporting tool, that is used in management’s decision-making about matters that could significantly affect financial reporting
- Whether the nonattest services will affect a system that is part of the *attest client’s* internal controls over financial reporting, including information systems used to affect internal controls over financial reporting (for example, a system used to ensure that information produced for the *financial statements* is accurate)
- How the system interconnects with other systems across the entity to facilitate financial reporting

Examples of financial processes or controls include these:

- Budgeting
- Budget to actual reporting
- Pricing models
- Cash flow planning and projections
- Inventory process
- Reconciliations

Yes. Proceed to step 3.

No. Proceed to question (c).

Documentation or reference to documentation:

c. Does the system generate data that is significant to the *financial statements*?

When determining whether the data generated by the system will be significant to the *financial statements*, you may find it helpful to consult with the attest client or the individual responsible for the audit at the *firm*.

Here are some factors that may help you determine this:

- Whether the nonattest service will affect system controls or system outputs that will be subject to attest procedures
- Whether the nonattest service will affect a system that generates data that is used as an input to the *financial statements*, including data or information that is either reflected in or used in determining amounts and disclosures included in the *financial statements*

Examples of such systems include the following:

- Materials management systems
- Revenue order and processing or transaction systems
- Inventory control systems
- Supply chain management systems

Yes. Proceed to step 3.

No. Proceed to question (d).

Documentation or reference to documentation:

d. Does the system generate data that is significant to a financial process?

A wide array of systems that create transactions with cost or revenue implications, such as inventory control, supply chain, and production scheduling, often generate data that can be used in an entity's financial reporting processes.

Consider these factors:

- Whether the nonattest service will affect system controls or system outputs that will be subject to attest procedures
- Whether the nonattest service will affect a data-gathering system, such as an analytical or reporting tool, that is used in management's decision-making about matters that could significantly affect financial reporting
- Whether the nonattest service will affect a system that is part of the *attest client's* internal controls over financial reporting, including information systems used to affect internal controls over financial reporting (for example, a system used to ensure that information produced for the *financial statements* is accurate)

Yes. The system would be an FIS. Proceed to step 3.

No. The system is not an FIS. If the services relate to design, development, or implementation services, you can provide these without *impairing independence* as long as you meet all requirements of the "Nonattest Services" subtopic. However, if you provide post-implementation services, proceed to step 4 to determine if *independence* will be *impaired*.

Documentation or reference to documentation:

Step 3: Determine which design, development, or implementation services impair independence

Based on your responses in step 2, you have concluded that the services in question either relate to an FIS or are connected to the subject matter of the *attest engagement*. Now you need to determine whether the underlying service will *impair your independence* because some services related to an FIS are prohibited under the “Information Systems Services” interpretation.

The “Information Systems Services” interpretation differentiates between software solutions that are developed, distributed, maintained and supported by the *member* or *member’s firm* and those developed, distributed, maintained and supported by a third party.

If the *firm* designs or develops a solution, *independence is impaired*. If a third-party vendor designs or develops it, you may be able to provide certain types of services without *impairing independence*.

This practice aid refers to software solutions that are developed, distributed, maintained, and supported by an entity (or entities) other than the *member* or *member’s firm* as either a “third-party solution” or a “commercial-off-the-shelf (COTS) solution.” Here are some examples of third-party solutions you are probably familiar with:

- Cloud-based or desktop-based small business bookkeeping software, such as QuickBooks
- Customer relationship management (CRM) software, such as Salesforce CRM
- Enterprise resource planning (ERP) software
- Spreadsheet software, such as Excel
- Data visualization programs, such as PowerBI and Tableau

a. Will your *firm* design or develop the system or software solution?

To answer this, consider whether your firm will do the following:

- Determine how a system or transaction will function, process data, and produce results (for example, reports, journal vouchers, and documents such as sales and purchase orders).
- Provide a blueprint or schematic for the development of software code (programs) and data structures.
- Create software code for individual or multiple modules.
- Test software code to confirm it is functioning as designed.

Here are some examples of design and development services:

- Defining the elements of a system and their flow
- Determining what the output will be (That is, your *firm* will determine how a certain transaction specifically functions.)

Here are some examples of services that are not design or development services:

- Assisting management with conducting a gap analysis (that is, identifying the current state of the client's system and where the *attest client* wants to be able to identify gaps in the system)
- For educational purposes, presenting an *attest client* with a schematic diagram that illustrates typical software functionality for companies in a particular industry

Yes. The *firm* will design or develop a software solution; therefore, *independence* will be *impaired*.

No. The *firm* will not design or develop the software solution; rather, a third-party vendor will design and develop the software solution. The software solutions discussed in questions (b)–(f) in this section all assume a third-party vendor designed and developed the software solution. Proceed to question (b).

Documentation or reference to documentation:

b. Will your *firm* install the software solution?

In this practice aid, this service is limited to the initial loading of the software on the *attest client's* designated hosting site and does not include activities after the initial loading.

Yes. *Independence* will not be *impaired* as long as all requirements of the "[Nonattest Services](#)" subtopic are met. If the firm is not providing other implementation services, proceed to step 4. Otherwise proceed to question (c).

No. The *firm* will not install the software solution. Proceed to question (c).

Documentation or reference to documentation:

c. Will your *firm* provide configuration activities that *impair independence*?

Here are a couple of examples of configuration activities that **will** *impair* your *independence*:

- Designing or developing new software code or features
- Modifying the functionality of the software not predefined by the third-party vendor

Here are some examples of configuration activities that **won't** *impair* your *independence*:

- Inputting the client-selected features and functionality options, which determine how the software will perform certain transactions and process data
- Selecting the predefined format of certain data attributes and the inclusion or exclusion of these attributes
- Assisting the client in understanding the various configuration options and the implications of various choices, and then making the selections within the system based on the client's decisions.

- Yes, the *firm* will provide configuration activities that *impair independence*.
- No, the *firm* will provide configuration activities that do not *impair independence* and all requirements of the **"Nonattest Services"** subtopic are met. If the *firm* is not providing other implementation services, proceed to step 4. Otherwise proceed to question (d).
- No, the *firm* will not provide configuration activities. If the *firm* provides other implementation services, proceed to question (d).

Documentation or reference to documentation:

d. Will your *firm* customize the FIS software solution?

Because customizing the software solution means the *firm* will modify or enhance the features and functions in ways that go beyond the options provided by the third-party vendor, these services will *impair independence*.

Here are some examples of activities that involve customizing software that will *impair your independence*:

- Altering the COTS code to change or add to the functionality provided by the third-party vendor
- Writing new code that enhances the COTS to provide additional functionality

Yes. *Independence* will be *impaired*.

No. The *firm* will not customize the software solution. If the *firm* is not providing other implementation services, proceed to step 4. Otherwise proceed to question (e).

Documentation or reference to documentation:

e. Will the *firm* provide interface (sometimes referred to as integration) services for the software solution that *impair independence*?

If the interface services involve the *firm* connecting two or more systems by designing and developing software code that allows data to be passed between one or more systems, your *independence* will be *impaired*. An example of this is developing code that enables migration of data from an old system to a new system.

If the interface services involve the *firm* using a third-party vendor's application, such as an application programming interface (API), to interface legacy solutions to a new software solution, *independence* will not be *impaired*. This is because the *firm* will not be designing or developing software code.

Of course, this means that the *firm* cannot design or develop code for the third-party vendor's application to work.

- Yes. The *firm* will provide interface services that *impair independence* because it will design or develop the software code that allows data to be passed between systems.
- No. The *firm* will not provide interface services that *impair independence* because the *firm* will use a third-party vendor's application and will not design or develop code in order for the application to work. Also, all the requirements of the "[Nonattest Services](#)" subtopic are met.
- No. The *firm* will not provide interface services for the software solution. If the *firm* is not providing other implementation services, proceed to step 4. Otherwise proceed to question (f).

Documentation or reference to documentation:

f. Will the *firm* provide data-translation services for the software solution that will *impair independence*?

If the data-translation services involve the *firm* designing and developing the rules or logic necessary to convert legacy system data to a format compatible with that of the new system, your *independence* will be *impaired*.

If your *firm* will use a third-party vendor's application, such as an API, to convert legacy system data to a format compatible with that of the new system, your *independence* will not be *impaired*. This is because your *firm* will not be designing or developing code for the application to work.

Of course, this means that the *firm* cannot design or develop code for the third-party vendor's application to work

- Yes. The *firm* will provide data-translation services that *impair independence* because the *firm* will be designing or developing the rules or logic (that is, the code) necessary to convert the data so that it is compatible with the new system.
- No. The *firm* will not provide data-translation services that *impair independence* because the *firm* will use a third-party vendor's application and will not design or develop code in order for the application to work. Also, all the requirements of the "**Nonattest Services**" subtopic are met. If you provide post-implementation services, proceed to step 4.
- No. The *firm* will not provide data-translation services. If you provide post-implementation services, proceed to step 4.

Documentation or reference to documentation:

Step 4: Determine if post-implementation services impair independence

This practice aid refers to services for a system that has already been implemented as “post-implementation services.” Such services may involve system maintenance, support, and monitoring services. When the services involve aspects covered in step 3, evaluate the services using that step.

If you are providing post-implementation services, *independence* no longer hinges on whether the system is an FIS. Rather, you need to focus on whether the service the *attest client* is asking you to perform constitutes a management responsibility.

The scope of management responsibilities is vast, and the AICPA code dedicates an entire interpretation to this topic. You can read more about these responsibilities in the “Management Responsibilities” interpretation (ET section [1.295.030](#)).

In the context of post-implementation services, you may find it useful to consider whether the services the *attest client* is asking you to provide will involve outsourcing an ongoing function, process or activity to your firm.

If this occurs, your *independence* is *impaired* even if an individual with SKE from client management is overseeing the services.

If your *firm* is not providing post-implementation services, then this step is not applicable. If the *firm* will provide post-implementation services related to a financial or nonfinancial system that has already been implemented at an *attest client*, then proceed to question (a) below

- a. Will the *attest client* outsource an ongoing function, process or activity to your *firm* that will result in your *firm* assuming a management responsibility outlined in the “Management Responsibilities” interpretation?

Here are some factors that may help you determine whether the service will result in your *firm* assuming a management responsibility:

- Scope and scale of services
- Frequency of the services
- Duration of the engagement.

These are some examples of services that **will** result in your accepting responsibility for maintaining, supporting or monitoring the *attest client*'s system:

- Operating the *attest client*'s network, such as managing the *attest client*'s systems or software applications
- Having responsibility for performing ongoing network maintenance, such as updating virus protection solutions, applying routine updates and patches, or configuring user settings
- Operating or managing the *attest client*'s information technology help desk
- Having responsibility for maintaining the security of the *attest client*'s networks and systems

These are examples of services that generally **will not** result in your accepting responsibility for maintaining, supporting or monitoring the *attest client's* system:

- Applying a specific patch to the system for the client on an ad hoc basis
 - Providing postproduction stabilization support for a new system to ensure it is free of major software issues (Note: this level of support is part of the final stage of an implementation project and should last for only a limited amount of time.)
 - Providing advice, training or instruction on a software solution
- No. The *attest client* has not outsourced an ongoing function, process or activity to the *firm* that results in the *firm* assuming a management responsibility. *Independence* will not be *impaired* as long as all the requirements of the "[Nonattest Services](#)" subtopic are met.
- Yes. The *attest client* has outsourced an ongoing function, process or activity to the *firm* that results in the *firm* assuming a management responsibility. *Independence* is *impaired*.

Documentation or reference to documentation:

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