NICE Framework Components v1.0.0: Summary of Changes

March 2024

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Introduction

The March 5, 2024 release of the NICE Framework Components Version 1.0.0[1] consolidates a series of updates that have been underway since the publication of the [National Initiative for Cybersecurity Education Workforce Framework for Cybersecurity (NICE Framework) (NIST SP 800-181r1)](#) in November 2020.

In addition to incorporating structural changes outlined in SP 800-181r1—notably, the addition of Competency Areas and the deprecation of Specialty Areas and Ability statements—the covered updates include:

- Refactoring of Ability statements ([published for comment December 2021](#))
- Updates to Knowledge and Skill statements ([published for comment April 2022](#))
- Updates to Work Roles and Work Role Categories ([published for comment April 2023](#))
- Updates to Competency Areas ([second draft published for comment June 2023](#))
- Updates to Task statements ([published for comment November 2023](#))

Version 1.0.0 of the NICE Framework components is the first, official published version since 2017. The NICE Program Office intends to take a software update versioning approach for NICE Framework components, with a mix of minor and major updates over time. While users of the NICE Framework are always encouraged to reference the most recent published version of the components, users may choose to continue using older versions. Please note that outdated versions may not be supported by the NICE Program Office. A record of versions and release notes can be found on the [NICE Framework History and Change Logs](#) webpage in the NICE Framework Resource Center.

This release features two new Excel workbooks to serve as reference documents for users of the NICE Framework:

1. **NICE Framework Components Version 1.0.0**, which replaces the 2017 reference spreadsheet as the authoritative catalog of the NICE Framework's current elements, including Work Role Categories, Work Roles, Competency Areas, and Task, Knowledge, and Skill (TKS) statements. A machine-readable JSON file will be published to accompany the XLSX workbook in 2024.
2. **NICE Framework Components Mapping: 2017 to Version 1.0.0 (March 2024)**, which shows connections between elements of the 2017 reference spreadsheet and the current Version 1.0.0. It is intended to facilitate manual or automatic updates of applications or resources that currently feature NICE Framework elements from the 2017 publication.

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[1] The NICE Framework components spreadsheet can be found in the NICE Framework Resource Center (https://www.nist.gov/nice/framework) on the Current Version page as well as on the History & Change Logs page.

Summary of Changes

Version 1.0.0 introduces comprehensive updates to all NICE Framework components. These updates are summarized below as well as in Table 1 at the end of this page.

- The seven **Work Role Categories** have been renamed and provided with updated descriptions and new two-character identifiers (see Figure 1).
- Similarly, **Work Roles** have received updated names, descriptions, and identifiers. Two 2017 Work Roles (Systems Developer and Information Systems Security Developer) have been merged into Secure Systems Development (DD-WRL-004). One new Work Role, Insider Threat Analysis (PD-WRL-005) has been added. The TKS statements contained within each Work Role have also been updated, as described below. The total number of Work Roles remains 52.
- Eleven **Competency Areas** with descriptions are made available.

Figure 1: NICE Framework Work Role Categories (v.1.0.0)

TKS statements have undergone thorough reviews and revisions, encompassing several types of changes. The changes described below can each be understood as a combination of retentions,

withdrawals, and additions of TKS statements. Version 1.0.0 contains 2,280 TKS statements, compared with 2,194 in the 2017 reference spreadsheet (see Figure 2).
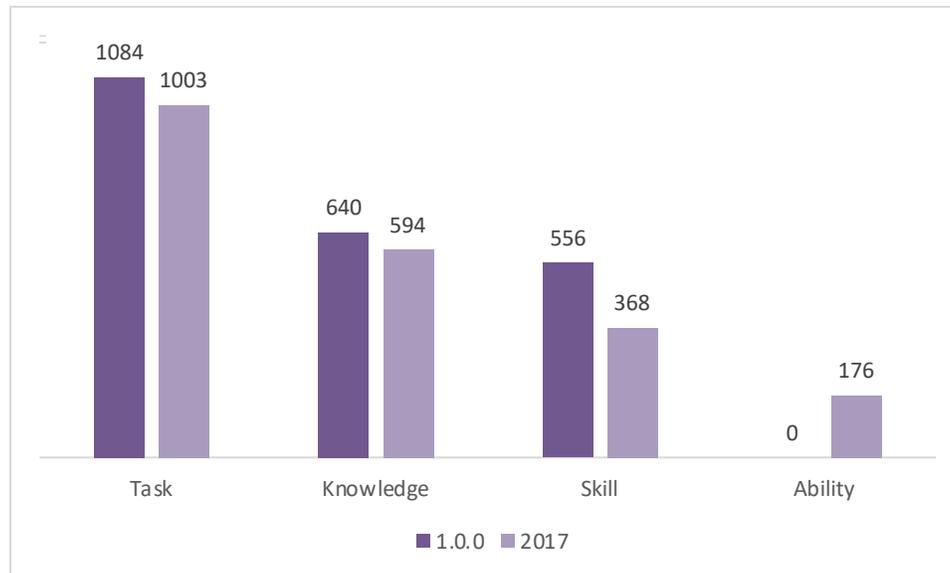

Figure 2: NICE Framework Statement Comparison (v.1.0.0 vs. 2017)

2017 TKS statements have either been retained or withdrawn in v.1.0.0. In the case of statements that have been withdrawn and replaced, replacements may either be new statements or retained statements.

- *Retained:* Retained statements use the same identifier (ID) in the 2017 and 2024 versions of the NICE Framework. Apart from administrative corrections (e.g., spelling or punctuation), the statements themselves remain the same. Of the 2,280 total TKS statements in Version 1.0.0, 139 are retained from the 2017 version. Retained statements appear in the NICE Framework Components Mapping: 2017 to Version 1.0.0 (March 2024) spreadsheet as rows with FALSE entries under the "New" and "Withdrawn" columns.

- *Withdrawn:* Withdrawn 2017 statements are fully removed from the NICE Framework components v.1.0.0. There are two types of withdrawn statements:

  ○ **Removed statements:** Statements that have been removed and are not replaced with new statements. This action has been applied to duplicative statements and to statements that are overly broad or vague and that have not been otherwise updated or replaced. Of the 2,280 total TKS statements in Version 1.0.0, 180 are removed entirely. These statements appear in the NICE Framework Components Mapping: 2017

to Version 1.0.0 (March 2024) spreadsheet as rows with TRUE entries under the "Withdrawn" column and blanks in the "Replacement Statements" column.

- ○ **Replaced statements***:* Replaced statements are withdrawn 2017 statements (including both the original ID and description) that have been replaced by one or more statements. Replacements happen when:
  - ■ The original statement has been revised and is replaced by a new updated statement(s) with a new statement ID(s).
  - ■ The original statement is redundant and is replaced by a related statement(s).
  Replacements may be of the same or a different type (for example, a withdrawn Task statement may be replaced with two Task statements and a Knowledge statement). At times, a 2017 statement may be both revised and replaced with a new statement and additionally reference an additional related statement that replaces a portion of the original statement. Of the 2,280 total TKS statements in Version 1.0.0, 1,875 are replaced. Replaced statements appear in the NICE Framework Components Mapping: 2017 to Version 1.0.0 (March 2024) spreadsheet as rows with FALSE entries in the "New" column; TRUE entries in the "Withdrawn" column; and non-blank entries in the "Replacement Statements" column that consist of a comma-separated list of current statements with which the withdrawn statements should be replaced.

The formatting of the Version 1.0.0 and Mapping workbooks is intended to support human readability as well as automatic updating by computer applications. A record of versions of the NICE Framework and its components can be found on the [NICE Framework History and Change Logs](#) webpage.

The NICE Framework team welcomes suggestions for improving the usability of these documents. You may make suggestions by email to NICEFramework@nist.gov or by joining the [NICE Framework Users Group](#). Furthermore, the **NICE Framework Resource Center** (www.nist.gov/nice/framework) includes many more additional resources (e.g., Getting Started, FAQs, current versions, etc.) that may be helpful to NICE Framework Users.

Table 1: Summary of NICE Framework Components Version 1.0.0 Changes

Component	Version 1.0.0 Changes
Work Role Categories	● Updated names and descriptions ● Updated identifiers ● Some Work Roles have shifted Categories
Work Roles	● Updated names and descriptions ● Updated identifiers ● Some Work Roles have shifted Categories ● TKS statements under each Work Role have been updated ● One new Work Role: Insider Threat Analysis ● One deprecated Work Role: Systems Developer (merged with former Information Systems Security Developer into Secure Systems Development)
Specialty Areas	● Deprecated in 2020; not included
Ability Statements	● Deprecated in 2020; not included ● Ability statement content has been refactored into TKS statements to retain unique concepts
Task, Knowledge, and Skill (TKS) Statements	Of the 2,194 TKS statements contained in 2017 reference spreadsheet: ● 180 statements retained (only spelling or punctuation changes; no changes to identifier) ● 139 statements withdrawn (fully removed and not replaced) ● 1,875 statements revised and replaced or identified as redundant and replaced (new descriptions and new identifiers assigned). These replacements include one-to-one and one-to-many replacements. The 2024 NICE Framework Components Version 1.0.0 contains 2,280 TKS statements. This total includes 2,141 statements with new identifiers and descriptions; new statements may be replacements of previous statements or completely new content.