Module 6: (U) The Technical Work Role

(U) Module 6

(U) The Technical Work Role

(U) This module will enable you to:

- (TS//SI//NF) Identify the various technical roles that support the BR and PR/TT Bulk Metadata Programs
- (U) Identify the responsibilities of each of the technical roles
- (U) Recognize key points of the compliance certification process for mission systems and data flows
- (TS//SI//NF) Practice applying BR and PR/TT authorities in real-life scenarios applicable to technical personnel

(OGC Attorney): During this part of our trip, we discuss several topics of particular interest to those of you in technical roles, or supervising staff in a technical role, supporting the BR and PR/TT Bulk Metadata Programs. It is important for you to remember that the essential support you provide enables all of the roles to perform their BR- and PR/TT-related work in compliance with applicable legal documents and relevant authorities. As we discussed in Module 5, because of this great responsibility, technical personnel have been given tremendous access to touch the data in order to make it available and usable for the analysts.

(TECHNICAL CHARACTER): In this module we are going to discuss the authorizations, roles, and responsibilities of the Technical Personnel. This module will enable you to:

- (TS//SI//NF) Identify the various technical roles that support the BR and PR/TT Bulk Metadata Programs
• (U) Identify the responsibilities of each of the technical roles
• (U) Recognize key points of the compliance certification process for mission systems and data flows
• (TS//SI//NF) Practice applying BR and PR/TT authorities in real-life scenarios applicable to technical personnel
(U) Two General Categories of Technical Support Roles

(U) Collection and Metadata

(U) Storage, Presentation, and Maintenance of the Metadata

(TS/SI/NF) (Technical Character): In Module 5, we explained there are two major areas where technical support is provided for the BR and PR/TT Bulk Metadata Programs. The first is the group of technical personnel who are responsible for the collection and metadata process. The second is the group responsible for storage, presentation, and maintenance of the BR and PR/TT metadata. In the next few screens, we will describe in more detail these two main areas of responsibility.
Let's examine more closely the work roles responsible for the collection and metadata processes. This category of technical staff currently includes the technical professionals in NSA's and Mission Capabilities staff within the Technology Directorate (TD) organizations. As we proceed through this module you will find out more about the roles in each of these three organizations.

Note that in addition to these key roles, there are other technical roles that are important to the implementation of these programs. These roles include individuals involved in the acquisition, processing, presentation, storage, retention, and support to operations which are authorized under the BR and PR/TT Orders.
(S//SI//REL) Collection and Metadata Support from Page Classification

(U) Collection and Metadata Support

(U) Collection and Metadata is responsible for:

- Acquire data
- Identify all metadata
- Acquire data authorized by the FISC
- Identify all metadata promptly destroyed
- Changes to systems require approval by the Chief of S3

(TS//SI//NF) (Technical Character): The first Technical Work Role that supports the collection and metadata processes is

(TS//SI//NF) For BR, the role is similar in that

(TS//SI//NOFORN)
Some of the rules that apply to NSA are to provide reasonable assurance that:

- NSA is only collecting metadata that have been authorized by the FISC.
- All of the metadata is identifiable as BR or PR/TT data.
- Data which does not fall within FISC specified requirements regarding BR or PR/TT data, and must be promptly destroyed.
- Changes to systems under purview are approved by the Chief of S3 before implementation.

The staff in NSA will rarely come in contact with human intelligible BR and/or PR/TT metadata.
Some of the roles that include:

- Provide reasonable assurance that all metadata are in compliance with FISC Orders.
- Validate that only properly metadata is forwarded to the for analytic use.
These individuals have direct and continual access and interaction with both... Scroll over the logo to find out more about... Scroll over text box for logo. Pop-up screen for logo. (S//SI//REL) The Branch analyzes new digital communication... and researches new digital network communications technologies to provide... required for their exploitation.
Some of the rules that apply to Mission Capabilities staff within the Technology Directorate (TD) are to provide reasonable assurance that:

- All metadata remains identifiable as PR/TT data
- All metadata is promptly destroyed
This staff will rarely come in contact with human intelligible PR/TT metadata. Scroll over the logo to find out more about Mission Capabilities.
(U) Knowledge Check 1

(U) Match the organization to its corresponding roles and responsibilities:

1. (TS//SI//NF) Staff in ________________ is responsible for developing the
   a) (U) Mission Capabilities
   b) ____________
   c) ____________
   d) (U) Homeland Mission Coordinators

2. (TS//SI//NF) Staff in ________________ is responsible for integrating the PR/TT
   including conducting related testing prior to system
   a) (U) Mission Capabilities
   b) ____________
   c) ____________
   d) (U) Homeland Mission Coordinators

3. (TS//SI//NF) Staff in ________________ is responsible for
   a) (U) Mission Capabilities
   b) ____________
   c) ____________
   d) (U) Homeland Mission Coordinators

(U) (Technical Character): Let’s make a few notes in our travel journal and check to see what you remember from this topic!
For this knowledge check, simply display the correct answers using the format below:

Question 1. (TS//SI//NF) Staff in [ ] is responsible for [ ]

Question 2. (TS//SI//NF) Staff in [Mission Capabilities] is responsible for integrating the PR/TT [ ]

Question 3. (TS//SI//NF) Staff in [ ] is responsible for [ ]
(TS//SI//NF) (Technical Character): Now let's discuss the work roles responsible for the storage, presentation, and maintenance of both the BR and PR/TT metadata. This category of technical staff currently includes the technical professionals in Mission Capabilities and...
(TS//SI//NF) Some of the rules that apply to Mission Capabilities:

- Metadata must be maintained in secure NSA repositories
- Data must be identifiable as BR or PR/TT
- Implement technical controls to prevent unauthorized access
- Restrict intelligence analysis queries to RAS-approved identifiers (e.g. the EAR)
- Ensure intelligence analysis queries remain within authorized number of hops
- Create auditable records of all intelligence analysis queries
- Destroy all metadata before the end of the five year authorized retention period (no exceptions!)
- Changes to systems must be certified by the TD Compliance Office before implementation
- Automated queries are prohibited without approval
You will recall that Mission Capabilities supports collection and metadata and other branches of Mission Capabilities support storage, presentation, and maintenance of the metadata. For the latter, the staff is typically database management and user interface professionals who are responsible for developing, maintaining, and operating the systems that store and present BR and PR/TT metadata, as well as metadata.

Some of the rules that apply to Mission Capabilities include:

- Metadata must be maintained in secure NSA repositories
- Data items must be identifiable as BR or PR/TT metadata
- Implement technical controls to prevent unauthorized access
- Implement technical controls to restrict intelligence analysis queries to RAS-approved identifiers (e.g. the EAR)
- Implement technical controls to provide reasonable assurance that the results of intelligence analysis queries remain within the authorized number of hops
- Create auditable records of all intelligence analysis queries
- Destroy all metadata before the end of the five year authorized retention period (no exceptions for backup data)

This staff will come in contact with human intelligible BR and PR/TT metadata.
(U) Storage, Presentation, and Maintenance of the Metadata

(U) Mission Capabilities

(TS/SL/NE) Protocol Exploitation is responsible for:
- Ensuring data is normalized and is presented in a usable format
- Providing support to intelligence analysts

(TS/SL/NE) For BR, performs unique functions including:
- Normalizing
- Reviewing data to ensure records include only data
- Assist in ensuring that data to be presented to analysts will be in a usable format
- Providing operational support to intelligence analysts; support is limited to RAS-approved identifiers within the authorized number of hops

(U) As you recall for PR/TT, provides support to for BR, assists in ensuring accurate representation and integrity of the metadata. In this context, performs both a tech role and a supporting role for intelligence analysts. Because of this dual role, must apply the rules governing the specific function it is performing at the time. When performing a technical role, the technical rules apply which allow broader access to the data. However, when supporting the intelligence analyst, the staff must operate within the same rules applicable to the intelligence analyst which are more...
restrictive.

(TS/SI/NO) For BR, [REDACTED] performs unique functions to include:

- Normalizing all of the disparate data formats
- Reviewing the data to validate that the records include only data [REDACTED]
- Assist in ensuring that the data to be presented to the analysts will be in a usable format
- Providing operational support as necessary to intelligence analysts; support is limited to RAS-approved identifiers within the authorized number of hops
4. (TS/SI/NF) Which one of these is **not** one of the roles and responsibilities of the technical personnel?
   a) (U/FOUO) Manipulating and validating the metadata to make it usable for intelligence analysis purposes
   b) (TS/SI/NF) Developing new tools to support querying of BR and PR/TT metadata
   c) (SI/REL) Running an intelligence analysis query using a RAS-approved identifier for an analyst who is experiencing problems recreating their query results
   d) (SI/REL) Running an intelligence analysis query using a non-RAS-approved identifier for an analyst who is experiencing problems recreating their query results
   e) (U) Both C and D

5. (TS/SI/NF) Provides support to the BR program by doing the following (check all that apply):
   a) (U) Normalizing all of the disparate data formats
   b) (U) Reviewing the data to validate that the records include data
   c) (U) Ensuring metadata is maintained in secure NSA repositories.
   d) (U) Assist in ensuring that the data to be presented to the analysts will be in a usable format
   e) (U) Destroy all metadata before the end of the five year authorized retention period (no exceptions for backup data)
   f) (SI/REL) Providing operational support as necessary to intelligence analysts on RAS-approved identifiers within the authorized number of hops

6. (TS/SI/NF) Database management and user interface professionals in __________ develop, maintain, and operate the __________ that store and present BR and PR/TT metadata, and develop algorithms/processes that prepare, optimize, and characterize the metadata for analytic utilization.
   a) __________
   b) __________
   c) __________
   d) (U) Homeland Mission Coordinators

(U) (Technical Character): Let’s check what you remember from this topic!

**Question 4. (TS/SI/NF)** Correct! Running an intelligence analysis query using a non-RAS-approved identifier for an analyst who is experiencing problems...
recreating their query results is not one of the roles and responsibilities of the technical personnel.

(TS//SI//NF) Incorrect. The correct answer is d). Running an intelligence analysis query using a non-RAS-approved identifier for an analyst who is experiencing problems recreating their query results is not one of the roles and responsibilities of the technical personnel.

Question 5. (TS//SI//NF) Correct! provides support to the BR program by doing the following:
   a) (U) Normalizing all of the disparate data formats
   b) (U) Reviewing the data to validate that the records include data
   d) (U) Assist in ensuring that the data to be presented to the analysts will be in a usable format
   f) (S//SI//REL) Providing operational support as necessary to intelligence analysts on RAS-approved identifiers within the authorized number of hops

(TS//SI//NF) Incorrect provides support to the BR program by doing the following:
   a) (U) Normalizing all of the disparate data formats
   b) (U) Reviewing the data to validate that the records include data
   d) (U) Assist in ensuring that the data to be presented to the analysts will be in a usable format
   f) (S//SI//REL) Providing operational support as necessary to intelligence analysts on RAS-approved identifiers within the authorized number of hops

Question 6. (TS//SI//NF) Correct! Database management and user interface professionals in Mission Capabilities develop, maintain, and operate the that store and present BR and PR/TT metadata, and develop algorithms/processes that prepare, optimize, and characterize the metadata

(TS//SI//NF) Incorrect. The correct answer is a). Database management and user interface professionals in Mission Capabilities develop, maintain, and operate the that store and present BR and PR/TT metadata, and develop algorithms/processes that prepare, optimize, and characterize the metadata
(U) The Compliance Certification Process

(U//FOUO) Compliance certification is a mandatory check for all systems handling U.S. person or FISA data.

(U) Guidelines governing the certification process are maintained by the TD Compliance Office.

(U) Compliance should be integrated into the development process.

(TS//SI//NF) Next we will discuss the compliance certification process used by technical personnel who develop mission technologies to include those supporting the BR and PR/TT Programs. Compliance certification is a mandatory check for all systems handling U.S. person or FISA data. Guidelines governing the certification process are maintained by the TD Compliance Office. This process supports compliance with the applicable laws and authorities and supports the NSA Way. The NSA Way is a unified framework for building large (or small), complex, primarily software systems that meet the diverse needs of NSA missions. An important point is that compliance should be integrated into the development process.
The goal of the compliance certification process is to integrate compliance into the development phase. The gates shown in the compliance process represent distinct requirements that must be satisfied in order to provide reasonable assurance of compliance. The architects of the new technology develop engineering documents to support these requirements. The TD certification group reviews the artifacts to verify the compliance process requirements are being met.

The compliance certification process begins by registering in [redacted] Access the site by typing [redacted] into your web browser. Once registration is complete, you will receive a requirements packet.

Compliance is an ongoing process. Any change or update to previously certified software requires recertification to remain compliant. In other words, if you develop a modification or upgrade to the software, then you need to register the software modification in [redacted] to begin the recertification process.
Formal approval is required for all new and/or different BR and PR/TT systems. Under no circumstances can a change be made to a software system (even for testing purposes) without going through the compliance certification (or recertification) process.
(U) The Dataflow Process

(U//FOUO) The goal of dataflow governance is to provide reasonable assurance of accountability and compliance for NSA mission data as it moves throughout NSA systems. Triggers for entering the dataflow governance process include (but are not limited to):

- Adding a
- Replacing an existing repository
- Inserting a process or system into the flow
- Adding a new mission element
- Legacy migration

(TS//SI//NF) The Collection Strategies and Requirements Center (CSRC) is responsible for dataflow governance, which provides reasonable assurance of accountability and compliance for NSA mission data as it moves throughout NSA systems. This is critical to protect the data, and when we are talking about volumes of U.S. person data you can understand why this is so important.

(TS//SI//NF) The process begins by submitting a dataflow request (usually done by the system builder or access owner) for a new dataflow solution. Then some level of research is needed to determine the type of request and associated needs. Once the requirements are determined, a new processing capability may be developed, or an existing flow may be reconfigured to meet the new requirement. The solution must then be tested and obtain official sign-off at which time CSRC authorization to operate would be issued.

(U//FOUO) In general, triggers for entering the dataflow governance process include (but are not limited to):

- Replacing an existing repository
- Inserting a process or system into the flow
- Adding a new mission element
- Legacy migration (moving an existing unmanaged flow to a managed flow)

(TS//SI//NF) Formal approval is required for all new and/or different BR and PR/TT data flows. Under no circumstances can a change be made to a data flow (even for testing purposes) without going through the dataflow governance process.

(U//FOUO) To find out more about the dataflow process, please refer to the Dataflow webpage by typing 'go dataflow' in your web browser.
7. (TS//SI//NOF) The compliance certification process for new systems is triggered by ____________.
   a) (U) Entering a ticket into the issue management system
   b) (U//FOUO) Contacting NSA Way Team
   c) (U//FOUO) Entering the new software or system into the issue management system
   d) (U) All of the above

8. (TS//SI//NOF) Which of the following is a reason for entering the dataflow governance process?
   a) (U) Replacing an existing repository
   b) (U) Inserting a process or system into the flow
   c) (U) Modifying a bulk metadata query
   d) (U) Moving an existing unmanaged flow to a managed flow
   e) (U) Modifying a bulk metadata query

9. (TS//SI//NOF) Before an analytic software upgrade is released on a system that handles BR or PR/TT data, the developers would need to ____________ in order to remain compliant.
   a) (U) contact the CSRC and undergo compliance recertification
   b) (U) register the software release in _____ and undergo compliance recertification
   c) (U) obtain OGC approval
   d) (U) register your system with ODOC

(U) (Technical Character): Let’s make a few notes in our travel journal and check to see what you remember from this topic!

Question 7. (U//FOUO) Correct! The compliance certification process for new systems is triggered by entering the new software or system in the issue management system. The correct answer is c). The compliance certification process for new systems is triggered by entering the new software or system in the issue management system.

Question 8. (U//FOUO) Correct! Modifying a bulk metadata query is not a reason for entering the dataflow governance process. (U//FOUO) Incorrect. The correct answer is d). Modifying a bulk metadata query is not a reason for entering the dataflow governance process.

Question 9. (U//FOUO) Correct! Before an analytic software upgrade is released on a system that handles BR or PR/TT data, the developers would need to register the software release in _____ and undergo compliance recertification in order to remain compliant. (U//FOUO) Incorrect. The correct answer is d). Before an analytic software upgrade is released on a system that handles BR or PR/TT data, the developers would need to register the software release in _____ and undergo compliance recertification in order to remain compliant.
(U) Practice Scenario 1

(TS/SI/NF) You are one of the cleared technical personnel responsible for metadata management within NSA’s metadata repositories. You are working with other cleared developers on new query processes and tools. You have a set of properly marked records from the PR/TT metadata. This set of PR/TT metadata records is stored on a physically isolated system within NSA’s secure network and is accessible only to the members of your team. Are your actions in compliance with the terms of the PR/TT Orders?

(U) Please select the BEST answer:

a) (TS/SI/NF) Yes, because the PR/TT Orders explicitly authorize properly trained technical personnel to develop and test new technologies to be used with the PR/TT metadata.

b) (TS/SI/NF) No, because the PR/TT Orders prohibit the use of new query processes against any of the PR/TT metadata.

c) (TS/SI/NF) Yes, because the PR/TT metadata records still carry the unique markings and software controls on the physically isolated system to restrict access to those records to cleared personnel.

d) (TS/SI/NF) None of the above are correct.

(U) (Technical Character): Now let’s practice what we have learned using real-life scenarios. Carefully read the scenario and then select the best answer.

ANSWER:

a) (TS/SI/NF) Incorrect. This statement is accurate, but this is not what makes your actions compliant. The correct answer is c). Yes, because the PR/TT metadata records still carry the unique markings and software controls on the physically isolated system to restrict access to those records to cleared personnel.

b) (TS/SI/NF) Incorrect. The current Court Orders authorize NSA to develop new query processes. The correct answer is c). Yes, because the PR/TT metadata records still carry the unique markings and software controls on the physically isolated system to restrict access to those records to cleared personnel.

c) (TS/SI/NF) Correct! The best answer is c). Yes, because the PR/TT metadata records still carry the unique markings and software controls on the physically isolated system to restrict access to those records to cleared personnel.

d) (TS/SI/NF) Incorrect. The correct answer is c). Yes, because the PR/TT metadata records still carry the unique markings and software controls on the physically isolated system to restrict access to those records to cleared personnel.
(U) Practice Scenario 2

(TS//SI//NF) You are a cleared developer of contact chaining analytic tools. Your management chain has requested a briefing to demonstrate your progress on the latest version of the tool. You provide the briefing, which includes screen shots of the tool and query results generated by the tool. Are your actions in compliance with the Orders?

(U) Please select the BEST answer:

a) (U//FOUO) No, unless all of those on your development team and all those who attended your briefing held current clearances.

b) (U) No, because the Court Orders do not permit testing of tools under development using real data.

c) (U) Yes, as long as the query results shared during the briefing are never used for intelligence analysis purposes.

d) (U) None of the above are correct.

ANSWER:

a) (U) Correct! This is the best answer. You cannot provide a demonstration unless all of the individuals who attended the briefing have completed the required training and received the necessary accesses.

b) (U//FOUO) Incorrect. The correct answer is a). No, unless all of those on your development team and all those who attended your briefing held current clearances.

c) (U//FOUO) Incorrect. The correct answer is a). No, unless all of those on your development team and all those who attended your briefing held current clearances.

d) (U//FOUO) Incorrect. The correct answer is a). No, unless all of those on your development team and all those who attended your briefing held current clearances.
(U) Practice Scenario 3

(TS/SI/NF) You are one of the cleared technical personnel responsible for metadata management within NSA’s metadata repositories. You are responsible for the maintenance of backup systems and Continuity of Operations (COOP) planning and implementation. You have control over the backup tapes that hold PR/TT metadata collected since the inception of the PR/TT authority. In accordance with your COOP plans, you know that if a disaster strikes and NSA’s online metadata repositories are destroyed, you could use these backup tapes to repopulate the repositories with PR/TT metadata. Although the backup tapes contain information older than five years, the processes you would employ to repopulate the online analytic metadata repositories would select only metadata collected within the last five years. Is your maintenance of backup tapes holding PR/TT metadata collected more than five years ago in compliance with the terms of the PR/TT Orders?

(U) Please select the BEST answer:

a) (TS/SI/NF) Yes, because the older-than-five-years PR/TT metadata on the backup tapes will never be available for intelligence analysis purposes.

b) (TS/SI/NF) Yes, because the PR/TT Orders specifically authorize NSA to maintain backup tapes of the PR/TT metadata.

c) (TS/SI/NF) No, because the PR/TT Orders mandate the destruction of the PR/TT metadata no later than five years after its initial collection, with no exception for metadata on backup tapes.

d) (U) None of the above are correct.

ANSWER:

a) (TS/SI/NF) Incorrect. The correct answer is c). No, because the PR/TT Orders mandate the destruction of the PR/TT metadata no later than five years after its initial collection, with no exception for metadata on backup tapes. This is different from other authorities, for example FAA 702 does not require the destruction of data in the archives.

b) (TS/SI/NF) Incorrect. The correct answer is c). No, because the PR/TT Orders mandate the destruction of the PR/TT metadata no later than five years after its initial collection, with no exception for metadata on backup tapes.

c) (TS/SI/NF) Correct! This is the best answer. No, because the PR/TT Orders mandate the destruction of the PR/TT metadata no later than five years after its initial collection, with no exception for metadata on backup tapes.

d) (TS/SI/NF) Incorrect. The correct answer is c). No, because the PR/TT Orders mandate the destruction of the PR/TT metadata no later than five years after its initial collection, with no exception for metadata on backup tapes.
(U) Now that you have completed this module you should be able to:

- (TS//SI//NF) Identify the various technical roles that support the BR and PR/TT Bulk Metadata Programs
- (U) Identify the responsibilities of each of the technical roles
- (U) Recognize key points of the compliance certification process for mission systems and data flows
- (TS//SI//NF) Practice applying BR and PR/TT authorities in real-life scenarios applicable to technical personnel

(U//FOUO) If you have questions or wish to find out more, please contact your manager or any of the following BR or PR/TT points of contact:

- TD Compliance Office website: go td compliance
- OGC email alias: [REDACTED]
- OGC Phone: [REDACTED]
- OGC website: go GC
- Oversight and Compliance email alias: DL SV42_all

(TS//SI//NF) As we stated earlier in the course, the bulk metadata includes sensitive data that must be protected accordingly. By nature of the kinds of technical support provided to the BR and PR/TT programs, technical personnel have the authority and unrestricted access to touch unminimized/unevaluated (or raw), and very sensitive data (that contains a lot of U.S. person identifiers). Remember, we need to maintain a clear distinction between the roles of technical and analytical personnel. All personnel are held to a high standard of integrity, but in your technical role you must be particularly cautious because the tools you work with do not provide the same safeguards as those tools used by the analytical personnel.
In conclusion, it is your responsibility to keep the BR and PR/TT information within the confines of those who have the proper authorizations to touch and view the data.

Now that we have completed this part of our road trip, you should be able to:

- Identify the various technical roles that support the BR and PR/TT Bulk Metadata Programs
- Identify the responsibilities of each of the technical roles
- Recognize key points of the compliance certification process for mission systems and data flows
- Practice applying BR and PR/TT authorities in real-life scenarios applicable to technical personnel

You are encouraged to reach out to your management or to any of the points of contact listed here if you have any questions or if you want to find out more.
(U) PLEASE READ: Important Assessment Information

- (U) You will view the questions in a separate Assessment Questions Document
- (U) You will enter your responses in a separate QuestionMark online answer sheet
- (U) You will have only one attempt to successfully complete the assessment
- (U) Allow yourself sufficient time (approximately 30 minutes) to complete the assessment

(U) To Complete the Assessment:

- (U) Click the link to open the Assessment Questions Document
- (U) Go to the VUport SumTotal Content Player page, click on the Assessment link, and follow the instructions to complete the required exam

(U//FOUO) (OGC Attorney): The final part of your trip will be to successfully complete the assessment for the course. Please be aware that for the assessment you will view the questions in a .pdf file and enter your responses in a separate QuestionMark online answer sheet. Please be sure that you open the .pdf with the questions first before opening the QuestionMark online answer sheet. You will have one attempt to complete the assessment. Please allow yourself sufficient time (approximately 30 minutes) to complete the assessment.

(U//FOUO) Please click the Assessment Questions Document link to open the .pdf question file and keep the window open. Then go to the VUport SumTotal Content Player page, click on the Assessment link on the left, and follow the instructions to complete the required exam.