OPTN Network Operations Oversight Committee
Meeting Summary
June 16, 2023
Webex

Edward Hollinger, MD, PhD, Chair

Introduction

The Network Operations Oversight Committee (NOOC) met via Webex on 06/16/2023 to discuss the following agenda items:

1. Welcome
2. NOOC Dashboard Discussion
3. Security Project
     a. Attestation and Audit Rollout
     b. Operational Guidelines
4. OPTN System Enhancements
5. Closed Session

The following is a summary of the committee's discussions.

1. Welcome

Ed Hollinger, Chair of the Network Operations Oversight Committee (NOOC), welcomed committee members and provided an overview of the agenda.

2. NOOC Dashboard Discussion

Rob McTier, Business Architect, presented on NOOC dashboards to the committee. The presentation included a crosswalk demonstration and outlined the requirements of the dashboards, before presenting the demonstration of the system metrics dashboard. The requirements for the NOOC dashboard can be found in the Task 3.2.5.5 requirements which highlights specific metrics the NOOC must publish. The recent contract modification provided some changes regarding which metrics the NOOC is responsible for providing.

Mr. McTier explained that the OPTN Computer System Metrics would meet the requirements set forth in the contract. Dashboard items that meet these requirements include the distribution of match run times, matching function issues by category and policy implementations, matching function availability by month, matching function issues by category, and organ offer notification delivery and response time. Another requirement of the dashboards is to show updates on approved policies that have not yet been implemented, particularly in terms of providing timelines on their implementation. This information can be found on the updated notices of approved actions on the OPTN website to account for phased releases dashboard. Instead of creating a new dashboard to provide this information, Mr. McTier explained what has changed on the existing dashboard to account for these requirements. Per contract requirements, an API specific dashboard is currently under development and will be presented to HRSA in mid-July. This dashboard is not included in the demonstration. Information on how to access the dashboards was presented to the committee.

Mr. McTier then provided a demonstration of the dashboards to the committee. The demonstration had been presented to HRSA prior to the meeting, and Mr. McTier spoke about the feedback that HRSA had provided on the dashboards. First, the distribution of match runtimes by organ was presented to the committee, including information about how each metric relates to the organ allocation process. Mr. McTier explained that the information was originally updated on a quarterly basis, but based on feedback received from HRSA, HRSA suggested the metrics be updated on a monthly cadence. The dashboard shows the median match run time and shows information on the match run times to meet the contract requirements. HRSA suggested only showing the details for the most current month and establishing a way for members to navigate back to previous months for those metrics.

Other metrics that were shared with the committee include organ offer notification delivery and response time, which focuses on the median amount of time it takes for the OPTN Computer System to receive confirmation that an organ offer has been sent. Matching function availability by month was shared with the NOOC to illustrate the overall availability of the matching system for each month. Metrics that will be provided during policy implementations and any revisions that affect the matching function were shared with the committee. Information on policies that have yet to be implemented and policy milestones were also shared with the committee. Mr. McTier proposed including IT release date information on the OPTN website that accompanies notices of approved actions.

Summary of Discussion:

A representative from HRSA asked about system uptime and how it impacts match run availabilities, and whether the measurement of uptime is based on a 24/7 timeframe or if it is within concrete business hours. Dr. Hollinger informed the representative that it is on a 24-hour continuum. Committee members discussed uptime and how long the system would have to be down for in order for the percentage to change.

A committee advisor asked if there are plans to hold a focus group to review public facing dashboards to better understand who the users and consumers of the dashboards are. A committee member agreed that it is important to understand what data are most useful to users and how to ensure the data is easily understood. A representative from HRSA stated that their expectation is for the NOOC to monitor the system and for the dashboard to serve as a visual for system metrics. They continued that providing the metrics monthly instead of quarterly can help increase transparency to the public. The representative from HRSA asked the committee whether the public metrics were appropriate. A committee member responded that because this information is shared with the general public, it would be useful to hear from the general public. A committee advisor commented that the OPTN is sharing the correct metrics, but the gap is ensuring the public understands them. The advisor stated that feedback from the public is important to consider. A representative from HRSA asked how the data would be shared and commented that they believed the information should be presented on a Tableau dashboard. Mr. McTier responded that Tableau will likely be utilized and will make the data easier to navigate but there is a challenge to provide context to the data in Tableau.

A committee member stated that the information may be difficult for patients to read, and more context on the metrics is necessary.

3. **Security Project**

Courtney Jett, Policy Analyst, led the security project conversation to determine the NOOC's strategy for attestation and audit rollout during the implementation phase. Ms. Jett presented possible approaches to audits and attestations, suggested by Accenture Federal. One approach is a phased control assessment approach, where the NOOC would start by auditing the most critical NIST security controls

followed by the higher controls and then the lower controls. This approach would allow members to focus on the most critical controls first.

Another strategy discussed the difference between gap assessments and auditing. For audits, the OPTN would want to provide metrics and official findings for members to develop their plans of actions and milestones (POAMs) and risked based decisions (RBDs). A gap assessment helps identify areas of future improvement, and members would not need to develop POAMs or RBDs yet, nor would they have an official metric yet. Gap assessment helps identify areas for members to focus on next, and no official documentation would be required.

Ms. Jett presented on dividing and grouping members during implementation. Grouping would allow the OPTN to be more efficient with their resources, instead of rolling out the attestation and audits to members all at once. The suggested approach would be to divide members into thirds for the OPTN to act more responsively and provide coaching to members when necessary.

The potential rollout strategy to divide members into thirds. During the first year, groups would attest to the critical and high-risk controls. The second year, members would attest to all controls: critical, high, and low-risk controls. Every year after members would have to attest to all levels of control because it would be an annual attestation. When it comes to audits, a third of members would be audited every year.

Another potential rollout strategy that was shared with the committee does not follow a phased control approach. The strategy would require members to begin attesting critical, high, and low-risk controls from the beginning. This approach would be the fastest way to get all 110 controls, but this approach would be less focused and could potentially be more overwhelming for members.

The committee was asked to consider whether audits should be performed in person or remotely. Site survey costs to travel to and visit a third of hospitals and OPO members every year is budgeted to cost approximately $175,000 for FY23. Ms. Jett noted that third-party contracts assisting with audits may have additional travel costs as well.

Summary of Discussion:

When discussing potential rollout strategies, a representative from HRSA asked how the NOOC plans to divide members into three groups. Ms. Jett responded that the plan is to look at members by region and serve all different member types. With this plan, grouping by region would help reduce travel costs for auditors, and this approach was believed to be a more equitable approach. A committee member asked if these audits should be performed in person or virtually. They commented that performing the audits virtually would also help to reduce travel costs.

The committee discussed whether they had a preference on a potential rollout strategy. They were asked to consider if they preferred rolling out the critical and high-risk controls first, or if they would rather roll out the critical, high, and low-risk controls all at once. A committee member commented that there could be an advantage when attesting to all three levels at once. Another committee member commented that they were unsure of the increased workload it would cause for members to measure all three levels of controls from the beginning. They commented that if it is not an excess amount of work, then it may be worth measuring all three levels from the beginning. Ms. Jett explained that members could expect an increase in work by about one-third, because approximately one-third of the controls are considered low-risk controls. A committee member commented that it may be worth having all three levels measured at once, but they thought it was more important to consider where the

OPTN should focus their efforts. The committee member stated that it is important to consider a member's level of risk when considering which controls they should collect.

A committee member voiced some trepidation when breaking members into thirds based on geography. They suggested that based on the initial set of assessments the OPTN receives from members, they should stratify members based on their system controls so the OPTN can provide more attention to members whose system needs the most improvement. Ms. Jett explained that the audits will do more to validate the data the member has already submitted to the OPTN during their attestation of their system, therefore the OPTN would have an idea of which members they may need to assist. A committee member suggested the OPTN focus resources on the coaching process to assist members in getting their system to an adequate level instead of using resources to continue auditing those whose systems are performing at a higher level. Terri Helfrich, Director of Information Security, commented that when looking at member's attestations, this is a measurement of design and the engineering and capability of the system, rather when someone looks audits their system, they are analyzing the effectiveness of their system.

A committee member mentioned pushing back audit dates, and staff informed the committee that they could compile a new timeline and options with these changes in mind.

A representative from HRSA commented that some members might need help with their systems and may need to be audited more quickly. They suggested a different phasing of audits for members that are considered high risk. A staff member responded that this would be doable, if the timeframe for the audits is pushed back. A representative from HRSA commented that initial attestation data should help the OPTN determine what order members should be audited. They commented that based on conversation from the NOOC, it would be inefficient to perform multiple audits in four years and to travel to member institutions more than once.

A committee member commented that it may be more beneficial to provide members with all the controls, and ensure they have the critical and high controls attested to in time, but that they may audit their low controls sooner if they wish. This way if members have trouble with the critical and high controls, then the OPTN knows where to focus their attention.

A committee member commented that they agreed with the timeline proposed in the first option presented on the phased control assessment approach. They preferred the critical and high controls be focused on first, and then members can attest to their lower controls. The committee member also said it would be beneficial to move the audit timeline back and understand the risk to members before the OPTN performs audits. They suggested that because the work is time sensitive, to move the attestation and audit timeframes that are slated over a period of four months, to shorten this time to frame of three months. This suggestion was so initial attestations are submitted sooner and for the OPTN to assess members risk before starting the audit process.

Ms. Jett summarized the discussion, noting that the general strategy of the NOOC would be for members to test their critical and high controls first, while still providing the low controls information, would be the first step. The committee discussed pushing back the audit until the OPTN has had a chance to fully assess all members and divide all members into appropriate groups based on their risk level.

A committee member commented that if members are collaborating with the OPTN after their attestations to improve their systems, then the OPTN should delay their audit until their systems are more robust. Another committee member commented that it would be beneficial to push the audits and that it is important the OPTN allow members more flexibility when it comes to performing audits.

A representative from HRSA commented that the costs of the audits is important to consider and explained that it will be easier for members to obtain funding to improve their system if the initial audit is in place and they can easily display where their system needs enhancing. They did not think the OPTN needed to consider a member's financial state when performing audits and that the OPTN should still audit an organization even if they are struggling and in the middle of system improvements. A staff member responded that the OPTN will still perform tests and monitor systems even during the attestation phase, and that the audit is the more formal event. A representative from HRSA commented that having a shorter deadline to perform these audits would be beneficial to members to have their systems in order faster. A committee member commented that it is important to communicate to members any potential costs throughout the audit and attestation process. A representative from HRSA commented that it would be helpful for different member types to share their best practices with the community, so other members may learn from them.

While discussing whether audits should be performed in person or remotely, a representative from HRSA shared some practices they adopted during COVID-19 to audit members systems virtually. However, they noted that high environment systems were primarily audited in person.

A committee member asked if the NOOC needed to consider acquiring more experts onto the committee as their work and involvement with member systems increases or whether a subcommittee would be beneficial. A committee member responded that it would be beneficial to have as many subject matter experts as possible on the committee. A committee advisor commented that having a subcommittee is not necessary if the appropriate subject matter experts are advisors to the committee, then the NOOC would be well positioned to support the ongoing work of the security project. A representative from HRSA asked if the committee thought more committee members were necessary when considering the amount of work the committee can anticipate over the next few years. A committee advisor asked about the charter of the committee and thought it would be beneficial to the committee if advisors on the committee were able to vote.

4. OPTN System Enhancements

Tiwan Nicholson, Senior Director of IT Operations, presented on OPTN system enhancements to the committee. Mr. Nicholson explained that the goal of the conversation was for the committee to discuss the strategic direction for the OPTN Computer System modernization path to Azure public cloud and FedRAMP readiness. The committee was asked to think of the conversation as a strategy direction and not a design conversation.

Mr. Nicholson explained that to migrate the OPTN Computer System core components to Microsoft Azure public cloud by Q3 FY2024 is a foundational first step for the OPTN to take. The OPTN plans to operate the FedRAMP readiness initiative in parallel to building and maintaining FedRAMP-compliant architecture in Azure, to ensure the security of OPTN systems and data in the public cloud. This initiative is contingent upon the approval of the FY2024 budget. Moving to Microsoft Azure helps to modernize the application, while FedRAMP readiness helps to secure OPTN data by managing and processing through the application in the public cloud.

Mr. Nicholson explained that the OPTN has adopted a practice for new software solutions to develop in the cloud first. This was seen in new products, such as Predictive Analytics and Multi-Factor Authentication, which are fully operational in the cloud using capabilities delivered by Azure. If the public cloud is not feasible for these new software solutions, only then will the OPTN exercise other options. In 2021, a multi-regional colocation using Nutanix as the virtualization hosting platform acted as an incremental step towards moving the OPTN Computer System entirely to the public cloud.

Mr. Nicholson stated that migrating to the public cloud was identified as a potential corrective action following the February 15, 2023 outage. The OPTN is also looking to migrate core components to the Platform-as-a-Service (PaaS), which is maintained by the public cloud provider for improved reliability, availability, scalability, and security. Mr. Nicholson noted this as an incremental step in the modernization roadmap to move core components out of the Nutanix environment and into a fully scalable platform as a service capability with the Microsoft Azure public cloud. It was noted that this platform will eliminate single points of failure risk.

Mr. Nicholson shared what the shift from Colocation to PaaS has looked like since 2021, and what the future could potentially look like if the OPTN were to transition. It was noted that PaaS is not a step-by-step process, but rather it allows the opportunity for the OPTN to evaluate which cloud offerings are the best fit for their application and business goals. Mr. Nicholson presented which applications the OPTN would move into the cloud and which applications would be the responsibility of the OPTN Contractor. The management of these applications through Microsoft and through the OPTN Contractor would allow each party to focus on their core competencies.

Mr. Nicholson presented how transitioning to PaaS would streamline architecture for the OPTN. Mr. Nicholson explained the transition within the key components of the OPTN Computer System, what infrastructure makes up each component today, and what public cloud hosting each would move into. This transition would simplify both the architecture and the operational aspects of the OPTN Computer System application.

Summary of Discussion:

The committee chair summarized the presentation and asked the committee if they believe the OPTN and OPTN Contractor should keep moving forward with the transition to the cloud. They asked if the OPTN should continue to try and build what the NOOC believes is best for the future of the OPTN Computer System. A committee advisor responded that they thought this was an important enhancement for the OPTN to make with technology. A representative from HRSA commented that the OPTN should consider where to spend their capital and resources. They also thought there should be a large-scale decision from the OPTN about moving into the public cloud. The representative from HRSA commented that more work needs to be done to plan and understand the move into the public cloud before actions are taken. A committee member commented that in general, they thought it was important to keep moving forward and improving even if there is uncertainty about the future of the OPTN.

The committee chair asked the committee to continue considering this topic.

5. Closed Session

The committee met in a closed session.

Attendance

- **Committee Members and Advisors**
  - Adam Frank
  - Cliff Miles
  - Daniel Yip
  - Ed Hollinger
  - James Pittman
  - Kelley Hitchman
  - Melissa McQueen
- **HRSA Representatives**
  - Adriana Martinez
  - Adriane Burton
  - Arjun Naik
  - Christopher McLaughlin
  - Cliff Myers
  - Manjot Singh
  - Nick Lewis
  - Vinay Vuyyuru
- **UNOS Staff**
  - Anna Messmer
  - Bridgette Huff
  - Courtney Jett
  - Jason Livingston
  - Jonathan Moore
  - Julie Nolan
  - Krissy Laurie
  - Laura Schmitt
  - Liz Robbins Callahan
  - Marty Crenlon
  - Matt Belton
  - Melissa DiGiorgio
  - Michael Ferguson
  - Morgan Jupe
  - Rebecca Murdock
  - Rob McTier
  - Roger Vacovsky
  - Steve Mohring
  - Susie Sprinson
  - Terri Helfrich
  - Tiwan Nicholson
  - Tynisha Smith