

and technology, which is why attackers or malicious insiders seek to gain access to them. Hence, it is critical to monitor, audit, control, and manage privileged account usage. Many organizations, including financial sector companies, face challenges managing privileged accounts. To address these challenges, the National Cybersecurity Center of Excellence (NCCoE) plans to demonstrate a PAM capability that effectively protects, monitors, and manages privileged account access. The project addresses privileged account life cycle management, authentication, authorization, auditing, and access controls.

A detailed description of the Privileged Account Management is available at: <https://nccoe.nist.gov/projects/use-cases/privileged-account-management>.

Requirements: Each responding organization's letter of interest should identify which security platform component(s) or capability(ies) it is offering. Letters of interest should not include company proprietary information, and all components and capabilities must be commercially available. Components are listed in section 3 of the Privileged Account Management for the Financial Services sector use case (for reference, please see the link in the PROCESS section above) and include, but are not limited to:

- Privileged account control
- Privileged account command filtering (allow or deny specific comments, such as disk formatting)
- Multifactor authentication capability
- Access logging/database system
- Password management
- Separation of duties management
- Support least privileged policies
- Password obfuscation (hiding passwords from PAM users)
- Temporary accounts
- Log management (analytics, storage, alerting)

Each responding organization's letter of interest should identify how their products address one or more of the following desired solution characteristics in section 3 of the Privileged Account Management for the Financial Services sector use case (for reference, please see the link in the PROCESS section above):

1. Is easy to use for both PAM system administrators and PAM system users.
2. Provides protection for data at rest and data in transit.
3. Is complementary to existing access management.
4. Integrates with directories.
5. Provides account use control (policy enforcement and decision making).

6. Provides system command control.
7. Counters password obfuscation (hidden passwords).
8. Supports password management (vaults, changes, storage).
9. Supports activity logging (textual and video).
10. Supports real time activity monitoring.
11. Includes support functions needed by the typical user.
12. Supports privilege escalation management.
13. Supports forensic investigation data management.
14. Provides support for workflow management.
15. Enables emergency (break glass) scenario support.
16. Includes policy management support.
17. Supports single sign-on.
18. Permits system and privileged account discovery.

Responding organizations need to understand and, in their letters of interest, commit to provide:

1. Access for all participants' project teams to component interfaces and the organization's experts necessary to make functional connections among security platform components
2. Support for development and demonstration of the Privileged Account Management for the Financial Services sector use case in NCCoE facilities which will be conducted in a manner consistent with the following standards and guidance: FIPS 140-2, FIPS 199, FIPS 200, FIPS 201, SP 800-53, and SP 800-63.

Additional details about the Privileged Account Management for the Financial Services sector use case are available at: <https://nccoe.nist.gov/projects/use-cases/privileged-account-management>.

NIST cannot guarantee that all of the products proposed by respondents will be used in the demonstration. Each prospective participant will be expected to work collaboratively with NIST staff and other project participants under the terms of the consortium CRADA in the development of the Privileged Account Management for the Financial Services sector capability. Prospective participants' contribution to the collaborative effort will include assistance in establishing the necessary interface functionality, connection and set-up capabilities and procedures, demonstration harnesses, environmental and safety conditions for use, integrated platform user instructions, and demonstration plans and scripts necessary to demonstrate the desired capabilities. Each participant will train NIST personnel, as necessary, to operate

its product in capability demonstrations to the Financial Services community. Following successful demonstrations, NIST will publish a description of the security platform and its performance characteristics sufficient to permit other organizations to develop and deploy security platforms that meet the security objectives of the Privileged Account Management for the Financial Services sector use case. These descriptions will be public information.

Under the terms of the consortium CRADA, NIST will support development of interfaces among participants' products by providing IT infrastructure, laboratory facilities, office facilities, collaboration facilities, and staff support to component composition, security platform documentation, and demonstration activities.

The dates of the demonstration of the Privileged Account Management for the Financial Services sector capability will be announced on the NCCoE website at least two weeks in advance at <http://nccoe.nist.gov/>. The expected outcome of the demonstration is to improve privileged account management across an entire Financial Services sector enterprise. Participating organizations will gain from the knowledge that their products are interoperable with other participants' offerings.

For additional information on the NCCoE governance, business processes, and NCCoE operational structure, visit the NCCoE website <http://nccoe.nist.gov/>.

Kevin Kimball,
NIST Chief of Staff.

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DEPARTMENT OF COMMERCE

National Institute of Standards and Technology

[Docket No.: 171108999-7999-01]

National Cybersecurity Center of Excellence (NCCoE) Transport Layer Security (TLS) Server Certificate Management Building Block

AGENCY: National Institute of Standards and Technology, Department of Commerce.

ACTION: Notice.

SUMMARY: The National Institute of Standards and Technology (NIST) invites organizations to provide products and technical expertise to support and demonstrate security platforms for the Transport Layer

Security (TLS) Server Certificate Management Building Block. This notice is the initial step for the National Cybersecurity Center of Excellence (NCCoE) in collaborating with technology companies to address cybersecurity challenges identified under the TLS Server Certificate Management Building Block. Participation in the building block is open to all interested organizations.

DATES: Interested parties must contact NIST to request a letter of interest template to be completed and submitted to NIST. Letters of interest will be accepted on a first come, first served basis. Collaborative activities will commence as soon as enough completed and signed letters of interest have been returned to address all the necessary components and capabilities, but no earlier than January 26, 2018. When the building block has been completed, NIST will post a notice on the NCCoE TLS Server Certificate Management Building Block website at: <https://nccoe.nist.gov/projects/building-blocks/tls-server-certificate-management> announcing the completion of the building block and informing the public that it will no longer accept letters of interest for this building block.

ADDRESSES: The NCCoE is located at 9700 Great Seneca Highway, Rockville, MD 20850. Letters of interest must be submitted to tls-cert-mgmt-nccoe@nist.gov or via hardcopy to National Institute of Standards and Technology, NCCoE; 9700 Great Seneca Highway, Rockville, MD 20850. Organizations whose letters of interest are accepted in accordance with the process set forth in the **SUPPLEMENTARY INFORMATION** section of this notice will be asked to sign a consortium Cooperative Research and Development Agreement (CRADA) with NIST. An NCCoE consortium CRADA template can be found at: <http://nccoe.nist.gov/node/138>.

FOR FURTHER INFORMATION CONTACT: Tim Polk, William Haag, Jr. and Murugiah Souppaya via email to tls-cert-mgmt-nccoe@nist.gov; by telephone 301-975-0239; or by mail to National Institute of Standards and Technology, NCCoE; 9700 Great Seneca Highway, Rockville, MD 20850. Additional details about the TLS Server Certificate Management Building Block are available at: <https://nccoe.nist.gov/projects/building-blocks/tls-server-certificate-management>.

SUPPLEMENTARY INFORMATION:

Background: The NCCoE, part of NIST, is a public-private collaboration for accelerating the widespread adoption of integrated cybersecurity tools and technologies. The NCCoE brings together experts from industry,

government, and academia under one roof to develop practical, interoperable cybersecurity approaches that address the real-world needs of complex Information Technology (IT) systems. By accelerating dissemination and use of these integrated tools and technologies for protecting IT assets, the NCCoE will enhance trust in U.S. IT communications, data, and storage systems; reduce risk for companies and individuals using IT systems; and encourage development of innovative, job-creating cybersecurity products and services.

Process: NIST is soliciting responses from all sources of relevant security capabilities (see below) to enter into a Cooperative Research and Development Agreement (CRADA) to provide products and technical expertise to support and demonstrate security platforms for the TLS Server Certificate Management Building Block. The full building block can be viewed at: <https://nccoe.nist.gov/projects/building-blocks/tls-server-certificate-management>.

Interested parties should contact NIST using the information provided in the **FOR FURTHER INFORMATION CONTACT** section of this notice. NIST will then provide each interested party with a letter of interest template, which the party must complete, certify that it is accurate, and submit to NIST. NIST will contact interested parties if there are questions regarding the responsiveness of the letters of interest to the building block objective or requirements identified below. NIST will select participants who have submitted complete letters of interest on a first come, first served basis within each category of product components or capabilities listed below up to the number of participants in each category necessary to carry out this building block. However, there may be continuing opportunity to participate even after initial activity commences. Selected participants will be required to enter into a consortium CRADA with NIST (for reference, see **ADDRESSES** section above). NIST published a notice in the **Federal Register** on October 19, 2012 (77 FR 64314) inviting U.S. companies to enter into a National Cybersecurity Excellence Partnerships (NCEPs) in furtherance of the NCCoE. For this demonstration project, NCEP partners will not be given priority for participation.

Building Block Objective: The building block objective is to improve the overall security of TLS certificates and private keys. A detailed description of the TLS Server Certificate Management Building Block is available at: [*building-blocks/tls-server-certificate-management*.](https://nccoe.nist.gov/projects/</p>
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Requirements: Each responding organization's letter of interest should identify which security platform component(s) or capability(ies) it is offering. Letters of interest should not include company proprietary information, and all components and capabilities must be commercially available. Components are listed in section 3 of the TLS Server Certificate Management Building Block (for reference, please see the link in the Process section above) and include, but are not limited to:

- TLS servers in the Cloud.
- Public Certification Authority (CA).
- TLS Servers including web servers, application servers, or other services.
- TLS Load Balancers.
- DevOps Frameworks including application containers.
- Internal CAs.
- Certificate Management systems.
- Certificate Network Scanning Tools including vulnerability scanning.

Each responding organization's letter of interest should identify how their products address one or more of the following desired solution characteristics in Section 3 of the TLS Server Certificate Management Building Block (for reference, please see the link in the Process section above):

1. External Systems—The architecture will include the following components that typically reside outside the organizational firewall:

- TLS Servers in the Cloud Environment: The cloud environment will include multiple cloud instances acting as TLS servers. Certificates will be deployed and managed on these systems.

- Public CA: A publicly trusted CA will be used to issue one or more of the certificates used on TLS servers on the internal or external systems.

2. Internal Systems—The architecture will include several systems that are typically deployed within organizational network environments.

- TLS Servers: Multiple systems will be configured as TLS servers (*e.g.*, webserver, application server, or other service). Certificates will be deployed and managed on these systems.
- Load Balancer: A load balancer will act as a TLS server with a certificate and will facilitate the load balancing of traffic to the other TLS servers.
- DevOps Framework(s): One or more DevOps frameworks (*e.g.*, Docker) will be used to automate the management of cloud instances and the deployment of certificates on those instances.
- Internal CA: An internal CA will be used to issue certificates to some of the TLS servers.

- **Certificate Manager:** A certificate management system will be used to inventory and manage TLS server certificates deployed in the environment.

- **Certificate Network Scanning Tool:** A tool, such as a vulnerability scanning or other tool, will be used to facilitate the discovery of TLS server certificates via network scanning.

3. **Stakeholders/Roles—Humans** play an important part in the management of TLS server certificates in enterprises; therefore, the following roles will be represented:

- **Line of Business/Application Owner:** People in leadership positions who are responsible for the line of business or application and who will drive the need for certificates to be deployed.
- **System Administrators:** Responsible for managing TLS servers and ensuring that the load balancer will be represented.
- **DevOps Developer:** Responsible for programming/configuring and managing the DevOps framework.
- **Approver:** One or more stakeholders who will review and approve/reject certificate management operations.
- **PKI Team:** One or more individuals who will manage the certificate management system and public/internal CAs.

Responding organizations need to understand and, in their letters of interest, commit to provide:

1. Access for all participants' project teams to component interfaces and the organization's experts necessary to make functional connections among security platform components.
2. Support for development and demonstration of the TLS Server Certificate Management Building Block in NCCoE facilities which will be conducted in a manner consistent with the following standards and guidance: OMB Circular A-130; FIPS 200; FIPS 140-2; NIST Special Publications 800-52, 800-57, 800-63-3, 800-77, 800-177; NIST Framework for Improving Critical Infrastructure Cybersecurity; and internet Engineering Task Force (IETF) Requests for Comments (RFCs) 2246, 4346, 5280 and 5246. The project will also be informed by two in-progress IETF standards draft-ietf-tls-tls13-21 The Transport Layer Security (TLS) Protocol Version 1.3 and draft-ietf-acme-acme-07 Automatic Certificate Management Environment (ACME).

Additional details about the TLS Server Certificate Management Building Block are available at: <https://nccoe.nist.gov/projects/building-blocks/tls-server-certificate-management>.

NIST cannot guarantee that all the products proposed by respondents will be used in the demonstration. Each prospective participant will be expected to work collaboratively with NIST staff and other project participants under the terms of the consortium CRADA in the development of the TLS Server Certificate Management Building Block. Prospective participants' contribution to the collaborative effort will include assistance in establishing the necessary interface functionality, connection and set-up capabilities and procedures, demonstration harnesses, environmental and safety conditions for use, integrated platform user instructions, and demonstration plans and scripts necessary to demonstrate the desired capabilities. Each participant will train NIST personnel, as necessary, to operate its product in capability demonstrations. Following successful demonstrations, NIST will publish a description of the security platform and its performance characteristics sufficient to permit other organizations to develop and deploy security platforms that meet the security objectives of the TLS Server Certificate Management Building Block. These descriptions will be public information. Under the terms of the consortium CRADA, NIST will support development of interfaces among participants' products by providing IT infrastructure, laboratory facilities, office facilities, collaboration facilities, and staff support to component composition, security platform documentation, and demonstration activities.

The dates of the demonstration of the TLS Server Certificate Management Building Block capability will be announced on the NCCoE website at least two weeks in advance at <http://nccoe.nist.gov/>. The expected outcome of the demonstration is to improve security of TLS certificates and private keys within the enterprise. Participating organizations will gain from the knowledge that their products are interoperable with other participants' offerings.

For additional information on the NCCoE governance, business processes, and NCCoE operational structure, visit the NCCoE website <http://nccoe.nist.gov/>.

Kevin Kimball,

NIST Chief of Staff.

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DEPARTMENT OF COMMERCE

National Institute of Standards and Technology

Notice of Localization and Tracking System Testing Consortium

AGENCY: National Institute of Standards and Technology

ACTION: Notice of Research Consortium Deadline Extension.

SUMMARY: On November 1, 2017, the National Institute of Standards and Technology (NIST) published a **Federal Register** notice regarding the establishment of the Localization and Tracking System (LTS) Testing Consortium, inviting organizations to participate in this Consortium. The purpose of this **Federal Register** notice is to extend the deadline for acceptance of letters of interest for participation in the LTS Testing Consortium, as indicated in the **DATES** section below, from December 15, 2017, to January 31, 2018.

DATES: Letters of interest for participation in this LTS Testing Consortium will be accepted until January 31, 2018. LTS testing is expected to occur in May or June 2018, with a pre-event workshop in March. Dates are subject to change, however.

ADDRESSES: Letters of interest and requests for additional information can be directed to the NIST LTS Testing Consortium Manager, Nader Moayeri, of the Advanced Network Technologies Division of NIST's Information Technology Laboratory. Nader Moayeri's contact information is NIST, 100 Bureau Drive, Stop 8920, Gaithersburg, MD 20899-8920, USA, email: nader.moayeri@nist.gov, and telephone: +1 301-975-3767.

FOR FURTHER INFORMATION CONTACT: For further information regarding the terms and conditions of NIST's CRADA, please contact Jeffrey DiVietro, CRADA and License Officer, NIST's Technology Partnerships Office, by mail to 100 Bureau Drive, Mail Stop 2200, Gaithersburg, Maryland 20899-2200, by email to jeffrey.divietro@nist.gov, or by telephone at +1 301-975-8779.

SUPPLEMENTARY INFORMATION:

On November 1, 2017, NIST published a **Federal Register** notice, 82 FR 50626, regarding the establishment of the LTS Testing Consortium and inviting organizations to participate in this Consortium. The purpose of this new **Federal Register** notice is to extend the deadline for acceptance of letters of interest for participation in the LTS Testing Consortium from December 15, 2017 to January 31, 2018. Participants in