Request for Proposals (RFP)

Managed Capture the Flag System for the SANReN Cyber Security Challenge

RFP No. 993/19/05/2022

Date of Issue	Wednesday, 04 May 2022	
Closing Date	Thursday, 19 May 2022 by 16h30	
Electronic submission	Email: tender@csir.co.za If the size of the documents exceed 25MB, send multiple emails. Use the tender number and description as the subject on the email.	
Enquiries	Strategic Procurement Unit	E-mail: tender@csir.co.za
Closing date for queries:	12 May 2022	
CSIR business hours	08h00 – 16h30	
Category	ICT	

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- **SECTION A – TECHNICAL INFORMATION**

1 INTRODUCTION

The Council for Scientific and Industrial Research (CSIR) is one of the leading scientific research and technology development organisations in Africa. In partnership with national and international research and technology institutions, CSIR undertakes directed and multidisciplinary research and technology innovation that contributes to the improvement of the quality of life of South Africans. The CSIR's main site is in Pretoria while it is represented in other provinces of South Africa through regional offices.

The National Integrated Cyber Infrastructure System (NICIS) is responsible to provide integrated Cyber-Infrastructure in the form of a high-speed network, large scale processing capacity and long term data storage system to the research community in South Africa. NICIS provides these services through the Centre for High Performance Computing (CHPC), the South African National Research Network (SANReN) and the Data Intensive Research Initiative of South Africa (DIRISA).

2 BACKGROUND

The National Integrated Cyber Infrastructure System (NICIS) is hosting the CHPC Annual National Conference in December 2021. The conference will host parallel tracks for CHPC, SANReN, and DIRISA related presentations, workshops, and student competitions. Due to the COVID-19 pandemic, the 2021 CHPC Annual National Conference will be hosted virtually.

SANReN will host a Cyber Security Challenge (CSC) for tertiary students in the information security space as a parallel event to the 2021 CHPC Annual National Conference. During the SANReN CSC students are required to solve ethical hacking challenges in a competitive and formal environment. Student challenges are presented in a structured and enclosed environment commonly known as a Capture the Flag (CTF) event. A typical and expected CTF event includes a variety of challenges from different disciplines within the cyber security domain. More information regarding the SANReN CSC can be found at https://csc.ac.za/ .

3 INVITATION FOR PROPOSAL

Proposals are hereby invited for the supply of a Managed Capture-the-Flag System – inclusive of event setup, administration, and questions – for the final of the SANReN Cyber Security Challenge 2022 as well as for two (2) qualification rounds for the SANReN Cyber Security Challenge 2022. The estimated date of the final and qualifier events and the estimated number of teams per event is shown in Table 1.

Table 1 SANReN CSC Hosted CTF Event Schedule

Event	Estimated Teams	Estimated Date of Event
SANReN CSC 2022 Qualifier 1	50-150	May-July 2022
SANReN CSC 2022 Qualifier 2	100-150	September 2022
SANReN CSC 2022 Final	12	November or December 2022

4 PROPOSAL SPECIFICATION

1. The CSIR requests bidders to provide solutions for a Managed, Online, Jeopardy Style, Capture the Flag (CTF) platform for three (3) events, inclusive of team management and event questions as specified below.
2. CTF System Requirements:
   a. The proposed system and hosting, administration, and management of the proposed system must be wholly managed by the bidder with no requirements on the CSIR.
   b. The proposed system must enable user role and privilege management according to at least the following three categories: student, organiser, and (optionally) moderator.
   c. The proposed system should enable students to be managed as part of a team.
   d. The proposed system should enable bulk import of users and the team the user is associated with.
   e. The proposed system must be able to automatically mark submissions by students.
   f. The proposed system must enable exporting of results in CSV and JSON format.
3. Event questions:
   a. The Final event will be held at the end of November or early December 2022 and must have twenty (24) questions composed of the following difficulty levels:
      i. 12 Easy difficulty questions

ii. 6 Medium difficulty questions

iii. 6 Hard difficulty questions

b. The Final must have at least 4 unique (bespoke) Hard and 4 unique (bespoke) Medium difficulty questions.

c. The Qualifier events will be held in the first and second halves of 2022. The qualifier events may share the same set of forty (40) questions with difficulty distribution as follows:

i. 24 Easy difficulty questions

ii. 12 Medium difficulty questions

iii. 12 Hard difficulty questions

d. The following categories questions must be covered (Easy, Medium and Hard). Thus each of the following categories must have at least one easy, one medium and difficult question:

i. Binary exploitation:

ii. Cryptography:

iii. Web Exploitation:

iv. Reverse engineering:

v. Forensics:

vi. Mobile phone security

4. The proposal must include a technical description of how the difficulty level for questions are determined

5. Event questions for each of the three events must be submitted to the organisers at least 3 weeks prior to the start of any event and must be finalised two (2) weeks prior to the start of the event.

6. Sample questions and solutions (2 x hard, 2 x medium, 2 x easy) must be supplied along with the bid.

7. The scope and availability of possible questions should be presented (a summary or explanation of breath and scope of available questions)

8. The Questions solutions must not available on the Internet

9. The CTF system should be available through a Web interface.

10. The system should be available to be hosted locally in the case of network disruption.

All proposals are to be submitted in a format specified in this enquiry (if applicable). However, tenderers are welcome to submit additional / alternative proposals over and above the originally specified format.

5 FUNCTIONAL EVALUATION CRITERIA

5.1 The evaluation of the technical detail of the proposal will be based on the following criteria in Table 2. There are different weights assigned to each criterion. A possible score of 0 or 10 is possible from some criteria and 0, 7, or 10 for other criteria, based on non-compliance, partial compliance, or full compliance with the specific criterion. Some criteria shown below require full compliance to pass.

Table 2 - Technical Evaluation Criteria

Technical Criteria	Weighting	Possible Score
User Role Management	10%	0 or 10
Team Management	10%	0 or 10
Bulk User Import	10%	0, 7, or 10
Automated Marking of Questions	10%	0, 7, or 10
Results Export	10%	0, 7, or 10
Web Interface	30%	0, 7, or 10
System Hosting	20%	0 or 10
Total	**100%**	**70**

o

5.2 Proposals with functionality / technical points of less than the pre-determined minimum overall percentage of 80 % will be eliminated from further evaluation.

5.3 Refer to Annexure A for the scoring sheet that will be used to evaluate functionality**.**

6 ELIMINATION CRITERIA

Proposals will be eliminated under the following conditions:

- Submission after the deadline;

- Proposals submitted at incorrect location; and

- Failure to specify that a managed CTF solution is used

- Failure to explicitly include all events, inclusive of two qualifiers and a final event, as well as questions for each event.

- Failure to address all proposal specifications as per Section 4 of this RFP.

7   NATIONAL TREASURY CENTRAL SUPPLIER DATABASE (CSD) REGISTRATION

Before any negotiations will start with the winning bidder it will be required from the winning bidder to:

- be registered on National Treasury's Central Supplier Database (CSD). Registrations can be completed online at: www.csd.gov.za;
- provide the CSIR of their CSD registration number; and
- provide the CSIR with a certified copy of their B-BBEE certificate. If no certificate can be provided, no points will be scored during the evaluation process. (RSA suppliers only)

- **SECTION B – TERMS AND CONDITIONS**

8 VENUE FOR PROPOSAL SUBMISSION

All proposals must be submitted at:

- tender@csir.co.za

9 TENDER PROGRAMME

The tender program, as currently envisaged, incorporates the following key dates:

- Issue of tender documents: Wednesday, 04 May 2022
- Compulsory briefing session: N/A
- Closing date for queries: Wednesday, 12 May 2022
- Closing / submission Date: Thursday, 19 May 2022

10 SUBMISSION OF PROPOSALS

10.1 All proposals are to be sealed. No open proposals will be accepted.

10.2 All proposals are to be clearly marked with the RFP number and the name of the tenderer on the outside of the main package. Proposals must consist of two parts, each of which is placed in a separate sealed package clearly marked:

- o **PART 1:** Technical Proposal: RFP No.: 993/19/05/2022.
- o **PART 2:** Pricing Proposal, B-BBEE and other Mandatory Documentation:
- o RFP No.: 993/19/05/2022.

10.3 Proposals submitted by companies must be signed by a person or persons duly authorised.

10.4 The CSIR will award the contract to qualified tenderer(s)' whose proposal is determined to be the most advantageous to the CSIR, taking into consideration the technical (functional) solution, price and B-BBEE.

11 DEADLINE FOR SUBMISSION

Proposals shall be submitted at the address mentioned above no later than the closing date of ***Thursday, 19 May 2022*** during CSIR's business hours. The CSIR business hours are between 08h00 and 16h30.

Where a proposal is not received by the CSIR by the due date and stipulated place, it will be regarded as a late tender. Late tenders will not be considered.

12   AWARDING OF TENDERS

12.1   Awarding of tenders will be published on the CSIR's tender website. No regret letters will be sent out.

13   EVALUATION PROCESS

13.1   **Evaluation of proposals**

o   All proposals will be evaluated by an evaluation team for functionality, price and B-BBEE. Based on the results of the evaluation process and upon successful negotiations, the CSIR will approve the awarding of the contract to successful tenderers.

A two-phase evaluation process will be followed.

- The first phase includes evaluation of **elimination** and **functionality criteria**, local production and content.
- The second phase includes the evaluation of **price** and **B-BBEE** status.

Pricing Proposals will only be considered after functionality phase has been adjudicated and accepted. Only proposals that achieved the specified minimum qualification scores for functionality will be evaluated further using the preference points system.

13.2   **Preference points system**

The **80/20** preference point system will be used where **80** points will be dedicated to price and **20** points to B-BBEE status. If all tenders received are more than R50m, the proposal will be cancelled and re-issued.

14   PRICING PROPOSAL

14.1   Pricing proposal must be cross-referenced to the sections in the Technical Proposal. Any options offered must be clearly labelled. Separate pricing must be provided for each option offered to ensure that pricing comparisons are clear and unambiguous.

14.2   Price needs to be provided in South African Rand (excl. VAT), with details on price elements that are subject to escalation and exchange rate fluctuations clearly indicated.

14.3   Price should include additional cost elements such as freight, insurance until acceptance, duty where applicable.

14.4 Only firm prices* will be accepted during the tender validity period. Non–firm prices** (including prices subject to rates of exchange variations) will not be considered.

- o *Firm price is the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax which, in terms of a law or regulation is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;*
- o **Non-firm price is all prices other than "firm" prices.*

14.5 Payment will be according to the CSIR Payment Terms and Conditions.

15 VALIDITY PERIOD OF PROPOSAL

- o Each **proposal** shall be valid for a minimum period of three (3) months calculated from the closing date.

16 APPOINTMENT OF SERVICE PROVIDER

16.1 The contract will be awarded to the tenderer who scores the highest total number of points during the evaluation process, except where the law permits otherwise.

16.2 Appointment as a successful service provider shall be subject to the parties agreeing to mutually acceptable contractual terms and conditions. In the event of the parties failing to reach such agreement CSIR reserves the right to appoint an alternative supplier.

16.3 Awarding of contracts will be announced on the National Treasury website and no regret letters will be sent to unsuccessful bidders.

17 ENQUIRIES AND CONTACT WITH THE CSIR

Any enquiry regarding this RFP shall be submitted in writing to CSIR at tender@csir.co.za with "**RFP No 993/19/05/2022- Managed Capture the Flag System for the SANReN Cyber Security Challenge"** as the subject.

Any other contact with CSIR personnel involved in this tender is not permitted during the RFP process other than as required through existing service arrangements or as requested by the CSIR as part of the RFP process.

18 MEDIUM OF COMMUNICATION

All documentation submitted in response to this RFP must be in English.

19 COST OF PROPOSAL

Tenderers are expected to fully acquaint themselves with the conditions, requirements and specifications of this RFP before submitting proposals. Each tenderer assumes all risks for resource commitment and expenses, direct or indirect, of proposal preparation and participation throughout the RFP process. The CSIR is not responsible directly or indirectly for any costs incurred by tenderers.

20 CORRECTNESS OF RESPONSES

20.1 The tenderer must confirm satisfaction regarding the correctness and validity of their proposal and that all prices and rates quoted cover all the work/items specified in the RFP. The prices and rates quoted must cover all obligations under any resulting contract.

20.2 The tenderer accepts that any mistakes regarding prices and calculations will be at their own risk.

21 VERIFICATION OF DOCUMENTS

21.1 Tenderers should check the numbers of the pages to satisfy themselves that none are missing or duplicated. No liability will be accepted by the CSIR in regard to anything arising from the fact that pages are missing or duplicated.

21.2 CSIR requires that all bidders to submit proposals electronically to CSIR at tender@csir.co.za.

21.3 Pricing schedule and B-BBEE credentials should be submitted with the proposal, but as a separate document and no such information should be available in the technical proposal.

21.4 .

22 SUB-CONTRACTING

22.1 A tenderer will not be awarded points for B-BBEE status level if it is indicated in the tender documents that such a tenderer intends sub-contracting more than **25%** of the value of the

contract to any other enterprise that does not qualify for at least the points that such a tenderer qualifies for, unless the intended sub-contractor is an exempted micro enterprise that has the capability and ability to execute the sub-contract.

22.2 A tenderer awarded a contract may not sub-contract more than **25%** of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an exempted micro enterprise that has the capability and ability to execute the sub-contract.

23 ENGAGEMENT OF CONSULTANTS

The consultants will only be remunerated at the rates:

23.1 Determined in the "Guideline for fees", issued by the South African Institute of Chartered Accountants (SAICA); or

23.2 Set out in the "Guide on Hourly Fee Rates for Consultants", by the Department of Public Service and Administration (DPSA); or

23.3 Prescribed by the body - regulating the profession of the consultant.

24 TRAVEL EXPENSES

24.1 All travel expenses for the CSIR's account, be it directly via the CSIR's travel agent or indirectly via re-imbursements, must be in line with the CSIR's travel policy. The following will apply:

24.1.1 Only economy class tickets will be used.

24.1.2 A maximum of R1400 per night for accommodation, dinner, breakfast and parking will be allowed.

24.1.3 No car rentals of more than a Group B will be accommodated.

25 ADDITIONAL TERMS AND CONDITIONS

25.1 A tenderer shall not assume that information and/or documents supplied to CSIR, at any time prior to this request, are still available to CSIR, and shall consequently not make any reference to such information document in its response to this request.

25.2 Copies of any affiliations, memberships and/or accreditations that support your submission must be included in the tender.

25.3 In case of proposal from a joint venture, the following must be submitted together with the proposal:

- Joint venture Agreement including split of work signed by both parties;

- The original or certified copy of the B-BBEE certificate of the joint venture;

- The Tax Clearance Certificate of each joint venture member;

- Proof of ownership/shareholder certificates/copies; and

- Company registration certificates.

25.4 An omission to disclose material information, a factual inaccuracy, and/or a misrepresentation of fact may result in the disqualification of a tender, or cancellation of any subsequent contract.

25.5 Failure to comply with any of the terms and conditions as set out in this document will invalidate the Proposal.

26 CSIR RESERVES THE RIGHT TO

26.1 Extend the closing date;

26.2 Verify any information contained in a proposal;

26.3 Request documentary proof regarding any tendering issue;

26.4 Give preference to locally manufactured goods;

26.5 Appoint one or more service providers, separately or jointly (whether or not they submitted a joint proposal);

26.6 Award this RFP as a whole or in part;

26.7 Cancel or withdraw this RFP as a whole or in part.

27 DISCLAIMER

This RFP is a request for proposals only and not an offer document. Answers to this RFP must not be construed as acceptance of an offer or imply the existence of a contract between the parties. By submission of its proposal, tenderers shall be deemed to have satisfied themselves with and to have accepted all Terms & Conditions of this RFP. The CSIR makes no representation, warranty, assurance, guarantee or endorsements to tenderer concerning the RFP, whether with regard to its accuracy, completeness or otherwise and the CSIR shall have no liability towards the tenderer or any other party in connection therewith.

28   DECLARATION BY TENDERER

Only tenderers who completed the declaration below will be considered for evaluation.

RFP No: …………………………..

I hereby undertake to render services described in the attached tendering documents to CSIR in accordance with the requirements and task directives / proposal specifications stipulated in RFP No………………….. at the price/s quoted. My offer/s remains binding upon me and open for acceptance by the CSIR during the validity period indicated and calculated from the closing date of the proposal.

I confirm that I am satisfied with regards to the correctness and validity of my proposal; that the price(s) and rate(s) quoted cover all the services specified in the proposal documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this proposal as the principal liable for the due fulfilment of this proposal.

I declare that I have no participation in any collusive practices with any tenderer or any other person regarding this or any other proposal.

I accept that the CSIR may take appropriate actions, deemed necessary, should there be a conflict of interest or if this declaration proves to be false.

I confirm that I am duly authorised to sign this proposal.

NAME (PRINT) ………………………….

CAPACITY ……………………….

SIGNATURE ………………………….

NAME OF FIRM ……………………………….

DATE   ………………………………

WITNESSES
1   …………………………………
2   …………………………………
DATE: …………………………..

29 ANNEXURE A

Functional Factors	Proof Required	Weighting	0	7	10
User role management	Statement from bidder and documentation indicating the different user roles that can be applied to a user	10	Proposed system cannot differentiate between types of users.		Proposed system can differentiate between types of users such as students and organisers
Team management	Statement from bidder or preferably documentation indicating that users can be managed as part of a team	10	Proposed system cannot manage users as part of a team		Proposed system can manage users as part of a team
Bulk user import	Statement from bidder or preferably documentation indicating the formats in which bulk user import can be done	10	Proposed system cannot import users in bulk	Proposed system can import users in bulk	Proposed system can import users and teams in bulk
Automated marking of questions	Statement from bidder or preferably documentation indicating that automated marking of questions is enabled in the system	10	Proposed system does not support automated marking of questions	Proposed system has limited support for automated marking of questions	Proposed system fully supports automated marking of questions
Results Export	Statement from bidder or preferably documentation indicating the data that can be exported from the proposed system and the formats that data can be exported in	10	Proposed system does not support exporting of data	Proposed system supports exporting of a limited set of data	Proposed system supports exporting of all data in JSON or CSV format
Web Interface	Statement from bidder or preferably documentation indicating the functions of the web interface	30	Proposed system does not have a web interface	Students can submit answers to questions through a web interface	Students can submit answers to questions through a web interface and organisers can manage questions and answers through a web interface
System Hosting	Statement from bidder that the proposed system will be hosted by the bidder	20	Proposed system has to be hosted by the CSIR		Proposed system is fully managed by bidder