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|  | ISO/IEC/JTC 1/SC 22/WG 23 N1430 ISO FORM 4 |
| **NEW WORK ITEM PROPOSAL (NP)** |
| **DATE OF CIRCULATION:**Click here to enter a date. | **CLOSING DATE FOR VOTING:**Click here to enter a date. |
| **PROPOSER:**[ ]  ISO member body:Click or tap here to enter text.[x]  Committee, liaison or other:Click or tap here to enter text. | **REFERENCE NUMBER:**ISO IEC 24772-8[x]  **WITHIN EXISTING COMMITTEE**Document Number: SC 22/WG 23 N1441Committee Secretariat: Bill Ash[ ]  **PROPOSAL FOR A NEW PC**  |
| A proposal for a new work item within the scope of an existing committee shall be submitted to the committee manager of that committee. A proposal for a new project committee shall be submitted to the Central Secretariat, which will process the proposal in accordance with ISO/IEC Directives, Part 1,[Clause 2.3](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top). Guidelines for proposing and justifying new work items or new fields of technical activity (Project Committee) are given in ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top).**IMPORTANT NOTE:** Proposals without adequate justification and supporting information risk rejection or referral to the originator. |
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| **PROPOSAL** (to be completed by the proposer, following discussion with committee leadership if appropriate) |
| English title |
| Programming languages — Avoiding vulnerabilities in programming languages – Part 8: Catalogue of vulnerabilities for the programming language Fortran |
| French title |
| Langages de programmation — Conduite pour éviter les vulnérabilités dans les langages de programmation — Partie **8**: Catalogue de vulnérabilités **pour le langage de programmation Fortran**(Please see ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top), Clause C.4.2). In case of amendment, revision or a new part of an existing document, please include the reference number and current title |
| **SCOPE** (Please see ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top), Clause C.4.3) |
| This document itemizes programming language vulnerabilities in Fortran to be avoided in the development of systems where assured behaviour is required for security, safety, mission-critical and business-critical software. In general, this need for assured behaviour is applicable to the software developed, reviewed, or maintained for any application.This document explains how the vulnerabilities catalogued in ISO/IEC 24772-1:2024 “Programming languages -- Avoiding vulnerabilities in programming languages -- Part 1: “Language-independent catalogue of vulnerabilities” manifest in Fortran and documents mechanisms that can be used to avoid the vulnerabilities. |
| **PURPOSE AND JUSTIFICATION** (Please see ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top) and additional guidance on justification statements in the brochure [Guidance on New Work](https://www.iso.org/publication/PUB100438.html)) |
| This document is part of the ISO/IEC 24772 project and catalogues how vulnerabilities described in ISO/IEC 24772-1 apply to the Fortran programming language as well as avoidance mechanisms that can be applied by the Fortran development team.ISO/IEC 24772-1:2024, ISO/IEC TR 24772-2 (for programming language Ada) and ISO/IEC TR 24772-3 (for programming language C) are already published, with ISO/IEC 24772-2 and ISO/IEC 24772-3 being prepared for an update. This document provides a similar catalogue of vulnerabilities for the programming language Fortran. |
| **PROPOSED PROJECT LEADER** (name and email address) |
| Stephen Michell, convenor ISO/IEC/JTC 1/SC 22/WG 23 stephen.michell@maurya.on.ca |
| **PROPOSER** (including contact information of the proposer’s representative) |
| ISO/IEC/SC 22/WG 23, convened by Stephen Michell, stephen.michell@maurya.on.ca |
| [x]  | **The proposer confirms that this proposal has been drafted in compliance with ISO/IEC Directives, Part 1, Annex C** |
| **PROJECT MANAGEMENT** Preferred document

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| [x]  | International Standard |
| [ ]  | Technical Specification |
| [ ]  | Publicly Available Specification\* |

\* While a formal NP ballot is not required (no eForm04), the NP form may provide useful information for the committee P-members to consider when deciding to initiate a Publicly Available Specification.Proposed Standard Development Track (SDT – to be discussed by the proposer with the committee manager or ISO/CS)[x]  18 months [ ]  24 months [ ]  36 monthsProposed date for first meeting: 2024-12-10Proposed TARGET dates for key milestones* Circulation of 1st Working Draft (if any) to experts: Done
* Committee Draft consultation (if any): Nil
* DIS submission\*: 2025-03-09
* Publication\*: 2025-12-31

\* Target Dates for DIS submission and Publication should be set a few weeks ahead of the limit dates automatically determined when selecting the SDT.It is proposed that this DOCUMENT will be developed by:

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| [x]  | An existing Working Group, add title ISO/IEC/JTC 1/SC 22/WG 23 |
| [ ]  | A new Working Group Click or tap here to enter text. *(Note that the establishment of a new Working Group requires approval by the parent committee by a resolution)* |
| [ ]  | The TC/SC directly |
| [ ]  | To be determined |
| [ ]  | This proposal relates to a new ISO document |
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| [ ]  | This proposal relates to the adoption, as an active project, of an item currently registered as a Preliminary Work Item |
| [ ]  | This proposal relates to the re-establishment of a cancelled project as an active project |
| [ ]  | Other: Click or tap here to enter text. |

Additional guidance on project management is available [here](https://connect.iso.org/display/standards/Project%2Bmanagement).  |
| **PREPARATORY WORK**

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|[x]  A draft is attached |
|[ ]  An existing document serving as the initial basis is attached |
|[ ]  An outline is attached |
|  | Note: at minimum an outline of the proposed document is required |

The proposer is prepared to undertake the preparatory work required:[x]  Yes [ ]  NoIf a draft is attached to this proposal:Please select from one of the following options:

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|[ ]  The draft document can be registered at Preparatory stage (WD – stage 20.00) |
|[ ]  The draft document can be registered at Committee stage (CD – stage 30.00) |
|[x]  The draft document can be registered at enquiry stage (DIS – stage 40.00) |
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|[ ]  If the attached document is copyrighted or includes copyrighted content, the proposer confirms that copyright permission has been granted for ISO to use this content in compliance with [clause 2.13](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top) of ISO/IEC Directives, Part 1 (see also the [Declaration on copyright](https://www.iso.org/declaration-for-participants-in-iso-activities.html)). |

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| **RELATION OF THE PROPOSAL TO EXISTING INTERNATIONAL STANDARDS AND ON-GOING STANDARDIZATION WORK** To the best of your knowledge, has this or a similar proposal been submitted to another standards development organization or to another ISO committee?[ ]  Yes [x]  NoIf Yes, please specify which one(s) Click or tap here to enter text.[ ]  The proposer has checked whether the proposed scope of this new project overlaps with the scope of any existing ISO project[ ]  If an overlap or the potential for overlap is identified, the proposer and the leaders of the existing project have discussed on: 1. modification/restriction of the scope of the proposal to avoid overlapping,
2. potential modification/restriction of the scope of the existing project to avoid overlapping.

[ ]  If agreement with parties responsible for existing project(s) has not been reached, please explain why the proposal should be approvedClick or tap here to enter text.[ ]  Has a proposal on this subject already been submitted within an existing committee and rejected? If so, what were the reasons for rejection?Click or tap here to enter text.This project may require possible joint/parallel work with[ ]  IEC (please specify the committee) Click or tap here to enter text.[ ]  CEN (please specify the committee) Click or tap here to enter text.[ ]  Other (please specify) Click or tap here to enter text. |
| **Please select any UN Sustainable Development Goals (SDGs) that this proposed project would support** (information about SDGs, is available at [www.iso.org/SDGs](http://www.iso.org/SDGs))[ ]  GOAL 1: No Poverty[ ]  GOAL 2: Zero Hunger[ ]  GOAL 3: Good Health and Well-being[ ]  GOAL 4: Quality Education[ ]  GOAL 5: Gender Equality[ ]  GOAL 6: Clean Water and Sanitation[ ]  GOAL 7: Affordable and Clean Energy[ ]  GOAL 8: Decent Work and Economic Growth[x]  GOAL 9: Industry, Innovation and Infrastructure[ ]  GOAL 10: Reduced Inequality[ ]  GOAL 11: Sustainable Cities and Communities[x]  GOAL 12: Responsible Consumption and Production[ ]  GOAL 13: Climate Action[ ]  GOAL 14: Life Below Water[ ]  GOAL 15: Life on Land[ ]  GOAL 16: Peace, Justice and strong institutionsN/A GOAL 17: Partnerships for the goals |
| **Identification and description of relevant affected stakeholder categories** (Please see [ISO CONNECT](https://connect.iso.org/display/standards/Stakeholders%2Band%2Bliaisons))

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|  | Benefits/Impacts/Examples |
| Industry and commerce – large industry | Information Technology, technologies that depend on IT |
| Industry and commerce – SMEs | Information Technology, technologies that depend on IT |
| Government | Government programs that use IT, explicitly Fortran |
| Consumers | Click or tap here to enter text. |
| Labour | Click or tap here to enter text. |
| Academic and research bodies | Institutes that develp programs in Fortran |
| Standards application businesses | Click or tap here to enter text. |
| Non-governmental organizations | Click or tap here to enter text. |
| Other (please specify) | Click or tap here to enter text. |
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| **Listing of countries where the subject of the proposal is important for their national commercial interests** (Please see ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top), Clause C.4.8)North America (Canada, USA, MexicoEuropean countriesTechnology-using Asian countriesTechnology-using African countriesAustralia and New Zealand. |
| **Listing of external international organizations or internal parties (other ISO and/or IEC committees) to be engaged in this work** (Please see ISO/IEC Directives, part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top), Clause C.4.9)Click or tap here to enter text. |
| **Listing of relevant documents (such as standards and regulations) at international, regional and national level** (Please see ISO/IEC Directives, Part 1, [Annex C](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top), Clause C.4.6)ISO IEC 24772-1 |
| **ADDITIONAL INFORMATION****Maintenance Agencies (MAs) and Registration Authorities (RAs)**

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|[ ]  This proposal requires the designation of a maintenance agency.If so, please identify the potential candidate: |
|  | Click or tap here to enter text. |
|[ ]  This proposal requires the designation of a registration authority.If so, please identify the potential candidate |
|  | Click or tap here to enter text. |

NOTE: Selection and appointment of the MA or RA are subject to the procedure outlined in ISO/IEC Directives, Part 1, [Annex G](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top) and [Annex H](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top).**Known patented Items** (Please see ISO/IEC Directives, Part 1, [Clause 2.14](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top))[ ]  Yes [x]  NoIf Yes, provide full information as an annex**Is this proposal for an ISO management System Standard (MSS)?**[ ]  Yes [x]  NoNote: If yes, this proposal must have an accompanying justification study. Please see the Consolidated Supplement to the ISO/IEC Directives, Part 1, [Annex SL](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top) or [Annex JG](https://www.iso.org/resources/publicly-available-resources.html?t=712usHn2eATZXjtj0c3FIJ16gvWZXP-_fykOV8H1WAolmA84oAGBwILzOVFUEc46&view=documents#section-isodocuments-top) |