

1. Unified File Format (UFF) Maintenance Procedure

(endorsed by the WCO Technical Experts Group on Non-Intrusive Inspection on 3 November 2022)

1.1. Introduction

The Unified File Format (UFF) is a WCO-sponsored standard NII data format developed with the purpose to facilitate interoperability of different NII equipment provided by different manufacturers/vendors; to facilitate exchange of images in a unified file format within and between Customs administrations for Customs purposes; to facilitate the development of databases or libraries of images; and to assist in training of image analysts.

The development and maintenance of the Unified File Format (UFF) is steered by the WCO Technical Experts Group on Non-Intrusive Inspection (TEG-NII). The membership of the TEG-NII is open to all WCO Members and relevant NII Industry members. The TEG-NII acts under the overall direction of the Policy Commission, and reports to the SAFE Working Group. The TEG-NII meets once or twice a year. The Terms of Reference for the TEG-NII is available on the WCO website¹.

Being an international standard, changes to the UFF should follow a robust amendment procedure in order to ensure its quality, transparency and stability. The procedure needs to be underpinned by strong business needs to promote amendments to the standard and should primarily rely on Members' and NII vendors' consensus to reach decisions. This document describes the procedure for amending the Unified File Format on the basis of UFF Maintenance Requests. The purpose of this procedure is to provide a method whereby requests for changes, deletions, and/or additions to the UFF can be processed in a consistent, well-ordered and transparent manner.

The UFF encompasses a number of components. The table below lists the UFF components and states whether they are subject to the UFF maintenance procedure.

UFF component	Subject to WCO DM Maintenance procedure?
Dataset flow	Yes
File Structure	Yes
Versioning	Yes
File Artifacts	Yes
Miscellaneous Elements	Yes

As a general principle, the components of the UFF will be kept consistent with other international standards and norms (such as the WCO Data Model).

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http://www.wcoomd.org/WCO%20Working%20Bodies/Procedures_and_Facilitation/Technical%20Experts%20Group%20on%20NII

1.2. Definitions

UFF maintenance procedure	The formal procedure that needs to be followed to make amendments to the Unified File Format
UFF maintenance request	A request to change the Unified File Format components containing information on the person/entity submitting the request (originator); grounds must be given for the change request and the proposed change
WCO Members	Any Contracting Party to the Convention establishing a Customs Cooperation Council
Relevant NII Industry members	The NII vendors involved in Phase 1 and Phase 2 of the UFF Development Programme were: L3 (now part of Leidos), Nuctech, Rapiscan Systems AS&E, and Smiths Detection. At its 8 th Meeting in November 2021, the TEG-NII endorsed the requirements that NII industry members need to meet in order to become part of the UFF development initiative, as follows: i) NII manufacturers and significant NII systems integrators; ii) should be committed to integrating UFF and supporting its goals; iii) should have equipment in active use with WCO Members; iv) should have international sales; and v) be prepared to commit time and effort to develop the standard.
TEG-NII members	All WCO Members and relevant NII Industry members
UFF Development Team	A team comprising experts from the NII vendors involved in Phase 1 and Phase 2 of the UFF Development Programme - L3 (now part of Leidos), Nuctech, Rapiscan Systems AS&E, and Smiths Detection, supported by the Customs Co-Chairperson of the TEG-NII and the WCO Secretariat.
UFF Maintenance Virtual Steering Group	A steering group consisting of the NII Industry members involved in the UFF development and a relatively small number of technical experts from Members tasked by the TEG-NII to assess the UFF maintenance requests and estimate the technical effort and impact on existing and future equipment.

1.3. Versioning Policy

Following endorsement by the Customs Co-operation Council, the Technical Specification of the proposed unified X-ray file format for Non-intrusive Inspection devices – UFF 2.0 was published on the WCO website in June 2019².

In order to foster consistency, transparency and predictability of the UFF release cycle, the UFF Versioning Policy applies the following semantic versioning rule: UFF Version Major Release Number [n..2][dot] Medium Release Number [n..2][dot] Minor Release Number [n..2] Example : UFF Version 2.0.0; UFF Version 3.1.1.

² http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/nii-guidelines-2018/uff-2_0-technical-specification_en.pdf?db=web

1.3.1. Types of UFF Releases

1.3.1.1. Major Releases

Major releases (i.e. version changes) refer to releases that include major changes including but not limited to:

- Scope change;
- Inclusion of new procedures and operational areas;
- Incremental changes made over time that had resulted in the Version being substantively different from earlier releases, thus resulting in backward incompatibility in the structures;
- Deletion of data elements and new representation/format that affects the backward compatibility.

Major Releases should be backward compatible with earlier versions.

1.3.1.2. Medium Releases

Medium releases relate to the UFF's biennial maintenance process and include:

- New elements arising from approved maintenance requests;
- Amendments to data elements including:
 - Revised semantic definition;
 - New representation/format that does not affect the backward compatibility.

Medium releases are backward compatible with releases from the same version, e.g. Release 3.6.0 is backward compatible with Releases 3.5.0 and 3.4.0.

1.3.1.3. Minor Releases

Minor releases relate to changes that do not affect the substance of the medium and major release. Minor releases will clarify only the meaning of previously unclear text but shall not impose new meaning, or broaden the meaning beyond the original intent of documentation on the UFF.

Such changes may include:

- Typographical errors or page formatting issues;
- Minor refinements to the definition of data elements that do not affect the semantic meaning of the data element;
- Changes to the supporting documentation of the UFF that do not affect the syntax of the UFF.

1.3.2. Management of Different Types of UFF Releases

1.3.2.1. Major Releases:

- As major releases can have serious implications on the user base of the UFF, efforts towards a major release shall be undertaken only after discussions at the TEG-NII and formally agreed to as a decision of the TEG-NII to be approved by the SAFE Working Group. A changeover strategy must be formulated to support the Major Release.
- A major release must always be preceded by a formal announcement to all Members of the WCO, through the WCO website, or through written circular to all Member administrations, that clearly articulates the rationale for the change. The draft formal announcement will be prepared jointly by the UFF Maintenance Virtual Steering Group and the UFF Development Team.

1.3.2.2. Medium Releases:

- A medium release is expected every two years, to take into account the UFF maintenance requests that had been raised.
- The medium releases will be prepared by the UFF Development Team, based on the decisions of the UFF Maintenance Virtual Steering Group with regard to the respective UFF maintenance requests.
- The draft version of the Medium Releases shall be made available to TEG-NII participants at least 2 months prior to the publication date for quality checks.
 - During this process, Member administrations that had raised UFF maintenance requests and received approval by the UFF Maintenance Virtual Steering Group should check if their UFF maintenance requests have been correctly reflected under the new medium release. Member administrations are required to submit their responses to the Secretariat, indicating whether the UFF maintenance requests has been correctly reflected.
 - Should a Member administration indicate that its UFF maintenance request has been incorrectly reflected in the draft medium release, the Secretariat shall coordinate a process to identify the reason for the omission or error and work towards correcting it in a manner consistent with the decision that was made in the UFF Maintenance Virtual Steering Group.

1.3.2.3. Minor Releases:

- A minor release is made over the course of a medium release, in case delegates identify minor typographical errors, page formatting issues, or identify areas within the UFF Technical Specification that can be clarified through minor changes.
- The minor releases will be prepared by the UFF Development Team in consultation with the UFF Maintenance Virtual Steering Group.
- Minor releases must be used sparingly and only under specific conditions, to avoid perceptions of instability within an existing Medium Release. Changes that will result in a minor release should be batched, reviewed and agreed to in a session of the UFF Maintenance Virtual Steering Group so that there will not be too many minor releases over the expected 2-year life-cycle of the Medium Release.
- As minor releases would not be accompanied by a UFF maintenance request, a corrigendum containing a list of changes must be issued to document each minor release.
- When in doubt about whether the change would have a material impact on the substance of the medium release, the UFF Maintenance Virtual Steering Group shall require a UFF maintenance request to be made to effect the change and introduce such changes in medium releases.

The UFF Maintenance Virtual Steering Group agrees and reports to the TEG-NII for approval on whether a new version will be released as a major, medium or minor release.

With regard to the need for adopting UFF maintenance requests in a timely manner and for avoiding the release of significant changes in one single release, new medium-release versions of the UFF will be produced once every two years.

1.4. Procedures

UFF maintenance requests are processed in the following stages:

- Submission
- Preliminary review
- Presentation
- Review
- Decision
- Modelling
- Reporting
- Quality assurance
- Publishing

1.4.1. Submission

The following rules apply to UFF maintenance requests submissions:

1. All UFF maintenance requests must be submitted by the UFF Maintenance Request Originator through the WCO Secretariat using the UFF Maintenance Request form, appended to this document as Annex A. The UFF Maintenance Request form should be submitted electronically. Once received, the WCO Secretariat will submit the UFF Maintenance Request to all members of the UFF Maintenance Virtual Steering Group.
2. UFF maintenance requests need to be submitted four weeks prior to the date of the UFF Maintenance Virtual Steering Group meeting at the latest. UFF maintenance requests submitted after this submission deadline will be scheduled for discussion and, in that case, processed in the subsequent UFF Maintenance Virtual Steering Group meeting.
3. UFF maintenance requests could be originated by:
 - WCO Members;
 - NII Industry members associated with the TEG-NII;
 - third-party requests must be supported by a WCO Member;
 - the WCO Secretariat in exceptional cases.
4. WCO Members should submit their UFF maintenance requests five weeks prior to the date of the UFF Maintenance Virtual Steering Group at the latest. The WCO Secretariat will submit the UFF maintenance requests to the UFF Maintenance Virtual Steering Group four weeks prior to the date of the Virtual Steering Group meeting.
5. UFF maintenance requests originated by NII Industry members associated with the TEG-NII have to be submitted to the WCO Secretariat with an official letter sent to the WCO Directorate of Compliance and Facilitation six weeks prior to the date of the UFF Maintenance Virtual Steering Group meeting at the latest.
6. UFF maintenance requests originated by a third party have to be submitted to the WCO Secretariat with an official letter sent by a WCO Member to the WCO Directorate of Compliance and Facilitation six weeks prior to the date of the UFF Maintenance Virtual Steering Group meeting at the latest.
7. Originators have to use the most recent version of the UFF Technical Specification as the basis for submitting their UFF maintenance requests.

1.4.2. Preliminary Review

1. Members of the UFF Maintenance Virtual Steering Group verify the general validity, such as the accuracy and completeness, of the UFF maintenance request;
2. Members of the UFF Maintenance Virtual Steering Group provide feedback on the UFF maintenance request to the Originator via e-mail;
3. The Originator revises the UFF maintenance request based on the feedback received from the UFF Maintenance Virtual Steering Group;
 - o The Originator re-submits the revised UFF maintenance request to the Secretariat;
 - o The Secretariat re-submits the revised UFF maintenance request to the UFF Maintenance Virtual Steering Group.

1.4.3. Presentation

Each UFF maintenance request must be presented to the UFF Maintenance Virtual Steering Group at the first meeting of the Virtual Steering Group after submission of the UFF maintenance request; in each case, the relevant background, business needs and requested change must be explained by the UFF maintenance request Originator.

- o in the case of UFF maintenance requests originated by WCO Members, these can be presented by an authorized WCO Member on behalf of the Originator. The Originator must provide written confirmation to the Secretariat that the authorization has been given;
- o in the case of UFF maintenance requests originated by NII Industry members associated with the TEG-NII, these must be presented by the Originator.
- o in the case of UFF maintenance requests originated by third party and supported by a WCO Member, these must be presented by the supporting WCO Member.

1.4.4. Review

The members of the UFF Maintenance Virtual Steering Group are encouraged to comment on and ask questions relating to each UFF maintenance request, as required. The UFF Maintenance Request Originator or its authorized representative will be given the opportunity to present any additional information during the meeting that may assist the UFF Maintenance Virtual Steering Group with the overall assessment of the UFF maintenance request.

Any electronic comments that have been received from members of the UFF Maintenance Virtual Steering Group who are unable to attend will be noted. While these comments will be considered during the assessment process, the meeting will not be delayed or disrupted in order to receive, confirm, clarify, or otherwise determine the intent of the UFF Maintenance Request Originator with respect to the comments.

1.4.5. Decision

Following the review, the UFF Maintenance Virtual Steering Group agrees and assigns a status to the UFF maintenance request. Possible statuses and action options are:

- **Approved (A):** The UFF Maintenance Virtual Steering Group members in attendance agree that the original UFF maintenance request is valid, without modification, for inclusion in the next version of the UFF.
- **Withdrawn (W):** The Originator, or the authorized representative(s) responsible for the original UFF maintenance request, withdraw their application. The UFF maintenance request is removed from any further processing or consideration.
- **Rejected (R):** The UFF Maintenance Virtual Steering Group members in attendance reject the UFF maintenance request. The UFF Maintenance Virtual Steering Group will provide an explanation for the rejection and, when possible, provide an alternative solution. If an acceptable alternative solution cannot be reached, the UFF maintenance request may be assigned the code D (Deferred) at the request of the Originator or designated representative, pending resolution of the user requirement.
- **Deferred (D):** UFF maintenance requests will receive deferred status when the Originator or designated representative is unable to provide adequate answers to questions raised and cannot agree with changes recommended by the UFF Maintenance Virtual Steering Group. This status allows the Originator an opportunity to confer with its administration/organization in order to resolve any issues concerning the UFF maintenance request. A deferred UFF maintenance request should be resolved at the subsequent meeting of the UFF Maintenance Virtual Steering Group.

The decision on the approval of the UFF maintenance request should, as far as possible, be based on the consensus of the members of the UFF Maintenance Virtual Steering Group. In the absence of consensus, the majority of members of the UFF Maintenance Virtual Steering Group should support the request.

1.4.6. Modelling

Approved UFF maintenance requests will be modelled and incorporated by the UFF Development Team on the basis of the current version of the UFF which is to be included in the development of the next version.

1.4.7. Reporting

The UFF Maintenance Virtual Steering Group prepares a report for the TEG-NII containing the following information on all UFF maintenance requests reviewed or subject to review at the meeting of the UFF Maintenance Virtual Steering Group:

- WCO log number or sublog number;
- Final status (as of the end of the meeting);
- Comments – these should include any changes made to the UFF maintenance requests;
- Members of the UFF Maintenance Virtual Steering Group supporting the approval of the UFF maintenance requests.

1.4.8. Quality Assurance

The quality assurance is performed for the purpose of:

- guaranteeing the good quality of the UFF;
- eliminating potential errors and mistakes; and
- ensuring that all approved UFF maintenance requests have been incorporated correctly into the new version of the UFF.

The quality assurance process will take place prior to the release of a new version of the UFF. All TEG-NII members are encouraged to participate in the process by completing a QA Check Sheet and returning the Check Sheet to the WCO Secretariat. UFF maintenance request originators whose UFF maintenance requests are included in the new version of the UFF are obliged to contribute to the process.

1.4.9. Publishing

After finalization of the UFF production cycle, the Secretariat publishes the new version of the UFF Technical Specification on the WCO website.

1.5. Combined UFF Maintenance Requests Processing

A combined UFF maintenance request allows multiple related UFF maintenance requests to be included in a single submission. For the purpose of assessing a combined UFF maintenance request submission, all related UFF maintenance requests included in the combined submission should be treated as one UFF maintenance request, which can be either approved in its entirety or in part, or rejected in its entirety, by the UFF Maintenance Virtual Steering Group. If the decision reached is a partial approval, the combined UFF maintenance request will be divided into sections – one that is approved, and one that is withdrawn, rejected, or deferred. Provided it meets all the appropriate technical requirements, the approved portion of the UFF maintenance request will be applied and included in the next published version of the UFF. The other section of the UFF maintenance request (that was withdrawn, rejected or deferred) may be postponed or deferred until the UFF maintenance request can be processed satisfactorily and meet both user and technical requirements.

UFF Maintenance Request Forms Format

Introduction

The following formats are provided in order to identify the necessary data required from the Originator, depending on the nature of the UFF maintenance request.

The first page of the form is common to all UFF maintenance requests. It includes the basic details that describe the specifics of the UFF maintenance request and the grounds for its submission. This page, including all mandatory fields, must be submitted for all UFF maintenance requests.

Electronic UFF maintenance request submissions are preferred. When submitting a UFF maintenance request in electronic format, convert all UFF maintenance request pages into one electronic file.

UFF Maintenance Request Form (common to all types of request)

WCO log:	
Date:	
User ref. (*):	
User date :	

Originator (*):	
Contact person (*):	
E-mail (*):	
Phone (*):	
Data set (*):	
Attached documentation:	
Business need/grounds (*):	The reason why the Originator has asked for the UFF maintenance request.

(*) Mandatory fields; information to be provided by the Originator

Explanations for completing the UFF Maintenance Request forms

WCO log: (assigned by WCO)	“WCO log number” assigned to the UFF maintenance request (e.g. UFF-02-0001)
Date : (assigned by WCO)	Date the UFF maintenance request was logged by the WCO (e.g. 2022-08-11) (YYYY-MM-DD)
User ref.:	Reference allocated by the Originator at the time of UFF maintenance request completion
User date:	Date allocated by the Originator at the time of UFF maintenance request completion (YYYY-MM-DD)
Originator:	Name of requesting Customs administration or NII Industry member or the WCO Secretariat
Contact person :	Name of person in charge in respect of this UFF maintenance request at the requesting Customs administration or NII Industry member or the WCO Secretariat
E-mail:	E-mail address of contact person
Phone:	Phone number of contact person
Section of the UFF Technical Specification (TS)	The section of the TS to which the UFF maintenance request refers
Attached documentation	If any documentation is attached it should be indicated here