

Paper for Consideration by S-101PT

Optimum Display Scale in S-101 Edition 1.2.0

Submitted by:	Scales Sub-Group Lead
Executive Summary:	This paper explains how attribute Optimum Display Scale has been incorporated in S-101 Edition 1.2.0 and suggests a way forward to 2.0.0.
Related Documents:	S-101 PS, (including DCEG and FC)
Related Projects:	S-101

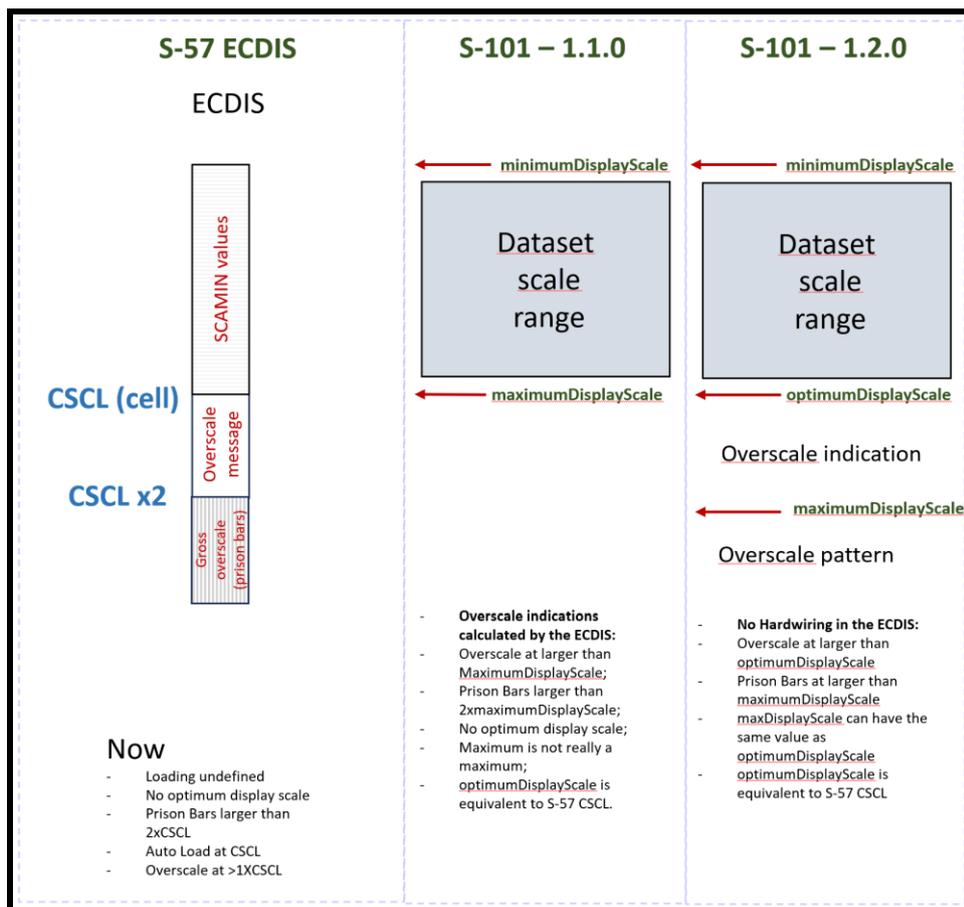
Note : the track changes were applied to the original paper after the Scales Sub-Group meeting that was held on 28 February 2024.

Introduction / Background

1. The concept of Optimum Display Scale has been introduced in S-101, Ed. 1.2.0. This concept brings major changes in the data model and may have an impact on the way HOs construct their S-101 ENC schemes.
2. Feedback received so far from HOs shows very different points of view on the current guidance, although no real testing has taken place, due to the late availability of 1.2.0 FC and subsequent tools.
3. The intent of this paper is to:
 - Explain the current guidance relating to Optimum Display Scales;
 - Identify the arguments in favour and against this concept;
 - Suggest a way forward towards S-101 Ed. 2.0.0.

Analysis/Discussion

4. The impact of the inclusion of **Optimum Display Scale** in S-101 Ed. 1.2.0 is as follows:



5. Definitions in 1.1.0 and 1.2.0

Maximum Display Scale	Ed. 1.1.0	The maximum (largest) scale with which the data is intended to be displayed.
	Ed. 1.2.0	The value considered by the Data Producer to be the maximum (largest) scale at which the data is to be displayed before it can be considered to be “grossly overscaled”.
Minimum Display Scale	Ed. 1.1.0	The minimum (smallest) scale with which the data is intended to be displayed.
	Ed. 1.2.0	The minimum (smallest) scale with which the data is intended to be displayed.
Optimum Display Scale	Ed. 1.1.0	/
	Ed. 1.2.0	The maximum (largest) scale with which the data is intended to be displayed. NOTE: Optimum Display Scale may be considered to be the compilation scale for the data, and is the reference for the overscale indication. When the Mariners Selected Viewing Scale (MSVS) is set to a scale that is larger than Optimum Display Scale, this triggers the overscale indication in the end user system.

6. Arguments in favour of **Optimum Display Scale**:

- ODS brings some flexibility to the data producers as they can determine (based on the source data) the scale at which the overscale pattern is shown.
- In terms of terminology, it is not logical to have a Maximum Display Scale, and then allow the mariner to zoom x2 from this scale. Optimum Display Scale is more in line with S-57 Compilation Scale.

7. Arguments against **Optimum Display Scale** (ODS):

- There has been no complete proposal on ODS made to the S-101PT. The decision at S-101PT11 was to introduce ODS for testing purposes. This is not mentioned in Edition 1.2.0 and some HOs may see this change as definitive;
- Is the “flexibility” really needed/wanted by the HOs? (will they vary from the current S-57/5-52 rule?);
- During the dual fuel period, there could be differences on the ECDIS triggering of overscale pattern at different MSVS) depending on the format of the ENC (S-57 VS S-101);
- Maximum Display Scale will have to be populated manually by HOs for every Data Coverage feature and this is an additional workload;
- Having the scales that trigger ECDIS overscale and pattern in the data is a radical change from S-57/S-52 and this needs to be made consistent with S-98 (refer to AU paper https://iho.int/uploads/user/Services%20and%20Standards/S-100WG/S-101PT11/S-101PT11_2023_08.7_EN_Overscale_in_ECDIS_V2.pdf)

Options

Given the fact that no testing of ODS concept has been carried out since S-101 PT11 (absence of FC and subsequent tools), the following options exist:

- A – Keep the guidance as it is (with ODS) and elaborate a testing plan in order to reach to an agreement (complete guidance) much in advance of S-101 PT13;
- B – Remove ODS from the data model as it is (roll back to 1.1.0 guidance with two scales in the data);
- B1 – Roll back to 1.1.0 guidance, but replace **Maximum Display Scale** by **Optimum Display Scale** (terminology change only).

Scales Sub-Group meeting 28 February 2024

In order to avoid long discussions during S-101PT12 – Session 2 on 7 March 2024, the S-101 Scales Sub-Group had a meeting to agree on recommendations for the S-101 PT.

Presentations from the UK, Australia and Denmark (in association with Sweden and Finland) were followed by a discussion on the way forward.

The Sub-Group agreed on the following recommendations:

Recommendations

The S-101 Scale Sub-Group recommends:

- Apply Option A for S-101 Edition 1.3.0;
- Take an action to find volunteers for:
 - ✓ providing complete sets of test datasets;
 - ✓ testing ODS, as well as the loading strategy and Data Display Algorithm as implemented in NIWC ShoreECDIS_1.6.0.0;
 - ✓ providing feedback to the Sub-Group.
- (Post 28 Feb. meeting): Replace **Optimum Display Scale** by **Maximum Display Scale** in the loading algorithm to be in line with NIWC ShoreECDIS 1.6.0.0;
- AU proposal: Review the loading strategy so that a dataset is shown up to **Minimum Display Scale -1** (this will allow a product to be loaded at **Optimum Display Scale**);
- S-101PT members are invited to provide comments on Issues #71 and #101 and on the “Documentation and FC Github (<https://github.com/iho-ohi/S-101-Documentation-and-FC>).

Action Required of S-101PT

The S-101PT is invited to:

- a) Discuss this paper;
- b) Agree on the recommendations.