

SPAWAR S-100 Testbed Report

Presented by SPAWAR

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S-100 Testbed Development

Current viewer available on Basecamp

Supports XSLT and Lua based portrayals

S-101 Lua portrayal catalogue available on
Basecamp

S-100

Lua Portrayal Documents

Completed S-100 Part 13 (Lua Based Scripting)

- Adds generalized scripting support to S-100
- Updated S-100 Viewer to support scripting functions

Completed S-100 Part 9A (Lua Based Portrayal)

- Uses Part 13 to implement portrayal rules
- Updated S-100 Viewer to support drawing instructions

S-100 Testbed Phase 3

SPAWAR S-100 Viewer

Feature Catalogue Browser

Encoded Dataset Browser (tabular)

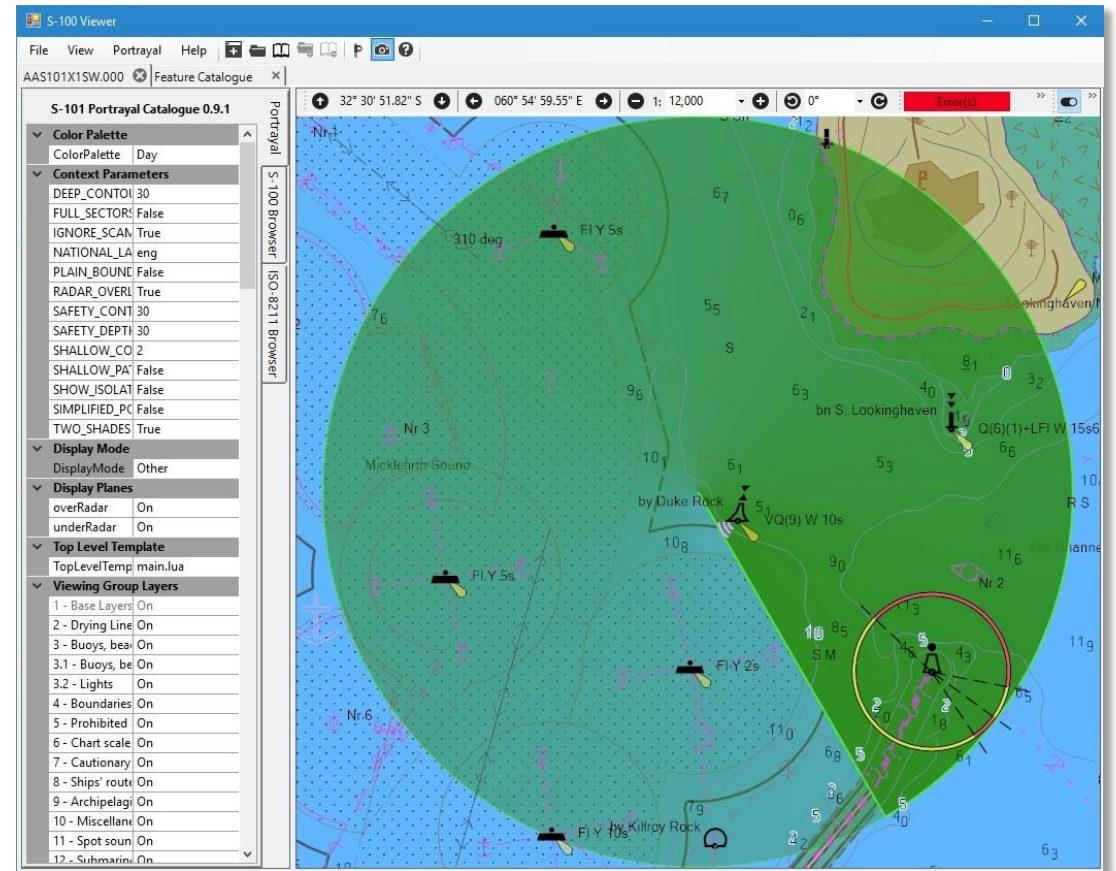
- ISO-8211, GML (future), HDF5 (future)

S-100 Dataset Browser (tabular)

- Encoded dataset -> S-100 general data model
- Validates against feature catalogue

Portrayal

- XSLT and Lua
- Interact with settings exposed by portrayal catalogue
- Monitor size calibration
- Zoom / Pan / Rotation
- Mercator / Lambert Conformal / Polar Stereographic



SPAWAR S-100 Viewer

Version 1.5.0.0 changes

- Lua portrayal catalogue implementing S-52 equivalent portrayal using Part 13 and Part 9a
 - Added context parameters IGNORE_SCAMIN, NATIONAL_LANGUAGE
 - Text is only displayed when associated feature is displayed
 - Other minor changes
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SPAWAR S-100 Viewer

Lua Portrayal

Optimizations supporting analysis of performance issues discussed at TSM 5

- Modified portrayal output schema (drawing instructions) to enhance performance
- Modified to better support pre-generated portrayal
- Implemented simple portrayal cache
- No rendering optimizations

S-100 Testbed Report

Recommendations for S-101 v1



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Recommendations for S-101 v1

S-101 DCEG

- Add *marksNavigationalSystemOf* attribute to *LocalDirectionOfBuoyage* feature
- Update feature catalogue
- Update dataset converter
- Update portrayal

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Recommendations for S-101 v1

S-101 Feature Catalogue

- Fix validation issues
- Add missing information associations
(*spatialQuality*, *additionalInformation*)
- Add missing / fix incorrect *alias* elements

S-100 Testbed Report
Recommendations for S-101 v1

S-101 Dataset Converter

- Support changes to the DCEG / FC, including change to *LocalDirectionOfBuoyage*
- Create S-101 exchange set / catalogue from CATALOG.031

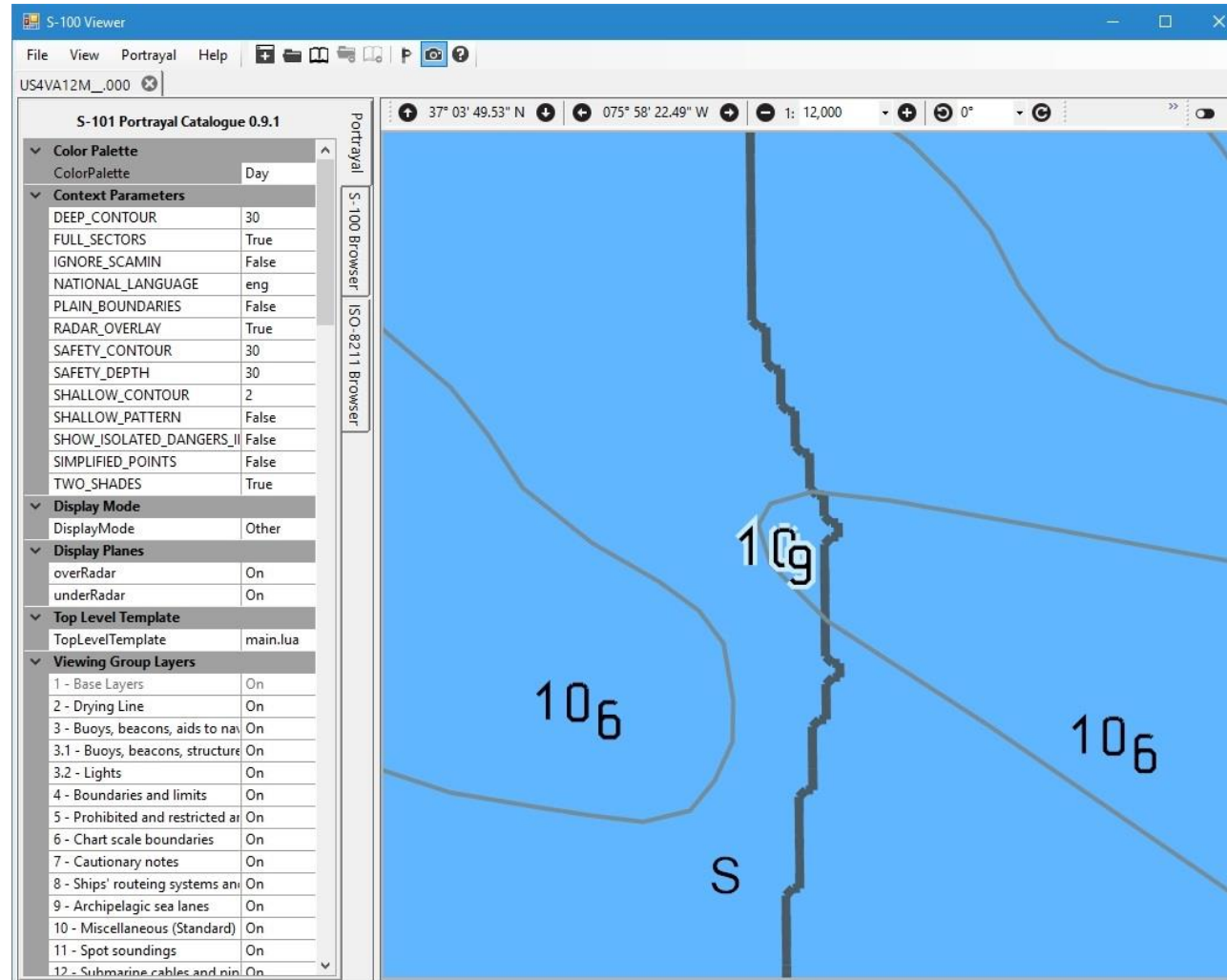
S-100 Testbed Report
Recommendations for S-101 v1

S-101 Portrayal Catalogue

- Update for DCEG / FC changes
- Update SAFCON5X symbols
- Complete portrayal of *LocalDirectionOfBuoyage* when updated FC is provided

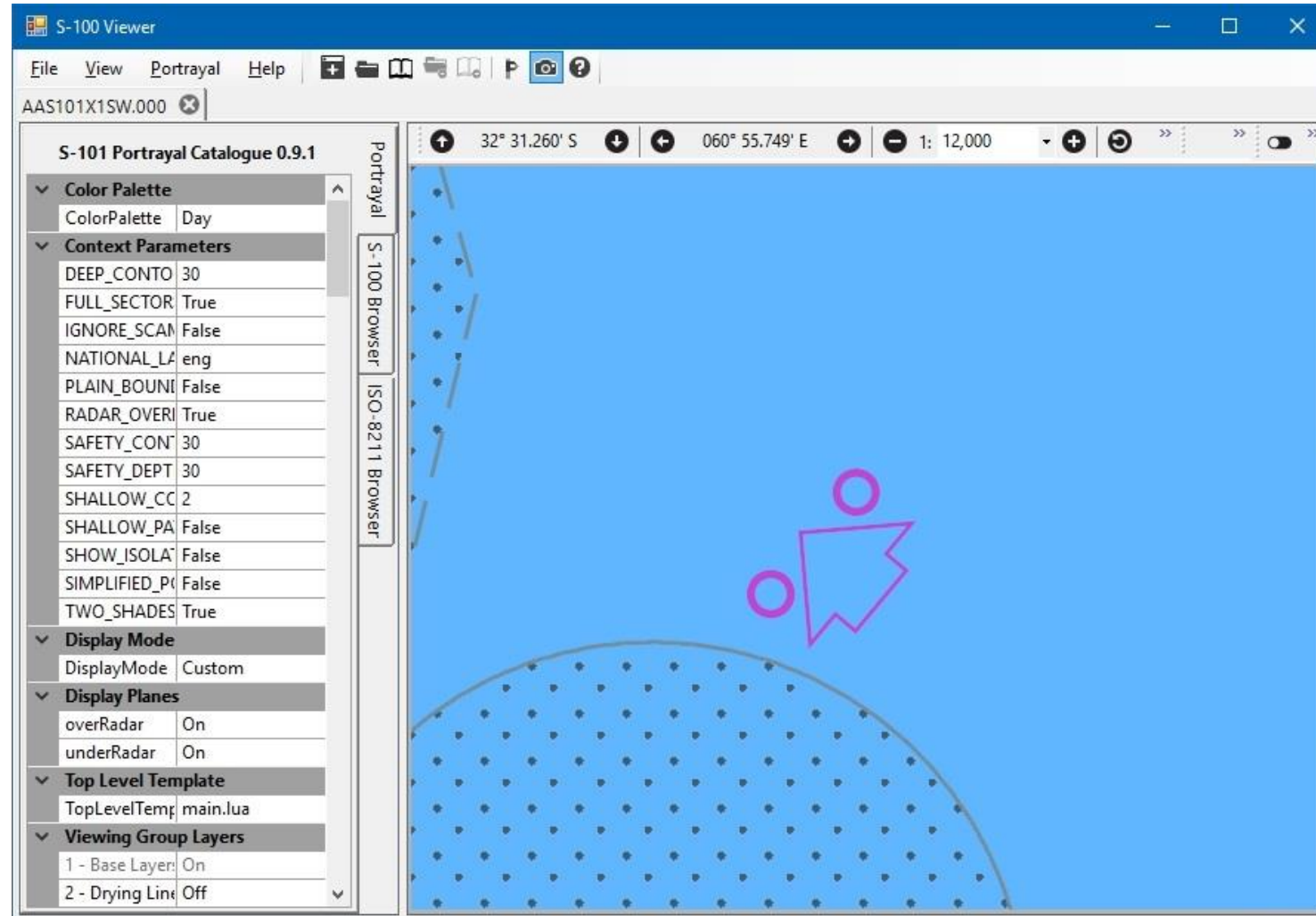
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SAFCON5X Symbols



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LocalDirectionOfBuoyage



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Recommendations for S-100 v5 / S-101 v2



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Recommendations for S-100 v5

S-100 Document

- Provide for portrayal of date dependent features
 - SY(CHDATD01)
 - S-52 “Display Not Real Time” requirement
- Provide guidance on implementing palette changes for SVG symbols

S-100 Testbed Report

Date Dependent Portrayal

Issues apply to Lua and XSLT

- Current portrayal requires regeneration whenever a date dependent selector is changed
- Products may require users make frequent changes to date selectors

Implementing Date Dependent selector(s) poses challenges

- Selector must be able to represent:
 - A mariner selected date, such as the current date
 - A date range

There is no way to specify the following as default values for context parameters

- The current date and/or time
- The date and/or time of creation or modification

S-100 Testbed Portrayal Issues

Date Dependent Portrayal

Granularity of “Date” context parameter may be insufficient

- Granularity of one day
- Future products may require more granularity
- Consider required granularity

Part 9 context parameter enumerated type “Date” is unclear

OPTIONS:

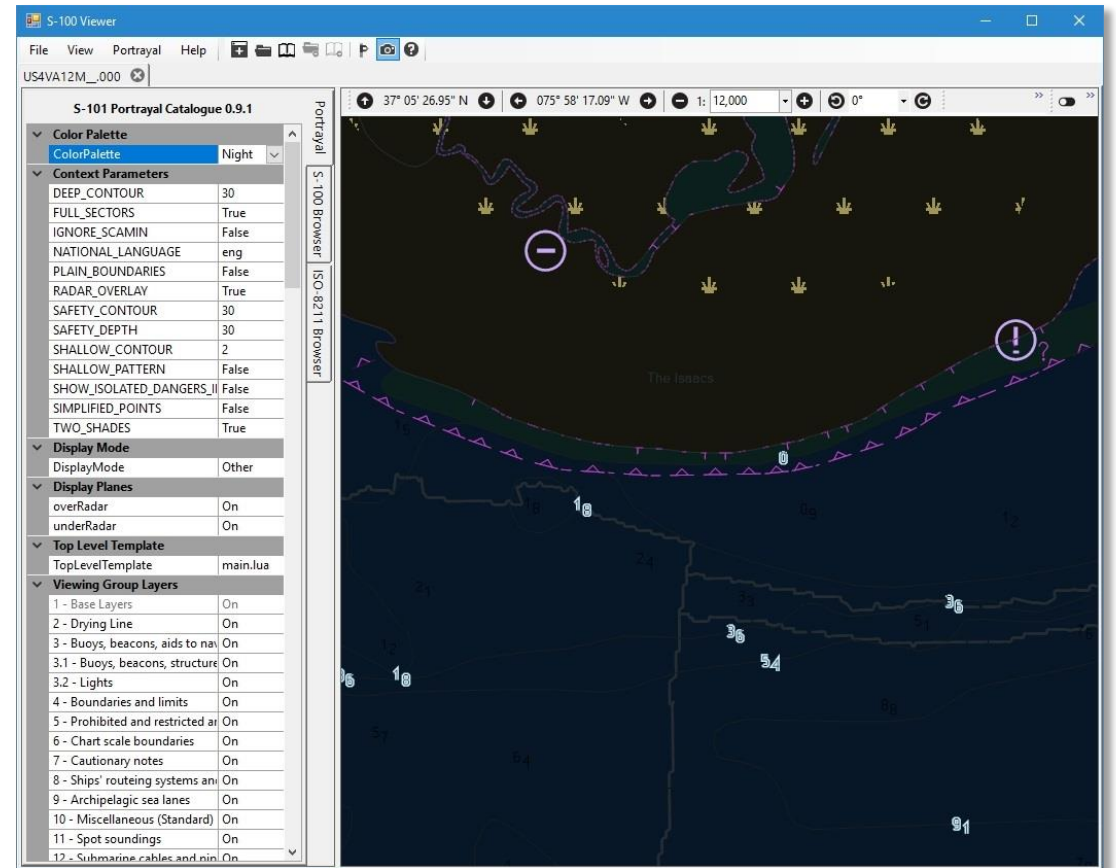
- Reference an ISO or S-100 date type in enumeration comments
 - S-100 4a-5.6.4 “Data and Date Time Information”
- Provide a context parameter type capable of expressing a date or date range in a standard format
- Provide date / date range in the drawing instruction(s) (similar to line suppression) so that portrayal does not require periodic regeneration

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SVG Symbol Palette Support

SVG symbol colour palettes

- How to change?
- S-100WG2-8.9 item 6



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Recommendations for S-101 v2

S-101 Document

- Note manufacturer portrayal requirements
 - Overscale pattern
 - Chart scale boundaries
 - Update review (highlight modified features)
 - Non-HO (Non-ENC) Chart Information
 - No Data Areas
 - Date dependent?

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Manufacturer Portrayal Requirements

Manufacturer should generate drawing instructions and render along with the portrayal output

- Overscale Pattern: requires knowledge of display scale and mariner intent (intentional overscale).
- Scale boundaries: requires knowledge of dataset visibility, adjacency, and display scale.
- Chart Updates: Requires knowledge of manual / automatic updates.
- Non-HO (Non-ENC) Chart Information: Requires knowledge of manufacturer specific implementation.
- No Data Areas

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Recommendations for S-101 v2

S-101 Portrayal Catalogue

- Develop and provide missing symbols
- Support portrayal of date dependent features
- Emit highlight symbols based on value of *NauticalInformation*
- Provide a viewing group layer for highlight symbols (highlight info, highlight document)

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Missing Symbols

BuoyEmergencyWreckMarking

CollisionRegulationLimit

DiscolouredWater

OffshoreWindTurbine

PhysicalAisAidToNavigation

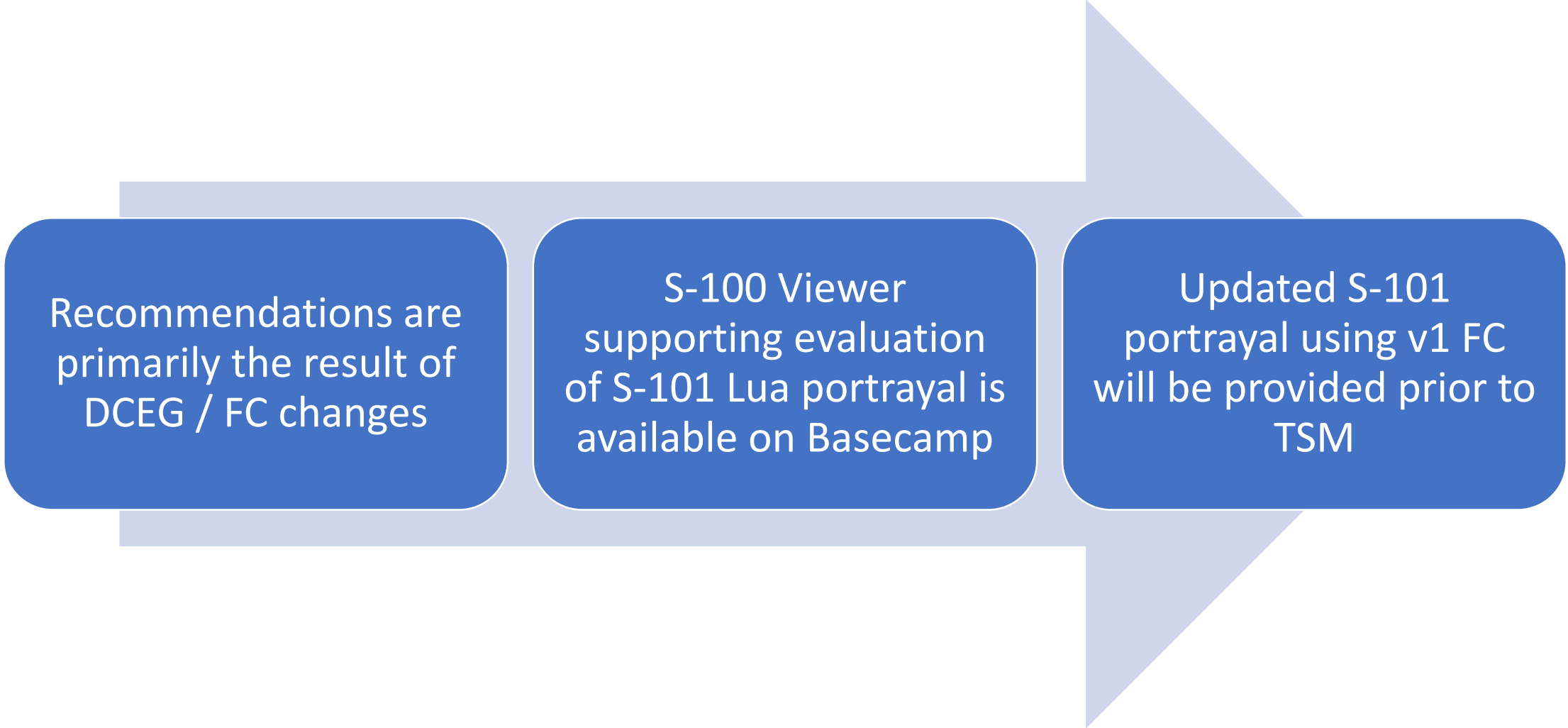
PilotageDistrict

textPlacement

VesselTrafficServiceArea

VirtualAisAidToNavigation

Conclusion



Recommendations are primarily the result of DCEG / FC changes

S-100 Viewer supporting evaluation of S-101 Lua portrayal is available on Basecamp

Updated S-101 portrayal using v1 FC will be provided prior to TSM