



Operational service implications of S-128 and possible impacts on its design

WENDWG13-06.2A

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- At HSSC14, NIPWG reported that discussions during development and WENDWG12 has highlighted the need to clarify the **vision for how S-128 will be utilized by stakeholders** (data producers, RENC, VAR, users, PSC, etc).
- HSSC advised **NIPWG to liaise with S-100WG** on issues identified regarding responsibility of stakeholders in producing and distributing S-128 and for NIPWG to provide an input paper to WENDWG13.
- At NIPWG9, a few participants reported that they were setting up testbed projects to test S-128 and evaluate operational impacts



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Open questions that must be answered to establish the operational use of S-128

Questions that need to be resolved;

- Who must provide the S-128 service realizing that some S-100 based services are real time or near real time services.
 - The use of S-128 is both for general discovery purpose and for up-to-dateness in user system.
- It may not be possible to combine the two main categories of S-128 in one service.(Navigational/Other use)
 - What are the implications of such a service considering S-100's intended universal use?
 - What are the added workload implications on service providers?
 - It needs to be decided in a clear way so that data producers know the expectations placed on them.



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Open questions that must be answered to establish the operational use of S-128

Questions that need to be resolved;

- Multiple government agencies may be involved in the S-100 service provisions, while in the S-57 service provision it was usually only the hydrographic office/RENC that was involved.
- It may be unrealistic to expect all producers to generate S-128, but maybe a national service is needed.



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Open questions that must be answered to establish the operational use of S-128

Questions that need to be resolved;

- The need of clearly identifying stakeholders, their roles and responsibilities, as well as processes involved in S-128 services to inform stakeholders of any responsibilities in ensuring a well-functioning S-128.
 - May be solved by a general system architecture that is general enough to tell the 'story' so that stakeholders see themselves in the 'story' and recognize any responsibilities. The paper includes the beginning of such an architecture, but it needs more work.



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Open questions that must be answered to establish the operational use of S-128

Questions that need to be resolved;

- There is an expectation that a significant number of stakeholders will be non-hydrographic office government organizations. The traditional means of data product distribution may not be a natural fit for these organizations.
- Some strategy needs to be developed to help communication and education of new types of data producer organizations, and the proposed architecture may be part of the way to solve this challenge.



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Early version of a S-128 service architecture.

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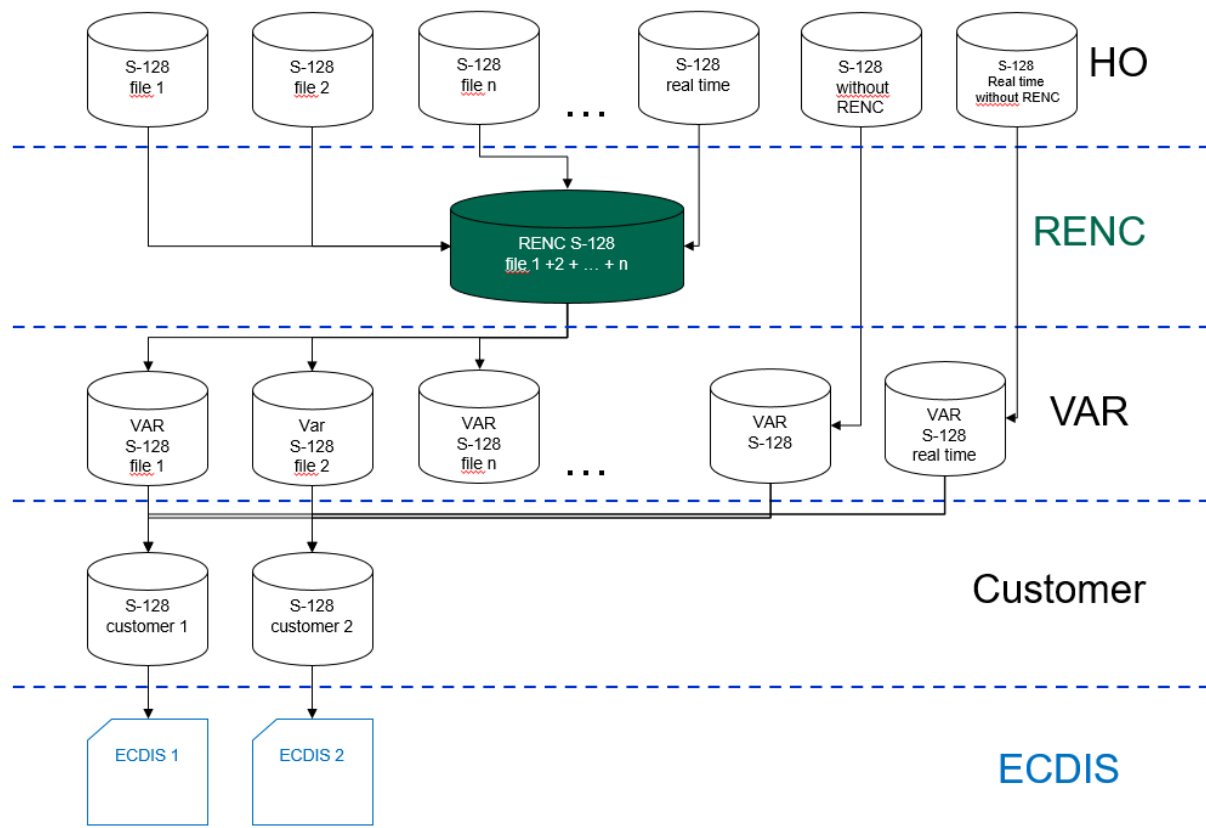


Diagram notes to consider;

- The exchange between the different stakeholders will most likely be at a **M2M level, and humans may not be involved beyond setting up the rules.**
 - **Non-MS & Non-HO data producers are missing.**
 - The RENC concept had many challenges in the beginning.
 - HO's or any other data provider may produce 1..n S-128 files.
 - **The provision of real-time data must be considered.**
 - Direct end user distribution of S-128 should be considered as an option.
 - S-128 products may be provided to the responsible RENCs or VARs.
 - RENCs compile the individual S-128 into one big data package noting that real time data might be provided differently.
 - VARs grab the full producer S-128 package or S-128 provided directly, merge them to one integrated S-128 product and split its dataset afterwards into individual products, which will be forwarded to individual users and their ECDIS systems.
- Real time data might need to be provided differently.



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Conclusions

- There are several questions that need to be answered.
- There are a few testbeds underway by various stakeholders. These may be leveraged to help answer some of the outstanding questions.



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Action required of WENDWG

- Note this paper
- Note Annex A – S-128 Service Provision Implications and provide feedback to NIPWG
- Consider the appropriateness of a joint NIPWG/S-100WG paper on the operational use of S-128

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