

12th CHRIS MEETING
Valparaiso, Chile, 23-25 October 2000

STATUS REPORT ON VIRTUAL RENC DEVELOPMENT IN THE MBSHC AREA
(by Rosario La Pira, Italy)

Background

In 1999 during XI MBSHC, Italy proposed the establishment of a Virtual RENC for the MBS region. The Conference then decided to task Italy to prepare a technical proposal of a MBS VRENC for MBS. The Italian technical proposal was delivered to MBSHC MS, associate members and Observers for comments. All the comments welcomed the proposal and gave some good suggestions to optimize the proposal. The comments identified also the need for a round table discussion on the meter before the redraft of the proposal and for this reason a MBS VRENC ad hoc meeting has been arranged for 9th November 2000 in Trieste, following the Meda Project meeting.

The MBS VRENC proposal has been presented during the 5th WEND Committee meeting and 2nd EIHC as part of the RENC workshop.

SUMMARY OF THE PROPOSAL

Mediterranean and Black Sea Situation

- Mariners require quality and up-to-date ENC data and relative services at the earliest possible date to assist safe navigation;
- Some MBSHC member states have already begun or are beginning to develop national ENC portfolios, but have not yet addressed issues of regional harmonization and distribution;
- Other MBSHC member states have expressed the need for economic and/or technical support in launching their own ENC development programs;
- The Private Sector has proven to be a reliable source of economical, efficient and effective products and services for the generation, management and distribution of ENC data;
- The Mediterranean and Black Sea region presents a number of geo-political differences which require on-hand attention and local representation to effectively manage such;

The Italian Virtual RENC proposal for the Mediterranean area

The main aim of the VRENC project is to produce a prototype delivery service which is capable of being expanded into a full commercial network supporting the three actors involved in the overall process:

- Producers (HOs),
- Distributors (private manufacturers, HOs, etc),
- Users (Mariners, land based VTS, etc).

Approach

To provide a firm basis for real future operations the planned development is based on commonly available transmission media, and international standards wherever they exist. Details of how this can be done will be defined by the relevant VRENC working groups.

The proposed delivery system is in harmony with IHO/WEND principles, in which HO's provide ENC data and updates to the regional database, in this case virtual because established through a digital network link of HO's single databases, which can then serve as the basis for distributors to provide data to ships. In this regional instance it shall be defined and developed under the aegis of the MBSHC, taking advantage of the established cohesion and synchrony derived from successful regional hydrographic programs.

VIRTUAL to emphasize that its aim IS NOT the creation of independent physical infrastructures, but rather to extend and strengthen cooperation within the regional hydrographic community, dedicated to coordinating and assisting participating HO's in the field of ENC related activities.

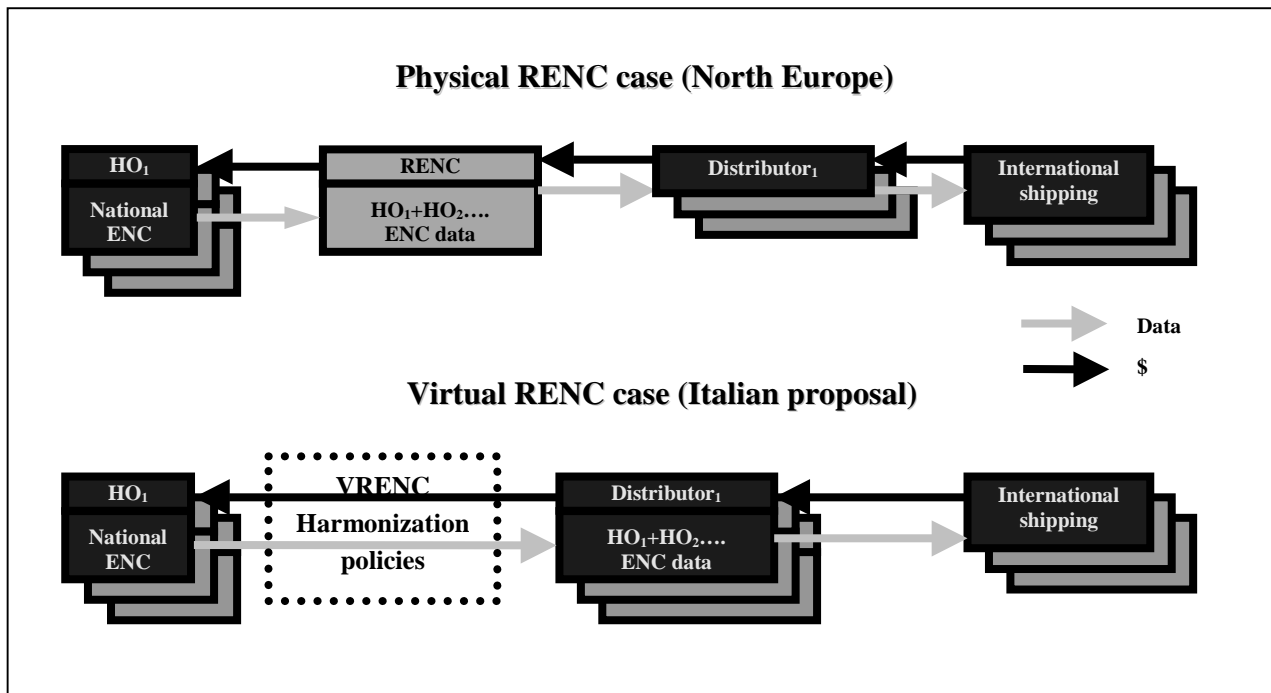


Figure 1 - basic structure of VRENC in relation with physical one

VRENC development is based on the following key elements:

- Independent national ENC management systems, and ENC's themselves, may be easily constituted by using existing data production and management technologies,
- From such national systems a complete regional ENC database could be established and harmonized via Virtual RENC policies for coverage responsibility, quality assurance, approval and maintenance.
- The VRENC development proposal ensures both integration with and recycling of current data from National HO's with no loss of past and current investments. This may include the use of direct survey data, current paper and/or raster chart output for vector ENC production. Where useful, other historical data may also be recycled for ENC production and/or maintenance purposes.
- Private sector specialists exist to help ensure national and international distribution of HO's' data (including updates) in a controlled and efficient manner, which eliminates the necessity for the VRENC to become burdened with commercial bureaucracy and high costs while providing revenues back to member States in terms of royalties.
- The VRENC should eventually direct international funds into projects which finance training HO personnel, support national ENC development programs, and generally enable each participating HO to contribute to the VRENC's objectives.

Tasks

The VRENC will empower member States to achieve the following results:

- creation of homogeneous ENC scale levels, based on the S-57 v3.0 cell structure, via interim product generation and gradual data upgrading programs.
- perform inter-regional datum harmonization and edge matching to obtain truly seamless cartography across national data sets.
- implement real-time updating of the resulting data sets, via synchronized maintenance between National HOs.
- permit national HOs to achieve real-time distribution to the widest possible range of applications - navigation and other - via private sector specialists.
- generate royalty revenue and product improvement feedback from distribution activities.

Means

The essential criterion of being cost-effective and free of bureaucratic deadweight dictates the use of available and proven resources, in terms of both the minimal infrastructure and the technical tools / expertise to be employed.

Establishment of the VRENC includes the following elements:

- knowledgeable coordination and training resources within the region.
- An operational scenario for the harmonized development of needed technologies at all participating HOs, and/or functional inter-HO partnership programs for assisting those HOs who cannot currently execute such development on their own.
- Determination of ENC development responsibilities amongst regional HOs.
- Support HOs in the collection, harmonization and maintenance of ENC data over the region, including the establishment of a virtual ENC database, linking the region's HOs via a digital network.
- HOs supply of harmonized and up-to-date ENC data to private sector distribution specialists.
- targeted training programs to prepare HOs for full-fledged ENC development activities.

The overall process to achieve the ENC availability can be so schematized:

1. Collection of ENC source data,
2. Production
3. quality control
4. validation and official release
5. distribution

The only steps that the national HO can not delegate are 1 and 3, for the other it's up to each HO to decide his participation and the support needed.

The MBSHC should establish the ENC coverage in order of priority. The VRENC should coordinate the support requirement for:

- technical assistance (addressed also to other MS)
- funding assistance.

The VRENC will seek to synchronise and ensure collaboration, and actually contribute the building knowledge as well as resources as possible.

Constitution and Organization

The VRENC will be constituted and achieve its goals and objectives via the following organization and resources:

- The VRENC Committee;
- The President;
- Coordination resources;
- Training resources.

The VRENC Committee

The MBSVRENC is overseen by a dedicated "VRENC Committee" within the Mediterranean and Black Sea Regional Hydrographic Commission. This committee is made up of those member States who have adhered to the VRENC by signing the "Mediterranean and Black Sea Virtual RENC: Memorandum of Understanding".

Upon signing the MOU, the VRENC Committee shall:

- Define and approve a statute
- define VRENC policy
- appoint a President from one of its member HOs,
- assign coordination responsibility to a member HO
- identify appropriate training resources.

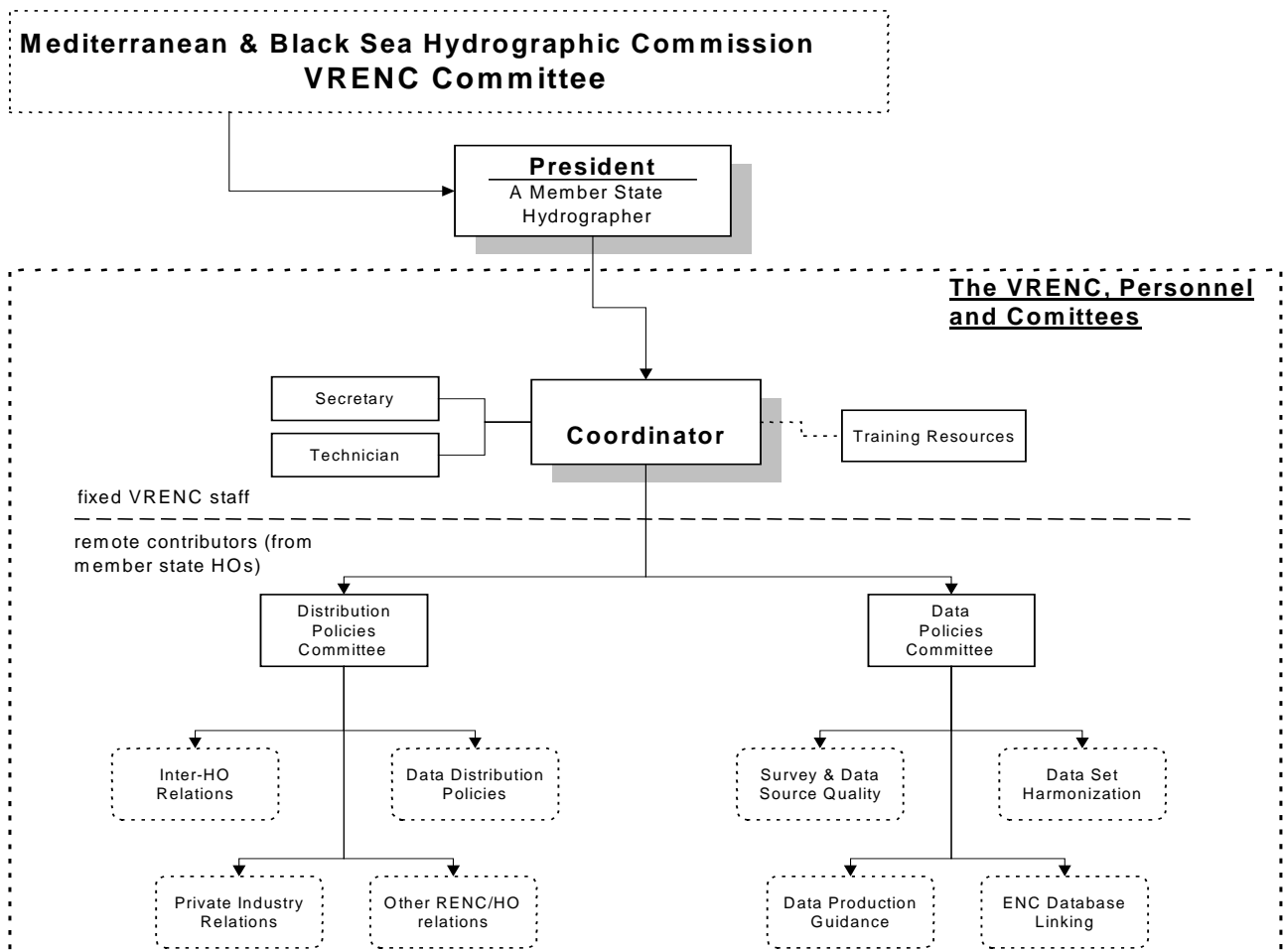


Figure 2 - VRENC Organization

Notes on funding

The VRENC is intentionally designed to require minimal economic resources in order to fulfill its primary objectives of coordination and harmonization.

Priority and Source of funding

Given the pan-regional objectives of the VRENC, and considering the varying ability of different HO's within the region to contribute economically, it is a fundamental objective to avoid or at least reduce the requirement of funding from member HO's. Such shall be achieved by seeking funds outside the pool of member HO's, and by prioritizing VRENC activities in a cost effective manner.

Ideally, the majority of VRENC funding should therefore be achieved via 3rd parties – governments, international organizations and bodies who habitually make resources available for such developmental initiatives (ie: World Bank, EC, regions, etc...) – and in any case reducing the effect on member HO budgets. However should such 3rd party support be either unavailable or insufficient for VRENC requirements, member States will directly accomplish specific VRENC activities and share the results.

As noted on more than one occasion in this document, priority will always be given to pursuing those activities which meet the primary objectives of the VRENC and require minimum economic investment. All other activities, not directly pertinent to the basic coordination and harmonization, will be pursued only in if funds are available in surplus with respect to the requirements of primary objectives.

Conclusion

The Virtual RENC must be as remote as possible and maintain an agile structure centered on the technical, rather than the commercial aspects. Its objective is simply that of acting as a catalyst for the creation and distribution of a comprehensive coverage of ENC data sets of the Mediterranean and Black Sea.

The VRENC is defined "Virtual" because it is not a physical entity with extensive facilities and staff. It is rather a permanent body whose mission is to support the region's HO's to cooperate in the most effective manner possible. Therefore the VRENC will be supported by a small bureau, but it will pursue its objectives mainly by means a few key committees with a number of small, temporary working groups. Its basic principles are outlined below:

The Virtual RENC will:

- take responsibility for harmonizing and defining the conterminous national data-sets of the region;
- take responsibility for harmonizing the ENC marketing policy of the countries of the region;
- assist the participant countries with the technology and the resources required to create and maintain the ENCs and the linked database of the region.
- support participant HO's and the private sector in pursuing the most effective and efficient means for functional ENC data distribution.

The Virtual RENC will NOT:

- become directly involved in the distribution of the ENCs to service providers or in its actual management of the data sets;
- become involved in the financial aspects, with its accounting burden, of the sales of data and licensing other than in an advisory position;
- Take over HO's national ENC production and management.