



CDI buffer harvesting – machine to machine service

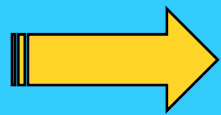
By

Dick M.A. Schaap – Technical Coordinator

**Brest - France, 17 September 2015,
SeaDataNet Plenary Meeting**

Discovery and harvesting of data sets for regional product groups

- SeaDataNet II project is generating T&S products per sea region
- EMODNet Chemistry 2 project is generating products for nutrients and contaminants per MSFD sea region



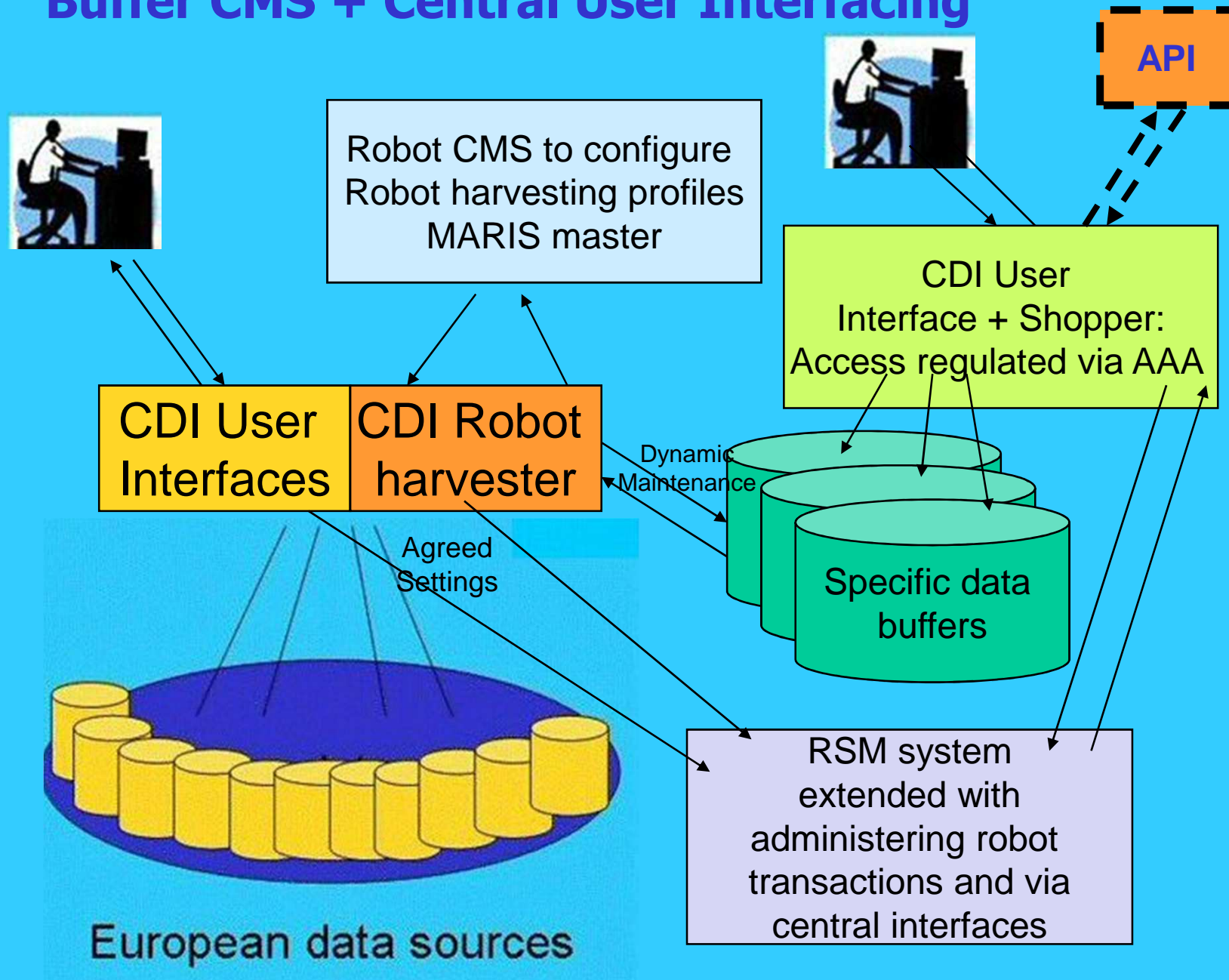
This requires discovery and harvesting of data sets for specific criteria

- Earlier this was done on a manual basis using the CDI Discovery and Shopping mechanism
- However starting in mid 2014 a CDI buffer service has been developed:
 - using a Robot harvester via the shopping mechanism to discover and retrieve specific data sets from distributed data centres
 - to compile and maintain specific aggregate data sets as internal central data buffers that can be transferred to regional groups for further processing and products generation.

Discovery and harvesting of data sets for specific communities – in automatic mode

- An online Buffer Content Management System (Buffer CMS) has been developed and tested for configuring specific data buffer profiles in agreement with data providers AND for specific data user communities (such as SeaDataNet regional dataproduct groups, EMODNet Chemistry regional product groups, MyOcean, Micro-B3,..)
- Configuration settings concern discovery filter, buffer group, motivation, users (by means of SeaDataNet AAA services)
- Robot harvester can be activated to perform retrieval for each buffer profile and also to maintain the central metadata and data buffers automatically for new entries and updates of existing entries
- Progress of the robot harvesters is administered in the existing online Request Status Manager (RSM) system which is part of the CDI Shopping mechanism for tracking and tracing requests by users, data providers and overall

Buffer CMS + Central User Interfacing



Buffer Content Management System (Buffer CMS)

SeaDataNet

PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT

Operated in cooperation with

Geo-Seas Black Sea SCENE IODP Inc EMODnet micro3

CDI-buffer - Content Management System

Free search Users

Continue

Welcome to the CDI Buffer Content Management System. This CMS allows to configure buffers. The content of the buffers will be retrieved and maintained automatically in specific buffers.

CDI-buffer Profile

Free search Users

logon

Key	Name
4	Test application
3	EMODNet Chemistry 2 nutrients
2	SeaDataNet 2 Regional products
1	SDN-MyOcean joint T&S product

Overview of buffers

CDI-buffer Profile

Home Help Logout

Free search Users

Search Reset Add new Save Clear

Results Found 4 Show 2

General Users Filter Summary

Name: EMODNet Chemistry 2 nutrients

Name code: buffer3

Data format L24

CF CFPOINT

INAPP MEDATLAS

ODV PNG

SEGY SHP

TIFF UKOAP190

XTF

Restricted order user: mb312d6

Restricted order password: ec735OHT

Restricted order motivation: These data sets will be used only internally the regional groups of EMODNet Chemistry 2 as input for the compilation of regional interpolated maps using ODV and DIVA and also a number of time series in graphics for monitoring stations. Please indicate via the SeaDataNet RSM service that you agree with access for the SeaDataNet robot, operated by MARIS.

Description: As part of EMODNet Chemistry 2 project the regional groups will produce regional interpolated maps using ODV and DIVA and also...

Key: 3
Created: 7/3/2014 11:50:45
Last update: 16/6/2014 16:49:47

Here are system error messages displayed.

Configuring profile of specific buffer

Central User Interface with logon (AAA service) following authorisation in buffer CMS profiles



PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT

Operated in cooperation with

Geo-Seas Black Sea SCENE Cosp Info EMODnet

Enter your NetID and Password

For security reasons, please Log Out and Exit your web browser when you are done accessing services that require authentication.

NetID:

Password:

Warn me before logging me into other sites.



PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT

Operated in cooperation with

Geo-Seas Black Sea SCENE Cosp Info EMODnet micro3

logon

CDI Buffer Discovery and Access service

Welcome to the CDI Buffer Discovery and Access service. This gives registered users the option to choose to undertake further discovery and downloading of data sets collections.

[EMODNet Chemistry 2 nutrients](#)

[SDN-MyOcean joint T&S product](#)

[SeaDataNet 2 Regional products](#)

[Test application](#)

Overview of authorized buffers

SEADATANET COMMON DATA INDEX (SEADATANET-BUFFER) V3

Tools

Layer control

Listing results

#	Data set name	Country	Start date	Disciplines - Parameter groups	Instrument / gear type	Show
<input type="checkbox"/>	PITAGEM water_nov2004	Italy	20041104	Administration and dimensions > Administration and dimensions Biological oceanography > Pigments Chemical oceanography > Carbon, nitrogen and phosphorus > Nutrients Marine geology > Suspended particulate material	discrete water samplers	
<input type="checkbox"/>	PITAGEM water_nov2004	Italy	20041104	Administration and dimensions > Administration and dimensions Biological oceanography > Pigments Chemical oceanography > Carbon, nitrogen and phosphorus > Nutrients Marine geology > Suspended particulate material	discrete water samplers	
<input type="checkbox"/>	PITAGEM water_nov2004	Italy	20041104	Administration and dimensions > Administration and dimensions Biological oceanography > Pigments Chemical oceanography	discrete water samplers	

Central buffer UI incl direct shopping

Request Status Manager (RSM) service extended with administering of Central buffer interfaces

RSM
Request Status Manager

PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT
SeaDataNet

Operated in cooperation with
Geo-Sam Black Sea SCENE EOD INC EMODnet

Request Status Manager Menu Options

User	Data provider	Administration
Status of download requests	Standing download orders	Master report of all orders
Status of seismic viewing requests	Standing seismic viewing orders	Master report of robot testing
	History of all download orders	
	History of all viewing orders	
	Report of all orders	
	Report of robot testing	

Central Buffer Options

User	Data provider	Administration
Status of download requests	Standing download orders	Master report of all orders
	History of all download orders	
	Report of all orders	

Ligon as user/provider/master

New functions for central buffer shopping

Discovery and harvesting of data sets

- The new Buffer CMS and Central buffer UI and API together with the new central shopping mechanism and upgraded RSM greatly facilitate the maintenance of central buffers and regular delivery of data sets incl metadata to specific communities
- The Central shopping mechanism works on the data Buffers and can deliver (in delayed mode) large data sets which are divided over downloadable zip files with maximum 10.000 data sets each; all shopping transactions are administered in new section of the RSM
- REMARK: The central buffers are exclusive for specific applications and access is secured via AAA service only for authorised users. These buffers do not replace the distributed CDI infrastructure and its shopping process for regular users.

API

- **The Application Programming Interface (API)** will work next to the Central Buffer User Interface and will facilitate remote and authorised machines to logon, using the SeaDataNet AAA service, and then to perform 3 functions:
 - **Create_order**: enabling to configure a discovery profile for shopping in an authorised central buffer database;
 - **Get_order_info**: enabling to retrieve info from the RSM about the progress of the order processing;
 - **Download_order**: enabling to download the orders, when ready, as zip files with metadata and data sets.
- A specific XML file must be given by the client to the API for each of these functions and the client must logon

Conclusion

- The Robot harvesting service is a great help for creating and updating buffers for agreed data delivery for specific communities
- The service has been operational for more than 1 year and proven its added-value for several harvesting actions.
- Data providers are informed beforehand of every new community harvesting and requested to cooperate in case of harvesting for restricted data sets
- All transactions are administered in a special section of the RSM service