WP8 – Governance of standards and development of common services

Set-up of monitoring services for upgraded SeaDataNet infrastructure

Themis Zamani, GRNET
Kostas Kagkelidis, GRNET
Angelos Lykiardopoulos, HCMR
Monitoring SDC

a pan-European infrastructure to ease the access to marine data

Monitoring based on User experience so as to compute

- Status
- Availability
- Reliability

SDC A/R results from 11th of October

Availability 93.06
Reliability 93.06
Monitoring SDC
a pan-European infrastructure to ease the access to marine data

Users / Researchers all around the world have access to SDC services.
Monitoring SDC

a pan-European infrastructure to ease the access to marine data

Users / Researchers all around the world have access to SDC services.

Most of the services are up but..
Monitoring SDC

a pan-European infrastructure to ease the access to marine data

Users / Researchers all around the world have access to SDC services.

- Most of the services are up but..
- Sometimes everything looks OK until the user starts complaining.
Users / Researchers all around the world have access to SDC services.

- Most of the services are up but..
- Sometimes everything looks OK until the user starts complaining.

The problem

Service remains unavailable longer than expected.
Monitoring SDC

a pan-European infrastructure to ease the access to marine data

Users / Researchers all around the world have access to SDC services.

- Most of the services are up but..
- Sometimes everything looks OK until the user starts complaining.

The solution

Monitor  Analyse  Report  Alert
ARGO Monitoring

Monitor Analyse
Alert Report

What ARGO is trying to do is to emulate the user behaviour and constantly monitor the Services to provide:

- Real time status reports
- Availability and reliability reports
- Real time alerts
Real Time Status Report

Status for sdc tenant - Critical Report

<table>
<thead>
<tr>
<th>Endpoint (Group)</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRITICAL 62.65.38.19 (GEO_SEAS_DOWNLOAD_MANAGER)</td>
<td>eu.seadatanet.org.do check</td>
</tr>
<tr>
<td>CRITICAL 95.183.158.50 (UBSS_DOWNLOAD_MANAGER)</td>
<td>eu.seadatanet.org.do check</td>
</tr>
<tr>
<td>OK seadata.bsh.de</td>
<td>eu.seadatanet.org.do check</td>
</tr>
<tr>
<td>OK seadata.bsh.de</td>
<td>eu.seadatanet.org.do check</td>
</tr>
<tr>
<td>OK seadata.bsh.de</td>
<td>eu.seadatanet.org.do check</td>
</tr>
</tbody>
</table>

Last Status Checks

Show 10 entries  Search:
### A/R Reports

#### Availability/Reliability Table

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Av</td>
<td>Re</td>
<td>Av</td>
<td>Re</td>
<td>Av</td>
</tr>
<tr>
<td>B2ACCESS</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>95.98</td>
</tr>
<tr>
<td>B2SAFE</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>B2STAGE</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>B2STAGE_CINECA</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>CAS</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>CSR_SEARCH</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>99.57</td>
</tr>
</tbody>
</table>

#### Timestamps

<table>
<thead>
<tr>
<th>Timestamp</th>
<th>Availability</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019-10-01</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2019-10-02</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2019-10-03</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2019-10-04</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2019-10-05</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2019-10-06</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2019-10-07</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2019-10-08</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

SDC - Monitoring - 14-18 October - Brest, France
Real Time Alerts

SERVICEGROUP B2SAFE is Critical

The ENDPOINT affected is
  - eudat-node5.esc.rl.ac.uk (b2safe.irods)
due to METRIC eu.eudat.b2safe.irods-crud

Summary:
CRITICAL: timed out after 50 seconds

Questions? Email SeaDataCloud Monitoring Team

Status of endpoints in B2SAFE:
  - b2safe.b2services.grnet.gr (b2safe.irods)
  - sdc-b2safe.csc.fi (b2safe.irods)
  - eudat-node5.esc.rl.ac.uk (b2safe.irods)
  - datarepo.cineca.it (b2safe.irods)
  - finwhale.dkrz.de (b2safe.irods)
  - sdc-b2safe-test.dkrz.de (b2safe.irods)

Questions? Email SeaDataCloud Monitoring Team

The ENDPOINT affected is
  - eudat-node5.esc.rl.ac.uk (b2safe.irods)
It became Critical at 2019-04-26T15:13:59Z due to METRIC eu.eudat.b2safe.irods-crud

Summary:
CRITICAL: timed out after 50 seconds

Questions? Email SeaDataCloud Monitoring Team

The ENDPOINT affected is
  - eudat-node5.esc.rl.ac.uk (b2safe.irods)
It became OK at 2019-04-26T07:24:31Z due to METRIC eu.eudat.b2safe.irods-crud

Summary:
OK: writestatus = 0, liststatus = 0, getstatus = 0, removestatus = 0, removetrashstatus = 0

Questions? Email SeaDataCloud Monitoring Team
WP8.5 Time Plan

where do we actually stand ....

- By M6: Requirements gathering
- By M9: Architecture details defined and development plan in place
- M12 - M18: Further developments and development of initial probes
- M18 - M24: Testing and preparation for production use of the ARGO monitoring service
- M24- SDC ARGO Monitoring in production including initial set of services being monitored
- M34: SDC ARGO Monitoring for the full set of the SDC services and deployment of the new ARGO Portal
Services
Monitored
Monitoring SDC
a pan-European infrastructure to ease the access to marine data

facts

> 93 sites
> 121 services

participating running

multiple communities

Reports A/R Status Alerts
To collect the basic information about the SDC Services. The information is used:

- to construct custom probes for the new SDC Services

- to upgrade existing probes in order to achieve more efficient monitoring

- to have a better (more detailed) picture of the SDC architecture and service dependencies. This will facilitate a more accurate way to calculate reliability and availability analytics

After completion of the survey, SDC monitoring team will be in contact with the service administrator(s) to fine tune the design and development process of the monitoring probes.
SDC Monitoring Survey

Statistics

Facts

- 16 answers
- 14 new services
- 14 new participants
- 4 work in progress

Updated Reports

A/R Status Alerts
Services from Survey

Status

1. SPARQL (NVS)
2. XML (NVS)
3. SEADATANET.org
4. CDI HTTP-API
5. MARINEid
6. EDMO Search
7. EDMERP Search
8. CDI Import Manager
9. CDI Import Manager Dashboard
10. EDMO Sparql
11. EDIOS GUI
12. CDI GUI
13. EDMO CMS
14. EDMERP CMS

Extensive checks

Basic functionality check (WIP)
**SPARQL (NVS)**

SPARQL query search

1. Reads a SPARQL query in string format
2. Converts it in URL
3. Performs the query
4. Expects a predefined string to be returned.

prefix skos:<http://www.w3.org/2004/02/skos/core#>  
select * where {  
<http://vocab.nerc.ac.uk/collection/P06/current/UAMN/> skos:prefLabel ?b .}
CDI HTTP-API
UNRESTRICTED ORDER WORKFLOW

create an order request 1
Check if it is completed 2
Download the zip from URL 3
Delete the order 4

List of PIDs

<table>
<thead>
<tr>
<th>PID</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.8</td>
<td>04.10 00:10</td>
</tr>
<tr>
<td>720/65</td>
<td>05.10 00:10</td>
</tr>
<tr>
<td>432</td>
<td>06.10 00:10</td>
</tr>
<tr>
<td>11.5280/DBI-KRE-49756</td>
<td>06.10 00:10</td>
</tr>
</tbody>
</table>

SDC - Monitoring - 14-18 October - Brest, France
Marine ID
check liveness

Use dummy username and password
Authenticate
Check result

Success.
Authentication is successful
What is actually monitored
Monitoring a service

a single service

B2ACCESS

B2ACCESS is an easy-to-use and secure Authentication and Authorization platform.

It supports:

a) authentication via certificate
b) authentication via login/pass
How do we monitor?

What do we report

Monitored item: b2access.eudat.eu
What to monitor
What to report

Monitored item: 

CHECKS

probe A: healthcheck

probe B: login with certificate

probe C: login with credentials

probe D: simple check
Monitored item: 💔 b2access.eudat.eu

CHECKS

- probe A: healthcheck
- probe B: login with certificate
- probe C: login with credentials
- probe D: simple check
What to report

Monitored item: 🚑 b2access.eudat.eu

CHECKS

- probe A
- probe B
- probe C
- probe D

- healthcheck 🎈
- login with certificate 🎈
- login with credentials 🎈
- simple check 🎈

- OK
- CRIT
- OK
- OK
What to monitor

Monitored item: **b2access.eudat.eu**

**CHECKS**

- probe A
- probe B
- probe C
- probe D

<table>
<thead>
<tr>
<th>Status</th>
<th>00:00</th>
<th>12:00</th>
<th>15:00</th>
<th>23:59</th>
</tr>
</thead>
<tbody>
<tr>
<td>healthcheck</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>login with certificate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>login with credentials simple check</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What to monitor

Monitored item: b2access.eudat.eu

Status
What to monitor

Monitored item: b2access.eudat.eu

Status

Availability

UP period / KNOWN period

21h / 24h = 87.5%
What to monitor

What to report

Monitored item: b2access.eudat.eu

Status

Availability

UP period / KNOWN period

21h / 24h = 87.5%

Reliability

UP period / (KNOWN period - Scheduled Downtime)

21h / 24h = 87.5%
What to monitor

What to report

Monitored item: b2access.eudat.eu

Status

Availability

UP period / KNOWN period

21h / 24h = 87.5%

If a downtime was defined for 12:00 - 15:00
What to monitor

Monitored item: b2access.eudat.eu

Status

Availability

UP period / KNOWN period

21h / 24h = 87.5%

Reliability

UP period / (KNOWN period - Scheduled Downtime)

21h / 24h - 3h = 100%
Next Steps

What is next

M23 Monitoring is up
M24 Production
M24 High Availability
M27 Notifications
M29 New Probes
M30 New Probes
M34 Final Version

SDC - Monitoring - 14-18 October - Brest, France
High Availability
Multiple Instances

A second instance of monitoring engine will be deployed in OGS.

Monitoring result collectors can listen on the message broker service, retrieve the results and forward them to the compute engine.

work in progress
Probe Development

Remaining

- Homepage
- Basket Operations
- RSM
- RSM / Download
- Replication Manager
- VOCAB Search
- EDMED Search
- EDMOD Search
- EDMERP Search
- CSR Search

What else?
Observe the results..
Observe the data

Now that we have all these data what can i do?
The Dashboard
Are you a Service Owner

I am a Service X Owner

Service Status

Service Dashboard

Service A/R
Are you a Service Owner

I am a Service X Owner

If you are a Service Owner

When Something is wrong you will get an email

with information about the problem

and information about all endpoints
Are you just an operator
I run a node of a service
Are you an operator
I operate a service

If you are an Operator

When Something is wrong
you will get an email

with information about the problem
A short introduction to Web UI
Thank you