

Appendix 4 to Tender Specifications

Operations User Manual

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V 6.0

Apr. 28, 15

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S-AIS DPC Block2

ESA contract n°: 4000103276/11/NL/US

SAT-AIS DPC Block2 Operations User Manual

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People involved in this issue:		
Written by (*):	Sara CASTANHEIRA	Date + Initials:(visa or ref)
Checked by (*):		Date + Initial:(visa ou ref)
Approved by (*):		Date + Initial:(visa ou ref)
Application authorized by (*):		Date + Initial:(visa ou ref)



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Lists of TBD:

Applicable documents

AD 1 Plan d'assurance produit de CLS
CLS-ED-NT-03-394

Reference documents

RD 1 Manuel du processus Documentation
CLS-DOC

RD 2 SAT-AIS DPC Block2 - Monitoring Specification
SAI-CLS-RS-3070



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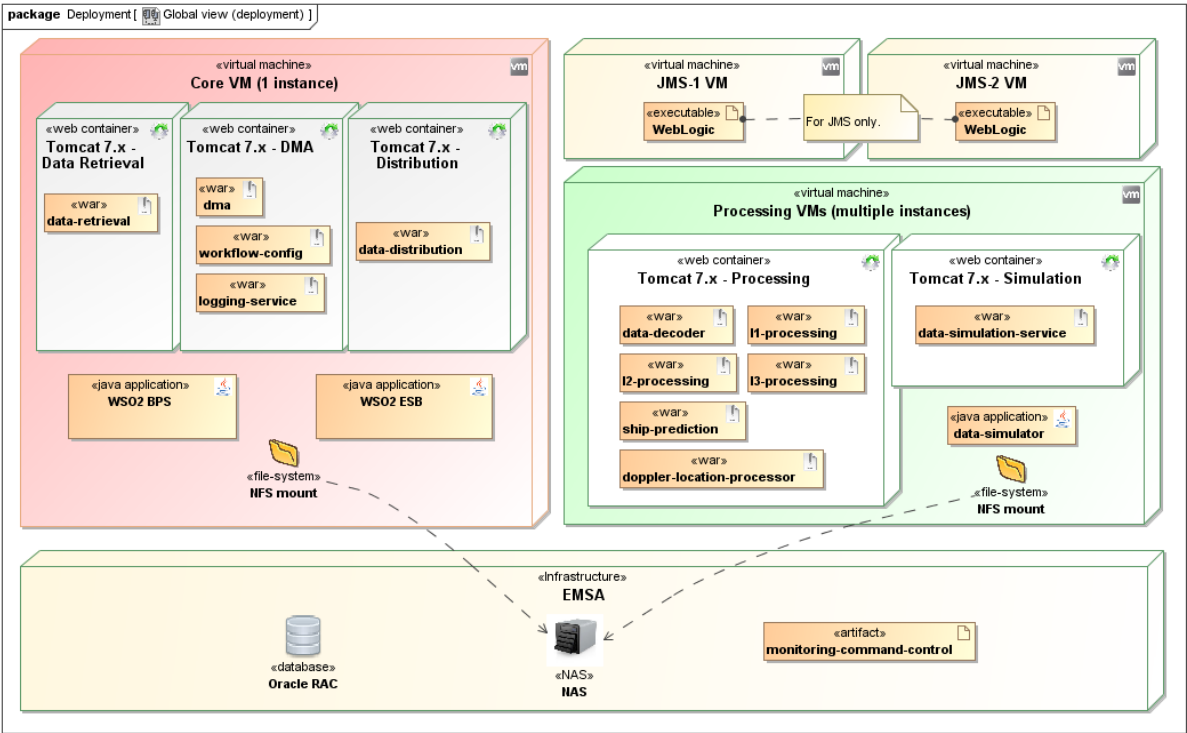
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1. General information

1.1. Information system

1.1.1. Architecture



1.1.1.1. Virtual machines

Server	Information
satais-core	Data dispatching Components
satais-proc	Data processing Components
satais-jms1	
satais-jms2	
satais-nagios	Nagios monitoring tool
NAS	File storage

Table 1: Virtual machines



2. OPERATOR procedures - Level 1

Here are the level 1 procedures, that have to be executed by the operators.

2.1. Routine Procedures OPERATOR

2.1.1. Start Restart

2.1.1.1. Servers

Boot Sequence Order

Because of the nature of the components installed in the VMS, here is the boot sequence order :

Order	VM
1	NAS
2	satais-jms1
3	satais-jms2
4	satais-proc
5	satais-core
6	satais-nagios

Table 2: Boot sequence order

Stop Sequence Order

Order	VM
1	satais-core
2	satais-proc
3	satais-jms1
4	satais-jms1
5	satais-nagios
6	NAS

Table 3: Stop sequence order

2.1.1.2. Applications/Components

Here are the sequenced start/stop command for satais-dpc applications.

satais-core/ satais-proc

Log in

Using ssh client such as putty, connect to satais-core (and then to satais-proc) using “s_dpc” username and password.

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Go in saiddpc folder

in which you can launch “s-ais-dpc” tool by typing:

```
cd /opt/s-ais-dpc/saisdpc-distribution/
```

```
./s-ais-dpc stop
```

2.2. Incident Procedures OPERATOR

2.2.1. Global principe

2.2.1.1. Monitoring alerts

There are 3 ways of monitoring SATAIS DPC platform thanks to Nagios solution.

1- Through Nagios “Open service problems” view:

Nagios XI Logged in as: nagiosadm

System Ok: ●●●●●●

Service Status
All services

Showing 1-15 of 15 total records
Filters: **Host**=Up,Not Acknowledged,Not In Downtime **Service**=Warning,Unknown,Critical,Not Acknowledged,Not In Downtime

Host	Service	Status	Duration	Attempt	Last Check	Status Information
ExactEarth Subscriber Proxy	ClientProxy connection to ExactEarth provider	Critical	9h 10m 59s	4/4	2014-04-16 00:20:06	CRITICAL - ClientProxy not connected to ExactEarth provider
saisdpc-dis	APP - Distribution Data processing age	Critical	6d 7h 18m 29s	4/4	2014-04-16 00:12:12	CRITICAL - No corresponding data found in /opt/s-ais-dpc/cots/tomcat/logs/ssn-si.log
saisdpc-dis	APP - Distribution Data to EMSA Stires - Errors lookup	Critical	1d 8h 54m 22s	4/4	2014-04-16 00:20:26	CRITICAL - Element(s) found: 360 since 60 minutes - Last occurrence: 2014-04-16 00:26:43
saisdpc-dpc	APP - Data Simulation processing age	Critical	6d 7h 18m 18s	4/4	2014-04-16 00:19:38	CRITICAL - No corresponding data found in /opt/s-ais-dpc/saisdpc-distribution/log/data-simulation /logbook.log
saisdpc-dpc	APP - Ship Prediction processing age	Critical	14d 14h 32m 16s	4/4	2014-04-16 00:16:35	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 90 minutes - Last processing: 2014-03-28 16:45:03
saisdpc-esb1	APP - Data Decoder processing age	Critical	21h 49m 59s	4/4	2014-04-16 00:15:27	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 90 minutes - Last processing: 2014-04-15 01:00:13
saisdpc-esb1	APP - Data Retrieval ExactEarth AIS data	Critical	15h 29m 36s	4/4	2014-04-16 00:11:05	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 360 minutes - Last processing: 2014-03-28 16:54:11
saisdpc-esb1	APP - Data Retrieval KSAT AIS data	Critical	15h 28m 45s	4/4	2014-04-16 00:11:56	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 360 minutes - Last processing: 2014-03-20 04:20:19
saisdpc-esb1	APP - Data Retrieval KSAT downlink data	Critical	5d 12h 50m 13s	4/4	2014-04-16 00:20:28	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 360 minutes - Last processing: 2014-04-10 23:34:31
saisdpc-esb1	APP - Data Retrieval KSAT Event data	Critical	4d 9h 56m 40s	4/4	2014-04-16 00:16:35	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 360 minutes - Last processing: 2014-03-20 14:35:31

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2- Through Nagios “Current Status” => “Problems” => “Services” view:
(nagios core is a part of nagios solution)

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Nagios® Current Network Status
 Last Updated: Wed Apr 16 00:18:28 UTC 2014
 Updated every 90 seconds
 Nagios® Core™ 3.5.0 - www.nagios.org
 Logged in as: nagiosguest

Host Status Totals
 Up: 7, Down: 0, Unreachable: 0, Pending: 0
 All Problems: 0, All Types: 7

Service Status Totals
 Ok: 62, Warning: 0, Unknown: 0, Critical: 15, Pending: 0
 All Problems: 15, All Types: 77

Service Status Details For All Hosts

Host	Service	Status	Last Check	Duration	Attempt	Status Information
ExactEarth Subscriber Proxy	ClientProxy connection to ExactEarth provider	CRITICAL	04-16-2014 00:10:06	0d 9h 8m 46s	4/4	CRITICAL - ClientProxy not connected to ExactEarth provider
satais-dis	APP - Distribution Data processing age	CRITICAL	04-16-2014 00:12:12	6d 7h 16m 16s	4/4	CRITICAL - No corresponding data found in /opt/s-ais-dpc/cots/omcat/logs/ssn-si.log
satais-dis	APP - Distribution Data to EMSA Stores - Errors lookup	CRITICAL	04-16-2014 00:17:26	1d 8h 52m 9s	4/4	CRITICAL - Element(s) found: 360 since 60 minutes - Last occurrence: 2014-04-16 00:23:43
satais-dps	APP - Data Simulation processing age	CRITICAL	04-16-2014 00:09:38	6d 7h 16m 5s	4/4	CRITICAL - No corresponding data found in /opt/s-ais-dpc/saisdpc-distribution/log/data-simulation/logbook.log
satais-dps	APP - Ship Prediction processing age	CRITICAL	04-16-2014 00:16:35	14d 14h 30m 3s	4/4	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 90 minutes - Last processing: 2014-03-28 16:45:03
satais-esb1	APP - Data Decoder processing age	CRITICAL	04-16-2014 00:15:27	0d 21h 47m 46s	4/4	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 90 minutes - Last processing: 2014-04-15 01:00:13
satais-esb1	APP - Data Retrieval ExactEarth AIS data	CRITICAL	04-16-2014 00:11:05	0d 15h 27m 23s	4/4	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 360 minutes - Last processing: 2014-03-28 16:54:11
satais-esb1	APP - Data Retrieval KSAT AIS data	CRITICAL	04-16-2014 00:11:56	0d 15h 26m 32s	4/4	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 360 minutes - Last processing: 2014-03-20 04:20:19
satais-esb1	APP - Data Retrieval KSAT Event data	CRITICAL	04-16-2014 00:16:35	4d 9h 54m 27s	4/4	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 360 minutes - Last processing: 2014-03-20 14:35:31
satais-esb1	APP - Data Retrieval KSAT Radar EO image	CRITICAL	04-16-2014 00:14:57	5d 12h 45m 2s	4/4	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 360 minutes - Last processing: 2014-04-04 12:06:30
satais-esb1	APP - Data Retrieval KSAT downlink data	CRITICAL	04-16-2014 00:10:28	5d 12h 48m 0s	4/4	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 360 minutes - Last processing: 2014-04-10 23:34:31
satais-esb1	APP - Doppler processing age	CRITICAL	04-16-2014 00:08:43	14d 14h 7m 53s	4/4	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 90 minutes - Last processing: 2014-03-28 16:45:02
satais-esb1	APP - L1 processing age	CRITICAL	04-16-2014 00:08:22	14d 14h 5m 7s	4/4	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 90 minutes - Last processing: 2014-03-28 16:45:01
satais-esb1	APP - L2 processing age	CRITICAL	04-16-2014 00:08:27	14d 14h 6m 1s	4/4	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 90 minutes - Last processing: 2014-03-28 16:45:07
satais-esb1	APP - L3 processing age	CRITICAL	04-16-2014 00:11:41	4d 8h 26m 47s	4/4	CRITICAL - DATA TOO OLD, Element(s) processed: 0 since 90 minutes - Last processing: 2014-04-04 12:06:36

2.2.1.2. List of alerts

All the alerts are defined in the document SAT-AIS DPC Block2 - Monitoring Specification (see RD2)

2.2.1.3. Monitoring alerts links to documentation

Each alert raised by Nagios is linked to its dedicated procedure. By this way the operator has a direct link to the procedure without searching in the entire documentation.

2.2.1.4. Documentation template

Each incident procedure has the following structure (description of the template used for any incident procedure):

Control purpose

What is doing the control ?

This part describes the main action and check of the Nagios supervisor

Who is doing the control ?

Name of the Nagios check (and its script location if needed)

Threshold

This part describes all of the thresholds (value, frequency, level...) of each possible raised alert of the supervisor

Impact and backup solution

This part describes the impact of the anomaly that could raise an alert on this supervisor. This is a way for the operator to evaluate the significance of each alert.

This part explains also if a work around action exists in case of anomaly (i.e switch actions).



Procedure

Steps

This part describes precisely the different steps of each case of alert.

Particular cases/Exceptions

In some particular case the alerts are not to take in account (i.e scheduled or regular maintenance)

Expected result/Verification

This part describes the attempted output of the supervisor in case of nominal status. It could also describe the attempted result of the status actions.

Useful links

Each procedure has a same chapter dedicated to the useful link of the application:

- Interfaces contacts (internal & external)
- Account & password page
- Servers & components description & architecture

2.2.2. Application incident OPERATOR

2.2.2.1. DPC-MON-PRO-DCD-ERROR

Addressee Type	Execution time (in minute)
OPS Incident	20

a. Control purpose

a.1. What is doing the control ?

The controls check the Decoder processing (status, processing errors).

a.2. Who is doing the control ?

The Nagios checks “DPC-MON-PRO-DCD*” on satais-proc host.

a.3. Threshold

An alert is raised each time:

no processing has been done in the last 1 & half an hour,
the DCD webservice listening to ESB request is not responding

a.4. Impact and backup solution

Impact: No data processed : very huge impact !



b. Procedure

b.1. Steps

b.1.1. Restart the Decoder processing

Connect to the server satais-proc with s_dpc account (see account page for password)

Do the following command:

```
> cd /opt/s-ais-dpc/saisdpc-distribution/
> ./s-ais-dpc restart tomcat-proc
```

b.2.1. Check again the Decoder processing & trigger

See next chapter for the attempted results

b.3.1. If the anomaly is still there after the restart then call the technical support

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.

b.2. Particular cases/Exceptions

In some particular case the alerts are not to take in account => Check with the OE if there are no maintenance period schedule.

b.3. Expected result/Verification

b.1.3. Connect to the server satais-proc

with s_dpc account (see account page for password)

b.2.3. Check the ERROR on log files:

```
> grep ERR /opt/s-ais-dpc/saisdpc-distribution/log/data-decoder/*.log | tail -1
```

You must have no return on this command.

b.3.3. Check the date of the last message

```
> tail -1 /opt/s-ais-dpc/saisdpc-distribution/log/data-decoder/logbook.log
> 2013-07-04 16:09:47,032 [ seda://push-results] [e7239cdb-5060-4fc4-9e12-22082012b2e1] INFO - Invoke done with success
```

The returned date must be lower than 30 minutes.



b.4.3. Check the date of the last Decoder working file (decoding1 for primary site, decoding2 for "b" site)

```
> ls -rtl /data/shared-fs/working-fs/decoding1/
> -rw-r--r-- 1 s_dpc dpc 120034 Jul  4 18:09 e7239cdb-5060-4fc4-9e12-22082012b2e1-alerts-0.xml
> -rw-r--r-- 1 s_dpc dpc 132820 Jul  4 18:09 e7239cdb-5060-4fc4-9e12-22082012b2e1-raw-ais-messages-0.nm4
> -rw-r--r-- 1 s_dpc dpc 2784836 Jul  4 18:09 e7239cdb-5060-4fc4-9e12-22082012b2e1-ais-messages-0.xml
```

The date of the last outputed file must be lower than 30 minutes.

b.5.3. Check the status of the data-decoder process

```
> [s_dpc@satais-proc saisdpc-distribution]$ cd /opt/s-ais-dpc/saisdpc-distribution
> [s_dpc@satais-proc saisdpc-distribution]$ ./s-ais-dpc status tomcat-proc
> status:      data-decoder          (pid: 29585, http: 8080, jmx: 10010)
[   running   ]
```

The status must be "running" The http=8080 & jmx=10010

2.2.2.2. DPC-MON-PRO-DLP-ERROR

Addressee Type	Execution time (in minute)
OPS Incident	20

a. Control purpose

a.1. What is doing the control ?

The controls check the Doppler-loc-processor processing (status, processing errors).

a.2. Who is doing the control ?

The Nagios checks on satais-core host "DPC-MON-PRO-DLP-"

a.3. Threshold

An alert is raised each time:

no processing has been done in the last 1 & half an hour,
the DLP webservice listening to ESB request is not responding

a.4. Impact and backup solution

Impact: No data processed : very huge impact !



b. Procedure

b.1. Steps

b.1.1. Restart the DLP processing

Connect to the server satais-proc with s_dpc account (see account page for password)

Do the following command:

```
> cd /opt/s-ais-dpc/saisdpc-distribution/
> ./s-ais-dpc restart tomcat-proc
```

b.2.1. Check again the DLP processing & trigger

See next chapter for the attempted results

b.3.1. If the anomaly is still there after the restart

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.

b.2. Particular cases/Exceptions

In some particular case the alerts are not to take in account => Check with the OE if there is no maintenance period schedule.

b.3. Expected result/Verification

b.1.3. Connect to the server satais-proc

(b if application started on redundant site) with s_dpc account (see account page for password)

b.2.3. Check the ERROR on log files:

```
> grep ERR /opt/s-ais-dpc/saisdpc-distribution/log/doppler-processing/*.log |
tail -1
```

You must have no return on this command.

b.3.3. Check the date of the last message

```
> tail -1 /opt/s-ais-dpc/saisdpc-distribution/log/doppler-processing/logbook.log
> 2013-07-04 16:12:38,184 [7 - processingThread] [34c5b890-444b-4cea-8200-
8d9d766f373a] INFO - ENDING processing. requestProcessingStatisticsManager:
Start time: 2013.07.04 16:12:38 UTC End time: 2013.07.04 16:12:38 UTC Duration:
0 s Number of items: 2 Performance: 2 elements/s
```

The returned date must be lower than 30 minutes.



b.4.3. Check the date of the last DLP working file

```
> ls -rtl /data/shared-fs/working-fs/dlp1/
> -rw-r--r-- 1 s_dpc dpc 3538 Jul 4 18:12 34c5b890-444b-4cea-8200-8d9d766f373a-results-0.xml
> -rw-r--r-- 1 s_dpc dpc 4478 Jul 4 18:12 34c5b890-444b-4cea-8200-8d9d766f373a-histories-0.xml
> -rw-r--r-- 1 s_dpc dpc 3538 Jul 4 18:22 bc9a2cfa-9636-403b-a95f-1d5f330e192e-results-0.xml
> -rw-r--r-- 1 s_dpc dpc 4478 Jul 4 18:22 bc9a2cfa-9636-403b-a95f-1d5f330e192e-histories-0.xml
```

The date of the last outputed file must be lower than 30 minutes.

b.5.3. Check the status of the DLP process

```
> [s_dpc@satais-proc saisdpc-distribution]$ cd /opt/s-ais-dpc/saisdpc-distribution
> [s_dpc@satais-proc saisdpc-distribution]$ ./s-ais-dpc status tomcat-proc
status: tomcat-proc [ running ]
```

The status must be "running"

2.2.2.3. DPC-MON-PRO-L1-ERROR

Addressee Type Execution time (in minute)

OPS Incident 20

a. Control purpose

a.1. What is doing the control ?

The controls check the L1 processing (status, processing errors).

a.2. Who is doing the control ?

The Nagios checks "DPC-MON-PRO-L1-*" on satais-prochost

a.3. Threshold

An alert is raised each time:

no processing has been done in the last 1 & half an hour
the L1 webservice listening to ESB request is not responding

a.4. Impact and backup solution

Impact: No data processed : very huge impact !



b. Procedure

b.1. Steps

b.1.1. Restart the L1 processing

Connect to the server satais-proc with s_dpc account (see account page for password)

Do the following command:

```
> cd /opt/s-ais-dpc/saisdpc-distribution/
> ./s-ais-dpc restart tomcat-proc
```

b.2.1. Check again the L1 processing & trigger

See next chapter for the attempted results

b.3.1. If the anomaly is still there after the restart then call the technical support

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.

b.2. Particular cases/Exceptions

In some particular case the alerts are not to take in account => Check with the OE if there is no maintenance period schedule.

b.3. Expected result/Verification

b.1.3. Connect to the server satais-proc

with s_dpc account (see account page for password)

b.2.3. Check the ERROR on log files

```
> grep ERR /opt/s-ais-dpc/saisdpc-distribution/log/l1-processing/*.log | tail -1
```

You must have no return on this command.

b.3.3. Check the date of the last message

```
> tail -1 /opt/s-ais-dpc/saisdpc-distribution/log/l1-processing/logbook.log
> 2013-07-04 14:33:29,938 [ seda://push-results] [6d917b98-59d4-49f7-94f3-71655aalefb4] INFO - Invoke done with success
```

The returned date must be lower than 30 minutes.



b.4.3. Check the date of the last L1 working file

```
> ls -rtl /data/shared-fs/working-fs/l11/
> -rw-r--r-- 1 s_dpc dpc 117777 Jul 4 16:22 728f9b9f-553a-46a7-9e34-
2ec5629333aa-ais-messages-0.xml
> -rw-r--r-- 1 s_dpc dpc 42097 Jul 4 16:31 72d66890-cb24-448f-aeeb-
cb61106a3b1d-ais-messages-0.xml
> -rw-r--r-- 1 s_dpc dpc 538044 Jul 4 16:33 652b8561-c172-4bd7-875e-
d47338758784-ais-messages-0.xml
> -rw-r--r-- 1 s_dpc dpc 7175017 Jul 4 16:33 6d917b98-59d4-49f7-94f3-
71655aalefb4-ais-messages-0.xml
> -rw-r--r-- 1 s_dpc dpc 21506 Jul 4 16:33 6d917b98-59d4-49f7-94f3-
71655aalefb4-alerts-0.xml
```

The date of the last outputed file must be lower than 30 minutes.

b.5.3. Check the status of the L1 process

```
> [s_dpc@satais-proc saisdpc-distribution]$ cd /opt/s-ais-dpc/saisdpc-
distribution
> [s_dpc@satais-proc saisdpc-distribution]$ ./s-ais-dpc status tomcat-proc
> status:      tomcat-proc                [   running   ]
```

The status must be "running"



2.2.2.4. DPC-MON-PRO-L2-ERROR

Addressee Type	Execution time (in minute)
OPS Incident	20

a. Control purpose

a.1. What is doing the control ?

The controls check the L2 processing (status, processing errors).

a.2. Who is doing the control ?

The Nagios checks “DPC-MON-PRO-L1-*” on satais-prochost.

a.3. Threshold

An alert is raised each time:

no processing has been done in the last 1 & half an hour,
the L2 webservice listening to ESB request is not responding

a.4. Impact and backup solution

Impact: No data processed : very huge impact !

b. Procedure

b.1. Steps

b.1.1. Restart the L2 processing

Connect to the server satais-proc with s_dpc account (see account page for password)

Do the following command:

```
> cd /opt/s-ais-dpc/saisdpc-distribution/
> ./s-ais-dpc restart tomcat-proc
```

b.2.1. Check again the L2 processing & trigger

See next chapter for the attempted results



b.3.1. If the anomaly is still there after the restart then call the technical support

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.

b.2. Particular cases/Exceptions

In some particular case the alerts are not to take in account => Check with the OE if there is no maintenance period schedule.

b.3. Expected result/Verification

b.1.3. Connect to the server satais-proc

with s_dpc account (see account page for password)

b.2.3. Check the ERROR on log files

```
> grep ERR /opt/s-ais-dpc/saisdpc-distribution/log/l2-processing/*.log | tail -1
```

You must have no return on this command.

b.3.3. Check the date of the last message

```
> tail -1 /opt/s-ais-dpc/saisdpc-distribution/log/l2-processing/logbook.log
> 2013-07-04 15:47:50,273 [regateTimeoutChecker] [a93fcaa4-2cc1-4ab7-8b45-8a84f239384e] INFO - ENDING processing. requestProcessingStatisticsManager:
Start time: 2013.07.04 15:47:47 UTC End time: 2013.07.04 15:47:50 UTC Duration:
3 s Number of items: 1 Performance: 0 elements/s aisMessageL2Statistics: 1
processed messages. 0 doppler-validated messages. 0 doppler-invalidated messages. 0
recovered messages. 0 un-recovered messages.
```

The returned date must be lower than 30 minutes.

b.4.3. Check the date of the last L2 working file

```
> ls -rtl /data/shared-fs/working-fs/l2l/
> -rw-r--r-- 1 s_dpc dpc 117777 Jul 4 16:22 728f9b9f-553a-46a7-9e34-2ec5629333aa-ais-messages-0.xml
> -rw-r--r-- 1 s_dpc dpc 42097 Jul 4 16:31 72d66890-cb24-448f-aeeb-cb61106a3b1d-ais-messages-0.xml
> -rw-r--r-- 1 s_dpc dpc 538044 Jul 4 16:33 652b8561-c172-4bd7-875e-d47338758784-ais-messages-0.xml
> -rw-r--r-- 1 s_dpc dpc 7175017 Jul 4 16:33 6d917b98-59d4-49f7-94f3-71655aa1efb4-ais-messages-0.xml
> -rw-r--r-- 1 s_dpc dpc 21506 Jul 4 16:33 6d917b98-59d4-49f7-94f3-71655aa1efb4-alerts-0.xml
```

The date of the last outputed file must be lower than 30 minutes.



b.5.3. Check the status of the L2 process

```
> [s_dpc@satais-proc saisdpc-distribution]$ cd /opt/s-ais-dpc/saisdpc-
distribution
> [s_dpc@satais-proc saisdpc-distribution]$ ./s-ais-dpc status tomcat-proc
> status:      tomcat-proc                [   running   ]
```

The status must be "running"

2.2.2.5. DPC-MON-PRO-L3-ERROR

Addressee Type	Execution time (in minute)
OPS Incident	20

a. Control purpose

a.1. What is doing the control ?

The controls check the L3 processing (status, processing errors).

a.2. Who is doing the control ?

The Nagios checks "DPC-MON-PRO-L3-*" on satais-prochost.

a.3. Threshold

An alert is raised each time:

no processing has been done in the last 1 hours
the L3 webservice listening to ESB request is not responding

a.4. Impact and backup solution

Impact: No data processed : very huge impact !

b. Procedure

b.1. Steps

b.1.1. Restart the L3 processing

Connect to the server satais-proc(b if application started on redundant site) with s_dpc account (see account page for password)

Do the following command:

```
> cd /opt/s-ais-dpc/saisdpc-distribution/
> ./s-ais-dpc restart tomcat-proc
```



b.2.1. Check again the L3 processing & trigger

See next chapter for the attempted results.

b.3.1. If the anomaly is still there after the restart then call the technical support

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.

b.2. Particular cases/Exceptions

In some particular case the alerts are not to take in account => Check with the OE if there is no maintenance period schedule.

b.3. Expected result/Verification

b.1.3. Connect to the server satais-proc

with s_dpc account (see account page for password)

b.2.3. Check the ERROR on log files:

```
> grep ERR /opt/s-ais-dpc/saisdpc-distribution/log/l3-processing/*.log | tail -1
```

You must have no return on this command.

b.3.3. Check the date of the last message

```
> tail -1 /opt/s-ais-dpc/saisdpc-distribution/log/l3-processing/logbook.log
> 22013-06-27 12:57:01,768 [main          ] [
] INFO - Apache Camel 2.10.1 (CamelContext: mainContext) started in 5.318
seconds
```

The returned date must be lower than 30 minutes.

b.4.3. Check the date of the last L3 working file (L31 for primary site, L32 for "b" site)

```
ls -rtl /data/shared-fs/working-fs/l31/
```

The date of the last outputed file must be lower than 30 minutes.

b.5.3. Check the status of the L3 process

```
> [s_dpc@satais-proc saisdpc-distribution]$ cd /opt/s-ais-dpc/saisdpc-
distribution
> [s_dpc@satais-proc saisdpc-distribution]$ ./s-ais-dpc status tomcat-proc
> status:      tomcat-proc                [    running    ]
```

The status must be "running"



2.2.2.6. DPC-MON-DPS-PRE-ERROR

Addressee Type	Execution time (in minute)
OPS	Incident 20

a. Control purpose

a.1. What is doing the control ?

The controls check the DPS-SIM processing (status).

a.2. Who is doing the control ?

The Nagios checks “DPC-MON-DPS-PRE-*” on satais-prochost.

a.3. Threshold

An alert is raised each time:

no processing has been done in the last 1 hours
the webservice is not responding

a.4. Impact and backup solution

Impact: No data processed : very huge impact !

b. Procedure

b.1. Steps

b.1.1. Restart the DPS-SIM processing

Connect to the server satais-proc with s_dpc account (see account page for password)

Do the following command:

```
> cd /opt/s-ais-dpc/saisdpc-distribution/
> ./s-ais-dpc restart tomcat-proc
```

b.2.1. Check again the DPS-SIM processing & trigger

See next chapter for the attempted results

b.3.1. If the anomaly is still there after the restart then call the technical support

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.



b.2. Particular cases/Exceptions

In some particular case the alerts are not to take in account => Check with the OE if there are is maintenance period schedule.

b.3. Expected result/Verification

The timestamps in the logs files are in UTC Time!

b.1.3. Connect to the server satais-proc

with `s_dpc` account (see account page for password)

```
> [s_dpc@satais-dps ship-prediction]$ tail -n5 /opt/s-ais-dpc/saisdpc-
distribution/log/ship-prediction/logbook.log
> 2013-07-05 08:55:18,615 [main          ] [
] DEBUG - Starting consumer (order: 1010) on route: ProcessInSequenceItemRoute
> 2013-07-05 08:55:18,616 [main          ] [
] INFO  - Route: ProcessInSequenceItemRoute started and consuming from:
Endpoint[direct://processing]
> 2013-07-05 08:55:18,621 [main          ] [
] DEBUG - spring-event://default converted to endpoint: Endpoint[spring-
event://default] by component:
org.apache.camel.component.event.EventComponent@ce5a31a
> 2013-07-05 08:55:18,622 [main          ] [
] INFO  - Total 11 routes, of which 11 is started.
> 2013-07-05 08:55:18,623 [main          ] [
] INFO  - Apache Camel 2.10.1 (CamelContext: mainContext) started in 1.258
seconds
> [s_dpc@satais-dps ship-prediction]$
```

b.2.3. Check the date of the last message

The returned date must be lower than 30 minutes.

b.3.3. Check the status of the ship-prediction process

```
> [s_dpc@satais-dps saisdpc-distribution]$ cd /opt/s-ais-dpc/saisdpc-distribution
> [s_dpc@satais-dps saisdpc-distribution]$ ./s-ais-dpc status tomcat-proc
> status:      tomcat-data-simulation          [   running   ]
```

The status must be "running"

2.2.2.7. DPC-MON-DPS-SIM-ERROR

Addressee Type	Execution time (in minute)
OPS Incident	20



a. Control purpose

a.1. What is doing the control ?

The controls check the DPS-SIM processing (status, processing errors).

a.2. Who is doing the control ?

The Nagios checks "DPC-MON-DPS-SIM-*" on satais-prochost.

a.3. Threshold

An alert is raised each time:

no processing has been done in the last 1 & half an hour,
the webservice is not correctly answering

a.4. Impact and backup solution

Impact: No data processed : very huge impact!

b. Procedure

b.1. Steps

b.1.1. Restart the DPS-SIM processing

Connect to the server satais-proc with s_dpc account (see account page for password)

Stop the SIM process (and children):

Directly force stop thanks to -f option for the first attempt of stop

```
> cd /opt/s-ais-dpc/saisdpc-distribution/
> ./s-ais-dpc restart tomcat-data-simulation
```

b.2.1. After 5 minutes check again the DPS-SIM processing & trigger

Check the date and the status of the last message

The returned date must be lower than 30 minutes. With **INFO** messages (as in the previous output exemple) and not **ERROR**

Check the date of the last RealTime working files

```
> [s_dpc@satais-dps RT1]$ date -r /data/shared-fs/working-
fs/dps/data/RT1/realFleet.txt
> Fri Jul 5 10:28:29 CEST 2013
> [s_dpc@satais-dps RT1]$ date -r /data/shared-fs/working-
fs/dps/data/RT2/realFleet.txt
> Fri Jul 5 10:28:29 CEST 2013
> [s_dpc@satais-dps RT1]$
```




The date of the last outputed files must be lower than 30 minutes.

```
> [s_dpc@satais-dps saisdpc-distribution]$ cd /opt/s-ais-dpc/saisdpc-distribution
> [s_dpc@satais-dps saisdpc-distribution]$ ./s-ais-dpc status tomcat-data-
simulation
> status:      tomcat-data-simulation          [   running   ]
```

The status must be "running"

b.3.1. If the SIM process is still stopped after many restart (anomaly sometime around midnight)

Check if there always sim process:

```
> [s_dpc@satais-dps ~]$ ps -aef | grep sim
```

You must have no response like this output:

```
> [s_dpc@satais-dps ~]$ ps -aef | grep sim
> s_dpc      12844 22381 0 09:08 pts/0   00:00:00 grep sim
> [s_dpc@satais-dps ~]$
```

If you have an output as follow that means that there are still 2 children alive: You have to kill both of them



```
> s_dpc 12844 22381 0 09:08pts/0 00:00:00 grep sim

> s_dpc 21226 21117 4 07:21pts/1 00:04:42 java -
Dsaisdpc.simulatorLogFileName=RealTimeSimulator_DPS_RealTime_1.log -
Dsaisdpc.home=/opt/s-ais-dpc/saisdpc-distribution -Dsaisdpc.application=data-
simulation -Dsaisdpc.tmp=/opt/s-ais-dpc/saisdpc-distribution/tmp -
Dsaisdpc.config=/opt/s-ais-dpc/saisdpc-distribution/config -
Dsaisdpc.bin=/opt/s-ais-dpc/saisdpc-distribution/bin -Dsaisdpc.lib=/opt/s-ais-
dpc/saisdpc-distribution/lib -Dsaisdpc.log=/opt/s-ais-dpc/saisdpc-
distribution/log -Dsaisdpc.product=/opt/s-ais-dpc/saisdpc-distribution/product
-server -Xmx2048M -Xms2048M -Xss128k -XX:+UnlockDiagnosticVMOptions -
XX:+UnsyncloadClass -XX:+UseParNewGC -XX:+CMSParallelRemarkEnabled -
XX:SurvivorRatio=128 -XX:MaxTenuringThreshold=0 -XX:+UseConcMarkSweepGC -
XX:+CMSIncrementalMode -XX:+CMSIncrementalPacing -
XX:CMSIncrementalDutyCycleMin=10 -XX:CMSIncrementalDutyCycle=10 -
Dlog4j.configuration=file:/opt/s-ais-dpc/saisdpc-
distribution/config/fr/cls/sais_dpc/datasimulation/log4jSimu.xml -
Duser.timezone=UTC fr.tas.satais.simulator.Simulator /opt/s-ais-dpc/saisdpc-
distribution/tmp/saisdpc-data-
simulation4851524080583839522SimulatorConfiguration

> s_dpc 21235 21117 9 07:21pts/1 00:10:33 java -
Dsaisdpc.simulatorLogFileName=RealTimeSimulator_DPS_RealTime_2.log -
Dsaisdpc.home=/opt/s-ais-dpc/saisdpc-distribution -Dsaisdpc.application=data-
simulation -Dsaisdpc.tmp=/opt/s-ais-dpc/saisdpc-distribution/tmp -
Dsaisdpc.config=/opt/s-ais-dpc/saisdpc-distribution/config -
Dsaisdpc.bin=/opt/s-ais-dpc/saisdpc-distribution/bin -Dsaisdpc.lib=/opt/s-ais-
dpc/saisdpc-distribution/lib -Dsaisdpc.log=/opt/s-ais-dpc/saisdpc-
distribution/log -Dsaisdpc.product=/opt/s-ais-dpc/saisdpc-distribution/product
-server -Xmx2048M -Xms2048M -Xss128k -XX:+UnlockDiagnosticVMOptions -
XX:+UnsyncloadClass -XX:+UseParNewGC -XX:+CMSParallelRemarkEnabled -
XX:SurvivorRatio=128 -XX:MaxTenuringThreshold=0 -XX:+UseConcMarkSweepGC -
XX:+CMSIncrementalMode -XX:+CMSIncrementalPacing -
XX:CMSIncrementalDutyCycleMin=10 -XX:CMSIncrementalDutyCycle=10 -
Dlog4j.configuration=file:/opt/s-ais-dpc/saisdpc-
distribution/config/fr/cls/sais_dpc/datasimulation/log4jSimu.xml -
Duser.timezone=UTC fr.tas.satais.simulator.Simulator /opt/s-ais-dpc/saisdpc-
distribution/tmp/saisdpc-data-
simulation4661034123945378291SimulatorConfiguration
```

Kill the 2 children with their PID:
For the exemple the command kill has to be used with the PID 21226 & 21235

```
> kill -9 21226
> kill -9 21235
```

Verify then the RT2 files size and creation

Connect to satais-proc

launch the following command: ll /data/shared-fs/working-fs/dps/data/RT/TLE/.tle

```
[s_dpc@satais-proc ~]$ ll /data/shared-fs/working-fs/dps/data/RT*/TLE/*.tle
```

```
-rw-r--r-- 1 s_dpc dpc 151 Aug 22 00:40 /data/shared-fs/working-fs/dps/data/RT1/TLE/AISSat_1.tle
-rw-r--r-- 1 s_dpc dpc 148 Aug 22 00:38 /data/shared-fs/working-fs/dps/data/RT2/TLE/rEV01.tle
-rw-r--r-- 1 s_dpc dpc 148 Aug 22 00:38 /data/shared-fs/working-fs/dps/data/RT2/TLE/rEV02.tle
-rw-r--r-- 1 s_dpc dpc 148 Aug 22 00:38 /data/shared-fs/working-fs/dps/data/RT2/TLE/rEV03.tle
-rw-r--r-- 1 s_dpc dpc 148 Aug 22 00:38 /data/shared-fs/working-fs/dps/data/RT2/TLE/rEV06.tle
-rw-r--r-- 1 s_dpc dpc 148 Aug 22 00:38 /data/shared-fs/working-fs/dps/data/RT2/TLE/rEV80.tle
```

```
[s_dpc@satais-proc ~]$
```

Cliquez ici pour taper
du texte.

Cliquez ici pour taper du texte.

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Verify these important points:

you've got 6 files with .tle extension (AISSat_1 / rEV01 / rEV02 / rEV03 / rEV06 / rEV80)

the size of the file are all around 150 Ko

all the file are dated of today (almost the same hour)

in case of anomaly on a file get the new TLE files with specific tool

still connected to satais-proc

Go to the temporary folder /opt/s-ais-dpc/tempo_tle_files

```
cd /opt/s-ais-dpc/tempo_tle_files
```

Erase all past files (the folder has to be empty to avoid any error in the copy)

```
rm *.tle
```

launch the command for the corrupt/empty/bad file:

In case of AISSat_1

```
/opt/s-ais-dpc/saisdpc-distribution/get_tle.sh 36797 AISSat_1
```

In case of rEV01

```
/opt/s-ais-dpc/saisdpc-distribution/get_tle.sh 38709 rEV01
```

In case of rEV02

```
/opt/s-ais-dpc/saisdpc-distribution/get_tle.sh 37387 rEV02
```

In case of rEV03

```
/opt/s-ais-dpc/saisdpc-distribution/get_tle.sh 35686 rEV03
```

In case of rEV06

```
/opt/s-ais-dpc/saisdpc-distribution/get_tle.sh 37793 rEV06
```

In case of rEV08

```
/opt/s-ais-dpc/saisdpc-distribution/get_tle.sh 25544 rEV80 37792
```

You can launch the command for all files if you have a doubt: this is not a problem to overwrite this kind of file

Exemple of the ouput after launching the command, exemple with AISSat_1



```
> [s_dpc@satais-proc tempo_tle_files]$ /opt/s-ais-dpc/saisdpc-
distribution/get_tle.sh 36797AISSat_1
> --2013-08-22 15:18:47-- https://www.space-
track.org/basicspacedata/query/class/tle_latest/EPOCH/%3Enow-
2/limit/1/NORAD_CAT_ID/36797/orderby/EPOCH%20ASC/format/tle
> Resolving www.space-track.org... 74.63.182.137
> Connecting to www.space-track.org|74.63.182.137|:443... connected.
> HTTP request sent, awaiting response... 200 OK
> Length: 142 [text/plain]
> Saving to: âAISSat_1.tleâ
>
> 100%[=====>] 142  --.-
K/s in 0s
>
> 2013-08-22 15:18:47 (5.40MB/s) - âAISSat_1.tleâ
>
> [s_dpc@satais-proc tempo_tle_files]$
```

The files are then on your temporary /opt/s-ais-dpc/tempo_tle_files folder Exemple with AISSat_1 & rEV06:

```
> [s_dpc@satais-proc tempo_tle_files]$ ll
> total 16
> -rw-r--r-- 1 s_dpc dpc 151 Aug 22 15:18 AISSat_1.tle
> -rw-r--r-- 1 s_dpc dpc 651 Aug 22 15:27 cookies.txt
> -rw-r--r-- 1 s_dpc dpc 433 Aug 22 15:27 log_spacetrack
> -rw-r--r-- 1 s_dpc dpc 148 Aug 22 15:27 rEV06.tle
> [s_dpc@satais-proc tempo_tle_files]$
```

Copy the TLE files from temporary to used applicative folder:

Still connected to satais-proc

Copy the .tle file

from the temporary folder /opt/s-ais-dpc/tempo_tle_files

to the specific folder of the satellite

/data/shared-fs/working-fs/dps/data/RT1/TLE/ for AISSat_1.tle

/data/shared-fs/working-fs/dps/data/RT2/TLE/ for rEV01.tle

/data/shared-fs/working-fs/dps/data/RT2/TLE/ for rEV02.tle

/data/shared-fs/working-fs/dps/data/RT2/TLE/ for rEV03.tle

/data/shared-fs/working-fs/dps/data/RT2/TLE/ for rEV06.tle

/data/shared-fs/working-fs/dps/data/RT2/TLE/ for rEV80.tle

Exemple for AISSat_1 & rEV06:



```
> [s_dpc@satais-proc ~]$ cd /opt/s-ais-dpc/tempo_tle_files
> [s_dpc@satais-proc tempo_tle_files]$ cp AISSat_1.tle /data/shared-fs/working-
fs/dps/data/RT1/TLE/
> [s_dpc@satais-proc tempo_tle_files]$
> [s_dpc@satais-proc tempo_tle_files]$ cp rEV06.tle /data/shared-fs/working-
fs/dps/data/RT2/TLE/
> [s_dpc@satais-proc tempo_tle_files]$
```

And then restart the SIM process

```
> cd /opt/s-ais-dpc/saisdpc-distribution/
> ./s-ais-dpc restart tomcat-data-simulation
```

b.4.1. If the anomaly is still there after the restart then call the technical support

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.

b.2. Particular cases/Exceptions

In some particular case the alerts are not to take in account => Check with the OE if there is no maintenance period schedule.

b.3. Expected result/Verification

The timestamps in the logs files are in UTC Time!

b.1.3. Connect to the server satais-proc

with s_dpc account (see account page for password).

b.2.3. Check the ERROR on log files:

```
> grep ERR /opt/s-ais-dpc/saisdpc-distribution/log/data-simulation/logbook.log |
tail -n5
> 2013-06-28 14:08:27,935 [Thread-5          ] [
] ERROR - Error when removing shutdown kook.
> 2013-06-28 14:22:22,402 [Thread-5          ] [
] ERROR - Error when removing shutdown kook.
> 2013-07-04 22:01:42,027 [Thread-6          ] [e58839f1-18b3-41b7-806b-
6d34acb82f68] ERROR - A real time simulator stopped abnormally ! Stop data
simulation.
> 2013-07-04 22:01:43,942 [Thread-15553       ] [b230cd5c-7a28-4c43-9fc1-
38af37f70f29] ERROR - Impossible to update simulator file : simulator is
stopped
> 2013-07-04 22:01:44,443 [Thread-15556       ] [90721194-158b-4828-8b47-
4c7285428c32] ERROR - Impossible to update simulator file : simulator is
stopped
> [s_dpc@satais-dps data-simulation]$
```

You must have no return on this command. If it's the case (as above), call the O.E.



b.3.3. Check the date of the last message

```
> tail -n5 /opt/s-ais-dpc/saisdpc-distribution/log/data-simulation/logbook.log
> 2013-07-05 08:29:24,097 [Thread-7 ] [62ad68b0-2b11-4cd1-a6c1-
f453de5feec] INFO - ENDING processing satellites scheduled downlinks for
provider eE
> 2013-07-05 08:29:24,097 [Thread-7 ] [62ad68b0-2b11-4cd1-a6c1-
f453de5feec] INFO - STARTING processing satellite position for provider eE
> 2013-07-05 08:29:24,098 [Thread-7 ] [62ad68b0-2b11-4cd1-a6c1-
f453de5feec] INFO - ENDING processing satellite position for provider eE
> 2013-07-05 08:29:24,148 [Thread-7 ] [62ad68b0-2b11-4cd1-a6c1-
f453de5feec] INFO - Save sended alerts.
> 2013-07-05 08:29:24,284 [Thread-7 ] [62ad68b0-2b11-4cd1-a6c1-
f453de5feec] INFO - Save sended informations.
> [s_dpc@satais-dps data-simulation]$
```

The returned date must be lower than 30 minutes.

b.4.3. Check the date of the last RealTime working files

```
> [s_dpc@satais-dps RT1]$ date -r /data/shared-fs/working-
fs/dps/data/RT1/realFleet.txt
> Fri Jul 5 10:28:29 CEST 2013
> [s_dpc@satais-dps RT1]$ date -r /data/shared-fs/working-
fs/dps/data/RT2/realFleet.txt
> Fri Jul 5 10:28:29 CEST 2013
> [s_dpc@satais-dps RT1]$
```

The date of the last outputed files must be lower than 30 minutes.

b.5.3. Check the status of the L1 process

```
> [s_dpc@satais-dps saisdpc-distribution]$ cd /opt/s-ais-dpc/saisdpc-distribution
> [s_dpc@satais-dps saisdpc-distribution]$ ./s-ais-dpc status data-simulation -v
> status: data-simulation [tomcat-data-simulation]
[ running ]
```

The status must be "running"

2.2.2.8. DPC-MON-DRT- ERROR

Addressee Type	Execution time (in minute)
OPS Incident	20

a. Control purpose

a.1. What is doing the control ?

The controls check if DPC is well receiving and transmitting the providers' data flows.



a.2. Who is doing the control ?

The Nagios checks are the following services:

a.3. Threshold

An alert is raised each time:

Service in Nagios	Kind of check	Threshold
DPC-MON-DRT-*	checks if data have been processed	If no data have been processed during the last 1 hour

a.4. Impact and backup solution

Impact: No data received from provider: very huge impact! Procedure

a.5. Steps

Directly with the DRT log file on server

Connect to the server satais-proc with s_dpc account (see account page for password)

Do the following command:

```
grep "B)" /opt/s-ais-dpc/saisdpc-distribution/log/data-retrieval/retrieved-resources.log |tail -n1
```

The date of the last processing is then shown. It has to be less than 1 and half an hour.

In the DRT log file, the date is a UTC time.

a.1.5. If the date of the last processing is older than 1 and half an hour

Restart the DRT processing

Connect to the server satais-proc with s_dpc account (see account page for password)

Do the following commands:

```
> cd /opt/s-ais-dpc/saisdpc-distribution/
> ./s-ais-dpc restart tomcat-data-retrieval
```

Check again the last date processing or the status of the Nagios error

See previous chapter to check directly on DRT log file.

a.1.5. If the anomaly is still there after 5 minutes then try to restart the JMS proxy

TBD



a.2.5. If the anomaly is still there after the eeE proxy restart then call the technical support

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.

a.6. Particular cases/Exceptions

In some particular case the alerts are not to take in account (i.e scheduled or regular provider maintenance) => Check with the OE if there are no maintenance period schedule.

a.7. Expected result/Verification

Check the last processing date.

a.1.7. Directly with the DRT log file on server

Connect to the server satais-proc with s_dpc account (see account page for password)

Do the following command:

```
grep "B)" /opt/s-ais-dpc/saisdpc-distribution/log/data-retrieval/retrieved-resources.log |tail -n1
```

The date of the last processing is then shown. It has to be less than 1 hour.

In the DRT log file, the date is an UTC time.

2.2.2.9. DPC-MON-ESBBPS-ERROR

Addressee	Type	Execution time (in minute)
OPS	Incident	20

a. Control purpose

a.1. What is doing the control ?

The controls check the ESB and BPS components.

a.2. Who is doing the control ?

The Nagios checks "DPC-MON-PRO-ESB-*" and "DPC-MON-PRO-BPS-*" dedicated to respectively ESB and BPS components.

a.3. Threshold

An alert is raised each time:

the process is missing:
Component connection to its database is in error



a.4. Impact and backup solution

Impact: Not able to dispatch messages between the other components => No data processed : very huge impact !

No backup or workaround solution except the global switch procedure (to be done by Operating Engineer)!

b. Procedure

b.1. Steps

b.1.1. if Errors in BPS: restart BPS

Connect to the server satais-core with s_dpc account (see account page for password)

Do the following command:

```
> /opt/s-ais-dpc/esb/wso2bps-3.2.0/bin/wso2server.sh stop
> /opt/s-ais-dpc/esb/wso2bps-3.2.0/bin/wso2server.sh start
```

And then check the wso2esb status:

```
> ps -aef | grep bps
```

You should obtain something similar to this:

```
[s_dpc@satais-esb1 ~]$ ps -aef | grep bps
s_dpc 16139 18300 0 00:33 pts/2 00:00:00 grep bps
s_dpc 19094 1 0 Jul04 pts/2 00:00:00 bash /opt/s-ais-dpc/esb/wso2bps-
s_dpc 19114 19094 0 Jul04 pts/2 01:01:05 /usr/lib/jvm/jre-1.6.0-openjdk.x
ermSize=512m -XX:+HeapDumpOnOutOfMemoryError -XX:HeapDumpPath=/opt/s-ais-dpc/esb
ement.jmxremote -Dcom.sun.management.jmxremote.port=12346 -Dcom.sun.management.j
=false -classpath :/opt/s-ais-dpc/esb/wso2bps-3.0.0/bin/org.wso2.carbon.bootstra
r:/opt/s-ais-dpc/esb/wso2bps-3.0.0/lib/commons-lang-2.6.0.wso2v1.jar -Djava.endo
ib/jvm/jre-1.6.0-openjdk.x86_64/jre/lib/endorsed:/usr/lib/jvm/jre-1.6.0-openjdk.
s-3.0.0/tmp -Dcatalina.base=/opt/s-ais-dpc/esb/wso2bps-3.0.0/lib/tomcat -Dwso2.s
/usr/lib/jvm/jre-1.6.0-openjdk.x86_64/bin/java -Dcarbon.home=/opt/s-ais-dpc/esb/
sb/wso2bps-3.0.0/repository/conf/log4j.properties -Dcarbon.config.dir.path=/opt/
/opt/s-ais-dpc/esb/wso2bps-3.0.0/repository/components/plugins -Dconf.location=/
icatch.file=/opt/s-ais-dpc/esb/wso2bps-3.0.0/lib/transactions.properties -Dcom.
untime.BodyContentImpl.LIMIT_BUFFER=true -Dcom.sun.jndi.ldap.connect.pool.authen
-Dorg.terracotta.quartz.skipUpdateCheck=true -Djava.security.egd=file:/dev/./ura
tstrap.Bootstrap
[s_dpc@satais-esb1 ~]$
```

b.2.1. if Errors in ESB: Restart ESB

Connect to the server satais-core with s_dpc account (see account page for password)

Do the following command:

```
> service wso2esb stop
> service wso2esb stop
```

And then check the wso2esb status:

```
> ps -aef | grep wso2esb
```

You should obtain something similar to this:



```
[s_dpc@satais-esb1 ~]$ ps -aef | grep wso2esb
s_dpc    16470 18300  0 00:34 pts/2    00:00:00 grep wso2esb
s_dpc    22832      1  0 Jul04 ?        00:03:26 /opt/s-ais-dpc/esb/wso2esb-4.0.2
./bin/native/wrapper-linux-x86-32 /opt/s-ais-dpc/esb/wso2esb-4.0.2/.repository
/conf/wrapper.conf wrapper.syslog.ident=WSO2Carbon wrapper.pidfile=/opt/s-ais-dp
c/esb/wso2esb-4.0.2/.WSO2Carbon.pid wrapper.daemonize=TRUE
[s_dpc@satais-esb1 ~]$
```

b.3.1. Check again the component & trigger

See next chapter for the attempted results

b.4.1. If the anomaly is still there after the restart then call the technical support

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.

b.2. Particular cases/Exceptions

In some particular case the alerts are not to take in account => Check with the OE if there is no maintenance period schedule.

b.3. Expected result/Verification

b.1.3. BPS checks

These triggers should be OK:

DPC-MON-PRO-BPS-*

b.2.3. ESB checks

These services should be OK:

DPC-MON-PRO-ESB-*

b.3.3. if it's not the case, call the O.E.

2.2.2.10. DPC-MON-DMA-DATA

Addressee Type		Execution time (in minute)
OPS	Incident	20



a. Control purpose

a.1. What is doing the control ?

The controls check the DMA processing (status, processing errors).

a.2. Who is doing the control ?

The Nagios checks "DPC-MON-DMA-DATA-*" on satais-core host.

a.3. Threshold

An alert is raised each time:

no processing has been done in the last 1 hour,
the DMA webservice is not responding

a.4. Impact and backup solution

Impact: No data processed : very huge impact !

b. Procedure

b.1. Steps

b.1.1. Restart the DMA service

Connect to the server satais-core with s_dpc account (see account page for password)

Do the following command:

```
> cd /opt/s-ais-dpc/saisdpc-distribution/
> ./s-ais-dpc restart tomcat-core
```

b.2.1. Check again the DMA processing & trigger

See next chapter for the attempted results

b.3.1. If the anomaly is still there after the restart then call the technical support

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.

b.2. Particular cases/Exceptions

In some particular case the alerts are not to take in account => Check with the OE if there are no maintenance period schedule.



b.3. Expected result/Verification

b.1.3. Connect to the server satais-core

with `s_dpc` account (see account page for password)

b.2.3. Check the ERROR on log files:

```
> grep ERR /opt/s-ais-dpc/saisdpc-distribution/log/dma-service/*.log | tail -1
```

You must have no return on this command.

b.3.3. Check the date of the last message

```
> tail -1 /opt/s-ais-dpc/saisdpc-distribution/log/dma-service/logbook.log
> 2014-12-09 17:09:45,587 [ttp-bio-8080-exec-10] [
] INFO - END storeL2Position : 0.068
```

The returned date must be lower than 30 minutes.

b.4.3. Check the date of the last DMA working file

```
> ls -rtl /data/shared-fs/working-fs/dma1/
> -rw-r--r-- 1 s_dpc dpc 120034 Jul  4 18:09 e7239cdb-5060-4fc4-9e12-
22082012b2e1-alerts-0.xml
> -rw-r--r-- 1 s_dpc dpc 132820 Jul  4 18:09 e7239cdb-5060-4fc4-9e12-
22082012b2e1-raw-ais-messages-0.nm4
> -rw-r--r-- 1 s_dpc dpc 2784836 Jul  4 18:09 e7239cdb-5060-4fc4-9e12-
22082012b2e1-ais-messages-0.xml
```

The date of the last outputed file must be lower than 30 minutes.

b.5.3. Check the status of the dma-service process

```
> [s_dpc@satais-proc saisdpc-distribution]$ cd /opt/s-ais-dpc/saisdpc-
distribution
> [s_dpc@satais-proc saisdpc-distribution]$ ./s-ais-dpc status tomcat-core
> status:      tomcat-core                [    running    ]
```

The status must be "running"

2.2.2.11. DPC-MON-DMA-FS

Addressee Type		Execution time (in minute)
OPS	Incident	20



a. Control purpose

a.1. What is doing the control ?

The controls check the partition used by DMA module (if available/mounted, and free space).

a.2. Who is doing the control ?

The Nagios checks “DPC-MON-DMA-FS” on satais-core and satais-proc hosts.

a.3. Threshold

An alert is raised each time:

if free space < 10%, Critical if < 5%,
if no partition named “/ data/shared-fs/” is found

a.4. Impact and backup solution

Impact: No data processed : very huge impact !

b. Procedure

b.1. Steps

b.1.1. Check if a /data/shared-fs partition is mounted

Connect to the server raising the alert with s_dpc account (see account page for password)

Do the following command:

```
> df /data/shared-fs/
```

If no partition is mounted,

- and the alert raises on satais-core machine, do this command:

```
> mount /data/
```

- and the alert raises on satais-proc machine, do this command:

```
> mount /data/shared-fs
```

b.2.1. Check free space left in /data/shared-fs

Do the following command:

```
> df /data/shared-fs
```

And look at the “Use” column value

- From satais-core machine:

```
> Filesystem                                Size  Used Avail Use% Mounted on
> /dev/mapper/vg_sataiscoreqt-lv_data 227G   24G  192G  11% /data
```

- From satais-proc machine:

```
> Filesystem                                Size  Used Avail Use% Mounted on
```



```
> 10.20.0.31:/data/shared-fs 227G 24G 192G 11% /data/shared-fs
```

It should be less than 90%. Here, 11% is OK.

b.3.1. If not OK, investigate into the /data/shared-fs folder recursively

Which folder is occupying the most space, thanks to this command, on satais-core machine:

```
> du -msx ./ * |sort -rn
```

which should display space used by each subfolder, in MegaBytes:

```
> 10531 ./working-fs
> 980 ./dma-fs
> 9 ./input-drt
> 1 ./TLE
```

And either

- Control that contained files are archived or deleted, from the crontab
- remove old files,
- ask for supplementary space in /data/shared-fs partition

b.4.1. Check again the DMA-FS alert

See next chapter for the attempted results

b.5.1. If the anomaly is still there after the restart then call the technical support

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.

b.2. Particular cases/Exceptions

In some particular case the alerts are not to take in account => Check with the OE if there are no maintenance period schedule.

b.3. Expected result/Verification

b.1.3. Connect to the server satais-core

with s_dpc account (see account page for password)

b.2.3. Check the /data partition

```
> df /data/shared-fs 2> /dev/null > /dev/null && echo OK
```

You must have a "OK" returned by this command.

b.3.3. Connect to the server satais-proc

with s_dpc account (see account page for password)



b.4.3. Check the /data/shared-fs remote partition

```
> mount /data/shared-fs/
```

which should display this:

```
> mount: according to mtab, 10.20.0.31:/data/shared-fs is already mounted on /data/shared-fs
> mount failed
```

b.5.3. Check free space left in /data/shared-fs

Do the following command:

```
> df /data/shared-fs
```

And look at the “Use” column value:

```
> Filesystem                Size      Used Avail Use% Mounted on
> /dev/mapper/vg_sataiscoreqt-lv_data 227G    24G   192G   11% /data
```

It should be less than 90%. Here, 11% is OK.

2.2.2.12. DPC-MON-DMA-DB-CONNECT

Addressee Type		Execution time (in minute)
OPS	Incident	20

a. Control purpose

a.1. What is doing the control ?

The controls verifies if DMA module is connected to its database.

a.2. Who is doing the control ?

The Nagios checks “DPC-MON-DMA-DB-CONNECT” on satais-core machine.

a.3. Threshold

An alert is raised each time:

No process named “dma-service” is found
There is at last one process “dma-service”, but there’s no relative connection to the oracle database

a.4. Impact and backup solution

Impact: No data processed : very huge impact !



b. Procedure

b.1. Steps

b.1.1. Check the state of the Oracle Database

b.2.1. Check if the machine hosting the database is available

From the satais-core machine, logged in as “s_dpc” account, assuming “satais-db” is the name of the machine hosting the DPC database,

Do the following command:

```
> ping -qc3 satais-db > /dev/null && echo OK||echo KO
```

You should obtain a “OK”. If the answer is

```
> ping: unknown host
```

replace “satais-db” by the ip address of the machine hosting the DPC database.

b.3.1. If answer to ping is KO

Then see with network team, after having checked the DPC DB host state.

b.4.1. If Ping is OK, restart the DMA service

Connect to the server satais-core with s_dpc account (see account page for password)

Do the following command:

```
> cd /opt/s-ais-dpc/saisdpc-distribution/
> ./s-ais-dpc restart tomcat-core
```

b.5.1. If the anomaly is still there after the restart then call the technical support

Check the contact page (link at the end of this procedure) for the planning, call number of the technical support team.

b.2. Particular cases/Exceptions

In some particular case the alerts are not to take in account => Check with the OE if there are no maintenance period schedule.

b.3. Expected result/Verification

b.1.3. Connect to the server satais-core

with s_dpc account (see account page for password)



b.2.3. Check the DMA process' DB connection state

```
> ss -ntap|grep -e :1521.*$(ps -aef |grep -e ^s_dpc.*tomcat-core |grep -v grep  
|awk '{print $2}')
```

You must have such a line returned by this command:

```
> ESTAB      0      0      ::ffff:10.20.0.31:58086      ::ffff:10.20.0.40:1521  
users: (("java",13247,338))
```



3. OE Procedures - level 2

Here are level 2 procedures, which have to be followed by Operations engineers.

3.1. Routine Procedures OE

3.1.1. IT routine OE

3.1.1.1. Start/Stop satais applications

Boot sequence order and start/stop command for each one.

Here is the scheme:

ORDER	COMPONENT	USER	COMMAND
Stop order is reverse			To stop, replace start with stop

(y) : means that this script is launched with parent script numbered x previously listed.

Satais-core

Start commands

1	tomcat-core	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-core
(a)	logging-service	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-core
(b)	workflow-config	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-core
(c)	dma-service	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-core
2	tomcat-data-retrieval	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-data-retrieval
(a)	data-retrieval	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-data-retrieval
3	tomcat-distribution	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-distribution
(a)	distribution	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-distribution

Stop commands

Previous table in reverse order, replace “start” with “stop”

If component fails to stop, try this :

/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc stop -f <component>

Satais-proc

Start commands



1	tomcat-data-simulation	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-data-simulation
(a)	data-simulation	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-data-simulation
2	tomcat-proc1	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-proc
(a)	data-decoder	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-proc
(b)	doppler-loc-processor	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-proc
(c)	l1processing	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-proc
(d)	l2processing	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-proc
(e)	l3processing	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-proc
(f)	ship-prediction	s_dpc	/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc start tomcat-proc

Stop commands

Previous table in reverse order, replace “start” with “stop”

If component fails to stop, try this :

```
/opt/s-ais-dpc/saisdpc-distribution/s-ais-dpc stop -f <component>
```

Satais-nagios

Start sequence

1	Mysql	root	service mysqld start
2	Postfix	root	service postfix start
3	Apache	root	service httpd start
4	Ajaxterm	root	service ajaxterm start
5	nagios	root	service nagios start
6	nagios	root	service nagios start
7	Ndo2db	root	service ndo2db start

Stop sequence

Previous table in reverse order, replace “start” with “stop”

3.2. Incident Procedures OE

3.2.1. Application Incident OE

3.2.1.1. An Error or Warning in the logs

What is doing the control ?

It looks for “err” or “warn” string in the components’ log files.

Procedure purpose

Summary

The aim is to find whether it’s a critical error, or to detect small failures in the components.

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Analyzing the log files helps us to be proactive before a crash in the component concerned by the alert, or the host where the component is installed.

Impact and backup solution

There could be side effects of other unseen problems in the solution.

Particular cases/Exceptions

Don't take "DEBUG" or "TRACE" lines into account.

Some "ERROR" in logs may be determined as "normal" ones.

Verify in SIO tool

Expected result/Verification

There should be no "ERROR" or "WARNING" message in the logs.



4. Usefull information

4.1. Accounts and passwords

4.1.1. Applications

Description	ServerOS/Protocol	Application	User	Password	Comment
Admin Nagios (XI, nagvis, nagios core)	CentOS/http	Nagios	nagiosadmin	nagios	http://satais-con/nagios/
Nagios apps operator (XI, nagvis, nagios core)	CentOS/http	Nagios	nagiosguest	nagiosguest	http://satais-con/nagios/

Table 4: Applications accounts and passwords

4.1.2. Servers

Description	ServerOS/Protocol	Server ip address	User	Password
root	Linux/SSH	satais-core, satais-proc, satais-jms1, satais-jms2	root	SATais
s_dpc	Linux/SSH	satais-core, satais-proc, satais-jms1, satais-jms2	s_dpc	s_dpc
root	Linux/SSH	satais-con	root	nagios

Table 5: Servers accounts and passwords

4.1.3. Databases

Description	Database name	User	Password	Comment
Oracle instance	TBD	TBD	TBD	

Table 6: Databases accounts and passwords



Appendix A - List of acronyms

AD	Applicable Document
BPEL	Business Process Execution Language
BPL	Business Process Layer
DIS	Data distribution Service
DMA	Data Management & Archive
DPC	Data Processing Centre
DPS	Data Prediction Service
DRT	Data ReTrieval
EO	Earth Observation (SAR boats detection)
ESB	Enterprise Serial Bus
RD	Reference Document
SOA	Service Oriented Architecture
TBC	To be confirmed
TBD	To be defined
TLE	Two-Line Elements
OE	Operation Engineer
OPERATOR	Operators
IS	Information System