

SOXS operations and scheduler

Marco Landoni
Dave Young
Laurent Marty
Laura Asquini



**QUEEN'S
UNIVERSITY
BELFAST**

Overview

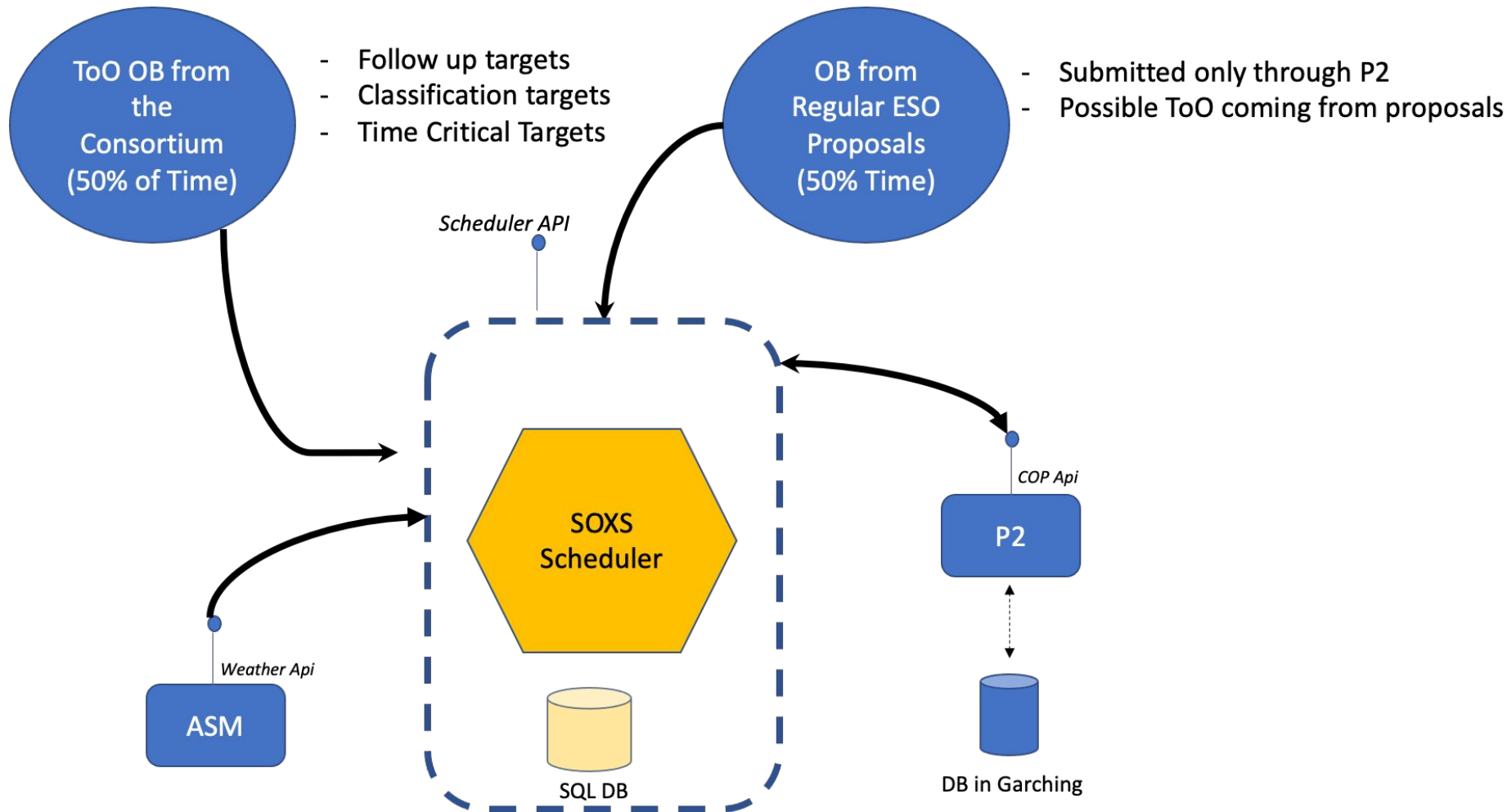
- The operation concept for SOXS
- The SOXS Marshall
- Scheduler and P2 API
- Comments

SOXS Operations

- We will have an operator (not an astronomer) on the mountain available on call.
- We will operate the SOXS@NTT for both the Consortia targets (ToO, Follow Ups, Fast Response Targets) and regular ESO proposals (+ESO ToOs)
- At LaSilla we will have the P2 system for OB submissions and vOT only interface (coupled with BOB).

Requirements


- Propose a schedule for each night for 5 years that combines:
 - 50% of the time for Consortia targets splitted between ToO, follow up , ecc.
 - 50% of regular (+ToO) ESO Obs (submitted only through ESO P2 web interface)
 - The schedule will be discussed during a daily 15-mins call
- Provide a rapid method for a backup schedule **with no (or little)** operator actions.
- Be fully compliant with the p2 API and provide the right arrangment of the time between consortia and ESO.
- Web based (for schedule check and definition of possible time constrains) with high availability.



The Marshall


- We will exploit the knowledge of already well assessed surveys (PESSTO, ePESSTO) to SOXS.
- We are adapting the developed WebApp (Marshall, David Young et al) to SOXS transients management.


Screenshot




create
new ticket


TARGET SELECTION QUEUES


 inbox (1652)

 snoozed (0)

 review for followup (0)

OBSERVATION QUEUES

 classification targets (0)














 + followup targets (0)

= all targets (0)

CLASSIFICATION &
ASTRONOTE QUEUES

queued for classification
(0)

queued for astronote (0)

 date added to marshall  x 10  1  2  3  4  5 

showing transients 1-10 of 1302 with decDeg < 30 in the inbox list

overview

comments 0

photometry

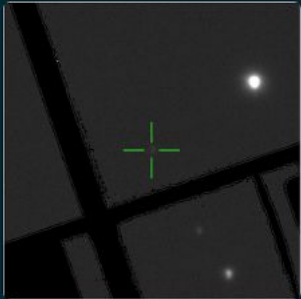
context


ticket history

dryx



identity

PS1-12arr



list:  inbox

pessto id: 202

object info

ra & dec:
15:31:50.85 +15:24:46.23
[232.96191 15.41284]

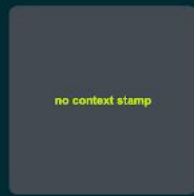
galactic coords:
23.81076 51.02786

pre-disc non-detection:
unknown

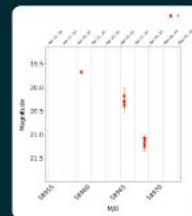
discovery date:
1538 days ago
(2016-04-27)

date added to marshall:
5 days ago
(2020-07-08)

host info







lightcurve



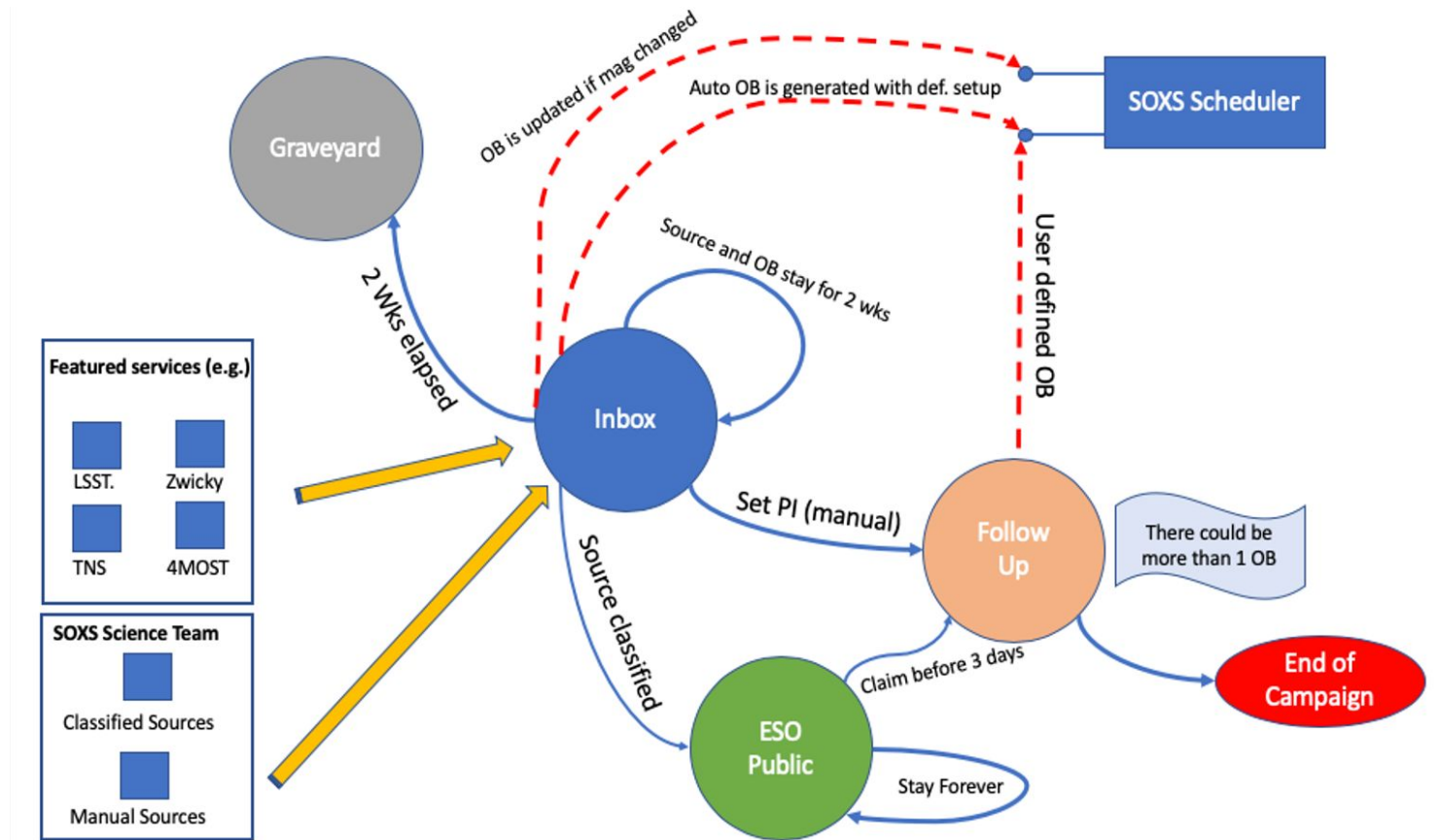
discovery magnitude:
21.13 PanSTARRS
w-band
2016-04-27
+1538d

latest magnitude:
21.08 PanSTARRS
w-band
2020-04-28
+76d

actions



Source workflow in the Marshall



Current feeders (not exhaustive or definitive list)

- ZTF via Lasair-ZTF (prototype LSST alert broker)
- PanSTARRS PS1 & PS2
- ATLAS. 2 units, soon to be 4 units.
- ASASSN
- OGLE
- MASTER
- Gaia Alerts
- LSST via Lasair-LSST

Also integration with reporting & alert services: TNS, ATels, GCNs



P2 automation

OB Creation (AutoOB from classification)

OB Creation (Followup)

Regular proposals (ESO)

OB Manager and Scheduler

The screenshot displays the Phase 2 OB Manager and Scheduler interface. The top navigation bar includes tabs for Details, Overview, Schedule, Execution Sequence, and DEMO ENVIRONMENT. The main content area shows the 'Execution Sequence' tab, which lists observing runs for the night of 20 Sep 2020. The interface includes a sidebar for 'Your Observing Runs' and a main table with columns for run number, start time, execution time, OB ID, target name, RA, Dec, airmass, PI, and run name. Two runs are listed, both for target 2888791 and 2888786. The interface also features a timeline at the top right showing the current time (10:33) and a refresh button.

Phase 2 2.6.12 Details Overview Schedule Execution Sequence DEMO ENVIRONMENT ? Help UT: 12:27:06 - LST: 07:48:51 Phase 1/2 Tutorial Account

Your Observing Runs

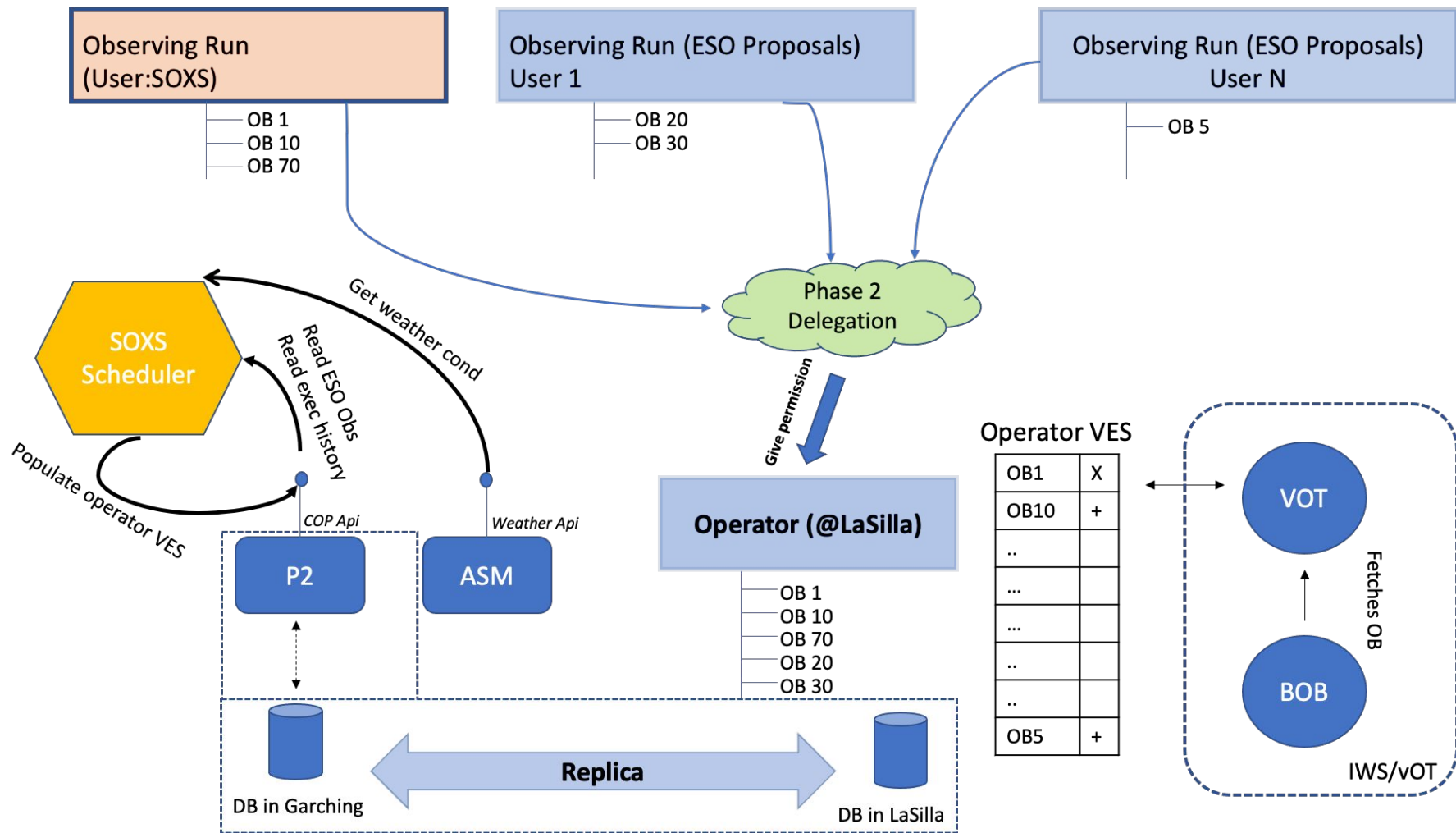
+ 60.A-9003(F) · XSHOOTER

XSHOOTER Observing Night 20 Sep 2020 · night time: 23:54 - 09:17

Start UTC 22:38 10:33 auto-refresh 1/30s

Execution Sequence Target Visibility Import/Export


#	Start	Exec. Time	OB ID · Target	RA	Dec	Airmass	PI	Run
1	22:38	00:45:03	2888791 · PG 1553+113tris	15:55:42.960	11:11:24.360	1.5	Phase 1/2 Tutorial Account	60.A-9003(F)
2	23:23	00:45:03	2888786 · PG 1553+113bis	15:55:42.960	11:11:24.360	1.7	Phase 1/2 Tutorial Account	60.A-9003(F)




Considerations on operations

- We are not considering Containers OB (not foreseen in LaSilla) in terms on group, time link, ecc.
- We will have **lots** of ToO.

SOXS Webapp for Science team

SOXS
SCHEDULER

Zoh The Manager

Switch to VES

New OB

New Urgent OB

Refresh













































































Show Logs

Changelog v0.110

List of OBs


Items by page 30


12

▲ID	OB Type	Target Name	Ra.	Dec.	Magnitude	Exp. Time	Actions
...					
1	Undefined	PKS 1553+113tris	08h40m00s	+10d00m00s	11.5	3	       
4	Classification	AT2018fsj	17h51m49.68s	+15d18m28.44s	18.4	2070	       
5	Proposal ESO	AT2018ftn	01h25m17.88s	+09d39m00.072s	17.3	752	       
6	Classification	AT2018ftv	19h08m06s	-15d22m09.12s	18.8	2994	       
7	Follow up	AT2018ftx	01h44m34.56s	-00d28m05.52s	18.4	2070	       
8	Follow up	SN2018fty	02h26m47.304s	-09d04m02.316s	18.1	1570	       
10	Follow up	AT2018fuc	04h49m54.48s	-41d56m18.24s	17.4	824	       
11	Undefined	SN2018fuk	05h45m08.16s	-79d23m47.4s	17	570	       
12	Classification	SN2018fuu	23h24m56.64s	+09d25m52.68s	17.8	1192	       

Copyright © SOXS Consortium 2020

SOXS Webapp - Managing the VES

SOXS
SCHEDULER

Zoh The Manager

Switch to list OBs

syncVES_P2


emptyVES

getHistoryVES


Refresh

Show Logs

Visitor Execution Sequence

2020-11-23

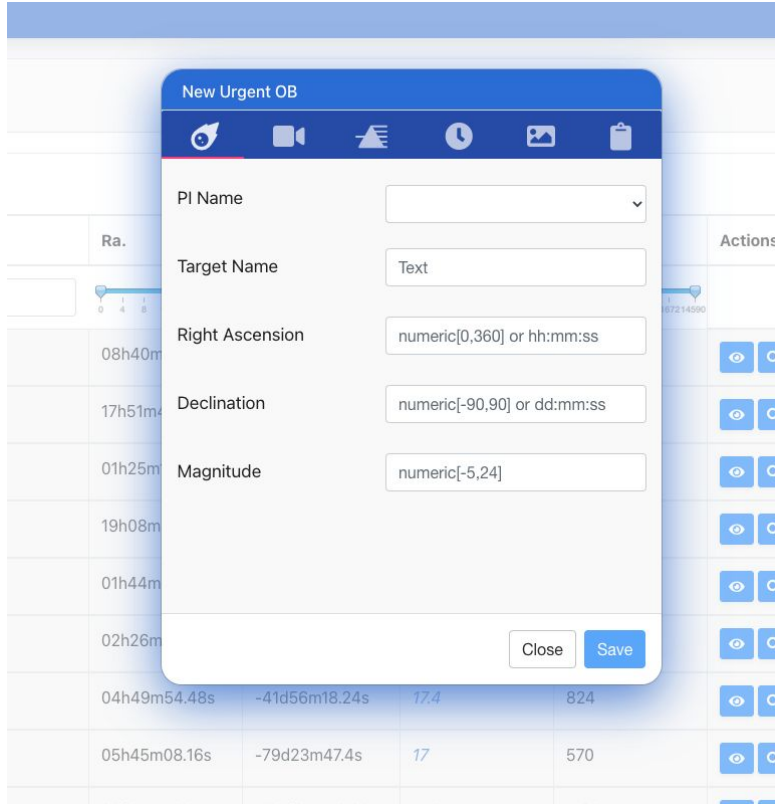
ID	OB Type	Target Name	Ra.	Dec.	Magnitude	Exp. Time	Actions
ID	OB Type	Target Name	Ra.	Dec.	Magnitude	Exp. Time	Actions



Changelog v0.110

Copyright © SOXS Consortium 2020

Urgent OB



The image shows a 'New Urgent OB' dialog box overlaid on a data table. The dialog box has a blue header with the title 'New Urgent OB' and a toolbar with icons for eye, video, list, clock, image, and clipboard. The form fields are as follows:

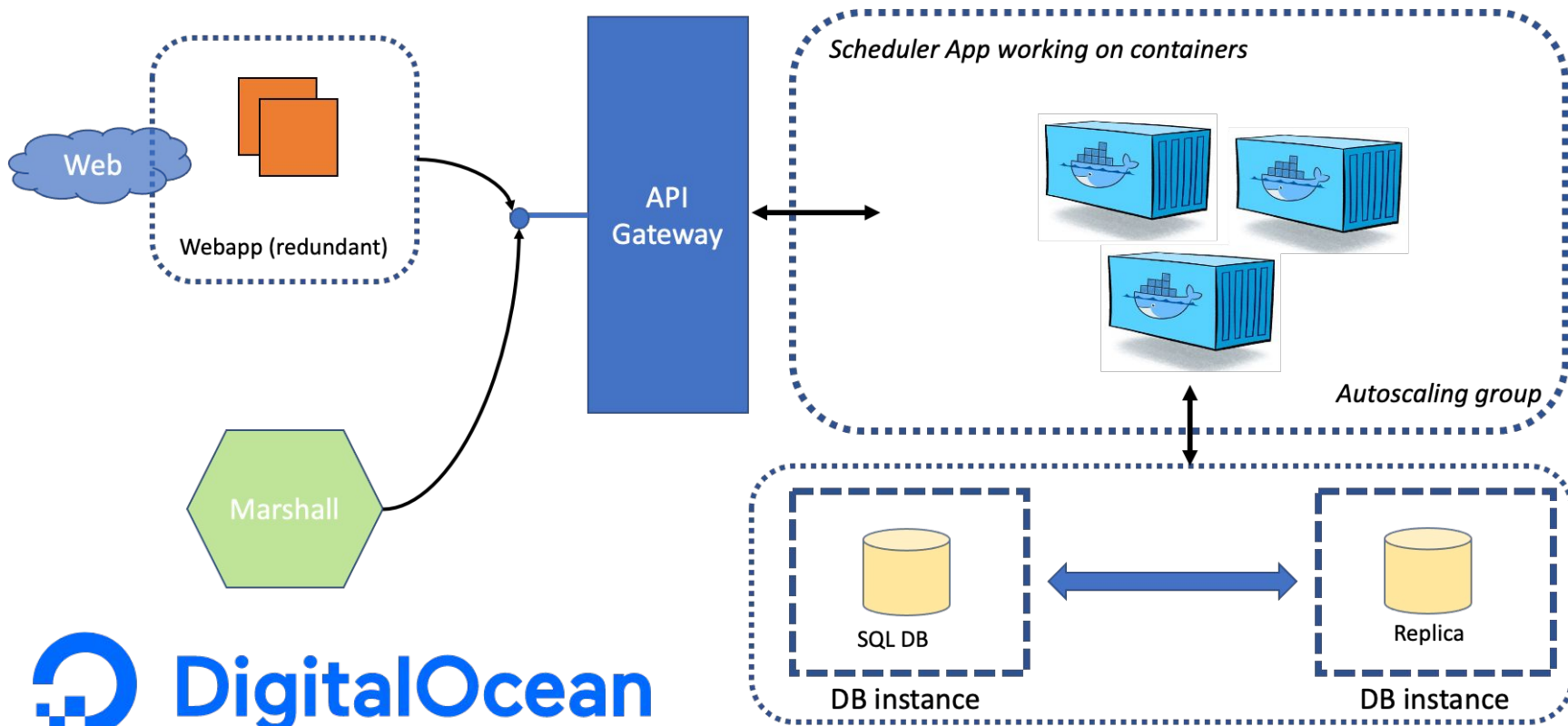
Field	Input Type / Value
PI Name	Dropdown menu
Target Name	Text input
Right Ascension	numeric[0,360] or hh:mm:ss
Declination	numeric[-90,90] or dd:mm:ss
Magnitude	numeric[-5,24]

At the bottom of the dialog are 'Close' and 'Save' buttons. The background table has columns for time (Ra.), coordinates (RA, Dec), and other data. The first row of data is: 08h40m, 17h51m, 01h25m, 19h08m, 01h44m, 02h26m, 04h49m54.48s, -41d56m18.24s, 17.4, 824. The second row is: 05h45m08.16s, -79d23m47.4s, 17, 570.

OB is created automatically and put in the VES for execution

Alarm triggered via SMS, EMail and console to the operator on the mountain

High Availability architecture



Open point and questions

1. We had discussion with classification WG about the possibility to include different feeders for the Marshall (that best suite the need from the WG). This will include discussion at technical and PI level for agreement
2. Using of the previous surveys data on transient for “on-the-fly” guess classification of transients entering the Marshall. This will require ML models (training, validation , etc.). Good point for contributing to the Classification WG.

Thanks