15149 - Validating the Presence of a Moon Orbiting Kepler-1625b

Cycle: 25, Proposal Category: GO

(Availability Mode: AVAILABLE)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) KIC-4760478	WFC3/IR	14	11-Oct-2017 14:00:26.0	yes
02	(1) KIC-4760478	WFC3/IR	12	11-Oct-2017 14:00:41.0	yes

26 Total Orbits Used

ABSTRACT

The Hunt for Exomoons with Kepler (HEK) project has been engaged in the search for exomoons for the past several years, but so far no reliable exomoon detection can be found in the literature. After our largest survey to date, we have recently detected a strong candidate moon signal in the light curve of Kepler-1625b. The planet exhibits three transits in the Kepler data (P~287 days), in which we detect out-of-transit flux dips consistent

with the presence of a large moon to greater than 4 sigma confidence. We propose to observe the next transit of the planet, which will occur October 29th, 2017 (Cycle-25), in the near-infrared using the Wide Field Camera 3 instrument on HST. We request 26 orbits of the telescope, which will allow us to capture the full planet-moon transit event and provide an opportunity to measure the transmission spectra of both the planet and the moon. We anticipate that the proposed measurements would be sufficient to confirm the first unambiguous detection of a moon beyond our Solar System.

OBSERVING DESCRIPTION

Our plan calls for continuous (to the extent possible) observation of KIC-4760478 (aka Kepler-1625b / KOI-5084.01, RA,Dec = 19:41:43.0430, +39:53:11.57) prior to, during, and after the planetary transit on October 28th-29th, 2017 (BJD 2458054.8 - 2458056.5). We will use WFC3/IR slitless spectroscopy (G141) with a series of 313.122 second exposures (the longest possible exposure on the 256x256 subarray; This is 61.5% to saturation time based on ETC WFC3IR.sp.912655 which calculates 508.74 seconds to saturation). The Orbit Planner calculates room for 9 such exposures per orbit when guide star acquisition is not required, and we find this cadence minimizes instrumental overheads. For the two orbits that require guide star alignment (orbits 1 and 15) there is room for 8 such exposures, though for orbit 1 we also include a direct image for wavelength calibration and in orbit 15 we increase the observing cadence to 11 exposures of ~246 seconds each to maximize time on target. For the 26 orbits awarded this comes to a total of 235 grism exposures over the course of the visit.

To avoid blending of stellar spectra on the CCD we require ORIENT to be in the range of 62-69. Note however that this observation is time-critical; it must begin as close as possible to BJD 2458054.8 and end as close as possible to BJD 2458056.5. Therefore, if the required orientation (or another acceptable orientation) for slitless spectroscopy cannot be obtained for this time window we must abandon plans for slitless spectroscopy (exposure times, etc, will have to be recalculated for IR imaging). This ORIENT range should be available on the date of observation, however, per the Visit Planner. We note that APT categorizes our observation as "unschedulable" due to its unusually long duration; we have been advised by our Phase II support contact to ignore this warning and schedule the observation as a series of two visits marked by a full guide star alignment at the beginning of each.

Following the model of Berta et al (2011, #GO-12251, https://arxiv.org/abs/1111.5621) who performed a similar observation using G141 on WFC3, we opt not to dither during the observation, as doing so is expected to introduce additional noise into the observation and we are primarily concerned with relative rather than absolute photometry. We also choose not to employ spatial scanning, since 1) the target is not exceptionally bright, meaning we are not contending with saturation / extensive readout overheads that would otherwise incentivize extending the exposure time; 2) the field is crowded with stars of similar magnitude, meaning spatial scans would have to be quite short; and 3) the HST reduction software is not currently

designed to support spatial scanning. Finally, we plan one wavelength calibration image using F130N at the start of visit 1 with a duration of 103.129 seconds (63% to saturation time, based on ETC WFC3IR.im.1011323 which finds 163.67 seconds to saturation). This calibration image fits comfortably in the leftover orbital visibility time for orbit 1.

Finally, we note that the use of WFC3 is motivated in part by its capacity for operation during passage through the South Atlantic Anomaly (per section 2.2.2 in the HST Primer and 7.9.2 in the WFC3 Handbook). It is crucial that observations continue during passage through the SAA. We anticipate this special requirement will have to be set by the Program Coordinator at STScI.

Visit

Proposal 15149, visit1 (01), implementation Wed Oct 11 18:00:45 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; SCHED 80%; ORIENT 62D TO 69 D; BETWEEN 28-OCT-2017:06:24:00 AND 28-OCT-2017:08:00:00

Comments: This is the first visit, comprising the first 14 orbits of the observation.

Diagnostics

(visit1 (01)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO

(visit1 (01)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO

(visit1 (01)) Warning (Orbit Planner): EXPOSURE WITH SAA CONTOUR 11 WILL EXECUTE ON GYRO

(visit1 (01)) Warning (Orbit Planner): LONG SU LIKELY TO INTERSECT THE SAA

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	KIC-4760478	RA: 19 41 43.0430 (295.4293458d)		V=16.097+/-0.020	Reference Frame: SIMBAD
	Alt Name1: KOI-5084.01	Dec: +39 53 11.57 (39.88655d)		J=14.364,	
	Alt Name2: KEPLER-1625B	Equinox: J2000		H=13.989,	
				K=13.916,	
				E(B-V)=0.19	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Extended=NO

Exposures

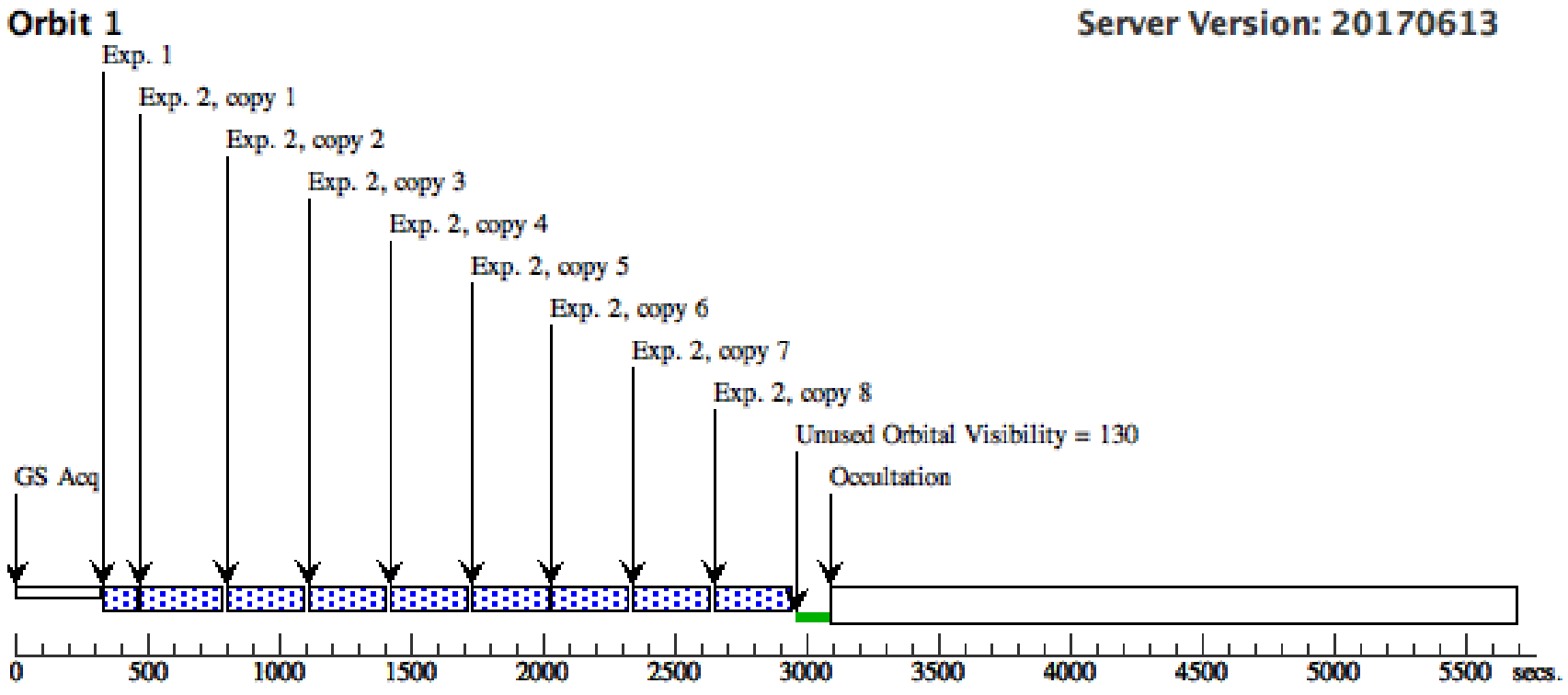
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Orbit1_calibration_image (WFC3IR.im.1011323)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	F130N	NSAMP=15; SAMP-SEQ=SPARS10	GSPAIR N2IZ000711F2N2IZ001033F3; GS ACQ SCENARIO BASE1B3	Sequence 1-2 Non-Int in visit1 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[1]***
Comments: ETC WFC3IR.im.1011323 calculates 163.67 seconds to saturation.									
2	orbit1_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14		Sequence 1-2 Non-Int in visit1 (01)	290.776322 Secs X 8 (2326.211 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[1]***
3	orbit2_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14		Sequence 3-3 Non-Int in visit1 (01)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[2]***
4	orbit3_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14		Sequence 4-4 Non-Int in visit1 (01)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[3]***

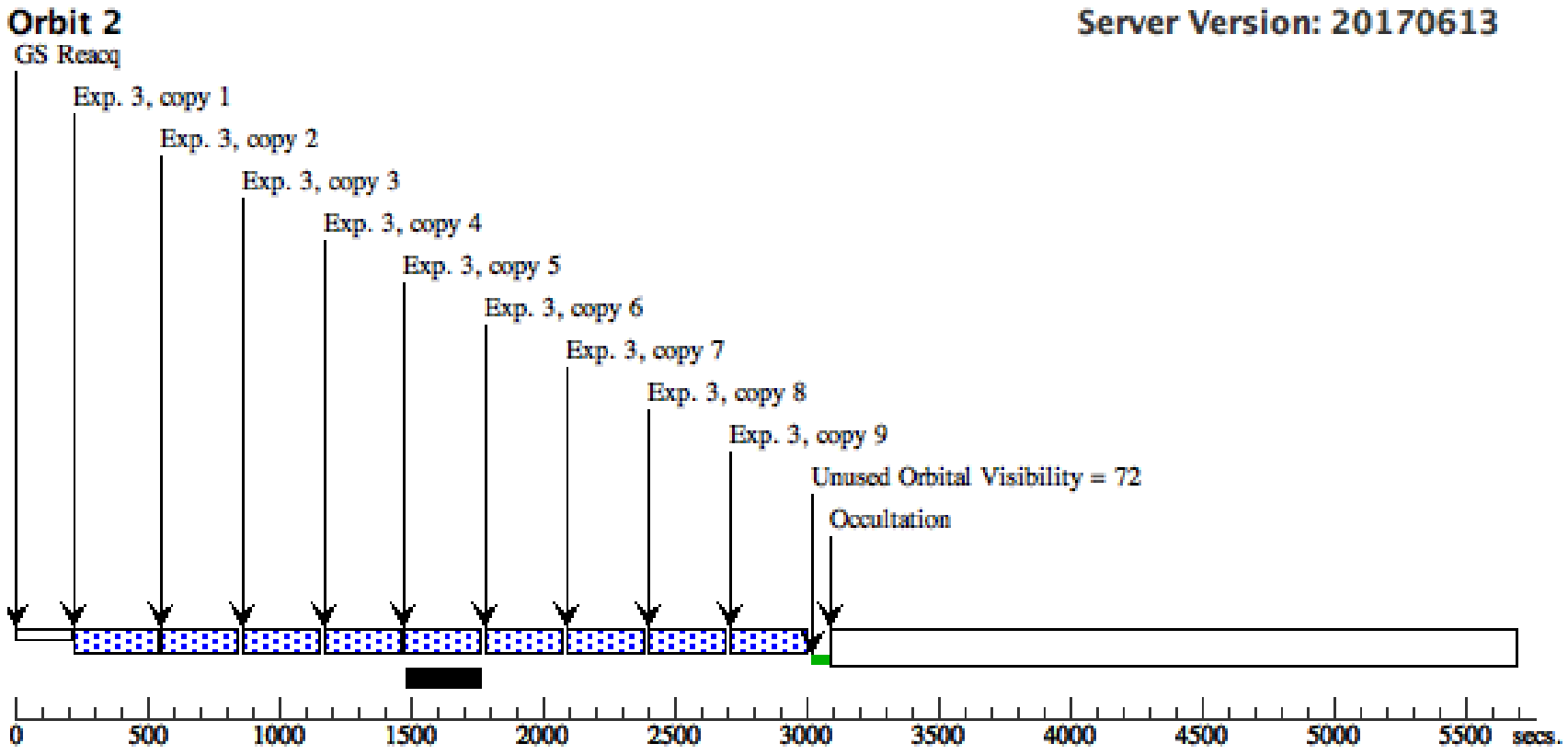
	5	orbit4_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 5-5 Non-Int in visit1 (01)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[4]***
	6	orbit5_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 6-6 Non-Int in visit1 (01)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[5]***
	7	orbit6_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 7-7 Non-Int in visit1 (01)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[6]***
	8	orbit7_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 8-8 Non-Int in visit1 (01)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[7]***

	9	orbit8_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 9-9 Non-Int in visit1 (01)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[8]***
	10	orbit9_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 10-10 Non-Int in visit1 (01)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[9]***
	11	orbit10_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 11-11 Non-Int in visit1 (01)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[10]***
	12	orbit11_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 12-12 Non-Int in visit1 (01)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[11]***

	13	orbit12_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14		Sequence 13-14 Non-Int in visit1 (01)	290.776322 Secs X 8 (2326.211 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[12]***
	14	orbit12_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 13-14 Non-Int in visit1 (01)	290.776322 Secs (290.776 Secs) *[==>]*	***[12]***
	15	orbit13_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14		Sequence 15-16 Non-Int in visit1 (01)	290.776322 Secs X 8 (2326.211 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[13]***
	16	orbit13_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 15-16 Non-Int in visit1 (01)	290.776322 Secs (290.776 Secs) *[==>]*	***[13]***
	17	orbit14_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14		Sequence 17-18 Non-Int in visit1 (01)	290.776322 Secs X 8 (2326.211 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[14]***
	18	orbit14_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	SAA CONTOUR 11; EXP PCS MODE GYRO	Sequence 17-18 Non-Int in visit1 (01)	290.776322 Secs (290.776 Secs) *[==>]*	***[14]***

Orbit Structure

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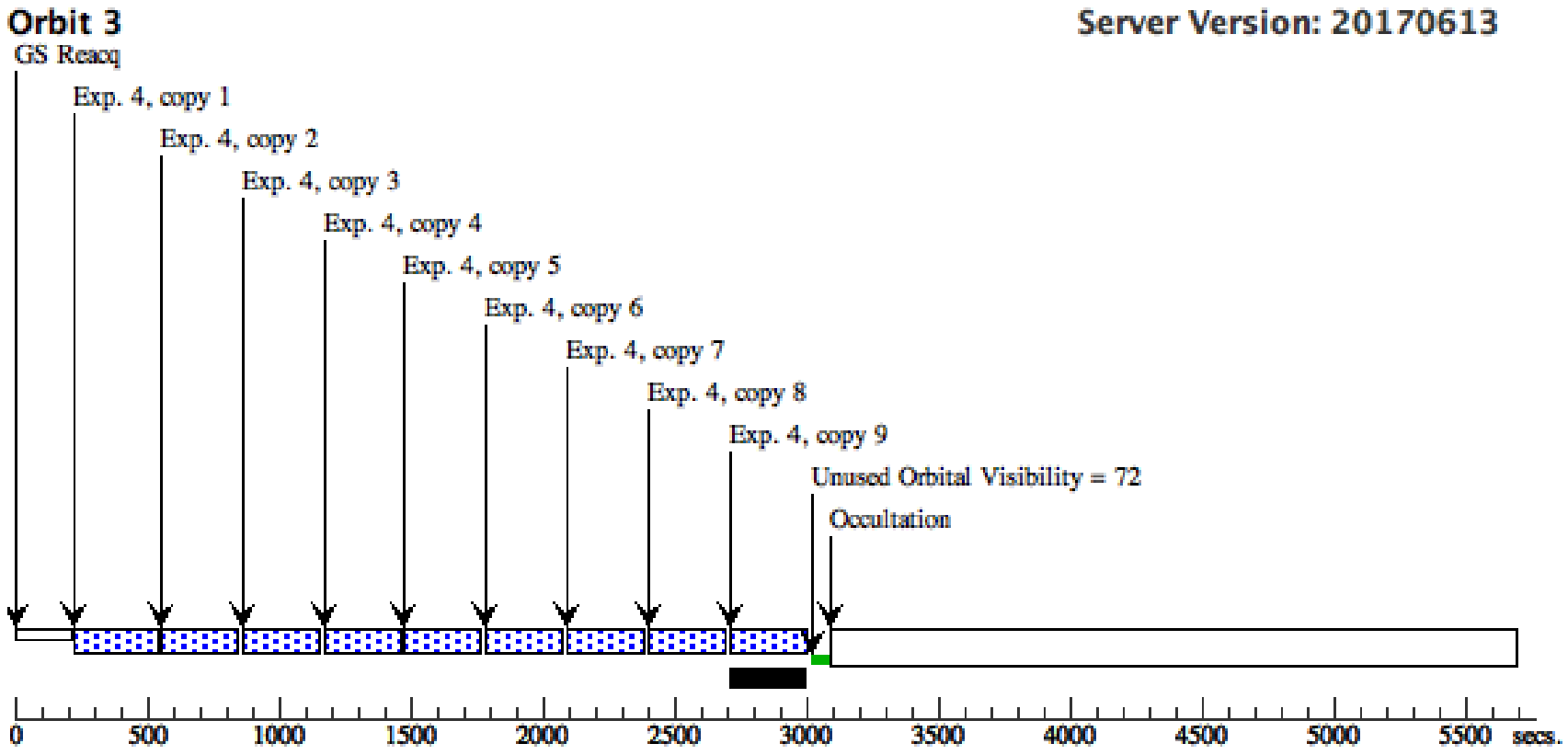
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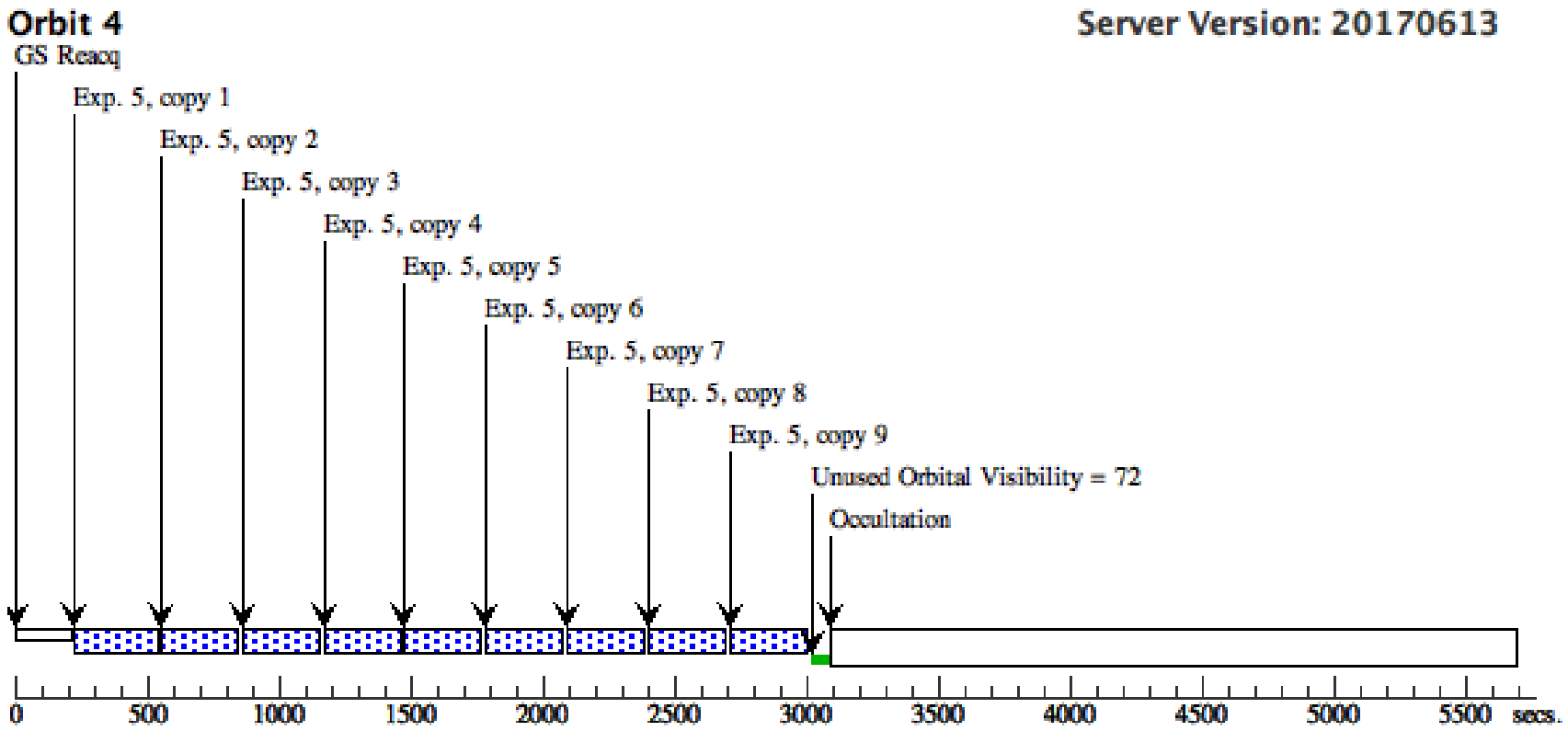
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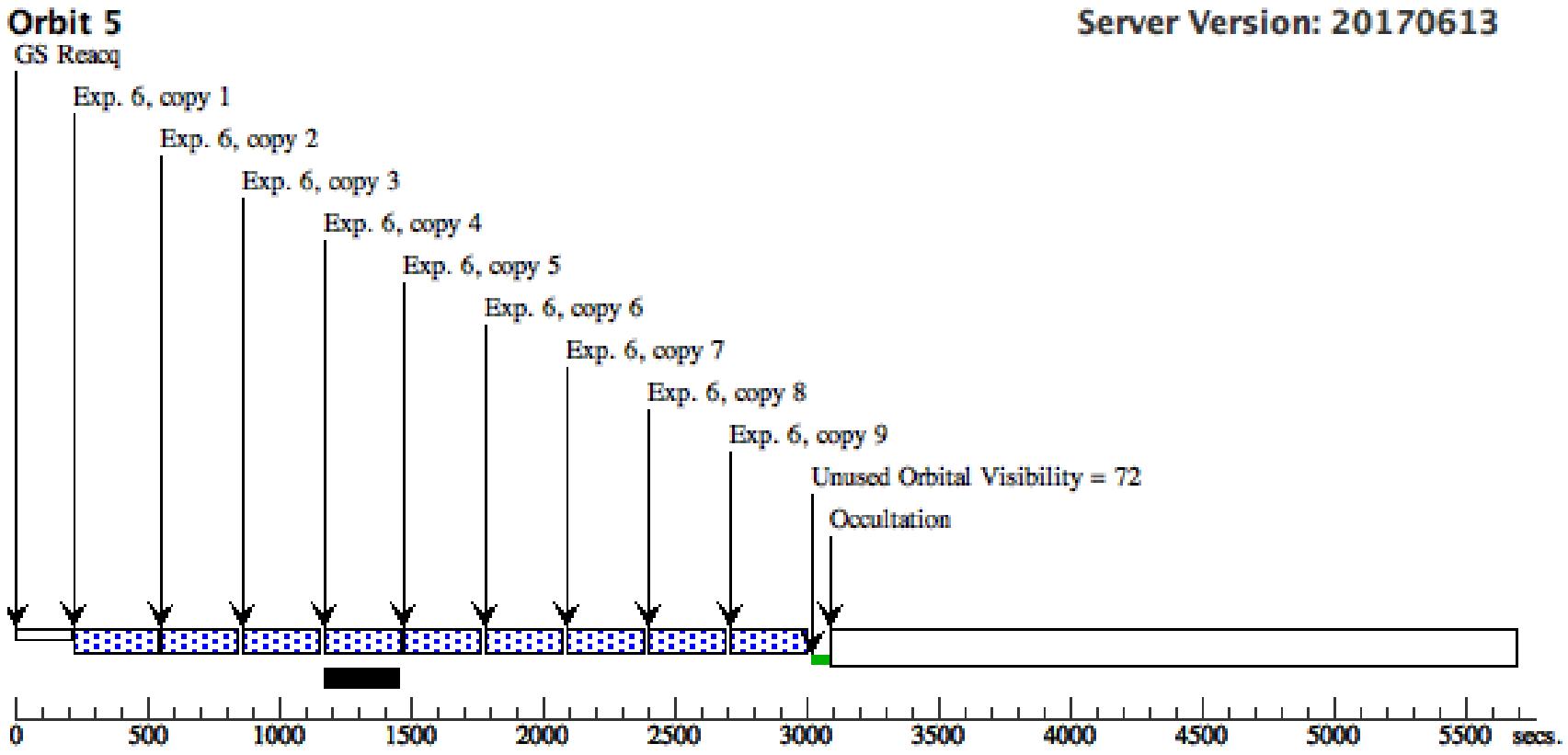
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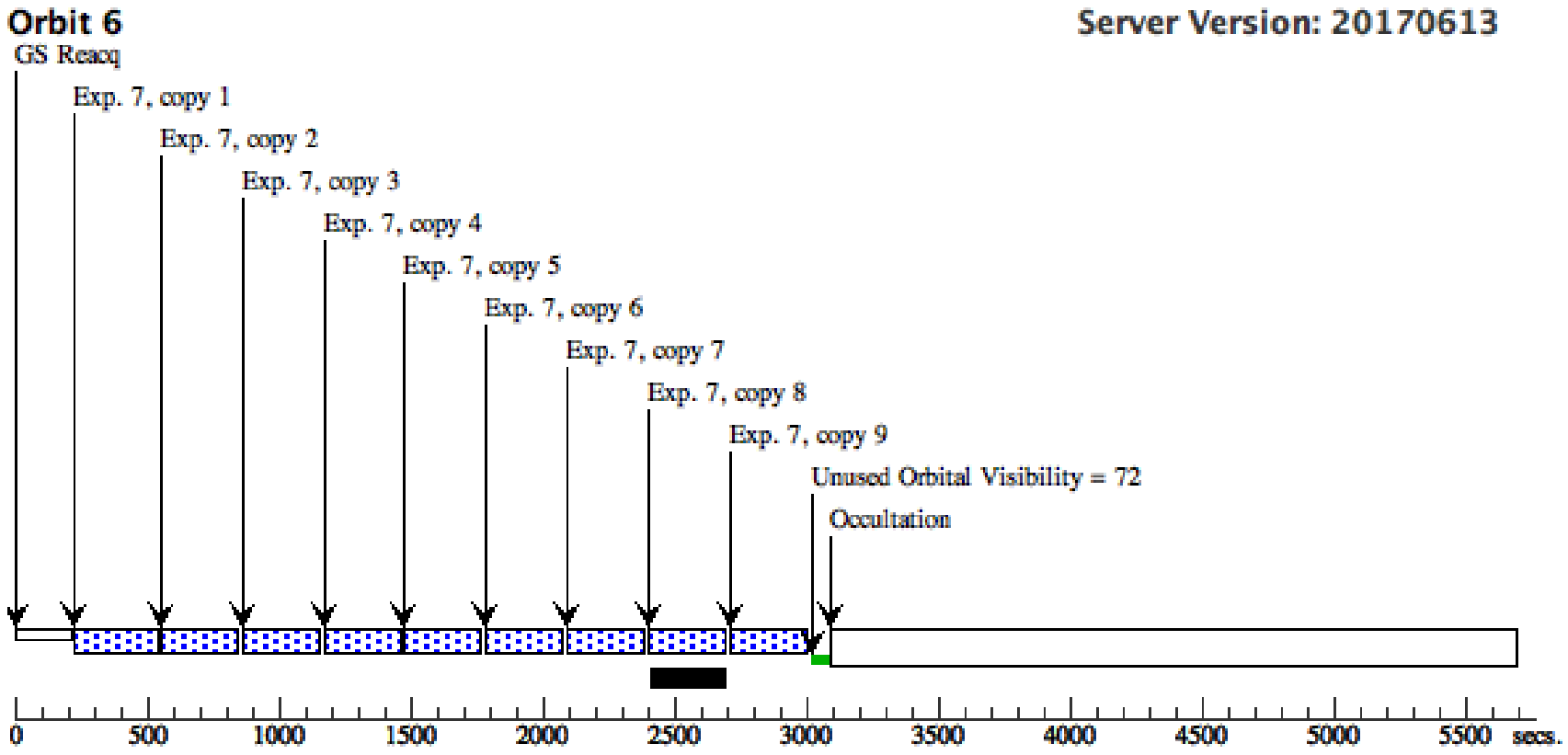
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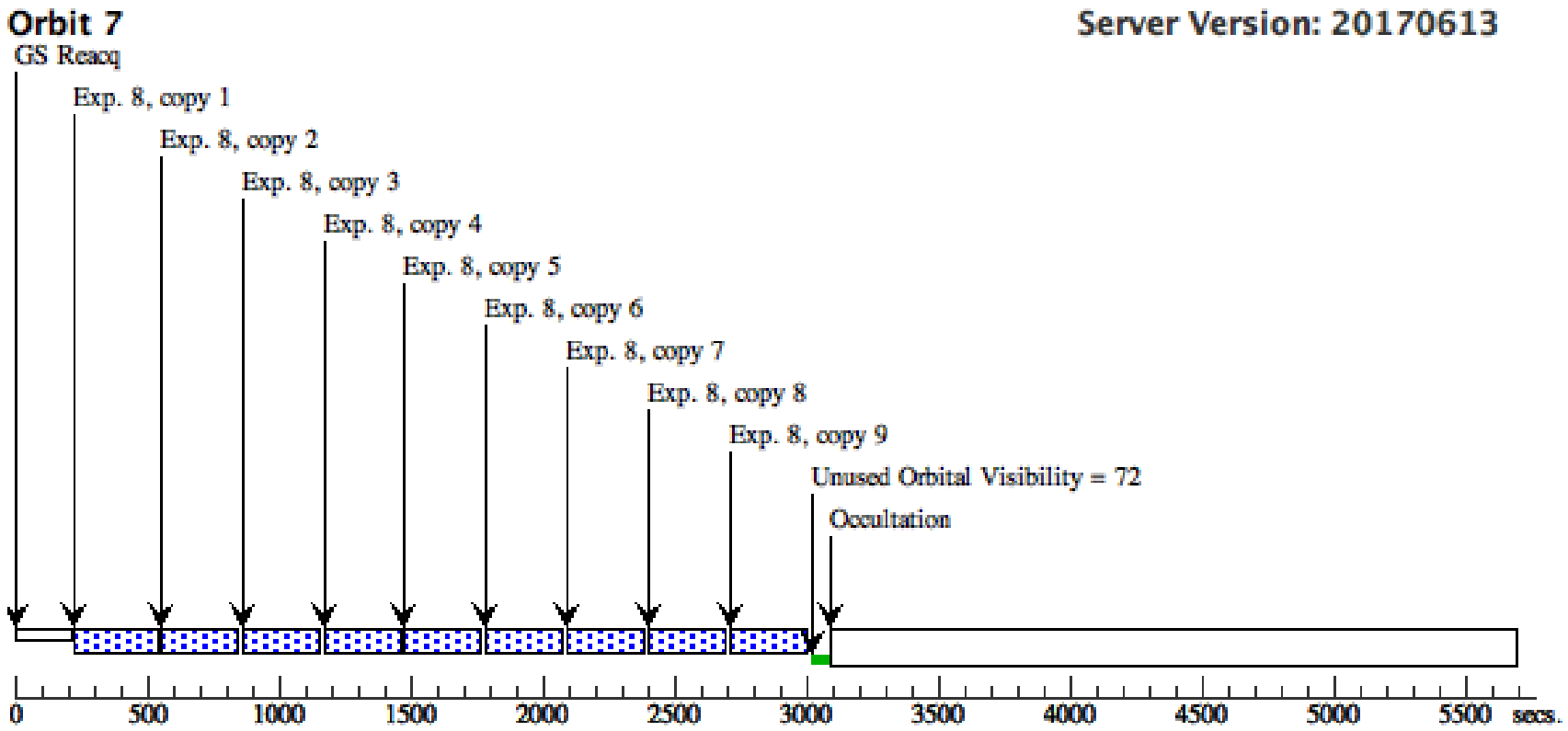
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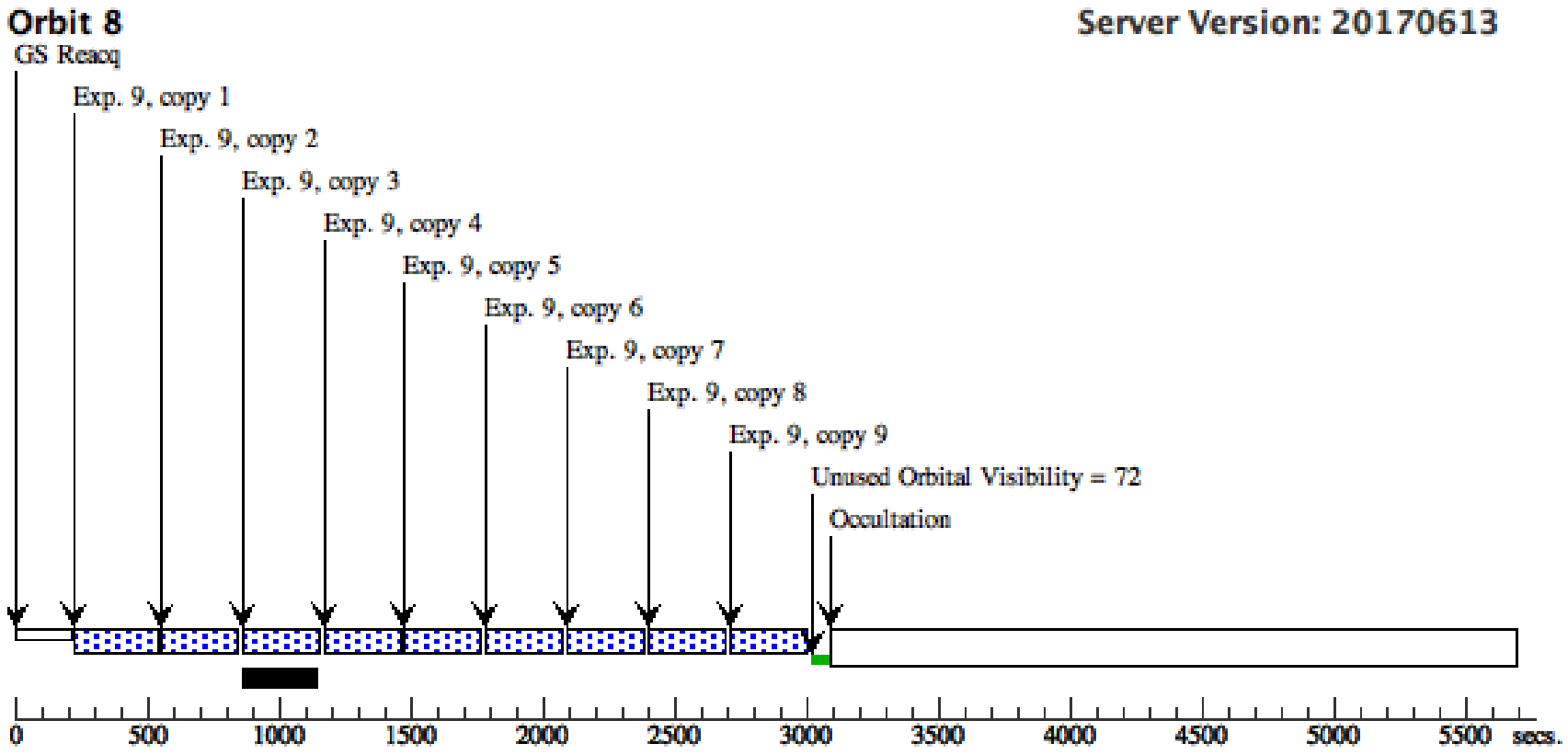
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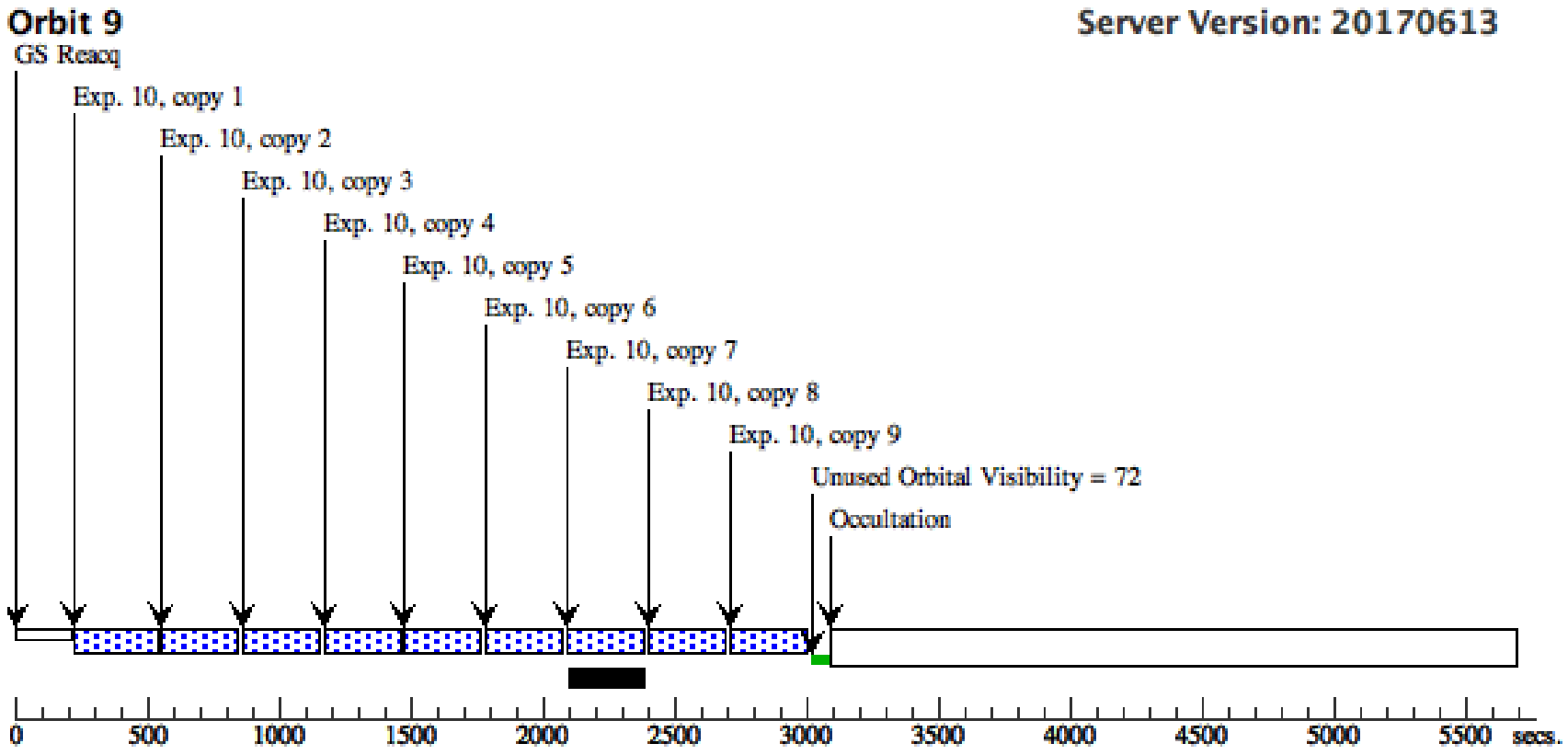
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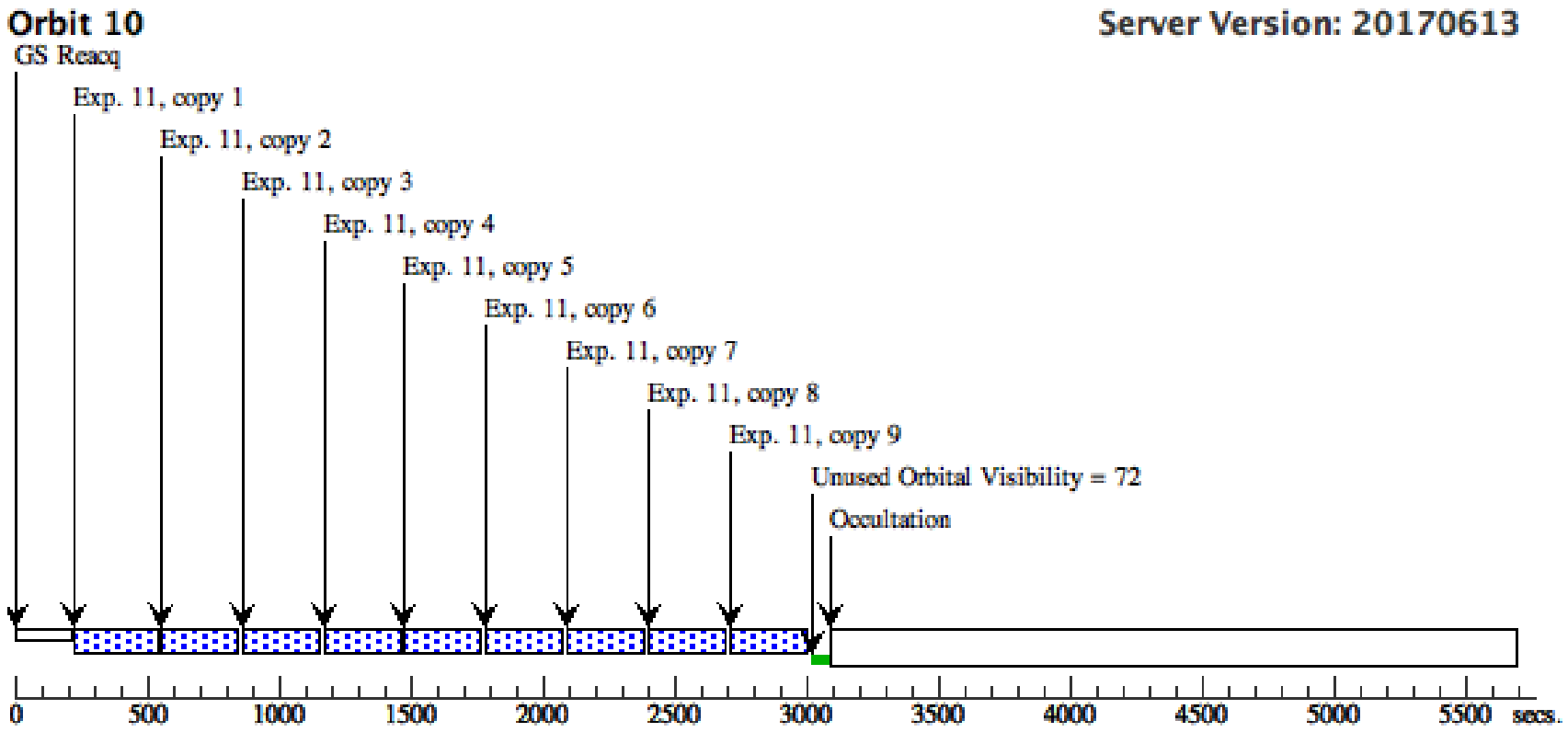
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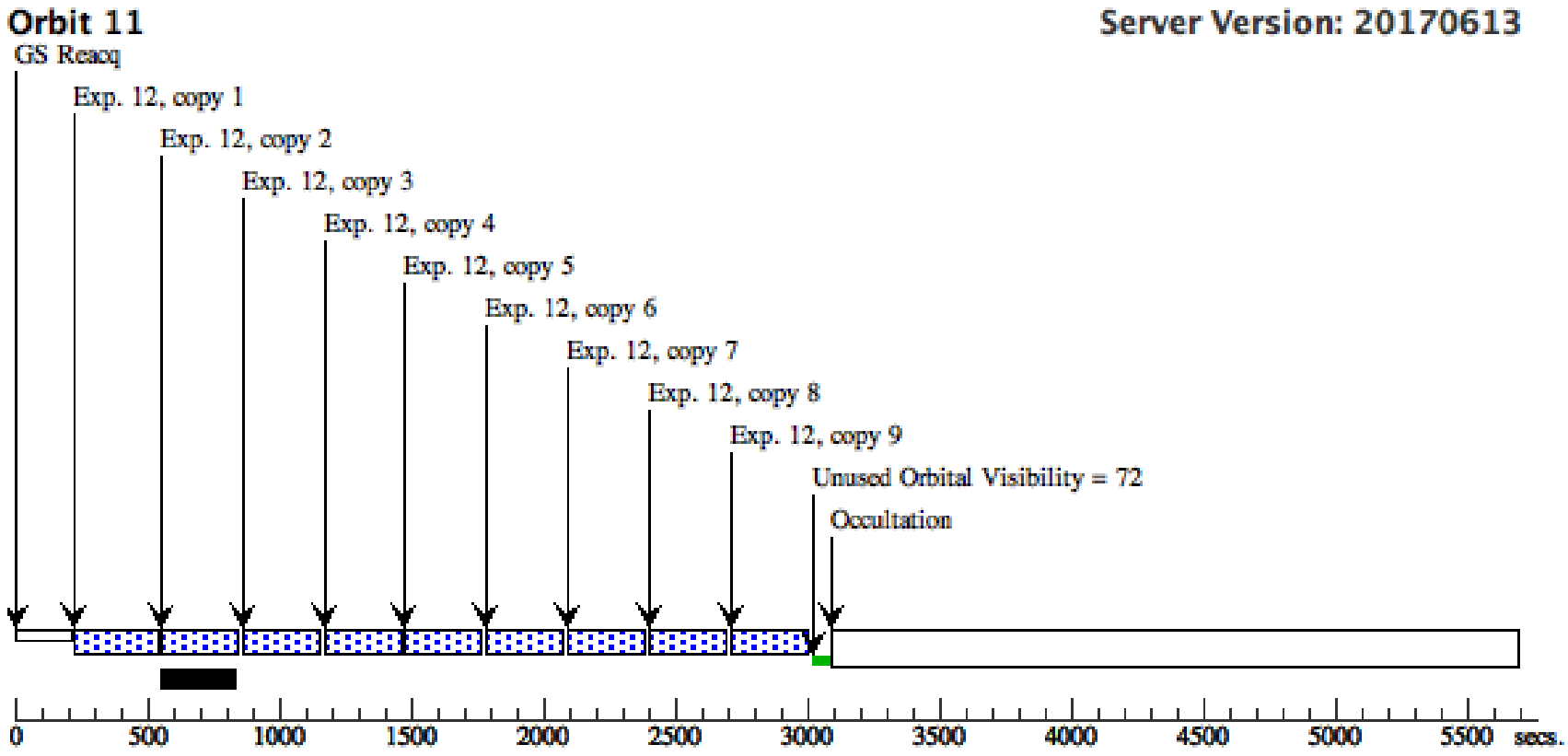
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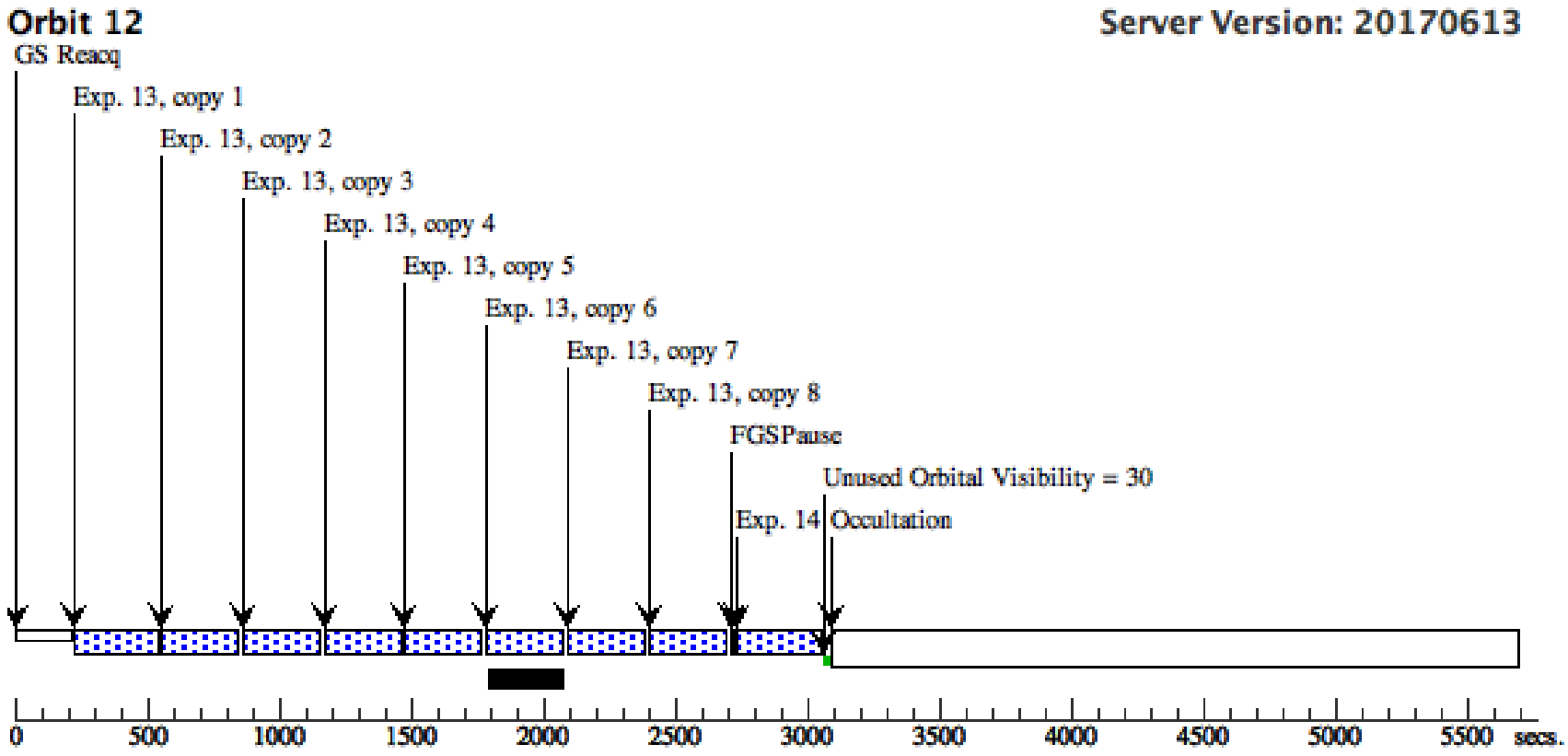
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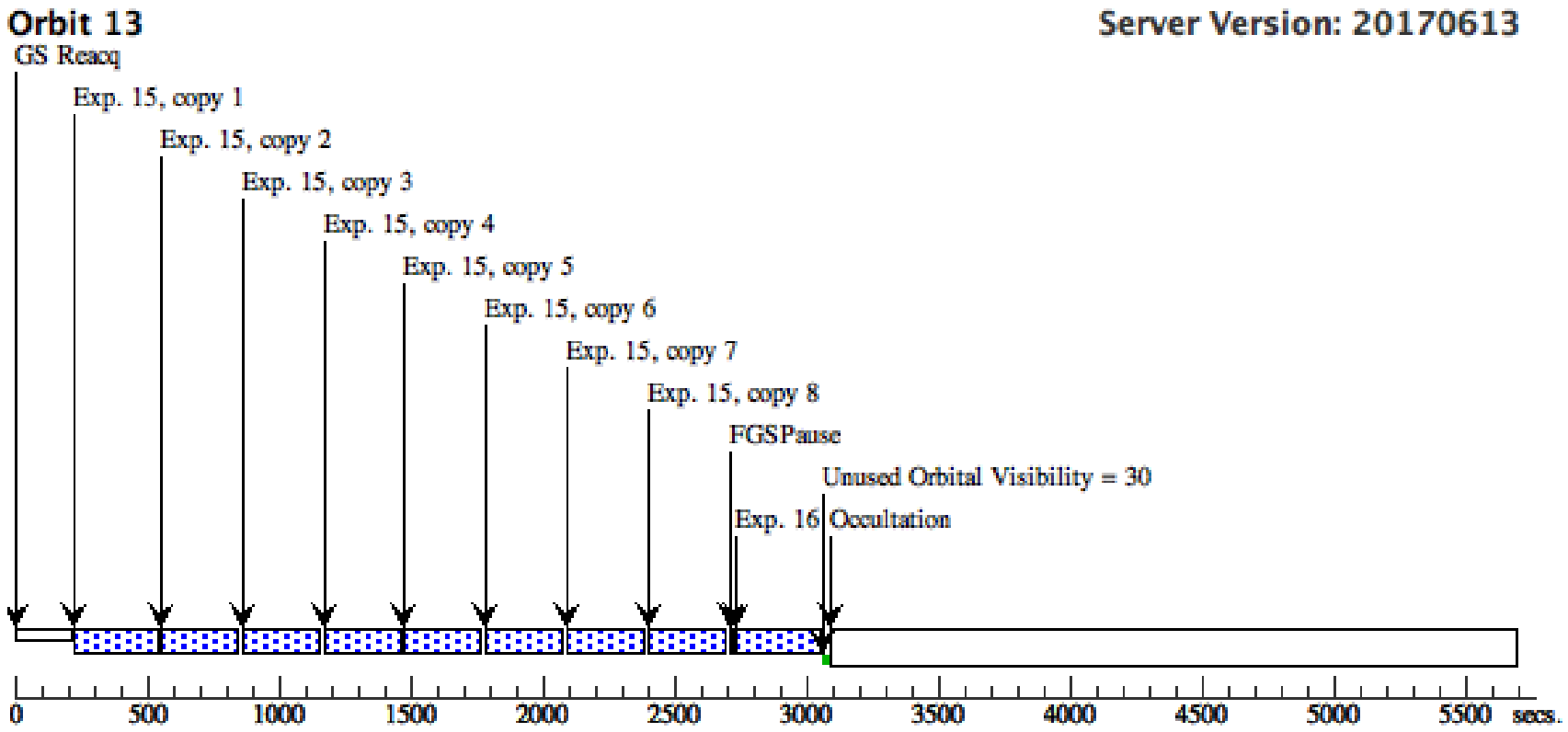
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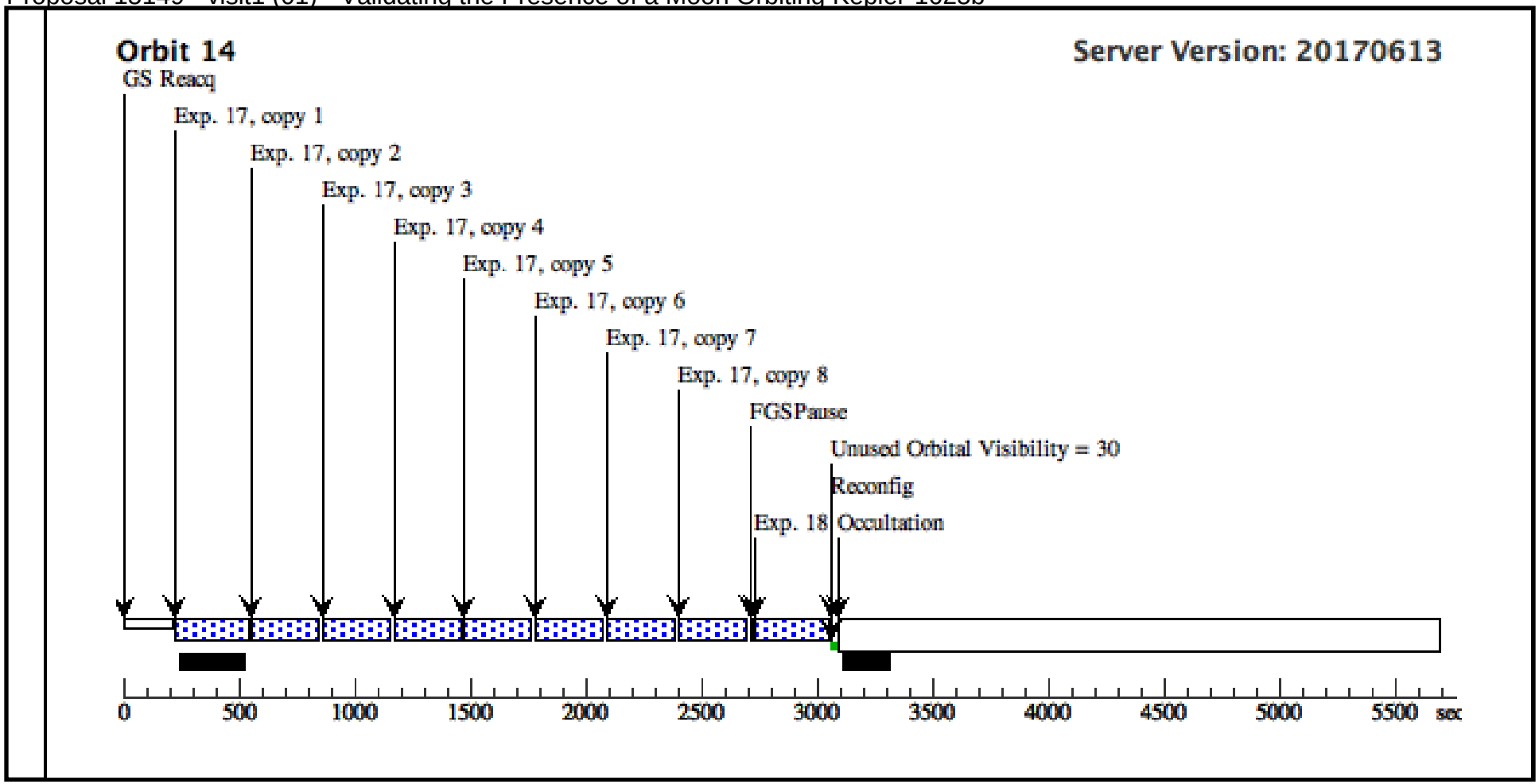
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FGSPause
Unused Orbital Visibility = 30
Reconfig
Exp. 18
Occultation
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500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 15149, visit2 (02), implementation Wed Oct 11 18:00:46 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; SCHED 80%; SAME ORIENT AS 01; AFTER 01 BY 13.9 Orbits TO 14.1 Orbits

Comments: This is the second visit for all remaining orbits (15-26), to start after guide star reallignment. It should follow immediately after visit1.

Diagnostics

(visit2 (02)) Warning (Orbit Planner): LONG SU LIKELY TO INTERSECT THE SAA

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	KIC-4760478	RA: 19 41 43.0430 (295.4293458d)		V=16.097+/-0.020	Reference Frame: SIMBAD
	Alt Name1: KOI-5084.01	Dec: +39 53 11.57 (39.88655d)		J=14.364,	
	Alt Name2: KEPLER-1625B	Equinox: J2000		H=13.989,	
				K=13.916,	
				E(B-V)=0.19	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Extended=NO

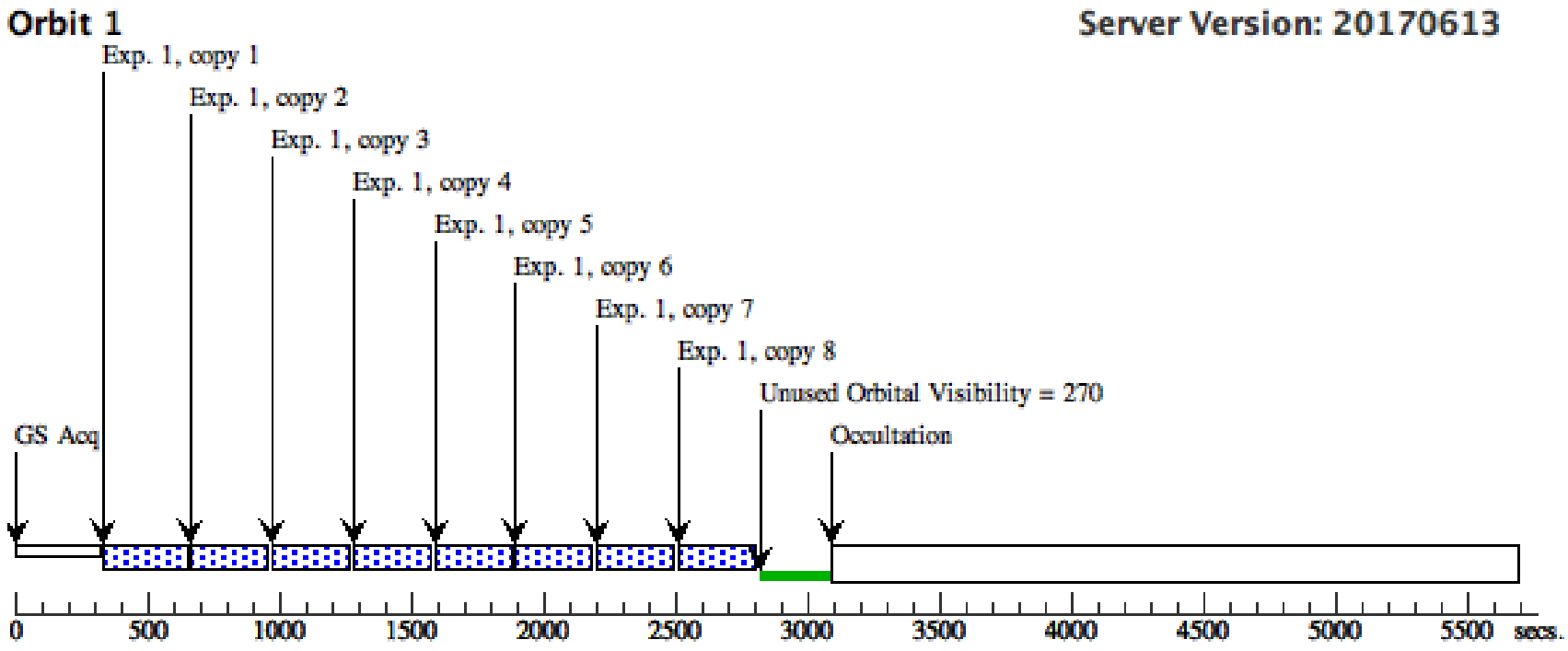
Exposures

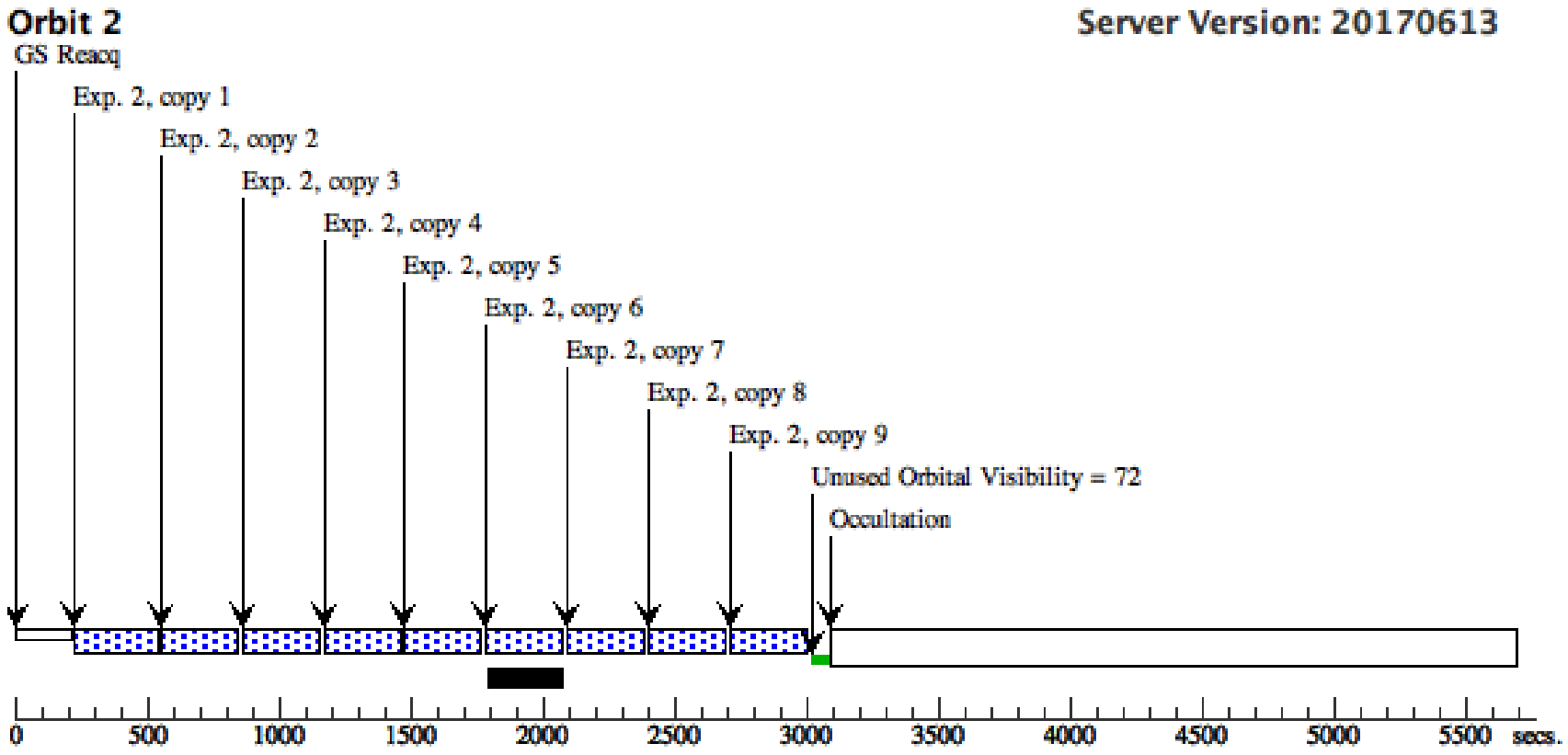
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	orbit15_exposure_GS_Acq (WFC3IR.sp.1013042)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	GSPAIR N2IZ000711F2N2IZ001033F3; GS ACQ SCENARIO BASE1B3	Sequence 1-1 Non-Int in visit2 (02)	290.776322 Secs X 8 (2326.211 Secs)	
								[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[1]***
2	orbit16_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14		Sequence 2-2 Non-Int in visit2 (02)	290.776322 Secs X 9 (2616.987 Secs)	
								[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[2]***
3	orbit17_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14		Sequence 3-3 Non-Int in visit2 (02)	290.776322 Secs X 9 (2616.987 Secs)	
								[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[3]***
4	orbit18_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14		Sequence 4-4 Non-Int in visit2 (02)	290.776322 Secs X 9 (2616.987 Secs)	
								[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[4]***

	5	orbit19_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 5-5 Non-Int in visit2 (02)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[5]***
	6	orbit20_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 6-6 Non-Int in visit2 (02)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[6]***
	7	orbit21_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 7-7 Non-Int in visit2 (02)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[7]***
	8	orbit22_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 8-8 Non-Int in visit2 (02)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[8]***

	9	orbit23_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 9-9 Non-Int in visit2 (02)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[9]***
	10	orbit24_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 10-10 Non-Int in visit2 (02)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[10]***
	11	orbit25_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 11-11 Non-Int in visit2 (02)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[11]***
	12	orbit26_exposure (WFC3IR.sp.912655)	(1) KIC-4760478	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=14	Sequence 12-12 Non-Int in visit2 (02)	290.776322 Secs X 9 (2616.987 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]*	***[12]***

Orbit Structure

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Exp. 2, copy 7
Exp. 2, copy 8
Exp. 2, copy 9
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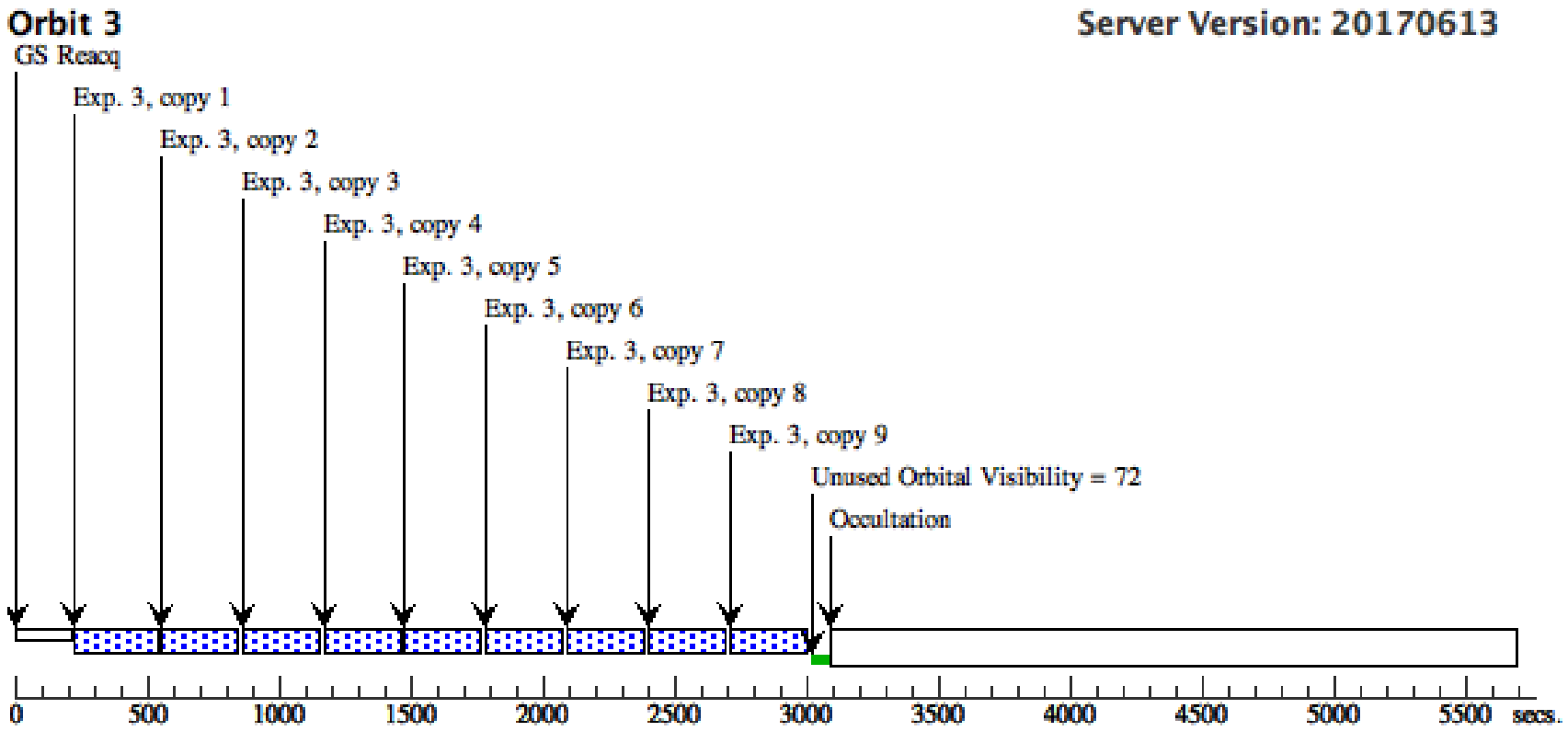
secs.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Exp. 3, copy 7
Exp. 3, copy 8
Exp. 3, copy 9
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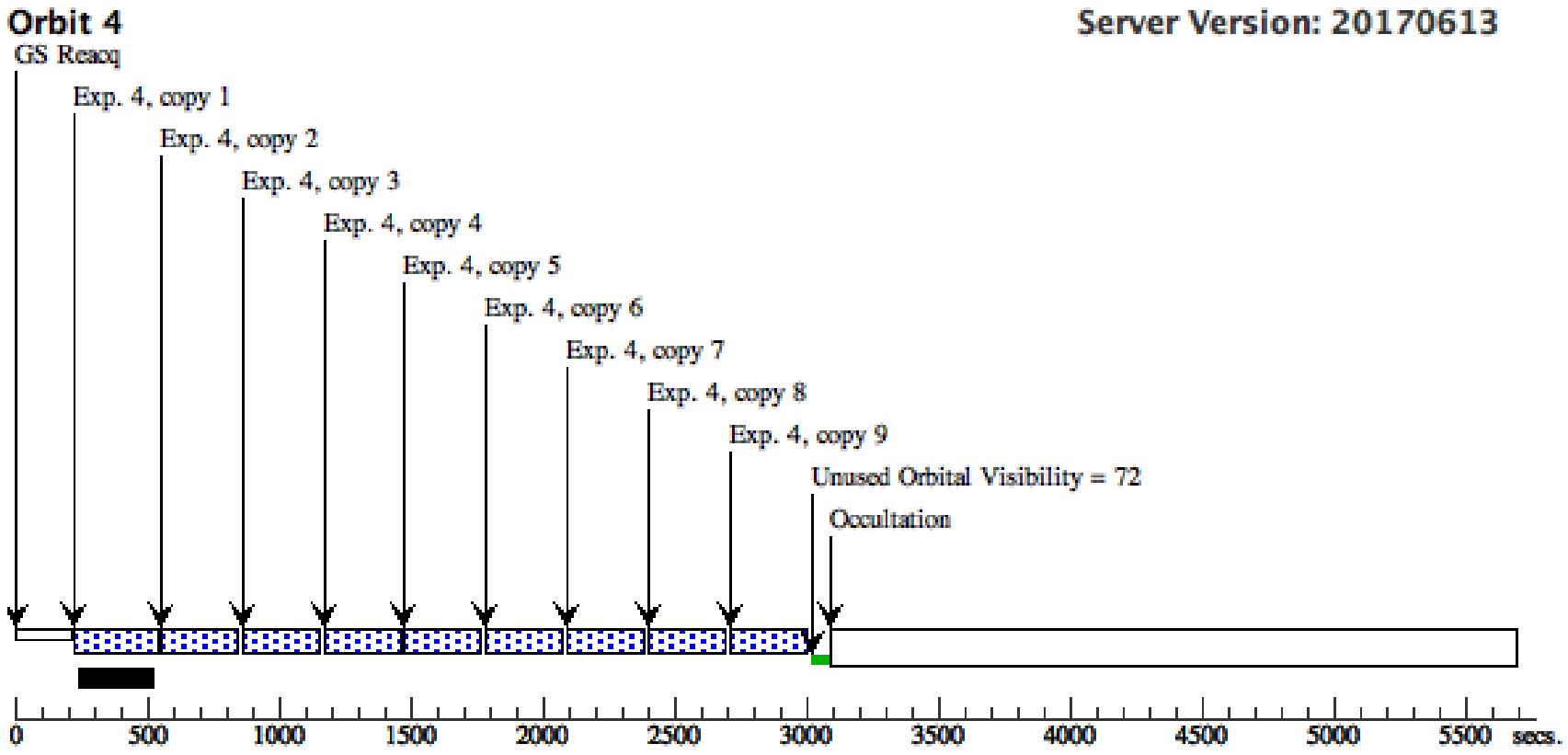
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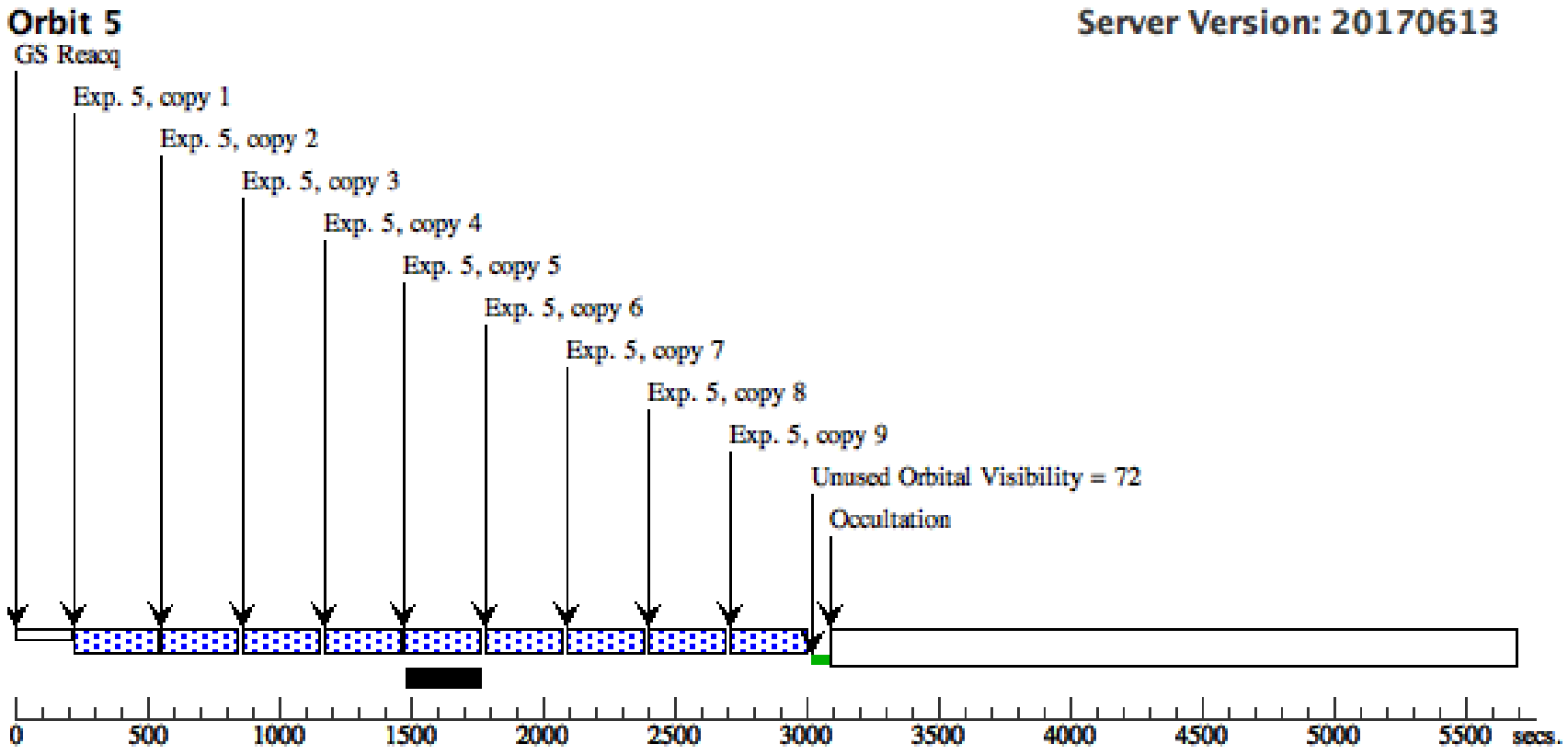
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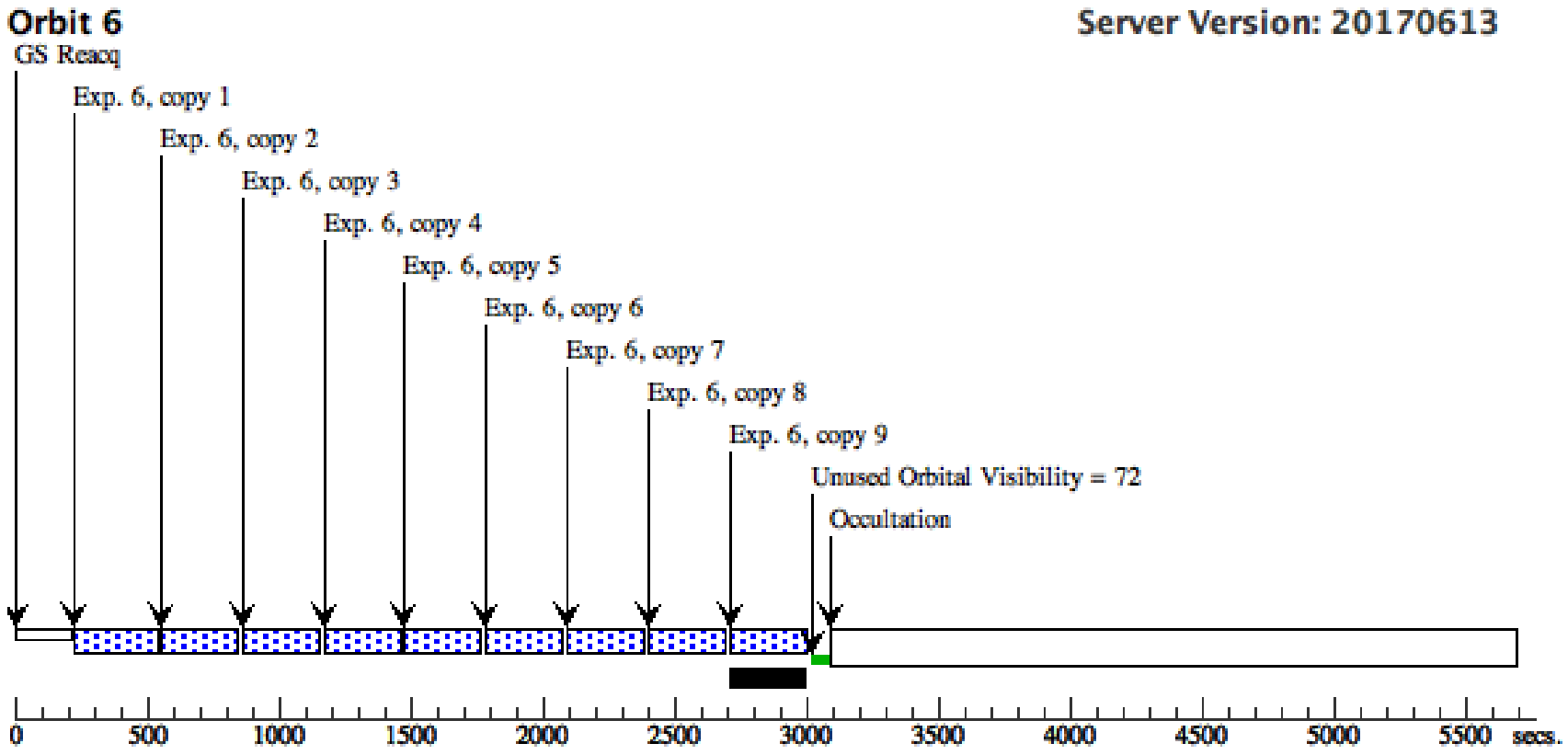
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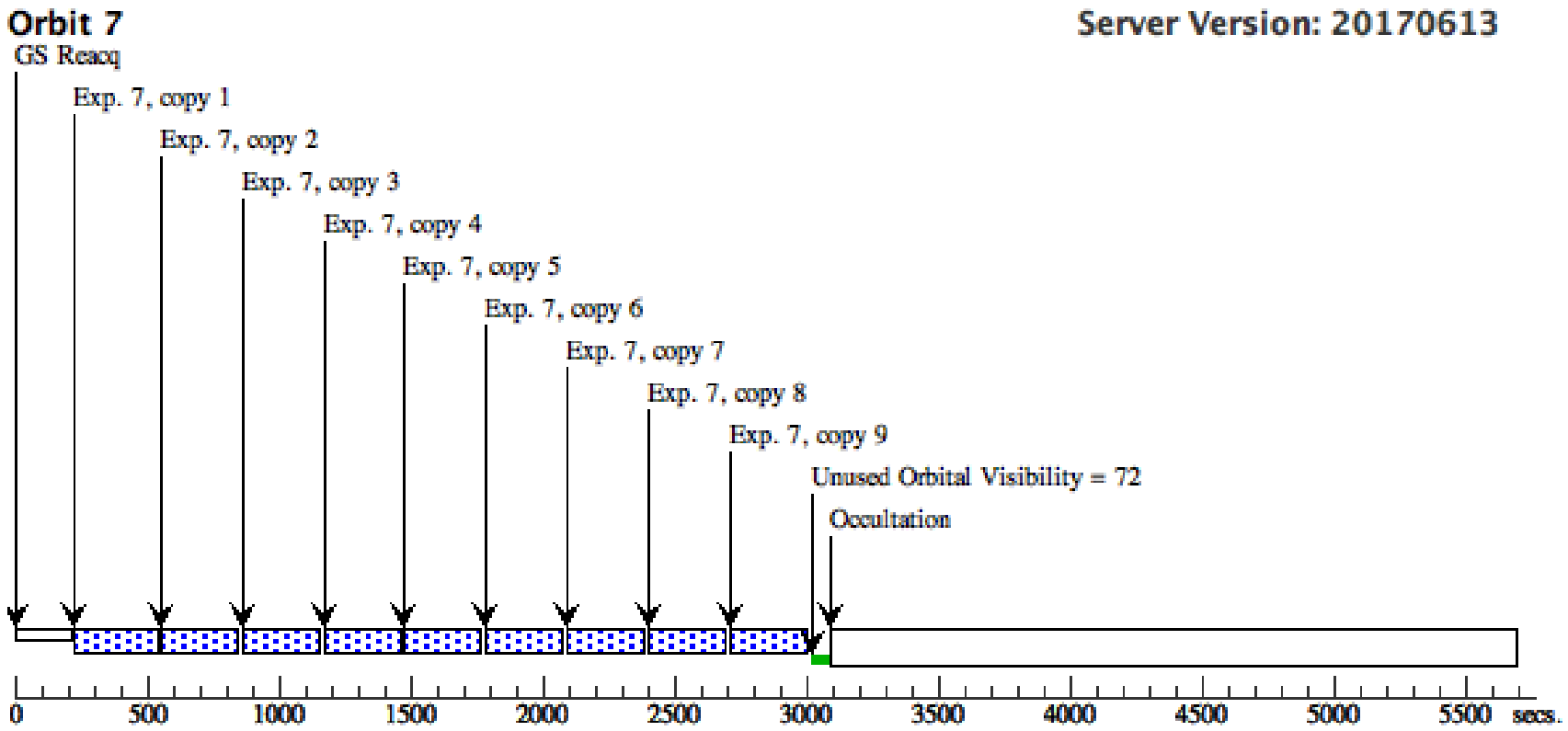
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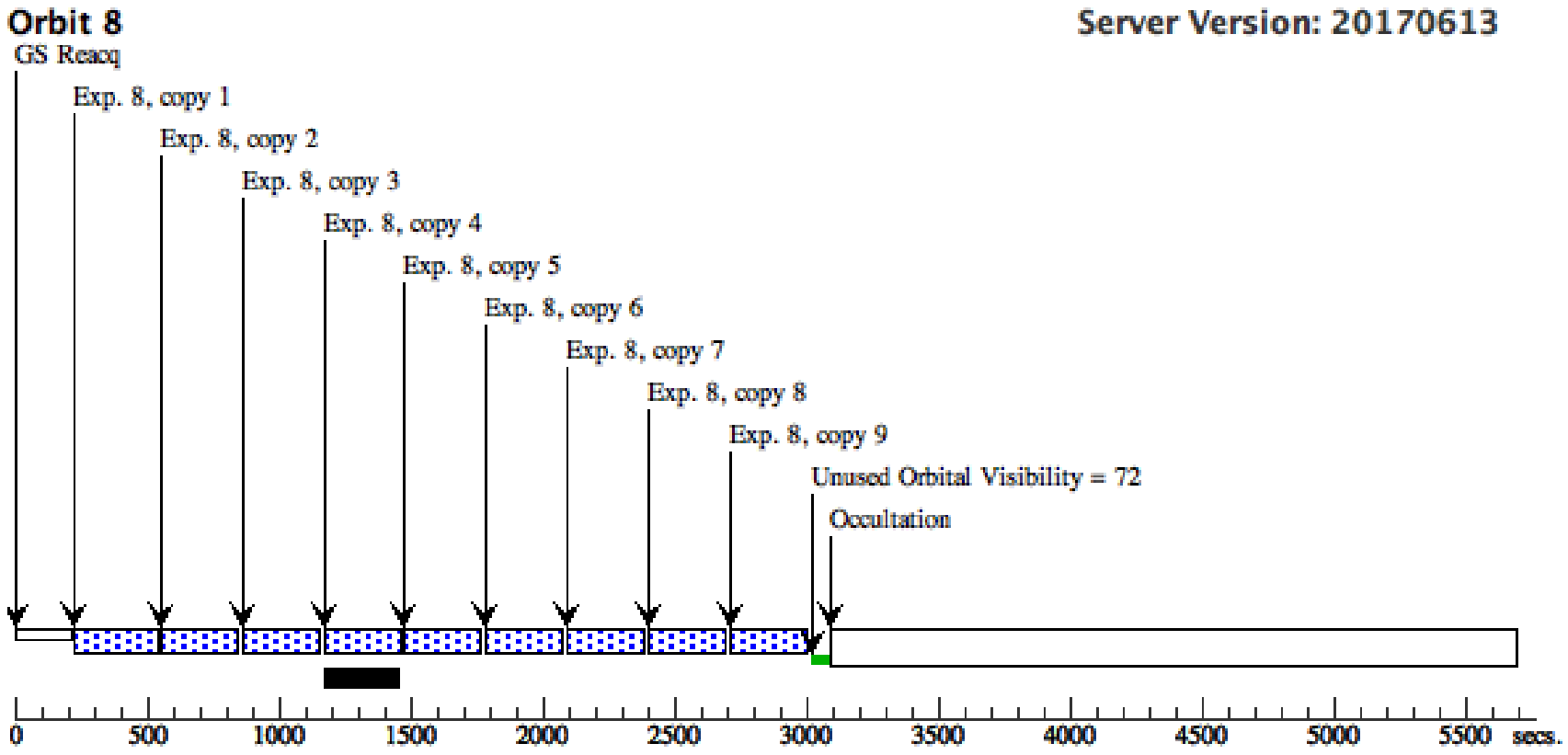
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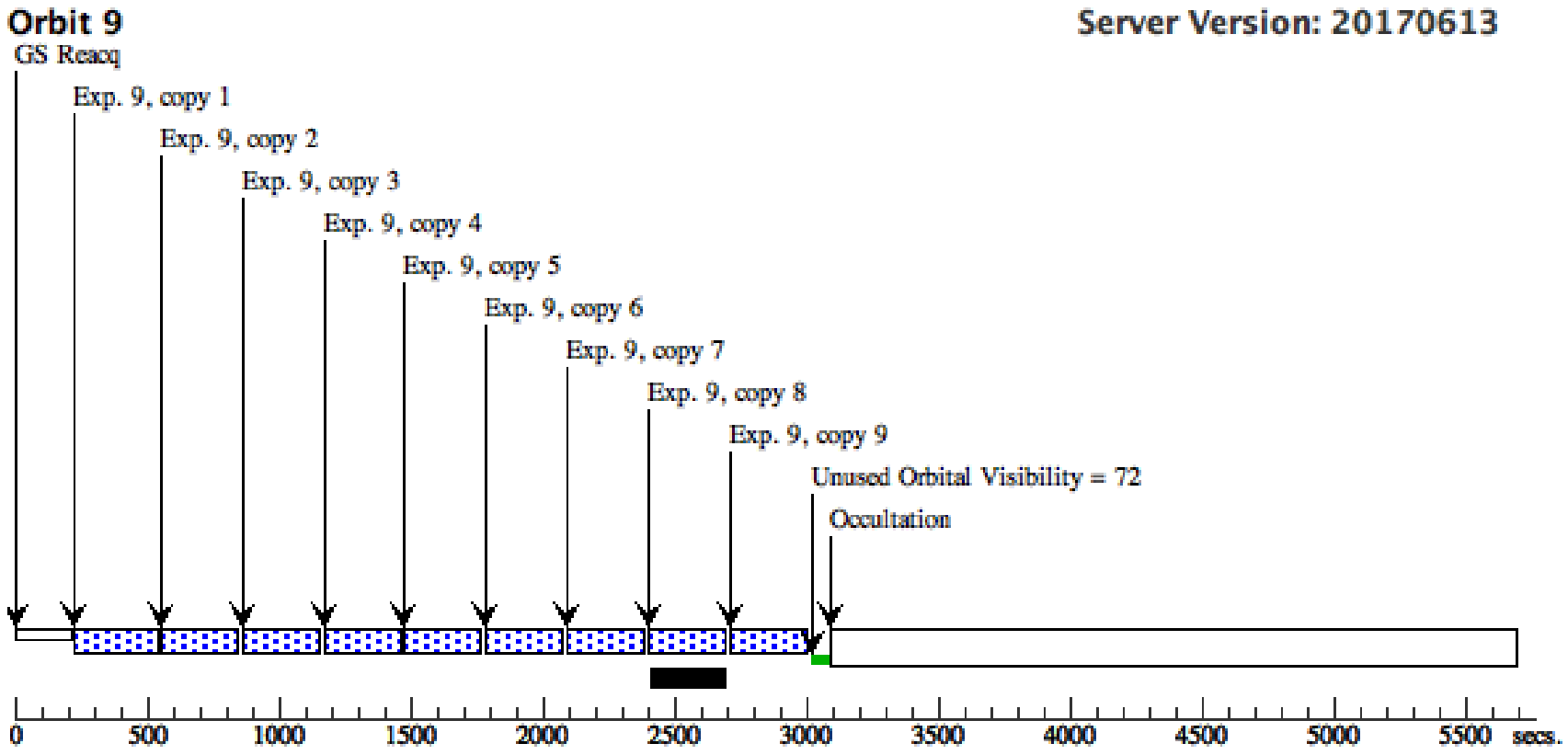
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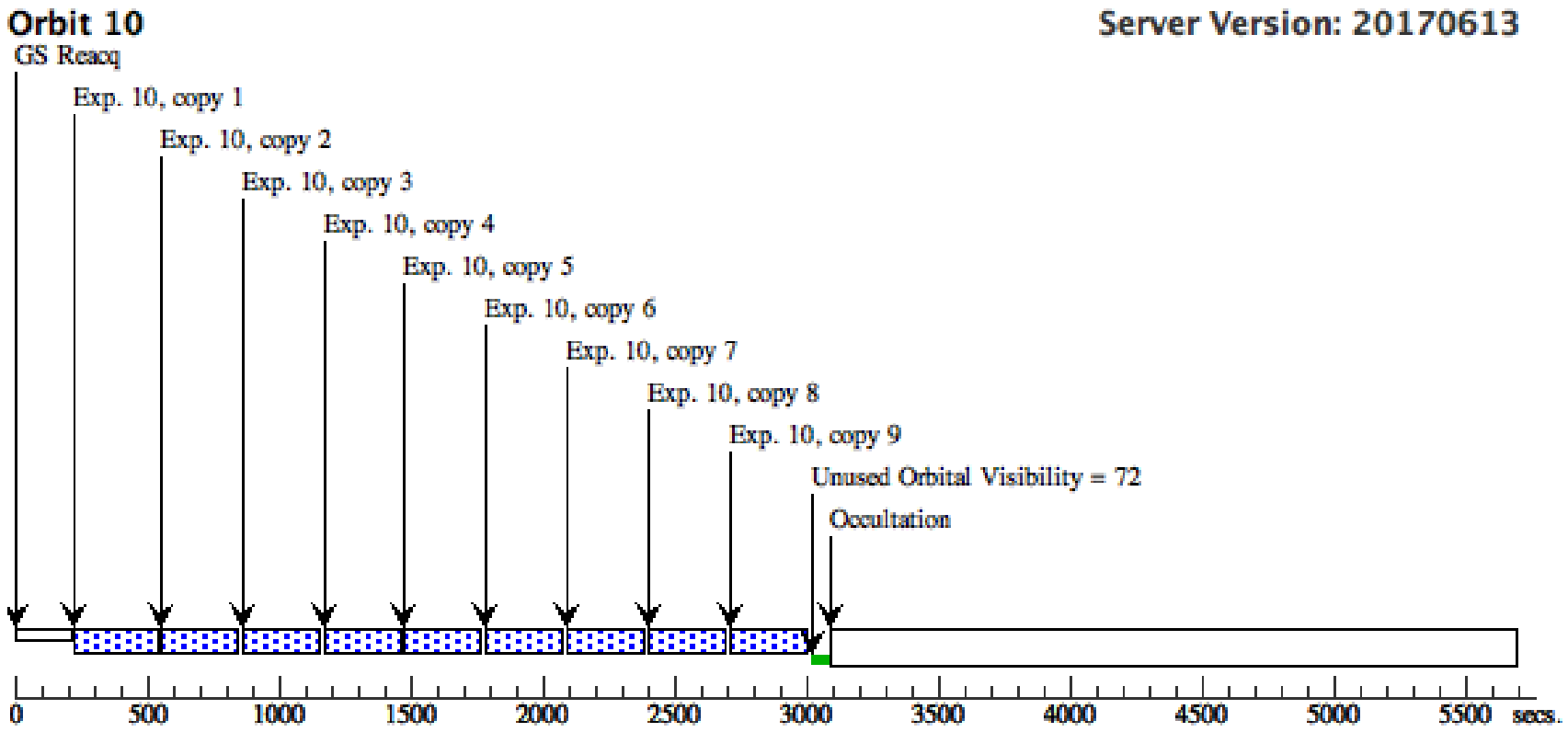
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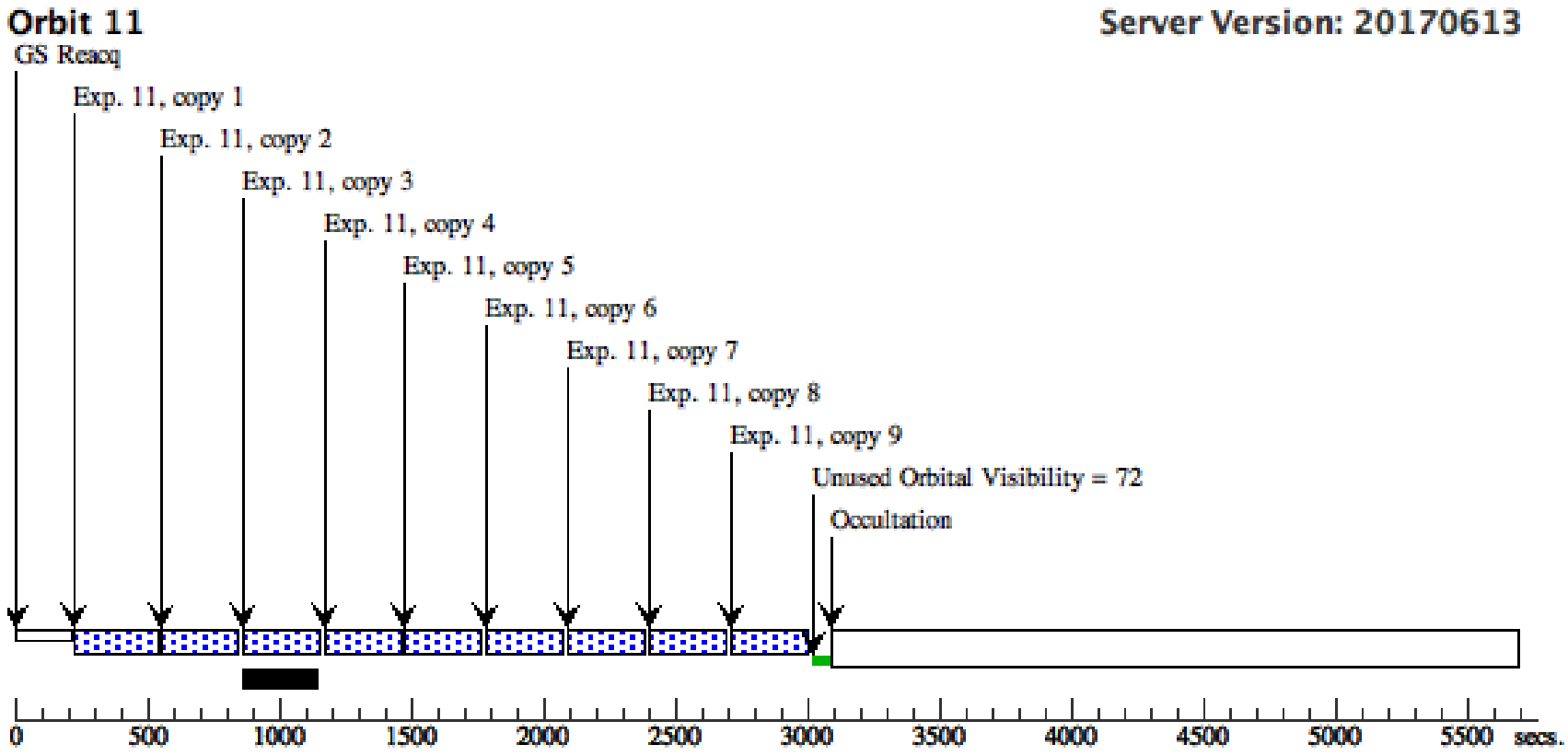
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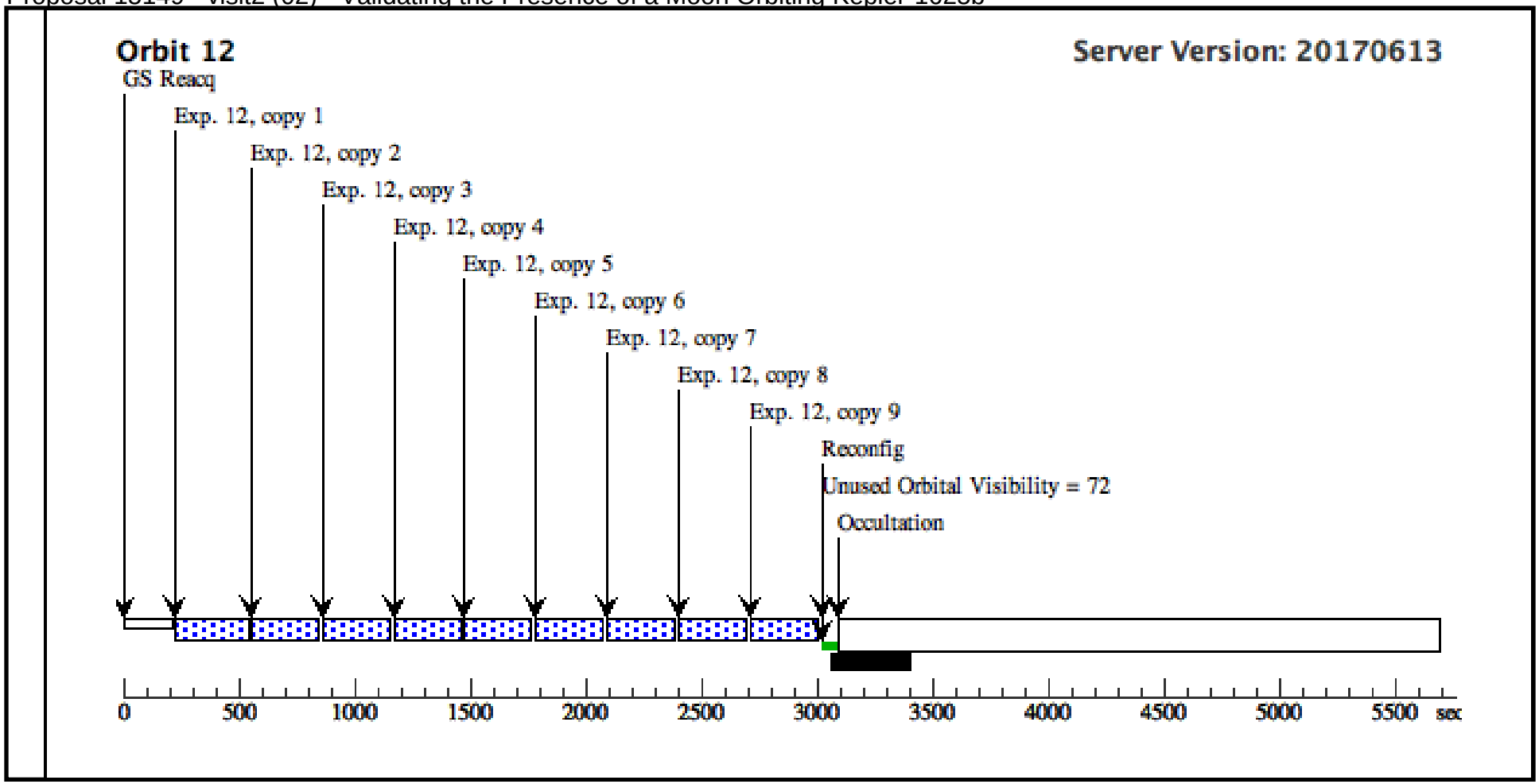
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Reconfig
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