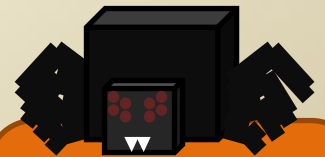
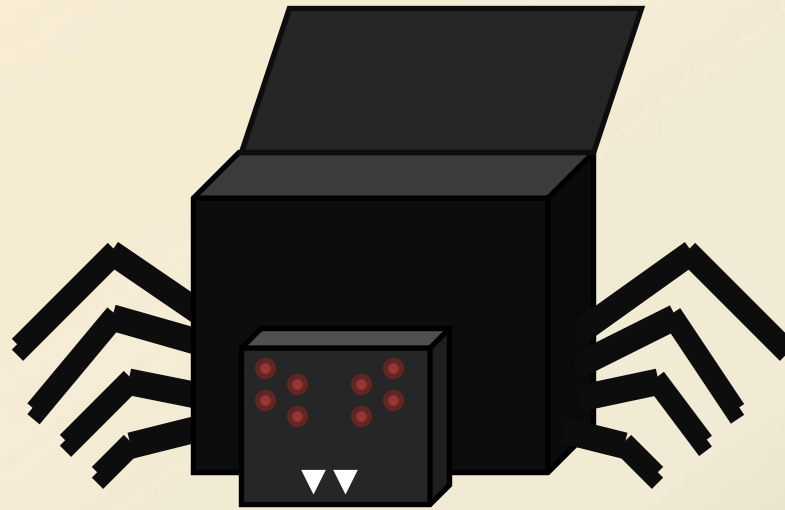




# ESPC's Spider II Program

Opening the Box on Capability and Use

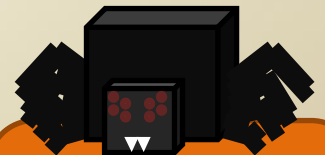


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# What is SPider?

- Satellite Product Information Distribution EnviRonment
- Expands on concepts of Core Mcidas commands concepts
  - ADDE, DATALOC, DSSERVE, PT/GRD/IMGLIST, PT/GRD/IMGDISP, PT/GRD/IMGCOPY, SKL, etc.
- Consists of two programs: Spider Server (SPS) and Spider Client (SPC)

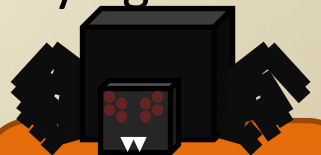


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# Pros and Cons

- Benefits:
  - Automatic loading without duplication of images
  - Reduces task loading of server/workstations
    - Numerous pings to server but fewer downloads
  - Run from command line environment (typically SKL) on all platforms
    - Leads to distribution system effectiveness
  - Timely, based on user needed requirements (set to any refresh rate)
- Weaknesses:
  - “Addictive” Nature
    - Become too reliant on the program working
    - Leads to lack of CORE Mcidas knowledge for users
  - Produces text output into active text window; can be annoying
  - Doesn’t work as well with full swath polar images





# Two Types of SPider

## Spider Client (SPC)

- User
  - Resides on Workstation
  - Keeps Request File of user defined loop(s) specifications and polls it against the Server Availability File
  - Pulls “area” files from server and loads it into predetermined frame

## Spider Server (SPS)

- Host
  - Resides on Server
  - Integrated into “Area generator” that creates products on the server
  - Keeps and up to date Availability List of these products



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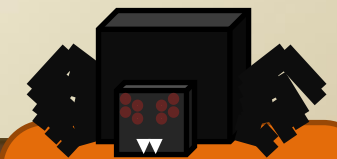
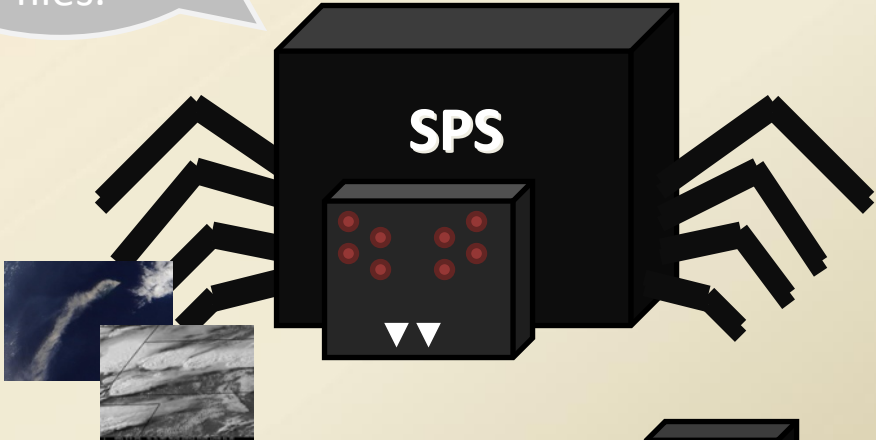
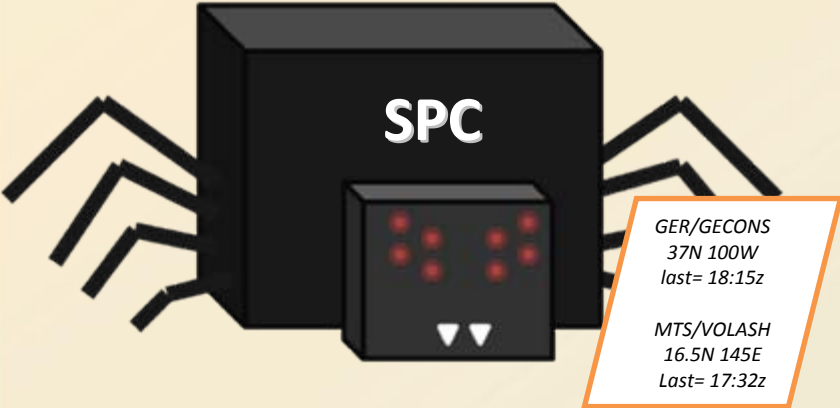


# SPC CYcle “Handshake” w/SPS

Do you have anything NEW for me?

Yes! Here are your Requested files.

<u>Dataset</u>	<u>Last Image</u>
GER/GENHEM	18:15Z
GER/GECONS	18:32Z
GER/GESHEM	18:22Z
GWR/GWPACU	18:15Z
MTS/MTGLOB	18:32Z
MTS/VOLASH	18:32Z



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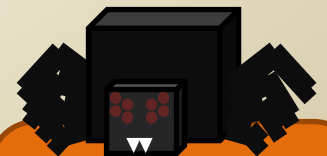






# SPS Commands

- **Install** - Initializes server's database & creates Availability File
- **Create** - Provides the initial parameters of hosted dataset(s) on a server
- **Set** - Updates the parameters when needed of dataset(s)
- **Invoke** - Compares and updates corresponding information in the Availability File when there is a match. Typically, command is embedded at the end of a product generation script to notify Availability File of the new image/file.
- **List** - Provides list of each instance in Availability File
- **Suspend** - Changes status of entry to suspend
- **Release** - Changes status of entry to active

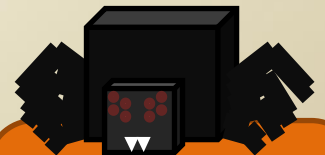




# SPS Create/Set

Provides the initial (create) or changes to (set) parameters of hosted dataset(s) on a particular server

- RANGE - Beginning and ending file range
- MACH - Machine name
- GROUP - Name of the ADDE group (for organization purposes, part of the dataset name)
- NAME - ADDE name or descriptor (other portion of dataset name)
- SOURCE - Name of the satellite or data/product origin
- SATE - Set to same as SOURCE (for backward compatibility)
- RES - Image Resolution
- SCAN - Amount of Scan lines for the particular AREA file
- EOF - End of File Flag for an AREA file
- STATUS - State of the loop; Active or Suspended
- FNAME - File name of TEXT type document
- FPATH - Path for the files in the dataset



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# SPS LIST Example – “Availability File”

\*\*\*\*\* Server Records Listing: Record 1 -- 120 \*\*\*\*\*

## Variables Listed

#	STA	BAREA	EAREA	CAREA	DATE	TIME	SCAN	EOF	RES	SRC	GRP	ADDE
4	A	5000	5049	5006	2012121	123000	100	0	0	RDA	DPD	1KMBREF
11	A	100	123	110	2012101	142000	100	0	1		DPD	GA-SDPI-CTPX
12	A	200	223	210	2012101	142000	100	0	1		DPD	GA-SDPI-LIX
13	A	300	323	310	2012101	142000	100	0	1		DPD	GA-SDPI-PWX
14	A	400	423	410	2012101	142000	100	0	1		DPD	GA-SDPI-SKX
15	A	150	173	158	2012101	144600	100	0	1		DPD	GE-SDPI-CTPX
16	A	250	273	258	2012101	144600	100	0	1		DPD	GE-SDPI-LIX
17	A	350	373	369	2012101	144600	100	0	1		DPD	GE-SDPI-PWX
18	A	450	473	459	2012101	144600	100	0	1		DPD	GE-SDPI-SKX
19	A	500	523	522	2012101	140100	100	0	1		DPD	GW-SDPI-CTPX
20	A	600	623	620	2012101	140100	100	0	1		DPD	GW-SDPI-LIX
21	A	700	723	704	2012101	140100	100	0	1		DPD	GW-SDPI-PWX
22	A	800	823	806	2012101	140100	100	0	1		DPD	GW-SDPI-SKX
23	A	550	573	569	2012101	142400	100	0	1		DPD	GP-SDPI-CTPX
24	A	650	673	654	2012101	142400	100	0	1		DPD	GP-SDPI-LIX
25	A	750	773	754	2012101	142400	100	0	1		DPD	GP-SDPI-PWX
26	A	850	873	854	2012101	142400	100	0	1		DPD	GP-SDPI-SKX
27	A	9100	9123	9109	2012101	140000	100	0	1		DPD	SDPI-PWX
28	A	9200	9223	9216	2012101	140000	100	0	1		DPD	SDPI-LIX
29	A	9300	9323	9320	2012101	140000	100	0	1		DPD	SDPI-SKX
30	A	9400	9423	9415	2012101	140000	100	0	1		DPD	SDPI-CTPX

**STA:** Status

**BAREA & EAREA:** Begin/End Areas on Server

**CAREA:** Current Area to be created

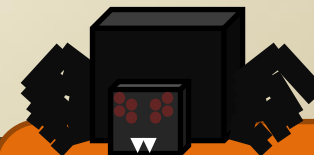
**DATE & TIME:** a bit obvious

**SCAN:** # of lines on image

**EOF:** End of File Flag

**RES:** Resolution  
'0' denotes Magnification

**GRP & ADDE:** Dataset entry names called by SPC Cycle request



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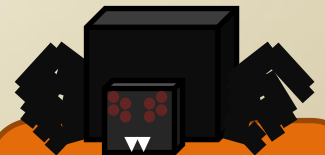




# SPC Commands

One instance or less useful ones

- Install/Uninstall – Initializes/Removes client's database
- Data – Provides an image listing for the particular loop on the server
- Delete – Deletes the requested loop from the client file
- Stop – Halts the looping process (so does Alt-L)
  
- Background – places Spider into the background
- Off – pull Spider back out of the background
- PrintLog – Prints the log of Spider processes
- Transfer – Grabs Availability File from the servers
- Version – Identifies the current Spider version running
- Verbose – shows or changes client output levels  
(suppresses, output errors only or output all messages)

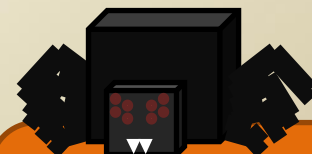


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# “Most Useful” SPC Commands

- **Create** – With input variables, creates loop record to load
- **CreateServer** – Allows client to add server details to server list. This allows the client during the CYCLE command to search the Availability files on each server
- **Cycle** – Allows the client to grab the availability list from each server. If a new file is available, Spider will automatically load the image into the predetermined frame
- **List** – Allows user to view request partial detail of loop record
- **ListServer** – Lists the available servers for data retrieval
- **Load** – Force loads the most recent imagery into the loop’s frames. This can be one or all frames within the loop depending on user’s input
- **Loop** - Displays and begins looping the user defined loop number
- **Report** – Provides a detailed text listing of specified loop’s entered parameters. Excellent for tracking errors
- **Reset** – Allows client to force the loop record to reset and cycle on the next cycle instance
- **Set** – Allows client to change any parameter for a created loop





# SPC Create/Set

## VARIABLES

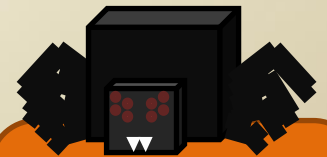
- TYPE (Area, Grid, Point or Text)
- STATUS (Active or Suspend)
- DOM or OPP (Sets the Dominant or Opposite Loop, to coordinate loading of concurrent images)
- RES or MAG (Sets the Resolution or Magnification of the image [can set either, not both])
- GROUP (ADDE Group name)
- NAME (ADDE Descriptor name)
- BAND
- LAT
- LON
- FRAME (Range of frames to use)
- INC (Sets an increment of when to request a new image to load)
- DWELL (sets looping parameters used by the Mcdas CORE DR command)
- EU (Sets Enhancement Table to use)
- SU (Sets Stretch Table to use)
- LBG (Loop Bound Graphic Frame #)
- MAP – Y/N (Sets Map if loop is Area)
- GRAY - Y/N (Shows EU color bar at bottom of the image loop)
- WORK (data range allocated on the system)
- PER (Minimum scan line % to read new image)

**Once an instance (ie loop) is created:**

**SPC LIST → Quick reference table of set variables**

**SPC REPORT → view all variables in a detailed report**

**SPC SET → Change any variable listed**



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# SPC LIST Example

\*\*\*\*\*

\*\*\*\*\* Client Records Listing: Records: 1 -- 100 \*\*\*\*\*

=====

SET X	DATASET ...	RS	B	LAT	LON	INC	BW	EW	BFR	EFR	SU	DOM	OPP
1	A GER/GENHEM04I4	0	4	11.3	85.6	15	0	0	11	20			11
2	A GER/GENHEM04I2	0	2	11.3	85.6	15	0	0	31	40			
3	A GER/GENHEM04I4	0	4	4.2	76.0	15	0	0	51	60			13
4	A GER/GENHEM04I2	0	2	4.2	76.0	15	0	0	71	80			
5	A GER/GENHEM04I4	0	4	-0.2	78.5	15	0	0	91	100			15
6	A GER/GENHEM04I2	0	2	-0.2	78.5	15	0	0	111	120			
7	A GER/GENHEM04I4	1	4	-0.5	90.7	15	0	0	131	140			17
8	A GER/GENHEM04I2	0	2	-0.5	91.5	15	0	0	151	160			
9	A GER/GENHEM04I4	0	4	17.0	63.0	15	0	0	171	180			19
10	A GER/GENHEM04I2	0	2	17.0	63.0	5	0	0	191	200			
11	A GER/GENHEM01V	0	1	11.3	85.6	15	0	0	395	404		1	
12	A DPD/NHVOLCIR	0	2	11.3	85.6	15	0	0	415	424			
13	A GER/GENHEM01V	0	1	4.2	76.0	15	0	0	435	444		3	
14	A DPD/NHVOLCIR	0	2	4.2	76.0	15	0	0	455	464			
15	A GER/GENHEM01V	0	1	-0.2	78.5	15	0	0	475	484		5	
16	A DPD/NHVOLCIR	0	2	-0.2	78.5	15	0	0	495	504			
17	A GER/GENHEM01V	1	1	-0.5	90.7	15	0	0	515	524		7	
18	A DPD/NHVOLCIR	0	2	-0.5	91.5	15	0	0	535	544			
19	A GER/GENHEM01V	0	1	17.0	63.0	1	0	0	555	564		9	
20	A DPD/NHVOLCIR	0	2	17.0	63.0	15	0	0	575	584			

## Variables Listed

Dataset: Group/Name

RS: Resolution

'0' denotes Magnification

B: Band

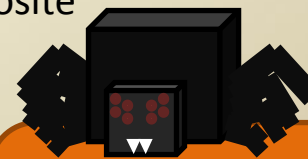
LAT & LON: a bit obvious

BW & EW: Beginning and End Workload

BFR & EFR: Frames in loop

SU: Stretch Utility used

DOM & OPP: Lists the Dominant or Opposite Loop for entry



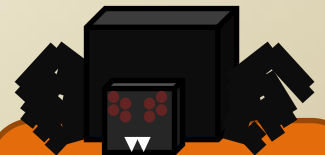
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# Uses @ SAB

- Automatic loading loops (static or floaters) and when combined with “TE” Hotkeys
  - SAB Mcidas Workstations can use over 100 loops and 950+ frames! Using F1-F12 keys (Alt, Shift and Cntl)
  - Provides dynamic domain sizes and locations
- Saves Time:
  - Analysts do not have to spend time loading imagery
  - Can “view from afar” on active areas to allow multi-tasking
- Provide background satellite health/situ. awareness
  - See drop-outs or outages of imagery/products



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# Combining SPC and String (TU) Capabilities

## TU REST SABFLASH

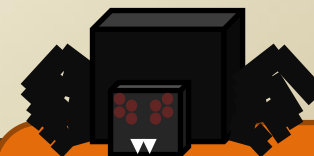
Change String	SYNTHETIC SATELLITE	SYNTHETIC SATELLITE	SYNTHETIC SATELLITE	CTRL	SYNTHETIC SATELLITE	SYNTHETIC SATELLITE	SYNTHETIC SATELLITE		CTRL		Convective Initiation		Graphics
Table	IMAGERY (NAM)	IMAGERY (Atlantic NAM)	IMAGERY (Pacific NAM)		IMAGERY (GFS)	IMAGERY (Atlantic GFS)	IMAGERY (Pacific GFS)				CI.BAT		Sendnow.tr
TRMM Rain Rate	Microwave Comp Rain Rate Loop	AMSU Rain Rate West Coast	AMSU Rain Rate SPC Loop Loop 124	SHIFT	AMSU Rain Rate Gulf/East Coast	SSM/IS Rain Rate West Coast	SSM/IS Rain Rate Gulf/East Coast	SSM/IS Wind Loop West Coast	SHIFT	SSM/IS Wind Loop Gulf/East Coast	SST		
NAT'L RADAR Loop 111	Microwave Comp. PW Loop	AMSU PW West Coast	AMSU PW SPC Loop Loop 114	ALT	AMSU PW Gulf/East Coast	SSM/IS PW West Coast	SSM/IS PW Gulf/East Coast	AMSU 89 GHz Loop West Coast	ALT	AMSU 89 GHz Loop Gulf/East Coast	MIMIC TPW LOOP	WATCH	BLWUPTR X 4
Hydro-Est Instantaneous Loop 101	Hydro-Est 1-Hour Loop Loop 102	Hydro-Est 3-Hour Loop Loop 103	Hydro-Est 6-Hour Loop Loop 104		Hydro-Est Daily Totals Loop Loop 105	Hydro-Est 2-Day Totals Loop 106	Hydro-Est 3-Day Totals Loop 107	Hydro-Est 5-Day Totals Loop 108		Hydro-Est 7-Day Totals Loop 109	Hydro-Estimate U.S./PR/HI	Auto-Estimate U.S./PR/HI	ODD
F1	F2	F3	F4		F5	F6	F7	F8		F9	F10	F11	F12

## TU REST SABFLASH

Change String	PLR/GPS BL TPW	PLR Blended	GOES Comp Sounder LI	CTRL	GOES Comp Sounder CAPE	GOES Comp Showwalter	GOES Comp Sounder LFC	GOES Comp 850 Rel. Hum	CTRL	GOES Comp Trop. Temp	GOES Cloud Top Pressure	GOES-W	GOES-E
Table	Anom. On Opp. Loop 32/82	Rain Rate Loop 33	PW on Opp. Loop 34/84		Sounder CINH Opp. Loop 35/85	K-Index Opp. Loop 36/86	Sounder LCL Opp. Loop 37/87	850-500 Lapse Rate Opp. Loop 38/88		Equil. Level Temp Opp. Loop 39/89	Sfc Skin Temp Opp. Loop 40/90	Chan 2/VIS Loop 44/94	Chan 2/VIS Loop 48/98
West U.S. 12 HR	East U.S. 12 HR	GOES-W IR/VIS	GOES-E IR/VIS	SHIFT	GOES-E IR/VIS	GOES-W WV	GOES-E WV	GOES-E WV	SHIFT	GOES-W WV	GOES-E WV	LES	LES
GOES-W IR/VIS Loop 21/71	GOES-W IR/VIS Loop 22/72	Western U.S. Loop 23/73	Central U.S. Loop 24/74	SHIFT	Eastern U.S. Loop 25/75	West U.S. Loop 26	Central U.S. Loop 27	Atlantic Ocean Loop 28	SHIFT	Full Disk Loop 29	Full Disk Loop 30	Superior/Michigan Loop 43/93	Ontario/Erie Loop 47/97
GOES-W Synoptic IR/VIS Loop 11/61	GOES-W IR/VIS Hawaii Loop 12/62	GOES-W IR/VIS Pacific NW Loop 13/63	GOES-W IR/VIS Coastal CA Loop 14/64	ALT	GOES-W IR/VIS Southwest Loop 15/65	GOES-E IR/VIS N. Plains Loop 16/66	GOES-E IR/VIS S. Plains Loop 17/67	GOES-E IR/VIS Southeast/FL Loop 18/68	ALT	GOES-E IR/VIS Ohio Valley/Great Lakes Loop 19/69	GOES-E IR/VIS New England Loop 20/70	GOES-E IR/VIS Puerto Rico Loop 42/92	GOES-E Synoptic IR/VIS Loop 46/96
GOES-W IR/VIS Floater 1 Loop 1/51	GOES-W IR/VIS Floater 2 Loop 2/52	GOES-W IR/VIS Floater 3 Loop 3/53	GOES-W IR/VIS Floater 4 Loop 4/54		GOES-E IR/VIS Floater 5 Loop 5/55	GOES-E IR/VIS Floater 6 Loop 6/56	GOES-E IR/VIS Floater 7 Loop 7/57	GOES-E IR/VIS Floater 8 Loop 8/58		GOES-E IR/VIS Floater 9 Loop 9/59	GOES-E IR/VIS Floater 10 Loop 10/60	TROPICAL FLOATER 1 IR/VIS Loop 41/91	TROPICAL FLOATER 2 IR/VIS Loop 45/95
F1	F2	F3	F4		F5	F6	F7	F8		F9	F10	F11	F12

## Sab Precipitation Workstation Hotkeys

980 Frames, 101 SPC loops, strings, macros, pgms & Batch commands



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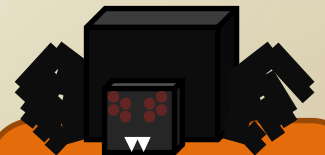


# Additional Uses

- Serves SPSD online web loops
  - GOES geostationary global, regional, WFO sectors
  - Volcanic Ash
  - Sounder products
  - Directly linked by NHC for tropical loops
  - Etc
- NCEP uses SPC (Client) to generate imagery sectors for use within NAWIPS



*NOAA's Center for Weather and Climate Prediction*



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# Questions?

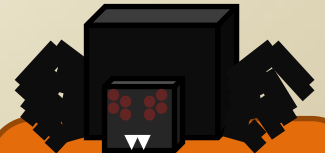
Gregory M. Gallina - [greg.gallina@noaa.gov](mailto:greg.gallina@noaa.gov)

Satellite Analysis Branch (SAB) – NOAA/NESDIS/OSPO/SPSD

[www.ssd.noaa.gov](http://www.ssd.noaa.gov) or [www.ospo.noaa.gov](http://www.ospo.noaa.gov)

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