DAS interfacing with Online   Date:6/9/2013
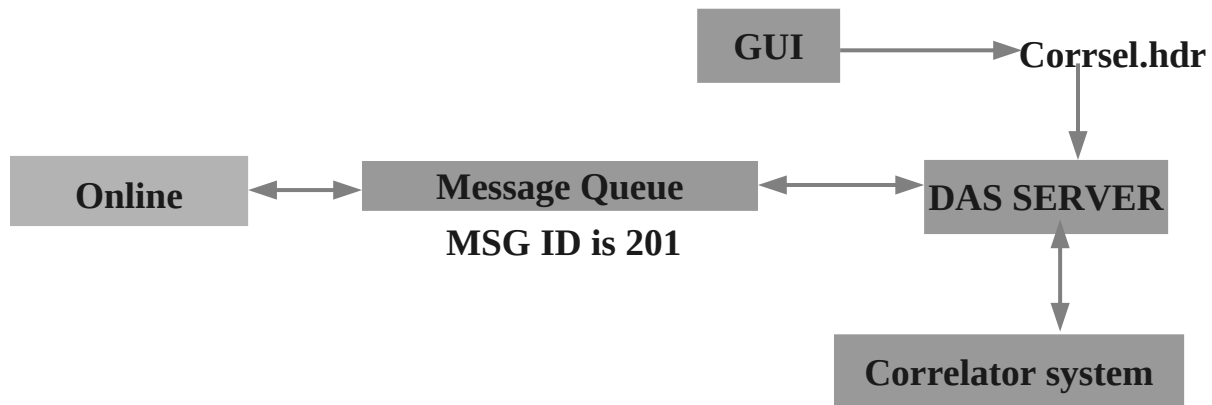

Figure shows how Online is interfaced with Correlator system via DAS SERVER.

Das server starts reading corresel.hdr file generated by GUI. Online send commands to DAS server via message queue.

There are mainly six commands which are send by Online to the DAS server :

1. initndas   => DAS init
2. initproj   => Add project
3. strtndas   => Start project
4. stpndas   => Stop
5. delproj   => Delete Project
6. hltndas   => Finish

initndas : [antmax] [corrsetup] [bandmask] [sub array no] [.....]

initprj   : [antmax] [sub array] [proj title] [proj object] [band mask selection] [prjcode]

strtndas : [source param] [freq param] [sub array number]

Antenna name mentioned during initndas & initproj should match.

sub array Num	cmd num	Cmd type	CMD	CMODE	Antenna mask		File location
1. 0	0	das	init	8	7FFFFFFE	F	/home/teleset/gsb.hdr // Init Command
2. 0	1	das	addp	8	/home/teleset/proj.hdr.user0		// ADD project command
3. 4	2	das	start		/home/teleset/scan.hdr.user4		// DAS Start command
4. 4	3	das	stop				// DAS Stop command
5. 0	4	das	delp	8			// Delete project command
6. 0	5	das	fini	8			// Finish command

gsb.hdr => GSB config header file.

proj.hdr.user0 => generated by Online

scan.hdr.user4 => generated by Online.

Msgtag structure is declared in display.h in present Online code which is used by Online to pass DAS command DAS server :

display.h

```
typedef struct
{
    long type;
    char buff[256];
} msgtag;
```

DAS Server side :

Message queue structure

```
typedef struct
{
    long msglevel;
    protocolType prot;
    char buf[MsgSz];
} MsgBufType;
```

```c
typedef unsigned char  UNC;
typedef unsigned short UNS;
typedef short          SHRT;
typedef unsigned long  UNL;
typedef unsigned int   UNL;

typedef struct ProtTag
{
    UNC  origin;                    /* MSG Originating station */
    UNC  dest;                      /* Destination station */
    UNC  type;              /* The type of req, eg. Sh_com,RPC,FileIO,DAS,etc.*/
    UNC  cmd;                    /* Actual service name or shell command. */
    UNC  arg[4];      /*Used as a parameter of any type that can be coded in 4 bytes. */
    UNC  id;              /* Request no, from the origin, wraps at 2^8 */
    UNC  flag;              /* Flags of queries or replies */
    UNS  usrflag;     /* Any short val or set of flags for user */
    UNL  len;          /* Length of the packet that follows */
} ProtocolType;

# define ProtSz  sizeof(ProtocolType)
```

create_msgq_()
send_msgq_()

 : Both the functions are defined in commstat.c
 : These functions called by CMDFRM.F

 CMODE => 1 => USB
 CMODE => 2 => LSB
 CMODE => 3 => BOTH
 CMODE => 4 => DUMMY

Stand alone MSG_queue_server has been tested with DAS Server upto ACK level.