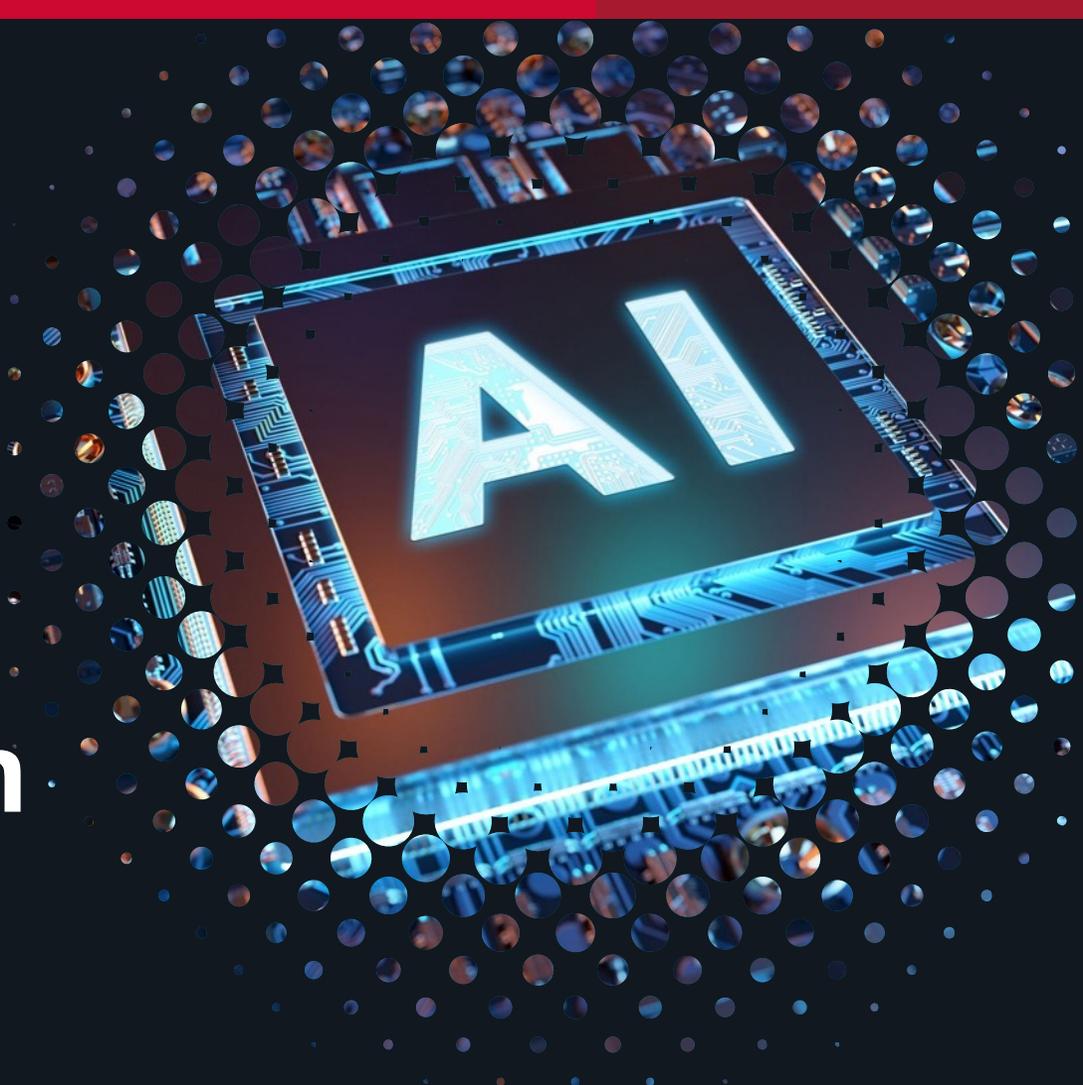


# Administrator Playbook for ESP Workload Automation

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# Abstract

In this session, you will learn approaches to maintain your ESP Workload Automation systems and to work effectively with Broadcom Technical Support on resolving the common problems.

# | Agenda

Keep ESP files and STC storage in good shape

Things to know for administrator's routine work

Minimize the impact of a problem or outage

Work effectively with support

# Keep ESP files and STC storage in good shape

# Non-VSAM files in ESP

- Message **1070W** is issued in JESMSGLG when file usage has gone above any of 50 percent, 70 percent, 90 percent, and 99 percent.
- Suggest the files have less than 50% usage when ESP is busy.
- **Checkpoint file:** LISTCKPT shows the usage, use CYBESUT9 to increase
- **Queue file:** LISTQ shows the usage, need to start ESP with PARM=QFORM to reformat
- **TRAKFILE:** LISTTRAK shows the usage, use CYBESUT4 to increase the size
- **APPLFILE:** LISTAPTF shows the usage, use CYBESUT3 to increase the size. The steps for CYBESUT3 is a bit complex, please contact support if not confident.

**Note:** Allocate a bigger file, see CYBESS01 in prefix.CD7YJCL. Checkpoint file and APPLFILE need to be CONTINUOUS.

# VSAM files in ESP

- For VSAM files, use IDCAMS LISTCAT to check usage; if not enough space or many extents, allocate a new file, and use REPRO to copy over
- Message **1072W** is issued in JESMSG LG when file usage has gone above any of 50 percent, 70 percent, 90 percent, and 99 percent.
- Suggest the files have larger secondary allocation, like 20% of the primary allocation.
- **RESFILE**: the SIZE parm for RESFILE in ESPPARM should be changed accordingly. Before consider RESFORM restart, please contact support.
- **JOBINDEX**: Use CYBESUT7 to clean up obsolete job records
- **JOBSTATS**: Use CYBESUT8 to clean up obsolete job records
- **COMMQ**: “OPER ESPCOM DEST(agentname) FLUSH” can be issued to flush queued up agent requests. Also used for Report Server, issue RSERVER command with STOP or NOTRACK if Report server is not active.
- **CYBESUT1**: Analyze and reclaim slots in the TRAKFILE or APPLFILE data set. Run with SUBSYS(subsys) and without ANALYZE/UPDATE, it will show only real errors. Only run with UPDATE option when requested by support.

# | HISTFILE and Its Archive JOB

**HISTFILE:** its archive job failure caused 50% of critical ESP problems.

This job needs to turn off the tracking first, and turn on the tracking after completes. When the TRACKING is set to NOSTORE, tracking requests are accumulated in the checkpoint data set, which is very small and will be out of space quickly. Since tracking data cannot be processed, job status is not updated.

## How to avoid

- HISTFILE should have enough free space and big enough secondary allocation size.
- When HISTFILE size is increased, remember to increase the archive data set and temporary data set size in the archive JCL accordingly, otherwise the JCL will abend with B37. **This is the most common reason that the archive job fails.**
- Choose a time of low system activity to run this archive JOB.

## What to do if it fails

- If HISTFILE has more space  
Issue "OPER HISTFILE HIST1 OPEN" to catch up workloads and run archive job later after the error is corrected;  
Restore the TRACKING by "OPER TRACKING STORE" from page mode to avoid any delays in active jobs.
- For more scenario and consideration, see the knowledge document below:  
<https://knowledge.broadcom.com/external/article?articleId=50332>

# PURGSCHF/PURGAPPL

- Clean up the Application monitor panel and CSF scoreboard, which are stored in ESP STC memory, avoid **most of ESP STCabend 878 occurrence**;
- The two panels are designed for monitoring active jobs, users should use history report for completed schedules.
- Suggest schedule them at least daily to remove completed entries;
- Enhancements in ESP 12.0 to help clean up frequent applications and jobs:  
PURGSCHF [APPL(pattern)] [NAME(pattern)] criteria  
PURGAPPL [NAME(pattern)] criteria

# Clean up obsolete schedules & resources

## Clean up obsolete incomplete schedules

- Over time, on DEV or TEST ESP systems, where no operators monitor, there can be many obsolete incomplete schedules.
- CSF extension CAA with proper date criteria: force complete jobs older than the specified date/time
- Page mode command “LAP –” output may be provided to schedulers for validation.

## Clean up obsolete resources

RESDEF name LIST|DELETE [**LASTUSED**(criteria)]

# Things to know for administrator's routine work

# Disable an installed component

If you installed all ESP components, but don't have the license for one of them, error message like below will show on MVS console:

**CAS9180E - CPU xxxxxx REQUIRES A LMP KEY TO RUN PROD (WU)**

A quick way to stop these CAS9180E messages is to disable these product options by renaming the following modules from the ESP load library and restart ESP:

CYBHA000 - High Availability Option, product code WU  
CYBHP000 - Service Governor option, product code WV  
CYBRM000,CYBRM003 - Encore, product code WW

Another way is to use DELFMID command, see IBM documentation for more detail. And following are the FMIDs:

```
CD7ZC00 /*CA ESP ENCORE */
CD70C00 /*CA ESP SERVICE GOVERNOR */
CD71C00 /*CA ESP HIGH AVAILABILITY */
```

# Add/Remove a user to ESP system

## Add a new user to ESP system

May need to add a PROFILE entry in UPDT table

May need to grant proper access to ESP security profiles

## Remove a user from ESP system

May need to delete the PROFILE entry in UPDT table

May need to remove access to ESP security profiles

May need to run utility CYBESU01 to change ownership of existing events. Note: ownership in ESP decides who will get notification for Event/application errors.

```
//stepname EXEC PGM=CYBESU01
/STEPLIB DD ...
//EVENTDS DD DISP=SHR,DSN=CYB.MYEVENT
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
REPLACE OWNER IF(CYBUSR1) NEWVAL(CYBUSR2)
/*
```

# Add/change JOB tracking

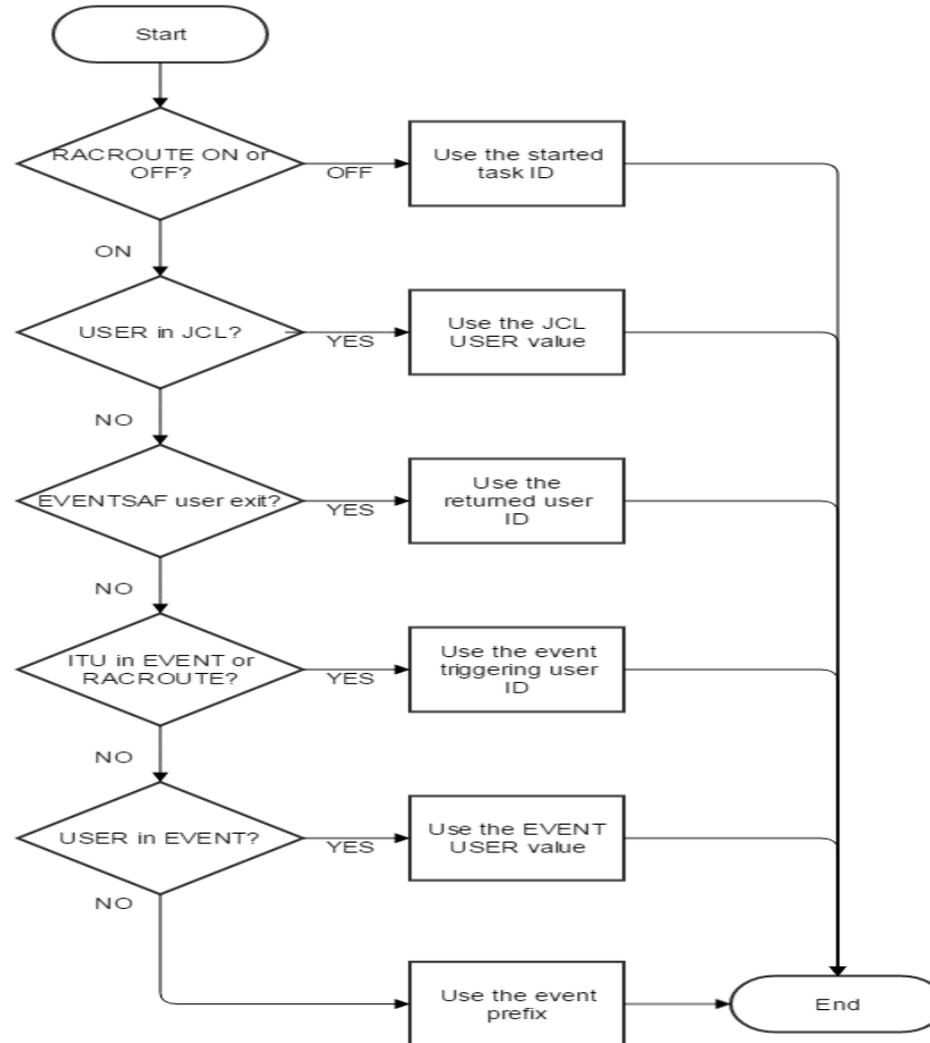
- Use command DEFTM to define new tracking models if needed. Models are stored in JOBINDEX file
- Change JTDT table
- Issue LOADJTDT to reload JTDT table to master and proxies. Proxies are used mainly for tracking, if only Master loads the changed JTDT, the change may not take effective.

## Note:

- ALTTJ command may be needed for existing JOB;
- If the change is needed for only specific runs in ESP, MODEL statement can be added to the JOB definition;
- To get history report for distributed JOBs, they need to be tracked by a tracking model;
- To share JOB tracking between two ESP masters, it needs to be tracked by same tracking model name on both ESPs.

# How ESP chooses User ID for mainframe Batch Jobs

<https://techdocs.broadcom.com/us/en/ca-mainframe-software/automation/ca-workload-automation-esp-edition/12-0/securing/set-up-security-profiles.html>



# Add/change Calendar

- ESP requires one more entry in the future for holidays and special days. So please define them ahead, or define entries for year 2030 (far in the future).
- SYSTEM calendar will always be used or concatenated even when it's not specified. Like below, HOLIDAY and Special day entries in both calendar CAL1 and SYSTEM will be used:

```
EVENT ID(ESP.TEST) ...
```

```
CAL CAL1
```

```
...
```

```
ENDDEF
```

- After calendar changes, to make effective to existing schedules:
  - Choose “RESCHEDULE? ==> Y” from the panel;
  - Or run CALSCH command with the calendar name.

Note: this is not required if the added entries won't affect existing schedules.

# ESP Variables to show how ESP was started

This can be important to narrow down the problem. For example, after applying maintenance, if ESP is not started with RELOAD, there can be mismatch in its modules. Add below in ESPPARM can make it easy:

```
ECHO '-----'  
ECHO 'START UP OPTIONS'  
ECHO '-----'  
ECHO 'COLD      =' %COLD  
ECHO 'NQFORMAT   =' %NQFORMAT  
ECHO 'QFORM      =' %QFORM  
ECHO 'QUIESCE    =' %QUIESCE  
ECHO 'RELOAD     =' %RELOAD  
ECHO 'RESFORM    =' %RESFORM  
ECHO 'SADGEN     =' %SADGEN  
ECHO 'SHADOW     =' %SHADOW  
ECHO 'CQFORMAT   =' %CQFORMAT
```

See more on above variables on:

[https://techdocs.broadcom.com/us/en/ca-mainframe-software/automation/ca-workload-automation-esp-edition/12-0/using/advanced-using/substitute-using-symbolic-variables.html#concept.dita\\_2c40765538852bae354c84928eb02de4c5b665d6\\_UseBuiltinSymbolicVariables](https://techdocs.broadcom.com/us/en/ca-mainframe-software/automation/ca-workload-automation-esp-edition/12-0/using/advanced-using/substitute-using-symbolic-variables.html#concept.dita_2c40765538852bae354c84928eb02de4c5b665d6_UseBuiltinSymbolicVariables)

# Run History report

- ATDT table needs to be configured for application history report. See APPTRACK and LOADATDT for more detail.

Example:

```
APPTRACK HISTFILE(HIST1)  -- to track all applications.
```

Then run command LOADATDT to reload the ATDT table.

- Be sure to add related archive statements in History file archive JOB, as below in CYBESS39 in prefix. CD7YJCL:

```
REPORT  
APPLREPORT
```

```
....  
ENDR
```

- REPORTCV can be used instead of REPORT to generate CSV format of output.
- To run report against archived dataset, use INPUT statement:

```
REPORT  
INPUT DATASET(CYBER.ESP.HISTORY1)
```

```
....  
ENDR
```

# Manage resource

- RESFILE is used to store ESP CPUs, NODEs, explicit and implicit resources.
- Need to **define Topology with NODE and CPU**, while one CPU and NODE need to be set as Current and Active
- **NOTWITH feature** is considered as implicit resource, so it requires the resource Topology;
- If need to set AVAIL count of resources, **suggest use INCREMENT or DECREMENT** option instead. User mode 75 can be turned on to stop users from setting AVAIL directly, which can cause MAX and AVAIL inconsistent problem.
- Chapter “**Automate Resource Management**” on “Using” manual contains extensive information on using resources.

# ESP files Backup and Recovery

**Don't try to back up these files** as they change very fast

CKPT

Queue

TPCKPT: used by TP server

NETQUEUE: used by NDS

COMMQ: if agents are defined dynamically, should issue SAVEAGDF command to save AGENTDEF table

Resource: backup by “RESDEF – LIST ONWERS WAITERS” output

**Our customers may use other method for backup/restore, like below:**

Mirror

Snapshot

**Note:** If ESP is not quiesced before the backup, there can be inconsistency between ESP files.

# ESP files Backup and Recovery(continue)

**VSAM files:** including EVENTSET, HISTFILE, INDEX, JOBINDEX and JOBSTATS

- Define proper SMFREC in ESPPARM
- Define the backup datasets, see prefix.CD7YCJKL(CYBESS01) for more detail
- Specify JOURNAL option in ESPPARM for the above file
- Schedule related BKUP commands to backup data to the backup datasets, like BKUPEVS for EVENTSET
- Run UTIL with RESTORE option to restore from backup dataset.

See more on the knowledge document below:

<https://knowledge.broadcom.com/external/article?articleId=50814>

# Backup commands' output

It's easier to backup commands' output. Like running commands below in ESP batch JCL every day or every hour:

L LEVEL(-.-) ALL	-backup all event definitions
LCSF STATUS='WAITING-'	- All CSF jobs in Waiting
OPER ESPCOM DEST(-)	- Queued up requests for agents
OPER AGENT -;	- Active agent definitions
LISTHOL -;	- Holidays defined
LISTSPEC -;	- Special days defined
RESDEF - LIST OWNERS WAITERS	- Resource definitions
VTLIST	- Global variables
PASSWORD LIST	- User/password entries
LISTCAL -;	- All calendars
LISTSYML -;	- Variables in Symbolic libraries
OPER TRACKING	- Show tracking information
LISTHIST	- Show HISTFILE information

And following shows ESP file usages:

LISTCKPT  
LISTQ  
OPER LISTAPTF  
OPER LISTTRAK

# Manage agents

**LOADAGDF** command has “TEST” option, use it first to make sure no syntax errors before load it;

**NOALIAS** may be used for virtual agent, so the retrieve spool request is sent to the proper real agent.

Before **removing an agent**, the agent process should be stopped permanently. If this can not be guaranteed, may issue MGRADDR AGENT(agentname) PERSISTENT(YES) with WRONG port, so that the agent won't be able to connect to ESP. This can avoid ESP507E error which can cause un-necessary performance problem;

**AGENT\_MONITOR** may still show Active after the agent is stopped, as there is a delay up to value defined on STATINTV. To avoid it, it should match on ESP and agentparm.txt:

```
APPL AGENTM                                agentparm.txt
...
AGENT_MONITOR AGENTA                       communication.monitorobject_1= AGENTA/AGENTM.0/MAIN
...
ENDJOB
```

# Manage agents (continue)

**MANAGER** in **AGENTDEF** table may specify TCPIP option with DNS name, for expected MGRADDR command result

By default, the local IP address will be sent with MGRADDR command. However for agents use natted MANAGER address, this can cause wrong MANAGER address being resolved.

Example:

```
IF SYSNAME='SYSA' THEN DO
  MANAGER NAME(ESP_MANAGER) TCPIP(SYSA.xxxx.COM)
ENDDO
ELSE IF SYSNAME='SYSB' THEN DO
  MANAGER NAME(ESP_MANAGER) TCPIP(SYSB.xxxx.COM)
ENDDO
ELSE IF SYSNAME='SYSC' THEN DO
  MANAGER NAME(ESP_MANAGER) TCPIP(SYSC.xxxx.COM)
ENDDO
```

# Minimize the impact of a problem or outage

# Start ESP with different options

**SKIP:** Skips the first TDR(time-driven request) in ESP queue.

- For Abend0C4, most of the time, the data exception is only related to the first TDR. So recycle WA ESP with PARM=SKIP will skip it and let WA ESP process other TDRs.
- As a result, the skipped TDR may need to be handled manually.

**PURGE:** This parameter forces ESP to perform an initial start as if there was an IPL. Note: RELOAD can help most of the time with less effort.

- This is useful for inconsistent issues after upgrade or applying PTFs, or system outage;
- Note: If you use ESP Encore, before bring down WA ESP for start with the PURGE parameter, stop WA ESP Auxiliary address space by issuing an “F ESPSTC,AUX\_AS CANCEL” command or a FORCE ARM operator command.

# When JOB/APPL/EVENT causes problem

**A bad record for one job or one APPL causes problems for following runs:**

- Use UTIL to remove the related job record from JOBINDEX file:

```
UTIL  
OPEN 'ESP.JOBINDEX'  
GETU JMYJOB  
ERASE  
END
```

- Use UTIL to invalidate the appl.gen record in JOBINDEX file:

```
UTIL  
OPEN 'ESP.JOBINDEX'  
INVAL MYAPPL.GEN  
END
```

**One event or APPL or one ESP feature seems to cause the issue:**

- Hold/Suspend the related event;
- Stop using the feature until it's corrected.

# When JOB/APPL not tracked

## The JOB is not tracked by ESP:

- Force complete the job when it's finished;

## The APPL is not tracked by ESP: most common reason is APPLBUF not set large enough

- Re-trigger the event to generate a new gen on HOLD

On the "Trigger an Event" panel, make sure:

REPLACE/ADD ==> **ADD**

TRIGGER TIME ==> (the same date/time as the old gen)

APPL on HOLD ==> **Y**

- Force complete jobs that are completed in old gen;
- Then force complete the old gen of APPL;
- Release the new gen.

**Note:** User Mode 30 may be turned on, so that the related externals won't be posted.

# CYBESUTS & OVERDUE count

Take a **CSF dump by CYBESUTS utility** before stopping ESP and after “OPER QUIESCE” is issued. If not possible, then run **history report**.

By default, ESP keeps one overdue schedules, if more is needed for frequent schedules, **add OVERDUE on SCHEDULE statement:**

```
EVENT ID(xxx)  
SCHEDULE 10AM WORKDAYS OVERDUE(30)  
.....  
ENDDEF
```

Note: with new enhancement LU03812, the maximum OVERDUE count is now 30.

# ESP has an outage for x hours

ESP TIMEREF feature can be used to change ESP's clock to the past, while the MVS clock is still current.

In ESPPARM, code, TIMEREF will make ESP go back 5 days (24X5=120 hours):  
TIMEZONE 0 LOCAL 5W SYSZONE(YES) TIMEREF(-120)

After ESP was started in quiesce mode on Mar 22nd, got:

```
13.54.39 STC09689 ESP100W SYSTEM TIME HAS BEEN CHANGED
13.54.39 STC09689 *180 ESP110A CONFIRM THE TIME CHANGE AND REPLY 'Y' TO CONTINUE
13.54.39 STC09689 R 180,Y
```

....

```
13.54.39 STC09689 ESP892W IT IS NOW 13.54.39 ON SUNDAY MARCH 17TH, 2013
13.54.39 STC09689 *106 ESP893A CONFIRM DATE AND REPLY 'Y' TO CONTINUE, 'N'
TERMINATE OR 'Q' TO QUIESCE
13.54.58 STC09689 R 106,Y
```

# ESP has an outage for x hours (continue)

Issue "**oper timeref systime-119**" from page mode to move 1 hour forward:

- In JESMSGGLG:

13.57.48 STC09689 ESP100W SYSTEM TIME HAS BEEN CHANGED

13.57.48 STC09689 \*107 **ESP110A CONFIRM THE TIME CHANGE AND REPLY 'Y' TO CONTINUE, 'N' TO TERMINATE ESP OR 'R' TO RETRY**

13.59.20 STC09689 R 107,Y

- In auditlog, as you can see, the time forwarded one hour:

**13.55.54** SUN 17MAR13 ESP6230I OPERCMD: BY USER1 timeref systime-119

**14.55.57** SUN 17MAR13 ESP6230I OPERCMD: BY INTERNAL EVENTSET EVENT1 SET  
BUILDSCHED

# ESP has an outage for x hours (continue)

## Syntax

OPER TIMEREF SYSTIME+hhh.mm or OPER TIMEREF SYSTIME-hhh.mm

+: means to go forward than system time

-: means to go backward than system time

hhh.mm is the offset related to the system time.

**Note:** As you may notice, it's similar to the TIMEREF option on TIMEZONE parameter used in ESPPARM. This command will re-scan EVENTSET for all schedules.

To reset, so that CA WA ESP will use the current system time, you can issue:

OPER TIMEREF SYSTIME+0.00

# ESP has an outage for x hours (continue)

## What to do when data are not in sync in ESP files and ESP won't come up?

**Note:** please contact support if you don't feel comfortable

- More frequently CKPT & QUEUE are corrupted, we suggest start ESP with PARM=(COLD,QFORM,QUIESCE)
- APPLFILE & TRAKFILE & JOBINDEX corruption: shown errors in ESP JESMSGGLG  
Run UTIL to remove the B record or INVALIDATE the APPL.GEN from JOBINDEX file.  
Run UTIL to remove the J record from JOBINDEX file.

# Work effectively with support

# Important & Basic things

**Sign up notification on support website** to be alerted for:

Critical alerts Product Advisories Release announcements Security advisories

**Make a call** to call center at **1-800-225-5224** for critical problem and/or off hour support. Severity 1 case can't be opened from support website. (Calling outside the US? See our Global Numbers [here](#))

**Open a proactive case** for planned upgrade or migration or Disaster recovery test. We can help to review your plan, and mark your company as hot site to alert off-hour support.

**Apply maintenance** routinely (like every 3 months) to a certain level (like up to June 2022). This can help avoid existing known problems, and proved to be better than only applying specific PTF(s).

**Avoid EOS release** End Of Support release or product is not supported, except with purchase of Extended support or in Product down condition. Check Quick links-> Product lifecycle from support website.

**Compatibility with Z/OS versions:** Generally all supported z/OS versions are supported. Sometimes PTFs are required. Check Quick links-> Compatibility matrix-> z/OS Compatibility.

## ESP user community

Request an Enhancement by posting it on the Ideas tab in the “ESP Workload Automation” Community.

Ask/answer questions from other ESP users;

Attend Roadmap and new enhancement presentations.

# Collect related data as soon as the problem occurs

Most of cases without solution are related to not enough data. While logs may be archived, some data (like LAP and LJ command with DUMP option) in ESP can be overwritten over time.

## Following are the time sensitive data that can be overwritten

### Related to ESP application:

LAP appl.gen ALL DUMP - before the application is force completed

LAP appl ALL -- useful for APPLWAIT

LAP appl ALL COMPLETE – useful for APPLWAIT

### Related to JOB tracking:

LTJ job I DUMP

LJ job(jesno) ALL DUMP - before the job is force completed;

LAP appl.gen ALL

# Collect related data (continue)

Following are the time sensitive data that can be overwritten (continue)

Related to agent wob or agent communication:

Agent logs: based on log archive setup in agentparm, they can be removed.

Note: agent database files are needed in rare conditions.

ESP uses high CPU or hang: Request a SVC dump for ESP STC without stopping ESP  
OPER CALLRTN CYBXR004 from ESP page mode:

ESP2452I COMMAND ACCEPTED BY SUBSYSTEM

or /F esp\_stc,CALLRTN CYBXR004 from MVS console

IEA611I COMPLETE DUMP ON SVCCA31.CA31.X113M.D140715.S00066 908

DUMPID=066 REQUESTED BY JOB (ESPM )

**Note:** Suggest wait for 5 minutes to make sure the dump is complete.

# How and where to get the requested data

**Commands:** should be issued from ESP page mode, or ESP Workstation LMI mode, and most of them can also be issued as MVS modify command against ESP STC. If the output is large, then you can run in ESP batch and the command output can be captured in the joblog:

```
//ESP EXEC PGM=ESP,PARM='SUBSYS(subsys)'  
//SYSPRINT DD SYSOUT=*  
//SYSIN DD *  
LAP TEST1.10 ALL DUMP  
//
```

## Release and maintenance level of ESP

The Release show on the TSO ESP main panel, and ESP499I message in ESP STC JESMSGGLG. Show current level of ESP modules, use TSO CAMODID command like below:

```
CAMODID DSN(prefix.CD7YLOAD) DETAIL
```

# How and where to get the requested data (continue)

## ESP logs and traces:

**Auditlog:** name starts with SYS in ESP STC output. There can be multiple auditlogs, find the one that covers the problematic date/time range;

**INET trace:** TCPTRACE in ESP STC output. When there is a TCPIP problem with the agents or another ESP thru NDS:

```
INET SET TRACE SYSOUT(X) - set sysout class
```

```
INET START TRACE -- start the trace
```

```
INET STOP TRACE -- stop the trace
```

**Comtrace:** when there is problem with agent communication, need to recycle Master to turn it on or off, therefore we suggest try with agent receiver/transmitter log first. Add below in ESP STC PROC:

```
//COMTRACE DD SYSOUT=*,DCB=LRECL=6000
```

**MAILLOG:** related to MAILBOX feature. Can be controlled by MAILLOG in ESPPARM.

**Trace:** needs to define separate sequential file, and may be required for JOB and DSTRIG tracking problem. See more on “Trace” command. Only when requested by support.

# How and where to get the requested data (continue)

## Example display in JES

ESPM STC73135

Cmd DDname

_____	JESMSG LG - JESMSG LG
_____	JESJCL
_____	JESYSMSG
_____	COMTRACE - COMTRACE
_____	MAILLOG - MAILLOG
_____	SYS00001 - Auditlog
_____	CPEENQLG
_____	ENCORELG
_____	SYS00035 - Auditlog
_____	TCPTRACE - INET trace

# How and where to get the requested data (continue)

**ESP Workstation trace** workstation related problem, need to be turned on BEFORE subscription. It can be used with our internal utility to replicate the problem.

From Workstation main menu:

Click Options-->Trace-->Set trace file to create the trace file;

Then click Start trace to start.

Be sure to click Options-->Trace-->Stop trace after the test.

## **ESP Workstation server traces**

Message trace: rarely required

```
/F wss_stc,WSSCTL SET TRACE SYSOUT(X)
```

```
/F wss_stc,WSSCTL START TRACE
```

After the test, please issue "/F wss\_stc,WSSCTL STOP TRACE".

INET trace: same way as ESP STC INET trace.

# How and where to get the requested data (continue)

Run UTIL to get specific file record, like for JOBINDEX file, Application (B) or JOB (J) record:

```
//STEP1 EXEC PGM=ESP,PARM='SUBSYS(subsys)'  
/SYSIN      DD *  
UTIL  
OPEN 'ESP.JOBINDEX'  
GETD JMYJOB  
D  
END  
//SYSPRINT  DD SYSOUT=*
```

**Note:** for file record related function, please do only with request from support.

# | What data should be captured

## Most Common Information We Request

- The Release and maintenance level of WA ESP
- Description of the issue, as well as related information: Event and ESP Procedure are needed if it's a schedule issue
- JESMSG LG in ESP STC output
- Auditlog (SYSxxx in ESP STC output)

## When ESP System Abended

- Tersed SVC dump. The tersed dump should be stored in the pre-allocated file with DCB as below:  
**DCB=(RECFM=FB,LRECL=1024,BLKSIZE=6144) UNIT=SYSDA**  
Please ensure that the original dump is IPCS readable.
- FTP the tersed dump in Binary mode to Broadcom.
- If there are non-WA ESP error or warning messages right before the abend, then System log or MVS console log is needed.

# | What data should be captured (continue)

## ESP Has Bad Performance, Is Slow or Uses High CPU

- Request dump by “OPER CALLRTN CYBXR004”
- Output of “OPER EICLASS STATISTICS”
- Output of “OPER EICLASS” every 1 minutes for 10 times
- LISTCKPT: if there is enough space in Checkpoint file
- Whole ESP JESMSGLOG and Auditlog for the time period
- ESP init parms from Master and proxies

## Dataset Trigger Not Working

- Related Event definition and/or ESP Proc: the latter is needed if DSTRIG WOB is used;
- ESPPARM: INDEX file should have SHR when there is a proxy
- LDXE: from Master and all proxies;
- LDTE: from tracking ESP system;
- SMF record: This is very important for this kind of issue;
- For FTP Dataset Trigger: need to check which SMF record is in use: 118 or 119, then make sure same setting is in ESP init parm;
- Dataset trigger logging: “OPER DSTRST LOG” can be used to turn on the logging.

# | What data should be captured (continue)

## Can't Communicate With the Distributed Agents

- AGENTDEF and agentparm.txt on agent server: needed for new installed agent;
- Output of OPER AGENT: When IF\_NOT\_IN\_COMMQ is used on LOADAGDF, the agent definition may be stored in COMMQ
- Output of OPER ESPCOM DEST(-);
- log files in log subfolder in agent installation folder:
  - log.level =5 in agentparm.txt;
  - receiver.log and transmitter.log are most important;
- Outputs of PING and NETSTAT command: from mainframe to agent server and vice versa;
- TCPIP traces from both sides of firewall: in rare condition
  - Firewall should allow connections from certain IP addresses without restriction on the sending port
- COMTRACE

See the knowledge doc below for most common reasons:

<https://knowledge.broadcom.com/external/article?articleId=97653>

# | What data should be captured (continue)

**ESP Lost Control of One Application** Symptoms include all active JOBS in one Application are not tracked, get error message when issue commands against the Application or jobs in it.

- APPLFILE and APPLBUF parm in WA ESPPARM: For big application when error message shows “No space xxxxx”;
- PDS(E) member for the Application;
- LAP appl.gen ALL DUMP;
- LAP appl ALL -- useful for APPLWAIT
- LAP appl ALL COMPLETE – useful for APPLWAIT
- Index record in JOBINDEX file by UTIL
- CYBESUT5 output: Useful when the error message shows ‘Invalid xxxxx’;
- Output of LISTAPTF: Check if there isn’t enough space in APPLFILE; Output of “Oper Imod CYBES032” & “Oper Imod CYBJS082”.

# | What data should be captured (continue)

## ESP Lost Track of Jobs

- JTDT(Job Tracking Definition Table) from Master and Proxies: If it's for new job (s) or JTDT has been updated
- Related Application definition;
- LTJ job I DUMP;
- LJ job(jesno) ALL DUMP before the job is force completed;
- SDSF joblog;
- LAP appl.gen ALL DUMP;
- ESP JESMSG LG and Auditlog for the life of the job;
- Anything unusual about this job:
  - Local or internodal: for internodal jobs, the above command outputs should be from both WA ESP systems;
  - Attributes on JOB statement, like Manual or External;
  - Related to STC on MVS: Start and end information for the STC is needed;
  - Short run or long run;
- Output of "Oper Imod CYBES032"& "Oper Imod CYBJS082";
- Output of "Oper tracking";
- Trace record: This is needed for rare cases only;
- SMF record: This is needed for rare cases only.

# | What data should be captured (continue)

## Manual or External Job Not Posted

- Data listed above should be for both home application and remote application (where job is specified as Manual or External);
- Output of “Oper tracking”;
- Output of “Oper trackopt”;
- If WAIT or JOB\_ANCESTOR\_WAIT etc is on APPL for remote application, then output of “LAP appl ALL COMPLETE” for remote application;

# | What data should be captured (continue)

## Manual or External Job Not Posted

- Data listed above should be for both home application and remote application (where job is specified as Manual or External);
- Output of “Oper tracking”;
- Output of “Oper trackopt”;
- If WAIT or JOB\_ANCESTOR\_WAIT etc is on APPL for remote application, then output of “LAP appl ALL COMPLETE” for remote application;



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**And as always, we support are here to help**

**Thank You**