



JES2 Short Subjects

\$ACTIVATE Considerations

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What is \$ACTIVATE?



■ \$ACTIVATE:

- Changes the format of the checkpoint data set to support new JES2 function
 - ▶ In R4, creates and formats the JQX and BERT areas of checkpoint, and expands the RSO to 32K entries
 - ▶ Future releases may support additional levels of activation
- Prior to R4, it took a **COLD START** to accomplish this!

\$ACTIVATE



- The following R4 functions are not available until a **\$ACTIVATE** has been done
 - WLM initiators
 - Scheduling environments
 - Remotes over **9999**
 - **\$T SPOOLDEF,SPOOLNUM**
 - **Lnnn.JT** work selection by LIMIT
 - Many new **\$DJ/\$TJ** keywords, including
 - ▶ WLM-related keywords (**SRVCLASS=**, etc.)
 - ▶ **AGE/HOURS/DAYS** filters
 - ▶ Job completion information (**CC=**)
 - **SDSF** Job Class (JC) display

When can \$ACTIVATE be done?



- **\$ACTIVATE** can be done when:
 - All active MAS members are R4 or higher
 - Pre-R4 members can no longer enter MAS
 - The checkpoint dataset is large enough
 - New BERT and JQX structures must be created, RSO expanded
 - The member issuing the command has access to all checkpoint volumes
 - If duplex not accessible, can't check its size.
 - As of **OW32920**, **\$D ACTIVATE** will display whether a \$ACTIVATE can be done

\$D ACTIVATE



■ Possible outputs of **\$D ACTIVATE**

- \$HASP895 JES2 CHECKPOINT LEVEL IS NOW OS/390 RELEASE 4 OR LATER
- \$HASP895 JES2 CHECKPOINT LEVEL IS NOW PRE-OS/390 RELEASE 4. A TOTAL OF nnnn 4K RECORDS ARE REQUIRED FOR \$ACTIVATE.
 - CKPT1 IS TOO SMALL BY nnnn 4K RECORDS
 - CKPT1 IS NOT ACCESSIBLE
 - CKPT2 IS TOO SMALL BY nnnn 4K RECORDS
 - CKPT2 IS NOT ACCESSIBLE
 - ALL INUSE=YES DATASETS ARE ACCESSIBLE AND LARGE ENOUGH
 - \$ACTIVATE WILL FAIL/SUCCEED IF ISSUED FROM THIS MEMBER

- **\$D ACTIVATE** does not check release levels of other members (but **\$ACTIVATE** does!)

\$ACTIVATE



- If all members not at same level, \$ACTIVATE fails with
 - \$HASP003 RC=(73), ALL MEMBERS ARE NOT AT THE REQUIRED PRODUCT/SERVICE LEVEL.
- Other errors (ckpt too small or not accessible) are also detected by \$ACTIVATE
- Checkpoint size can be checked via **\$DCKPTSPACE** command
 - \$HASP852 CKPTSPACE BERTNUM=64100, BERTFREE=60247, BERTWARN=80, RECORDS=(INUSE=3588, CKPT1 MAX=3588, CKPT2 MAX=3588)

Undoing a \$ACTIVATE



- As of **OW32920** a \$ACTIVATE can be undone by:
 - Bringing down all active members
 - Warm or Hot starting with **PARM=(WARM,UNACT)**
- This works unless:
 - The number of spool volumes has been increased above the cold started value via **\$TSPoolDEF,SPOOLNUM**
 - The JQE size does not match the number of spool volumes
 - An INUSE=YES CKPTn dataset is not accessible (MODE=DUPLEX,DUPLEX=OFF)

\$DOGJQE



- New **\$DOGJQE** service created to obtain a copy of a JQE plus extensions ("**JQA**"):
 - Can obtain in READ or UPDATE mode
 - Services include:
 - ▶ **FETCH**
 - ▶ **SETACCESS**
 - ▶ **FETCHNEXT**
 - ▶ **QUERYLOCK**
 - ▶ **RETURN**
 - ▶ **GETJQEADDR**
 - ▶ **CKPT**
 - ▶ and other services
 - Real JQE is locked while JQA exists in UPDATE mode; RETURN releases lock
 - ▶ Must be used to **serialize** updates
 - ▶ Lack of serialization can result in **\$Q14** abend, but only after **\$ACTIVATE**

JOBCLASS Changes



- MAS Scope (\$CAT now in ckpt)
- All attributes may be modified via **\$TJOBCLASS(x)** command
- Init deck changes ignored on warm/hot start
- New **\$DOGCAT** service to obtain CAT from checkpoint
 - CAT may be obtained in READ or UPDATE mode
 - Services include
 - ▶ **FETCH**
 - ▶ **FETCHNEXT**
 - ▶ **RETURN**

Compatibility



- New releases may not support coexistence with PRE-R4 mode
 - Must be **\$ACTIVATE**'d prior to migration
 - Note - most in-house testing is now done activated
- Migration path from JES2 prior to R4:
 - Migrate to intermediate level of JES2 which supports running in both modes (R4, R5, R7, R8)
 - **\$ACTIVATE**
 - Migrate to newest JES2
- Similar considerations will apply for future forms of \$ACTIVATE