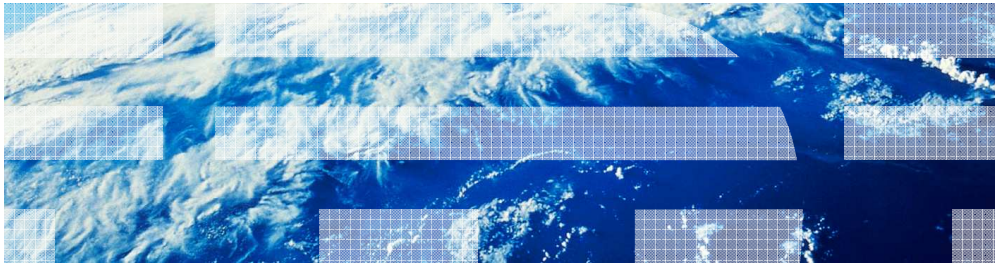




# z/OS Operating System

## TSO/E EAV R2 Support



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This presentation will provide information regarding new TSO/E support for EAV non-VSAM datasets in z/OS V1R11.

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The following topics will be covered in this presentation.

## Session objectives

- Describe TSO/E support for EAV non-VSAM data sets
  - Define the functional content and benefit
  - Describe the new LISTDSI variables added
  - Explain any migration issues or concerns
  - Point to a list of publications and references

The objective of this presentation is to describe how TSO/E supports non-VSAM EAV data sets, with functional toleration for all services and commands, plus two new LISTDSI variables for REXX and CLIST. Migration concerns and reference information will also be discussed.

## Overview

- Problem statement:
  - TSO/E services and commands fail without EAV support
  - REXX execs and CLISTs could use info on EAV data sets
- Solution:
  - Update TSO/E services and commands to support EAV
  - Add new LISTDSI variables for REXX execs and CLISTs
- Benefit:
  - TSO/E will work seamlessly with the new EAV data sets
  - Additional information in LISTDSI for user execs to reference

In z/OS V1R11, DFSMS added support for extended format sequential data sets to reside in the EAS or Extended Addressing Space, on EAV or Extended Address Volumes. This allows data sets to reside on volumes with more than 65,520 addressable cylinders by using a new format of DSCB. While VSAM data sets were supported for EAV in z/OS V1R10, TSO/E commands and services do not support VSAM data sets. In z/OS V1R11, non-VSAM EAV data sets can now be allocated using the EATTR keyword on the ALLOCATE command. The options are EATTR(NO) for no extended attributes or EATTR(OPT) if extended attributes are optional. Without this support, TSO/E commands and services would fail when they attempted to obtain information about EAV data sets. With this support, TSO/E can work seamlessly with these new EAV data sets. In addition, two new REXX variables were added to provide more information about EAV data sets and make them easier to manage.

## Usage and invocation (1 of 2)

- TSO/E commands or services work normally with EAV data sets
  - ALLOCATE DA(SAMPLE1) EATTR(OPT) NEW
    - DOC APAR OA28338 documents the new keyword
- TRANSMIT/RECEIVE uses new text unit transparent to users
- REXX and CLIST LISTDSI function sets two new variables:
  - SYSEATTR
    - Blank – Default setting. No EATTR specified.
    - NO – No extended attributes and can not reside in EAS.
    - OPT – Could have extended attributes and reside in EAS.
  - SYSEADSCB
    - NO – Not a Format-8 DSCB, so data set can't be in EAS.
    - YES – Format-8 DSCB, so data set can reside in EAS.

All TSO/E commands and services work normally with EAV data sets. In addition, a new EATTR keyword was added on the ALLOCATE command that allows TSO/E users to create EAV data sets. The syntax for the keyword is EATTR(NO) or EATTR(OPT). It is not a required keyword. Both the ALLOCATE command with the LIKE option and the TRANSMIT and RECEIVE commands were updated to preserve the EATTR status of a data set when using it as a model to create another data set or sending and receiving it.

New LISTDSI variables SYSEATTR and SYSEADSCB were added for use by REXX execs and CLISTs. SYSEATTR indicates whether a data set was allocated with the extended attributes of an EAV data set or not. Blank is the default setting, when EATTR was not specified. "NO" means the data set can not have extended attributes where as "OPT" means that it could. SYSEADSCB indicates whether actually has a Format-8 DSCB with extended attributes or not. For SYSEADSCB, "NO" means that it does not and only has a Format-1 DSCB. "YES" means that it does have the extended attributes of a Format-8 DSCB and can reside in the Extended Addressing Space beyond the first 65,520 cylinders on the volume.

## Usage and invocation (2 of 2)

Here is a sample REXX exec:

```
/* REXX*/  
X = LISTDSI(sample1)  
SAY "SYSDSNAME      " SYSDSNAME  
SAY "SYSEATTR       " SYSEATTR  
SAY "SYSEADSCB     " SYSEADSCB
```

Here is some sample output:

```
SYSDSNAME          IBMUSER.SAMPLE1  
SYSEATTR           OPT  
SYSEADSCB          YES
```

A sample REXX exec that uses the new LISTDSI variables SYSEATTR and SYSEADSCB is shown here. For an EAV data set that is EAS eligible, SYSEATTR would be set to "OPT" and SYSEADSCB would be set to "YES". For a non-EAV data set, SYSEATTR could return either a blank or "NO" and SYSEADSCB would be set to "NO". It is also possible that a data set could be allocated with EATTR(OPT) on a non-EAV volume. In that case SYSEATTR would return "OPT" but SYSEADSCB would return "NO" for a Format-1 DSCB.

## Migration and coexistence considerations

- New TRANSMIT/RECEIVE text unit should not impact exits
  - Records with INMEATTR key '8028'x could be used or ignored
- New LISTDSI variables are not defined on earlier releases
  - If used on an earlier release the new variables will not be set

On z/OS V1R10, the sample exec shown earlier would return:

```
SYSDSNAME          IBMUSER.SAMPLE1
SYSEATTR           SYSEATTR
SYSEADSCB          SYSEADSCB
```

There are no toleration or coexistence PTFs for TSO/E EAV support. TRANSMIT or RECEIVE exits should be able to ignore or use the new INMEATTR key '8028'x that communicates the EATTR status of the data set. The new LISTDSI variables SYSEATTR and SYSEADSCB are not defined on earlier release of z/OS so their values will not be defined at those levels.

## Summary

- TSO/E services and commands work normally with EAV data sets
- TRANSMIT and ALLOCATE LIKE preserve EATTR setting
- REXX and CLIST LISTDSI function sets two new variables

In summary, TSO/E fully supports non-VSAM EAV data sets in z/OS V1R11 and the only migration concern is for any TRANSMIT or RECEIVE exits that fail if they do not recognize a new text unit, as opposed to just ignoring it. EAV data sets can be created with the EATTR keyword on the ALLOCATE command, and that value is preserved when a data set is either used as a model by the ALLOCATE LIKE command or sent using TRANSMIT and RECEIVE. Two new LISTDSI variables were also added to return the status of EAV data sets.



## Appendix

- Related materials for quick reference
  - z/OS V1R11.0 DFSMS Using Data Sets (SC26-7410-09)
  - z/OS V1R11.0 DFSMSdfp Advanced Services (SC26-7400-09)
  - z/OS V1R11.0 TSO/E Command Reference (SA22-7782-11)
  - z/OS V1R11.0 TSO/E Customization (SA22-7783-10)
  - z/OS V1R11.0 TSO/E CLISTs (SA22-7781-05)
  - z/OS V1R11.0 TSO/E REXX Reference (SA22-7790-08)

The following reference information is provided.



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