

# IBM Education Assistance for z/OS V2R1

Item: Extend IWMCLSFY to 64 bit  
Element/Component: WLM/SRM



# Agenda

- Trademarks
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- Overview
- Usage & Invocation
- Interactions & Dependencies
- Installation
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## Trademarks

- See url <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.



## Presentation Objectives

- With z/OS V2R1, WLM introduces a 64bit Classify Work Request service (IWM4CLSY), which allows programs to call this service in AMODE 31 and AMODE 64.
- Compared with the old WLM Classify Work Request service (IWMCLSFY) the new Classify Work Request service supports:
  - 5 additional classification attributes and
  - 2 classification attributes support now an increased maximum length.
- This presentation explains:
  - The purpose of the new classification attributes
  - How to use the new classification attributes
  - This presentation does not explain the changes in the Administrative Application. For related changes in the Administrative Application see:  
*Allow groups of SPM rules*



## Overview

- Problem Statement / Need Addressed
  - Some applications have the need to call WLM services in a 64bit environment and pass data areas which are located above the bar (2G). Additionally DB2/DDF had the need for new Classification parameter.
- Solution
  - z/OS 2.1 introduces a new 64bit WLM Classify Work Request service. This service is callable in AMODE 31 and AMODE 64. This line item enables the WLM service Classify Works Request to run in AMODE 64.



## Overview ...

- Solution

- Additionally the following new Classification attributes are added:
  - Client Accounting Information
  - Client IP Address
  - Client Transaction Name
  - Client User ID
  - Client Workstation Name
- The following Classification attributes support an increased maximum length
  - Package
  - Procedure Name



## Overview ...

- Solution

- The from the WLM Enclave Query service (IWM4EQRY) returned answer area (IWMECDX) contains now also the new and enhanced classification attributes.

- Benefit / Value

- Less AMODE switching in 64bit applications, which results in a better performance.





## Usage & Invocation

```
[xlabel] IWM4CLSY [ TRXNAME=xtrxname|NO_TRXNAME]
[ ,USERID=xuserid|NO_USERID]
[ ,TRXCLASS=xtrxclass|NO_TRXCLASS]
[ ,ACCTINFO=xacctinfo|NO_ACCTINFO
    ,ACCTINFO_L=xacctinfo_l]
[ ,SOURCELU=xsourcelu|NO_SOURCELU
    ,SOURCELU_L=xsourcelu_l]
[ ,NETID=xnetid|NO_NETID]
[ ,LUNAME=xluname|NO_LUNAME]
[ ,SUBSYSPM=xsubsyspm|NO_SUBSYSPM
    ,SUBSYSPM_L=xsubsyspm_l]
[ ,CLIENTACCT=xclientacct|NO_CLIENTACCT
    ,CLIENTACCT_L=xclientacct_l]
[ ,CLIENTIPADDR=xclientipaddr|NO_CLIENTIPADDR]
[ ,CLIENTTRXNM=xclienttrxnm|NO_CLIENTTRXNM
    ,CLIENTTRXNM_L=xclienttrxnm_l]
[ ,CLIENTUSERID=xclientuserid|NO_CLIENTUSERID
    ,CLIENTUSERID_L=xclientuserid_l]
```





## Usage & Invocation

```
[,CLIENTUSERID=xclientuserid|NO_CLIENTUSERID
    ,CLIENTUSERID_L=xclientuserid_l]
[,CLIENTWKSTNM=xclientwkstnm|NO_CLIENTWKSTNM
    ,CLIENTWKSTNM_L=xclientwkstnm_l]
[,COLLECTION=xcollection|NO_COLLECTION
    ,COLLECTION_L=xcollection_l]
[,PLAN=xplan|NO_PLAN°]
[,PACKAGE=xpackage|NO_PACKAGE
    ,PACKAGE_L=xpackage_l]
[,CONNECTION=xconnection|NO_CONNECTION]
[,CORRELATION=xcorrelation|NO_CORRELATION
    ,CORRELATION_L=xcorrelation_l]
[,PERFORM=xperform|NO_PERFORM]
[,PRCNAME=xprcname|NO_PRCNAME
    ,PRCNAME_L=xprcname_l]
[,PRIORITY=xpriority|NO_PRIORITY]
```



## Usage & Invocation

```
[ ,PROCESSNAME=xprocessname|NOPROCESSNAME
    ,PROCESSNAME_L=xprocessname_l]
    ,CONNTKN=xconntkn
[ ,SUBCOLN=xsubcoln|NO_SUBCOLN]
[ ,SCHEDENV=xschedenv|NO_SCHEDENV
    ,SCHEDENV_L=xschedenv_l]
[ ,EWLM_CORR=xewlm_corr|NO_EWLM_CORR]
[ ,EWLM_OUTCORR=xewlm_outcorr]
[ ,EWLM_CHCORR=xewlm_chcorr]
[ ,EWLM_CHCTKN=xewlm_chctkn]
[ ,EWLM_CLTOKEN=>xewlm_cltoken|NO_EWLM_CLTOKEN]
[ ,SRMTOKEN=xsrmtoken]
    ,SERVCLS=xservcls
[ ,SRVCLSNM=xsrvclsnm]
[ ,RPTCLSNM=xrptclsnm]
[ ,TTRACETOKEN=xttracetoken]
[ ,TTRACETOKEN=xttracetoken]
```



## Usage & Invocation

```
[ ,RETCODE=xretcode]
[ ,RSNCODE=xrsncode]
[ ,PLISTVER=xplistver | IMPLIED_VERSION]
[ [ ,MF=S]
  [ ,MF=(L,xmfctrl,xmgetattr|0D) ]
  [ ,MF=(M,xmfctrl,COMPLETE|NOCHECK) ]
  [ ,MF=(E,xmfctrl,COMPLETE|NOCHECK) ] ]
```



## Usage & Invocation

### New Parameters:

[CLIENTACCT=xclientacct|NO\_CLIENTACCT

is the name (RS-type), or address in register (2)-(12), of an optional character input which contains the accounting information. For environments where accounting information is available on some, but not all flows, provision of a data area initialized to all blanks is equivalent to specification of NO\_CLIENTACCT.

DEFAULT: NO\_CLIENTACCT indicates that no accounting information was passed.

CLIENTACCT\_L=xclientacct\_l]

is the name (RS-type), or address in register (2)-(12), of a required fullword input which contains the length of the client accounting information field.

The maximum value supported is 512.



## Usage & Invocation

[CLIENTIPADDR=xclientipaddr|NO\_CLIENTIPADDR]

is the name (RS-type), or address in register (2)-(12), of an optional 39 character input which contains the source client IPv6 address, which is left justified and represented as a colon hexadecimal address. An example of an IPv6 address is:

'2001:0DB8:0000:0000:0008:0800:200C:417A'.

The compressed format isn't supported for classifications. For environments where the source client IPV6 address may be available on some, but not all flows, provision of a data area initialized to all blanks is equivalent to specification of NO\_CLIENTIPADDR

SOURCELU, CLIENTIPADDR and NETID/LUNAME are mutually exclusive.

DEFAULT: NO\_CLIENTIPADDR indicates that no CLIENTIPADDR name is passed.



## Usage & Invocation

[CLIENTTRXNM=xclienttrxn|NO\_CLIENTTRXNM

is the name (RS-type), or address in register (2)-(12), of an optional character input which contains the client transaction name for the work request, as known by the work manager. For environments where the transaction name is available on some, but not all flows, provision of a data area initialized to all blanks is equivalent to specification of NO\_CLIENTTRXNM.

DEFAULT: NO\_CLIENTTRXNM indicates that no client transaction name is passed.

CLIENTTRXNM\_L=xclienttrxn\_l]

is the name (RS-type), or address in register (2)-(12), of a required fullword input which contains the length of the client transaction name field. The maximum value supported is 255.



## Usage & Invocation

[CLIENTUSERID=xclientuserid|NO\_CLIENTUSERID

is the name (RS-type), or address in register (2)-(12), of an optional character input which contains the value of the client userid which may be different than USERID and provided from the client information that is specified for the connection. For environments where the client userid name may be available on some, but not all flows, provision of a data area initialized to all blanks is equivalent to specification of NO\_CLIENTUSERID

DEFAULT: NO\_CLIENTUSERID indicates that no CLIENTUSERID name is passed.

CLIENTUSERID\_L=xclientuserid\_l]

is the name (RS-type), or address in register (2)-(12), of a required fullword input which contains the length of the client userid name field. The maximum value supported is 128.





## Usage & Invocation

[CLIENTWKSTNM=xclientwkstnm|NO\_CLIENTWKSTNM

is the name (RS-type), or address in register (2)-(12), of an optional character input which contains the value of the client workstation name or host name from the client information that is specified for the connection. For environments where the client workstation name may be available on some, but not all flows, provision of a data area initialized to all blanks is equivalent to specification of NO\_CLIENTWKSTNM

DEFAULT: NO\_CLIENTWKSTNM indicates that no CLIENTWKSTNM name is passed.

CLIENTWKSTNM\_L=xclientwkstnm\_l]

is the name (RS-type), or address in register (2)-(12), of a required fullword input which contains the length of the client workstation name field. The maximum value supported is 255.



## Usage & Invocation

### Changed Parameters:

[PACKAGE=xpackage|NO\_PACKAGE (Was 8 character long now 128 character long)

is the name (RS-type), or address in register (2)-(12), of an optional character input which contains the package name for a set of associated SQL statements. Products using this attribute must chose a specific package name to be associated with the work request, e.g. the first package name used in the unit of work. Individual product documentation will describe how this choice is made to allow the installation to use the WLM administrative application. For environments where the package name may be available on some, but not all flows, provision of a data area initialized to all blanks is equivalent to specification of NO\_PACKAGE

DEFAULT: NO\_PACKAGE indicates that no PACKAGE name is passed.

PACKAGE\_L=xpackage\_l]

is the name (RS-type), or address in register (2)-(12), of a required fullword input which contains the length of the package information field. The maximum value supported is 128.



## Usage & Invocation

[PRCNAME=xprcname|NO\_PRCNAME (Was 18 character long now 128 character long)

is the name (RS-type), or address in register (2)-(12), of an optional character input which contains the DB2 Stored SQL Procedure name associated with the work request. For environments where the SQL procedure name may be available on some, but not all flows, provision of a data area initialized to all blanks is equivalent to specification of NO\_PRCNAME.

DEFAULT: NO\_PRCNAME indicates that no PRCNAME value is passed.

PRCNAME\_L=xprcname\_l]

is the name (RS-type), or address in register (2)-(12), of a required fullword input which contains the length of the procedure name. The maximum value supported is 128.



## Usage & Invocation

### ▪ IWM4EQRY

- The answer area (IWMECDX) returned from the WLM Query Enclave service is enhanced, to return also the new classification attributes.

IWMECDX_PackageNameLong	DS CL128
IWMECDX_PackageNameLong_LEN	DS H
IWMECDX_ProcedureNameLong	DS CL128
IWMECDX_ProcedureNameLong_LEN	DS H
IWMECDX_ClientIpAddress	DS CL39
IWMECDX_ClientIpAddress_LEN	DS X
IWMECDX_ClientUserid	DS CL128
IWMECDX_ClientUserid_LEN	DS H
IWMECDX_ClientTrxName	DS CL255
IWMECDX_ClientTrxName_LEN	DS H
IWMECDX_ClientWksName	DS CL255
IWMECDX_ClientWksName_LEN	DS H
IWMECDX_ClientAccounting	DS CL512
IWMECDX_ClientAccounting_LEN	DS H



## Interactions & Dependencies

- Software Dependencies
  - None
- Hardware Dependencies
  - None
- Exploiters
  - DB2/DDF



## Installation

- Support for this line item is packaged with, and installed as part of z/OS V2R1
- No rollbacks



## Presentation Summary

- With z/OS V2R1 WLM introduces a new WLM Classification API, which is callable in AMODE 31 and AMODE 64. It also supports parameter values located above 2G.
- The new WLM API introduces additionally the following new classification attributes:
  - Client Accounting Information
  - Client IP Address
  - Client Transaction Name
  - Client User ID
  - Client Workstation Name





## Appendix

- Publications:
  - z/OS V2R1 MVS Programming: Workload Management Services (SA22-7619)
    - Chapter IWM4CLSY – Classify Work Request

