

# IBM Education Assistance for z/OS V2R1

Item: Fast Path Classification  
Element/Component: WLM



## Agenda

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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/SRM introduces two new parameters on the IWM4ECRE service for Fast Path Classification of the enclave created.
- This presentation explains:
  - The purpose of the new parameters
  - How it is used



## Overview

- Problem Statement / Need Addressed

z/OS Performance Test recognized a measurable lock contention for the WLM address space when running massive WAS workloads. This is caused by the classification process during enclave create (IWM4ECRE service) which obtains the local lock of the WLM address space.

- Solution

The caller of the IWM4ECRE service will optionally receive the service class token which can be used on consecutive calls as input parameter. This Fast Path does not need to obtain the CML lock to serialize against policy update.

- Benefit / Value

Enhanced Performance by reducing CML lock contention for creating enclaves.



## Usage & Invocation – New Syntax of IWM4ECRE

```
>>-+-----+--IWM4ECRE----->
    '-name-'

    .-TYPE=INDEPENDENT-.
>--+-----+--| parameters-1 |----->
    +-TYPE=DEPENDENT-----+
    +-TYPE=WORKDEPENDENT-----+
    '-TYPE=MONENV-,MONTKN=montkn+-,ACCESS=PRIMARY+--'
                                '-,ACCESS=HOME----'

>--,ETOKEN=etoken--+-----+--+----->
                                '-,RETCODE=retcode-' '-,RSNCODE=rsncode-'

    .-,PLISTVER=IMPLIED_VERSION-.
>--+-----+----->
    +-,PLISTVER=MAX-----+
    '-,PLISTVER=0-----'

    .-,MF=S-----.
>--+-----+-----><
    |                                .-,0D---.                                |
    +-,MF=(L-,list addr+-----+)-----+
    |                                '-,attr-'                                |
    |                                .-,COMPLETE-.                                |
    '-,MF=(E-,list addr+-----+)-'
```



## Usage & Invocation – New Syntax of IWM4ECRE cont.

### parameters-1

```
>>+-,CLSFY=clsfy+-----+--+-----+-->
      |               | |               |
      +- ,SERVCLS=servcls-+ +- ,INSERVCLS=servcls--+
```

```
>--,ARRIVALTIME=arrivaltime----->
                                   .-,EXSTARTDEFER=NO--.
```

```
>--,FUNCTION_NAME=function_name--+-----+----->
                                   '-,EXSTARTDEFER=YES-'
```

```
      .-,ESTRT=IMPLIED-.
```

```
>--+-----+--+-----+--+-----><
|               '-,WORKREQ_HDL=workreq_hdl-' |
+-,ESTRT=EXPLICIT-----+
+-,ESTRT=EXPLICIT_SINGLE-----+
'-,ESTRT=NEVER-----'
```



## Usage & Invocation – New Syntax of IWM4ECRE cont.

### New Parameters:

#### INSERVCLS=servcls

An optional input parameter which contains the service class token of a previous classification call. The caller must ensure that the classification attributes of the work unit matches the service class token. If the service class token is still valid an enclave is created and associated with the service and report class information contained in the token. If the service class token is not valid IWM4ECRE will perform the full classification by using the information of the CLSFY parameter block and return code 4, reason code lwmRsnCodeNewServcls.

#### SERVCLS=servcls

An optional output parameter when CLSFY has been specified which receives the service class token which matches the classification attributes. The token allows the caller to use fast path classification for work units which have the same classification attributes than the current work unit.





## Usage & Invocation – New Syntax of IWM4ECRE cont.

### New Return Code

Return Code 4  
Reason Code xxxx044E

Equate Symbol: IwmRsnCodeNewServcls

Meaning: Input service class token INSERVCLS is not valid. A new one has been assigned and is returned in SERVCLS (if specified).

Action: None required.

### Restrictions

The caller has to ensure that the classification will result in the same service and report class pair.



## Interactions & Dependencies

- Software Dependencies
  - None
- Hardware Dependencies
  - None
- Exploiters
  - Websphere Application Server for zOS



## Installation

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



## Presentation Summary

- This presentation explained the purpose and use of the new parameters SERVCLS and INSERVCLS on the IWM4ECRE service.
- By specifying the new parameters, callers can increase the performance of the IWM4ECRE service.
- The caller has to ensure that the classification will result in the same service and report class pair.



## Appendix

- Publications:
  - z/OS V2R1 MVS Programming: Workload Management Services (SA22-7619)
    - Chapter IWM4ECRE – Creating an Enclave

