IBM® Tivoli® OMEGAMON® XE for IMS® on z/OS® v4.2.0 IF0001

Contents

Chapter 1. Interim Feature 1 overview

This document describes the enhancements that have been provided in Interim Feature 1 (IF1) for the IBM® Tivoli® OMEGAMON® XE for IMS® on z/OS® v4.2.0 product.

IF1 enhancements are included in APAR OA29464 that requires the installation of mainframe PTF UA49399 and the installation of Fix Pack 4.2.0-TIV-KIP-IF0001.

The following enhancements have been provided by IF1:

- Umbrella transaction support that allows transaction trace information and response time analysis data to be displayed based on an override user transaction instead of the IMS external transaction code

- Improved display of time values in the 3270 interface

- IMS processing, paging, and I/O rates provided in the Tivoli Enterprise Portal interface to determine the health of an IMS system

The following chapters include a description of each of these enhancements.

Chapter 2. Umbrella transaction support

An *umbrella transaction* is known to IMS as a single transaction. User codes located in the IMS input message data (the user text portion of the input message) determine the processing that occurs within the application. A single IMS umbrella transaction can have many different user codes, each representing a specific function to be performed by the application.

If you use umbrella transactions in your IMS environment, you can identify those IMS umbrella transactions for which you want a user code substituted in place of the IMS external transaction code for data collection and reporting. This allows umbrella transactions to be monitored based on the individual user codes, rather than on the IMS external transaction code, providing improved IMS performance metrics. Response Time Analysis (RTA), Near Term History (NTH), the Transaction Reporting Facility (TRF batch), and the Application Trace Facility (ATF) support the substitution of a user code in place of the IMS external transaction code for data collection and reporting.

You configure transaction substitution for umbrella transactions by specifying parameters in the KI2UMB*xx* member of RKANPAR where *xx* is the MPREFIX value. If an IMS transaction name matches an entry in the KI2UMB*xx* member, it is considered an umbrella transaction. The location and length specified for the user code in the matching KI2UMB*xx* entry is used by RTA, NTH, TRF batch, and ATF to extract the user code from the message text. The user code is substituted for the external transaction name in RTA, NTH, TRF, and ATF reports.

Response Time Analysis (RTA)
RTA captures response time data for all transactions and summarizes the data by user-defined groups. Group definitions can be based on the transaction name. For an umbrella transaction, the override user code is used as the transaction name in group definitions instead of the IMS external transaction name.

Near Term History (NTH)
NTH collects and reports transaction summary data only for those transactions matching an active user-defined trace. For an umbrella transaction, the transaction name used in an NTH trace definition is the override user code instead of the IMS external transaction name.

Transaction Reporting Facility (TRF)
A new MPREFIX parameter has been added to the EXEC statement for TRF batch in order to support umbrella transactions. The MPREFIX parameter is required only if input to TRF batch contains umbrella transactions and the override user code is to be used in place of the IMS external transaction in the generated TRF output. The MPREFIX parameter (MPREFIX=*xx*) identifies the version of the KI2UMB*xx* member to be used.

For example, //KI2BT   EXEC PGM=KI2BTJ0,REGION=1M,PARM='MPREFIX=R1'

indicates member KI2UMBR1 in RKANPAR is used for this execution of TRF batch. When the MPREFIX parameter is used, an RKANPAR DD statement must be included in the TRF batch JCL to identify the dataset containing the KI2UMB*xx* member.

Application Trace Facility (ATF)

ATF is used to collect and report execution trace detail data for transactions matching an active user-defined trace. For an umbrella transaction, the transaction name used in an ATF trace definition is the override user code instead of the IMS external transaction name.

The include and exclude filtering in TRF continues to use the IMS external transaction code.

KI2UMBxx member

The KI2UMB*xx* member in RKANPAR is an optional member. This member is required only for those customers who have IMS umbrella transactions and prefer a user code to be used in place of the IMS external transaction in RTA, NTH, TRF, and ATF reporting. The KI2UMB*xx* member identifies the IMS external transaction name either specifically or generically of each umbrella transaction, and specifies the location and length of the user code within the input message user text. The format of a statement in KI2UMB*xx* is:

TRAN=*xxxxxxxx*,ULOC=*nnnnn*,ULEN=*n*

A comma separates each keyword and corresponding value. Leading blanks on a statement are ignored; embedded blanks are not allowed. The last keyword and value must be terminated by a blank, signifying the end of the statement. An asterisk in column 1 of a statement indicates a comment. The keywords and values are as follows:

TRAN=*xxxxxxxx*

Specifies a 1 through 8 character IMS external transaction name. The name may contain wildcard characters. Use a question mark (?) in any position of the name to represent any single character. Use a single asterisk in the name to indicate any number of characters (useful for specifying generic names). Use question marks with an asterisk only when the asterisk is the leading (first) character or trailing (last) character in the name.

ULOC=*nnnnn*

Specifies the location of the user code within the message text that is to be used as the transaction name. The user message text begins with the LLZZ field. So the value of the use code location starts from the LLZZ field. The ULOC value can range from 1 through 32767. This value is a required parameter; there is no default.

ULEN=*n*

Specifies the length of the user code within the message text. The ULEN value can be from 1 through 8. If the ULEN parameter is omitted, a default value of 8 is assumed.

Example 1:
TRAN=IVTFD,ULOC=15,ULEN=7

The IVTFD external transaction is an umbrella transaction. The user code is 7 bytes and is extracted from location 15 of the user text portion of the input message.

Example 2 :
TRAN=DSN8*,ULOC=20,ULEN=6

Any IMS transaction beginning with the characters DSN8 is to be considered an umbrella transaction. The user code is 6 bytes and is extracted from location 20 of the user text portion of the input message.

Chapter 3. Improved display of time values in the 3270 interface

Time values in the 3270 interface are displayed in an easier-to-read, user-friendly format. Time values are displayed in one of the following measurements:

- microseconds   range 0m to 9,999ms
- seconds   range .0100s to 59.999s
- minutes and seconds   range 1m 00s to 59m 59s
- hours, minutes, and seconds   range 1h 0m 0s to 23h 59m 59s
- days, hours, and minutes   range 1d 0h 0m to 99d 23h 59m

The following table shows the previous time display values and the corresponding new time display values.

Previous time display values	New time display values
00:00:00.000000 to 00:00:00.009999	0ms to 9,999ms
00:00:00.010000 to 00:00:09.999999	.0100s to 9.9999s
00:00:10.000000 to 00:00:59.999999	10.000s to 59.999s
00:01:00.000000 to 00:59:59.999999	1m 0s to 59m 59s
01:00:00.000000 to 23:59:59.999999	1h 0m 0s to 23h 59m 59s
Greater than 23:59:59.999999	1d 0h 0m to 99d 23h 59s

Chapter 4. IMS health information in the Tivoli Enterprise Portal interface

IMS rate information is now provided in the Tivoli Enterprise Portal (portal) interface in the form of IMS Health workspaces. The following information is displayed in the IMS Health workspaces to help you determine the health of your IMS systems:

- Enqueue and dequeue rates for full function, fast path, and the total of both
- Transaction queue counts for full function, fast path, and total of both
- CPU percent for all control type regions, dependent regions, and total of both
- Paging rates for all control type regions, dependent regions, and total of both
- I/O rates for all control type regions, dependent regions, and total of both

IF1 provides two new attribute groups containing health information; IMS Health and IMSPLEX Health. The IMS Health attribute group contains health information for an IMS system and is displayed in the IMS Health workspace under the IMS node in the navigation tree. Any of the attributes in the IMS Health attribute group which are displayed in the IMS Health workspace can be used in situations to provide alerts when a particular value exceeds a user-defined threshold.

The IMSPLEX Health attribute group provides health information for all monitored IMS systems and is displayed when you click on the IMSplex node in the navigation tree. The IMSplex node workspace also provides RTA interval and slot summary data for all monitored IMS systems in addition to the health information. Situations are not supported for any of the attribute groups displayed in the IMSplex node workspace. If a situation is desired for IMS health, RTA interval, and slot summary data, the situation can be provided at the IMS level using the attribute groups IMS Health, IMS RTA Interval Summary, and IMS RTA Slot summary, respectively.

The IMS Health collector is delivered in IF1 as disabled to avoid impacting your current environment. When the health collector is disabled, the IMS Health workspaces in the portal are empty. The RKLVLOG agent generates a warning message (KIPDCI38W) when the IMS Health collector is disabled.

A new RKANPAR member KIPIFPRM is used to contain interim feature parameters. IF1 provides one new keyword in this member to enable or disable the IMS Health collector. The syntax of this keyword is:
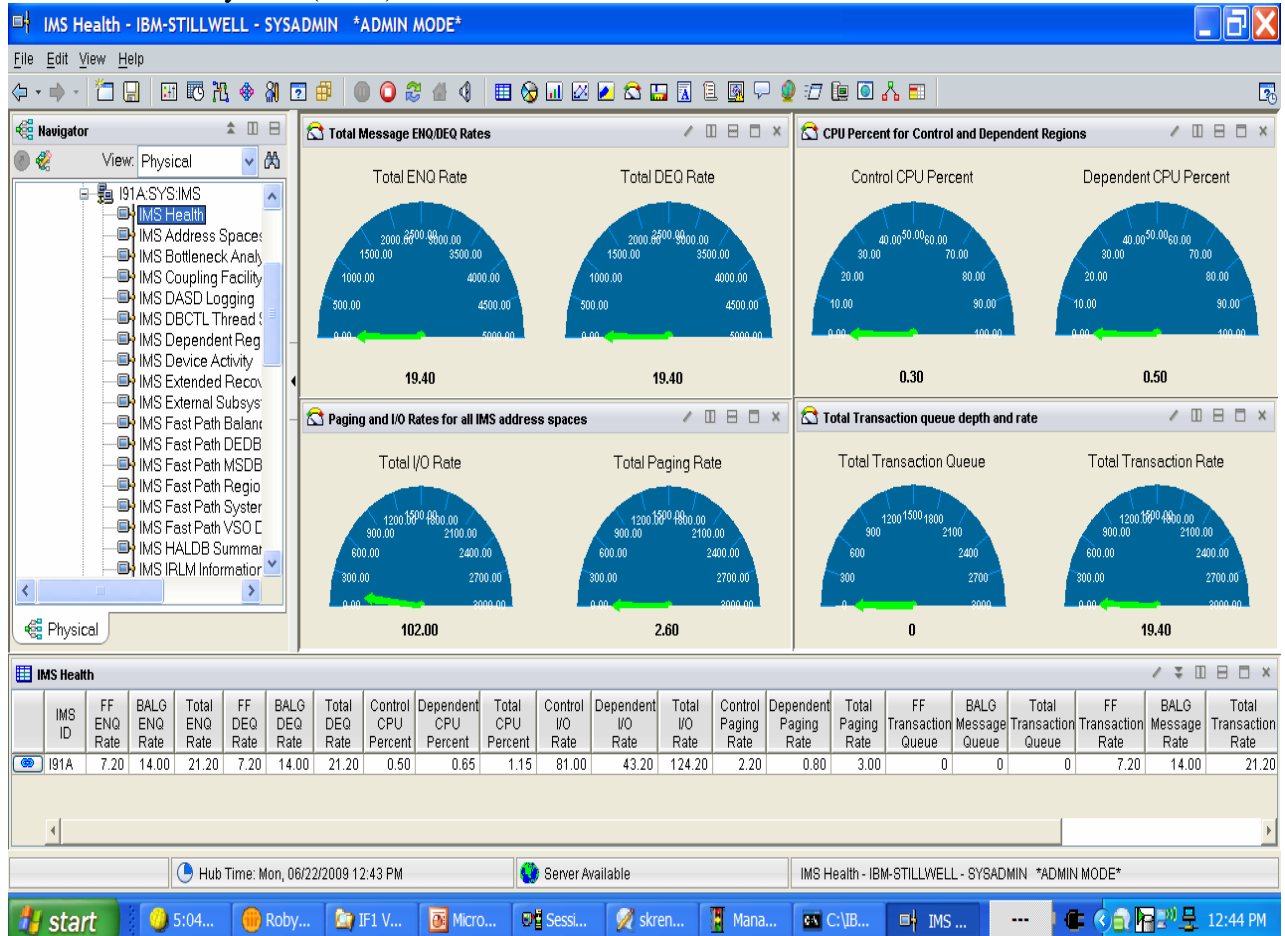
IF1_HEALTH_COLLECTOR={ON|OFF}

The value of ON is used to enable the IMS Health Collector. The value of OFF is used to disable the IMS Health Collector. The default value is OFF.

The IMS Health Collector is disabled if member KIPIFPRM is not found in RKANPAR or the value of IF1_HEALTH_COLLECTOR=OFF is specified in the KIPIFPRM

member. After mainframe PTF UA49399 is applied (providing IF1 support), a sample KIPIFPRM member can be found in TKANPAR. This member can be copied to RKANPAR and edited to activate the IMS Health Collector.

As mentioned previously, the IMS Health information is displayed in the portal in two places. If you click on the IMSplex node, health information is displayed for all monitored IMS systems. If you expand an individual IMS node, the IMS Health workspace is displayed as the first workspace under the IMS node and shows information for that IMS system. The following sample shows the IMS Health workspace for an individual IMS system (I91A):

Chapter 5. New messages

This chapter contains new messages added by IF1.

KIPDCI34W   **INVALID RKANPAR(KIPIFPRM) KEYWORD IGNORED, KEYWORD=*xxxxxxxx*...,VALUE=*yyyyyyyy*...**

Explanation: This message is issued when an invalid keyword is encountered in RKANPAR member KIPIFPRM. The invalid keyword is shown by the string of x's and the value by the string of y's.

System action: The invalid keyword is ignored.

User response: This message is a warning message that can be ignored or eliminated by correcting the invalid statement in member KIPIFPRM.

KIPDCI35W   **RKANPAR(KIPIFPRM) MEMBER NOT FOUND**

Explanation: This message is issued when member KIPIFPRM is not found in RKANPAR. Member KIPIFPRM is used to specify interim feature parameters.

System action: Member KIPIFPRM is not required and if not present, all of the defaults are used for interim features that can result in interim features being disabled.

User response: This message is a warning message that can be ignored or eliminated by providing a KIPIFPRM member in RKANPAR.

KIPDCI36E   **INVALID RKANPAR(KIPIFPRM) KEYWORD VALUE, KEYWORD=*xxxxxxxx*...,VALUE=*yyyyyyyy*...**

Explanation: This message is issued when an invalid keyword value is encountered in RKANPAR member KIPIFPRM. The keyword is shown by the string of x's and the invalid keyword value by the string of y's.

System action: The invalid keyword is ignored and the default for the keyword is assumed.

User response: This error can be eliminated by correcting the invalid keyword value in member KIPIFPRM.

KIPDCI37W   **INVALID RKANPAR(KIPIFPRM) STATEMENT IGNORED, STATEMENT=*ssssssss*...**

Explanation: This message is issued when an invalid statement is encountered in RKANPAR member KIPIFPRM. This message can occur if a keyword delimiter was omitted or the keyword value was not specified. Keywords and their values are delimited by an equal

sign (=). The invalid statement is shown by the string of s's.

System action: The invalid statement is ignored.

User response: This message is a warning message that can be ignored or eliminated by removing the invalid statement from member KIPIFPRM..

KIPDCI38W **IMS HEALTH COLLECTOR IS DISABLED; ADD IF1_HEALTH_COLLECTOR=ON IN RKANPAR(KIPIFPRM) TO ENABLE**

Explanation: This message is issued when the IMS Health Collector is disabled. The IMS Health Collector is disabled when no KIPIFPRM member is found in RKANPAR or when the IF1_HEALTH_COLLECTOR keyword is not specified or contains the value OFF.

System action: The IMS Health workspaces are empty when the IMS Health Collector is disabled.

User response: This message is a warning message that can be ignored if the intent is to disable the IMS Health Collector. To enable the IMS Health Collector to see data in the IMS Health workspaces, specify IF1_HEALTH_COLLECTOR=ON in member KIPIFPRM.

KIP*aaa*66E **UNABLE TO OBTAIN *xxxxxx* LOCK FOR REQUESTED DATA**

Explanation: The agent (*aaa*) responsible for obtaining the data from the *xxxxxx* collector was unable to obtain the data due to contention with the collector or another agent. If this problem persists, it can indicate that another agent might be stopped and waiting for the collector to complete or the collector might not have completed due to an internal error.

System action: The corresponding workspace data is empty.

User response: If this problem persists, issue the following command:
F <stc>,IPSTATUS where <stc> is the name of the started task that is reporting the error. The output of this command is included in the RKLVLOG. After the command has been issued, make a copy of the entire RKLVLOG and contact IBM Software Support.

OIIS01I **RKANPAR KI2UMB*xx* MEMBER NOT FOUND – ASSUMING NO UMBRELLA TRANSACTIONS**

Explanation: This message is issued by batch TRF when the MPREFIX JCL parameter is specified but there is no matching KI2UMB*xx* member found in RKANPAR. The MPREFIX parameter is used

to indicate the version of KI2UMB*xx* that the batch TRF is to use (where *xx* is the MPREFIX value). The KI2UMB*xx* member is used to define IMS umbrella transactions for which an override code within the input message is to replace the IMS transaction code.

System action: If this error is issued, batch TRF continues to execute but assumes that there are no umbrella transactions input to the batch TRF execution.

User response: If umbrella transactions are input to batch TRF and an override code is used in place of the IMS transaction code, make sure that the JCL specifies an RKANPAR DD statement that contains member KI2UMB*xx* where *xx* is the MPREFIX value. Remove the MPREFIX parameter if umbrella transactions are not sent to the batch TRF.

OIIS02E   **KI2UMB*xx* ERROR IN RECORD *nnnnnnnn* - *error-description* RECORD nnnnnnnn:** *input-record*

Explanation: The indicated record number (*nnnnnnnn*) in member KI2UMB*xx* (where *xx* is the MPREFIX value) contains a syntax error. In the message, *error-description* indicates the error that was encountered and *input-record* contains the first 72 characters of the KI2UMBxx record in error.

System action: If this error is issued, the OMEGAMON program continues to execute but assumes that there are no umbrella transactions. This means that RTA, NTH, batch TRF, and ATF data will reflect the IMS external transaction code; no override user code will be substituted.

User response: Correct the indicated error and recycle the OMEGAMON program or resubmit the batch TRF job.

The *error-description* can be one of the following errors:

NO KEYWORD DELIMITER (EQUAL SIGN) FOUND.
NO KEYWORD FOUND BEFORE EQUAL SIGN.
KEYWORD INVALID; ONLY TRAN, ULOC, OR ULEN.
TRAN INVALID - LENGTH MUST BE 1 TO 8.
ULOC INVALID - VALUE MUST BE 1 TO 32767.
ULEN INVALID - VALUE MUST BE 1 TO 8.
TRAN KEYWORD IS MISSING OR INVALID.
ULOC KEYWORD IS MISSING OR INVALID.
TRAN CONTAINS MORE THAN 1 ASTERISK.
TRAN CONTAINS INVALID MIX OF * % AND/OR ?
TRAN KEYWORD SPECIFIED MORE THAN ONCE.
ULOC KEYWORD SPECIFIED MORE THAN ONCE.
ULEN KEYWORD SPECIFIED MORE THAN ONCE.
TRAN INVALID - MUST BE A-Z|0-9|#|$|@|*|?|%

OIIS05E	**KI2UMB*xx* HAS ONE OR MORE SYNTAX ERRORS - UMBRELLA TRANSACTIONS IGNORED.**

Explanation: Member KI2UMB*xx* (where *xx* is the MPREFIX value) contains one or more syntax errors as indicated by previous OIIS02E messages.

System action: If this error is issued, the OMEGAMON program continues to execute but assumes that there are no umbrella transactions. This means that RTA, NTH, batch TRF, and ATF data will reflect the IMS external transaction code; no override user code will be substituted.

User response: Correct the syntax errors indicated by previous OIIS02E messages and recycle the OMEGAMON program or resubmit the batch TRF job.

OTR054	**"MPREFIX=" VALUE INVALID, ONLY 1-2 ALPHANUMERIC OR NATIONAL CHARACTERS ALLOWED**

Explanation: This message is issued by batch TRF when the MPREFIX JCL parameter is invalid. The MPREFIX value must be 1 or 2 alphanumeric or national ($, #, or @) characters.

System action: If this error is issued, the batch TRF terminates.

User response: Correct this error and resubmit the batch TRF job.

ORD951W	**UMBRELLA TRANSACTION *xxxxxxx* HAS A USER TRANSACTION LOCATION GREATER THAN COPIED MESSAGE**

Explanation: The indicated full function (non-fast path) umbrella transaction *xxxxxxx* has an override user transaction code location that is greater than the length of the copied message. For performance reasons, only the portion of the IMS log record that it needs for collecting data is copied by the OMEGAMON program. This action can result in the user message segment being truncated, which is where the user transaction code is located.

System action: If this error is issued, the override transaction code is not applied and the IMS original transaction code is used for data collection and reporting.

User response: Contact IBM Software Support if this message is received.

ORD952W **UMBRELLA TRANSACTION *xxxxxxx* HAS A USER TRANSACTION LOCATION GREATER THAN COPIED MESSAGE**

Explanation: This indicated fast-path umbrella transaction *xxxxxx* has an override user transaction code location that is greater than the length of the copied message. For performance reasons, only the portion of the IMS log record that it needs for collecting data is copied by the OMEGAMON program. This action can result in the user message segment being truncated, which is where the user transaction code is located.

System action: If this error is issued, the override user transaction code is not applied and the IMS original transaction code is used for data collection and reporting.

User response: Contact IBM Software Support if this message is received.

SMU001W **UMBRELLA TRANSACTION *xxxxxxx* HAS A USER TRANSACTION LOCATION GREATER THAN COPIED MESSAGE**

Explanation: The indicated full function (non-fast path) umbrella transaction *xxxxxxx* has a user transaction code location that is greater than the length of the copied message. For performance reasons, only the portion of the IMS log record that it needs for collecting data is copied by the OMEGAMON program. This action can result in the user message segment being truncated, which is where the user override transaction code is located.

System action: If this error is issued, the override transaction code is not applied and the IMS original transaction code is used for data collection and reporting.

User response: Contact IBM Software Support if this message is received.

SMU002W **UMBRELLA TRANSACTION *xxxxxxx* HAS A USER TRANSACTION LOCATION GREATER THAN COPIED MESSAGE**

Explanation: This indicated fast-path umbrella transaction *xxxxxx* has a user transaction code location that is greater than the length of the

copied message. For performance reasons, only the portion of the IMS log record that it needs for collecting data is copied by the OMEGAMON program. This action can result in the user message segment being truncated, which is where the user override transaction code is located.

System action:	If this error is issued, the override transaction code is not applied and the IMS original transaction code is used for data collection and reporting.
User response:	Contact IBM Software Support if this message is received.