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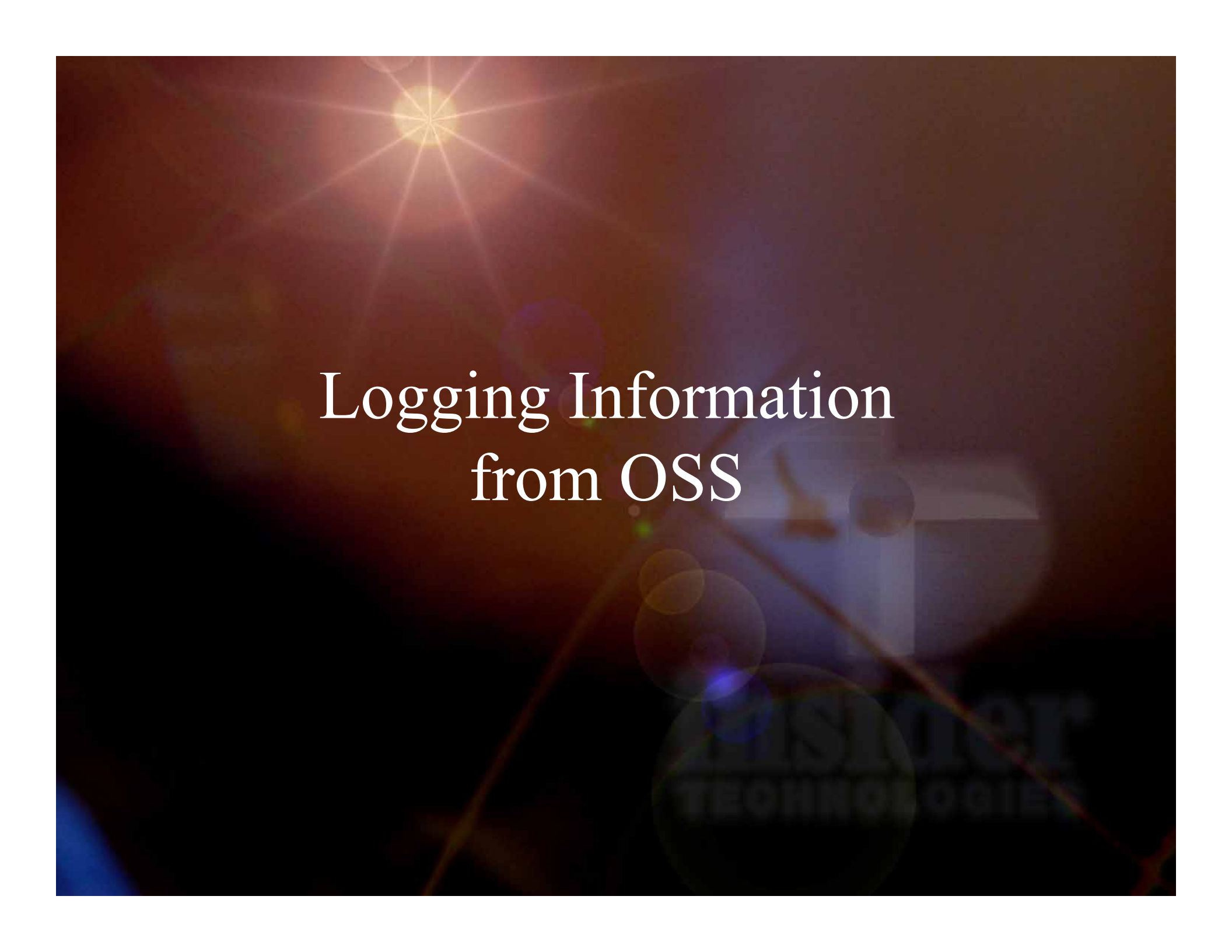
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The missing OSS events, how to get the same operational event richness as native Guardian provides

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Introduction

- How to log information from OSS
- Limitations when logging from OSS
- Enhancing non-unique EMS events
- Not only an OSS issue



Logging Information from OSS

How to log Information from OSS

There are two methods of raising logging events from OSS.

- Use platform specific EMS procedure calls
- Use the industry standard syslog

Limitations of using EMS procedure calls from OSS

- Requires the developer to be familiar with EMS procedure calls such as EMSINIT and EMSADDTOKENS

(Additional skills may be required such as DDL etc.)

These skills may not exist for developers who are simply porting an existing application to OSS

Limitations of using EMS procedure calls from OSS

- Impacts portability due to use of platform specific calls
- Since logging is a fundamental part of most programs, there is the likelihood that changes will be required to even core processing of an application

As well as risk, this introduces cost implications due to development time and testing

Limitations of using syslog

- All useful error detail is placed into a single text token (ZEMS-TKN-TEXT).

No support for populating embedded descriptive tokens.

For example a token to detail a file in error that uses a token type of ZSPI-TYP-FNAME cannot be added to a syslog event.

Note that the openLog command may be used to set the subject token of the EMS event by setting the token ZOSS-TKN-IDENT. e.g. openlog (“MyApp”);

This allows some limited differentiation between events.

Limitations of using syslog

- All syslog messages are mapped to a set of only eight EMS events that have a SSID of TANDEM.OSS (143).

For example:

```
syslog(LOG_INFO, "Transaction file is full.")
```

produces a TANDEM.OSS(143) event with an event number of 11:

```
06-08-23 11:02:25 \ITLTECH.0,466  
TANDEM.OSS.D30      000011 KERNEL INFO ,  
PID = 962854916 (MyApp) :  
Transaction file is full.
```

Limitations of using syslog

OSS Event Level	EMS Event Number	EMS Event Name
LOG_EMERG	5	ZOSS-EVT-SYSLOG-EMERG
LOG_ALERT	6	ZOSS-EVT-SYSLOG-ALERT
LOG_CRIT	7	ZOSS-EVT-SYSLOG-CRIT
LOG_ERR	8	ZOSS-EVT-SYSLOG-ERR
LOG_WARNING	9	ZOSS-EVT-SYSLOG-WARNING
LOG_NOTICE	10	ZOSS-EVT-SYSLOG-NOTICE
LOG_INFO	11	ZOSS-EVT-SYSLOG-INFO
LOG_DEBUG	12	ZOSS-EVT-SYSLOG-DEBUG

Limitations of using syslog

- The EMS events raised by syslog have limited cause, effect, recovery details that offer no aid in fault resolution. For example the LOG_INFO event details are:

Cause	A site-written OSS application has sent an OSS operator message. The cause of the message is application specific. This message is informational only.
Effect	The effect depends on the application.
Recovery	Contact your application support representative for recovery information.

Summary of limitations

Use of EMS procedures:

- Requires specialised knowledge
- Introduces risk & cost
- Impacts portability

Use of syslog:

- Loses the ability to create unique events that can be used for automation / escalation.
- Lack of useful cause, effect, recovery information.

Summary of limitations

The impact of using non-unique syslog events is the lack of filtering which prevents:

- Filtering of events to automation processing such as paging, reactive processing etc.
- Filtering of events to console applications
- Filtering of events to Enterprise Managers
- Accurate collection of statistics
- Useful Cause, Effect, Recovery
- The use of distinct event Templates that can be edited

Enhancing non-unique EMS events

- ITL's Streamer product provides a method of producing a rich set of EMS events from a single originating event that is used for several situations.
- Streamer uses a set of configuration rules to parse EMS events and produce new unique events.
- Elements of the original event can be incorporated into the new event along with additional information.
- Since new unique events are being generated it is possible to use automation and escalation.

Custom cause, effect, recovery can also be created.

Enhancing non-unique EMS events

- Since Streamer performs parsing of the generated EMS events, the OSS application is not affected in any way.

EMS parsing via Streamer

MTLTECH Gateway Module

Process Editor | Process Information | Process Statistics | **Translator**

Text Message Details

Record: Streamer Title:

Message:

Message Key

<input type="text" value="(MyApp)"/>	<input type="text" value="96"/>	to	<input type="text" value="103"/>	<input type="button" value="←"/>
<input type="text" value="Transaction file full"/>	<input type="text" value="106"/>	to	<input type="text" value="127"/>	<input type="button" value="←"/>
<input type="text" value=""/>	<input type="text" value="0"/>	to	<input type="text" value="0"/>	<input type="button" value="←"/>

Apply Rules to:

Matched Text Threshold:

All Events Interval:

Ignore

Subsystem Information

Owner: MYAPP	<input type="text" value="0"/>	to	<input type="text" value="0"/>	<input type="button" value="←"/>
Value: 1	<input type="text" value="0"/>	to	<input type="text" value="0"/>	<input type="button" value="←"/>
Version: 0	<input type="text" value="0"/>	to	<input type="text" value="0"/>	<input type="button" value="←"/>
Event No: 2	<input type="text" value="0"/>	to	<input type="text" value="0"/>	<input type="button" value="←"/>
Subject:	<input type="text" value=""/>	to	<input type="text" value="0"/>	<input type="button" value="←"/>
Manager:	<input type="text" value=""/>			

Output Behaviour

Console Print

Suppress Display

Normal Display

Emphasis

Clear Action

Action Needed

Action ID:

Message Text

1:	<input type="text" value="106"/>	to	<input type="text" value="127"/>	<input type="button" value="←"/>
2:	<input type="text" value="0"/>	to	<input type="text" value="0"/>	<input type="button" value="←"/>
3:	<input type="text" value="0"/>	to	<input type="text" value="0"/>	<input type="button" value="←"/>
4:	<input type="text" value="0"/>	to	<input type="text" value="0"/>	<input type="button" value="←"/>
5:	<input type="text" value="0"/>	to	<input type="text" value="0"/>	<input type="button" value="←"/>

Insert User Text Before:

Add Original PID

Output File 1:

Output File 2:

User Text:

Example Log Message:

EMS parsing via Streamer

- In this example an EMS event is created from the `syslog(LOG_INFO, "Transaction file full.")` call of:

```
06-08-23 11:02:25 \ITLTECH.0,466  TANDEM.OSS.D30  
000011 KERNEL INFO , PID = 962854916 (MyApp) :  
Transaction file is full.
```

Which is translated into the new unique event:

```
06-08-23 11:02:25 \ITLTECH.$STRM  MYAPP.1.0  
000002 Transaction file is full. Increase the size of the  
transaction file.
```

Automation can then be utilised.

EMS parsing via Streamer

VTLTECH Reaction Module

Owner: MYAPP Subsystem: 0001 Number: +00002 Description:

Event Alias:

Created By: RflxDiscov

Last Modified: 11:00:18 24 AUG 2006

Action Group: MYAPP-TRANS-FILE-ERROR

Attributes:

- Translate
- EMS Event
- Event Detail
- Command
- Task
- Status Monitor
- Radio Pager
- SNMP Trap
- Remote Alert

Event List Reaction List **Action Group** Event Detail Event Test

Event Selection Criteria

Subsystem Owner: MYAPP Subject Manager:

Subsystem Version: 0 All Critical Events:

Subsystem Value: 0001 Token Name:

Include Events From: +00002 to: +00000 Token Value:

Exclude Events From: +00000 to: +00000 Pass Value: 00000

Relay To Sentra

- All Events
- All Critical Events
- None

Action Group Definition

Action Group: MYAPP-TRANS-FILE-ERROR

Fallback Pager No.:

Threshold Count: 0

Threshold Interval: 0 Threshold by Subject:

Description: Test event created to show automation against an event created by Streamer from an original OSS event

Cover Period

Between: 0 : 0 and 23 : 59

From: 1 / 1 / 1997

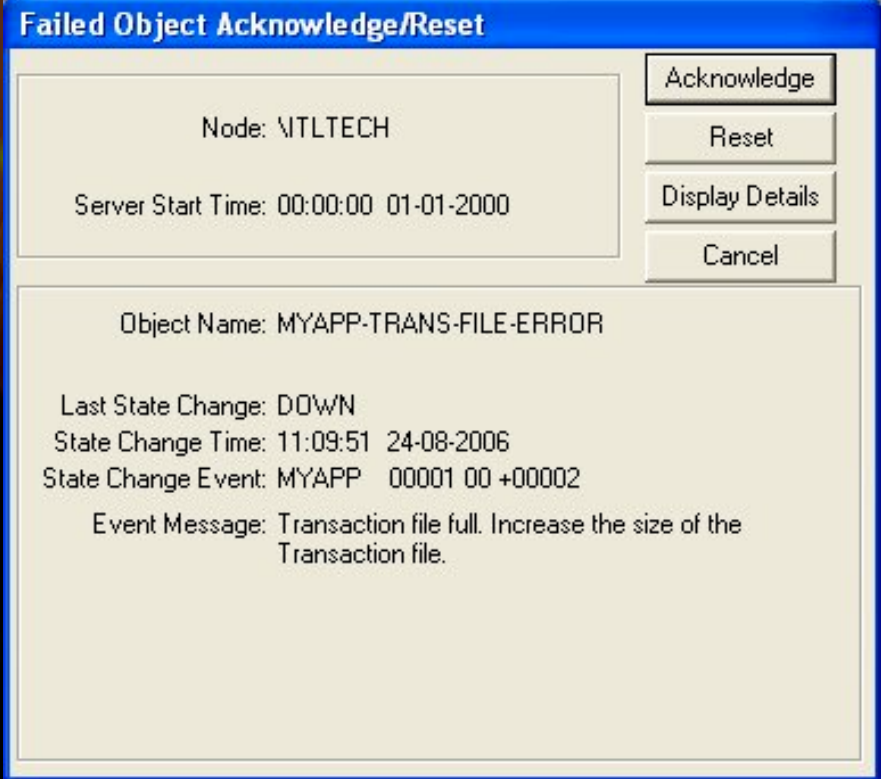
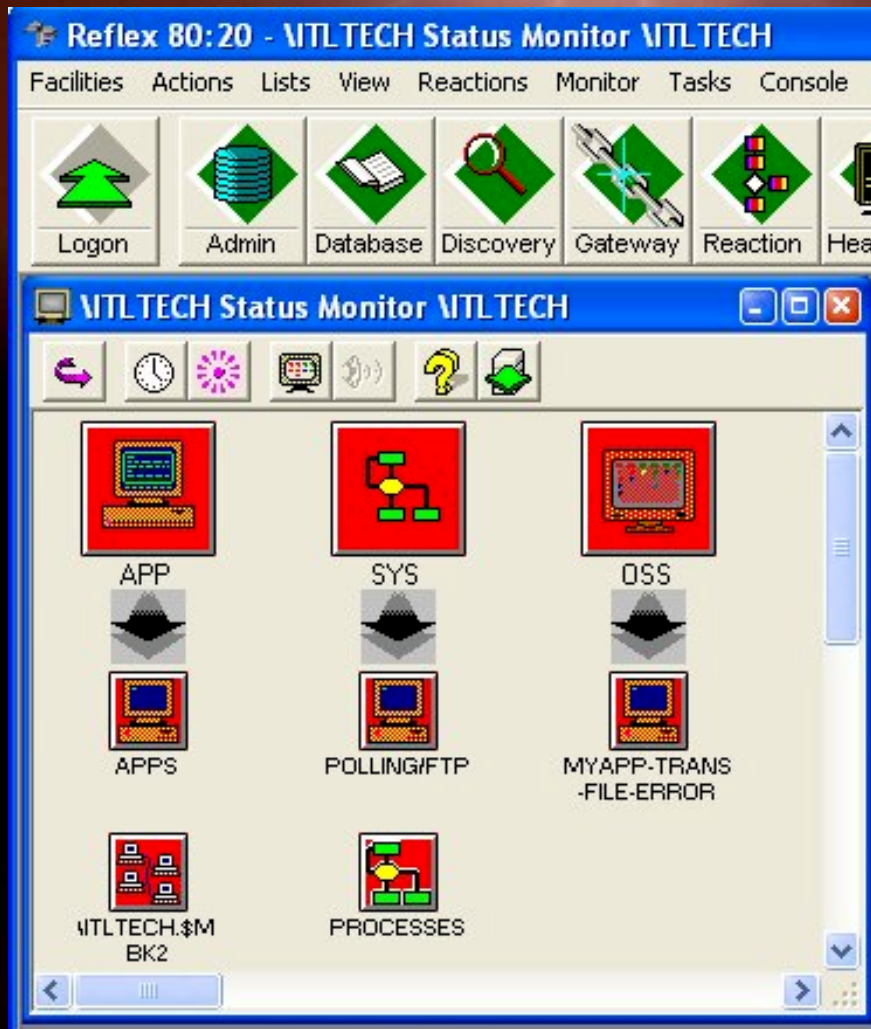
To: 1 / 1 / 2050

Modem

System:

Port:

EMS parsing via Streamer



Not only an OSS issue

The lack of rich EMS events is not only an OSS issue. Many legacy and third-party applications have this problem.

For example IBM Websphere MQ v5.1 uses IBM.99.0 event 5 for many situations with useful details embedded in multiple event tokens.

Not only an OSS issue

06-08-24 12:16:26 \ITLTECH.\$X5H9 *IBM.MQSeries.2
000005 MQSeries message:

"AMQ9243: The queue manager 'QUEUE-MGR' does not exist"

EXPLANATION :

"You tried to perform an action against a queue manager that does not exist. You may have specified the wrong queue manager name."

ACTION :

"If you specified the wrong name, correct the name and submit the command again. If the queue manager does not exist, create the queue manager and submit the command again."

Not only an OSS issue

- For applications like these ITL can provide bespoke applications that will produce unique events.
- For the IBM.99.0 event 5 events, ITL's MQ EMS Gateway product will produce unique events using the AMQ number as the event number for the new event and will extract useful text into standard MQ tokens.

For example, the Queue Manger text can be extracted and placed into a ZMQS-TKN-QMGR token.

Not only an OSS issue

06-08-24 12:16:27 \ITLTECH.\$MQGW INSIDER.MQEMSG.4 009243

EMS Gateway:

"AMQ9243: The queue manager 'QUEUE-MGR' does not exist"

EXPLANATION :

"You tried to perform an action against a queue manager that does not exist.
You may have specified the wrong queue manager name."

ACTION :

"If you specified the wrong correct the name and submit the command again. If the queue manager does not exist, create the queue manager and submit the command again."

Queue Manager : QUEUE-MGR

Not only an OSS issue

```
Console Token Detail

Header_type: 1
Checksum: F
Last_error: token_not_found (-8)
Last_error_tkncode: (9,4,107)
Max_field_version: 0
SSID: INSIDER.MQEMSG.4
Used_byte_length: 578
Buffer_byte_length: 578
Console-Print: F
Generating-CPU: 1
Emphasis: F
Event-Number: 9243
Standard-defined-type: not-specified (0)
User-defined-type: undefined (0)
Event-Hdr-Version: 2
Generation-Timestamp: 2006-09-07 12:14:28.649.806
Logged-Timestamp: 2006-09-07 12:14:28.654.040
Node-Name: "\ITLTECH"
Node-Number: 100
Generating-PIN: 299
Process-Descriptor: "\ITLTECH.$MQGW:191581433"
Suppress-Display: F
Userid: 1 17

Subject-Mark:
(1,255,1): "MY-Q-MGR"
IBM.MQSeries.0 ERROR-TEXT: ""AMQ9243: The queue manager 'MY-Q-MGR' does not exist""
IBM.MQSeries.0 ERROR-TEXT-2: ""You tried to perform an action against a queue manager that does not exist. You may ""
"have specified the wrong queue manager name.""
IBM.MQSeries.0 ERROR-TEXT-3: ""If you specified the wrong name, correct the name and submit the command again. If t""
"he queue manager does not exist, create the queue manager and submit the command agai""
""n.""
IBM.MQSeries.0
QUEUE-MANAGER-NAME:- "MY-Q-MGR"|
```



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