

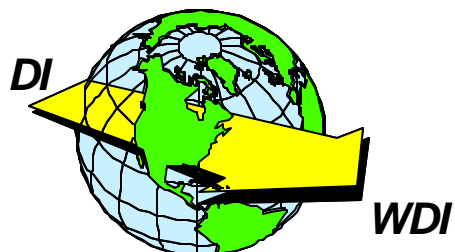
# ***Business Transaction Broker***

## ***An excellent "value add"***

**Anders Lemark**

**IBM Global Services, Denmark**

**The Next Generation**



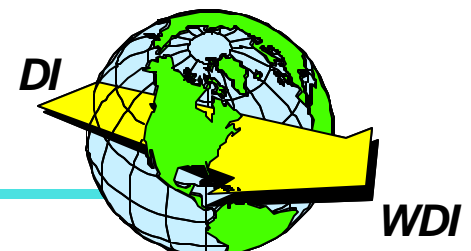
**2002 User  
Conference**

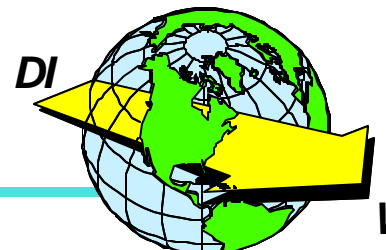
# **BTB was originally developed for IBM internal business solutions**

---

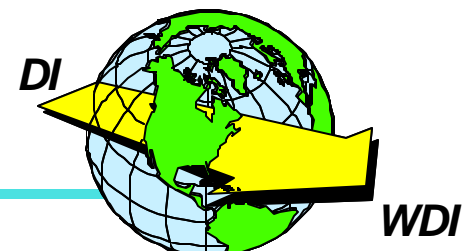
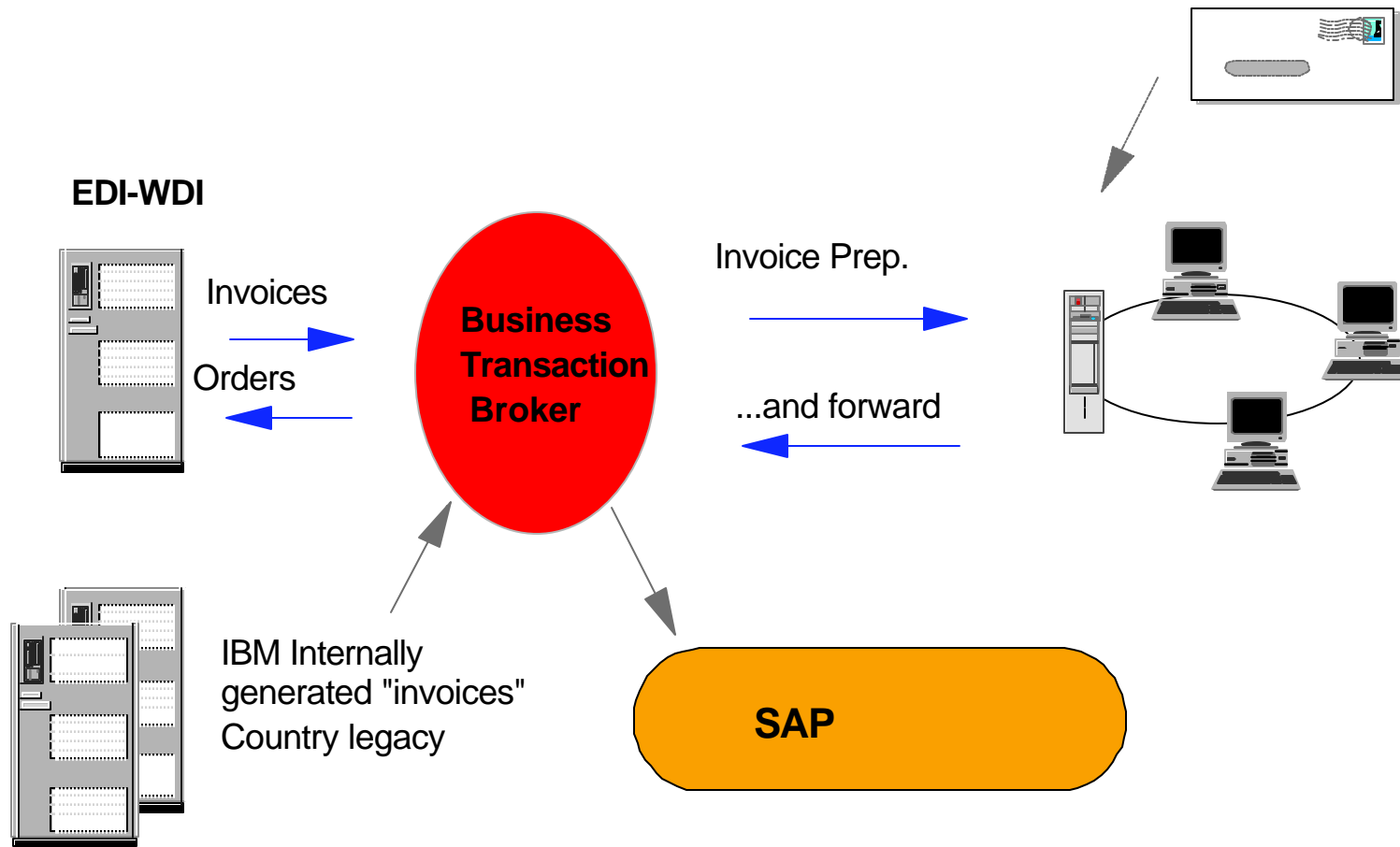
**Was selected by IBM Corp. as a message broker solution,  
to be used within  
IBM WW Business Re-engineering projects**

**First version developed in 1987  
The message broker concept was made in 1994  
Current version is: V 4.5**



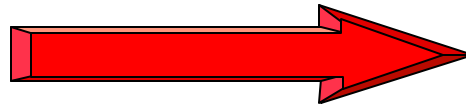
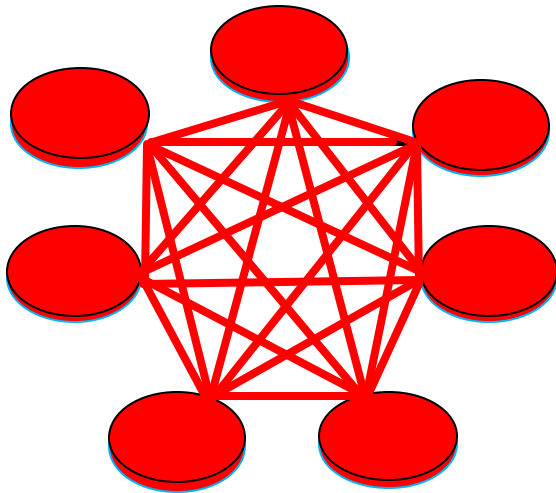


# WWProcurement Architecture, Europe

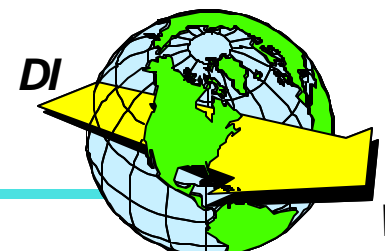
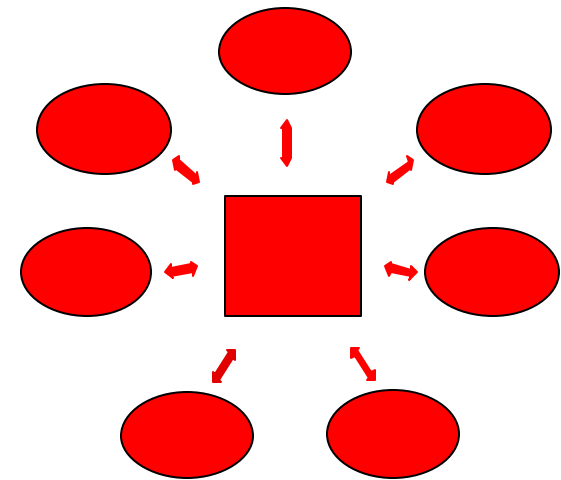


# Message Broker problem solution

Without a Message Broker

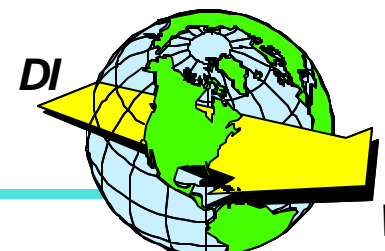
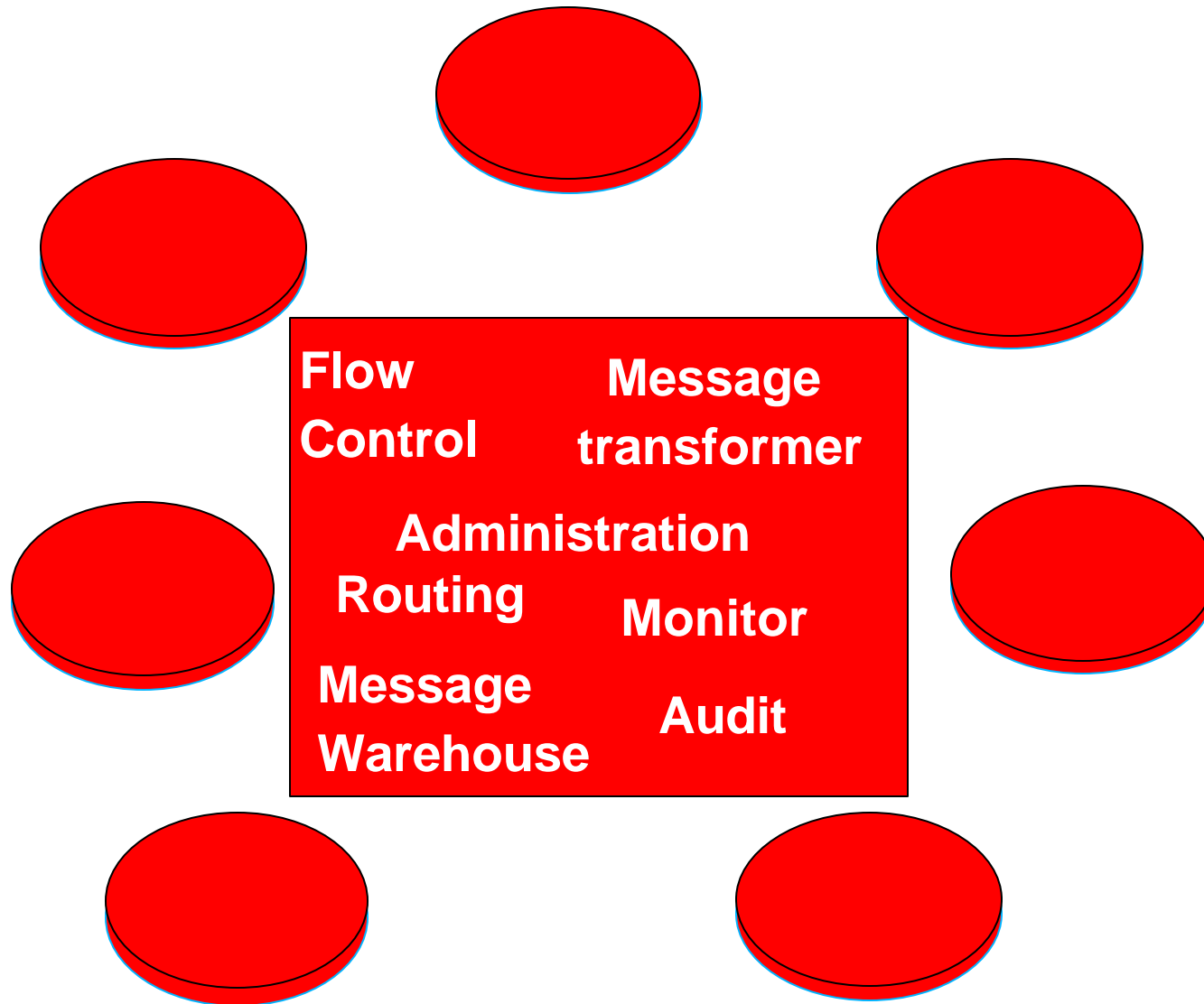


With a Message Broker



# BTB functions

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# Message Broker implementation with BTB

---

★ Flow control

★ Message Warehouse

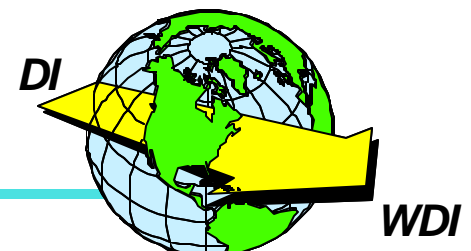
★ Limited, no scripts

- Atomic transactions, next step, control data to application -> SEQUENCING

★ Every message

✎ All versions of a message (before/after)

- Meta data
- On-line display
  - ✎ Optional: Custom defined display
- Rerun
  - ✎ Including re-translation



# Message transformer 1

---

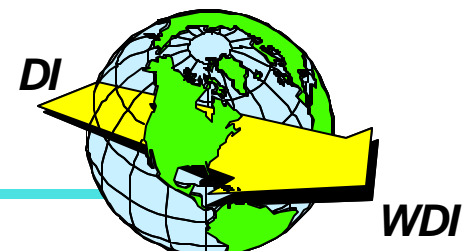
## ★ DataInterchange/CICS

- EDI
- non-EDI

## ★ Custom code in exits

## ★ WMQI

## ★ XML parser





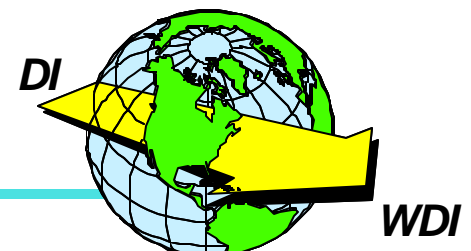
# Message transformer 2

---

- ★ EDIFACT, ANSI/X12
- ★ SAP IDOC
- ★ JAVA Servlet
- ★ CICS trx
- ★ IMS trx
- ★ E-mAIL (VIA I.E.)
- ★ Fax
- ★ MQSeries msg
- ★ Batch file

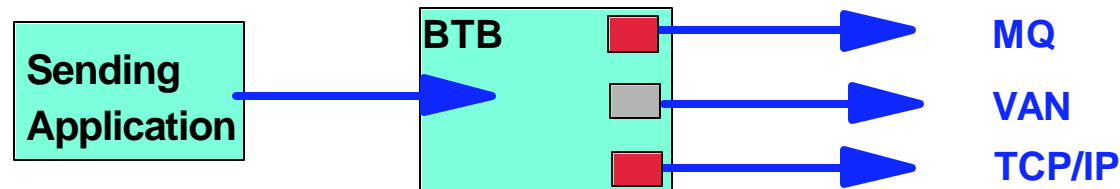


- ★ EDIFACT, ANSI/X12
- ★ SAP IDOC
- ★ JAVA Servlet
- ★ CICS trx
- ★ IMS trx
- ★ e-Mail
- ★ Fax
- ★ MQSeries msg
- ★ Batch file



# Message Broker implementation with BTB

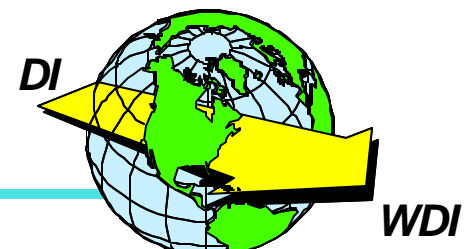
## ★ Routing



- ★ Based on familiar terms:
  - From Trading partner
  - To Trading partner
  - Message type i.e. Order, Invoice etc.

## ★ Types of routing:

- Static: Simple (one to one) Fanning (one to many)
- Dynamic: Rules based (one or many, depending on)

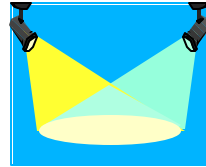


# Message Broker implementation with BTB

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## ★ Monitoring

- Proactive monitoring



- Transaction grace period and Scheduling



- Administrator alert messages



## ★ Monitoring

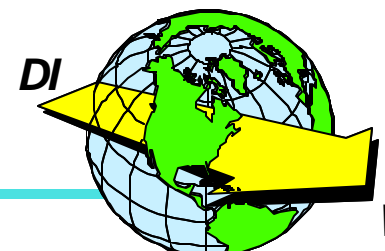
- of messages from/to
- down at the application level
- translation correctness
- transport/network activities

## ★ Automatic control of

- message received
- when to receive a message
- when to send a message

## ★ Automatic notification to

- end-users BTB administrators
- Compute Center operations



# DI Monitoring with BTB

KBAMXMCL

MailRoom Source Envelope Status

IMB

Type one or more action codes, then press Enter.

Action codes: C=Cancel E=Events Q=reQuest S>Select X=eXpand

2002-09-23							
A	Cty	Arrivaltime	From TP	Envelope Id	Layout	Status	Req.
_	100	2002-09-23-00.35	WINTASCO	JX5F32923	INVOIC02INVOIC	FINISH	1
_	100	2002-09-23-03.45	BIERBRAUE	59JRT2923	INVOIC02INVOIC	FINISH	102
_	ATT	2002-09-23-06.08	DKATTS	POQ102923	DKATTGALTINVOIC	FINISH	1
_	ATT	2002-09-23-06.08	DKATTS	39RX62923	DKATTGALTINVOIC	FINISH	1
_	100	2002-09-23-06.08	TDCFASTNE	SEKD82923	DKINHANCOM	PROC	1
_	100	2002-09-23-06.40	C2000	6VMO12923	INVOIC02INVOIC	FINISH	8
*	100	2002-09-23-06.45	NICEDAY	63M4I2923	<MIXED>	FINISH	40
_	100	2002-09-23-06.46	NICEDAY	O6JZC2923	<MIXED>	FINISH	14
_	100	2002-09-23-06.52	NICEDAY	3DBUC2923	<MIXED>	FINISH	7
_	AAP	2002-09-23-07.11	000013002	UC1AE2923	DKAPTRANSP1	FINISH	1
_	AAP	2002-09-23-07.17	000013002	MMH3Y2923	DKAPTRANSP1	FINISH	1
_	AAP	2002-09-23-07.19	000013002	9COD92923	DKAPTRANSP1	FINISH	1

Command ==>

F1=Help

F3=Exit

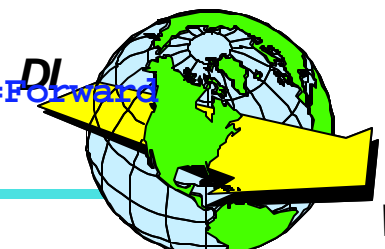
F5=Refresh

F6=Bottom

F7=Backward

F8=Forward

F9=DestEnv F12=Cancel



# DI Monitoring with BTB

KBAMEMCL

MailRoom List of Events

IMB

Type one or more action codes, then press Enter.

Action codes: T=Text H=Help J=Jump to Envelope ?=Entire Message text

Country code . . . : 100

Layout . . . . . : <MIXED>

To Tp. . . . . : WWPIBM

Envelope Id . . . : 63M4I2923

From Tp. . . . . : NICEDAY

Message Language . . UK

A	Status	Message ID	Message text	Last Update
_	AUDIT	KBAXDI007	DataInterchange Translation Audit	23-06.45.40
_	AUDIT	KBAXDI006	EDI Envelope File	23-06.45.52
*	AUDIT	KBAXDI008	IE Message Long Header	23-06.46.16

Command ==>

F1=Help

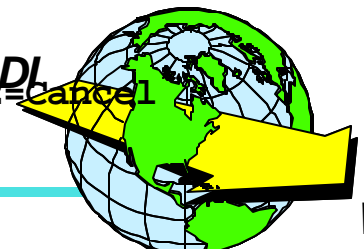
F3=Exit

F4=Close

F5=Refresh

F6=Bottom

F12=cancel



# DI Monitoring with BTB

KBAMTMCL

MailRoom Additional text on Event

IMB

## DataInterchange Translation Audit

Additional text

1Audit Trail Report -DataInterchange Utility- Date: 2002 09 23 Time:  
06:45:22 Page: 00001

FF0192 Processing envelopes from temporary storage queue: S0Æ03333.

FF0186 Functional acknowledgment environment initialization started for:  
Trading Partner ID = 1001000002621. Interchange control  
number = 00000000005731. Group control number = 00000000005731.

FF0187 Functional acknowledgment environment initialization ended for:  
Trading Partner ID = 1001000002621. Interchange control  
number = 00000000005731. Group control number = 00000000005731.

FF0168 The Default Batch ID, 23064522, has been assigned for the following  
transactions.

FF0040 Transaction with control number 00000573100001 translated and  
written to EDI00219.

FF0040 Transaction with control number 00000573100002 translated and  
written to EDI0021A.

FF0040 Transaction with control number 00000573100003 translated and written to EDI0021B.

Command ==>

F1=Help

F3=Exit

F4=Mail

F8=Forward

F11=Right

F12=Cancel



# DI Monitoring with BTB

KBAMXMCL

MailRoom Source Envelope Status

IMB

Type one or more action codes, then press Enter.

Action codes: C=Cancel E=Events Q=reQuest S=Select X=eXpand

\_\_\_ 2002-09-23

A	Cty	Arrivaltime	From TP	Envelope Id	Layout	Status	Req.
__	100	2002-09-23-00.35	WINTASCO	JX5F32923	INVOIC02INVOIC	FINISH	1
__	100	2002-09-23-03.45	BIERBRAUE	59JRT2923	INVOIC02INVOIC	FINISH	102
__	ATT	2002-09-23-06.08	DKATTS	POQ102923	DKATTGALTINVOIC	FINISH	1
__	ATT	2002-09-23-06.08	DKATTS	39RX62923	DKATTGALTINVOIC	FINISH	1
__	100	2002-09-23-06.08	TDCFASTNE	SEKD82923	DKINHANCOM	PROC	1
__	100	2002-09-23-06.40	C2000	6VMO12923	INVOIC02INVOIC	FINISH	8
*	100	2002-09-23-06.45	NICEDAY	63M4I2923	<MIXED>	FINISH	40
__	100	2002-09-23-06.46	NICEDAY	06JZC2923	<MIXED>	FINISH	14
__	100	2002-09-23-06.52	NICEDAY	3DBUC2923	<MIXED>	FINISH	7
__	AAP	2002-09-23-07.11	000013002	UC1AE2923	DKAPTRANSP1	FINISH	1
__	AAP	2002-09-23-07.17	000013002	MMH3Y2923	DKAPTRANSP1	FINISH	1
__	AAP	2002-09-23-07.19	000013002	9COD92923	DKAPTRANSP1	FINISH	1

Command ==>

F1=Help

F3=Exit

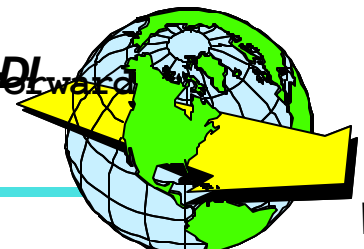
F5=Refresh

F6=Bottom

F7=Backward

F8=Forward

F9=DestEnv F12=Cancel



# DI Monitoring with BTB

KBAMRMCL

MailRoom Requests in an Envelope

IMB

Type one or more action codes, then press Enter.

Action codes: S=Select      E=Event      D=Document      V=Versions      P=DI-rePort  
                  A=sysAck      F=Fail      M=Mail      R=Resend      I=DI-Image

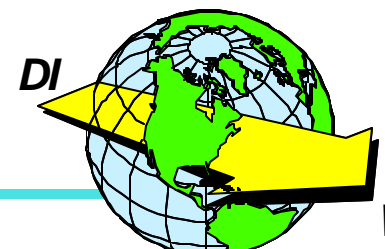
Country code . . . : 100

From Trading Partner: NICEDAY

A	SeqNo	Status	To Tp	Layout	Envelope ID	Last update
*	00033	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.57.30
_	00034	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.57.37
_	00035	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.57.49
_	00036	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.58.06
_	00037	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.58.23
_	00038	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.58.35
_	00039	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.58.47
_	00040	FINISH	WWPIBM	UKTAXCON921	63M4I2923001	23-06.46.38

Command ===>

F1=Help    F3=Exit    F5=Refresh    F6=Toggle    F7=Backward    F12=Cancel





# DI Monitoring with BTB

KBAMEMCL

MailRoom List of Events

IMB

Type one or more action codes, then press Enter.

Action codes: T=Text H=Help J=Jump to Envelope ?=Entire Message text

Country code . . . : 100                      Layout . . . . . : INVOIC01INVOIC  
To Tp. . . . . : WWPIBM                      Envelope Id . . . : 63M4I2923000  
  
From Tp. . . . . : NICEDAY                      Message Language . . UK

A	Status	Message ID	Message text	Last Update
_	PROC	KBPX02004	Exit completed. Exit called for DEST TYP	23-06.47.21
_	PROC	KBPX01004	Exit completed. Exit called for DEST TYP	23-06.47.21
_	PROC	KBPX05004	Exit completed. Exit called for DEST TYP	23-06.47.21
_	PROC	KBADTC007	Processed OK into: E:/APICODE/INCOMING/1	23-06.47.21
_	PENDING	KBADXA009	Send to TCPIP OK, reply is pending	23-06.47.21
_	FINISH	KBPAPICS1	Invoice received in APICS: 8660330061909	23-06.57.30

Command ==>

F1=Help

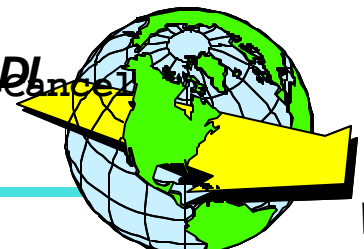
F3=Exit

F4=Close

F5=Refresh

F6=Bottom

F12=Cancel



# DI Monitoring with BTB

KBAMRMCL

MailRoom Requests in an Envelope

IMB

Type one or more action codes, then press Enter.

Action codes: S=Select      E=Event      D=Document      V=Versions      P=DI-rePort  
                  A=sysAck      F=Fail      M=Mail      R=Resend      I=DI-Image

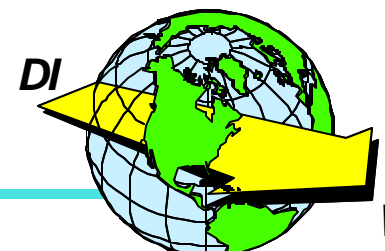
Country code . . . : 100

From Trading Partner: NICEDAY

A	SeqNo	Status	To Tp	Layout	Envelope ID	Last update
*	00033	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.57.30
_	00034	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.57.37
_	00035	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.57.49
_	00036	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.58.06
_	00037	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.58.23
_	00038	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.58.35
_	00039	FINISH	WWPIBM	INVOIC01INVOIC	63M4I2923000	23-06.58.47
_	00040	FINISH	WWPIBM	UKTAXCON921	63M4I2923001	23-06.46.38

Command ===>

F1=Help    F3=Exit    F5=Refresh    F6=Toggle    F7=Backward    F12=Cancel



# DI Monitoring with BTB

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KBAMVMCL

MailRoom Document Versions

IMB

Type one or more action codes, then press Enter.

Action codes: S=Select M=Mail

Document formatting exit . \_\_\_\_\_ +

A	Version	Created time	Doc. lines
_	DI-EDI Source exit: KBASXDP	2002-09-23-06.45.38	26
_	Destination exit: KBAGXSP	2002-09-23-06.47.20	32

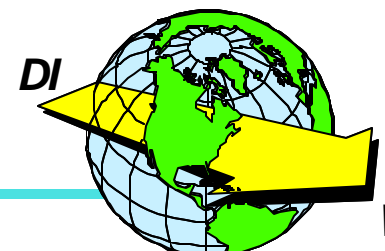
Command ==>

F1=Help

F3=Exit

F4=Prompt

F12=Cancel



# DI Monitoring with BTB

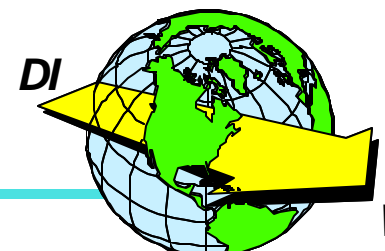
KBAMHMCL Documents contents IMB

```

Line. 1 Col. 1
10 20 30 40 50 60 70
1234567890123456789012345678901234567890123456789012345678901234567
MEXTREC00100A001 1000002621
I00000000005731GBNIC GBNIC002 DKIBM DKLINK15
C1001000002621 INVOIC01INVOIC .....PY N
DEDIDC 100 30F 00INVOIC012SAPGP0 MMIBMEDI
DE1EDK01 100 E1EDK01 0000000140 GBP
DE1EDKA1 100 E1EDKA1 0000000140EK IBMUKACCPAY
DE1EDKA1 100 E1EDKA1 0000000140RS 1000002621
DE1EDK02A 100 E1EDK02 00000001400090910635353
DE1EDK02B 100 E1EDK02 0000000140VA
DE1EDK02 100 E1EDK02 00000001400014600861130
DE1EDK03A 100 E1EDK03 000000014002420020923
DE1EDK03 100 E1EDK03 000000014001220020917
DE1EDK03 100 E1EDK03 000000014001520020917
DE1EDK04S 100 E1EDK04 0000000140V1 17.50
  
```

Command ==>

F1=Help F3=Exit F8=Forward F11=Right F12=Cancel



# DI Monitoring with BTB

KBAMXMCL

MailRoom Source Envelope Status

IMB

Type one or more action codes, then press Enter.

Action codes: C=Cancel E=Events Q=reQuest S=Select X=eXpand

\_\_\_\_\_ 2002-09-23 \_\_\_\_\_

A	Cty	Arrivaltime	From TP	Envelope Id	Layout	Status	Req.
_	100	2002-09-23-00.35	WINTASCO	JX5F32923	INVOIC02INVOIC	FINISH	1
_	100	2002-09-23-03.45	BIERBRAUE	59JRT2923	INVOIC02INVOIC	FINISH	102
_	ATT	2002-09-23-06.08	DKATTS	POQ102923	DKATTGALTINVOIC	FINISH	1
_	ATT	2002-09-23-06.08	DKATTS	39RX62923	DKATTGALTINVOIC	FINISH	1
_	100	2002-09-23-06.08	TDCFASTNE	SEKD82923	DKINHANCOM	PROC	1
_	100	2002-09-23-06.40	C2000	6VMO12923	INVOIC02INVOIC	FINISH	8
*	100	2002-09-23-06.45	NICEDAY	63M4I2923	<MIXED>	FINISH	40
_	100	2002-09-23-06.46	NICEDAY	O6JZC2923	<MIXED>	FINISH	14
_	100	2002-09-23-06.52	NICEDAY	3DBUC2923	<MIXED>	FINISH	7
_	AAP	2002-09-23-07.11	000013002	UC1AE2923	DKAPTRANSP1	FINISH	1
_	AAP	2002-09-23-07.17	000013002	MMH3Y2923	DKAPTRANSP1	FINISH	1
_	AAP	2002-09-23-07.19	000013002	9COD92923	DKAPTRANSP1	FINISH	1

Command ===>

F1=Help

F3=Exit

F5=Refresh

F6=Bottom

F7=Backward

F8=Forward

F9=DestEnv F12=Cancel



# DI Monitoring with BTB

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KBAMEMCL

MailRoom List of Events

IMB

Type one or more action codes, then press Enter.

Action codes: T=Text H=Help J=Jump to Envelope ?=Entire Message text

Country code . . . : 100

Layout . . . . . : DKINHANCOM

To Tp. . . . . : VMS

Envelope Id . . . : SEKD82923000

From Tp. . . . . : TDCFASTNE

Message Language . . UK

A	Status	Message ID	Message text	Last Update
*	SCHDUL	KBAKEA004	Scheduled for run at 01.00 on 2002-09-24	23-06.08.16

KBH000I Scheduled for run at 01.00 on 2002-09-24

Command ==>

F1=Help

F3=Exit

F4=Close

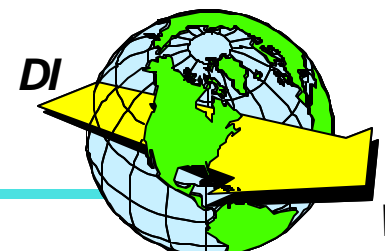
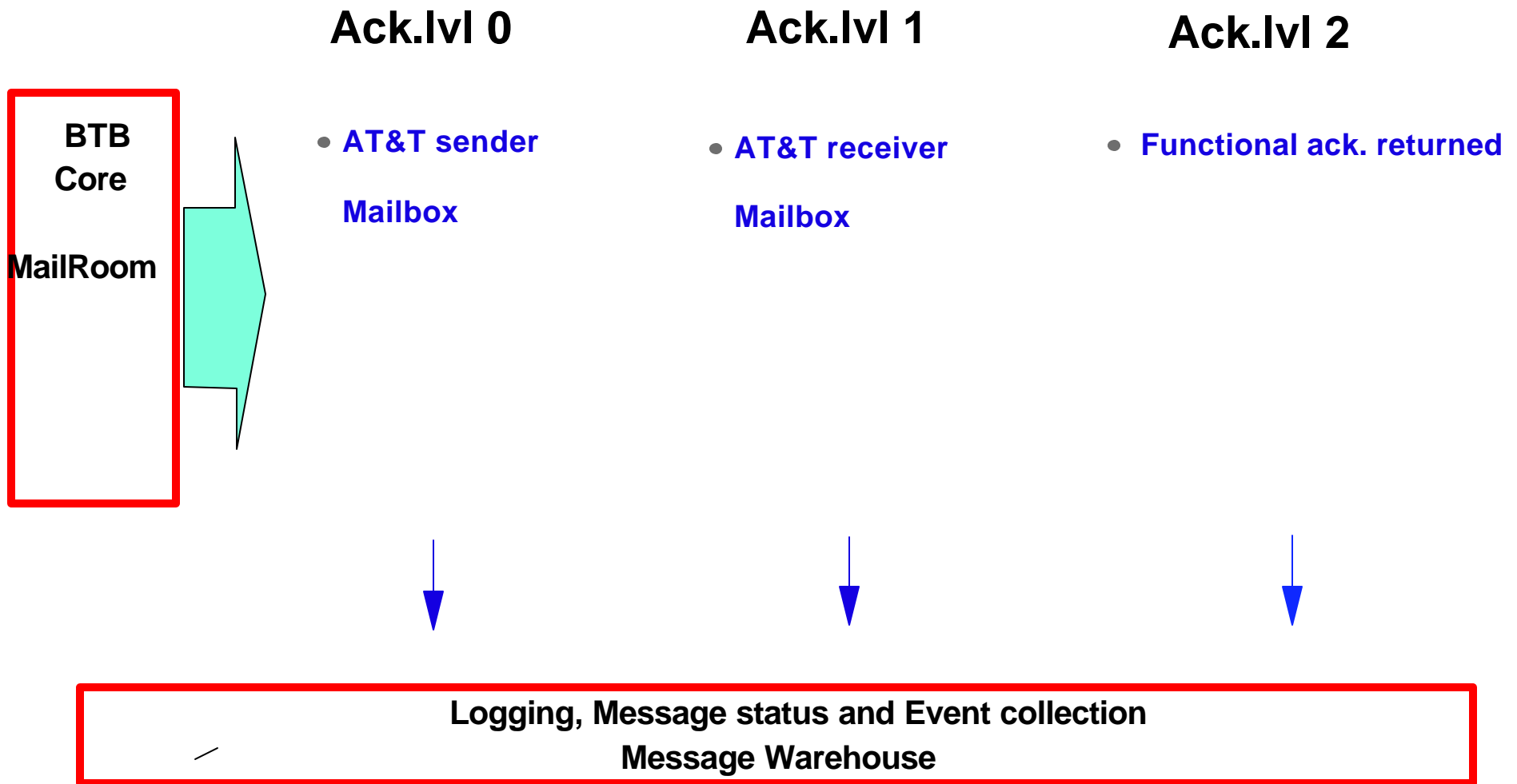
F5=Refresh

F6=Bottom

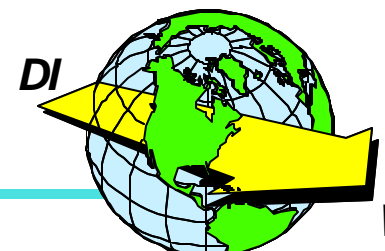
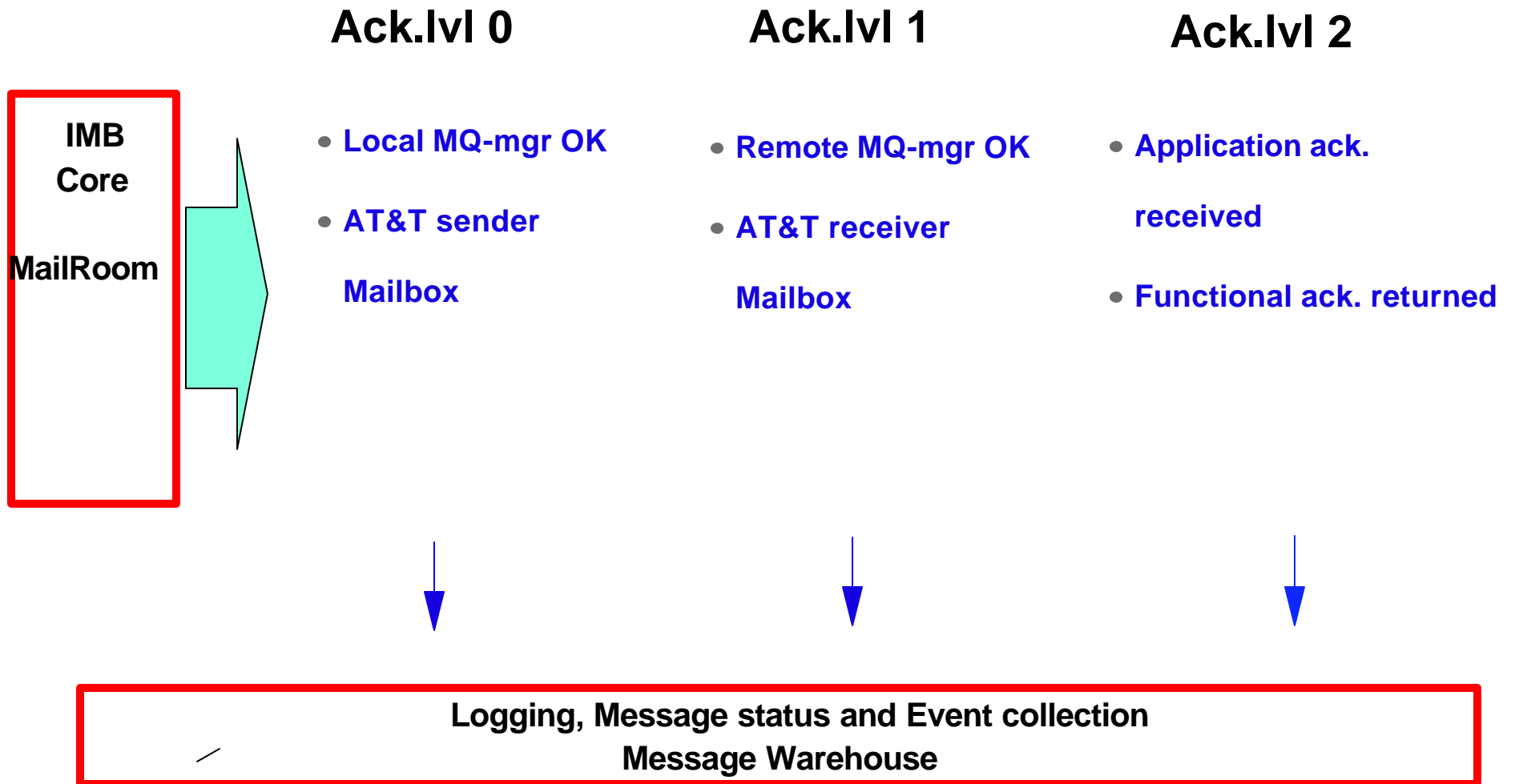
F12=Cancel



# Acknowledgement levels



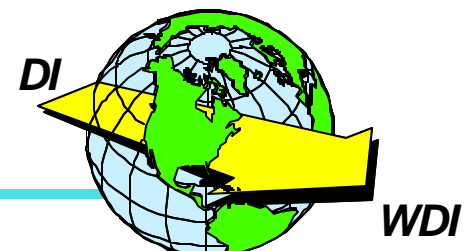
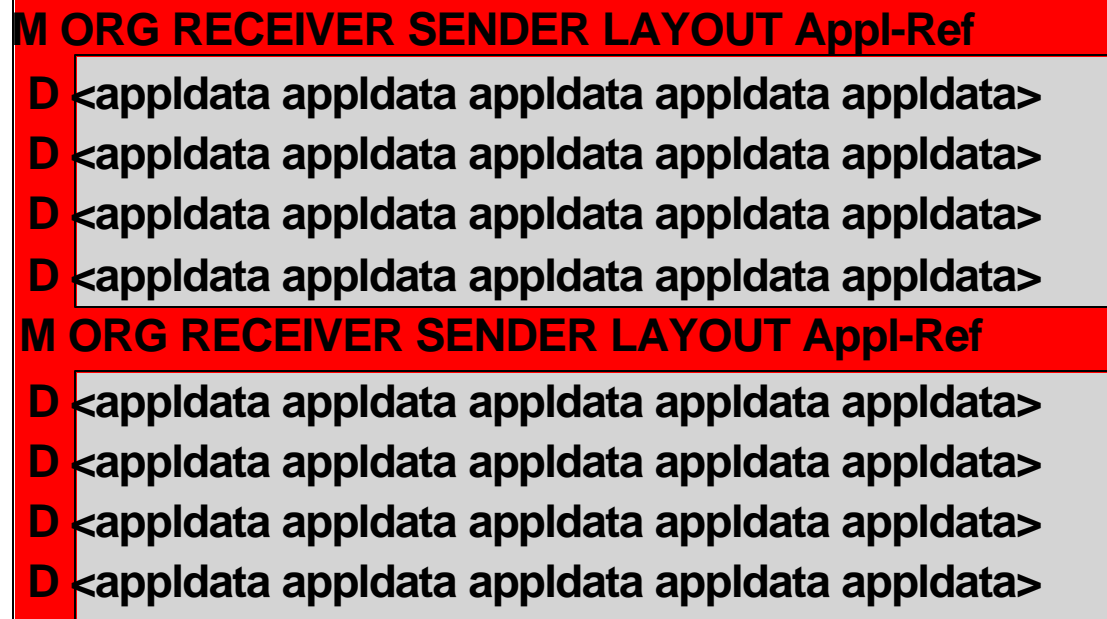
# Acknowledgement levels





# the BTB Transaction Encapsulation

---



# Message Broker implementation with BTB

---

★ Audit

★ Administration

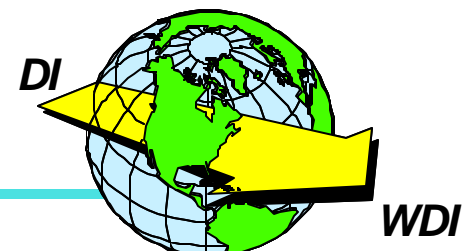
★ Audit trail end-to-end

- at network level
- at receiving application level
- and IMB activities

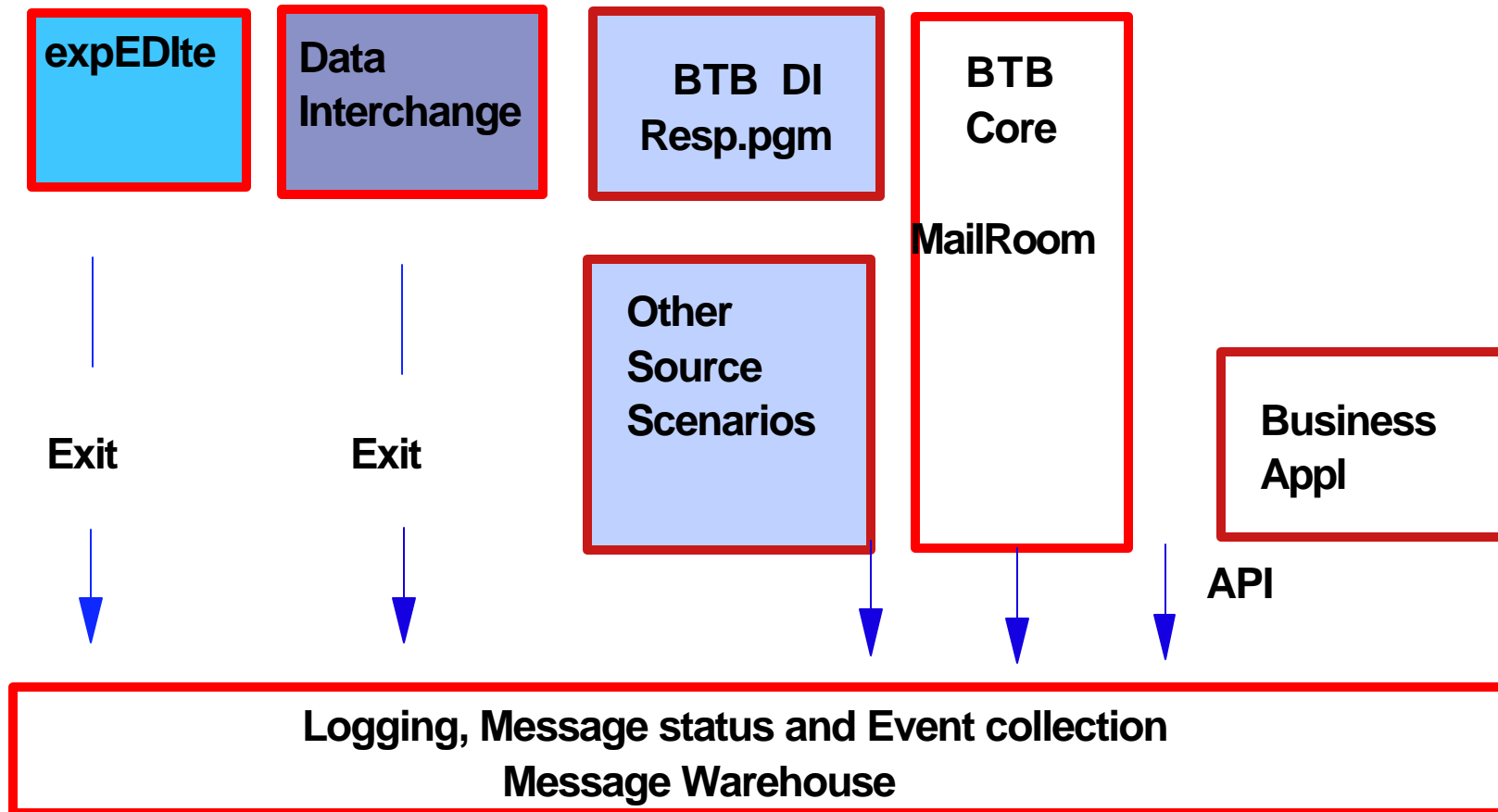
★ Administration of

- Trading-partners
- Sending/receiving applications
- BTB resources

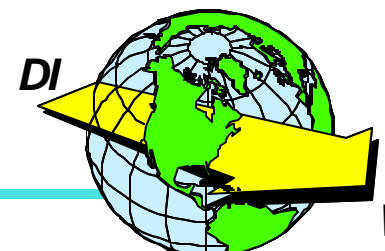
and their relationship



# AUDIT Services



**Provides complete audit trail end-to-end**



# BTB connectivity

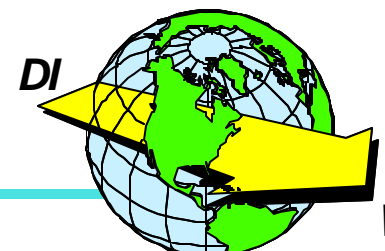
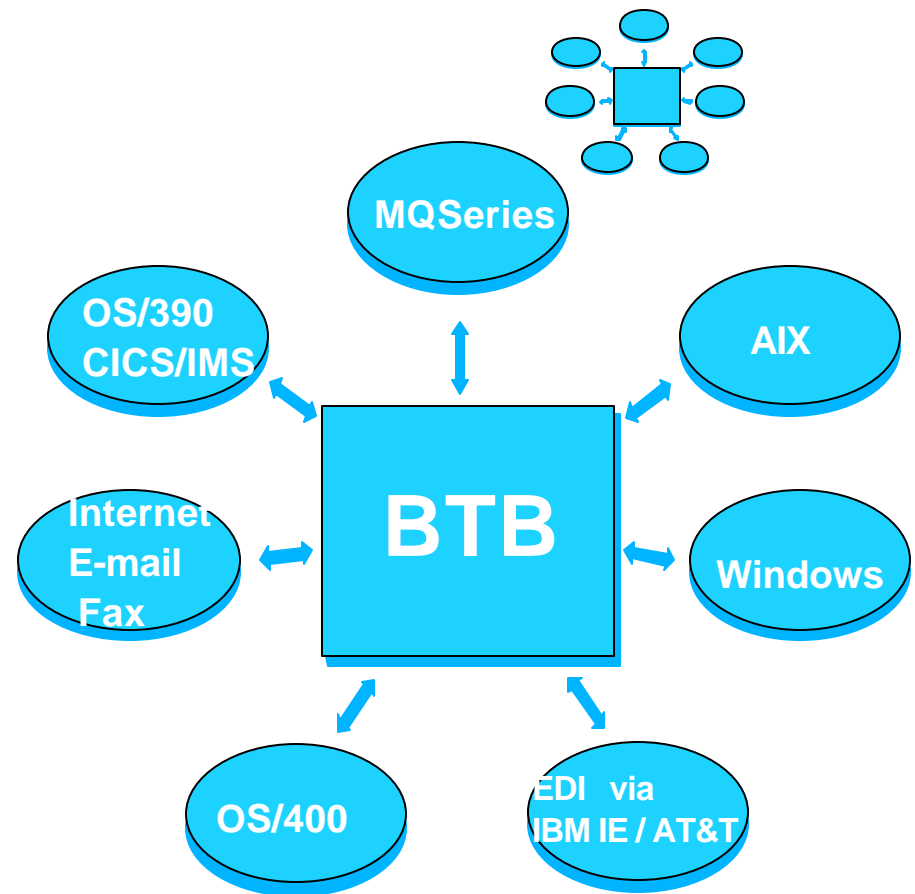
## ★ BTB support connectivity to/form

- OS/390 (CICS, IMB, Batch)
- CICS DPL
- AIX
- Windows
- OS/400
- IBM Information Exchange (EDI) (also to other VAN's)
- Internet, E-mail and Fax

## ★ BTB can use

- MQSeries
- APPC (LU6.1 and LU6.2)
- TCP/IP

*as the transport layer*

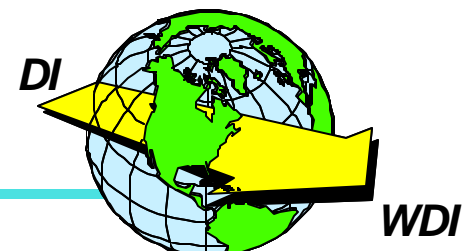


# BTB application protocol conversion

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## ★ BTB has built-in support for

- MQ messages as structured business data
- MQ OTMA (MQ bridge to IMS)
- MQSeries link for R/3
- SAP/R3 IDOC formats
- EDI using WDI (i.e.: EDIFACT, ANSI X12 etc.)
- MQSI Transformation
- User exits



# ***Business Transaction Broker***

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