IBM Software Group

# 2005 B2B Customer Conference
*Pioneering New Horizons – Solutions that Evolve*

## Using WDI in a Real Time Environment

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WebSphere. software

# Objectives

- **Data Flow**
- **Routing**
- **EDI Real Time Processing**
- **Data Logging**
- **Data Format Standards**
- **Enterprise Integration Bus Summary**
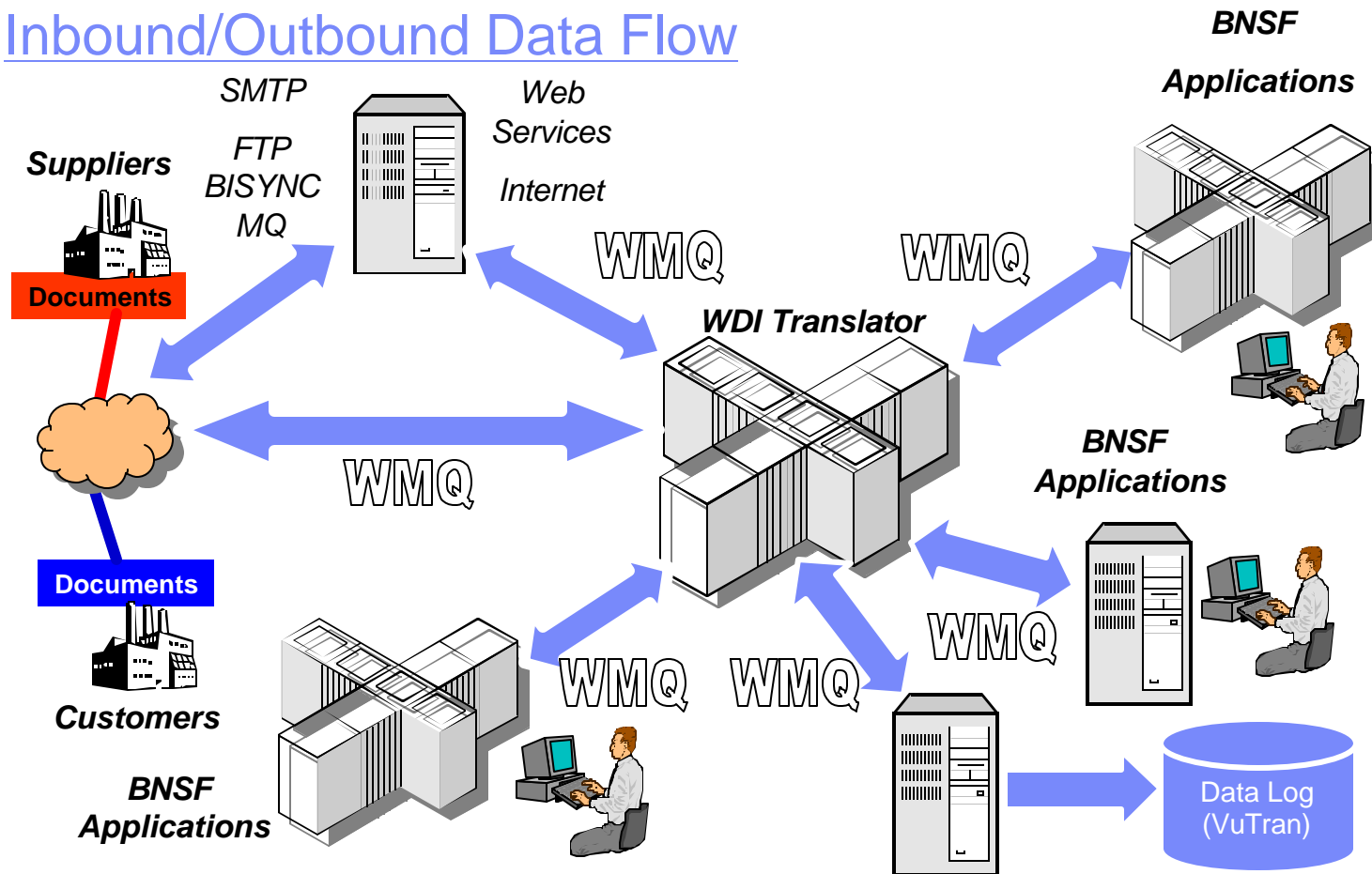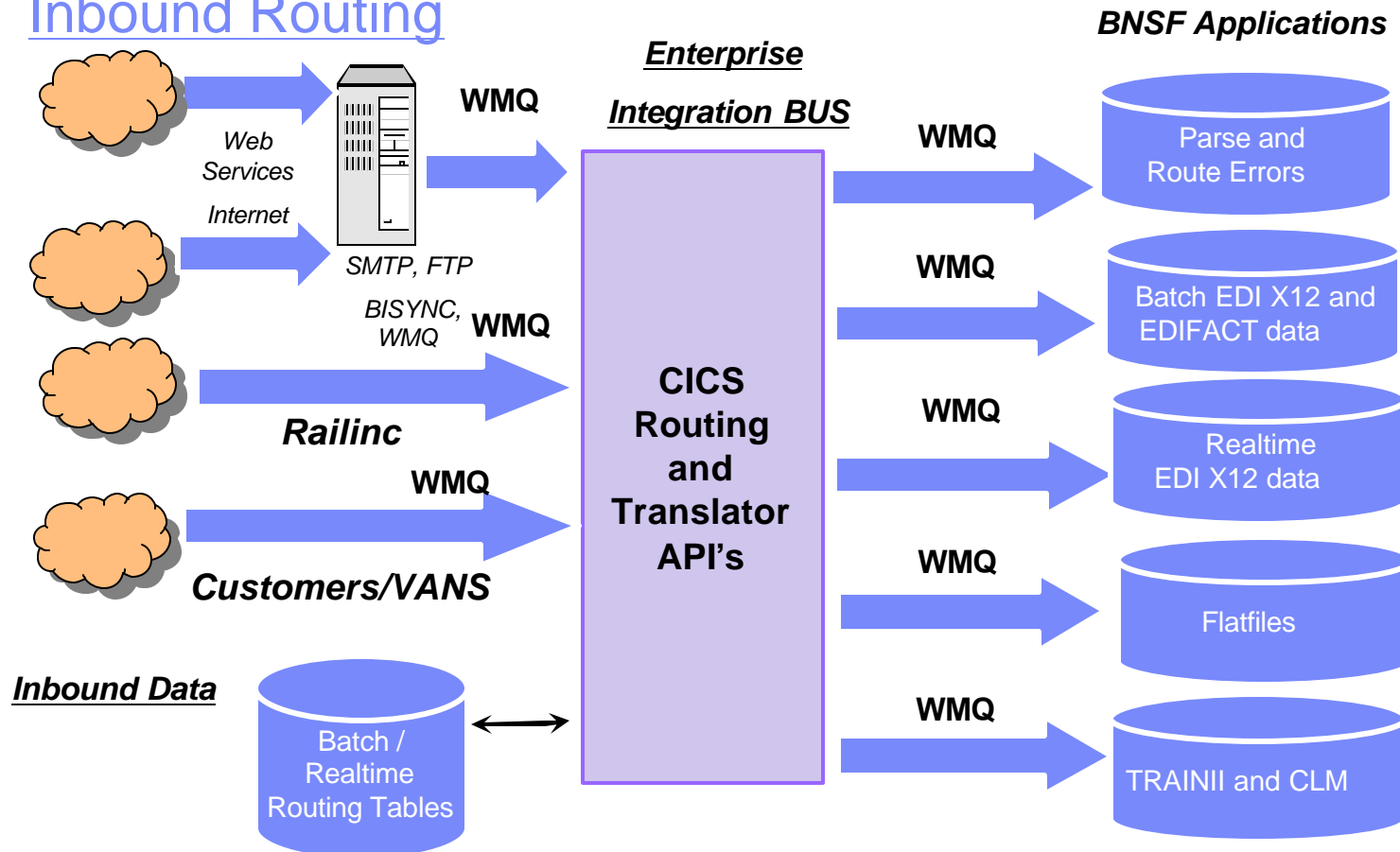- **Future Vision**

# Acronyms Used

- **WMQ – WebSphere Message Queuing**
- **WDI – WebSphere Data Interchange**
- **FTP – File Transfer Protocol**
- **SMTP – Simple Mail Transfer Protocol**
- **BiSync – Bi-synchronous dial**
- **BNSF – Burlington Northern Santa Fe**
- **VANS – Value Added Networks**
- **API – Application Program Interface**
- **TS Queue – Temporary Storage Queue**

# Inbound/Outbound Data Flow

SMTP

FTP
BISYNC
MQ

Web
Services

Internet

**Suppliers**

Documents

Documents

**Customers**

**BNSF
Applications**

**WDI Translator**

WMQ

WMQ

WMQ

WMQ

WMQ

WMQ

WMQ

**BNSF
Applications**

**BNSF
Applications**

**BNSF
Applications**

Data Log
(VuTran)

# Inbound Routing

**BNSF Applications**

*Enterprise*

*Integration BUS*

**WMQ**

*Web Services*

*Internet*

*SMTP, FTP*

*BISYNC, WMQ* **WMQ**

*Railinc*

**WMQ**

*Customers/VANS*

**CICS Routing and Translator API's**

**WMQ** Parse and Route Errors

**WMQ** Batch EDI X12 and EDIFACT data

**WMQ** Realtime EDI X12 data

**WMQ** Flatfiles

**WMQ** TRAINII and CLM

**Inbound Data**

Batch / Realtime Routing Tables

# Outbound Routing

*Enterprise*

*Integration BUS*

**WMQ**

**Web Services**

**Internet**

*SMTP, FTP*

*BISYNC, MQ*

**WMQ**

*Railinc* **WMQ**

*Customers / VANS*

*Outbound Data*

Application Realtime Routing Table

**CICS Routing and Translator API's**

*BNSF Applications*

**WMQ**

Application Data

**WMQ**

Flatfiles

**WMQ**

TRAINII and CLM
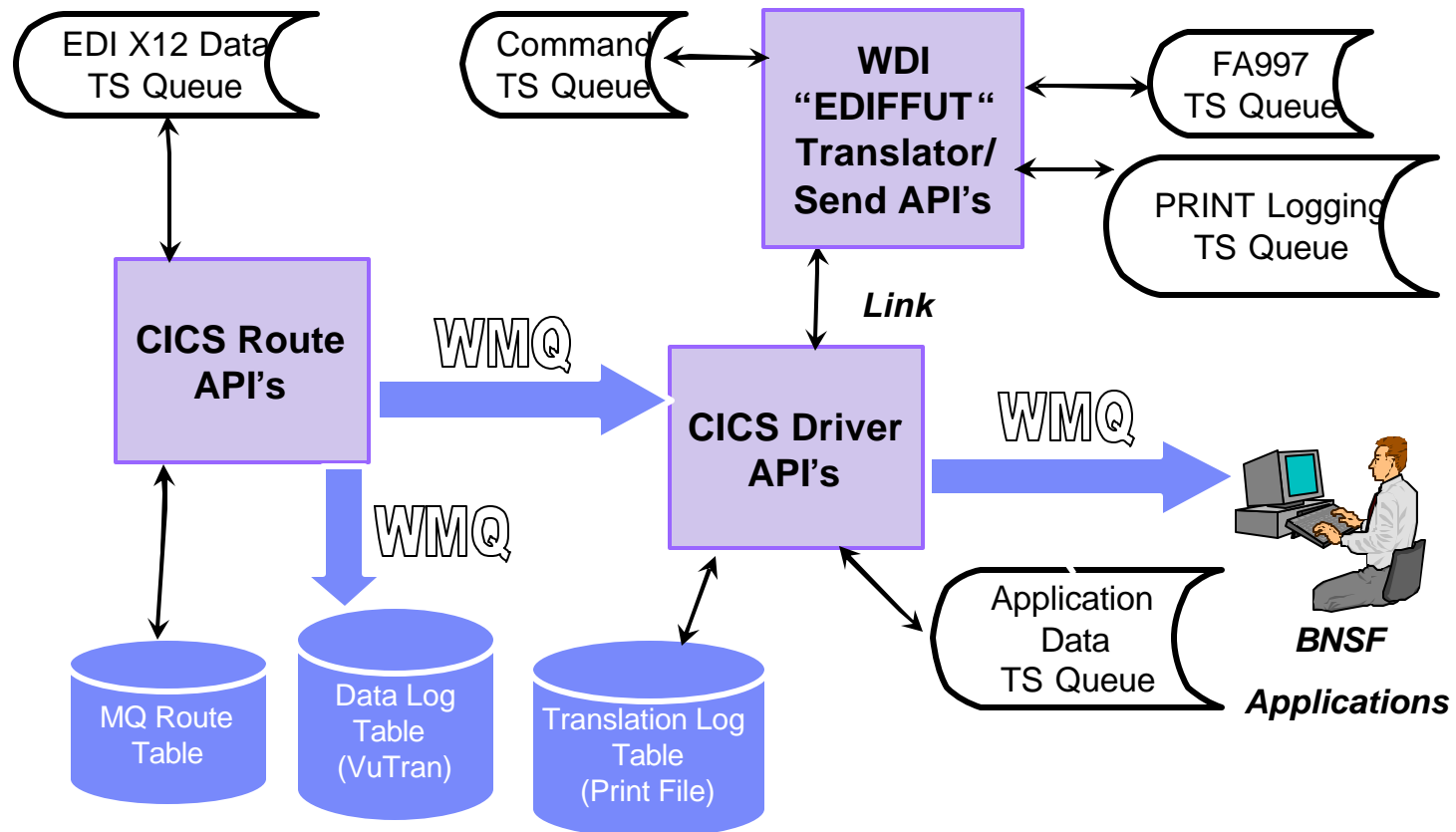
Customer & MQ Parms Routing Tables

# Routing/Communication Summary

- **10 Direct WMQ connection to Railinc + WMQ capable customers**
- **Multiple mainframe-to-mainframe WMQ connections**
- **Multiple mainframe-to-AIX WMQ connections**
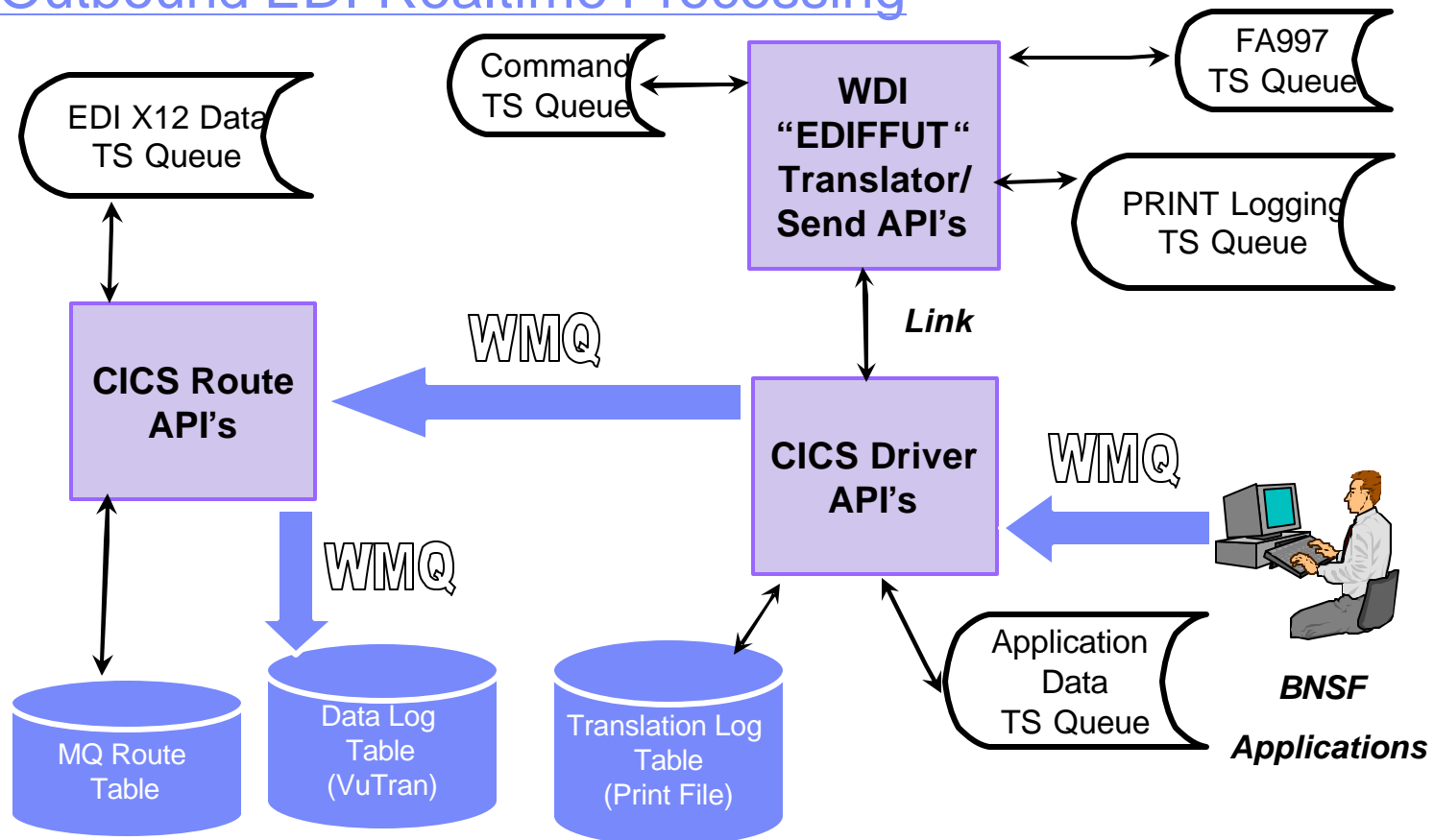- **Multiple AIX-to-mainframe WMQ connections**

- **TCP-IP 256KB Frame Relay communication backbone**
- **ISDN 128KB communication backup**
- **SMTP, FTP, Bisync dial protocols**
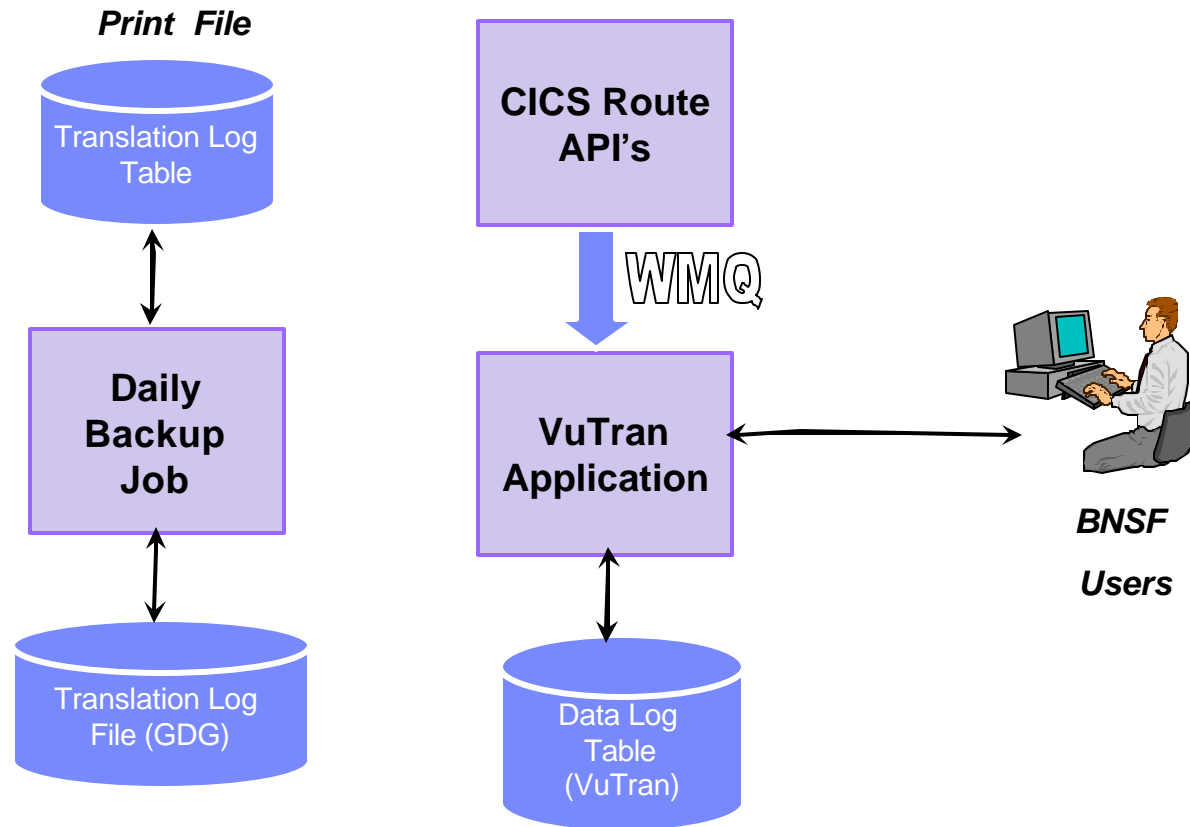- **Web Services**
- **Internet**

# Inbound EDI Realtime Processing

EDI X12 Data
TS Queue

Command
TS Queue

**WDI
"EDIFFUT"
Translator/
Send API's**

FA997
TS Queue

PRINT Logging
TS Queue

**CICS Route
API's**

WMQ

*Link*

**CICS Driver
API's**

WMQ

WMQ

MQ Route
Table

Data Log
Table
(VuTran)

Translation Log
Table
(Print File)

Application
Data
TS Queue

*BNSF*

*Applications*

# Outbound EDI Realtime Processing

# Inbound/Outbound Logging

*Print File*

Translation Log
Table

CICS Route
API's

WMQ

Daily
Backup
Job

VuTran
Application

*BNSF*

*Users*

Translation Log
File (GDG)

Data Log
Table
(VuTran)

# Data Format Standards

- EDI – ANSI X12, Rail X12
- UN/EDIFACT – United Nations / EDI for
    Administration Commerce and Trade
- CLM – Car Location Message
- TRAINII – TeleRail Automated Information
    Network
- XML – Extensible Markup Language
- Custom Flat Files

# EDI X12 Message

- ISA*04*SW417   *00*      *02*BNSF       *02*RRWE       *050830*0000*U*00501*149618179*0*P*?
- GS*WB*BNSF*RRWE*20050830*0000*102757546*X*005010
- ST*417*149619567
- BX*00*X*PP*6064670*BNSF*L*B*N
- BNX*A**S
- N9*BM*6064670*BILL OF LADING NUMBER*20050830*00000000*CT
- N9*CV*45050*COIL NUMBER USED AS CONVERTING PARTY FOR SAFE*20050830*00000000*CT
- N9*P8*6064670*PICKUP REFERENCE NUMBER*20050830*00000000*CT
- DTM*ICF*20050830

# UN/EDIFACT Message

UNB

+UNOA:2

+CANCCCRA:02

+BNSF:02

+050829:0453

+82241'UNG

+CUSRES

+CCR

+BNSF

+050829:0453

+25595

+UN

+D:96A'UNH

# Car Location Message

```
#BNSF 3550SWSAM010508300001KNSXACHU/
CLMDFR BNSF ACHUMKO 05083000
GATX 015435 LINCOLN NEA08 29 2346 E A MGL129 SIOCITY IA
PBFX 646151 LINCOLN NEA08 29 2346 E A MGL129 SIOCITY IA
EOM00000002
$0001EOM.
```

# Tele-Rail Automated Information Network Message

#BNSF 3685TRAIN080508300005RRDC /
*0001BNSF5883500508292358102
+NDYX516426E: O:000
=0001SUM0001
$0001EOM.

# Extensible Markup Language Message

```
<?xml version="1.0" standalone="yes"?>
  <Restaurants>
   <RestaurantType type = "CHINESE">
     <Name>panda</Name>
     <FoodRating>5</FoodRating>
     <AverageMealCost>$5
     <Review>Great Food, got to try</Review>
   </RestaurantType>
   <RestaurantType type = "ITALIAN">
     <Name>Oliver</Name>
     <FoodRating>4</FoodRating>
     <AverageMealCost>$6
```

# Enterprise Integration Bus Summary

- Tightly integrated "EIB"

- Error and History tracking capabilities

- Translator Print File backup

- WebSphere MQ Queues used throughout process

- Realtime and Batch EDI X12 processing

- Multiple data standards to translate

- Multiple communication protocols

- Route / Driver / WDI Application Program
  Interface programs

# Future Vision

**WDI Translator**

**BNSF Applications**

**DI Client**

*SMTP*

*FTP*
*BISYNC*
*MQ*

***Suppliers***

Documents

*Web Services*

*Internet*

WMQ

WMQ

**WDI Translator**

WMQ

WMQ

Data Log (VuTran)

Documents

WMQ

WMQ

**BNSF Applications**

***Customers***

**DI Client**

**BNSF Applications**