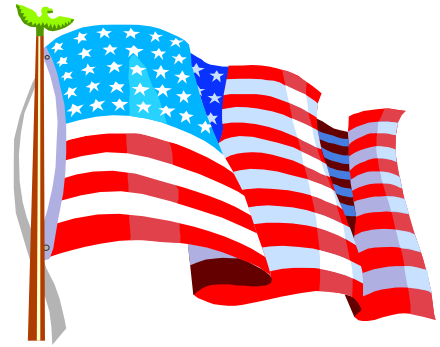


**Why CICS?**  
**Why MQ?**  
**Why “Hot”?**  
**..... Why Not???**



Bud Blankenship  
U.S. Customs Service



# 1999 DI Users Conference

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✦ CICS

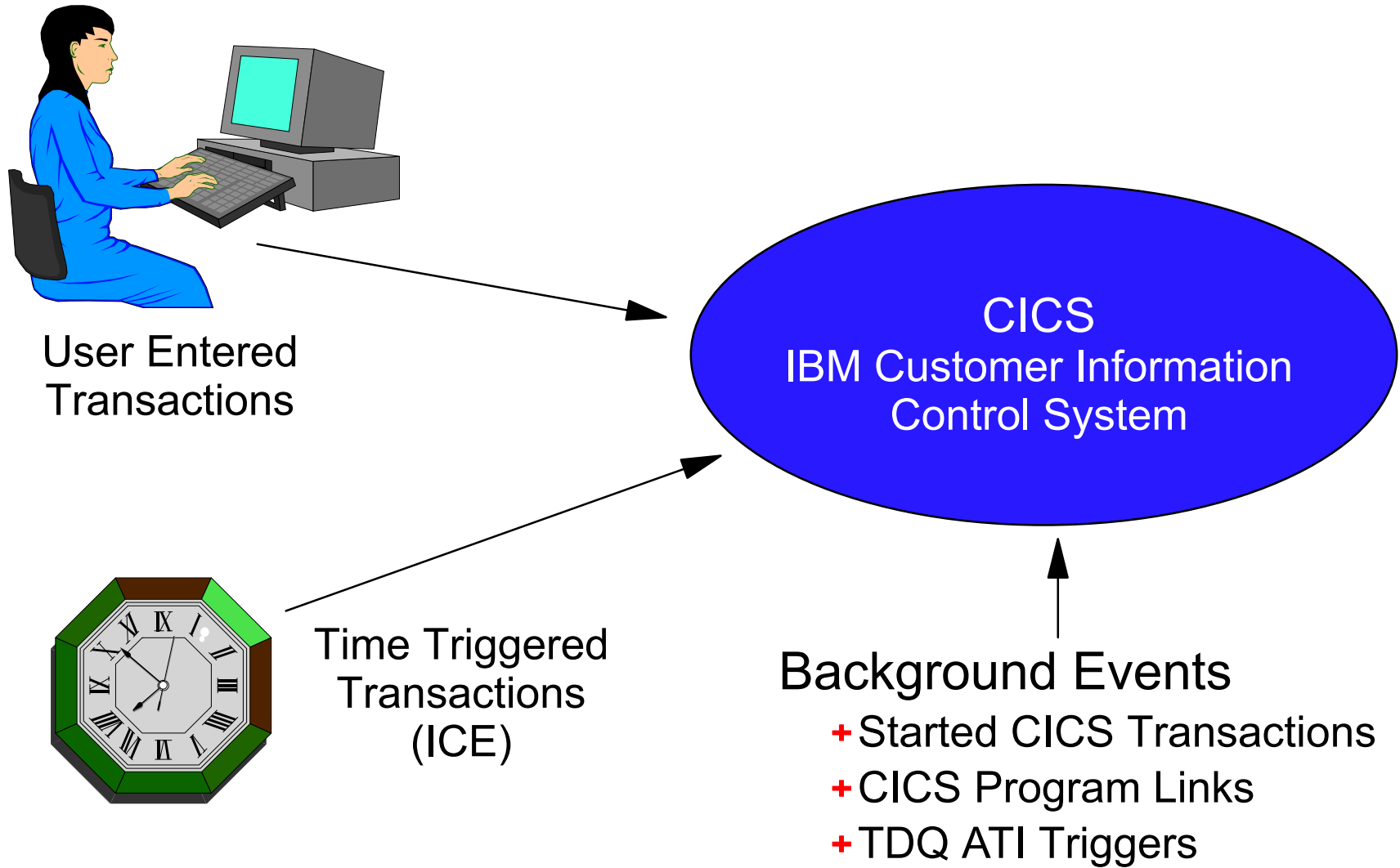
✦ IBM MQSeries

✦ “Hot” DI

✦ Customs' Highlights



# 1999 DI User Conference

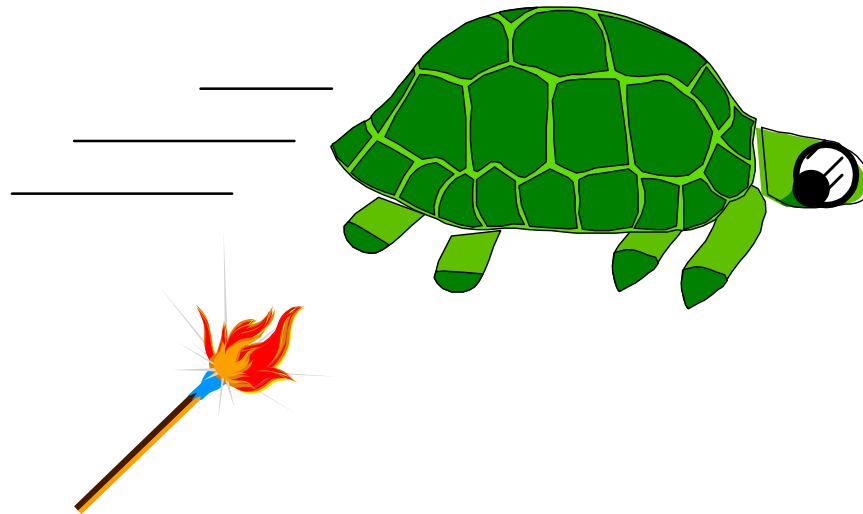


# 1999 DI User Conference

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## ✦ CICS - Benefits

- + Event-Driven / “Real Time” Processing
- + Transaction / Process Control
- + Multi-Tasking
- + Performance
- + Resumé Enhancement



# 1999 DI User Conference

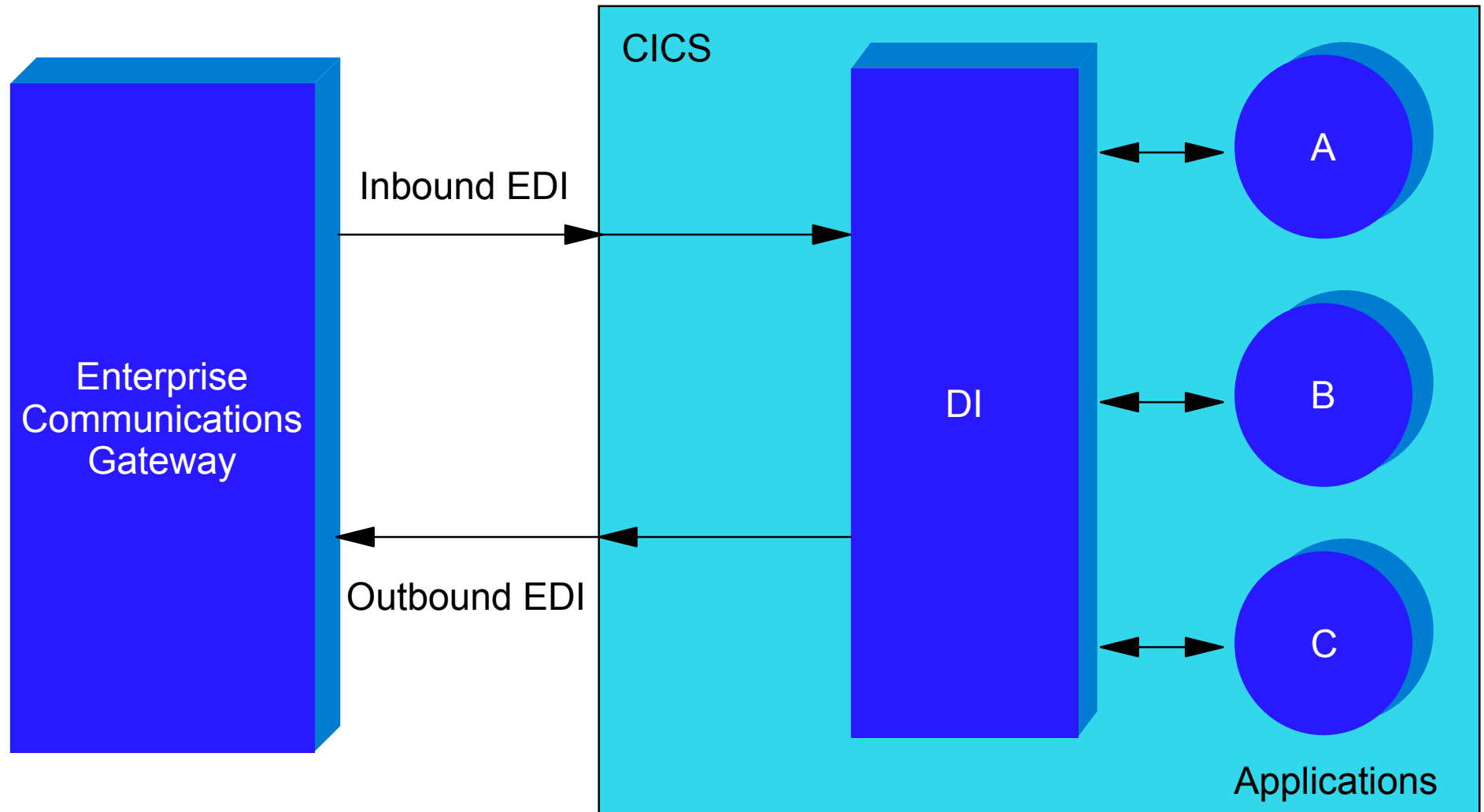
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## ✦ CICS Implementation Considerations

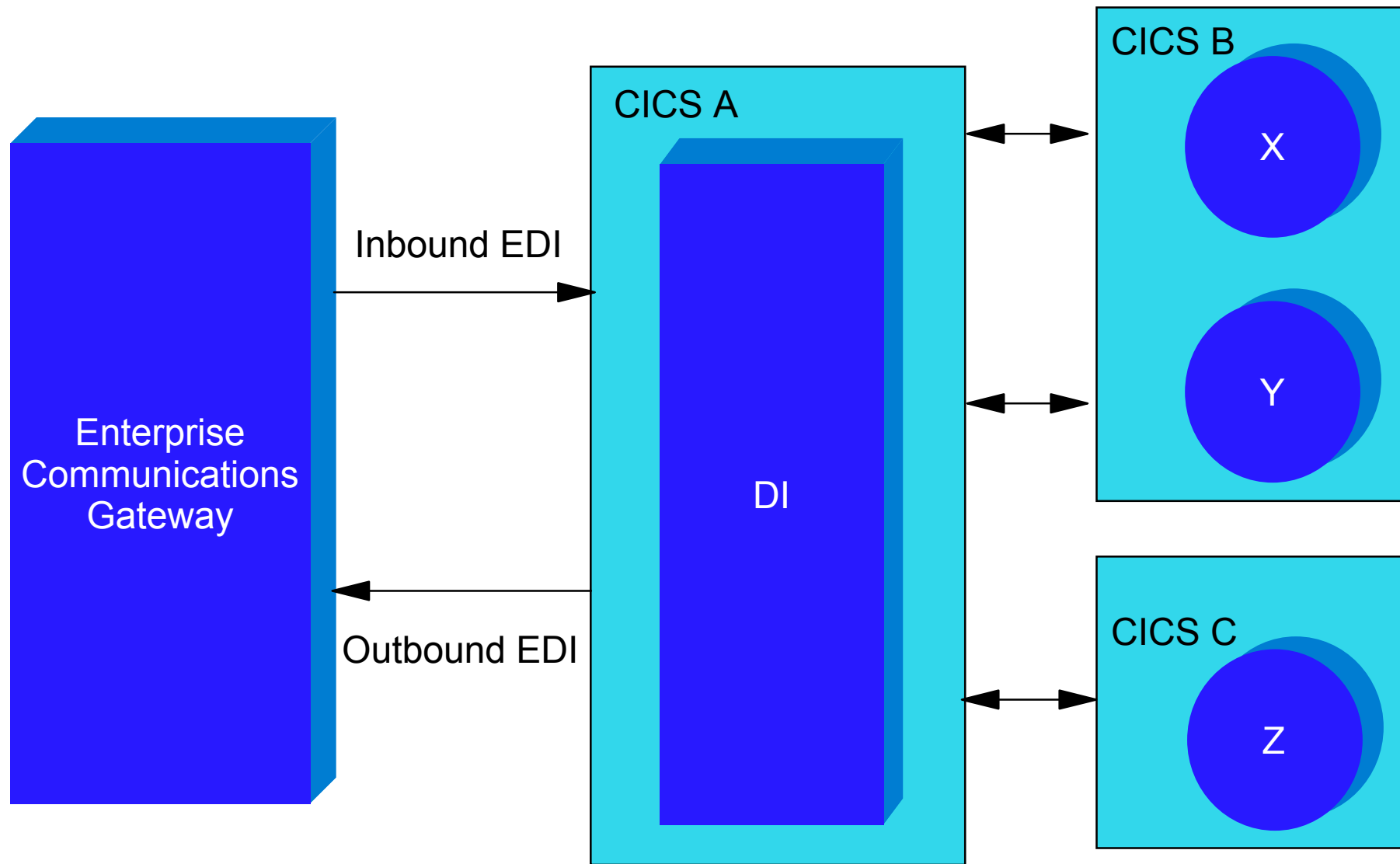
- + Process Architecture
- + Volumes / Performance
- + Multi-Threading / Concurrency
- + Resource Management
- + System Availability
- + Restart / Recovery
- + Syncpoint & UOW Control
- + Interface Design
  - ★ DataInterchange
  - ★ Communications
  - ★ Applications



# Shared CICS Processing Environment



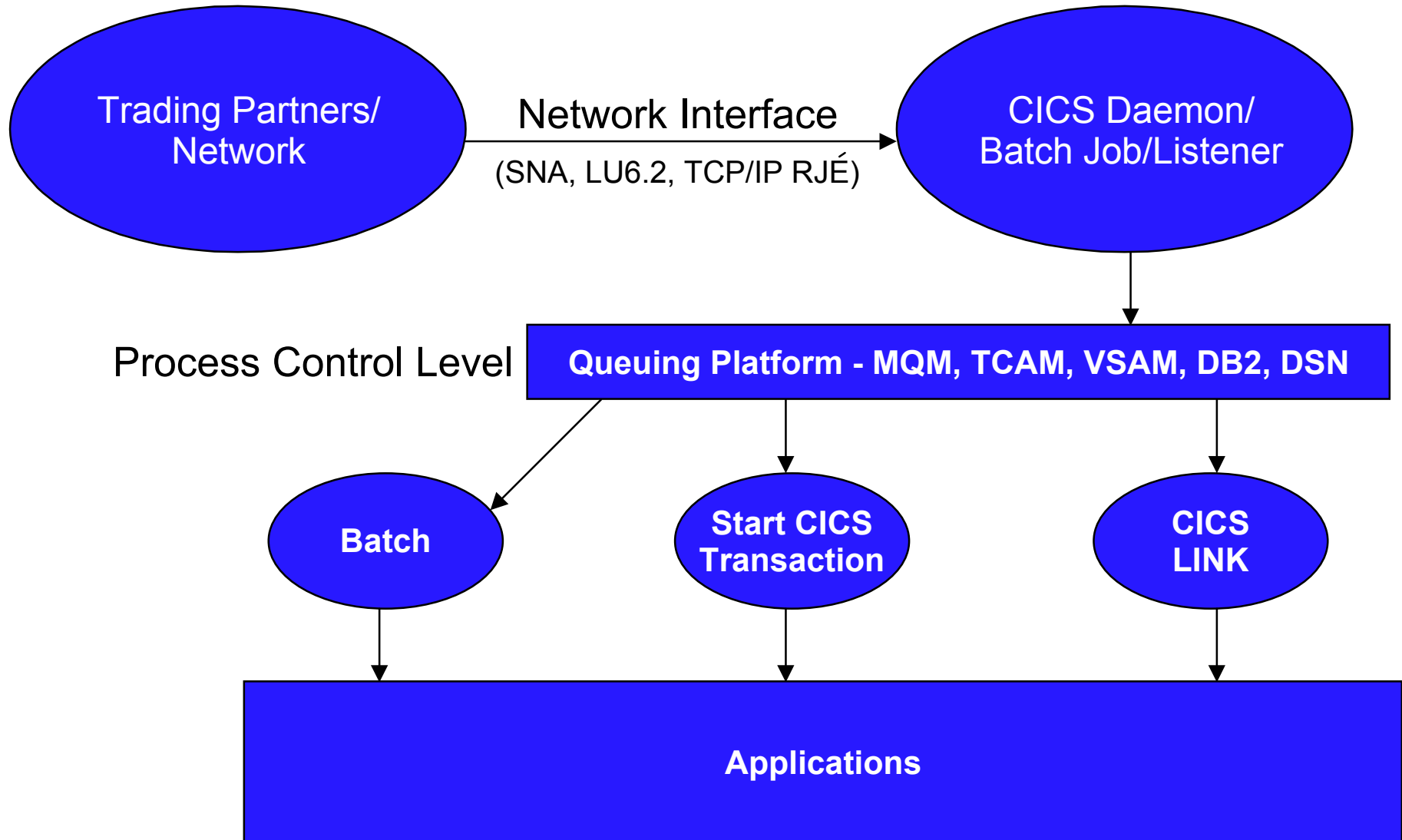
# Multiple CICS Processing Environments



Applications

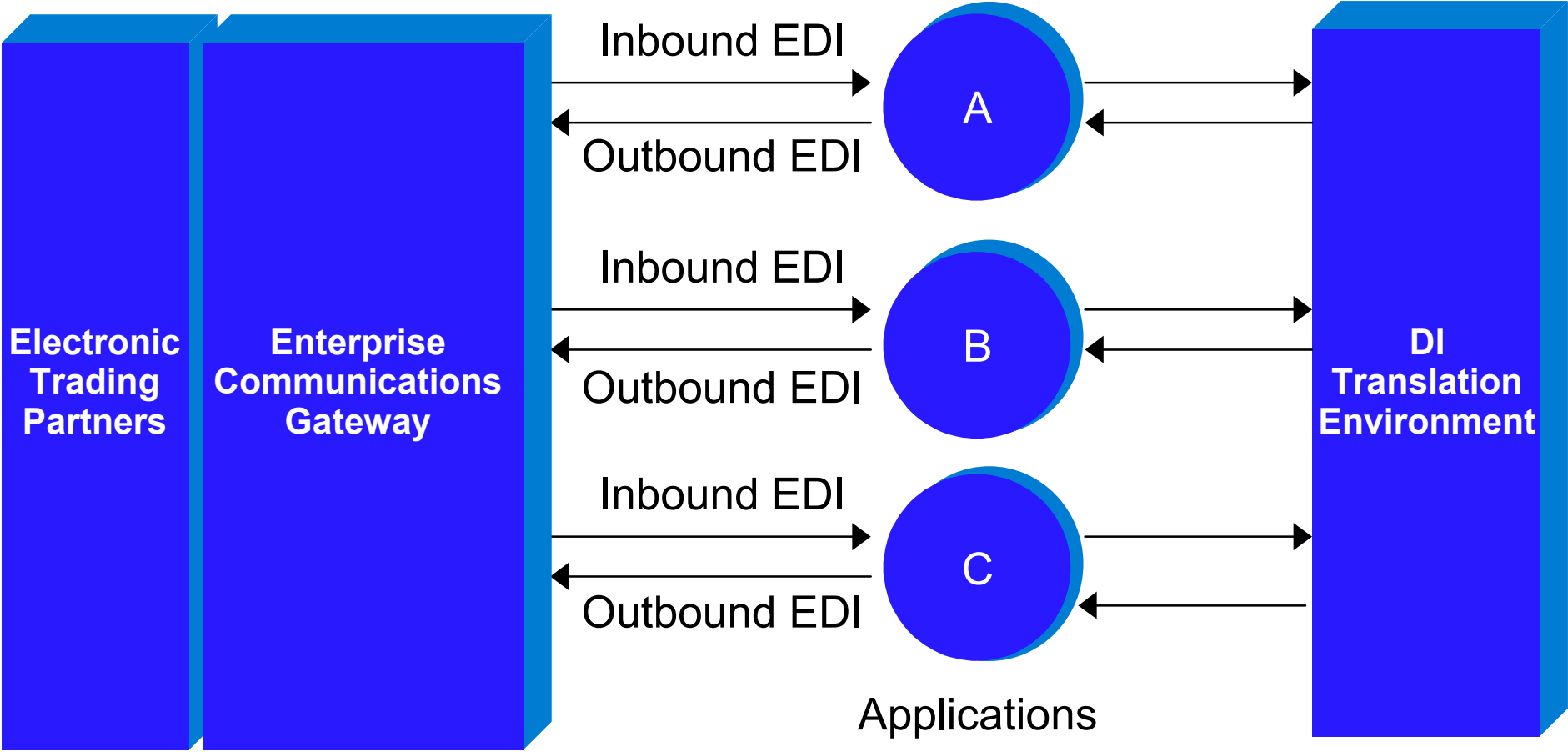


# 1999 DI User Conference





# EDI CICS Processing Architecture - Problematic



# EDI CICS Processing Architectures

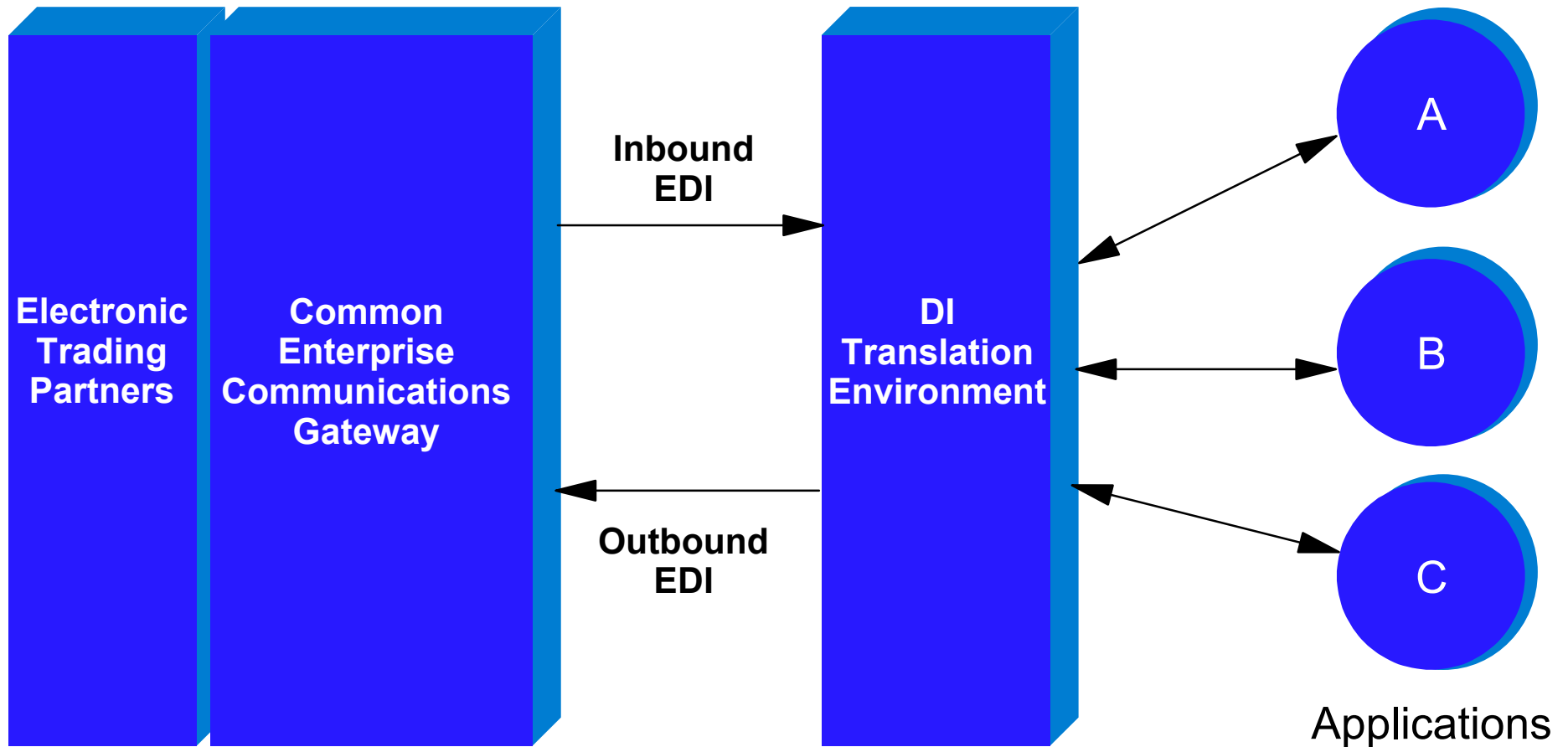
---

## ✦ Option Disadvantages

- + Multiple Appl programmed interfaces to DI
- + Multiple Appl programmed Comm interfaces
- + EDI Management nightmare
- + System / Comm Support nightmare
- + Knowledge/Skillset turnover
- + Slows New System Development



# EDI CICS Processing Architecture Options



# EDI CICS Processing Architectures

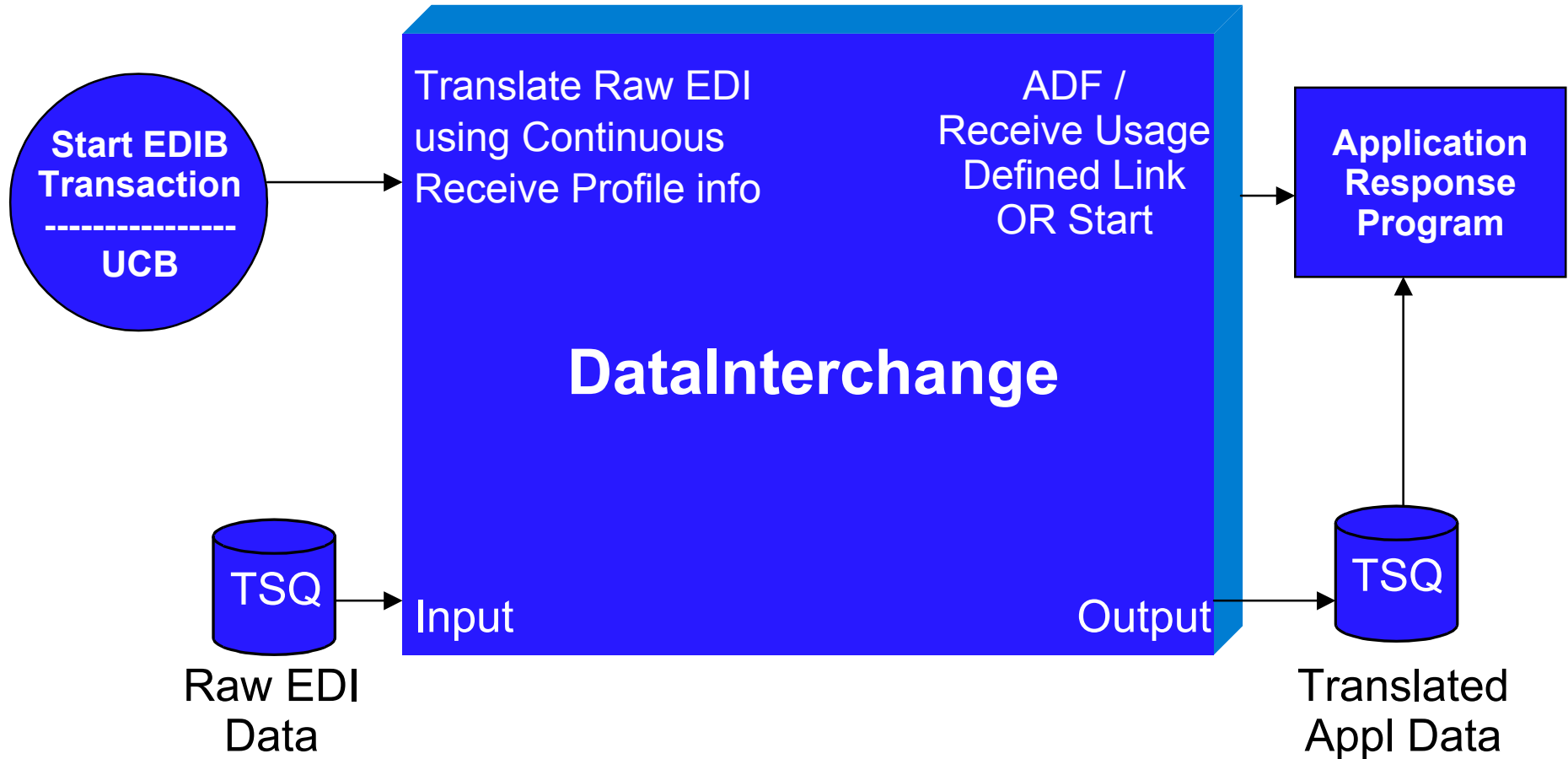
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## ✦ Option Advantages

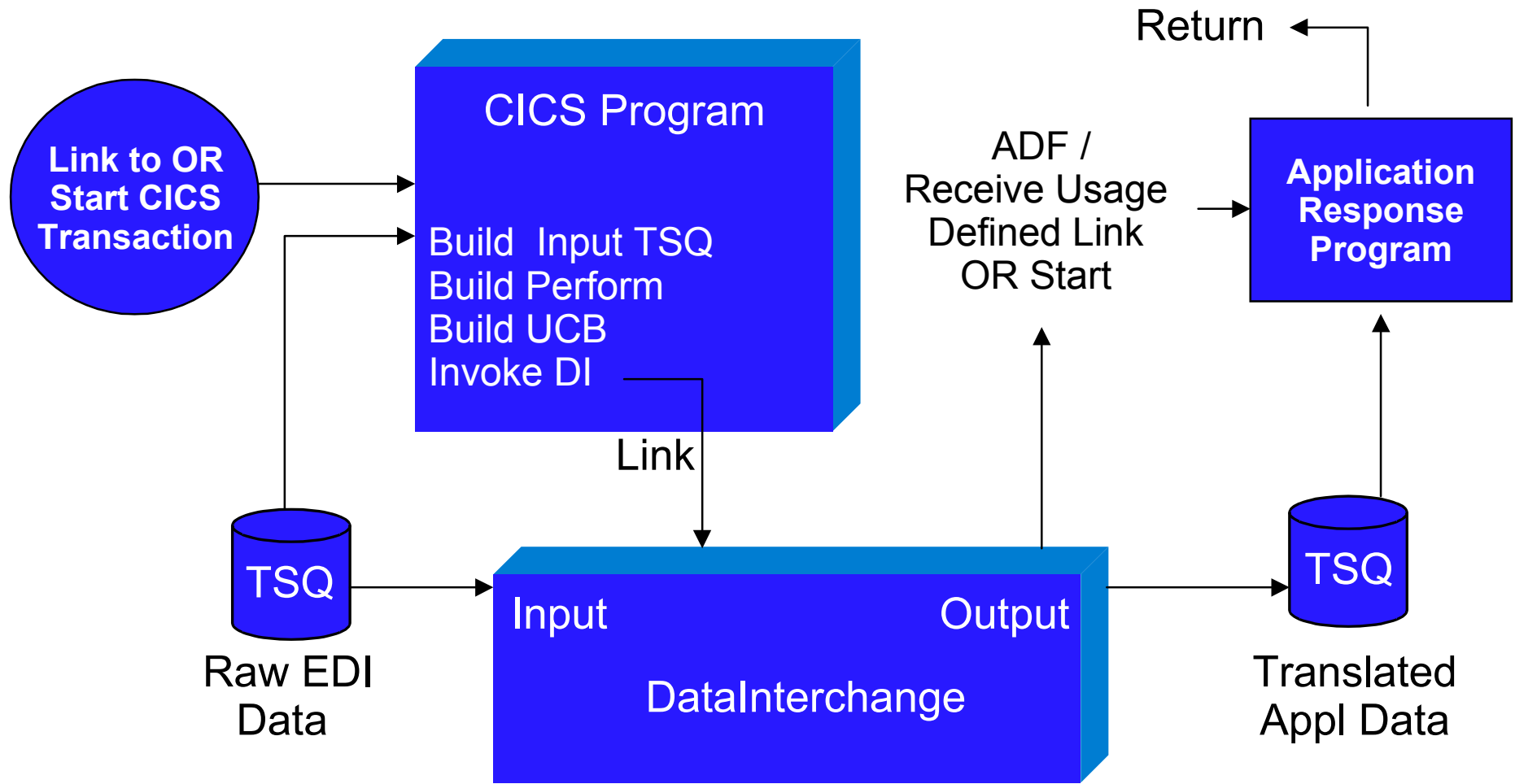
- + EDI System Process Control
- + Performance Tuning Opportunities
- + Common Application Interface
- + Common Comm Interface
- + Centralized EDI Expert Skill Set
- + Applications Personnel Focus on Application Data Only!



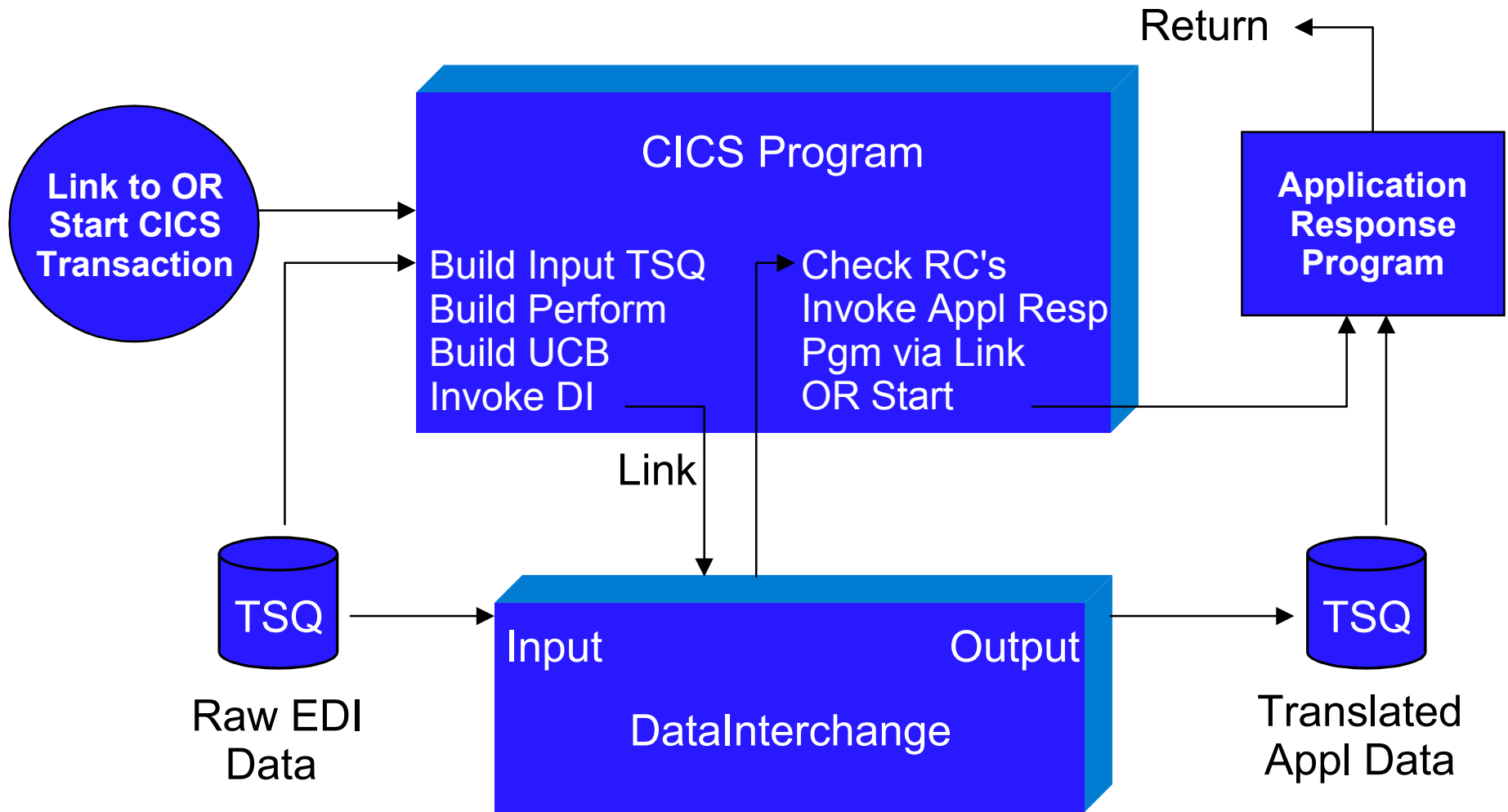
# DI CICS Interface



# User Programmed CICS Interface



# Fully User Programmed CICS Interface



# IBM MQSeries

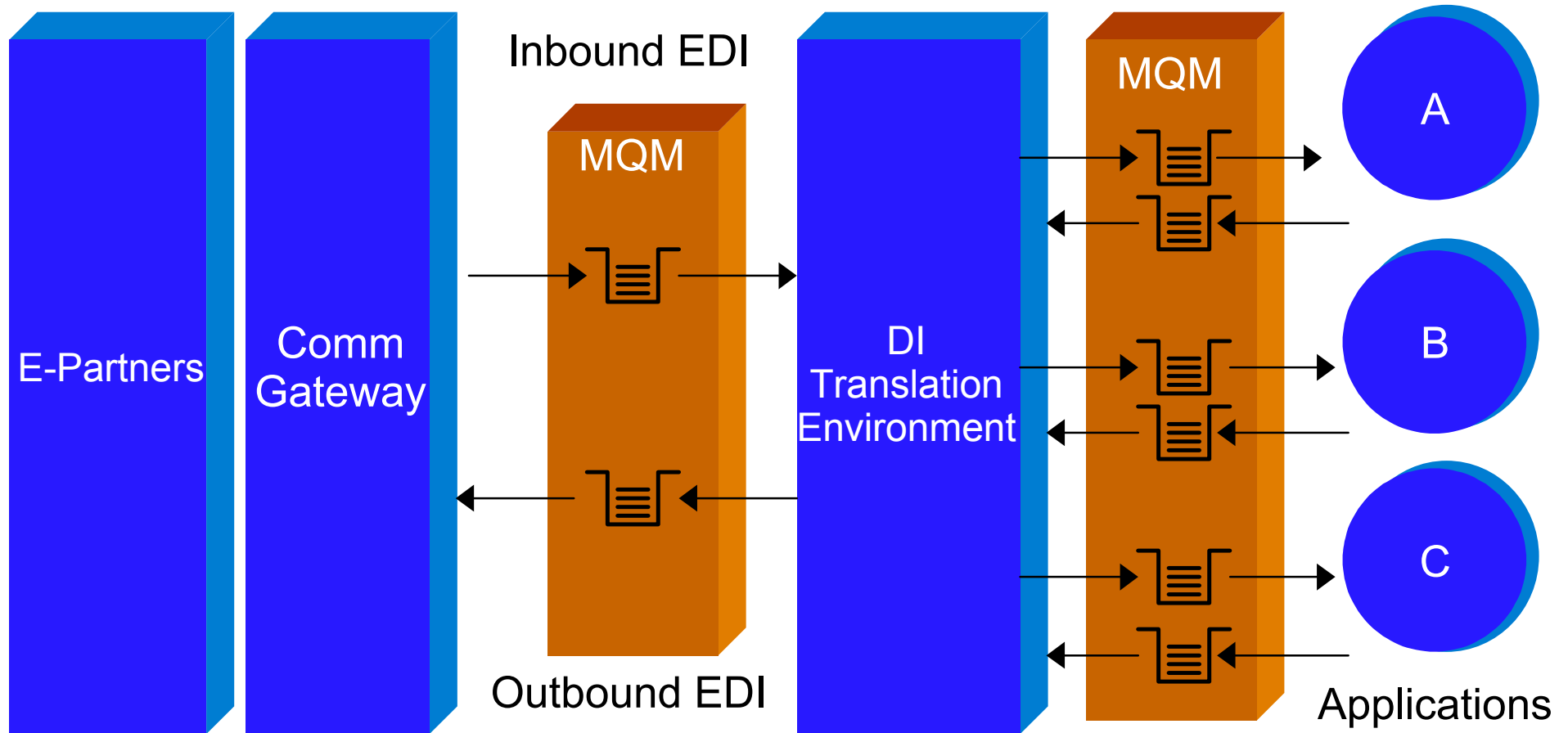
---

- ✦ Assured Message Delivery
- ✦ Asynchronous Messaging
- ✦ Triggered Processing / Control
- ✦ Message Distribution Across Operating System Platforms
- ✦ Communications Interface
- ✦ Distributed CICS Txn Execution
- ✦ Message Repository / Broker / Distributor
- ✦ Integrates Batch and CICS Applications

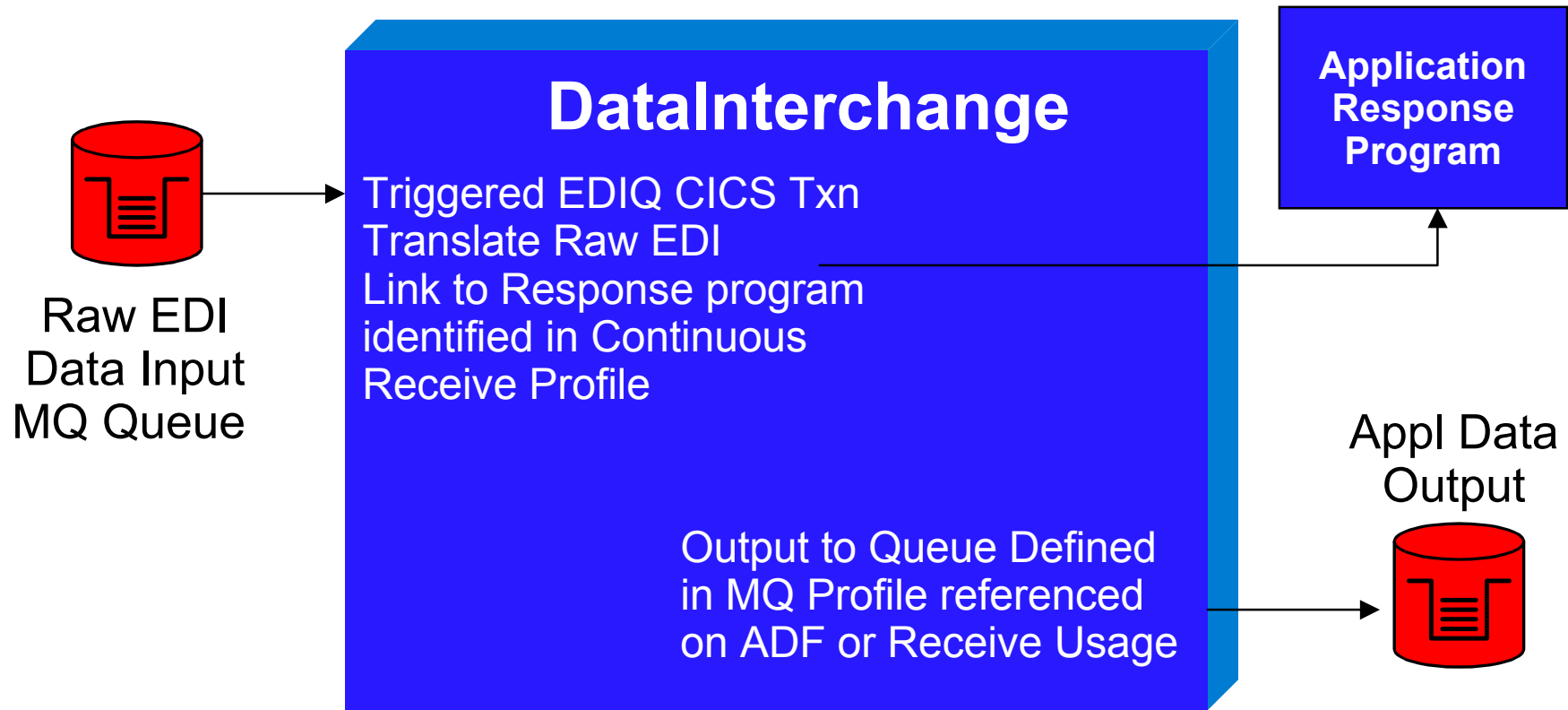




# EDI CICS Processing Architecture Featuring MQM - Customs Today



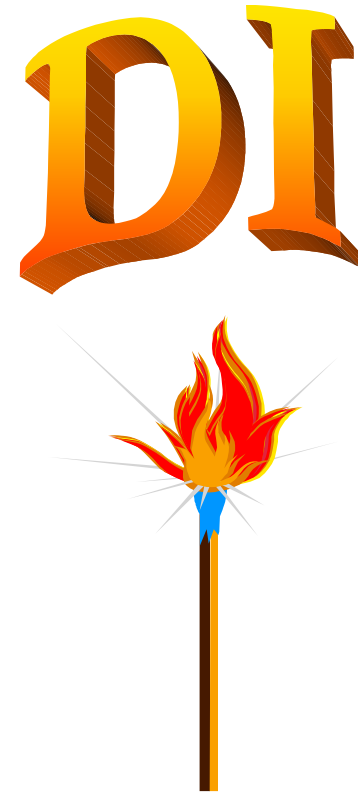
# DI 3.1 MQM Interface



# HOT-DI

---

- ✦ Requires CICS
- ✦ Uses API calls
- ✦ Benefits
  - + Enhances CICS implementations
  - + Eliminates redundant internal processes
    - ★ Initialization
    - ★ Termination
  - + Enhances Concurrent / Multi-Processes
  - + Resultant Sub-Second Translation ;-)



## Normal Translation Features 3 Step Process

EXEC CICS LINK PROGRAM('EDIFFUT')



# HOT-DI

---

## “HOT-DI” Translation Process

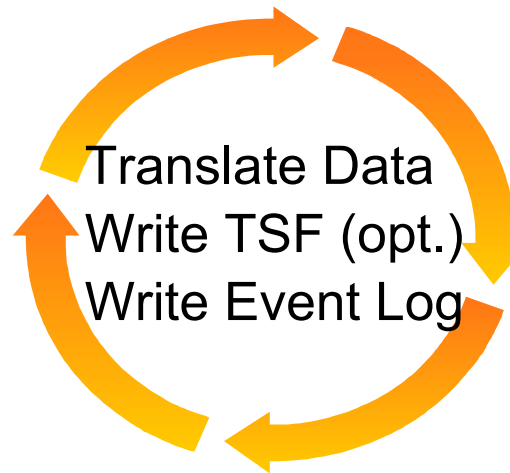
### *Initialization*

1

- Acquire Storage Areas(s)
- Save CCB Address(s)
- Load Control String
- Load Profiles
- Load T & V Tables

### *Translation*

2



### *Termination*

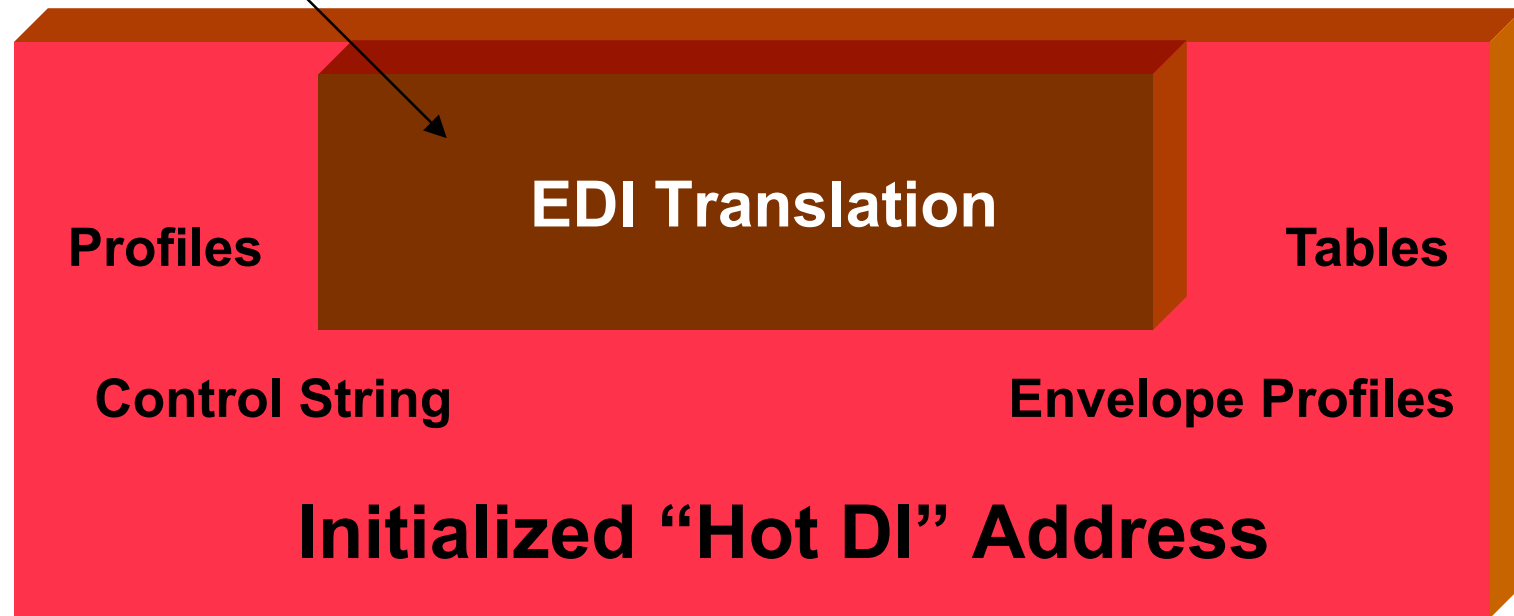
3

Free Resources

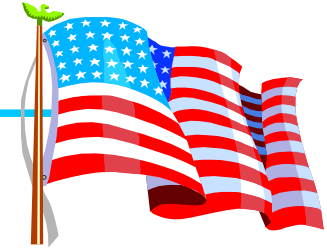


# "HOT-DI" Translation Process

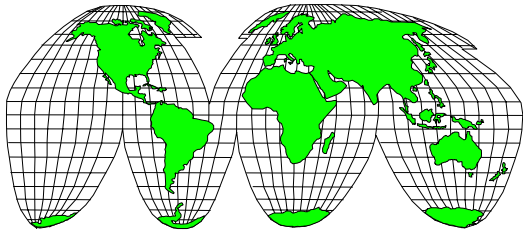
CALL 'FXXZCBL' USING SNB-DATA,  
CCB-DATA,  
FCB-DATA,  
DI-UCB



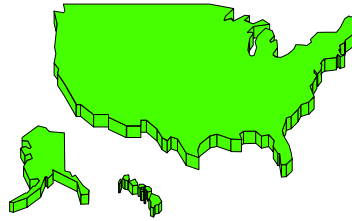
# U.S. Customs Service



350+ AIR/LAND/SEA Ports

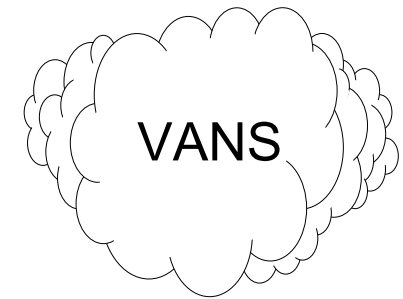


State Department  
20 Embassies

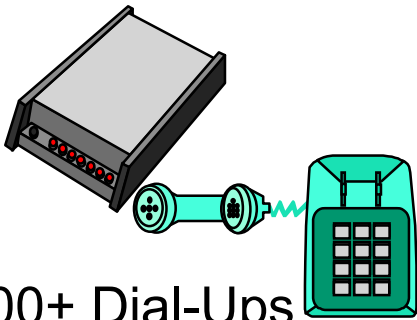


13 Federal Agencies

Newington, VA



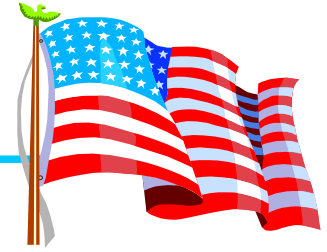
3500+ Dial-Ups  
200+ Dedicated



Foreign Countries



# U.S. Customs Service



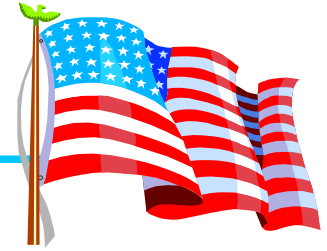
- ✦ BATCH: 116 Thousand Jobs/day
- ✦ CICS : 8 Million Transactions/day
- ✦ Regions : 160+
- ✦ DATABASE: 1.3 Billion Requests/day
- ✦ DASD: 9 Terabytes
- ✦ Database: 6.7 Terabytes
- ✦ 4 Mainframes (IBM, Hitachi)
- ✦ 1350 MIPS





# U.S. Customs Service

## How We Do It!



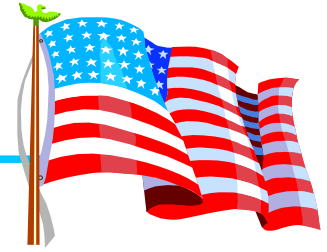
- ✦ CICS Load Distributing Architecture
- ✦ MQSeries Message “Broker”
- ✦ 4 Production DI/CICS “Servers”
- ✦ Concurrent Inbound/Outbound Hot-DI’s



# U.S. Customs Service

## DI Specifics

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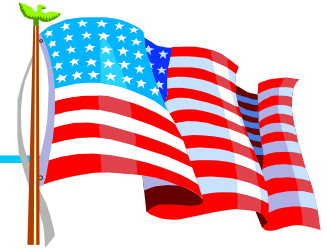
- ✦ DI since 1992
- ✦ 17 DI 2.1 CICS Environments
- ✦ 300+ Trading Partners
- ✦ 36 Trading Partner Transactions
- ✦ Fixed to Fixed Translation  
Supporting 2 Proprietary Formats
- ✦ X12 - Ver/Rel 3020 thru 4010
- ✦ Edifact - Ver/Rel 902 thru 97A



# U.S. Customs Service

## DI at Customs

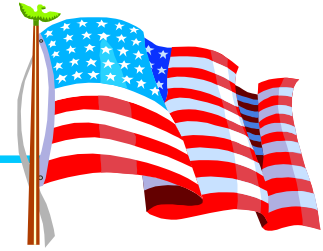
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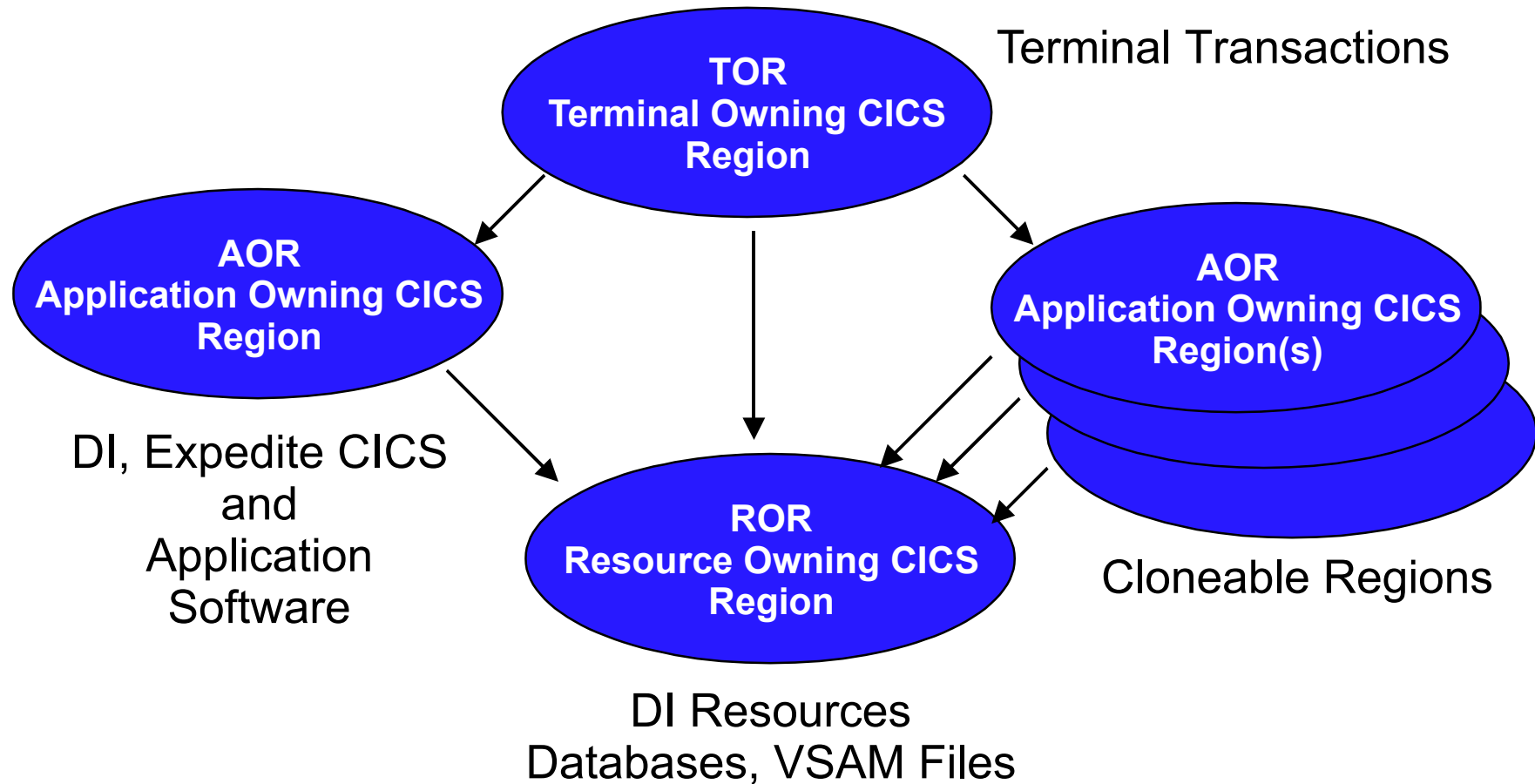
- ✦ TSF Off
- ✦ Generic Receive Usages
- ✦ Event Log Logging
- ✦ Error Filtering
- ✦ C&D Records for O/B
- ✦ Secure EDIA Transaction Access
- ✦ Monitoring /Maintenance Tools



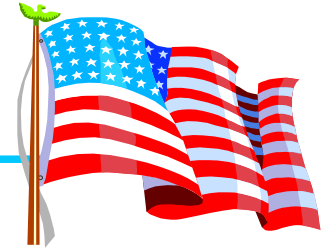
# U.S. Customs Service



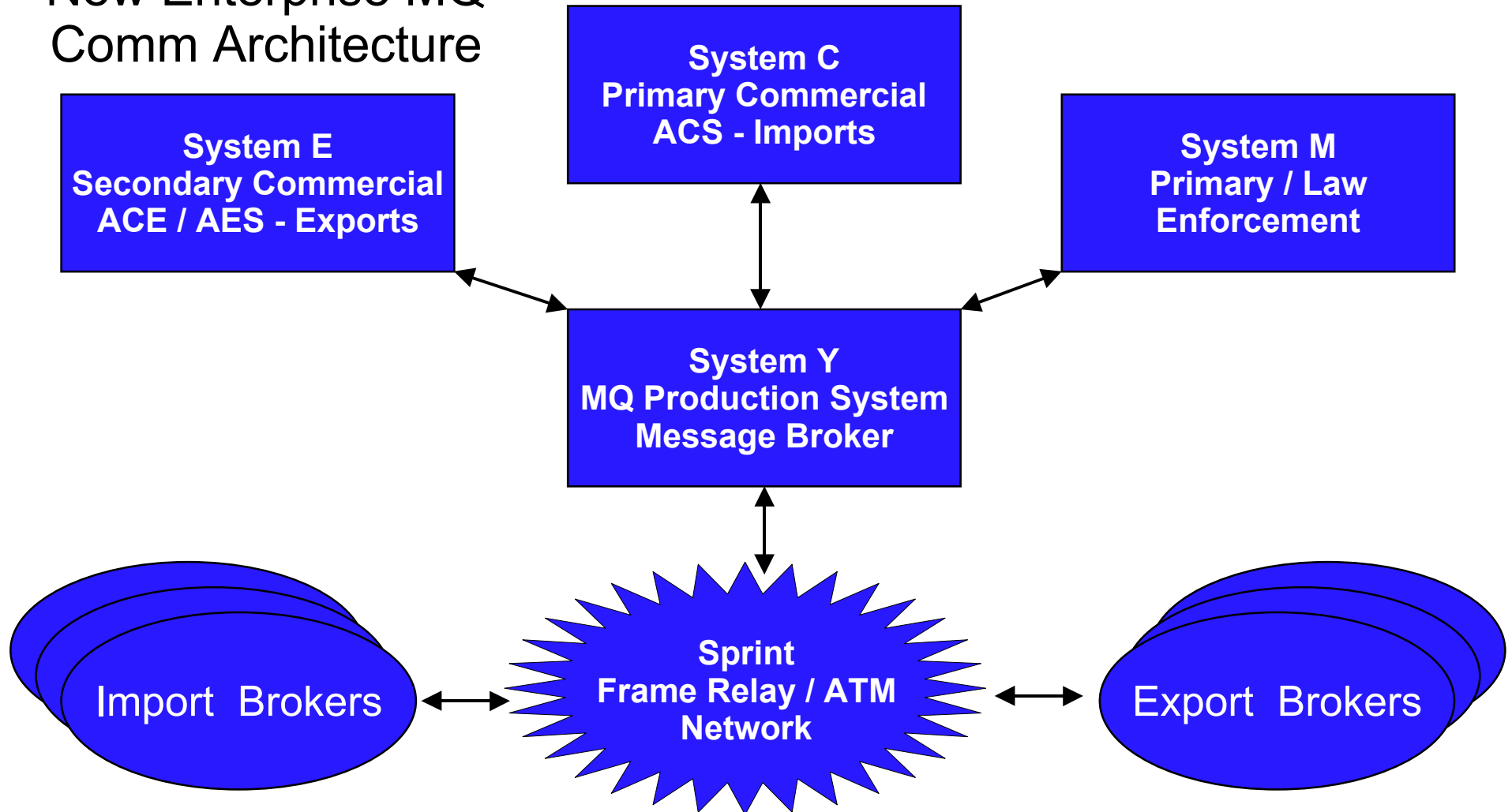
## CICS Load Distributed Architecture



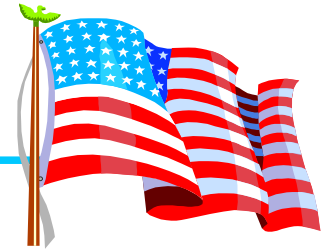
# U.S. Customs Service



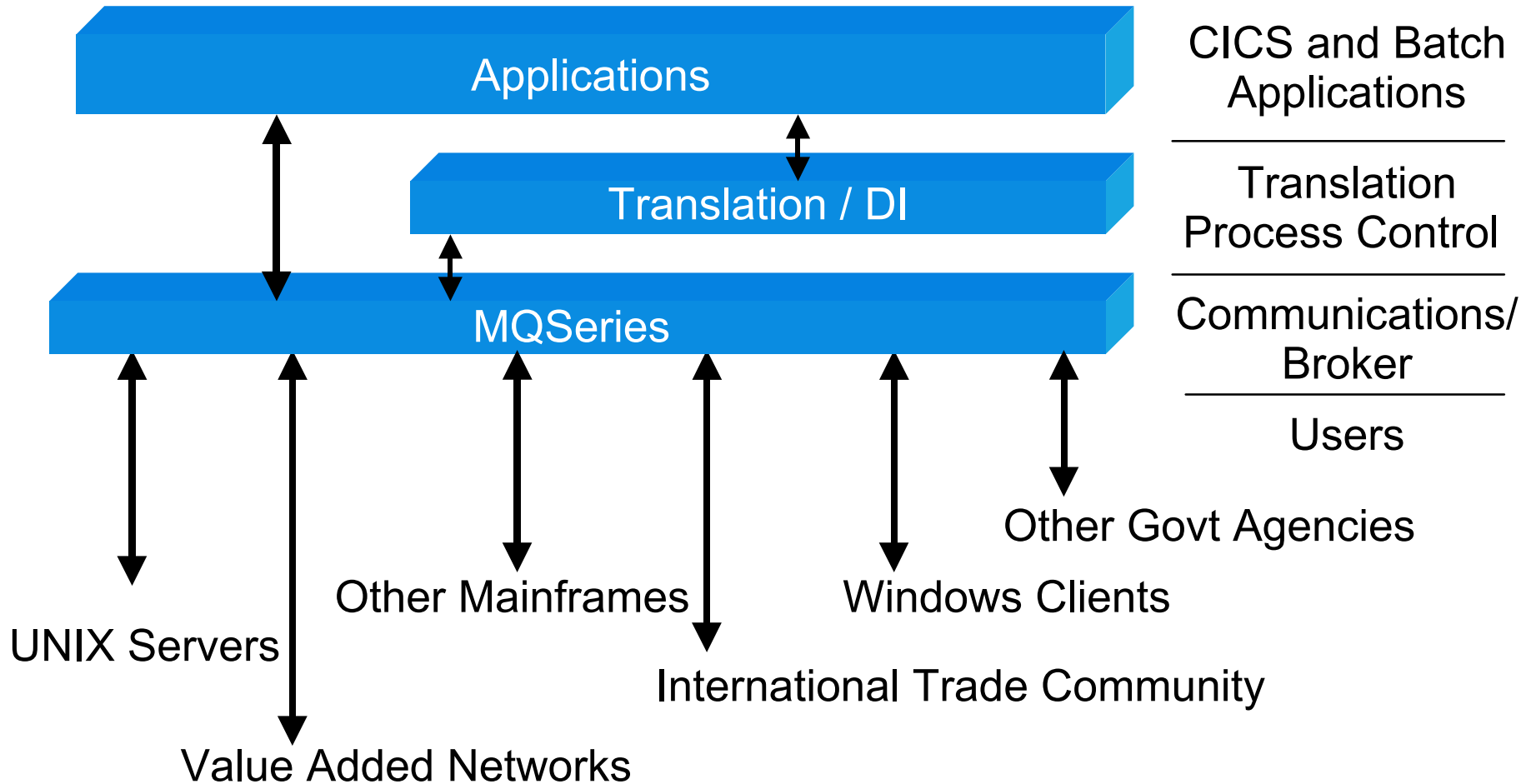
New Enterprise MQ  
Comm Architecture



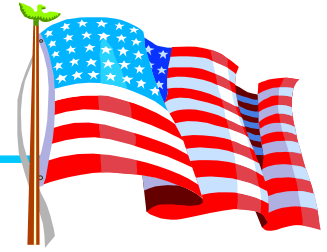
# U.S. Customs Service



## Roll of IBM MQS



# U.S. Customs Service

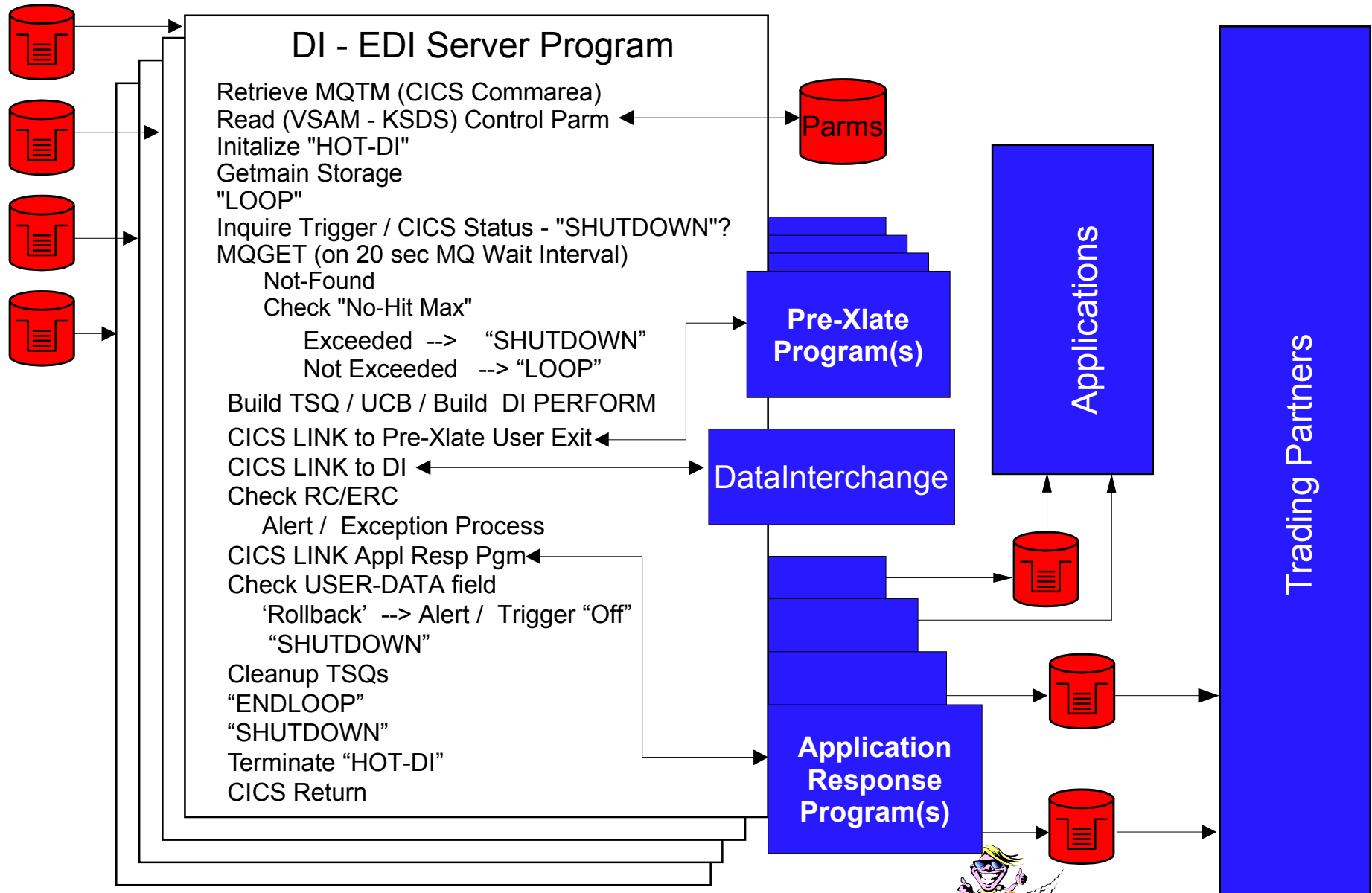


## ✦ Customs MQ Implementation Benefits

- + Message Broker
- + Message Repository
- + Process Control
- + Process Integration
- + Process Independence
- + Trade Communications Interface



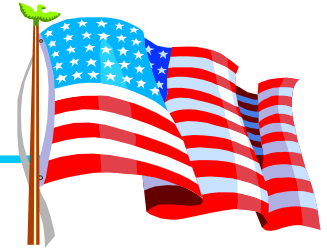
# DI - EDI Server Program





# 1999 DI Users Conference

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# Questions?

