

# IBM CICS

```
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File Edit Transfer Fonts Options Macro View Window Help
[Icons] [F] [F] [F] [Icons] [?] [X] PA1 PA2 PA3 ENT CLR

SIGNON UNIVERSITY OF MARYLAND AT COLLEGE PARK DATE: 07/08/99
SYSTEM: ACCPRD1 ACADEMIC ADMINISTRATIVE INFORMATION SYSTEMS TIME: 13:40:33
TERMINID: 0420 P R O D U C T I O N C I C S
=====
Customer Assistance and Problem Reporting, call the Help desk at 301-405-7763.

          CCCCCC      IIIII      CCCCCC      SSSSSS
        CCCCCCCC      IIIII      CCCCCCCC      SSSSSSSS
      CCCC  CC      III      CCCC  CC      SSSS  SS
    CCC
  CCC
CCCC  CC      III      CCC      SSSS
CCCCCCC      IIIII      CCCCCCCC      SSSSSSSS
CCCCC      IIIII      CCCCCC      SSSSSS  4.1.0

Fill in your USERID and PASSWORD then press ENTER to sign on to CICS
  USERID:  PASSWORD:  BYPASS INITIAL KEYWORD: 

PRESS: ENTER=Signon, F1=Help, F3=Exit CICS

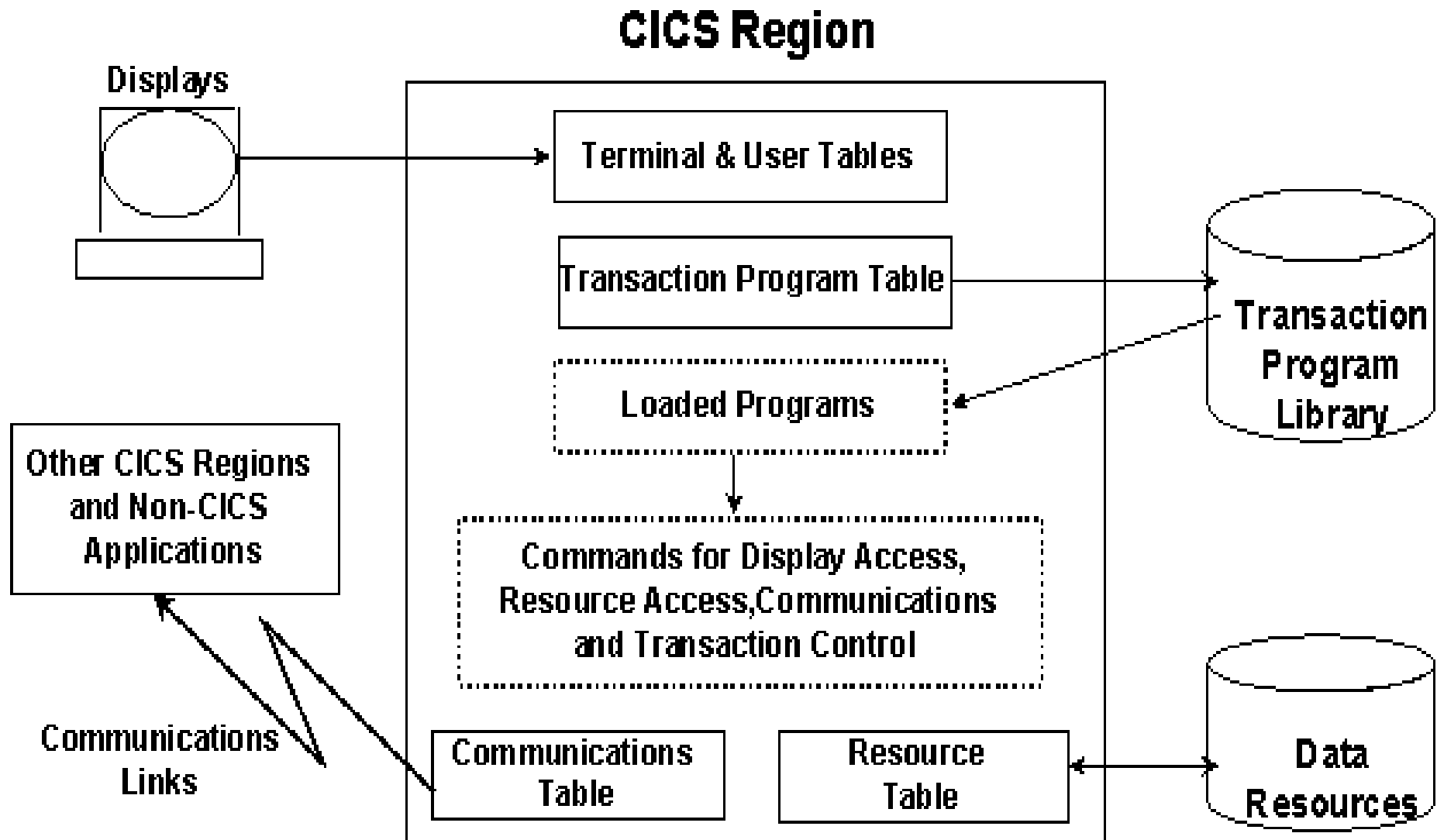
4A 1 Sess-1 129.2.128.7 21/13
```

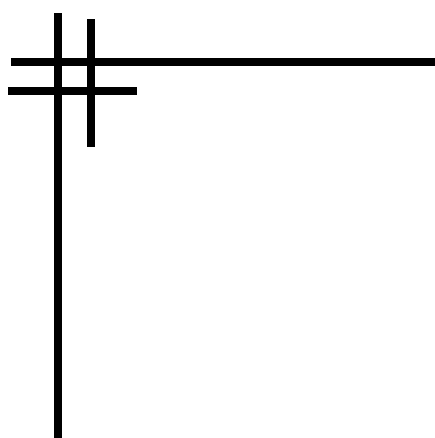


# IBM CICS - intro

- IBM, 1969
- Banca, Seguros, Universidades
- *1-tier, 2-tier, 3-tier* (middleware)
- Multiplataforma
- Múltiplas linguagens de programação

# IBM CICS - Arquitectura





# IBM CICS - Arquitectura

## Componentes Funcionais:

- Cliente
- Escalonador Transaccional
- Servidores Aplicacionais
- Servidor Ficheiros
- Gateway



# IBM CICS - Conceitos

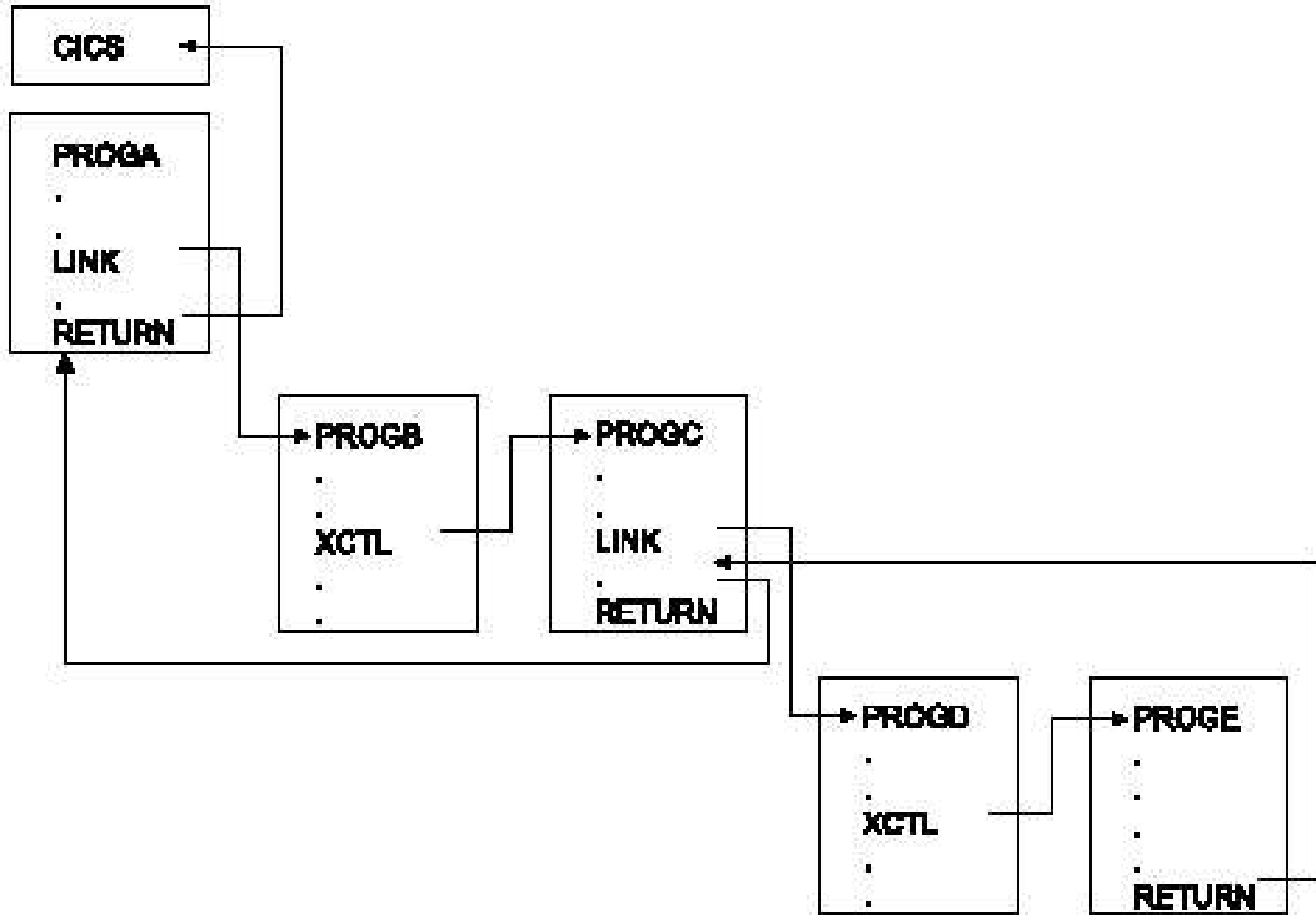
- Transacção
- LUW – *Logical Unit of Work*
- Região
- Mapa



# IBM CICS - Conceitos

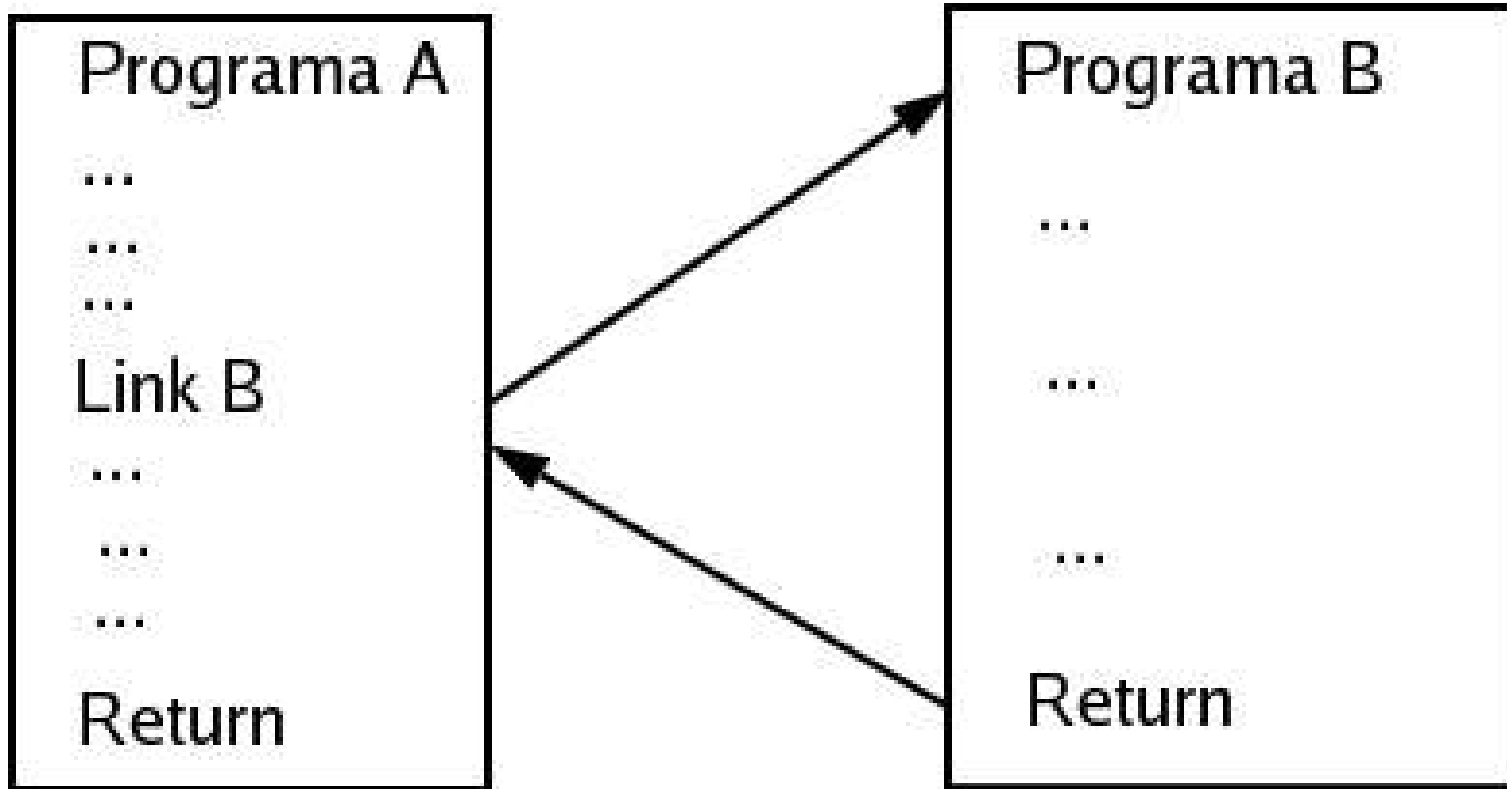
- Transacção: Sequencia de programas, pode ser conversacional ou não-conversacional.
- LUW – *Logical Unit of Work*: Sequência de alterações aos dados relacionadas entre si.

# IBM CICS – txn & LUW (1)



# IBM CICS - txn & LUW (2)

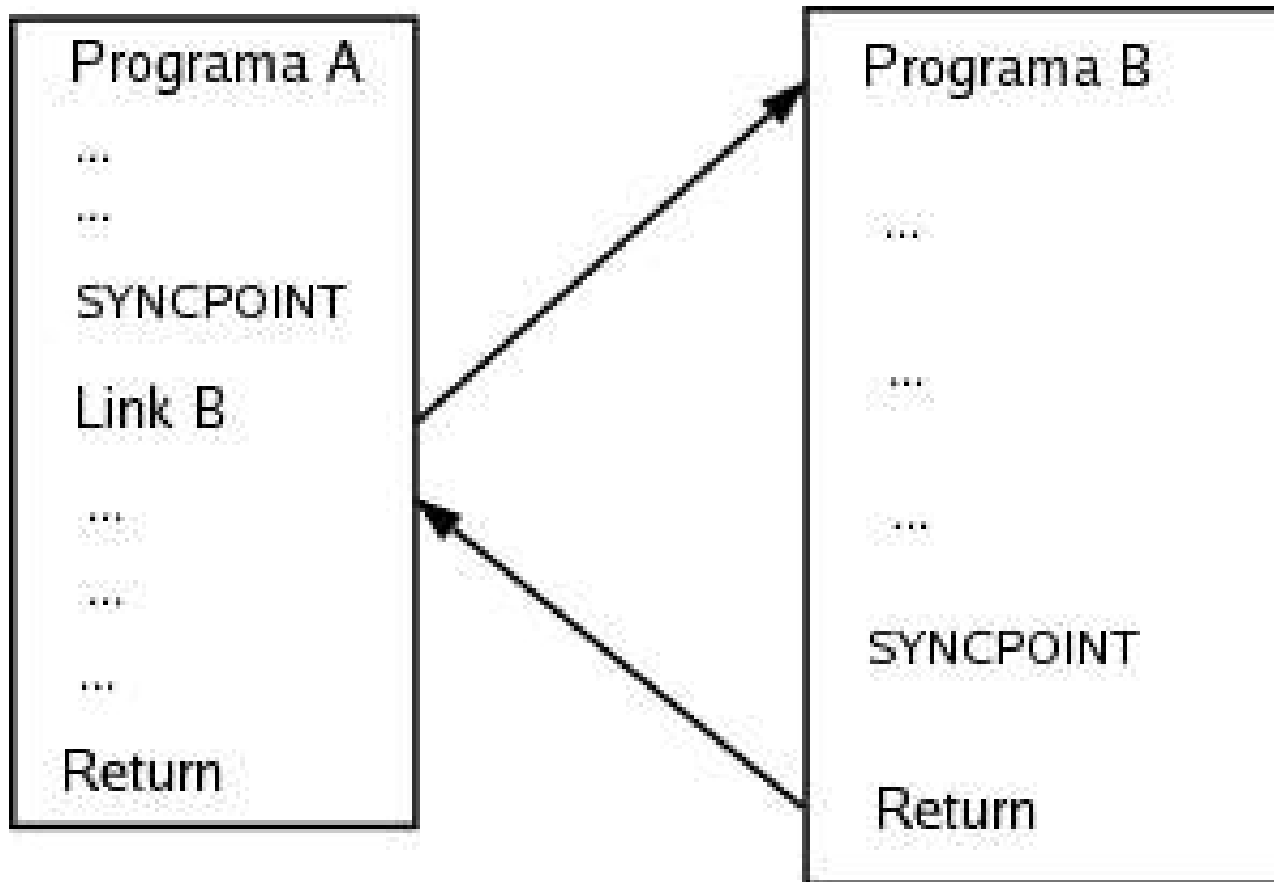
- 1 LUW





# IBM CICS - txn & LUW (3)

- 3 LUW's





# IBM CICS – Mapa (BMS)

FNAME DFHMDF POS=(1,5),LENGTH=10,  
ATTRB=(UNPROT,BRT,FSET),  
INITIAL='XXXXXXXXXX',PICIN='X(10)',  
PICOUT='X(10)',COLOR=RED

DOB DFHMDF POS=(2,5),LENGTH=8,  
ATTRB=(UNPROT,NORM,NUM,ASKIP),  
INITIAL='00000000',PICOUT='9(8)'

# IBM CICS – Mapa (BMS)

NAMNUM.2.2.00000.TEXACO...

11/18/97

PAGE: 1  
TAXPAYER ID

ZIP	SEARCH NAME - ENTITY NAME	TAXPAYER ID
ENTITY 25329	TEX-HEX CORP	17602924189
ENTITY 73080	TEX-OAK INC	17314222013
ENTITY 75201	TEX-ICE INC	30001859948
ENTITY 75202	TEXEC INC	30007426999
ENTITY 76550	TEXAKY INC	17427345917
ENTITY 77056	TEXEX INC	30117910973
ENTITY 77057	TEXCO INC	30002547708
ENTITY 77077	TEXCO INC	17604143812
ENTITY 77251	TEXACO INC	17413834478

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HELP

TA

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# IBM CICS – como programar

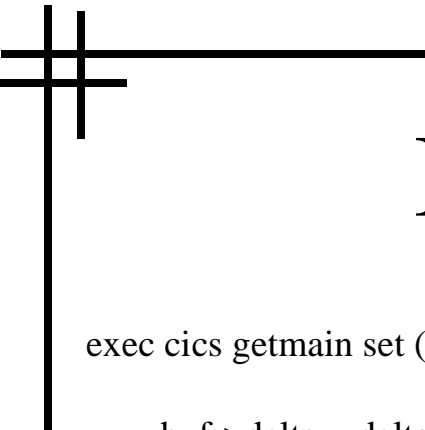
1. Codificar em qualquer linguagem suportada.
2. Correr o programa tradutor (*cistran*)
3. Compilar (compilador comum)
4. Atribuir uma região ao programa
5. Incluir o programa numa transacção



# IBM CICS – como programar

## Notas Importantes:

- Nunca invocar commit e rollback nas BD's
- Não invocar “fork” e “exec”, nem outras chamadas nativas.



# IBM CICS – exemplo (1)

```
exec cics getmain set (buf) length (sizeof (struct buf_struct));
```

```
buf->delta = delta;
```

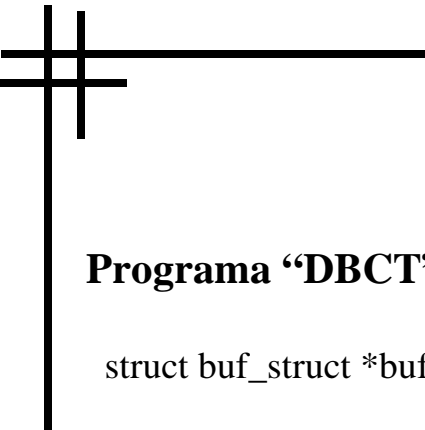
```
buf->remote_account = remote_account;
```

```
exec sql select amount from dosh_on_local_database  
into :amount  
where  
account = :local_account;
```

```
if (amount - delta < 0) {  
    report_to_user ("cant go overdrawn!");  
    exec syncpoint rollback;  
    exec cics return;  
} /* if */
```

```
exec sql update dosh_on_local_database  
set amount = amount - :delta  
where  
account = :local_account and  
amount = :amount;  
exec cics link program ('DBCT') sysid ('RMT') commarea (buf) length (sizeof (struct buf_struct));
```

```
exec cics return;
```



# IBM CICS – exemplo (2)

## Programa “DBCT”:

```
struct buf_struct *buf;

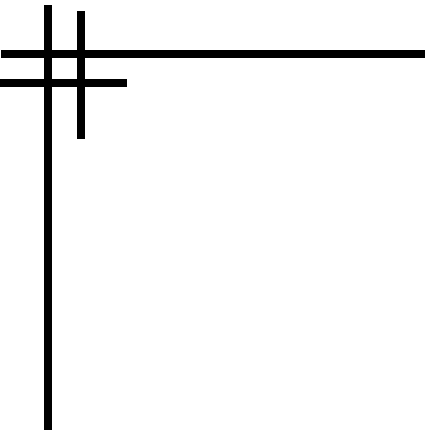
exec cics address commarea (buf);

exec sql select amount from dosh_on_remote_database
into :amount
where
account = :buf->remote_account;

if (amount + buf->delta) < 0 {
    report_to_user ("can't go overdrawn!");
    exec cics abend nodump abcode ('ODRW');
} /* if */

exec sql update dosh_on_remote_database
set amount = amount + :buf->delta
where
account = :buf->remote_account and
amount = :amount;

exec cics return;
```



# IBM CICS – Bibliografia

- **Web Services, G Alonso et al, 2004.**
- **Bernstein, TP Monitors , 1990.**
- **CICS Application Programming Guide, IBM, 2004.**
- **A perspective on CICS “DPL”, Bob Yelavich (www.yelavich.com).**
- **[http://www.damos.dircon.co.uk/html/cics\\_home.html](http://www.damos.dircon.co.uk/html/cics_home.html)**
- **<http://www.zois.co.uk/tpm/cics.html>**
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