VS03
Aktuelles zu CICS TS for z/VSE

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Ingolf's z/VSE Blog: https://www.ibm.com/developerworks/mydeveloperworks/blogs/vse

CICS TS for VSE History

- CICS TS for VSE/ESA 1.1.0 - released June 1999
  - VSE ported up to 100 OS/390 services
  - New CICS TS port from OS/390
  - Released with VSE/ESA 2.4

- Next major CICS TS update - September 2000
  - CICS TS for VSE/ESA 1.1.1
  - Provides CICS Web Support (CWS), 3270 Bridge, REXX for CICS, Subsystem Storage Protection (SSP), ...
  - Released with VSE/ESA 2.5

- CICS Explorer monitoring support - released June 2012

- Thanks to WAVV, GSE, zUniversity and customer requirements

  We now have a Statement of Direction for a new CICS TS release !

z/VSE Statement of Direction (SOD) in z/VSE 5.2 Announcement

- IBM intends to provide

  new capability in a future release of IBM CICS Transaction Server for z/VSE, to provide:
  - (i) Updates to CICS resources for CICS Explorer, and
  - (ii) Channels and Containers to enable the transfer of large amounts of data between CICS applications.

- IBM intends to rename

  the product z/VSE Central Functions to z/VSE in a new z/VSE version.

- z/VSE V5.2 will be the last release that supports IBM System z9. Future releases of z/VSE will support IBM System z10 and higher.

- Stabilization of support and discontinued functions:
  - CICS DDM: Support for CICS Distributed Data Management (DDM) is stabilized in CICS TS for VSE/ESA V1.1.1.
    In a future release of CICS TS for z/VSE, IBM intends to discontinue support for CICS DDM.

All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice.

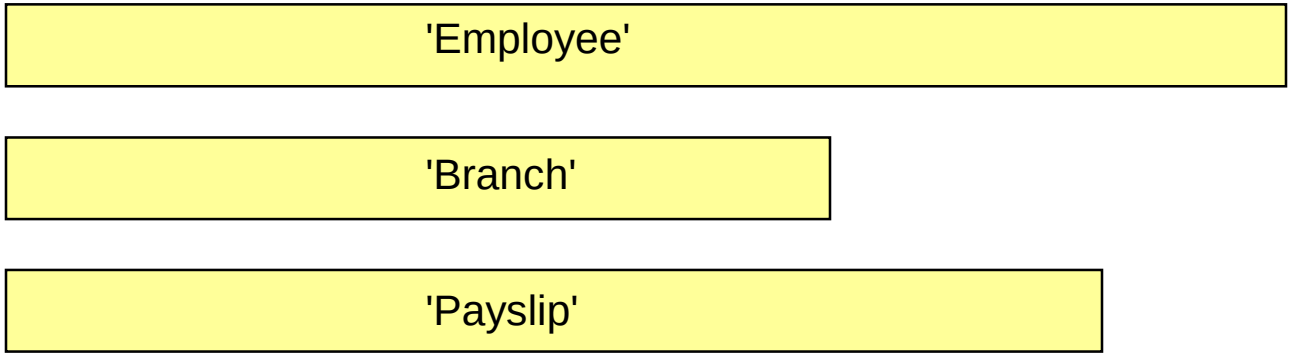
Channels and Containers (Statement of Direction)

- Requirements
  - Lift 32 KB data limit (RFE 28905 / 29432 / 29422, MR1115112844, MR1114113031)
  - CICS Temporary Storage Upgrade (32K Limitation - RFE 28892, WAVV200826, MR1024084142)
  - Support for channels and containers (RFE 28883, WAVV200614, MR0526066847)
- **Channels and containers** lift the 32K Commarea limitation
  - Applicable for both LINK and XCTL, Distributed Program Link (DPL)
  - Affects the exchange of data between CICS tasks
  - Local and transcation routing
  - START with data

- z/VSE will port channel and container APIs based on CICS TS for z/OS 3.1
- Delivered as part of a new CICS TS for z/VSE release.
- Channels and Containers limitations
  - In 31 bit virtual storage only
  - No support for
    - External CICS Interface (EXCI), External Call Interface (ECI), CICS Web Support (CWS)
    - Business Transaction Services (BTS)

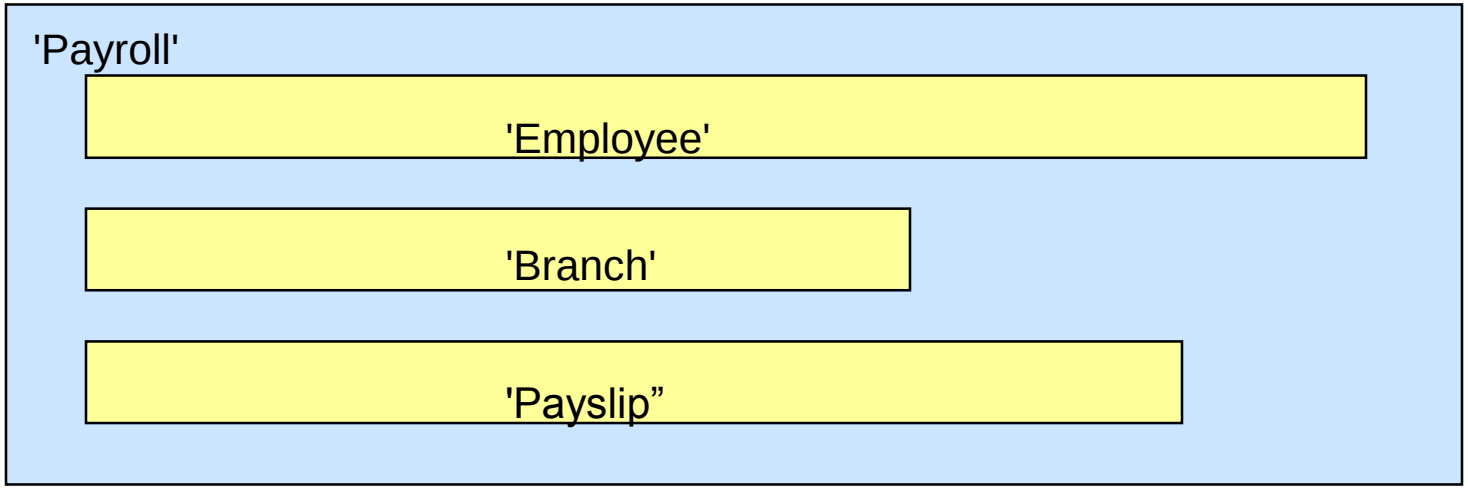
- The following charts are derived from Colin Penfold‘s (CICS TS for z/OS development) presentation.

The Solution… Containers



- To solve the 32K Commarea problem a new construct will be provided
- Named block of data designed for passing information between programs
  - Like named COMMAREAs
- CONTAINER API
  - Created using (EXEC CICS) PUT CONTAINER, defines the size of the container
  - Read using (EXEC CICS) GET CONTAINER
  - Delete using (EXEC CICS) DELETE CONTAINER, to free storage, if no longer required
- No CICS enforced size limitation
  - Containers are stored within the CICS EDSA (31 bit partition virtual storage)

The Solution… Channels



- A group of Containers
  - No limit on the number of Containers in a Channel
- A Channel is a sort of program interface
  - Passed on LINK, XCTL, pseudoconversational RETURN, and START commands
- Non-persistent
  - Non-recoverable resource similar to commareas

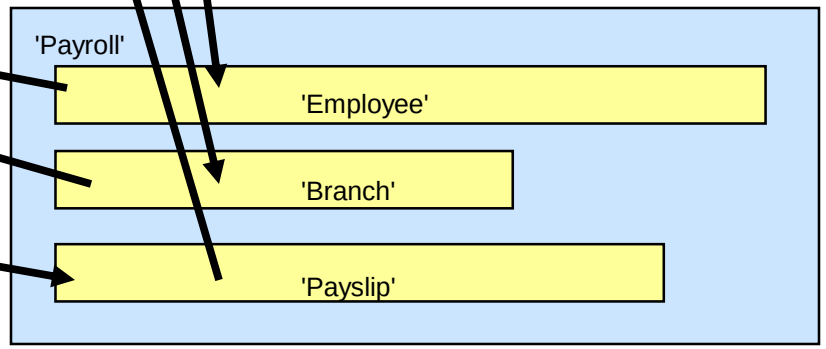
A Simple Example

PROGA

```
PUT CONTAINER('Employee') CHANNEL('Payroll') FROM(emp-data)
PUT CONTAINER('Branch') CHANNEL('Payroll') FROM(branch-data)
LINK PROGRAM('PROGB') CHANNEL('Payroll')
GET CONTAINER('Payslip') CHANNEL('Payroll') INTO(pay-data)
```

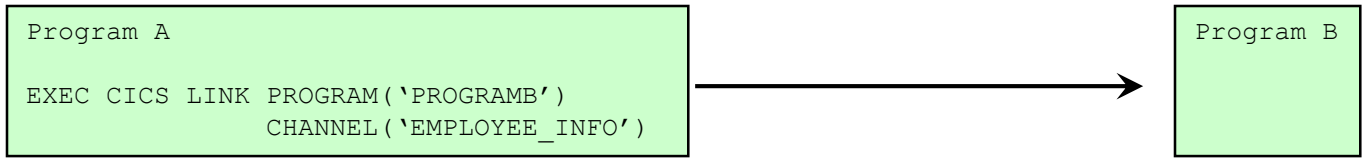
PROGB

```
GET CONTAINER('Employee') INTO(emp-data)
GET CONTAINER('Branch') INTO(branch-data)
...
PUT CONTAINER('Payslip') FROM(pay-data)
```

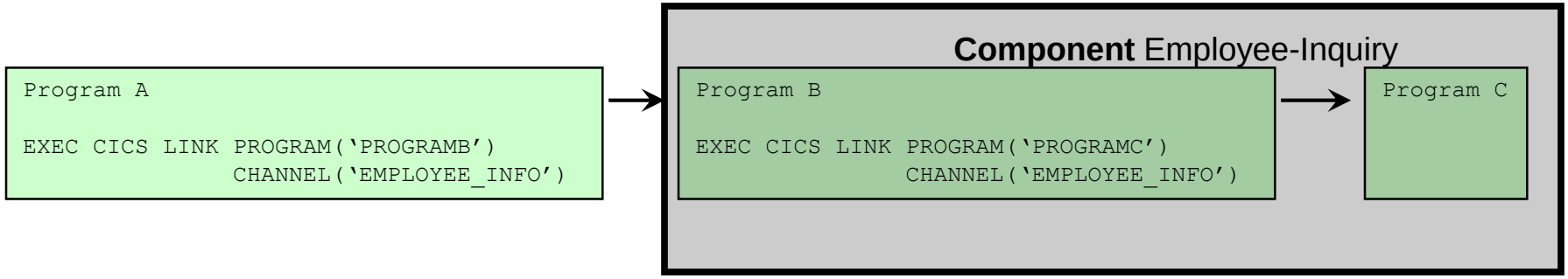


Basic Scenarios for using Channels

- One Channel / One Program

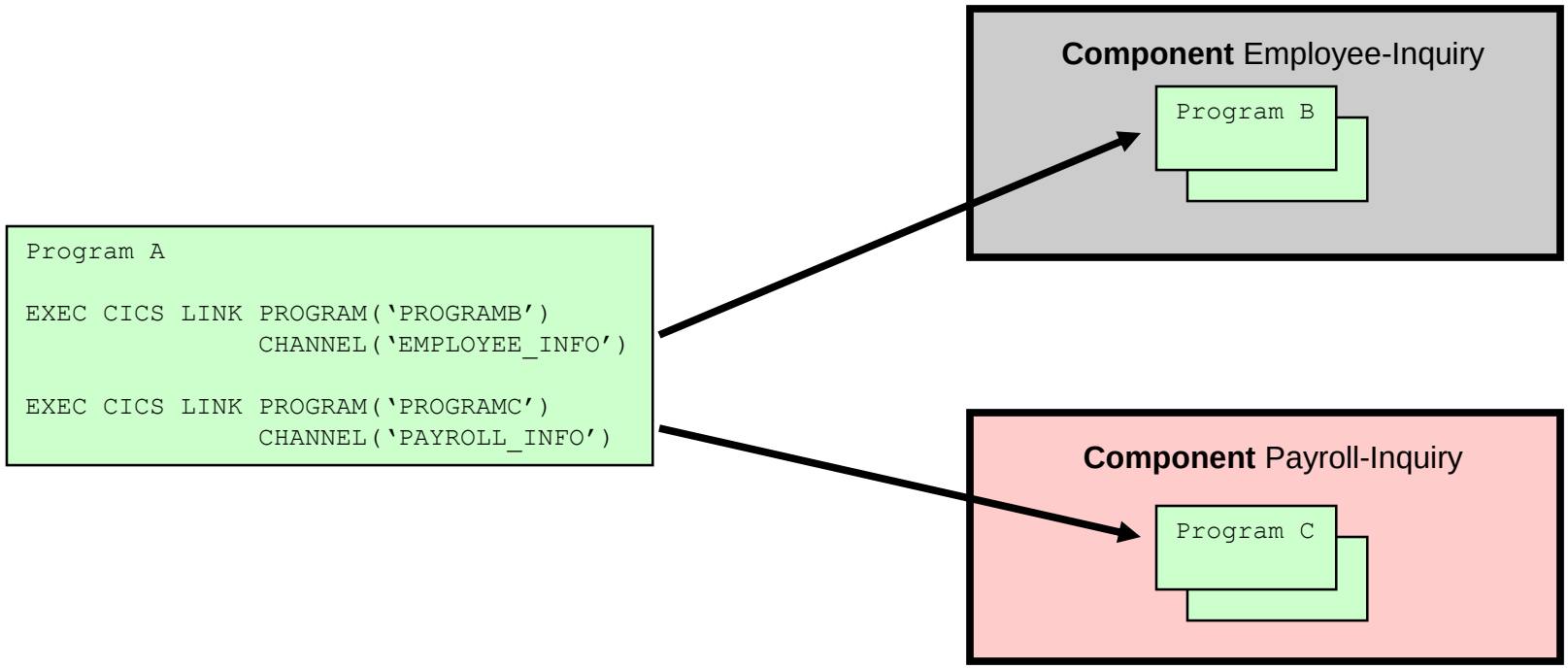


- One Channel / Multiple Programs
  - The Channel is the interface to a Component



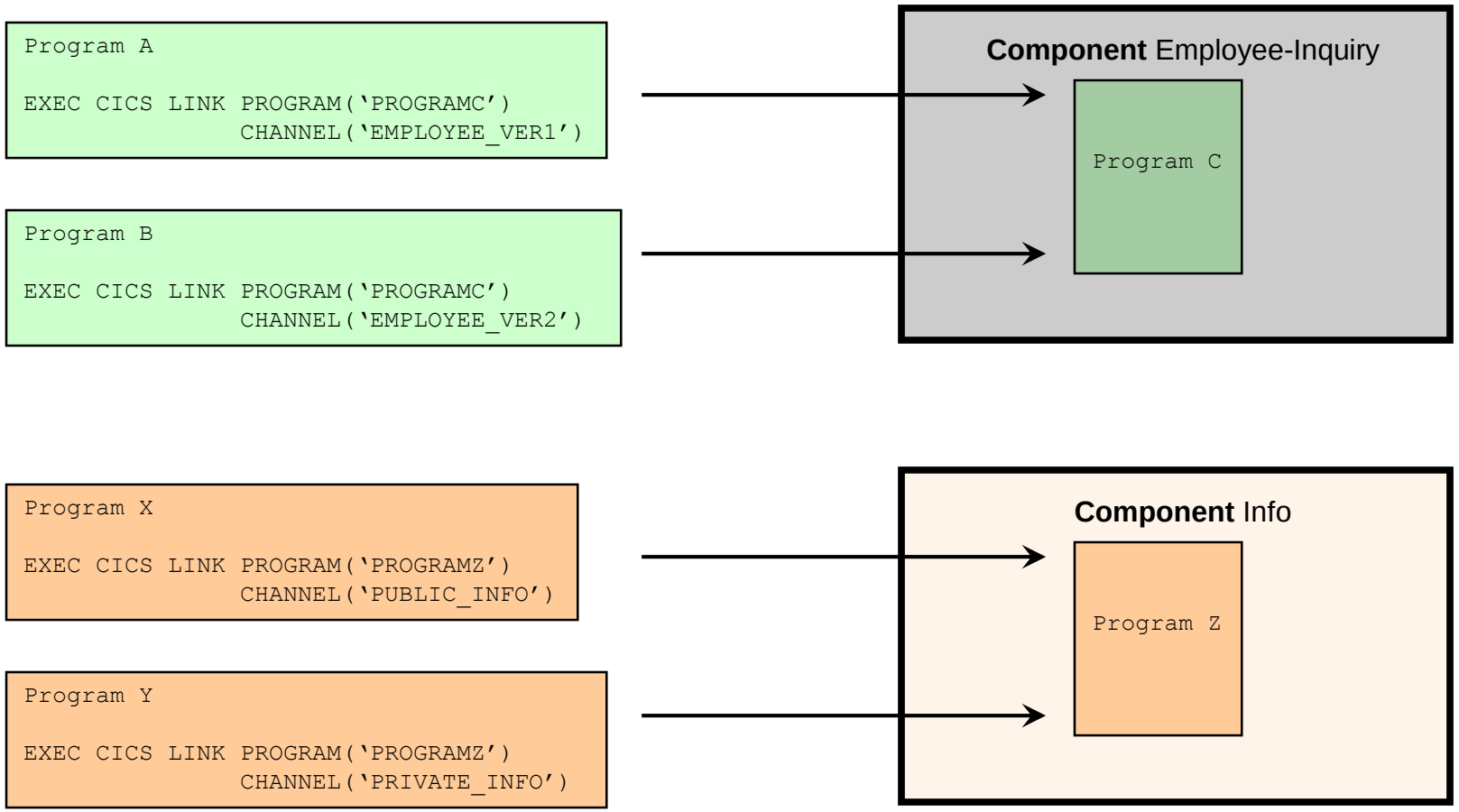
Scenario - Multiple Components

- One Program / Multiple Channels



Scenario - Loose Binding

- Multiple Programs / Multiple Channels



Note that CICS does not define any security mechanism to enforce who can use a Channel name.

Migration of Programs Using LINK

- Existing application with COMMAREA

```
Program A

EXEC CICS LINK PROGRAM('PROGRAMB')
               COMMAREA(structure)
```

```
Program B

EXEC CICS ADDRESS
          COMMAREA(structure-ptr)
```

- Changed application using Channels

```
Program A

EXEC CICS PUT CONTAINER(structure name)
              CHANNEL(channel-name)
              FROM(structure)

EXEC CICS LINK PROGRAM('PROGRAMB')
               CHANNEL(channel-name)

EXEC CICS GET CONTAINER(structure-name)
              INTO(structure)
```

```
Program B

EXEC CICS GET CONTAINER(structure-name)
SET(structure-ptr)

EXEC CICS PUT CONTAINER(structure-name)
FROM(structure)
```

Note that, if Program B changes the Container data, it must PUT the Container back before returning, or the changes will not be visible to the caller.

Migration of Programs Using START

- Existing application with START data

```
Transaction 1

EXEC CICS START TRANSID('TRN2')
                FROM(structure)
```



```
Transaction 2

EXEC CICS RETRIEVE
          INTO(structure)
```

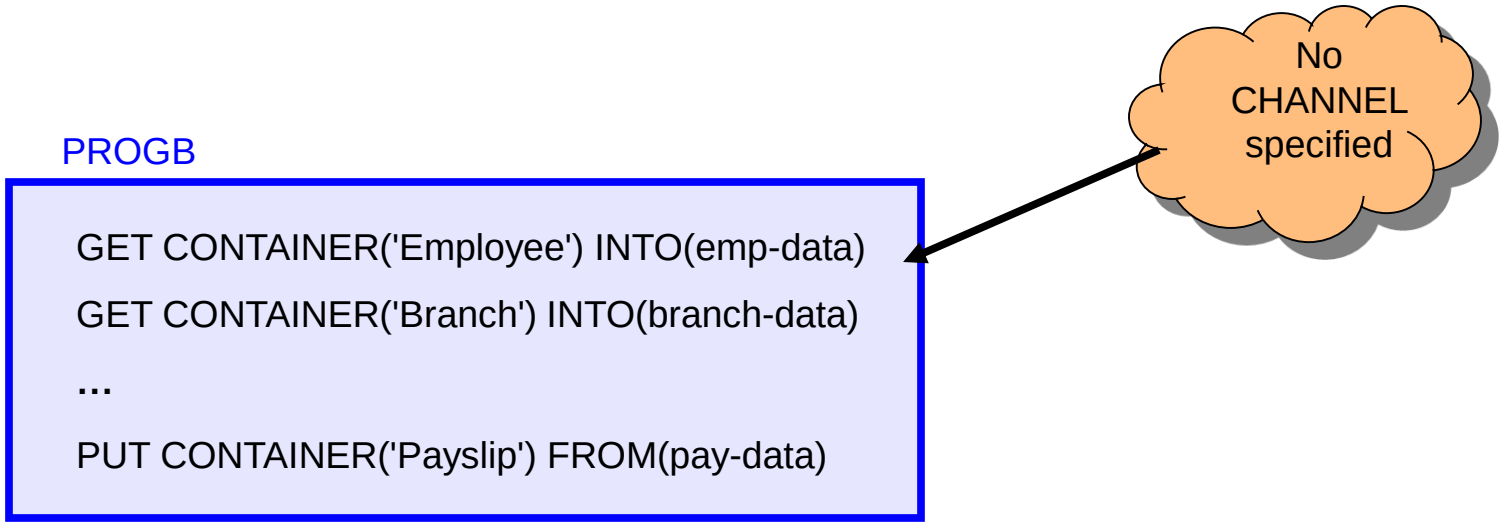
- Changed application using Channels

```
Transaction 1

EXEC CICS PUT CONTAINER(structure-name)
              CHANNEL(channel-name)
              FROM(structure)

EXEC CICS START TRANSID('TRN2')
                CHANNEL(channel-name)
```



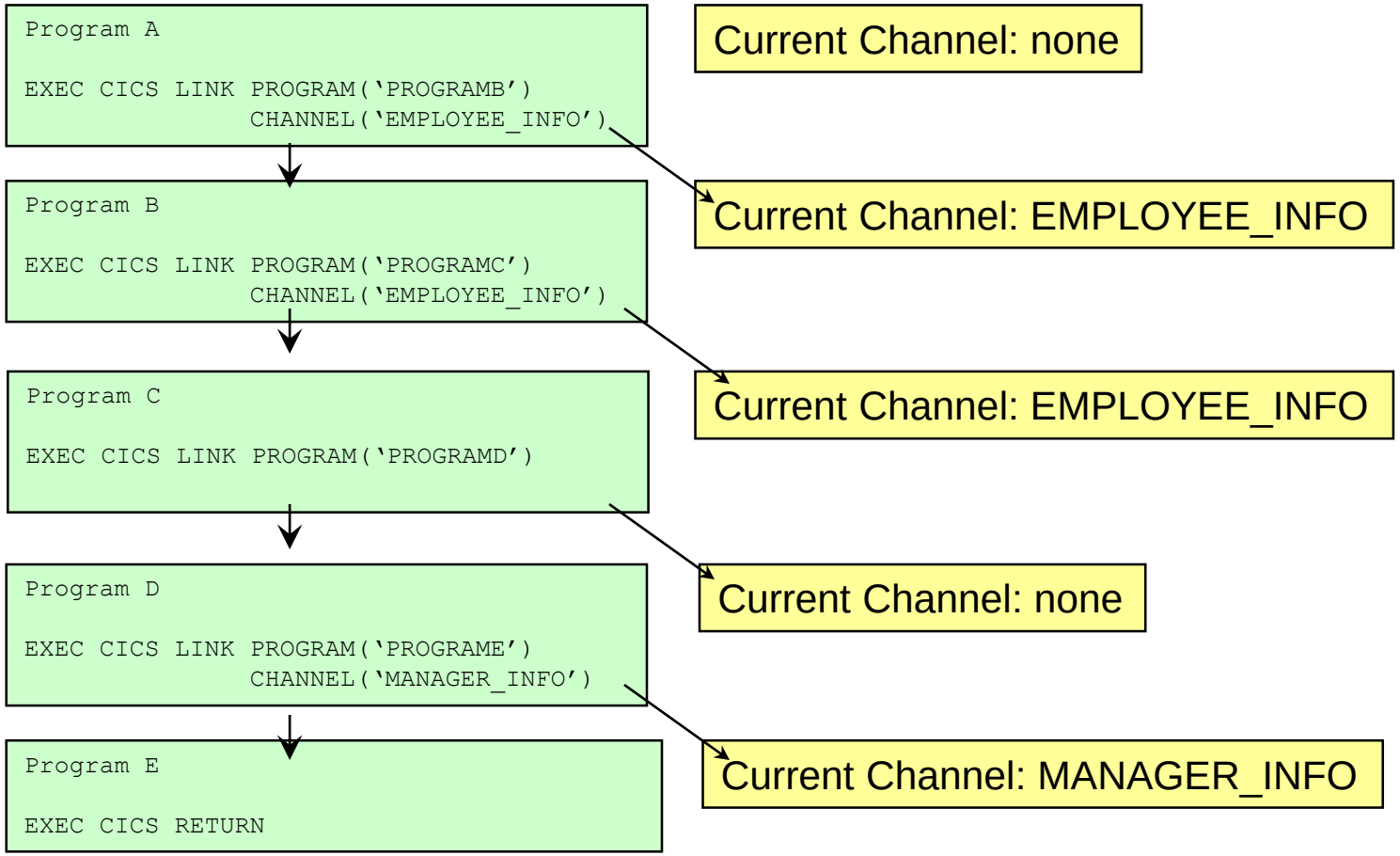
```
Transaction 2

EXEC CICS GET CONTAINER(structure-name)
              INTO(structure)
```

The Current Channel



- The Channel, if any, passed to the program by:
  - LINK, XCTL, START or pseudo-conversation RETURN
- Does not change during the life of the program
  - The program may create other Channels
- Default for EXEC CICS commands that do not explicitly specify a Channel name

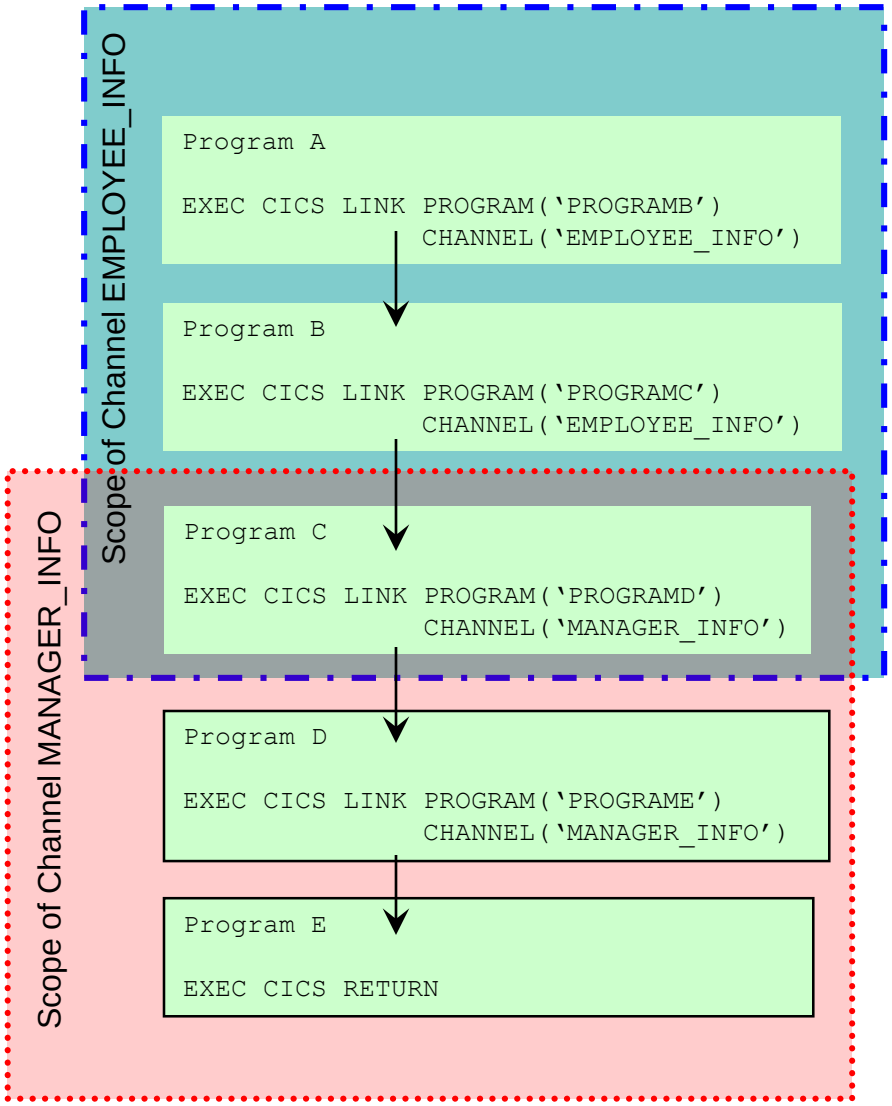
Current Channel



The Scope of a Channel

- A program can access
  - Its Current Channel
  - Any other Channels it creates
- When no program in the link stack can access a Channel it is deleted
  - Can occur on RETURN or XCTL
- Channels cannot be accessed by other tasks

Channel Scope



Current Channel: none
Created Channel: EMPLOYEE_INFO

Current Channel: EMPLOYEE_INFO

Current Channel: EMPLOYEE_INFO
Created Channel: MANAGER_INFO

Current Channel: MANAGER_INFO

Current Channel: MANAGER_INFO

API Commands

- Container commands
  - PUT CONTAINER
  - GET CONTAINER
  - MOVE CONTAINER
  - DELETE CONTAINER
- Program transfer commands
  - LINK PROGRAM
  - XCTL PROGRAM
- Inquiry commands
  - ASSIGN CHANNEL
  - STARTBROWSE CONTAINER
  - GETNEXT CONTAINER
  - ENDBROWSE CONTAINER
- Transaction transfer commands
  - RETURN TRANSID
  - START TRANSID

Container Commands

- EXEC CICS PUT CONTAINER
  - Copies data into a container within the channel
  - Overwrites existing data if container already exists
  - Creates channel if it does not already exist
- EXEC CICS GET CONTAINER
  - Retrieve the container data into user storage
- EXEC CICS MOVE CONTAINER
  - Moves a container from one channel to another
  - Can be used to rename a container
- EXEC CICS DELETE CONTAINER
  - Deletes a container from the channel
  - Does not delete the channel, even if no containers left

EXEC CICS PUT CONTAINER

- CONTAINER (data-value)
  - The name (1-16 characters) of the container
- CHANNEL (data-value)
  - The name (1-16 characters) of the channel that owns the container.
  - Defaults to current channel.
- FROM (data-area)
  - Specifies the data area from where the data to be saved is read.
- FLENGTH (data-value)
  - Specifies the length of the data area to be saved.
  - Can be 0 to very large.
  - This parameter is added by the translator if not specified (except C).
- FROMCCSID (data-value)
  - Specifies the current Coded Character Set of the character data to be put into the container. Defaults to the CCSID of the local CICS region.
- DATATYPE (CVDA)
  - BIT - The data in the container cannot be converted.
  - CHAR - Character data which can be converted.

EXEC CICS GET CONTAINER

- CONTAINER (data-value)
  - The name (1-16 characters) of the container
- CHANNEL (data-value)
  - The name (1-16 characters) of the channel that owns the container.
  - Defaults to current channel.

- INTO (data-area)
  - Specifies the data area into which the retrieved data is to be placed.
- SET (ptr-ref)
  - Specifies a data area in which the address of the retrieved data is returned
- FLENGTH (data-area)
  - Specifies the length of the data area to be read.
  - Returns the length actually read.
- NODATA
  - Specifies the only the length of the data in the container is to be returned. The length returned will take into account the INTOCCSID.

- INTOCCSID (data-value)
  - Specifies the current Coded Character Set into which the character data is to be converted. Defaults to the CCSID of the local CICS region.

Scenario – Simple Data Conversion

- PUT and GET can be used for data conversion
- Uses CICS or conversion tables
- Simple example of converting data to UTF-8

```
EXEC CICS PUT CONTAINER('temp') CHANNEL('dummy')
          FROM(ebcdic-data)
          CHAR

EXEC CICS GET CONTAINER('temp') CHANNEL('dummy')
          SET(ascci-ptr) FLENGTH(ascci-len)
          INTOCCSID(1208)
```

EXEC CICS MOVE CONTAINER

- CONTAINER (data-value)
  - The name (1-16 characters) of the container
- CHANNEL (data-value)
  - The name (1-16 characters) of the channel that owns the container.
  - Defaults to current channel.
- TOCHANNEL (data-value)
  - Specifies the name of the channel that will own the target container
- AS (data-value)
  - Specifies the name of the target container

EXEC CICS DELETE CONTAINER

- CONTAINER (data-value)
  - The name (1-16 characters) of the container
- CHANNEL (data-value)
  - The name (1-16 characters) of the channel that owns the container.
  - Defaults to current channel.
- Note: There is no command to delete a channel.
  These are deleted automatically when the go out of scope.

Program Transfer Commands

- LINK PROGRAM [CHANNEL|COMMAREA]
  - Links to another program, on a local or remote system, passing the channel and container data
  - Creates the channel if it doesn't already exist
- XCTL PROGRAM [CHANNEL|COMMAREA]
  - Transfers control to the program on a local system passing the channel and container data
  - Creates the channel if it doesn't already exist

Transaction Transfer Commands

- RETURN TRANSID [CHANNEL|COMMAREA]
  - Returns control to CICS, passing the channel and container data to the next transaction id
  - Creates the channel if it doesn't already exist
- START TRANSID [CHANNEL|FROM]
  - Starts a task, on a local or remote system
  - Copies the named channel and container data and passing it to the started task
  - Creates the channel if it doesn't already exist

Inquiry commands

- ASSIGN CHANNEL(data-area)
  - Returns the name of the current channel
  - Spaces returned if no current channel

- Container browse commands
  - STARTBROWSE CONTAINER [CHANNEL(data-area)]
  - GETNEXT CONTAINER (data-area)
    - Container names returned in no particular order
  - ENDBROWSE CONTAINER

Interface Changes

- Global User Exits (GLUEs)
  - Can create and pass channels and containers to programs they call
- Task Related User Exits (TRUEs)
  - Can create and pass channels and containers to programs they call
- User Replaceable Modules (URM)
  - Can create and pass channels and containers to programs they call
  - URMs may not access contents of application channels
- Monitoring
  - New monitoring group DFHCHNL
  - Changed monitoring group DFHPROG
  - Changed monitoring group DFHTASK
- Statistics
  - New fields in ISC/IRC system entry
  - New fields in Connections and Modenames

Summary

- Channels and Containers allow more than 32k of data to be passed between CICS applications
  - Program to program
    - LINK and XCTL
  - Transaction to transaction
    - START and RETURN
- Allow better structuring of application data
  - Different containers to prevent overloaded copybooks
- Minimal application changes required for exploitation
- Allow for data conversion between different code pages
- We announced Channels & Containers (and CICS Explorer update) in a Statement of Direction. That is it is not yet available for z/VSE.

  All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice.

- IBM Redbook “CICS Transaction Server V3R1 Channels and Containers Revealed” provides more information: http://www.redbooks.ibm.com/abstracts/sg247227.html?Open

We are looking for beta customers. Please contact Ingolf Salm (salm@de.ibm.com), if you are interested.

CICS Explorer for z/VSE

- Announced 04/03/2012, GA 06/15/2012

- CICS Explorer – The new face to CICS

  - System management framework for CICS TS
  - Consists of CICS Explorer client and a CICS TS server extension
  - CICS Explorer client
    - Read-only capabilities
    - Eclipse-based user interface on workstation
    - Connects to CICS TS via TCP/IP - Communication via HTTP requests
  - CICS Explorer server extension
    - Delivered as PTF for CICS TS for VSE/ESA 1.1.1
    - z/VSE V5 only

- **Statement of direction (SOD)**

  - IBM CICS Explorer to provide updates to CICS resources
    - Update resources as you would do with transactions on your CICS terminal
    - Enable / disable CICS resources
    - Change selected CICS definitions
    - ….

CICS Explorer for z/VSE

- CICS Explorer client supports
  - CICS TS for z/OS
  - CICS TS for VSE/ESA 1.1.1
- Provides a view of some CICS system management functions
- Displays details of CICS resources in definition views
- Administration operations are not supported
- Displays the resource attributes as of CEMT / CEDA
- Provides context and more detailed help

CICS Explorer for z/VSE – supported operations

- Regions
- TCP/IP services
- ISC/MRO connections
- Terminals
- Transactions
- Transaction classes
- Programs
- Tasks
- Files
- Interval control requests
- Transient data (TD) and temporary storage (TS) queues
- Document templates

CICS Explorer for z/VSE on the web - www.ibm.com/vse

CICS Explorer for z/VSE on the web …

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CICS Explorer

The new face of CICS Transaction Server for VSE/ESA V1.1

The CICS Explorer is the new systems management framework for CICS TS. It provides read-only capabilities to display CICS resources. The CICS Explorer consists of a CICS Explorer client and a CICS TS server extension. The CICS Explorer client can be downloaded from the CICS Explorer web page, and the CICS TS server extension is delivered as CICS TS PTF. When used with CICS TS for VSE/ESA, it requires z/VSE V5.1, or later.

The CICS Explorer user guide provides some more information on the CICS Explorer installation and use.

IBM CICS Explorer User Guide V1.2b (PDF, 500KB)
→ IBM CICS Explorer download

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CICS Explorer for z/VSE on the web

CICS Explorer for z/VSE client installation

- Download CICS Explorer zip file from the web
- Installation on the local workstation or remote network drive
- Configure the way it connects to the CICS system
  - Connect credentials, CICS system connection, …
  - z/VSE supports the CICS Management Client Interface (CMCI) only

CICS Explorer for z/VSE - CICS TS installation

- System requirements
  - CICS Explorer connects to z/VSE Version 5 only
  - Additional extended Dynamic Storage Area (EDSA) required
    - Size depends on active CICS resources
    - Good start is 50 MB (with additional PTF)
    - May impact partition allocation
  - TCP/IP for VSE/ESA 1.5F or IPv6/VSE 1.1 or Linux Fast Path (IPv4 only)

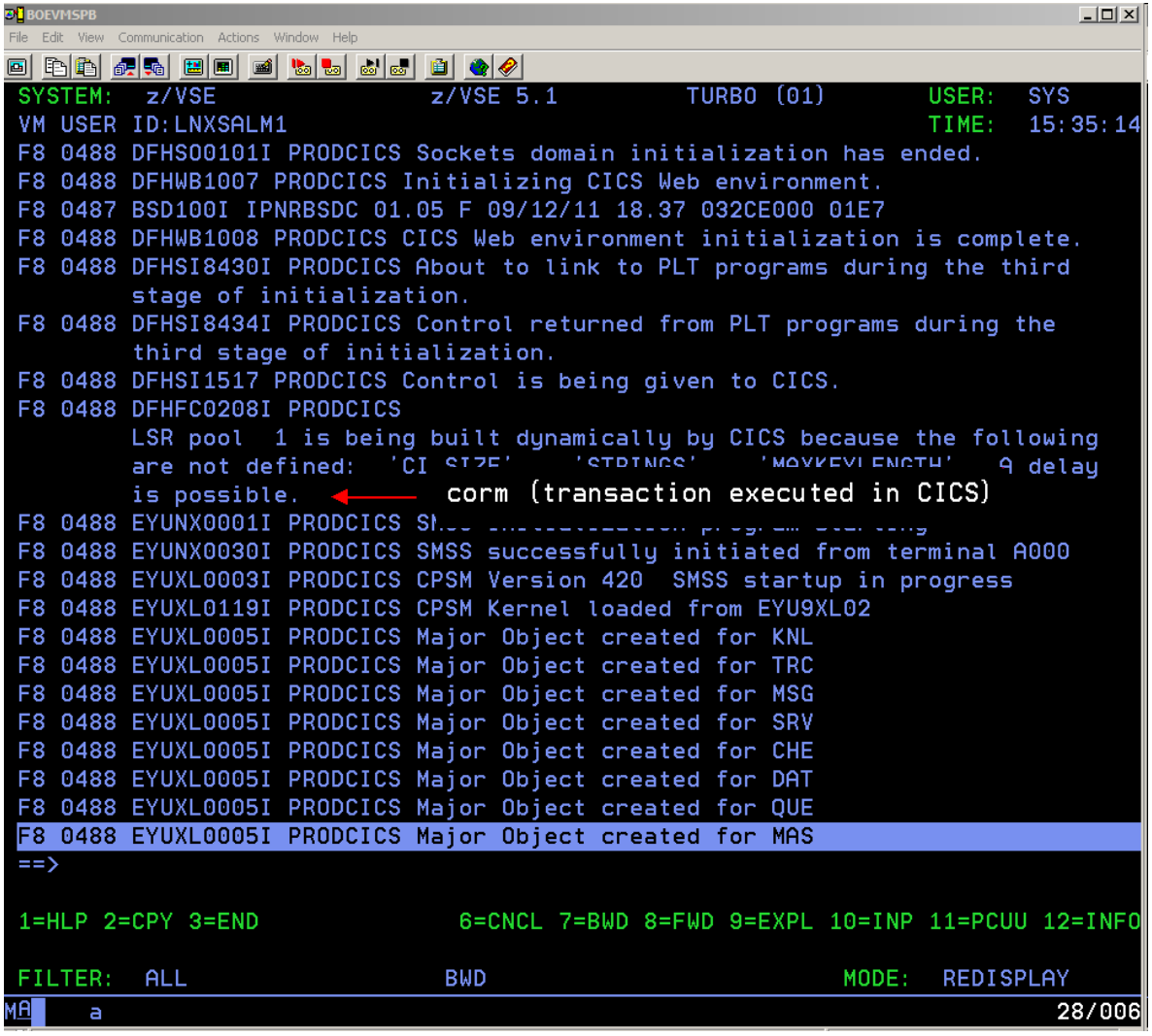
- Install PTFs for CICS Explorer support (included in z/VSE 5.1.1 or higher)
  - CICS Management Client Interface (CMCI)
  - CICSPlex System Management (CPSM)
  - Code will be installed into PRD1.BASE
  - No additional z/VSE Librarian definitions (LIBDEFs) required

CICS Explorer for z/VSE - CICS TS installation …

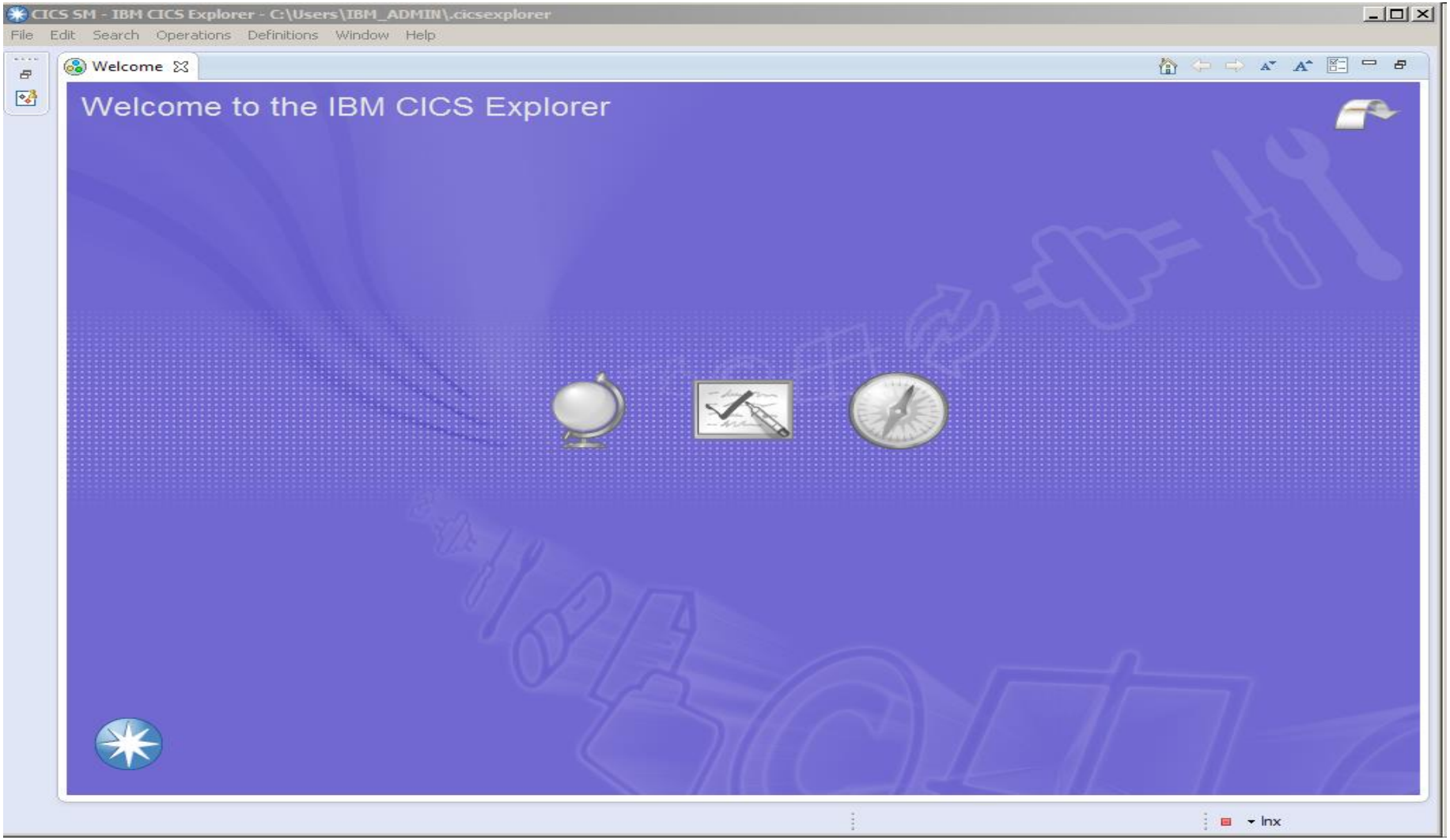
- CICS setup skeletons in ICCF library 59
  - CICS System Definitions (CSD)
  - Transaction security setup
  - DCT (Destination Control Table)
  - Define / initialize dataset EYUPARM (for debugging)

- Add DLBL / EXTENT / ASSGN statements for EYUPARM dataset to CICS start-up job
- Changing CICS SIT (SEC=YES, TCPIP=YES)
- Define TCPIPSERVICE
- Adjust EDSALIM,if additional DSA space required
- Define a conversion table – DFHCNV
- Install new groups using CEDA

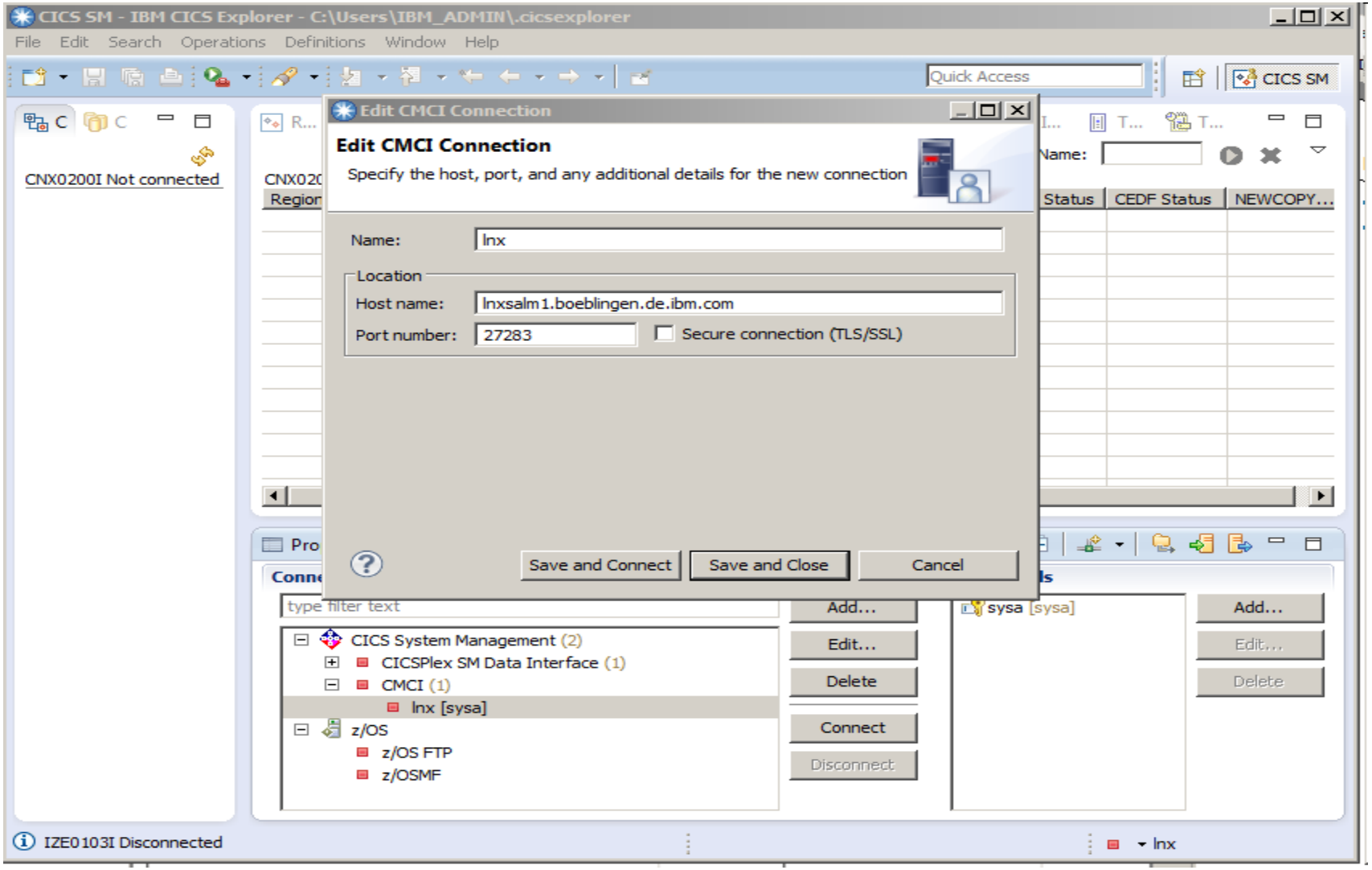
CICS Explorer for z/VSE – start CORM transaction on server



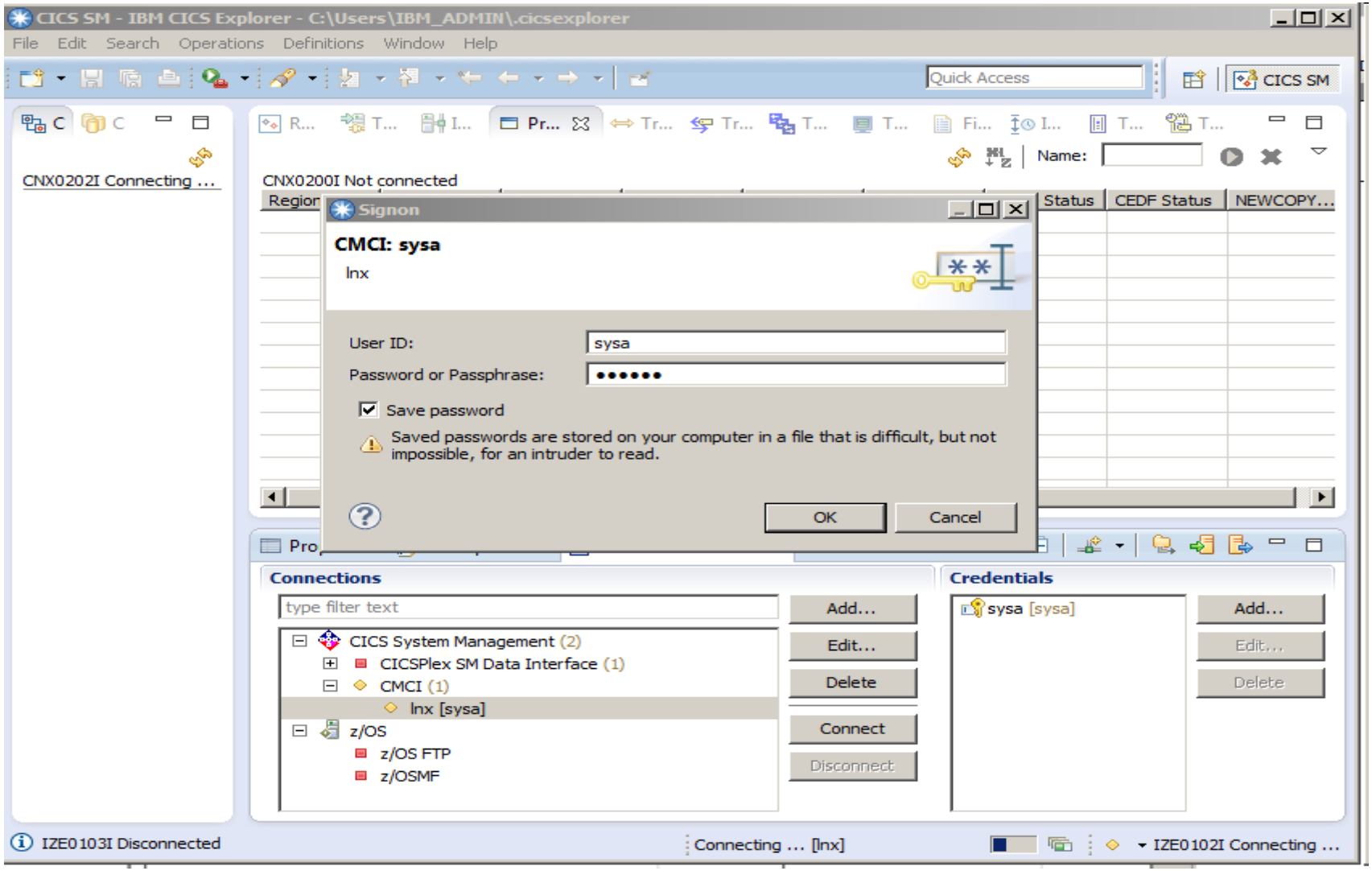
CICS Explorer for z/VSE – welcome page



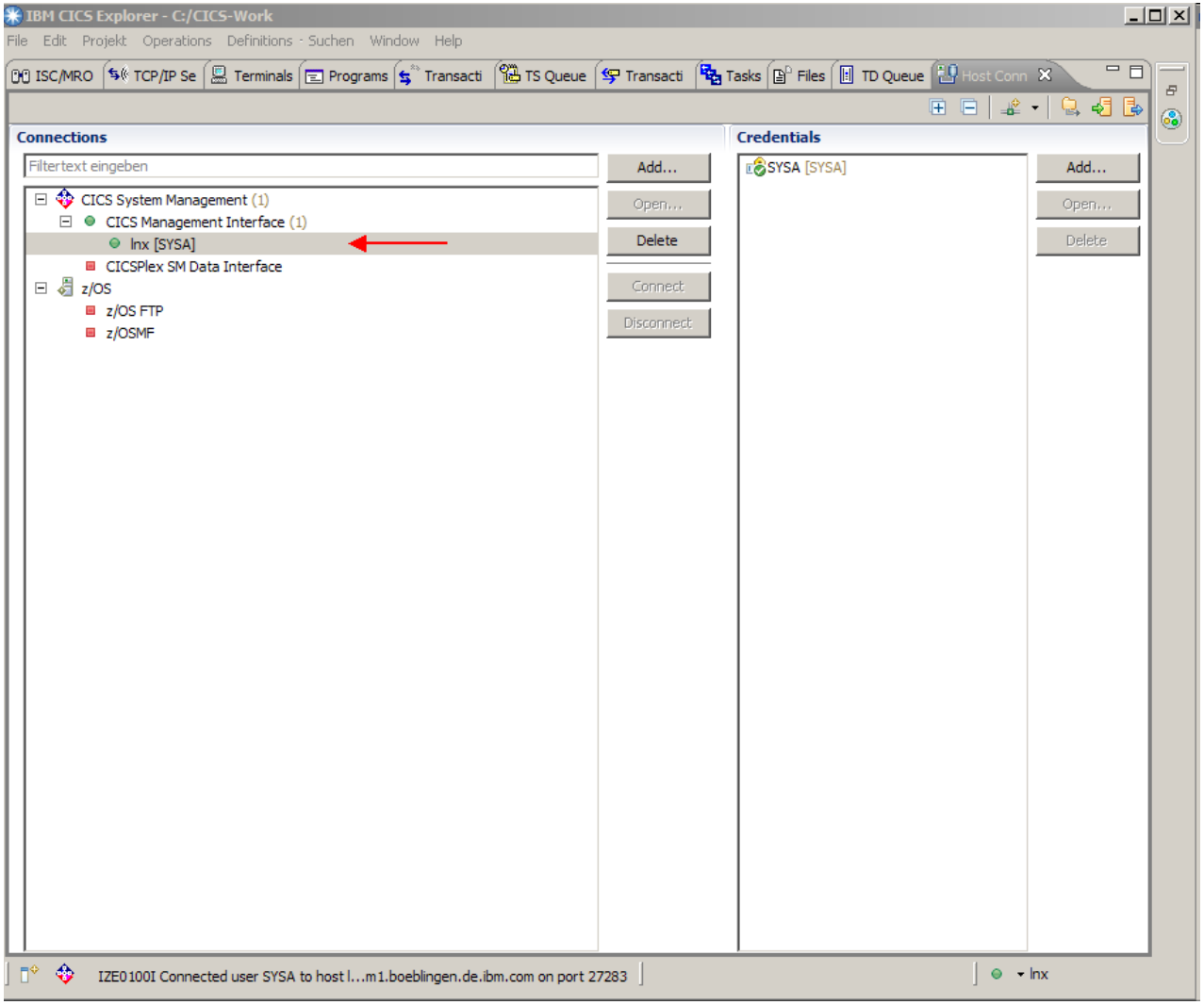
CICS Explorer for z/VSE - configuration

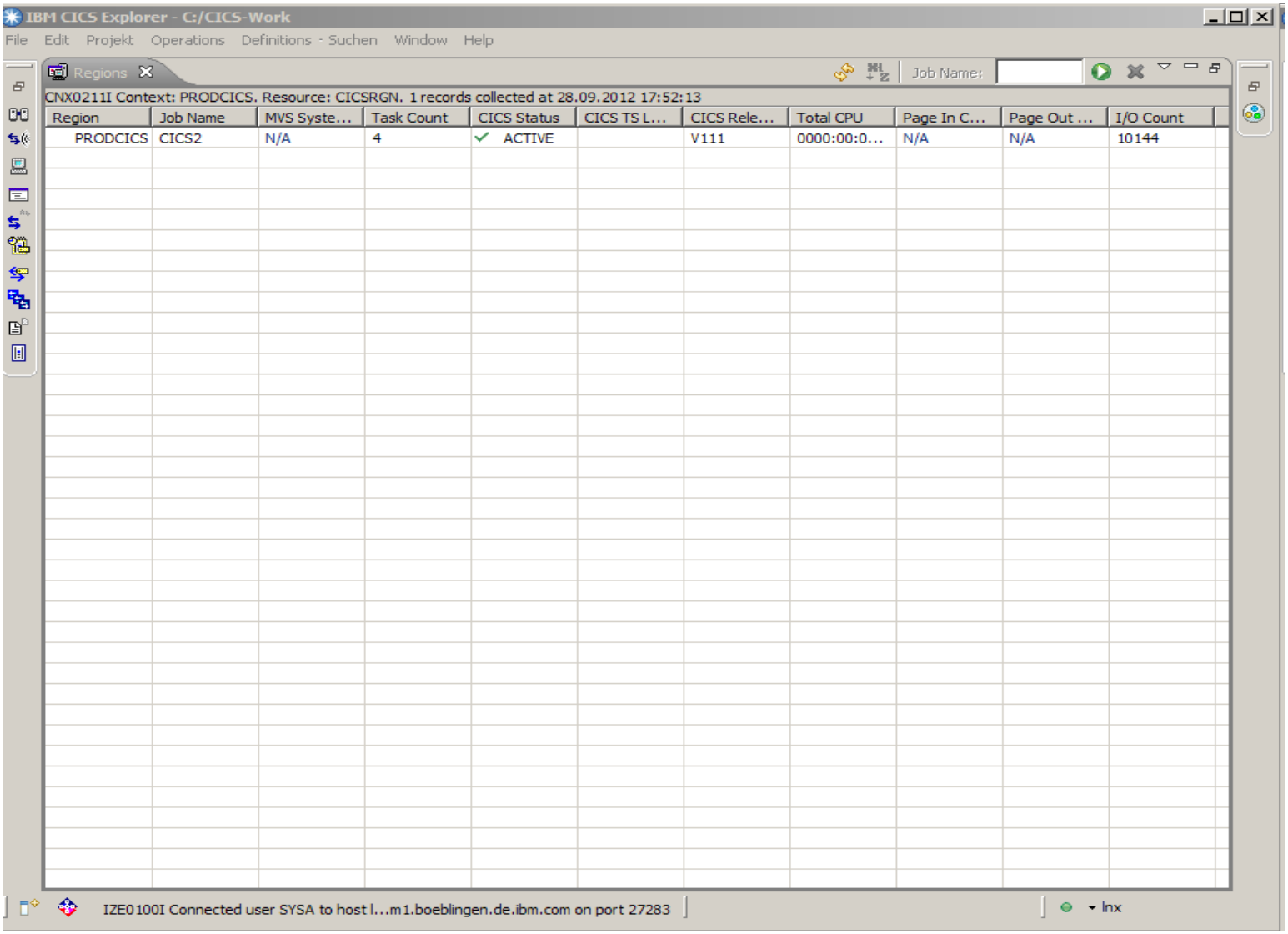


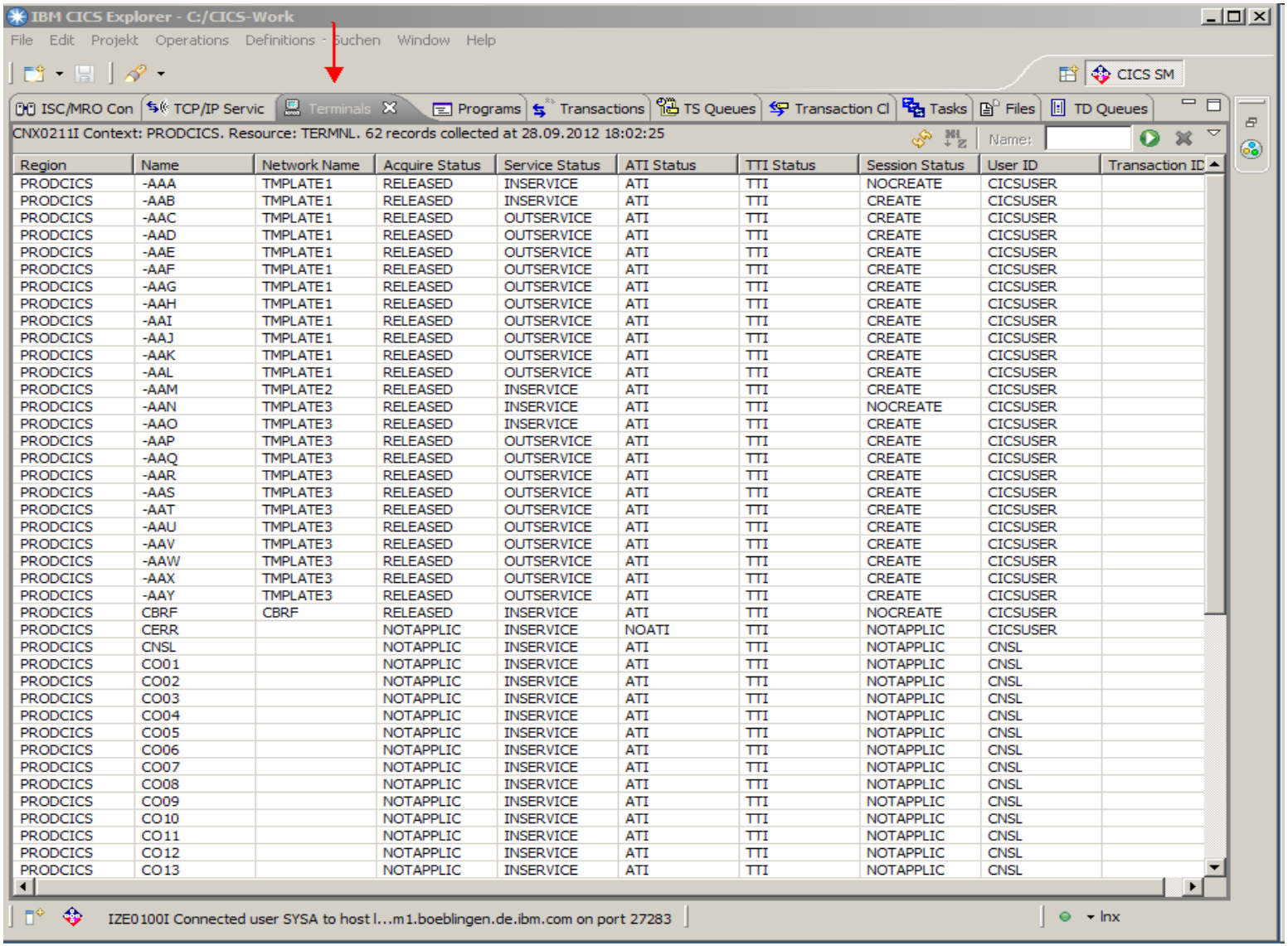
CICS Explorer for z/VSE – sign-on



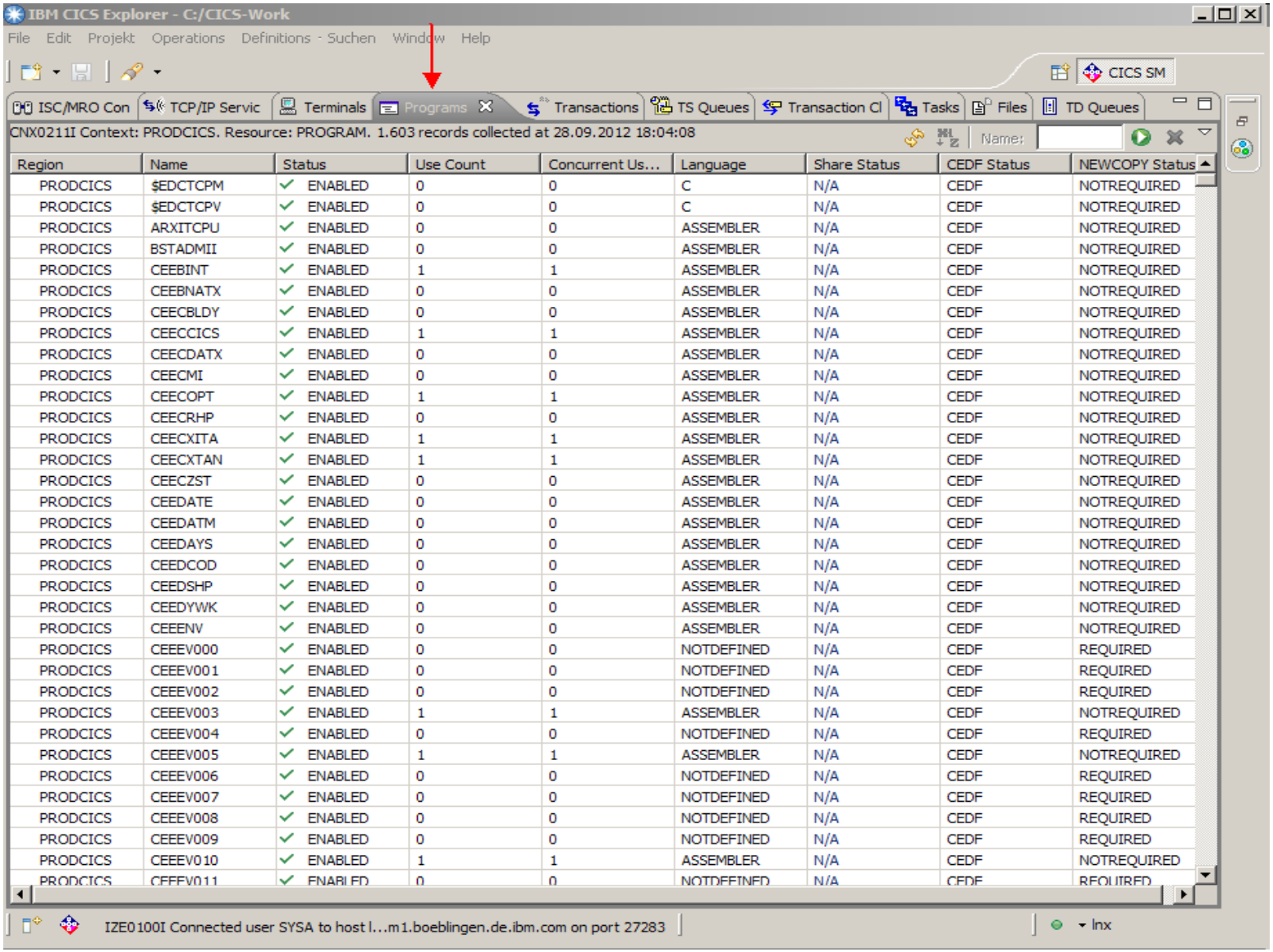
CICS Explorer for z/VSE – connected



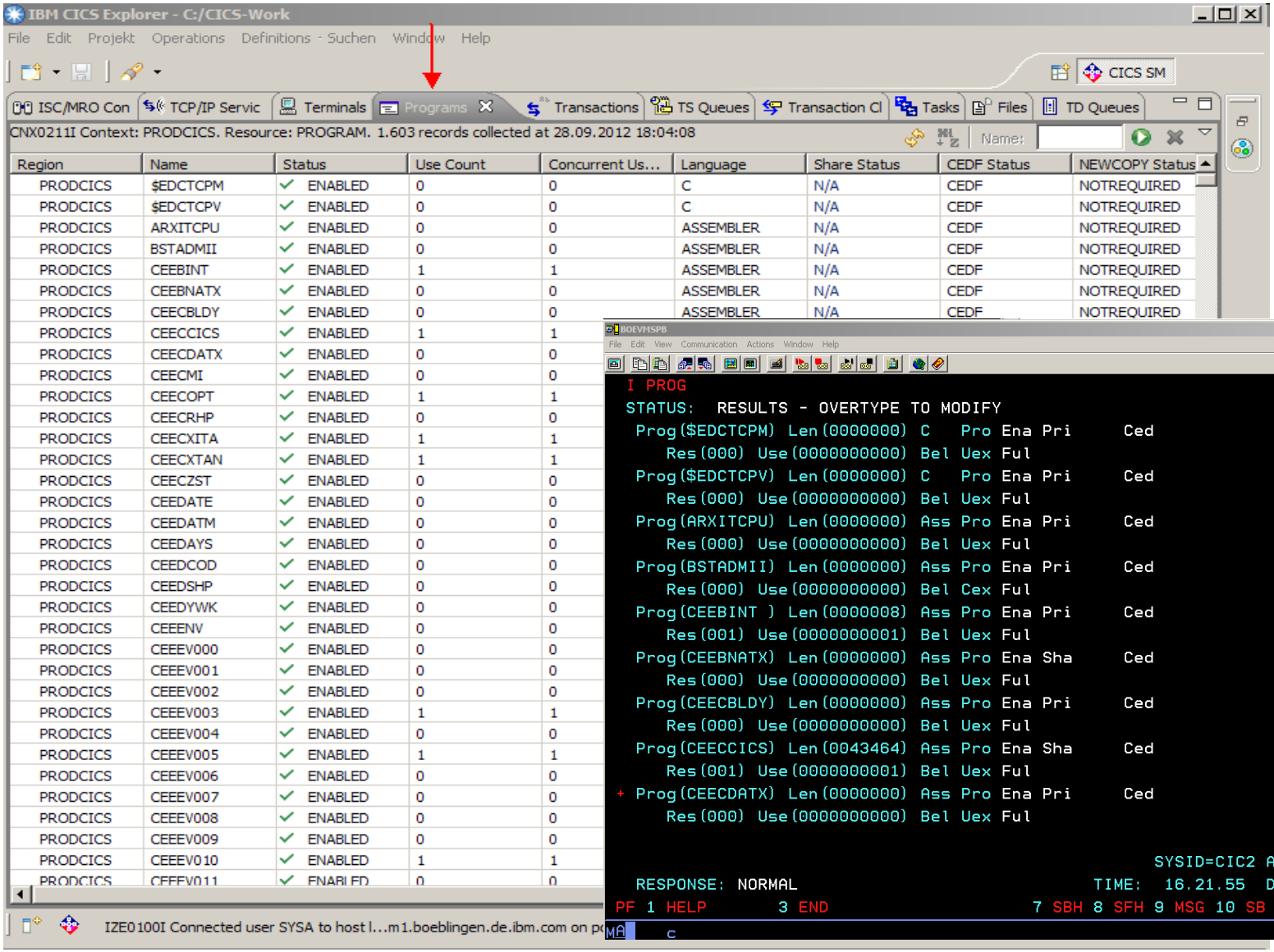


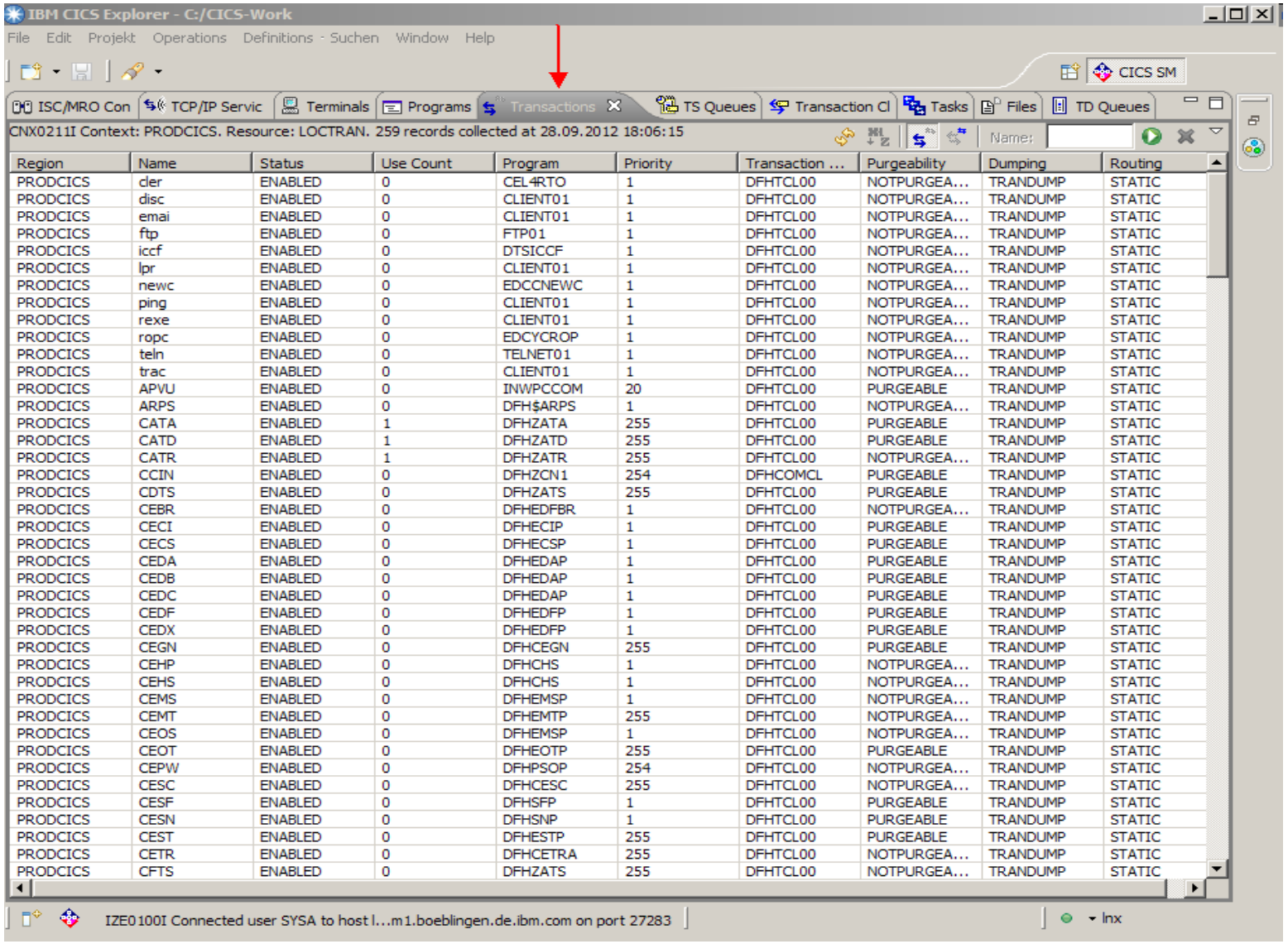


Region	Name	Network Name	Acquire Status	Service Status	ATI Status	TTI Status	Session Status	User ID	Transaction ID
PRODCICS	-AAA	TMPLATE1	RELEASED	INSERVICE	ATI	TTI	NOCREATE	CICSUSER	
PRODCICS	-AAB	TMPLATE1	RELEASED	INSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAC	TMPLATE1	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAD	TMPLATE1	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAE	TMPLATE1	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAF	TMPLATE1	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAG	TMPLATE1	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAH	TMPLATE1	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAI	TMPLATE1	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAJ	TMPLATE1	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAK	TMPLATE1	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAL	TMPLATE1	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAM	TMPLATE2	RELEASED	INSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAN	TMPLATE3	RELEASED	INSERVICE	ATI	TTI	NOCREATE	CICSUSER	
PRODCICS	-AAO	TMPLATE3	RELEASED	INSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAP	TMPLATE3	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAQ	TMPLATE3	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAR	TMPLATE3	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAS	TMPLATE3	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAT	TMPLATE3	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAU	TMPLATE3	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAV	TMPLATE3	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAW	TMPLATE3	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAX	TMPLATE3	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	-AAY	TMPLATE3	RELEASED	OUTSERVICE	ATI	TTI	CREATE	CICSUSER	
PRODCICS	CBRF	CBRF	RELEASED	INSERVICE	ATI	TTI	NOCREATE	CICSUSER	
PRODCICS	CERR		NOTAPPLIC	INSERVICE	NOATI	TTI	NOTAPPLIC	CICSUSER	
PRODCICS	CNSL		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO01		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO02		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO03		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO04		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO05		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO06		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO07		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO08		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO09		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO10		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO11		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO12		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	
PRODCICS	CO13		NOTAPPLIC	INSERVICE	ATI	TTI	NOTAPPLIC	CNSL	

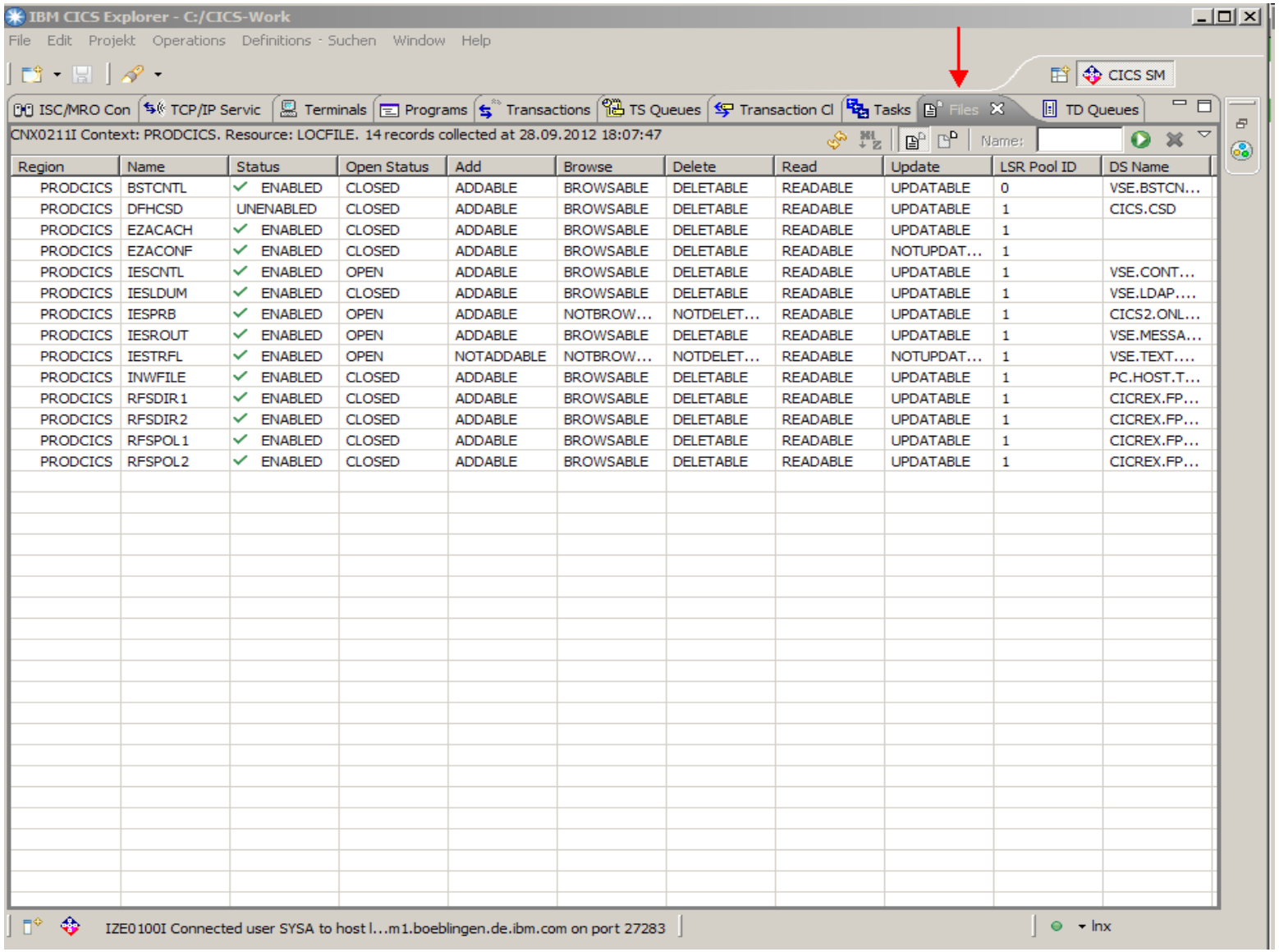


Region	Name	Status	Use Count	Concurrent Us...	Language	Share Status	CEDF Status	NEWCOPY Status
PRODCICS	$EDCTCPM	ENABLED	0	0	C	N/A	CEDF	NOTREQUIRED
PRODCICS	$EDCTCPV	ENABLED	0	0	C	N/A	CEDF	NOTREQUIRED
PRODCICS	ARXITCPU	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	BSTADMII	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEBINT	ENABLED	1	1	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEBNATX	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEECBLDY	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEECCICS	ENABLED	1	1	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEECDATX	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEECMI	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEECOPT	ENABLED	1	1	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEECRHP	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEECXITA	ENABLED	1	1	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEECXTAN	ENABLED	1	1	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEECZST	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEDATE	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEDATM	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEDAYS	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEDCOD	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEDSHP	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEDYWK	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEENV	ENABLED	0	0	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEEV000	ENABLED	0	0	NOTDEFINED	N/A	CEDF	REQUIRED
PRODCICS	CEEEV001	ENABLED	0	0	NOTDEFINED	N/A	CEDF	REQUIRED
PRODCICS	CEEEV002	ENABLED	0	0	NOTDEFINED	N/A	CEDF	REQUIRED
PRODCICS	CEEEV003	ENABLED	1	1	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEEV004	ENABLED	0	0	NOTDEFINED	N/A	CEDF	REQUIRED
PRODCICS	CEEEV005	ENABLED	1	1	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEEV006	ENABLED	0	0	NOTDEFINED	N/A	CEDF	REQUIRED
PRODCICS	CEEEV007	ENABLED	0	0	NOTDEFINED	N/A	CEDF	REQUIRED
PRODCICS	CEEEV008	ENABLED	0	0	NOTDEFINED	N/A	CEDF	REQUIRED
PRODCICS	CEEEV009	ENABLED	0	0	NOTDEFINED	N/A	CEDF	REQUIRED
PRODCICS	CEEEV010	ENABLED	1	1	ASSEMBLER	N/A	CEDF	NOTREQUIRED
PRODCICS	CEEEV011	ENABLED	0	0	NOTDEFINED	N/A	CEDF	REQUIRED





Region	Name	Status	Use Count	Program	Priority	Transaction ...	Purgeability	Dumping	Routing
PRODCICS	cler	ENABLED	0	CEL4RTO	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	disc	ENABLED	0	CLIENT01	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	emai	ENABLED	0	CLIENT01	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	ftp	ENABLED	0	FTP01	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	iccf	ENABLED	0	DTSICCF	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	lpr	ENABLED	0	CLIENT01	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	newc	ENABLED	0	EDCCNEWC	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	ping	ENABLED	0	CLIENT01	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	rexe	ENABLED	0	CLIENT01	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	ropc	ENABLED	0	EDCYCROP	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	teln	ENABLED	0	TELNET01	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	trac	ENABLED	0	CLIENT01	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	APVU	ENABLED	0	INWPCCOM	20	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	ARPS	ENABLED	0	DFH$ARPS	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	CATA	ENABLED	1	DFHZATA	255	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CATD	ENABLED	1	DFHZATD	255	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CATR	ENABLED	1	DFHZATR	255	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	CCIN	ENABLED	0	DFHZCN1	254	DFHCOMCL	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CDTS	ENABLED	0	DFHZATS	255	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CEBR	ENABLED	0	DFHEDFBR	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	CECI	ENABLED	0	DFHECIP	1	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CECS	ENABLED	0	DFHECSP	1	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CEDA	ENABLED	0	DFHEDAP	1	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CEDB	ENABLED	0	DFHEDAP	1	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CEDC	ENABLED	0	DFHEDAP	1	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CEDF	ENABLED	0	DFHEDFP	1	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CEDX	ENABLED	0	DFHEDFP	1	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CEGN	ENABLED	0	DFHCEGN	255	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CEHP	ENABLED	0	DFHCHS	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	CEHS	ENABLED	0	DFHCHS	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	CEMS	ENABLED	0	DFHEMSP	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	CEMT	ENABLED	0	DFHEMTP	255	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	CEOS	ENABLED	0	DFHEMSP	1	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	CEOT	ENABLED	0	DFHEOTP	255	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CEPW	ENABLED	0	DFHPSOP	254	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	CESC	ENABLED	0	DFHCESC	255	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	CESF	ENABLED	0	DFHSFP	1	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CESN	ENABLED	0	DFHSNP	1	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CEST	ENABLED	0	DFHESTP	255	DFHTCL00	PURGEABLE	TRANDUMP	STATIC
PRODCICS	CETR	ENABLED	0	DFHCETRA	255	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC
PRODCICS	CFTS	ENABLED	0	DFHZATS	255	DFHTCL00	NOTPURGEA...	TRANDUMP	STATIC



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… on VSE home page: http://ibm.com/vse

- Ingolf's z/VSE blog: https://www.ibm.com/developerworks/mydeveloperworks/blogs/vse

- New: Hints and Tips for z/VSE 5.2:
  - http://www.ibm.com/systems/z/os/zvse/documentation/#hints

- 64 bit virtual information:
  - IBM z/VSE Extended Addressability, Version 5
  - IBM z/VSE System Macro Reference, Version 5

- CICS Explorer: http://www.ibm.com/software/htp/cics/explorer/

- IBM Redbooks:
  - Introduction to the New Mainframe: z/VSE Basics
    http://www.redbooks.ibm.com/abstracts/sg247436.html?Open
  - Security on IBM z/VSE – updated
    http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/sg247691.html?Open
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  or me – Ingolf Salm – salm@de.ibm.com – for any questions

Questions ?