

CICS / Com-plete Transaction Routing

Com-plete may act as a CICS Application Owning Region (AOR) for CICS Transaction Routing. This allows terminals defined and connected to a CICS system to run with applications defined and executed in Com-plete. CICS users may acquire an ISC APPC-Type link to Com-plete and execute Com-plete applications from a CICS terminal. Com-plete behaves toward the CICS system as another CICS. The implementation of Transaction routing to Com-plete on a CICS system is no different from implementing CICS-to-CICS Transaction Routing. CICS versions 2.1 to 4.1 are supported.

This chapter covers the following topics:

- CICS Considerations
- Transaction Parameters
- Logon Security
- Programming Notes
- TRACES

CICS Considerations

CONNECTION, SESSION, TRANSACTION and PROFILE definitions must be coded in the CICS system. Recommended specifications :

```

CONNECTION
.....
Netname           : ==> Com-plete ACBNAME
.....
ACcessmethod     : ==> VTAM
PRotocol         : ==> APPC
SInglesess       : ==> No
DATastream       : ==> User
RECOrdformat     : ==> U
.....
SESSION
.....
MOdename         : ==> modename   (1)
PRotocol         : ==> APPC
.....
TRANSACTION      (3)
.....
REMOTEName       : ==> trnm       (2)

```

Notes:

1. Mode modename must be defined in a mode table before Transaction Routing to Com-plete is activated. CICS only uses its internal session characteristics (that may differ from those defined in the logmode table) instead of the VTAM mode definitions but they are required by Com-plete.
2. Due to length differences between CICS transaction codes (4 bytes) and Com-plete program names (8 bytes), it is necessary to create a cross-reference table in Com-plete (see Com-plete Considerations) to match the transaction name trnm as known in CICS with the true Com-plete program name.

- The CICS CRTE transaction is also supported thus allowing CICS users to invoke Com-plete applications that do not have a TRANSACTION definition. However, corresponding URTETB entries must be coded also for these transaction names.

Terminals to be used in Transaction Routing may be autoinstall-type terminals or TERMINAL definitions. Com-plete allways requests CICS to ship the terminal definitions so all terminals must be defined as shippable:

```
TYPETERM
  SHIppable      : ==>Yes
  ....
```

Com-plete Considerations

Before Transaction Routing can be activated, a conversion table (module URTETB) must be assembled and link-edited in the Com-plete load library. URTETB is loaded at Transaction Routing initialization and referenced for each new transaction. The Com-plete Transaction Routing Program (URTE) searches this table for the CICS transaction name and gets the Com-plete application program name to be started. If the CICS remote transaction name is not found in URTETB, or URTETB has not been loaded Com-plete returns an error to the CICS user and drops the session.

The basic format of URTETB is 1 CMROUTE TYPE=START macro call followed by any number of CMROUTE TYPE=ENTRY macro calls that specify the CICS transaction name (*trnm*) and the corresponding Com-plete program name (*pgmname*).

```
URTETB  CSECT
        CMROUTE  TYPE=START
        CMROUTE  TYPE=ENTRY ,CICSTRAN=trnm ,COMPROG=pgmname
        .
        .
        CMROUTE  TYPE=END
        END
```

Notes:

- CMROUTE macro and a sample URTETB module are included in the distribution SOURCE data set.
- trnm* can be equal to *pgmname*.
- pgmname* can further specify program parameters after the program name:

```
CMROUTE TYPE=ENTRY ,CICSTRAN=UQQ ,COMPROG='UQ Q ,JB=COM'
```

Transaction Parameters

When a CICS transaction is routed to Com-plete, the Com-plete program, as determined by URTETB, can also have parameters passed to it. There are 2 ways of specifying these parameters:

Static (hardcoded) in the COMPROG parameter of the CMROUTE macro (see note 3 above)

Dynamically entered in CICS after the remote transaction name in the standard CICS manner. These override eventual hardcoded parameters specified by method 1.

Logon Security

The CICS userID may be passed to Com-plete as basis for logon. If this user is invalid to Com-plete, ULOG asks for a valid userid/password before the requested transaction is started.

Programming Notes

Some Com-plete applications dependent on attention interrupt to terminate multiple writes (a loop of Write Returns to periodically refresh a screen) are not supported neither for native APPC nor for Transaction Routing. The partner transaction can only flag an interrupt when it gets the Send Token (sent by a Write Conversational), what never occurs. Examples are

```
UQ M,RR=n
```

```
USTOR LOOP
```

Com-plete can currently act only as SERVER in APPC sessions; it can only start local transactions attached from external clients. Programs running in Com-plete are not able to attach remote applications yet.

Indirect routing to Com-plete a routing path where other CICS systems are connected between the primary (CICS) and the secondary (Com-plete) systems) is not supported. Similarly, Com-plete cannot be used as an "indirect" system to enable routing between 2 CICS systems.

TRACES

To aid in problem determination the VTAM Interface provides various trace facilities:

1. snTIB Trace - retains the last 12 entries in the TIB. The interpreted entries can be seen in UUTIL MO TS together with the RPL entering PF11.
2. VTAM in-core trace - a wraparound table that contains basically the same entries as the TIB trace. Normally entries from all TIBs are stored, but it can be restricted for 1 specific TIB. This trace can be accessed only with USTOR. It resides after module TLAMTRAC, addressed by label ALAMTRAC in COMREG.
3. Extended Trace: This trace, available only for the APPC Interface and Transaction Routing Application is written to an external file defined by the SYSTRACE DD statement in the startup procedure. In general it points to SYSOUT. The file can be opened and closed online. Entries can be restricted to a specific TIB. The extended trace is an important part of the documentation when reporting problems of the APPC Interface to Software AG.

The VTAM In-core and Extended Traces are normally deactivated. To activate the In-core Trace use UUTIL TO (trace options) and type 'Y' for VTAM trace. To activate the Extended Trace, VTAM trace must also be set to 'Y' and the options 'OPEN EXTENDED TRACE' and 'PRINT BUFFERS AND DATA AREAS' also be set to 'Y'. For more details about traces refer to the UUTIL section in the Com-plete Utilities documentation.