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1 Introduction

The mainframe component of tcVISION Mainframe – the tcVISION Manager – is a host application. It performs the following functions:

- Provision of resources for
  - DBMS-Extensions
  - Data-scripts
  - Scheduling functions
- Runtime environment for scripts

The following manual contains all relevant information to install and administer tcVISION. The manual consists of the following chapters:

- tcVISION Host Manager Installation
- tcVISION Start Parameter
- tcVISION Console-interface
- tcVISION Virtual Disk – Batch Utility Program
All parts of the following JCL examples that are formatted with lowercase and bold letters must be adapted to meet your installation requirements.

It is highly recommended to always use the samples provided in the tcVISION libraries because these samples reflect the most current product level. All examples in this manual reflect the situation at the time the manual was printed.

The tcVISION Host components are being distributed either:
- as virtual tapes
- as binary PC files

### 2.1 Loading the installation tape/cartridge

The tcVISION installation tape/cartridge contains 3 files.

<table>
<thead>
<tr>
<th>FILE#</th>
<th>Data-Set-Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BOS.TCVISION.INSTLIB</td>
</tr>
<tr>
<td>2</td>
<td>BOS.TCVISION.LOADLIB</td>
</tr>
<tr>
<td>3</td>
<td>BOS.TCVISION.MACLIB</td>
</tr>
</tbody>
</table>

The following job control will load the files from the installation tape/cartridge:

```plaintext
//TCVISION  JOB
//STEP1     EXEC PGM=IEBCOPY
//SYSPRINT  DD   SYSOUT=* 
//INSTIN    DD   DSN=BOS.TCVISION.INSTLIB,DISP=(OLD,PASS),
//           VOL=SER=BOSTVS, LABEL=(1,SL),UNIT=TAPE
//INSTOUT   DD   DSN=tcVISION.INSTLIB,DISP=(NEW,CATLG),
//           VOL=SER=volser, INIT=unit,SPACE=(CYL, (5,1,40)),
//           DCB=SYS1.MACLIB,UNIT=SYSDA
//LOADIN     DD   DSN=BOS.TCVISION.LOADLIB,DISP=(OLD,PASS),
//LOADOUT    DD   DSN=tcVISION.LOADLIB,DISP=(NEW,CATLG),
//MACIN      DD   DSN=BOS.TCVISION.MACLIB,DISP=(OLD,PASS),
//MACOUT     DD   DSN=tcVISION.MACLIB,DISP=(NEW,CATLG),
//SYSIN      DD   *
//COPY INDD=INSTIN,OUTDD=INSTOUT  
COPY INDD=LOADIN,OUTDD=LOADOUT
```
Please continue the installation with chapter ‘APF-authorization of the tcVISION Loadlib’, on page 8.
### 2.2 Installation from a PC file

After installing the PC client software components all needed files are available in the defined installation directory of the PC.

- **RESTORE.TXT** - This file contains the JCL to restore the tcVISION libraries on the host.
- **MVSINST.BIN** - The tcVISION INSLIB in binary format.
- **MVSLOAD.BIN** - The tcVISION LOADLIB in binary format.
- **MVSMAC.BIN** - The tcVISION MACLIB in binary format.

Three sequential files (PS format) are needed on the host to receive the libraries by using a PC file transfer or FTP.

- **tcVISION.MVSINST.BIN**
- **tcVISION.MVSLOAD.BIN**
- **tcVISION.MVSMAC.BIN**

The format of each file:

<table>
<thead>
<tr>
<th>Organization</th>
<th>PS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record format</td>
<td>FB</td>
</tr>
<tr>
<td>Record length</td>
<td>80</td>
</tr>
<tr>
<td>Block size</td>
<td>for example 27920</td>
</tr>
<tr>
<td>1st extent cyls</td>
<td>10</td>
</tr>
<tr>
<td>Secondary cyls</td>
<td>5</td>
</tr>
</tbody>
</table>

The three files MVSINST.BIN, MVSLOAD.BIN and MVSMAC.BIN must be transferred in **binary** form into these files. They must **not** be transferred with option CRLF ASCII. Any terminal file transfer program or FTP may be used.

After the transfer the files can be copied into the tcVISION libraries using the following job. The JCL is provided in file RESTORE.TXT when the PC client installation has been completed.

```plaintext
//RESTORE JOB CLASS=A,MSGCLASS=F
/*
//RESTINST EXEC PGM=IKJEFT01
//IN DD DISP=SHR,DSN=tcVISION.MVSINST.BIN
//SYSTSPRT DD SYSOUT=* 
//SYSTSIN DD *
RECEIVE INDDNAME(IN)
DSN('tcVISION.INSTLIB') UNIT(unit) VOLUME(volser) DIRECTORY(30)
*/
//RESTLOAD EXEC PGM=IKJEFT01
//IN DD DISP=SHR,DSN=tcVISION.MVSLOAD.BIN
//SYSTSPRT DD SYSOUT=* 
//SYSTSIN DD *
RECEIVE INDDNAME(IN)
```
The RECEIVE command defines and catalogs the tcVISION libraries in the appropriate sizes.

### 2.3 APF-authorization of the tcVISION Loadlib

Before the host component of tcVISION can be started the loadlib must be APF-authorized. Please include the name of the loadlib in the corresponding member of SYS1.PARMLIB.

To perform the APF-authorization "on the fly" you can use the following console command:

```
SETPROG APF,ADD,DSNAME=tcVISION.LOADLIB,VOLUME=volser
```

If the tcVISION Loadlib is stored on a SMS-managed-volume, the following command must be used:

```
SETPROG APF,ADD,DSNAME=tcVISION.LOADLIB,SMS
```

Note:

When using the console commands the APF-authorization **IS NOT PERMANENT**. You must perform the change to SYS1.PARMLIB so that the change becomes permanent after the next IPL of the system.
2.4 Allocation and initialization of the tcVISION configuration file

tcVISION requires information at run-time that can be maintained by administrators using the tcVISION Front-end program. These information are being stored in a VSAM/RRDS file and are being accessed using the internal tcVISION file system (Virtual Disk). Also run-time information is saved to this file.

The following job control allocates the file. A sample of the job is available as member DEFDISK in the INSTLIB.

```
//DEFDISK JOB  ,'DEF TVSM DISK',CLASS=A,MSGLEVEL=(1,1),MSGCLASS=A
//*
//***************************************************************
//*       DEFINE TCVISION CONTROL DISK                         *
//***************************************************************
//*
//IDCAMS   EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*  
//SYSIN    DD *
DEFINE CLUSTER                         -
   (   NAME(tcVISION.DISK.RRDS)   -
        NUMBERED   -
        SHR(2)   -
        VOL(volser)   -
        RECSZ(32760 32760)   -
        REC(100 100))   -
        DATA(NAME(tcVISION.DISK.DATA))
/*
```

The following job control initializes the file. A sample of the job is available as member INITDISK in the INSTLIB.

```
//INITDISK JOB  ,'INIT TVSM DISK',CLASS=A,MSGLEVEL=(1,1),MSGCLASS=A
//*
//***************************************************************
//*       INITIALIZE TCVISION CONTROL DISK                       *
//***************************************************************
//*
//INIT     EXEC PGM=TVSVDIUP,REGION=0M
//STEPLIB  DD DISP=SHR,DSN=tcVISION.DBS
//TVSMDSK  DD DISP=SHR,DSN=tcVISION.DISK.RRDS
//SYSPRINT DD SYSOUT=*  
//SYSUDUMP DD SYSOUT=*  
//SYSIN    DD *
FILE TVSMDSK
PART CONFIG
MODE U
FDISK FORMAT SIZE=5MB
```
2.5 Start of the tcVISION Host Manager

The tcVISION Host Manager can be started as job or as started task. A sample job is available in member RUNTVSM in the INSTLIB.

```plaintext
//RUNTVSM  JOB  ,'RUN TCVISION',CLASS=A,MSGLEVEL=(1,1),MSGCLASS=A
/*
*****************************************************************
//*      EXECUTE TCVISION HOST MANAGER                            *
*****************************************************************
/*
//RUN      EXEC PGM=TVSMNGR,REGION=0M
//STEPLIB  DD DISP=SHR,DSN=tcVISION.LOADLIB
//TVSMDSK  DD DISP=SHR,DSN=tcVISION.DISK.RRDS
//STDENV   DD DISP=SHR,DSN=tcVISION.MACLIB(STDENV)
//STDOUT   DD SYSOUT=*                                             
//STDERR   DD SYSOUT=*                                             
//STDTRC   DD SYSOUT=*                                             
//SYSPRINT DD SYSOUT=*                                             
//SYSPRINT DD SYSOUT=*                                             
//SYSIN    DD *                                                   
SYSID    tcVISION HOST
LANGUAGE  EN
CCSID    1141
*
MESSAGES CONSOLE ALL *
* VIRTUAL DISK TVSMDSK.CONFIG UPDATE
CONFIG  DIRECTORY /
SCRIPT  DIRECTORY SCRIPTS *
SECURITY N *
* IPCONFIG STACKNAME TCPIP
IPCONFIG LISTEN 4120 */
```

**Note:**
Please note that the TCP/IP region referenced in the tcVISION job must be started and available when the tcVISION address space is started if components are to be activated that require the presence of TCP/IP during the tcVISION startup. Examples are the
automatic start of a pool, the start of scripts via the autostart file or when the tcVISION config listener is started.

For a detailed description of the tcSCRIPT Runtime Parameter (DD-statement STDENV) please refer to the tcSCRIPT manual.
3 tcVISION Host Manager Installation – VSE

All parts of the following JCL examples that are formatted with lowercase and bold letters must be adapted to meet your installation requirements.

! It is highly recommended to always use the samples provided in the tcVISION libraries because these sample reflect the most current product level. All examples in this manual reflect the situation at the time the manual was printed.

The tcVISION Host components are being distributed either:
- as virtual tape
- as binary PC files

3.1 Loading the installation tape/cartridge

The tcVISION installation tape/cartridge contains 1 file.

<table>
<thead>
<tr>
<th>FILE#</th>
<th>Data-Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LIBR Backup BOS.TVS500</td>
</tr>
</tbody>
</table>

Use the following Job Control to load the installation tape/cartridge:

```
// JOB TCVISION VSE-INSTALLATION
// ASSGN SYS006,tape tcVISION TAPE
// EXEC LIBR
RESTORE SUB=BOS.TVS500:bos.tcvision -
TAPE=SYS006 LIST=YES REPLACE=YES
```
3.2 Installation using a PC file

The following file is required from the tcVISION-Installation media (i.e. CD-ROM):

VSELIB.BIN  This file contains the LNKEDT and LIBR-statements to restore the tcVISION-library.

You may use any Terminal File transfer Program to upload this file into the Host transfer File or into the Power Reader Queue (as of VSE/ESA 2.1):

```
SEND VSELIB.BIN TCVINST ( FILE=HTF BINARY LRECL=80 NOUC
or
SEND VSELIB.BIN TCVINST ( FILE=RDR BINARY LRECL=80 NOUC
```

The transfer must be performed binary, with a record length of 80. The data must not be transferred with option CRLF ASCII.

Alternatively a FTP-program can be used to perform a binary transfer into the VSE directory POWER\RDR. After the transfer the file must be submitted (e.g. copy from the Host transfer File into an ICCF Member; Submit the member) or release the job from the POWER READER queue.

After starting the job you will be requested to enter a sub library specification. The modules and sample jobs will be cataloged into this sub library:

```
nn // SETPARM INSTLIB='bos.tcvision'
```

During the linkage step the following message will be displayed

```
2199I ERROR HAS OCCURRED DURING LINKAGE EDITING
```

You can ignore this message. The job must terminate with a return code of less or equal to 4.

3.3 Creation and initialization of the tcVISION configuration file

tcVISION requires information at run-time that can be maintained by administrators using the tcVISION Front-end program. These information are stored in a VSAM/RRDS file and are being accessed using the internal tcVISION file system (Virtual Disk). Also run-time information is saved to this file.

The following job control allocates the file. A sample of the job is available as member DEFDISK.A in the tcVISION library.
The following job control initializes the file. A sample of the job is available in the tcVISION library with a name of INITDISK.A.

```sql
// JOB INITDISK
* ***************************************************************
* INITIALIZE TCVISION CONTROL DISK                          *
* ***************************************************************
// DLBL TVSMDSK,'tcVISION.DISK.RRDS',,VSAM,CAT=catalog
// LIBDEF PHASE,SEARCH=bos.tcvision
// EXEC TVSVDIUP,SIZE=AUTO
FILE TVSMDSK
PART CONFIG
MODE U

FDISK FORMAT SIZE=5MB

MD SCRIPTS
MD SECURITY
MD PROJECTS
MD CODETABLES
/*
*/
/*
*/
```
3.4 Start of the tcVISION Host Manager

The tcVISION Host-Manager must be started in a partition of its own. The partition requires at least 2MB Below-Storage and 16MB Above-Storage. Refer to member RUNTVSM.A in the tcVISION library.

```plaintext
// JOB RUNTVSM
* ***************************************************************
* EXECUTE TCVISION HOST MANAGER                               *
* ***************************************************************
// LIBDEF *,SEARCH=(bos.tcvision,PRD2.DB2nnn)
// DLBL TVSMDSK,'tcVISION.DISK.RRDS',,VSAM,CAT=catalog
// DLBL TVSVCAT,'TVSVCAT',,VSAM
// DLBL TVSLIB,'TVSLIB',,VSAM
// SETPARM RTNA=1 NO ABEND HANDLER
// SETPARM RTTC=0 TRACE TO CONSOLE
// SETPARM RINT=1 NO TRACE
// SETPARM RTMT=0 MULTITASK STDXXX ALLOCATIONS
// SETPARM RTNB=1 NON BLOKKED OUTPUT
// SETPARM RTTI=0 IP BUFFER TRACE
// EXEC TVSMNGR,SIZE=(TVSMNGR,512K),OS390
SYSID      tcVISION HOST
LANGUAGE   EN
CCSID      1141
* MESSAGES   CONSOLE  ALL
* VIRTUAL    DISK       TVSMDSK.CONFIG UPDATE
CONFIG DIRECTORY /
SCRIPT DIRECTORY SCRIPTS
* SECURITY N
* IPCONFIG   STACKNAME 00
IPCONFIG LISTEN 4120
*/
```

Note:
Please note that the TCP/IP partition referenced in the tcVISION job must be started and available when the tcVISION partition is started if components are to be activated that require the presence of TCP/IP during the tcVISION startup. Examples are the automatic start of a pool, the start of scripts via the autostart file or when the tcVISION config listener is started.

For a detailed description of the tcSCRIPT Runtime Parameter (// SETPARM RTxx=) please refer to the tcSCRIPT manual, chapter 2.
4 Database specific installation steps

The steps required for database specific accesses are described in this chapter. The requirements regarding the tcVISION Repository are described in manual "Repository".

4.1 Installation DB2-Access - MVS, OS/390, z/OS

The job-control for the Bind are part of member BINDDB2 in the INSTLIB.

```plaintext
//BINDDB2 JOB ,'BIND DB2',CLASS=A,MSGLEVEL=(1,1),MSGCLASS=A
//******************************************************************
//* BIND THE PLAN FOR TCVISION MANAGER ACCESS TO DB2               *
//******************************+***********************************
//BINDUNL EXEC PGM=IKJEFT01,DYNAMNBR=20,COND=(4,LT)
//STEPLIB DD DSN=db2.SDSNLOAD,DISP=SHR
// DD DSN=db2.RUNLIB.LOAD,DISP=SHR
//SYSTSPRT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SYSTSIN DD *
DSN SYSTEM(xxxx)
BIND PLAN(TVS50DBM) MEM(TVS50DBM) +
 CURRENTDATA(NO) ACT(REP) ISO(CS) ENCODING(EBCDIC) +
 LIB('tcvision.MACLIB')
BIND PLAN(TVS50DBU) MEM(TVS50DBU) +
 CURRENTDATA(NO) ACT(REP) ISO(CS) +
 LIB('tcvision.MACLIB')
```

4.2 Installation DB2 or SQL/DS-access

The Job-Control for the load process can be found in member SQLLOAD.JOB in the tcVISION Library.

```plaintext
// JOB SQLLOAD PREPARE TCVISION DB2 ACCESS
* RELOAD TCVISION DB2 PACKAGE
* LIBDEF *,SEARCH=(PRD2.DB27x0,BOS.tcvision)
// EXEC PGM=ARIDBS,SIZE=Auto,PARM='dbname(SQDS)'
CONNECT SQLDBA IDENTIFIED BY SQLDBAPW TO SQLDS;
RELOAD PACKAGE (TVS50DBM) REPLACE KEEP INFILE(SYSIPT BLKSZ(2000)
 PDEV(DASD));
READ MEMBER TVS50DBM
/* GRANT EXECUTE ON SQLDBA_TVS50DBM TO PUBLIC;
COMMIT WORK;
/* */
```
4.3 Analysis of the URT for access to the Datacom Data Dictionary

For the administration with the tcVISION Front-end-program the tcVISION Host Manager uses a URT to perform access to the data dictionary. The URT is supplied by the tcVISION installation. The name of the URT is "TVSDCDUR".

The URT has the following definitions:

```
DBURSTR MULTUSE=YES
*
DBURTBL DBID=2,TBLNAM=AGR,UPDATE=NO
DBURTBL DBID=2,TBLNAM=ALS,UPDATE=NO
DBURTBL DBID=2,TBLNAM=FLD,UPDATE=NO
DBURTBL DBID=2,TBLNAM=ELM,UPDATE=NO
DBURTBL DBID=2,TBLNAM=ARA,UPDATE=NO
DBURTBL DBID=2,TBLNAM=KEY,UPDATE=NO
DBURTBL DBID=2,TBLNAM=REL,UPDATE=NO
DBURTBL DBID=2,TBLNAM=BAS,UPDATE=NO
*
DBUREND USRINFO=TCVISION/DD/URT
```

If another URT should be used to access the DATACOM data dictionary, specify this URT with the start-up parameter "DATACOM URT LIST name".

Alternatively the supplied TVSDCDUR may be changed to meet the requirements of the installation.

**VSE:** The DATACOM partition must already been active during the start of the host manager. Use the following statement to accomplish this.

```
// EXEC REXX=IESWAITR,PARM='DATACOM'
```
5 Installation of the VSAM Update Server in CICS

Optionally the maintenance of VSAM files can be performed using a CICS based Update Server. This is necessary if the VSAM files that require updates are defined and owned by CICS, hence the tcVISION Host Manager cannot allocate these files for update purposes.

tcVISION scripts can access the CICS based tcVISION VSAM Update Server via TCP/IP. It is irrelevant whether the script is executing on the Host or on a Workstation.

5.1 Installation CICS VSAM Update Server – MVS, OS/390, z/OS

The following CICS definitions are required. The INSTLIB member DEFCICS contains the required job to perform a batch update of the CICS CSD.

```
DEFINE PROGRAM(TVSCIVSM) GROUP(tcVISION) LANGUAGE(ASSEMBLER)
  DATALOCATION(ANY)
  *
DEFINE TRANSACTION(TVSC) GROUP(tcVISION) PROGRAM(TVSCIVSM)
  *
ADD GROUP(tcVISION) LIST(XYZLIST)
```

Any group name instead of 'tcVISION' can be chosen to meet the local installation requirements.

To enable the VSAM Update Server to connect to MVS/TCP/IP requires that the IBM CICS TCP/IP Socket Interface is installed. The IBM Standard listener CSKL is used for the connection.

The following values are recommended for the IBM Listener CSKL (presentation in EZAC DIS LISTENER):

```
APPLID     ===> xxxxxxxx   APPLID of CICS System
TRANID     ===> CSKL       Transaction Name of Listener
PORT       ===> 04180     Port Number of Listener
AF         ===> INET      Listener Address Family
IMMEDIATE  ===> YES       Immediate Startup Yes!No
BACKLOG    ===> 020       Backlog Value for Listener
NUMSOCK    ===> 050       Number of Sockets in Listener
ACCTIME    ===> 060       Timeout Value for ACCEPT
GIVTIME    ===> 010       Timeout Value for GIVESOCKET
REATIME    ===> 000       Timeout Value for READ
```

5.2 Installation CICS VSAM Update Server – VSE, VSE/ESA, z/VSE

The following CICS CSD definitions are required. The library member DEFCICS.A contains the required job to perform a batch update of the CICS CSD.
DEFINE PROGRAM(TVSCIVSM) GROUP(tcVISION) LANGUAGE(ASSEMBLER)
   DATALLOCATION(ANY)
DEFINE PROGRAM(TVSCILST) GROUP(tcVISION) LANGUAGE(ASSEMBLER)
   DATALLOCATION(ANY)
DEFINE PROGRAM(TVSCIPLT) GROUP(tcVISION) LANGUAGE(ASSEMBLER)
   DATALLOCATION(ANY)
*
DEFINE TRANSACTION(TVSC) GROUP(tcVISION) PROGRAM(TVSCIVSM)
DEFINE TRANSACTION(TVSL) GROUP(tcVISION) PROGRAM(TVSCILST)
*
ADD GROUP(tcVISION) LIST(XYZLIST)

Any group name instead of 'tcVISION' can be chosen to meet the local installation requirements.

For the automatic start of the TCP/IP listener the following specifications are required for
the PLTPI (third stage, after statement DFHDELIM):

```
DFHPLT TYPE=ENTRY,PROGRAM=TVSCIPLT
```

To control the TCPIP SYSID and the port for the tcVISION VSAM Update Server the
following parameter is included in the CICS SIT.

```
...                   INITPARAM=(TVSCILST='id,portn'),
...                  
```

* \textit{id} \quad SYSID of the TCP/IP partition (2 digits)*

* \textit{portn} \quad Port number for the VSAM Update Server (5 digits, example: 04080).*
6 Global Language Pack

The tcVISION Global Language Pack (GLP) supports the additional use of multi byte and double byte code tables. Mainframe data can now be transferred into Unicode or UTF-8 and replicated into a target database depending upon their code tables. The supported code tables can be found in appendix A: Appendix A: Supported code pages on page 48.

6.1 Installation DB2/UDB access for z/OS

The Bind JCL is part of member BINDDB2U in library INSTLIB.

```
//BINDDB2 JOB , 'BIND DB2', CLASS=A, MSGLEVEL=(1,1), MSGCLASS=A
//******************************************************************
//* BIND THE PLAN FOR TCVISION MANAGER ACCESS TO DB2/UDB           *
//******************************+***********************************
//BINDUNL EXEC PGM=IKJEFT01, DYNAMNBR=20, COND=(4,LT)
//STEPLIB DD DSN=DB2.SDSNLOAD, DISP=SHR
//DD DSN=DB2.RUNLIB.LOAD, DISP=SHR
//SYSTSPRT DD SYSOUT=*  
//SYSPRINT DD SYSOUT=*  
//SYSUDUMP DD SYSOUT=*  
//SYSTSIN DD *
DSN SYSTEM(xxxx) 
BIND PLAN(TVS50DBU) MEM(TVS50DBU) +
 CURRENTDATA(NO) ACT(REP) ISO(CS) +
 LIB('tcvision.MACLIB')

BIND PLAN(TVS50DBU) MEM(TVS50DBU) +
 CURRENTDATA(NO) ACT(REP) ISO(CS) +
 LIB('tcvision.MACLIB')
```
7 Start parameter of the tcVISION Host-Manager

7.1 Description of the Startup Parameter

The startup parameters specify how tcVISION should go about its business.

These parameters are provided via SYSIN (VSE: SYSIPT) and control the initialization of tcVISION. Not all parameter must be specified. Several parameters have default values that will be used. Those default values are underlined in the following chapter.

7.1.1 TRACE Settings

Format: TRACE ON
        OFF
        TCACCESS

The TRACE parameter controls whether the tcVISION tracing is active or not. Tracing relates to tcVISION system traces and traces for the tcACCESS system. By default, no traces will be created (TRACE OFF).

Parameter TRACE TCACCESS only relates to a tcACCESS system that has been started under the control of tcVISION. The tcACCESS trace-information will be written to a special DD-statement and are only available in OS/390. The name of the DD-statements is TCVPRINT.

In case that tcACCESS has not been started under the control of tcVISION (i.e. when running as a CICS application or in a VSE environment) traces will be created using standard tcACCESS facilities. For more information refer to the tcACCESS manuals "Host Installation and Administration" and "Host Server".

Format: DBMSEXT WTOFLAG ALL NO
        YES

Trace-messages of the DBMS-extensions should be suppressed (NO) or should be displayed (YES). These messages will be displayed on the system console. DBMS-extensions are programs that use official and standard database exits to capture and process the changed data in real-time.

The trace messages of every extension can be controlled with the following parameter:

Format: DBMSEXT WTOFLAG n-m YES
        n-m NO

The definition of n or n-m controls the display or suppression of trace messages for individual DBMS-extensions. The following values can be used:

1 DB2
2 IMS-Exit
3 CICS DBCTL (IMS)
4 ADABAS
5 CICS-VSAM
6 IDMS
7 VSE-VSAM/BATCH
8 DATACOM

Example: Only messages of the two IMS-extensions should be displayed.

```
DBMSEXT WTOFLAG ALL NO (could be omitted, because it is default)
DBMSEXT WTOFLAG 2-3 YES
```

or

```
DBMSEXT WTOFLAG ALL YES
DBMSEXT WTOFLAG 1 NO
DBMSEXT WTOFLAG 4-5 NO
```

### 7.1.2 ABEND Handling

**Format:**

```
ABEND HANDLER ON OFF
```

Using the default setting ensures that all ABENDs that may happen under the control of the tcVISION main task will be trapped and handled by the main task. This also applies to an operator-cancel (S222). This ensures that all necessary housekeeping functions can be performed by the tcVISION region/partition in case of an ABEND.

**ABEND HANDLER ON**

tcVISION traps and handles all kind of ABENDs that may happen under the control of the tcVISION main task.

**OS/390:**
If the JCL contains a SYSUDUMP- or SYSABEND DD-statement, a corresponding dump will be created.

**VSE:**
A partition dump will be created.

**ABEND HANDLER OFF**

If an ABEND occurs the processing of the tcVISION main task terminates.

**OS/390:**
If the JCL contains a SYSUDUMP- or SYSABEND DD-statement, a corresponding dump will be created.

**VSE:**
A partition dump will be created.

### 7.1.3 Log-settings

**Format:**

```
SHOW TIME NOTIME
```

By default all messages will have a date- and time-stamp.

**SHOW NOTIME** displays the messages with date only.

`tcVISION messages are all written into the system-log of the tcVISION region (SYSPRINT) or partition (SYSLST).`
This parameter specifies whether messages of the tcVISION Manager should be written to the log or not.

The size of the message blocks is 32K per each block. The number of blocks allocated for the messages is 64. MAXBLOCKS can be used to change that number.

This parameter specifies whether certain messages should also be displayed on the system-console and the system-log. Default is that all messages are being displayed upon the console. The optional parameter HOLD highlights the messages on console and they will not be removed from the display.

**NOTE:**
Messages TVS003 and TVS004 will ALWAYS be displayed on the console. All Script-messages (messages with a prefix of TCS) will be controlled by message TVS085. If these messages will be directed to the console, all TCS-messages will be directed to the console.

Example: Only script-messages should be displayed on the console.
MESSAGE NOCONSOLE ALL
MESSAGE CONSOLE 085

This parameter ensures that an emitter will create a "sign of living" in a timely interval. The number of data-records are being specified that must be processed and a statistic will be created using messages 740-742. A specification of 0 will suppress these messages. The setting specified with MESSAGES NOCONSOLE/CONSOLE also applies to the REPORT parameter.

This parameter ensures that after the insertion or retrieval of \( n \) records a statistic will be displayed using messages 835-837. A specification of 0 will suppress these messages. The setting specified with MESSAGES NOCONSOLE/CONSOLE also applies to the REPORT parameter.

### 7.1.4 Error-condition settings

This parameter controls the behavior of tcVISION during the initialization phase, when an error has been detected in the parameter.

**ONERROR EXIT**
Processing should be terminated.

**ONERROR RESUME**
The parameter in error should be ignored and the processing should continue.

### 7.1.5 Language settings

**Format:**

```
LANGUAGE  lang
LANG      lang
```

This parameter controls the language used for the messages. The default language is AM.

The following languages are supported:

| LANGUAGE |  |  |
|----------|----------|
| DE       | Germany (Deutschland) |
| AM       | America |
| EN       | England |
| FR       | France |
| IT       | Italy |

### 7.1.6 System-identification in the Manager-network

**Format:**

```
SYSID     sysid
```

Every tcVISION Manager (Mainframe- or Workstation) must have a unique ID. If the ID is missing error message TVS004 will be issued.

The SYSID is a character string of 20 characters maximum. It consists of a group- and a Manager-name. Both names are separated by a slash (`/`).

**Example:**

```
SYSID    TEST/TVSM
```

where TEST is the group- and TVSM is the Manager-name.

### 7.1.7 Operator Messages

**Format:**

```
WTO      message
```

Write a message into the tcVISION Log. The message can have a maximum length of 75 characters. If the message contains spaces the string must be embedded within quotes. In this case the actual text string can only be 73 characters.
7.1.8 Implementation of the tcVISION SVC

Format:

<table>
<thead>
<tr>
<th>Format</th>
<th>SVC SET 240</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVC SET n</td>
<td></td>
</tr>
<tr>
<td>SVC RESET</td>
<td></td>
</tr>
</tbody>
</table>

DBMS-extensions that do not run in an authorized environment require the tcVISION SVC.
The default value for the tcVISION SVC is 240. It is a type TYP 3 SVC. If the default should not be used, any number between 200 and 255 can be specified.

**SVC RESET**
This parameter will be used for system maintenance, i.e. when the SVC has been changed and must be reloaded.

7.1.9 Specify 'Coded Character Set Identification' for this Host

Format:

<table>
<thead>
<tr>
<th>Format</th>
<th>CCSID 1141</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSID n</td>
<td></td>
</tr>
</tbody>
</table>

This parameter specifies the standard code page.
The Default is 1141.

7.1.10 Virtual Disk Settings

Format:

<table>
<thead>
<tr>
<th>Format</th>
<th>VIRTUAL DISK TVSMDSK.CONFIG UPDATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIRTUAL DISK ddname.partition UPDATE READ</td>
<td></td>
</tr>
</tbody>
</table>

The parameter specifies the system directory on the Virtual Disk. The name consists of the DD-name (VSE: DLBL name), a period (.) and the name of the logical partition. Use the parameter when you want to use an alternate Virtual Disk or when the access mode should be changed to READ.

Format:

<table>
<thead>
<tr>
<th>Format</th>
<th>CONFIG DIRECTORY /</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONFIG DIRECTORY config-directory</td>
<td></td>
</tr>
</tbody>
</table>

Specifies the directory for the configuration files. These include files for the collector definitions, pool-definitions, the IMC-file (Inter Manager Communication) and the AUTOSTART-file. Default is the root directory.

Format:

<table>
<thead>
<tr>
<th>Format</th>
<th>SCRIPT DIRECTORY SCRIPTS/</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCRIPT DIRECTORY script-directory</td>
<td></td>
</tr>
</tbody>
</table>

Specifies the script directory. Default is SCRIPTS.
This parameter specifies a backup-file for scheduler activities. The file will be maintained by tcVISION and contains the current scheduler-activities. The file will be written into the directory that has been specified with parameter CONFIG DIRECTORY.

This parameter specifies a file to save the URT-table names. This file is maintained by tcVISION and contains dynamically identified URT-table names.

The file is written into the directory that is defined with CONFIG DIRECTORY.

7.1.11 Security Settings

This parameter specifies the security settings. Default is NO security.

NO - no security
INTERNAL - the tcVISION internal security should be used
EXTERNAL - Security requests should be directed to the specified Manager.
SAF - use the security of the Security Authorization Facility SAF.
Specify SAF if you plan to use RACF, ACF/2, TOP/SECRET or any other SAF product.
The name of a security class can be defined. The default classname is $TVSCLAS
USEREXIT - Specify a user program that performs security checkings.

Parameter SECURITY CONSOLE activates or deactivates the application of security settings for console commands. NO means that all commands can be issued on the console. YES means that commands issued on the console will be checked against the security profiles. YES should only be used, when a tcVISION user has the authority to work with the system console. The optional parameter UTOKEN applies to a z/OS environment with SAF security active and has the following meaning: the content of field CIBXUTOK of console control block CIBX is passed to the SAF system as UTOKEN.

Parameter SECURITY SCRIPT activates or deactivates the application of security settings for script commands. NO means that all commands can be issued on the script. YES means that commands issued on the script will be checked against the security profiles.
Parameter SECURITY SCRIPT activates or deactivates the application of security settings for processing scripts.

Format:

<table>
<thead>
<tr>
<th>SECURITY</th>
<th>UIDPWDUCT</th>
<th>NO</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECURITY</td>
<td>UIDPWDUCT</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

Parameter SECURITY UIDPWDUCT specifies whether the user id and/or password should be translated to uppercase during sign on to the tcVISION Manager. Both values must be specified. The first value applies to the user id and the second value applies to the password.

Format:

| SECURITY | SAFAPPL | *JOBID* |
| SECURITY | SAFAPPL | applname |

Parameter SECURITY SAFAPPL applies to SAF security and specifies, whether and which value should be used for parameter APPL= of RACROUTE REQUEST=VERIFY. If parameter SECURITY SAFAPPL has been omitted APPL= is not used. A specification of *JOBID* results in the specification of the actual name of the region/partition. All other values are treated as applname.

### 7.1.12 CICS Settings

Format:

| CICS | APPLID | SEARCH | YES |
| CICS | APPLID | SEARCH | NO |

This parameter specifies whether tcVISION should automatically search for CICS systems at startup. These systems must have been defined with ISC=YES, IRCSTRT=YES. tcVISION tries to contact DBMS-extensions inside these systems, if they are available.

For MVS, OS/390, z/OS only:

To perform this search, the CICS loadlib `cics.SDFHEXCI` must be part of the STEPLIB concatenation of the tcVISION region.

Parameter SEARCH NO suppresses the automatic search.

Format:

| CICS | APPLID | LIST | applid1,applid2,......,applidn |

tcVISION should only use the names defined in the list to establish the „contact“.

### 7.1.13 System check interval Settings

Format:

| WATCHDOG | 10 | seconds |

The parameter defines the interval in seconds when tcVISION must perform an internal system check. The default is 10 seconds. All system components will be checked by tcVISION. Use the parameter to specify a different interval for the „health check“.
The parameter activates the automatic disconnect of outgoing connections to other tcVISION Managers. If this parameter has been specified a connection to a remote Manager is not automatically established anymore during start-up. Instead the connection is established during a request to the target Manager. If the connection has not been used for the duration of seconds after a request, the connection will be disconnected. For a reuse of the connection a new connection is established in the background.

### 7.1.14 Script history Settings

Format: 

```
HISTORY AUTOCLEAN YES
HISTORY AUTOCLEAN NO
```

Basically the history of all processed scripts remains available until it is being deleted by a function of the tcVISION maintenance program. A specification of YES does not save scripts with a return code of 0. Only scripts that terminated with a return code of not equal to 0 will become part of the history.

### 7.1.15 TCP/IP Settings

Format: 

```
IPCONFIG STACKNAME TCPIP
IPCONFIG STACKNAME stackname
```

*The parameter defines the name of the host TCP/IP-component.*

**MVS, OS/390, z/OS:**  
Specify the name of the TCP/IP-region that tcVISION should communicate with.

**VSE:**  
Specify the partition-ID of the TCP/IP-partition (i.e. 00)

Format: 

```
IPCONFIG MAILSERVER ipaddress ipport
```

The tcVISION host Manager can be enabled to send E-mails in certain situations (i.e. to inform about a problem situation). The parameter specifies what mail server tcVISION should contact. Specify the IP-address and the SMTP port.

Format: 

```
IPCONFIG LISTEN localhost 4120
IPCONFIG LISTEN x.x.x.x nnnn
```

The parameter specifies the IP-address and the IP-port that should be used by tcVISION for communication with other external Managers or with the tcVISION maintenance program. The default port is 4120.

Format: 

```
IPCONFIG INTPORT x.x.x.x port
```

The parameter specifies the internal IP-address and the IP-port for a script.
communication.

**MVS, OS/390, z/OS:**
If the port has not been specified the next available free port will be used.

**VSE:**
If the port has not been specified the next available free port will be used.

**Format:**

```
IPCONFIG AUTOSHUT OFF
    ON return code
```

The parameter specifies whether tcVISION should automatically shutdown when TCP/IP is not available. For that case specify the return code that should initiate this event.

### 7.1.16 Automatic start of components

**Format:**

```
START AUTOLIST AUTOSTART.LIST
START AUTOLIST autostartfile
```

The autostart feature can be used to automatically start components during the initialization phase of tcVISION. The components can be selected by the tcVISION maintenance program and will be saved into the file that is defined in the parameter. The file will be saved to the Virtual Disk. The directory specified with parameter CONFIG DIRECTORY will be used as target.

**Format:**

```
START COLLECTOR collectorname
START COLL collectorname
```

The parameter specifies the name of a collector that should be automatically started by tcVISION.

**Format:**

```
START COLLECTOR AUTO
START COLL AUTO
```

This parameter will automatically start collectors that already have been allocated but are inactive.

**Format:**

```
START POOL poolname
```

The parameter specifies the name of a pool that should be automatically started by tcVISION.

**Format:**

```
START POOL AUTO
```

This parameter specifies that pools should be automatically started when they are referenced for the first time.

**Format:**

```
START SCRIPT scriptname scriptparms
```

The parameter specifies the name of a processing script that should be automatically started by tcVISION. Optional start parameter can be passed to the script.

**Format:**

```
START IMC MANAGER.FILE
START IMS manager filename
```
The parameter specifies a file that contains the names of all Managers that are part of the Manager network and tcVISION should automatically establish a connection to them during startup. The file will be saved to the Virtual Disk. The directory specified with parameter CONFIG_DIRECTORY will be used as target.

Format: **START TCACCESS**

The tcACCESS system should be automatically started during startup of tcVISION. This parameter only applies to an OS/390 system, because the tcACCESS Monitor system will be started.

If the CICS based tcACCESS system will be used you must ensure that all mechanisms required to establish a TCP/IP connection to tcACCESS are in place. For more information refer to manual "tcACCESS Host Installation und Administration".

### 7.1.17 Initialization rules for the start of DBMS-extensions

Format: **DBMSEXT TEST type subsys coll ASKOPER**

**DBMSEXT TEST type subsys coll WARN**

These rules define the reaction-method of the DBMS-extensions in case required collectors are not available.

- **type**  Type of collector (i.e. ADAE, DB2E, IMSD, IMSE and VSME)
- **subsys**  Subsystem ID, i.e. CICS-Applid or IMS-ID
- **coll**  Name of the collector

- **ASKOPER**  Issue an operator message and ask whether another attempt should be made to search for the collector (TVS311Q, TVS312Q, TVS309I).
- **WARN**  Issue a warning (TVS308W)

### 7.1.18 DB2 Settings

Format: **DB2 ATTACH RRSAF** *(MVS, OS/390, z/OS only)*

**DB2 ATTACH CAF** *(MVS, OS/390, z/OS only)*

The parameter specifies the method that should be used to establish a connection to a DB2 subsystem (MVS, OS/390 and z/OS only).

- **RRSAF**:  Recoverable Resource Manager Services Attachment Facility
- **CAF**:  Call Attach Facility

Format: **DB2 SUBSYSTEM SEARCH YES** *(MVS, OS/390, z/OS only)*

**DB2 SUBSYSTEM SEARCH NO** *(MVS, OS/390, z/OS only)*

The parameter specifies whether tcVISION should automatically search for DB2 subsystems to establish contact with those systems. Parameter SEARCH NO suppresses this automatic search (MVS, OS/390, z/OS only).

Format: **DB2 DBNAME SEARCH YES** *(VSE)*

**DB2 DBNAME SEARCH NO** *(VSE)*

The parameter specifies whether tcVISION should automatically search for DB2
databases to establish contact with them. Parameter SEARCH NO suppresses this automatic search (VSE only).

**Format:**

```
DB2 SUBSYSTEM LIST dsn1,dsn2,...dsn (MVS, OS/390, z/OS)
```

tcVISION should only contact the systems specified in the list (MVS, OS/390, z/OS only).

**Format:**

```
DB2 DBNAME LIST dbn1,dbn2,...dbnn (VSE)
```

tcVISION should only contact the databases specified in the list (VSE only).

### 7.1.19 IMS Settings

**Format:**

```
IMS IMSID SEARCH YES
IMS IMSID SEARCH NO
```

The parameter specifies whether tcVISION should automatically search for IMS subsystems to establish contact with possible DBMS-extensions inside those systems. Parameter SEARCH NO suppresses this automatic search.

**Format:**

```
IMS IMSID LIST imsid1,imsid2,...imsidn
```

tcVISION should only contact the systems specified in the list.

### 7.1.20 Websphere MQ settings (only MVS, OS/390, z/OS)

**Format:**

```
WS-MANAGER NAME LIST name1,name2,...namern
```

tcVISION should only contact the WS Manager specified in the list.

### 7.1.21 ADABAS Settings

**Format:**

```
ADABAS SVC SEARCH YES
ADABAS SVC SEARCH NO
```

The parameter specifies whether tcVISION should automatically search for ADABAS subsystems to e.g. establish contact with possible DBMS-extensions inside those systems. MVS, OS/390, z/OS only: Specification of SEARCH YES will analyze all SVCs from 200 to 255. Parameter SEARCH NO suppresses this automatic search.

**Format:**

```
ADABAS SVC LIST svc1,svc2,...,svcn
```

tcVISION should only contact the systems specified in the list and that can be identified by the SVC-number.

**Format:**

```
ADABAS SVC CHECK YES
ADABAS SVC CHECK NO
```
The parameter specifies whether tcVISION is going to check the SVC numbers given in the ADABAS LIST SVC parameter.

**Notice:** The usage of incorrectly given SVC numbers without activated checking will lead to unpredictable results.

### 7.1.22 IDMS Settings

**Format:**
```
IDMS     CV     LIST cvn  accessmodule dictionary-database
```

- **cvn:** CV number of the IDMS-systems that should be connected to.
- **accessmodule:** Access module that should be used to access this IDMS system.
- **dictionary-database:** Database that contains the definitions of the schema compiler.

### 7.1.23 Datacom settings

**Format:**
```
DATACOM URT SEARCH YES
```
```
DATACOM URT SEARCH NO
```

The parameter specifies whether tcVISION should search for URT-tables (User Requirements Tables). A specification of SEARCH NO will only use the URTs specified in the following statement.

**Format:**
```
DATACOM URT LIST urt
```

tcVISION should offer the specified URT for DATACOM access. Any number of statements can be specified.

**Format:**
```
DATACOM URT AUTOCLOSE n
```

tcVISION should automatically close an open URT-table for Datacom Dictionary accesses after n seconds following the last access. Without this parameter the Datacom Dictionary remains opens for accesses until system shutdown. To close the URT console command CLOSE DATACOM URT can also be used.

### 7.1.24 Access to tcACCESS installations

**Format:**
```
TCACCESS name ADDR=ipaddr  PORT=port
TCACCESS name USERID=user PASSWD=password
TCACCESS name TRAN=[TCAS]transid]
TCACCESS name CRC=[YES|NO]  COMPRESS=[YES|NO]
```

The parameter specifies how the connection to tcACCESS should be established. Specify:
- The connectivity information ADDR and PORT,
- The Signon information USERID and PASSWD
• The information how to start tcACCESS (TRAN)
• Information concerning data transfer (CRC-check and compression).

7.1.25 Cancel the Startups

Format: EXIT

As soon as this parameter is found in the parameter stream the initialization process will be terminated.

7.1.26 Clear a collector

Format: CLEAR COLLECTOR name

This parameter clears all data that is still contained in a collector. The collector must not be active at this time, i.e. no active connection must be available to a started pool.

The clearing of a collector is audited in the collector statistics with entry "Lost data records/Lost data".

Note: After execution of this command the collector data is lost and cannot be recovered. This may lead to inconsistency situations at the target database.
A batch program with a wide range of functions is provided to maintain the virtual disks using batch processes. 'TVSVDIUP' is the program that can be used to maintain the virtual disk in batch. It supports the following functions:

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BACKUP</td>
<td>Save the files and directories on a virtual disk including the migration of formats until version 3.0.x</td>
</tr>
<tr>
<td>CD</td>
<td>Navigate the directories</td>
</tr>
<tr>
<td>COPY CON</td>
<td>Create a file from the input data</td>
</tr>
<tr>
<td>DIR</td>
<td>List all directories within the path</td>
</tr>
<tr>
<td>DIR -s</td>
<td>List all directories within a path including all files and subdirectories</td>
</tr>
<tr>
<td>FDISK ACTP</td>
<td>Activate a partition</td>
</tr>
<tr>
<td>FDISK DELP</td>
<td>Delete a partition</td>
</tr>
<tr>
<td>FDISK DIRP</td>
<td>List all partitions of a virtual disk</td>
</tr>
<tr>
<td>FDISK FORM</td>
<td>Format a virtual disk</td>
</tr>
<tr>
<td>FDISK FREP</td>
<td>Release space of a deleted partition</td>
</tr>
<tr>
<td>FDISK INAP</td>
<td>Inactivate a partition</td>
</tr>
<tr>
<td>FDISK UNDP</td>
<td>Restore a deleted partition</td>
</tr>
<tr>
<td>FILE</td>
<td>Switch between basic files</td>
</tr>
<tr>
<td>MD</td>
<td>Create a directory</td>
</tr>
<tr>
<td>MODE</td>
<td>Determine the access mode for the basic file</td>
</tr>
<tr>
<td>PART</td>
<td>Switch between partitions of a virtual disk</td>
</tr>
<tr>
<td>RD</td>
<td>Delete a directory</td>
</tr>
<tr>
<td>RENAME</td>
<td>Rename a directory entry</td>
</tr>
<tr>
<td>RESTORE</td>
<td>Restore the files and directories of a virtual disk from the BACKUP</td>
</tr>
<tr>
<td>TRUNCATE</td>
<td>Activate/Deactivate Function &quot;Truncate Trailing Blanks&quot; for COPY CON</td>
</tr>
<tr>
<td>TYPE</td>
<td>Print the content of a file</td>
</tr>
<tr>
<td>USER</td>
<td>UserID</td>
</tr>
</tbody>
</table>

```bash
//RUNVDI   JOB ,'RUN THE VDI U PGM',CLASS=A,MSGCLASS=S
//STEP1   EXEC PGM=TVSDIUP,REGION=0M
//STEPLIB  DD DISP=SHR,DSN=tcVISION.loadlib
//TVMDSK   DD DISP=SHR,DSN=tcVISION.DISK.RRDS
//BACKUP   DD DISP=(,CATLG),DSN=tcVISION.backup.file,
//          VOL=SER=volser,UNIT=unit,SPACE=(CYL,(n,n))
//SYSPRINT DD SYSOUT=*                                    
//SYSUDUMP  DD SYSOUT=*                                   
//SYSIN DD *                                           

... Parameter statements

*  
```
Fig. 1: Example job for Batch processing of Virtual disk - OS/390

```plaintext
// JOB RUNVDI
// LIBDEF *,SEARCH=(bos.tcVISION)
// DLBL TVSMDSK,'tcVISION.DISK.RRDS',,VSAM,CAT=catalog
// ASSGN SYS010,DISK,VOL=volser,SHR
// DLBL BACKUP,'tcVISION.backup.file',0,SD
// EXTENT SYS010,SYSWK1,1,0,nnnnn,nnnnn
// EXEC TVSVDIUP,SIZE=AUTO

... Parameter statements

/* */
```

Fig. 2: Example job for Batch processing of Virtual disk - VSE

### 8.1.1 BACKUP

The BACKUP parameter writes files of the defined disk to a backup media.

The following syntax applies:

```
BACKUP [-ASRWD] [Filter]
```

The file for the backup must have a corresponding DD statement or a 'BACKUP' DLBL statement. A DCB can be defined as follows:

```
DCB=(RECFM=V,LRECL=32004,BLKSIZE=32008)
```

The 'BACKUP' command can be used with the following parameter. The parameter must always be specified in front of the filter.

- **-S** Subdirectories will also be saved.
- **-A** Files with an archive attribute only will be saved.
- **-R** The archive attribute is reset after the file has been successfully saved.
- **-W** The tape is rewound after the save operation has been successfully completed (VSE only). This parameter cannot be used in conjunction with the -D parameter.
-D  VSE only. Backup is performed to a disk file instead of a tape (This parameter cannot be used in conjunction with the -W parameter.

The 'BACKUP' command accepts filter options to determine the files to be saved. These filters should be defined in the following way:

```
BACKUP CONFIG
```

All files in the 'CONFIG' subdirectory will be saved.

```
BACKUP *.TSF
```

Files matching the '*.TSF' filter will be saved.

If no filter is defined, then '*.*' will be assumed.

**Example:**

```
FILE TVSMDSK
PART CONFIG
MODE R
CD SCRIPTS
BACKUP -S *.TSF
```

All files with the extension .TSF will be backed up. Source is directory SCRIPTS and possible subdirectories

### 8.1.2 CD

The CD parameter switches to another directory. The following syntax applies to the 'CD' command:

```
CD [.. | directory name]
```

Several directories can be defined. They must be separated by a '/'. The main directory is specified with '/'.

**Example:**

```
CD SCRIPTS/SYSTEM
CD ..
CD /
```
8.1.3 COPY CON

The 'COPY CON' allows the creation of a virtual disk file. The input data for the file is part of the input stream and follows the COPY CON command. The following syntax applies to the 'COPY CON' command:

```
COPY CON file name
```

The files are automatically translated from EBCDIC to ASCII and will then be written to the virtual disk. The input data follows the 'COPY CON' command and is terminated with '$$END'. Additional parameter may follow. If the input lines are terminated with '||', no CRLF will be generated; the line will be concatenated with the following line. Additional commands may follow. Trailing blanks will be truncated in every line. This function can be deactivated with TRUNCATE OFF command.

Example:

```
COPY CON EXPENSIVE.CDS
TABLE_NAME=SCOTT.ARTICLE
DEFAULT_CCSID=1141
UNIQUE_KEY=NR
$$END
```

8.1.4 DEL

The 'DEL' command deletes files. The following syntax applies:

```
DEL [file_name | filter]
```

Example:

```
DEL *. *
DEL OLDFILE.FTB
DEL TABLES/USER/*.FTB
```

The 'PART' statement defines the partition where files are to be deleted. To write to a virtual disk the write mode must be activated. This is accomplished by using the 'MODE U' parameter.

8.1.5 DIR
The 'DIR' parameter prints the entries of the directory. The following applies to this command:

```
DIR [-S] [filter]
```

The directories must be separated with '/'. The '-S' parameter will list the subdirectories. This parameter must to be defined in front of the filter.

If no filter is defined, '*.*' is assumed.

**Example:**

```
CD TABLES
DIR -S *.FTB
DIR TABLES/SYSTEM/*.FTB
```

### 8.1.6 FDisk ACTP

The 'FDISK ACTP' parameter activates an 'inactive' partition on a virtual disk. The following syntax applies:

```
FDISK ACTP
```

The partition name that should be activated must be defined in a 'PART' statement before FDISK. To write to a virtual disk, the write mode must be activated. Using the 'MODE U' parameter does this.

A partition with the 'INACTIVE' status only can be activated.

**Example:**

```
FILE NEWDISK
PART ACTPART
MODE U
FDISK ACTP
```

This example activates a partition called 'ACTPART' on the virtual disk with the name 'NEWDISK'.
8.1.7 FDISK DELP

The 'FDISK DELP' parameter deletes a partition on a virtual disk. The following syntax applies:

```
FDISK DELP
```

The name of the partition to be deleted must be defined in the 'PART' statement before FDISK. To write to a virtual disk the write mode must be activated. Using the 'MODE U' parameter does this:

Only a partition with an 'OK' status can be deleted.

Example:

```
FILE NEWDISK
PART DELPART
MODE U
FDISK DELP
```

This example deletes a partition called 'DELPART' on a virtual disk with the name 'NEWDISK'.

8.1.8 FDISK DIRP

The 'FDISK DIRP' parameter prints a partition table of the defined virtual disk. The following syntax applies:

```
FDISK DIRP
```

In the following example the partition table of the 'TVSMDISK' file is printed. The following syntax applies.

```
FILE TVSMDISK
FDISK DIRP
```
The following printout will be produced:

<table>
<thead>
<tr>
<th>Name</th>
<th>Capacity Byte</th>
<th>Occupied storage Byte</th>
<th>Perc.</th>
<th>Number Entries</th>
<th>Status</th>
<th>Defined hex.</th>
<th>hex.</th>
<th>Defined on at by</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISK0</td>
<td>1048576</td>
<td>993831</td>
<td>95%</td>
<td>18</td>
<td>OK</td>
<td>2</td>
<td>41</td>
<td>23.12.1999 10:15:14 USER1</td>
</tr>
<tr>
<td>DISK1</td>
<td>24117248</td>
<td>1234293</td>
<td>5%</td>
<td>784</td>
<td>OK</td>
<td>42</td>
<td>81</td>
<td>16.12.1999 19:25:09 USER1</td>
</tr>
<tr>
<td>DISK3</td>
<td>1048576</td>
<td>21047</td>
<td>2%</td>
<td>10</td>
<td>OK</td>
<td>642</td>
<td>681</td>
<td>30.11.1999 10:15:11 USER2</td>
</tr>
<tr>
<td>SYSDSK</td>
<td>1048576</td>
<td>160685</td>
<td>15%</td>
<td>79</td>
<td>OK</td>
<td>682</td>
<td>6C1</td>
<td>05.01.2000 10:52:00 BATCH</td>
</tr>
</tbody>
</table>

8.1.9 FDISK FORM

The 'FDISK FORM' parameter creates a partition on a virtual disk. The following syntax applies:

```
FDISK FORM SIZE=n
```

The 'SIZE=' parameter without a further specification defines the size in bytes. The number for the size specification can be up to 16 positions. If 'KB' is defined, a partition in the size of \( n \times 1024 \) is created, the specification of 'MB' has the effect that MegaBytes are assumed for the creation of the file size. The minimum size for a partition is three times the record length of the basic file.

The partition name must be defined in a 'PART' statement. In order to be able to write on a virtual disk, the write mode must be activated. Using the 'MODE U' parameter does this.

Example:

```
FILE NEWDISK
PART NEWPART
MODE U
FDISK FORM SIZE=2MB
```

This example formats a partition on a virtual disk with a size of 2 MegaBytes. Between the size specification and the optional unit (e.g. KB), you may specify one blank or no blank at all.

The 'FORM' command uses the free space of a virtual disk that became available after partitions were deleted (status: 'DELETED') or cleared (status: 'EMPTY'). If the required free space is not available on the basic file, tcACCESS attempts to add the partition at the end of the file.

Note: If a partition is enlarged, the space of the partition needs to be explicitly released after deletion, by using the 'FDISK FREP' command, before the 'FDISK FORM' command can be performed using the same partition name.
8.1.10 FDISK FREP

The 'FDISK FREP' parameter releases the storage space of a partition on a virtual disk that has been deleted. The following syntax applies:

```
FDISK FREP
```

The partition name to be released must be defined in a 'PART' statement. To write to a virtual disk the write mode must be activated. Use the 'MODE U' parameter for this.

A partition with the 'DELETED' status only can be released. A released partition cannot be restored again with the 'UNDP' command.

**Example:**

```
FILE OLDDISK
PART DELPART
MODE U
FDISK DELP
FDISK FREP
```

This example deletes the partition called 'DELPART' on the virtual disk with the name 'NEWDISK' and releases the storage space that has been occupied by this partition.

8.1.11 FDISK INAP

The 'FDISK INAP' parameter inactivates a partition on a virtual disk. The following syntax applies:

```
FDISK INAP
```

The partition name to be inactivated is defined with a 'PART' statement. To write on a virtual disk the write mode must be activated. Using the 'MODE U' parameter does this.

Only a partition with the 'OK' status can be inactivated.

**Example:**

```
FILE NEWDISK
PART INAPART
MODE U
FDISK INAP
```
This example inactivates the partition called 'INAPART' on the virtual disk 'NEWDISK'.

8.1.12 FDISK UNDP

The 'FDISK UNDP' parameter restores a prior deleted partition on a virtual disk. The following syntax applies to this command:

```
FDISK UNDP
```

The partition name to be restored must be defined in a 'PART' statement. To write on a virtual disk the write mode must be activated. Use the 'MODE U' parameter for this.

Only partitions with the 'DELETED' status can be restored. If a create operation for a partition has been performed, or the partition has been explicitly released with the 'FDISK FREP' command, then it is no longer possible to restore it.

Example:

```
FILE NEWDISK
PART DELPART
MODE U
FDISK UNDP
```

This example restores the partition called 'DELPART' on the virtual disk with the name 'NEWDISK'.

8.1.13 FILE

The 'FILE' parameter specifies a basic file for processing. This basic file is defined in a DD- or a DLBL-statement. The 'FILE' command together with the 'PART' command defines the basic file or partition that should be processed with the next commands. If the basic file was already processed, the specification of another 'FILE' command has the effect that the previous basic file is closed and the new basic file will be opened.

8.1.14 MD

The MD parameter creates a directory within the current directory. The following syntax applies to the 'MD' command:

```
MD directory name
```
To write to a virtual disk the write mode must be activated. Using the 'MODE U' parameter does this.

**Example:**

```
FILE MYDISK
PART SYSDSK
MODE U
MD TABLES
MD TABLES/SYSTEM
```

### 8.1.15 MODE

The 'MODE' parameter allows defining the access mode for a file. The following syntax applies:

```
MODE [ R | U ]
```

The default value for the 'MODE' command is 'READ' (R). It must be set to 'U' after specifying the basic file and partition, if write operations are to be performed on the basic file.

### 8.1.16 PART

The 'PART' parameter together with the 'FILE' command determines the basic file or partition that is to be processed with the following commands. The following syntax applies:

```
PART partition name
```

### 8.1.17 RD

The 'RD' parameter card deletes a directory. Only empty directories can be deleted. The following syntax applies:

```
RD directory name
```
To write to a virtual disk, the write mode must be activated. Using the 'MODE U' parameter does this.

Example:

```plaintext
FILE MYDISK
PART SYSDSK
MODE U
RD MYDIR/EMPTY
RD MYDIR
```

### 8.1.18 RENAME

The 'RENAME' parameter renames files or directories. The following syntax applies to this command:

```plaintext
RENAME 'old name' 'new name'
```

To write to a virtual disk, the write mode must be activated. Using the 'MODE U' parameter does this.

Example:

```plaintext
MODE U
RENAME 'OLD FILE.DOC' 'NEW FILE.DOC'
RENAME TABLES/USER1/TESTVIEW.VTB TABLES/PROD/VIEW.VTB
```

This command moves files and directories **within a partition**.

File names containing blanks must be enclosed in quotes.

A '/' is the separation character for directory names.

### 8.1.19 RESET

The 'RESET' parameter resets the 'OPEN' attribute of a file. This function must not be applied for a closed file where the 'OPEN' attribute has not been reset because of an error.

```plaintext
RESET filename
```
Example:

```
MODE U
RESET DB2.PMH.00036.00025.CDS
```

8.1.20 RESTORE

The ‘RESTORE’ parameter writes the data from a defined backup file to a virtual disk.

The following syntax applies:

```
RESTORE [-RWD] [Filter]
```

The backup file must have a corresponding 'BACKUP' DD- or DLBL- statement.

The 'RESTORE' command can be processed with parameter. The following parameters are accepted. Parameter must always be defined in front of a filter.

- **-R** Files already existing on the target file are overwritten.
- **-W** The tape is rewound after successful completing of the write operation (VSE only). This parameter must not be used in conjunction with the -D parameter.
- **-D** The backup expects a disk file instead of a tape (VSE only). This parameter must not be used in conjunction with a -W parameter.

The ‘RESTORE’ command accepts filter options to define the files that are to be restored. These filters should be specified in the following way:

```
RESTORE SYSTEM
```

All files are restored to the 'SYSTEM' subdirectory.

```
RESTORE *.CDS
```

All files using a name of '*.CDS' filter are restored.

If no filter is defined, '*.*' will be assumed.

Example:
To write on a virtual disk, the write mode must be activated. Using the 'MODE U' parameter does this.

### 8.1.21 TYPE

The 'TYPE' parameter displays the content of files. The following syntax applies:

```
TYPE file name
```

The files are automatically converted from ASCII to EBCDIC and will then be printed.

**Example:**

```
TYPE EXAMPLE.VTB
```

### 8.1.22 TRUNCATE

'TRUNCATE' will activate/deactivate the truncation of trailing blanks with a COPY CON command.

```
TRUNCATE ON|OFF
```

TRUNCATE ON is the standard setting.

### 8.1.23 USER

The 'USER' parameter determines the user identification for the read accesses. For example, files that have been written to the virtual disk using 'COPY CON', get the defined name as user identification. If the parameter 'USER' does not exist or no name at all has been defined, the identification 'BATCH' will be used by default.

The UserID will also be used when a session to the online system is being established.

The following syntax applies:
USER user identification
## Appendix A: Supported code pages

<table>
<thead>
<tr>
<th>CCSID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>CECP: USA, Canada (ESA*), Netherlands, Portugal, Brazil, Australia, New Zealand</td>
</tr>
<tr>
<td>256</td>
<td>WP Netherlands</td>
</tr>
<tr>
<td>259</td>
<td>Symbols Set 7</td>
</tr>
<tr>
<td>273</td>
<td>CECP: Austria, Germany</td>
</tr>
<tr>
<td>274</td>
<td>Old Belgium CECP</td>
</tr>
<tr>
<td>275</td>
<td>Brazil, old CECP</td>
</tr>
<tr>
<td>277</td>
<td>CECP: Denmark, Norway</td>
</tr>
<tr>
<td>278</td>
<td>CECP: Finland, Sweden</td>
</tr>
<tr>
<td>280</td>
<td>CECP: Italy</td>
</tr>
<tr>
<td>282</td>
<td>Previous CECP Portugal Superseded by 037</td>
</tr>
<tr>
<td>284</td>
<td>CECP: Spain, Latin America (Spanish)</td>
</tr>
<tr>
<td>285</td>
<td>CECP: United Kingdom</td>
</tr>
<tr>
<td>286</td>
<td>Alternate (3270) Austria and Germany</td>
</tr>
<tr>
<td>290</td>
<td>Japanese Katakana Host Extended SBCS, default string type 0.</td>
</tr>
<tr>
<td>293</td>
<td>APL (USA)</td>
</tr>
<tr>
<td>297</td>
<td>CECP: France</td>
</tr>
<tr>
<td>300</td>
<td>Japanese Latin Host Double-Byte including 4370 UDC</td>
</tr>
<tr>
<td>301</td>
<td>Japanese PC Data Double-Byte including 1880 UDC</td>
</tr>
<tr>
<td>367</td>
<td>ANSI X3.4 ASCII Standard USA</td>
</tr>
<tr>
<td>420</td>
<td>Arabic (all presentation shapes) (String type 4)</td>
</tr>
<tr>
<td>423</td>
<td>Greek</td>
</tr>
<tr>
<td>424</td>
<td>Hebrew (Old IDs: CS 941/2, CP 424/2) (String type 4)</td>
</tr>
<tr>
<td>425</td>
<td>Arabic/Latin EBCDIC, string type 5</td>
</tr>
<tr>
<td>437</td>
<td>PC Data PC Base USA, many other Countries and Regions</td>
</tr>
<tr>
<td>500</td>
<td>CECP: Belgium, Canada (AS/400*), Switzerland, International Latin-1</td>
</tr>
<tr>
<td>720</td>
<td>MS-DOS Arabic</td>
</tr>
<tr>
<td>737</td>
<td>MS-DOS Greek PC-Data</td>
</tr>
<tr>
<td>775</td>
<td>MS-DOS Baltic PC-Data</td>
</tr>
<tr>
<td>803</td>
<td>Hebrew Set A (old code) (string type 4)</td>
</tr>
<tr>
<td>806</td>
<td>PC ISCII-91: Indian (Devanagari) Script Code, maximal set including box drawing characters</td>
</tr>
<tr>
<td>808</td>
<td>PC Data, Cyrillic, Russian with euro</td>
</tr>
<tr>
<td>813</td>
<td>ISO 8859-7: Greek/Latin</td>
</tr>
<tr>
<td>CCSID</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>819</td>
<td>ISO 8859-1: Latin Alphabet Number 1 Latin-1 countries and regions</td>
</tr>
<tr>
<td>833</td>
<td>Korean Host Extended SBCS</td>
</tr>
<tr>
<td>834</td>
<td>Korean Host Double-Byte including 1880 UDC</td>
</tr>
<tr>
<td>835</td>
<td>T-Ch Host Double-Byte including 6204 UDC</td>
</tr>
<tr>
<td>836</td>
<td>S-Ch Host Extended SBCS</td>
</tr>
<tr>
<td>837</td>
<td>S-Ch Host Double-Byte including 1880 UDC</td>
</tr>
<tr>
<td>838</td>
<td>Thai Host Extended SBCS</td>
</tr>
<tr>
<td>848</td>
<td>Cyrillic Ukraine PC-Data with euro</td>
</tr>
<tr>
<td>849</td>
<td>Cyrillic Belarus PC-Data with euro</td>
</tr>
<tr>
<td>850</td>
<td>PC Data: MLP 222 Latin Alphabet Number 1 Latin-1 Countries and Regions</td>
</tr>
<tr>
<td>851</td>
<td>PC Data: Greek</td>
</tr>
<tr>
<td>852</td>
<td>PC Data: Latin-2 Multilingual</td>
</tr>
<tr>
<td>855</td>
<td>PC Data: Cyrillic</td>
</tr>
<tr>
<td>856</td>
<td>PC Data: Hebrew (string type 5)</td>
</tr>
<tr>
<td>857</td>
<td>PC Data: Turkey Latin 5</td>
</tr>
<tr>
<td>858</td>
<td>PC Data: MLP 222 Latin Alphabet Number 1 w/euro Latin-1 Countries and Regions</td>
</tr>
<tr>
<td>859</td>
<td>PC Data: PC Latin 9 (new code page including euro)</td>
</tr>
<tr>
<td>860</td>
<td>PC Data: Portugal</td>
</tr>
<tr>
<td>861</td>
<td>PC Data: Iceland</td>
</tr>
<tr>
<td>862</td>
<td>PC Data: Hebrew (Migration) (string type 4)</td>
</tr>
<tr>
<td>863</td>
<td>PC Data: Canada</td>
</tr>
<tr>
<td>864</td>
<td>PC Data: Arabic (string type 5)</td>
</tr>
<tr>
<td>865</td>
<td>PC Data: Denmark, Norway</td>
</tr>
<tr>
<td>866</td>
<td>PC Data, Cyrillic, Russian</td>
</tr>
<tr>
<td>867</td>
<td>PC Data: Hebrew, a modification of code page 862 (string type 4)</td>
</tr>
<tr>
<td>869</td>
<td>PC Data: Greek</td>
</tr>
<tr>
<td>870</td>
<td>Latin 2 EBCDIC Multilingual</td>
</tr>
<tr>
<td>871</td>
<td>CECP: Iceland</td>
</tr>
<tr>
<td>872</td>
<td>PC Data: Cyrillic with euro</td>
</tr>
<tr>
<td>874</td>
<td>Thai PC Data Extended SBCS</td>
</tr>
<tr>
<td>875</td>
<td>Greek</td>
</tr>
<tr>
<td>878</td>
<td>Russian Internet koi8-r</td>
</tr>
<tr>
<td>880</td>
<td>Cyrillic Multilingual</td>
</tr>
<tr>
<td>891</td>
<td>Korean PC Data Single-Byte</td>
</tr>
<tr>
<td>895</td>
<td>Japan 7-bit Latin</td>
</tr>
<tr>
<td>CCSID</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>896</td>
<td>Japan 7-bit Katakana, excl 5 SAA chars</td>
</tr>
<tr>
<td>897</td>
<td>Japanese PC Data Single-byte. Note: CP 897 is a subset of CP 1041</td>
</tr>
<tr>
<td>901</td>
<td>Baltic, 8-bit with euro</td>
</tr>
<tr>
<td>902</td>
<td>Estonia, 8-bit with euro</td>
</tr>
<tr>
<td>903</td>
<td>S-Ch PC Data Single-Byte</td>
</tr>
<tr>
<td>904</td>
<td>T-Ch PC Data Single-Byte</td>
</tr>
<tr>
<td>905</td>
<td>Turkey Latin 3 Multilingual (replaced by Latin 5)</td>
</tr>
<tr>
<td>912</td>
<td>Latin 2 ISO 8859-2</td>
</tr>
<tr>
<td>913</td>
<td>ISO Latin 3 8859-3</td>
</tr>
<tr>
<td>914</td>
<td>Latin 4 ISO 8859-4</td>
</tr>
<tr>
<td>915</td>
<td>Cyrillic, 8-Bit, ISO 8859-5</td>
</tr>
<tr>
<td>916</td>
<td>ISO 8859-8: Hebrew (string type 5)</td>
</tr>
<tr>
<td>918</td>
<td>Urdu</td>
</tr>
<tr>
<td>920</td>
<td>ISO 8859-9 Latin 5 (ECMA-128, Turkey TS-5881)</td>
</tr>
<tr>
<td>921</td>
<td>Baltic, 8-bit (ISO 8859-13)</td>
</tr>
<tr>
<td>922</td>
<td>Estonia, 8-bit</td>
</tr>
<tr>
<td>923</td>
<td>ISO 8859-15: Latin Alphabet Number 9 with euro (total of 8 chars replaced from 819)</td>
</tr>
<tr>
<td>924</td>
<td>Latin 9 EBCDIC</td>
</tr>
<tr>
<td>926</td>
<td>Korean PC Data Double-Byte including 1880 UDC</td>
</tr>
<tr>
<td>927</td>
<td>T-Ch PC Data Double-Byte including 6204 UDC</td>
</tr>
<tr>
<td>928</td>
<td>S-Ch PC Data Double-Byte including 1880 UDC</td>
</tr>
<tr>
<td>930</td>
<td>Japanese Katakana-Kanji Host Mixed including 4370 UDC, Extended SBCS</td>
</tr>
<tr>
<td>931</td>
<td>Japanese Latin-Kanji Host Mixed including 4370 UDC (no SBCS Katakana)</td>
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<td>932</td>
<td>Japanese PC Data Mixed including 1880 UDC</td>
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<tr>
<td>933</td>
<td>Korean Host Mixed including 1880 UDC, Extended SBCS</td>
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<td>935</td>
<td>S-Ch Host Mixed including 1880 UDC, Extended SBCS</td>
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<td>937</td>
<td>T-Ch Host Mixed including 6204 UDC, Extended SBCS</td>
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<td>939</td>
<td>Japanese Latin-Kanji Host Mixed including 4370 UDC, Extended SBCS</td>
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<tr>
<td>941</td>
<td>Japanese DBCS PC for Open environment (Multi-vendor code): 6878 JIS X 0208-1990 chars, 386 IBM sel chars, 1880 IBM UDC (X'F040' to X'F9FC'), other growing chars</td>
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<td>942</td>
<td>Japanese PC Data Mixed including 1880 UDC, Extended SBCS</td>
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<td>943</td>
<td>Japanese PC Data Mixed for Open environment (Multi-vendor code): 6878 JIS X 0208-1990 chars, 386 IBM selected DBCS chars, 1880 UDC (X'F040' to X'F9FC')</td>
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<tr>
<td>944</td>
<td>Korean PC Data Mixed including 1880 UDC, Extended SBCS</td>
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<td>946</td>
<td>S-Ch PC Data Mixed including 1880 UDC, Extended SBCS</td>
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<tr>
<td>947</td>
<td>T-Ch DBCS-PC (IBM BIG-5) including 13493 CNS, 566 IBM selected and 6204 UDC.</td>
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<td>948</td>
<td>T-Ch PC Data Mixed including 6204 UDC.</td>
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<td>949</td>
<td>IBM KS Code PC Data Mixed including 1880 UDC</td>
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<td>950</td>
<td>T-Ch PC Data mixed for IBM BIG-5</td>
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<td>951</td>
<td>IBM KS Code PC Data Double-Byte including 1880 UDC</td>
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<tr>
<td>952</td>
<td>Japanese EUC, G1JIS X208-1990 incl 940 UDC</td>
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<tr>
<td>953</td>
<td>Japanese EUC, G3 JIS X 0212-1990 incl 106 IBM sel chars, 940 UDC</td>
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<tr>
<td>954</td>
<td>Japanese EUC G0 JIS X201 Roman set (00895) G1 JIS X208-1990 set (00952) G2 JIS X201 Katakana set (04992 ) G3 JIS X212 set (00953)</td>
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<td>955</td>
<td>Japanese TCP, JIS X208-1978</td>
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<tr>
<td>960</td>
<td>T-Ch EUC, G1CNS 11643 plane 1 primary</td>
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<td>963</td>
<td>T-Ch TCP, CNS 11643 plane 2 only</td>
</tr>
<tr>
<td>964</td>
<td>T-Chinese EUC G0 ASCII G1 CNS 11643 plane 1 (00960) G2 CNS 11643 plane 2 (00961)</td>
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<td>Korean EUC G0 ASCII G1 KS C5601-1989 (incl 188 UDC)</td>
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<td>971</td>
<td>Korean EUC, G1KS C5601-1989 (incl 188 UDC)</td>
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<tr>
<td>1004</td>
<td>PC-data Latin-1 extended desktop publishing/Windows</td>
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<tr>
<td>1006</td>
<td>Urdu, 8-bit</td>
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<tr>
<td>1008</td>
<td>Arabic 8-bit ISO/ASCII</td>
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<tr>
<td>1009</td>
<td>ISO-7: IRV(prior 1992)</td>
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<tr>
<td>1010</td>
<td>ISO-7: France</td>
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<td>1011</td>
<td>ISO-7: Germany</td>
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<tr>
<td>1012</td>
<td>ISO-7: Italy</td>
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<td>1013</td>
<td>ISO-7: United Kingdom</td>
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<tr>
<td>1014</td>
<td>ISO-7: Spain</td>
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<td>1015</td>
<td>ISO-7: Portugal</td>
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<td>1016</td>
<td>ISO-7: Norway</td>
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<td>1017</td>
<td>ISO-7: Denmark</td>
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<tr>
<td>1018</td>
<td>ISO-7: Finland and Sweden</td>
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<td>1019</td>
<td>ISO-7: Belgium and Netherlands</td>
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<tr>
<td>1020</td>
<td>ISO-7: Canadian (French) Variant</td>
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<td>1021</td>
<td>ISO-7: Switzerland Variant</td>
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<td>1023</td>
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<tr>
<td>1025</td>
<td>Cyrillic Multilingual</td>
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<td>1026</td>
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<tr>
<td>1027</td>
<td>Japanese Latin Host Extended SBCS</td>
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<td>1040</td>
<td>Korean PC Data Extended SBCS</td>
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<td>1041</td>
<td>Japanese PC Data Extended SBCS</td>
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<td>1042</td>
<td>S-Ch PC Data Extended SBCS</td>
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<td>1043</td>
<td>T-Ch PC Data Extended SBCS</td>
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<tr>
<td>1046</td>
<td>Arabic primarily used on AIX and Linux platforms (string type 5)</td>
</tr>
<tr>
<td>1047</td>
<td>Latin-1 / Open Systems</td>
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<tr>
<td>1051</td>
<td>HP Emulation(for use with Latin 1). GCGID SF150000 is mapped to a control X'7F'</td>
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<tr>
<td>1089</td>
<td>ISO 8859-6: Arabic (string type 5)</td>
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<tr>
<td>1097</td>
<td>Farsi</td>
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<td>1098</td>
<td>Farsi Personal Computer</td>
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<tr>
<td>1100</td>
<td>Multination Emulation</td>
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<tr>
<td>1101</td>
<td>ISO-7: British NRC Set</td>
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<tr>
<td>1102</td>
<td>ISO-7: Dutch NRC Set</td>
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<tr>
<td>1103</td>
<td>ISO-7: Finnish NRC Set</td>
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<td>1104</td>
<td>ISO-7: French NRC Set</td>
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<tr>
<td>1105</td>
<td>ISO-7: Norwegian/Danish NRC Set</td>
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<tr>
<td>1106</td>
<td>ISO-7: Swedish NRC Set</td>
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<tr>
<td>1107</td>
<td>ISO-7: Norwegian/Danish NRC Alternate</td>
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<td>1112</td>
<td>Baltic, Multilingual</td>
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<tr>
<td>1114</td>
<td>T-Ch PC Data Single-Byte (IBM BIG-5) and S-Ch PC Data Single-Byte (GBK)</td>
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<td>1115</td>
<td>S-Ch PC Data Single-Byte (IBM GB) incl. 5 SAA SB characters</td>
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<td>1122</td>
<td>Estonia</td>
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<td>1123</td>
<td>Cyrillic Ukraine EBCDIC</td>
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<td>1124</td>
<td>Cyrillic Ukraine 8-Bit</td>
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<td>1125</td>
<td>Cyrillic Ukraine PC-Data</td>
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<td>1126</td>
<td>Windows Korean PC Data Single-Byte</td>
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<td>1129</td>
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<td>1130</td>
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<td>1131</td>
<td>Cyrillic Belarus PC-Data</td>
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<td>1132</td>
<td>EBCDIC Lao</td>
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<td>1133</td>
<td>ISO-8 Lao</td>
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<tr>
<td>1137</td>
<td>Devanagari EBCDIC (based on Unicode character set)</td>
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<td>1140</td>
<td>ECECP: USA, Canada, Netherlands, Portugal, Brazil, Australia, New Zealand</td>
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<td>CCSID</td>
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<tr>
<td>1141</td>
<td>ECECP: Austria, Germany</td>
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<td>1142</td>
<td>ECECP: Denmark, Norway</td>
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<td>ECECP: Finland, Sweden</td>
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<td>ECECP: Italy</td>
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<td>ECECP: Spain, Latin America (Spanish)</td>
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<td>ECECP: United Kingdom</td>
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<td>ECECP: France</td>
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<td>ECECP: International 1</td>
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<td>ECECP: Iceland</td>
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<td>1153</td>
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<td>1154</td>
<td>Cyrillic Multilingual with euro</td>
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<tr>
<td>1155</td>
<td>Turkey Latin 5 with euro</td>
</tr>
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<td>1156</td>
<td>Baltic, Multilingual with euro</td>
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<td>Estonia EBCDIC with euro</td>
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<td>1158</td>
<td>Cyrillic Ukraine EBCDIC with euro</td>
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<tr>
<td>1159</td>
<td>T-Ch Host Extended SBCS including euro</td>
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<tr>
<td>1160</td>
<td>Thai host with euro</td>
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<td>1161</td>
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<td>1162</td>
<td>Thai MS Windows with euro</td>
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<td>1163</td>
<td>ISO-8 Vietnamese with euro</td>
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<td>EBCDIC Vietnamese with euro</td>
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<td>1165</td>
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<td>Cyrillic Multilingual with euro for Kazakhstan</td>
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<td>Belarussian/Ukrainian KOI8-RU</td>
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<tr>
<td>1200</td>
<td>UTF-16 (UCS2) little endian</td>
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<tr>
<td>1201</td>
<td>UTF-16 (UCS2) big endian</td>
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<td>1208</td>
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<td>1250</td>
<td>MS Windows Latin-2</td>
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<td>1251</td>
<td>MS Windows, Cyrillic</td>
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<tr>
<td>1252</td>
<td>MS Windows, Latin-1</td>
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<td>1253</td>
<td>MS Windows, Greek</td>
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<td>1254</td>
<td>MS Windows, Turkey</td>
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<tr>
<td>1255</td>
<td>MS Windows, Hebrew (string type 5)</td>
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<td>1256</td>
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<td>1257</td>
<td>MS Windows, Baltic Rim</td>
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<td>1258</td>
<td>MS Windows, Vietnamese</td>
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<td>Apple Latin-1</td>
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<td>1276</td>
<td>Adobe (PostScript) Standard Encoding</td>
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<td>Adobe (PostScript) Latin-1</td>
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<td>Apple Greek</td>
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<td>1282</td>
<td>Apple Central European (Latin-2)</td>
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<td>Apple Cyrillic</td>
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<td>Apple Croatian</td>
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<td>Apple Romanian</td>
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<tr>
<td>1350</td>
<td>Japanese EUC (JISucJP) G0 ASCII G1 JIS X208-1990 set (05048) G2 JIS X201 Katakana set (00896) G3 JIS X212 set (05049)</td>
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<tr>
<td>1351</td>
<td>Japanese DBCS PC for Open environment (HP code): related to CCSID 941, 6878 JIS X 0208-1990 chars &amp; 940 HP UDC (X'EB40' to X'EFFC')</td>
</tr>
<tr>
<td>1362</td>
<td>Windows Korean PC DBCS-PC, including 11,172 full hangul</td>
</tr>
<tr>
<td>1363</td>
<td>Windows Korean PC Mixed, including 11,172 full hangul</td>
</tr>
<tr>
<td>1364</td>
<td>Korean host mixed extended including 11,172 full hangul</td>
</tr>
<tr>
<td>1370</td>
<td>T-Ch PC Data mixed for IBM BIG-5 including SBCS &amp; DBCS euro</td>
</tr>
<tr>
<td>1371</td>
<td>T-Ch Host Mixed including 6204 UDC, Extended SBCS including SBCS and DBCS euro</td>
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<tr>
<td>1374</td>
<td>Big-5 extension of HKSCS, DBCS portion</td>
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<tr>
<td>1375</td>
<td>Mixed Big-5 extension for HKSCS.</td>
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<tr>
<td>1380</td>
<td>S-Ch DBCS PC (IBM GB) incl. 1880 UDC and 31 IBM selected</td>
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<tr>
<td>1381</td>
<td>S-Ch PC Data mixed (IBM GB) incl. 1880 UDC, 31 IBM sel. and 5 SAA SB chars</td>
</tr>
<tr>
<td>1382</td>
<td>S-Ch DBCS PC GB 2312-80 set, including 31 IBM selected and 1360 UDC.</td>
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<tr>
<td>1383</td>
<td>S-Ch EUC G0 set, ASCII G1 set, GB 2312-80 set (1382)</td>
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<tr>
<td>1385</td>
<td>S-Ch DBCS-PC GBK, all GBK character set and other growing chars</td>
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<tr>
<td>1386</td>
<td>S-Ch PC Data GBK mixed, all GBK character set and other growing chars</td>
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<tr>
<td>1388</td>
<td>S-Ch DBCS- GB 18030 Host with UDCs and Uygur extension.</td>
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<tr>
<td>1390</td>
<td>Extended Japanese Katakana-Kanji Host Mixed for JIS X0213 including 6205 UDC, Extended SBCS (includes SBCS &amp; DBCS euro)</td>
</tr>
<tr>
<td>1399</td>
<td>Extended Japanese Latin-Kanji Host Mixed for JIS X0213 including 6205 UDC, Extended SBCS (includes SBCS &amp; DBCS euro)</td>
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<tr>
<td>4517</td>
<td>Maghreb/French</td>
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<tr>
<td>4899</td>
<td>Hebrew Set A (old code) maximal set including euro and new sheqel (string type 4)</td>
</tr>
<tr>
<td>4904</td>
<td>PC Data, Cyrillic, Russian with euro, with MS controls</td>
</tr>
<tr>
<td>CCSID</td>
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<tr>
<td>4909</td>
<td>ISO-8: Greek/Latin with euro</td>
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<tr>
<td>4930</td>
<td>Korean DBCS-Host extended including 11,172 full hangul</td>
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<tr>
<td>4933</td>
<td>S-Ch DBCS Host (GBK), all GBK character set and other growing chars</td>
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<tr>
<td>4944</td>
<td>Cyrillic Ukraine PC-Data with euro, with MS controls</td>
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<td>4945</td>
<td>Cyrillic Belarus PC-Data with euro, with MS controls</td>
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<td>4948</td>
<td>Latin 2 Personal Computer</td>
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<td>4951</td>
<td>Cyrillic Personal Computer</td>
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<td>4952</td>
<td>PC Data: Hebrew (string type 5)</td>
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<td>4954</td>
<td>PC Data: MLP 222 Latin Alphabet Number 1 w/euro Latin-1 Countries and regions</td>
</tr>
<tr>
<td>4955</td>
<td>PC Data: PC Latin 9, with MS controls</td>
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<td>4956</td>
<td>PC Data: Portugal, with MS controls</td>
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<td>4957</td>
<td>PC Data: Iceland, with MS controls</td>
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<tr>
<td>4958</td>
<td>PC Data: Hebrew (Migration) (string type 4), with MS controls</td>
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<tr>
<td>4959</td>
<td>PC Data: Canada, with MS controls</td>
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<td>4960</td>
<td>PC Data: Arabic (all shapes)</td>
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<tr>
<td>4961</td>
<td>PC Data: Denmark, Norway, with MS controls</td>
</tr>
<tr>
<td>4962</td>
<td>PC Data, Cyrillic, Russian, with MS controls</td>
</tr>
<tr>
<td>4963</td>
<td>PC Data: Hebrew, a modification of code page 862 (string type 4), with MS controls</td>
</tr>
<tr>
<td>4971</td>
<td>Greek (including euro)</td>
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<td>5012</td>
<td>ISO 8859-8 (1999): Hebrew (string type 5)</td>
</tr>
<tr>
<td>5026</td>
<td>Japanese Katakana-Kanji Host Mixed including 1880 UDC, Extended SBCS</td>
</tr>
<tr>
<td>5035</td>
<td>Japanese Latin-Kanji Host Mixed including 1880 UDC, Extended SBCS</td>
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<tr>
<td>5039</td>
<td>Japanese PC Data Mixed for Open environment (HP code): related to CCSID 943, 6878 JIS X 0208-1990 chars, 940 HP UDC (X'EB40' to X'EFFC') and 5 optional extended SBCS chars for host interoperability.</td>
</tr>
<tr>
<td>5048</td>
<td>Japanese EUC, G1 JIS X208-1990 excl 940 UDC</td>
</tr>
<tr>
<td>5049</td>
<td>Japanese EUC, G3 JIS X 0212-1990 excl 106 IBM sel chars, 940 UDC</td>
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<td>Japanese EUC G0 JIS X201 Roman set (00895) G1JIS X208-1990 set (00952) G2 JIS X201 Katakana set (00896 ) G3 JIS X212 set (09145)</td>
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<tr>
<td>5067</td>
<td>Korean EUC, G1 KS C5601-1989 (excl 188 UDC)</td>
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<td>5104</td>
<td>Arabic 8-bit ISO/ASCII with euro</td>
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<tr>
<td>5123</td>
<td>Japanese Latin Host Extended SBCS (includes euro)</td>
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<tr>
<td>5142</td>
<td>Arabic (base shapes only) primarily used on AIX and Linux platforms</td>
</tr>
<tr>
<td>5210</td>
<td>S-Ch PC Data Single-Byte (GBK), growing CS</td>
</tr>
<tr>
<td>5346</td>
<td>MS Windows Latin-2, version 2 (euro)</td>
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<td>CCSID</td>
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<tr>
<td>5347</td>
<td>MS Windows, Cyrillic version 2 (euro)</td>
</tr>
<tr>
<td>5348</td>
<td>MS Windows, Latin-1, Version 2 (including euro)</td>
</tr>
<tr>
<td>5349</td>
<td>MS Windows, Greek version 2 (euro)</td>
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<tr>
<td>5350</td>
<td>MS Windows, Turkey version 2 (euro)</td>
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<tr>
<td>5351</td>
<td>MS Windows, Hebrew version 2 (euro) (string type 5)</td>
</tr>
<tr>
<td>5352</td>
<td>MS Windows, Arabic version 2 (euro) (string type 5)</td>
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<tr>
<td>5353</td>
<td>MS Windows, Baltic Rim version 2 (euro)</td>
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<tr>
<td>5354</td>
<td>MS Windows, Vietnamese version 2 (euro)</td>
</tr>
<tr>
<td>5478</td>
<td>S-Ch DBCS PC GB 2312-80 set, excluding 31 IBM selected and 1360 UDC. Also used in T-Ch 2022-CN TCP.</td>
</tr>
<tr>
<td>5486</td>
<td>Japanese Katakana-Kanji Host Mixed including 6205 UDC, extended SBCS</td>
</tr>
<tr>
<td>5487</td>
<td>Simplified Chinese 4 byte PC Data for GB18030</td>
</tr>
<tr>
<td>5488</td>
<td>Simplified Chinese PC Data mixed (phase1, fixed) for GB18030</td>
</tr>
<tr>
<td>5495</td>
<td>Japanese Katakana-Kanji Host Mixed including 6205 UDC, extended SBCS</td>
</tr>
<tr>
<td>8482</td>
<td>Japanese Katakana (includes euro), growing CS</td>
</tr>
<tr>
<td>8612</td>
<td>Arabic (base shapes only) (string type 5)</td>
</tr>
<tr>
<td>9005</td>
<td>Greek ISO 8859-7:2003</td>
</tr>
<tr>
<td>9027</td>
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