z/OS V1R13

BCP Unicode: Info API

Overview

- Problem statement / Need addressed
  - The Unicode Services Info API does not provide sufficient information for the supported CCSIDs.
- Solution
  - Enhance the Info API to provide additional information needed. For example, the API will now return the value to use for the space control character. This type of information can be useful when padding a field.
- Benefit
  - Provide additional information for the supported CCSIDs in a programmatic way.
- With this enhancement, the following information will also be returned on the Info API:
  - The control character definitions associated with a given CCSID and its associated sub CCSIDs. These are the supported control characters:
    - Space
    - Substitution
    - New line
    - Line feed
    - Carriage return
    - End of file
  - Type of conversion (direct or indirect)
  - Suffix letters for a given CCSID and its associated sub-CCSIDs
    - For example, PG for CCSID 13488
    - These suffix letters are specified in the Unicode Book (SA22-7649), section “Description of CCSIDs”.
  - Description (CCSID Description) for the user knowledge base (USERKBS)

Usage and invocation

- Called by:
  - z/OS® API conversion tables info service
  - CUNLINFO for 31-bit callers
  - CUN4LINF for 64-bit callers
- A new version (version 2) of the Info API parameter area is needed for this new function
- The parameter area is defined in:
  - CUNBIIDF 31-bit for PL/X and HLASM callers
  - CUN4BIID 64-bit for PL/X and HLASM callers
  - CUNHC for C/C++ callers (both 31- and 64-bit)
- **Parameter area for C/C++ - CUNBIPRM structure**

```
/*****************************************************************/
/* Additional information for Version 2 Parameter Area           */
/*****************************************************************/
char CCSID1_SUFFIX[2];              /* Suffix for CCSID1. The suffix*/
                                    /* for subCCSIDs are returned in*/
                                    /* subCCSIDs_info               */
char CCSID2_SUFFIX[2];              /* Suffix for CCSID1. The suffix*/
                                    /* for subCCSIDs are returned in*/
                                    /* subCCSIDs_info               */
unsigned char  Conversion_Type;     /* type of conversion for       */
                                    /* CCSID1 to CCSID2             */
                                    /* 1 = direct conversion        */
                                    /* 2 = indirect conversion      */
char Resi1[3];                      /* Reserved                     */
```

- **Parameter area for C/C++ - CUNBIPRM ...**

```
/*****************************************************************/
/* Additional information for Version 2 Parameter Area           */
/*****************************************************************/
void *        CCSID1_CTLDEF_Ptr ;   /* Pointer to CTLF (optional)   */
unsigned int  CCSID1_CTLDEF_ALET;   /* ALET for CTLF_Ptr            */
unsigned char CCSID1_CTLDEF_Num ;   /* Num of entries in CTLF       */
char Resi2[3];                      /* Reserved                     */
void *        CCSID2_CTLDEF_Ptr ;   /* Pointer to CTLF              */
```

```
unsigned int  CCSID2_CTLDEF_ALET;    /* ALET for CTLF_Ptr           */
unsigned char CCSID2_CTLDEF_Num ;    /* Num of entries in CTLF      */
```

Interactions and dependencies

- Software dependencies
  - None
- Hardware dependencies
  - None
- Exploiters
  - Any z/OS Unicode customers

Migration and coexistence considerations

- None.

Installation

- None.

Session summary

- With this implementation, z/OS Unicode services character conversion service exploiters are able to obtain additional CCSID information programmatically before calling the conversion service.
- CCSID information can be used separately by calling z/OS conversion information service (Info API) for any CCSID background purpose.

Appendix - References

- Related materials for quick reference
  - z/OS Support for Unicode: Using Unicode Services (SA22-7649)