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Information technology — Information Resource Dictionary System (IRDS) Services Interface

AMENDMENT 1: C language binding

*Technologies de l'information — Interface de services du gestionnaire de
ressources du système d'informations (IRDS)*

AMENDEMENT 1: Liant de langage C



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Foreword

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Amendment 1 to International Standard ISO/IEC 10728:1993 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 21, *Open systems interconnection, data management and open distributed processing*.

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Contents

Add a new entry to the Table of Contents as follows:

"Annex C - C language binding"

Page 1

Clause 1

Add a new sentence in clause 1 paragraph 2, before the last sentence.

"A language binding for the C language is provided in annex C."

Page 5

Subclause 4.4

Add a new sentence in subclause 4.4.

"Data structures for use with the C language are defined in annex C."

Page 5

Subclause 4.5

Add a new sentence in subclause 4.5.

"C language bindings for the services are provided in annex C."

Page 71

Subclause 8.1

Amend the first sentence of the NOTE in subclause 8.1 to read:

"For the Pascal language binding specified in this clause and the C language binding specified in annex C, enumerated types are"

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Clause 9

Amend the first sentence of the second paragraph of Clause 9 to read:

"The service formats are specified in this clause using ISO standard Pascal. Alternative service formats for use with the C language are specified in annex C."

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Add a new annex C as follows:

Annex C

(normative)

C language binding

The IRDS Services Interface language bindings for the C language are presented in the form of a C .h file as set out in clause C.3 below.

C.1 Strategy for the Language Binding

In this binding the data names and data structures defined in clause 8 have been adhered to except where the C language does not provide an appropriate construct.

In this binding the procedure names and their parameters defined in clause 8 have been adhered to except where the C language does not provide an appropriate construct.

Macros have been used for various limits instead of const-qualified variables. Standard C requires that the length of an array be a compile-time constant integer expression and a const-qualified variable does not have this property.

Use of this language binding requires the use of a C implementation that conforms to ISO/IEC 9899:1990.

C.2 General Rules

1. Those data names in C.2 below that also appear in Clause 8 shall have the same meaning as is defined in Clause 8. The same rules for the use of separators as defined in Clause 8 shall apply.
2. The function and parameter names in C.2 below shall have the same meaning as is defined in Clause 9.
3. The Service Return Codes returned shall be those defined by Clause 9 and Annex A and they shall have the same meaning.
4. The following mappings from SQL data types to C data types have been used:

SQL DATA TYPE	C DATA TYPE	
CHARACTER	pIrdstText	/* See 8.2.1 */
CHARACTER VARYING	pIrdstText	/* See 8.2.1 */
NATIONAL CHARACTER	pIrdstText	/* See 8.2.1 */
NATIONAL CHARACTER VARYING	pIrdstText	/* See 8.2.1 */
REAL	float	
DOUBLE PRECISION	double	
FLOAT	float	
INTEGER	long	
SMALLINT	short	
NUMERIC	long	
DECIMAL	long	
DATE	IrdstDate	/* See 8.2.1 */
TIME	IrdstTime	/* See 8.2.1 */

TIMESTAMP	IrdsTimeStamp	/* See 8.2.1 */
INTERVAL	IrdsInterval	/* See 8.2.1 */

5. Every function returns an int which is to be set to the value of the NumStates field of the RetCode returned by the function.

C.3 Notes for Implementors

1. To ensure uniqueness all externally visible names start with the characters Irds.
2. For readability and because of the above requirement, many names are not unique within the first six characters of the name. Those implementors whose implementations do not support long names are to add suitable #define statements to ensure that all names are distinguished by their implementation. For example,

```
#define IrdsOpen I_O
#define IrdsOpenCursor I_OC
```

C.4 C language .h file

```
/* This file is called irds.h
 *
 * This version of this header conforms to:
 *     ISO/IEC 10728:1993(E)
 *     IRDS Services Interface
 *
 * © Copyright ISO 1995
 */

/* Protect against multiple inclusion of the header file */
#ifndef IRDS_H
#define IRDS_H

/* Allow use by C++ Compilers */

#ifdef __cplusplus
extern "C" {
#endif

#include <stddef.h>
/* to ensure that NULL is defined */

/* Implementor defined length limits */

/* Clause 8.1.1 */

#define IrdsNameLim    t1    /* t1 is to be replaced by an
                             implementor defined
                             value */
```

```
/* IrdsNameLim is used in 8.2.2 below */

#define IrdsVarLim      t2    /*    t2 is to be replaced by an
                                implementor defined
                                value */
/* IrdsVarLim is used in 8.2.2 below */

/* Clause 8.1.2 */

#define IrdsTextLim     t3    /*    t3 is to be replaced by an
                                implementor defined
                                value */

/*    Note that although no use is made of IrdsTextLim in this
language
binding, it is included so that a program may refer to the
value
to test the length of a string. */

/* Clause 8.1.3 - these definitions are used in 8.2.3 below */

/*    The numeric values n1, n2, n3, n4 in this clause are to be
replaced by implementor defined values. */

#define IrdsSessIdLim    n1
/* IrdsSessIdLim used in 8.2.3 below */
#define IrdsCurIdLim    n2
/* IrdsCurIdLim used in 8.2.3 below */
#define IrdsImpDicNameLen n3
/* IrdsImpDicNameLen used in 8.2.3 below */

#define IrdsKeyLen       n4
/* IrdsKeyLen used in 8.2.1 below */
```