Software on Chip (SWoC) - Requirements (1 of 3)

FUJITSU

Fujitsu SPARC server deliver SWoC functions with the following software revisions

SWoC Feature	Processor			Minimum Revision Requirements	
	SPARC64 X	SPARC64 X+	SPARC64 XII	Compiler	Oracle Database
In-Memory Query / SIMD (Single Instruction Multiple Data)	Yes Supported	Yes Supported	Yes Supported	Studio 12.4 + Solaris 11.2 SRU4 (*2)	12cR1 EE (12.1.0.2) + Solaris 11.1 (+ Oracle Database In-Memory)
In-Memory Query / Additional SIMD Instructions (*1) (SPARC64 X+)	No	Yes Supported	Yes Supported	Studio 12.4 + Solaris 11.2 SRU4 (*2)	12cR1 EE (12.1.0.2) + Solaris 11.2 + Patch20342458 (+ Oracle Database In-Memory)
Decompression (Accelerate OZIP in CAPACITY LOW In-Memory Database Compression)	Yes Supported	Yes Supported	Yes Supported	N/A (Oracle DBMS only)	12cR1 EE (12.1.0.2) + Solaris 11.1 (+ Oracle Database In-Memory)

(*1) SPARC64 X+ and SPARC64 XII has improved micro-architecture to make better use of SIMD and load/store functionality (8 bit x32 elements simultaneously).
(*2) Studio 12.4 does not require Solaris 11.2 SRU4 or later to compile. Compiling on Solaris 10 8/11, Solaris 10 1/13 or Solaris 11.2 is supported.
An application compiled by Studio 12.4 requires a Solaris 11.2 SRU4 or later in the execution environment.
Studio 12.4 accepts these features in assembler files, inline template files, or intrinsics in C language (see Studio 12.4 C User's Guide, section 2.19).
Studio 12.4 can also use SPARC64 X/X++ SIMD instructions automatically to optimize C/C++/Fortran source code without code modifications.
User applications can benefit from SIMD functionality through assembly language code modifications (see SPARC64™ X_and_X+ Specification)

As of Mar 14, 2017

Software on Chip (SWoC) - Requirements (2 of 3)

FUJITSU

SWoC Feature	Processor			Minimum Revision Requirements		
	SPARC64 X	SPARC64 X+	SPARC64 XII	OS	Compiler	Oracle Database
Encryption/Decryption HW assisted: AES, DES, 3DES, SHA using libsoftcrypto in Solaris and the PKCS11 interface	Yes Supported	Yes Supported	Yes Supported	Oracle Solaris 11.1	N/A (*3)	11gR2 EE + Solaris 11.1 + Patch16034131 12cR1 EE + Solaris 11.1 (*4)
Encryption/Decryption HW assisted: RSA, DSA using libsoftcrypto in Solaris and PKCS11 interface	Yes Supported	Yes Supported and Enhanced	Yes Supported and Enhanced	Oracle Solaris 11.2 (*5)	N/A (*3)	N/A (*4)
HASH	Yes Supported	Yes Supported	Yes Supported	Oracle Solaris 11.1	N/A	12cR1 (12.1.0.2) EE and SE2 + Solaris 11.1

(*3) For programs written using inline template files, Studio 12.4 or later must be used.
(*4) Applications using openssl command must use the "-engine pkcs11 –evp xxx" option.
Applications using openssl library must use the PKCS11 engine and EVP interface. Please refer to the Product Note.
Oracle Advanced Security Transparent Data Encryption (TDE) only supports AES and 3DES.
(*5) Requires Solaris 11.2 or later

As of Mar 14, 2017

Software on Chip (SWoC) - Requirements (3 of 3)

FUJITSU

SWoC Feature	Processor			Minimum Revision Requirements	
	SPARC64 X	SPARC64 X+	SPARC64 XII	Compiler	Oracle Database
Decimal Arithmetic Logical Units	Yes Supported	Yes Supported	Yes Supported	Studio 12.4 + Solaris 11.2 SRU4 (*6)	N/A
Oracle NUMBER	Yes Supported	Yes Supported	Yes Supported	N/A (Oracle DBMS only)	12cR1 (12.1.0.1) + Solaris 11.1 + Patch17279207 (*7) 12cR1 (12.1.0.2) EE and SE2 + Solaris 11.1
Compare/Copy HW-assisted: memcpy()/memmove()/ memset() in libc using SIMD	Yes Supported	Yes Supported	Yes Supported	N/A Benefit already realized in: Oracle Solaris 11.1	11gR2 + Solaris 11.1 12cR1 EE and SE2 + Solaris 11.1

(*6) Studio 12.4 does not require Solaris 11.2 SRU4 or later to compile. Compiling on Solaris 10 8/11, Solaris 10 1/13 or Solaris 11.2 is supported.
An application compiled by Studio 12.4 requires a Solaris 11.2 SRU4 or later in the execution environment.
Studio 12.4 accepts these features in assembler files, inline template files, or intrinsics in C language (see Studio 12.4 C User's Guide, section 2.19).
Studio 12.4 can also use SPARC64 X/X++ SIMD instructions automatically to optimize C/C++/Fortran source code without code modifications.
User applications can benefit from native decimal instructions through assembly language code modifications (see SPARC64™ X_and_X+ Specification)

(*7) Patch#1729207 is not included in PSU 12.1.0.1.x.

As of Mar 14, 2017