



# UltraSPARC™ - IIs CPU Module Installation Guide

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Part No. 816-0711-10  
March 2001, [Revision A](#)

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Your Sun product is marked to indicate its compliance class:

- Federal Communications Commission (FCC) — USA
- Industry Canada Equipment Standard for Digital Equipment (ICES-003) - Canada
- Voluntary Control Council for Interference (VCCI) — Japan
- Bureau of Standards Metrology and Inspection (BSMI) — Taiwan

Please read the appropriate section that corresponds to the marking on your Sun product before attempting to install the product.

## FCC Class A Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

**Shielded Cables:** Connections between the workstation and peripherals must be made using shielded cables to comply with FCC radio frequency emission limits. Networking connections can be made using unshielded twisted-pair (UTP) cables.

**Modifications:** Any modifications made to this device that are not approved by Sun Microsystems, Inc. may void the authority granted to the user by the FCC to operate this equipment.

## FCC Class B Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

**Shielded Cables:** Connections between the workstation and peripherals must be made using shielded cables in order to maintain compliance with FCC radio frequency emission limits. Networking connections can be made using unshielded twisted pair (UTP) cables.

**Modifications:** Any modifications made to this device that are not approved by Sun Microsystems, Inc. may void the authority granted to the user by the FCC to operate this equipment.

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This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

## ICES-003 Class B Notice - Avis NMB-003, Classe B

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.


### VCCI 基準について

#### クラス A VCCI 基準について

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The following statement is applicable to products shipped to Taiwan and marked as Class A on the product compliance label.

警告使用者：  
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。



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# UltraSPARC-IIs CPU Module Installation Guide

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This guide describes how to remove and install UltraSPARC™-IIs CPU module(s) in a Sun Ultra™ 60 workstation.

This guide covers the following topics for the Sun Ultra 60 workstation:

- “UltraSPARC-IIs Module Installation Kit Contents” on page 1
- “System Requirements for 450 MHz CPU Modules with Solaris 2.5.1 or Solaris 2.6 Installed” on page 2
- “System Requirements for 450 MHz CPU Modules with Solaris 2.7 or Solaris 7 installed” on page 2
- “Preparing for Installation” on page 3
- “Removing the CPU Module” on page 9
- “Replacing the CPU Module” on page 10
- “Finishing the Installation” on page 12

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## UltraSPARC-IIs Module Installation Kit Contents

Your UltraSPARC-IIs module installation kit contains:

- The *UltraSPARC-IIs CPU Module Installation Guide* (this manual)
- Disposable antistatic wrist strap
- Antistatic mat
- One UltraSPARC-IIs 450 MHz CPU module

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# System Requirements for 450 MHz CPU Modules with Solaris 2.5.1 or Solaris 2.6 Installed

If you plan on installing Solaris™ 2.5.1 11/97 or Solaris 2.6 5/98 software with a 450 MHz CPU Module, you must also install the *Operating Environment Installation CD February 2000*. This Operating Environment CD installs software upgrade patches that support the Solaris 2.5.1 and 2.6 operating system environments.

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**Note** – The *Operating Environment Installation CD February 2000* is included with new Ultra 60 systems. The part number is 704-7076-10.

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**Note** – The software upgrade patches are not required if you are using Solaris 7 and OpenBoot PROM software v3.17.0.

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**Note** – Solaris 2.7 and 7 are the first versions of software that support the 450 MHz CPU UltraSPARC IIs module. OpenBoot PROM (OBP) software v3.17.0 is the first version of OBP software to support the 450 MHz CPU UltraSPARC IIs module.

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**Note** – For installation instructions, refer to the CD insert included with the CD.

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# System Requirements for 450 MHz CPU Modules with Solaris 2.7 or Solaris 7 installed

Before replacing or installing a 450 MHz UltraSPARC-IIs CPU module, verify that Solaris™ 2.7 is installed on your system. Also verify that OpenBoot™ PROM software version 3.17.0 is installed on your system. If necessary, upgrade your operating system to Solaris 2.7 software and your OpenBoot PROM software to the versions described above.

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**Note** – Solaris 2.7 and 7 are the first versions of software that support the 450 MHz CPU UltraSPARC IIs module. OpenBoot PROM (OBP) software v3.17.0 is the first version of OBP software to support the 450 MHz CPU UltraSPARC IIs module.

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## Preparing for Installation

This section describes:

- “Powering Off the System” on page 3
- “Removing the Side Access Cover” on page 6
- “Attaching the Antistatic Wrist Strap” on page 7

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**Note** – If you are returning a used CPU module to Sun Microsystems, reuse the shipping box and packing materials that came with your replacement CPU module.

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## Powering Off the System



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**Caution** – Prior to turning off the workstation power, shut down all applications and exit from the operating system. Failure to do so may result in data loss.

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**Caution** – Wear an antistatic wrist strap and use an antistatic mat when handling components. When servicing or removing workstation components, attach an antistatic strap to your wrist, then to a metal area on the chassis, and then disconnect the power cord from the workstation and the wall receptacle. Following this caution equalizes all electrical potentials within the workstation.

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To power off the system:

1. **Back up system files and data.**
2. **Halt the system.**



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**Caution** – Pressing the front panel power switch does not remove all power from the workstation; a trickle voltage remains in the power supply. To remove all power from the workstation, disconnect the AC power cord.

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- 3. Power off all attached external devices to the workstation.**
- 4. Disconnect all cables from the workstation, except the power cord.**
- 5. Move the power on/standby switch to the Off position (FIGURE 1).**

**6. Verify the following:**

- a. The front panel LED is off.**
- b. The system fans are not spinning.**

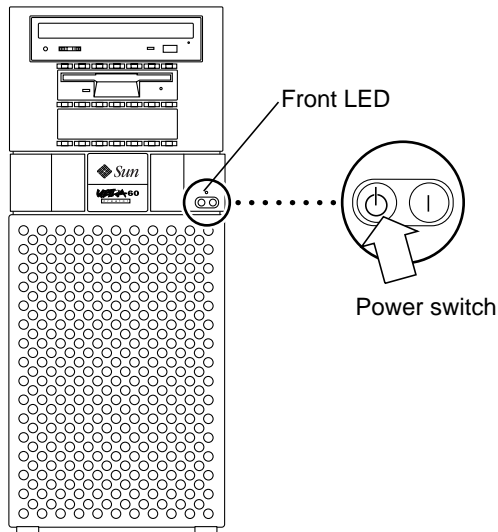


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**Caution** – Disconnect the AC power cord prior to servicing system components.

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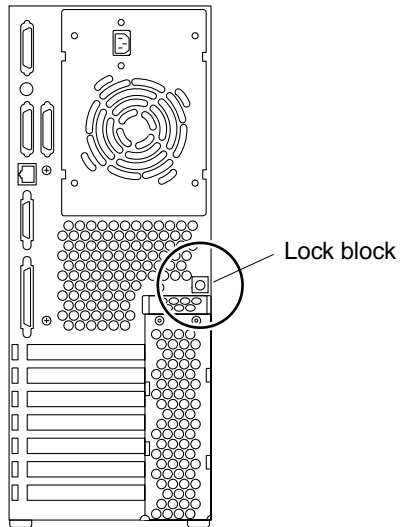
**7. Disconnect the power cord (FIGURE 4).**



**FIGURE 1** Power Switch and Front Panel LED

# Removing the Side Access Cover

1. **Disconnect the lock block (FIGURE 2).**



**FIGURE 2** Location of the Lock Block

2. **Remove the side access cover as follows (FIGURE 3):**
  - a. **Place the workstation with the side access cover facing up.**
  - b. **Move the access panel toward the back of the workstation.**
  - c. **Disengage the side access cover from the chassis hooks.**
  - d. **Grasping the side access cover, lift the access panel upward and remove.**

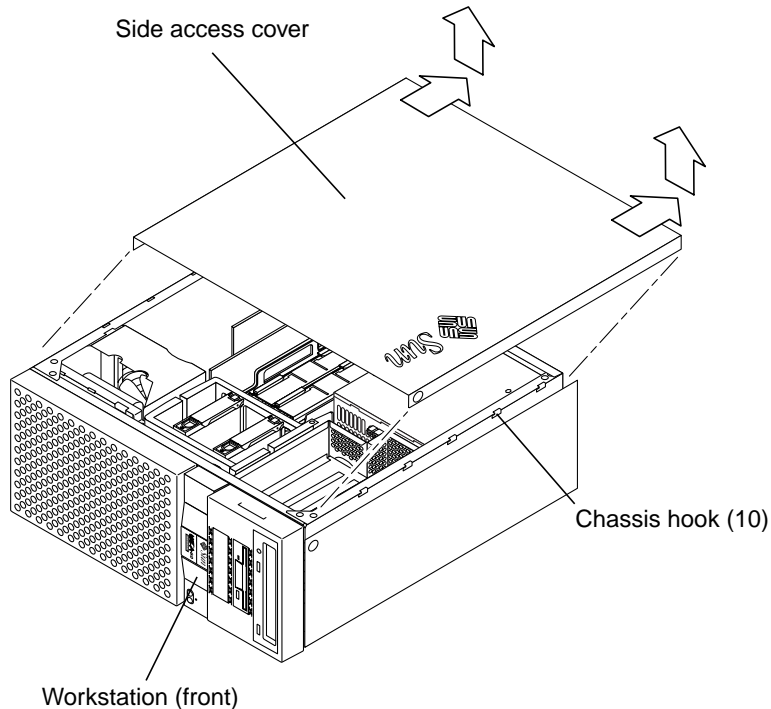


FIGURE 3 Removing the Side Access Cover

## Attaching the Antistatic Wrist Strap

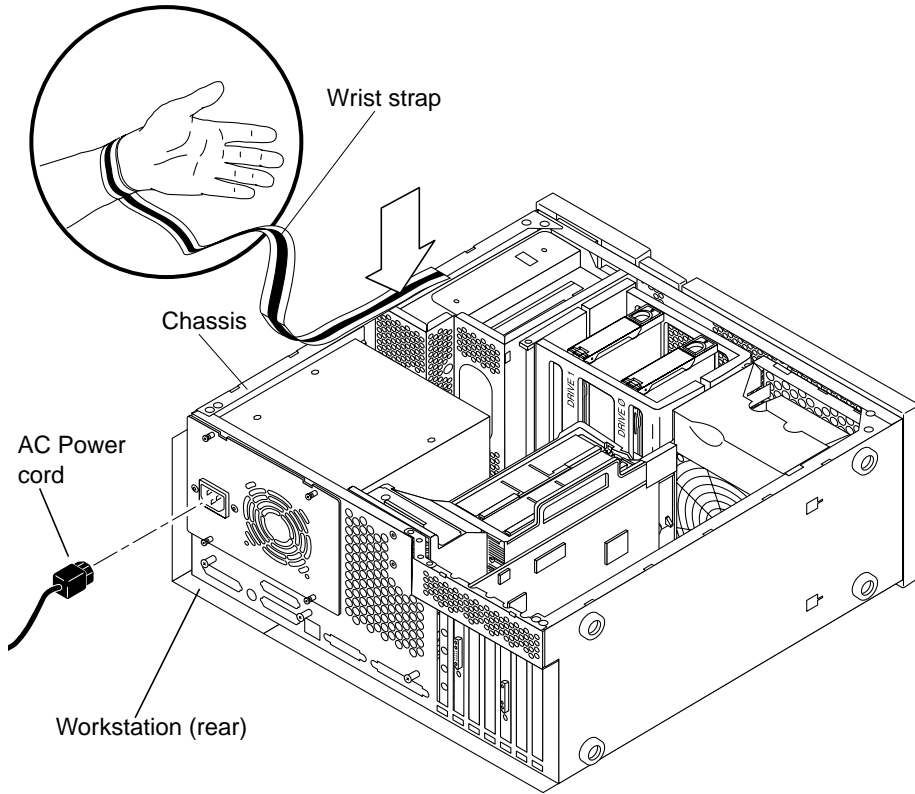


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**Caution** – Wear an antistatic wrist strap and use an antistatic mat when handling workstation components. When servicing or removing workstation components, attach an antistatic strap to your wrist, then to a metal area on the chassis.

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1. **Unwrap the first two folds of the wrist strap. Wrap the adhesive side firmly against your wrist.**
2. **Peel the liner from the copper foil at the opposite end of the wrist strap.**
3. **Attach the copper end of the wrist strap to the chassis (FIGURE 4).**



**FIGURE 4** Attaching the Wrist Strap to the Chassis



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# Removing the CPU Module



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**Caution** – Use proper antistatic grounding techniques when handling components. Wear an antistatic wrist strap and use an antistatic mat. Store ESD-sensitive components in antistatic bags before placing them on any surface.

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1. **Remove the CPU module as follows (FIGURE 5):**
  - a. **Use your thumbs to simultaneously lift the two levers on the CPU module upward and to the side at an approximate 135 degree angle.**
  - b. **Lift the CPU module upward until it clears the workstation chassis.**
2. **Place the CPU module on an antistatic mat.**

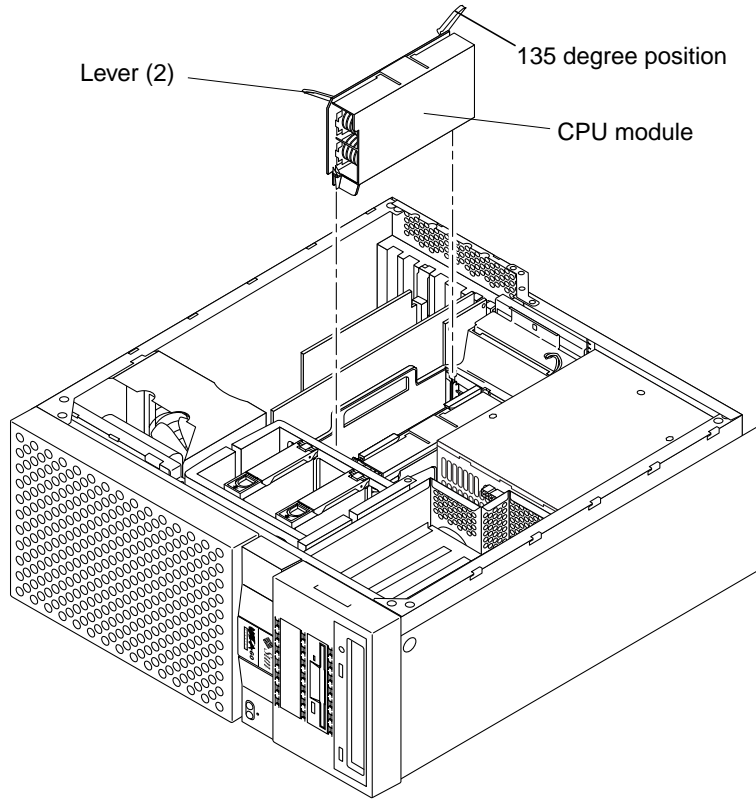


FIGURE 5 Removing and Replacing the CPU Module

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## Replacing the CPU Module



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**Caution** – Use proper antistatic grounding techniques when handling components. Wear an antistatic wrist strap and use an antistatic mat. Store ESD-sensitive components in antistatic bags before placing them on any surface.

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1. On the antistatic mat, hold the CPU module in an upright position with the plastic surface facing you (FIGURE 5).
2. Move the levers on the CPU module to the 135-degree position.

3. Lower the CPU module along the vertical plastic guides until the module touches the motherboard slot socket. Lock the CPU module in place as follows:
  - a. With both hands, simultaneously press the levers down to the fully horizontal position.
  - b. Firmly press the module down into the socket until it is fully seated and the levers are fully locked.

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## Setting the Jumpers for the CPU Module

1. Locate jumper J3001 (FIGURE 6).

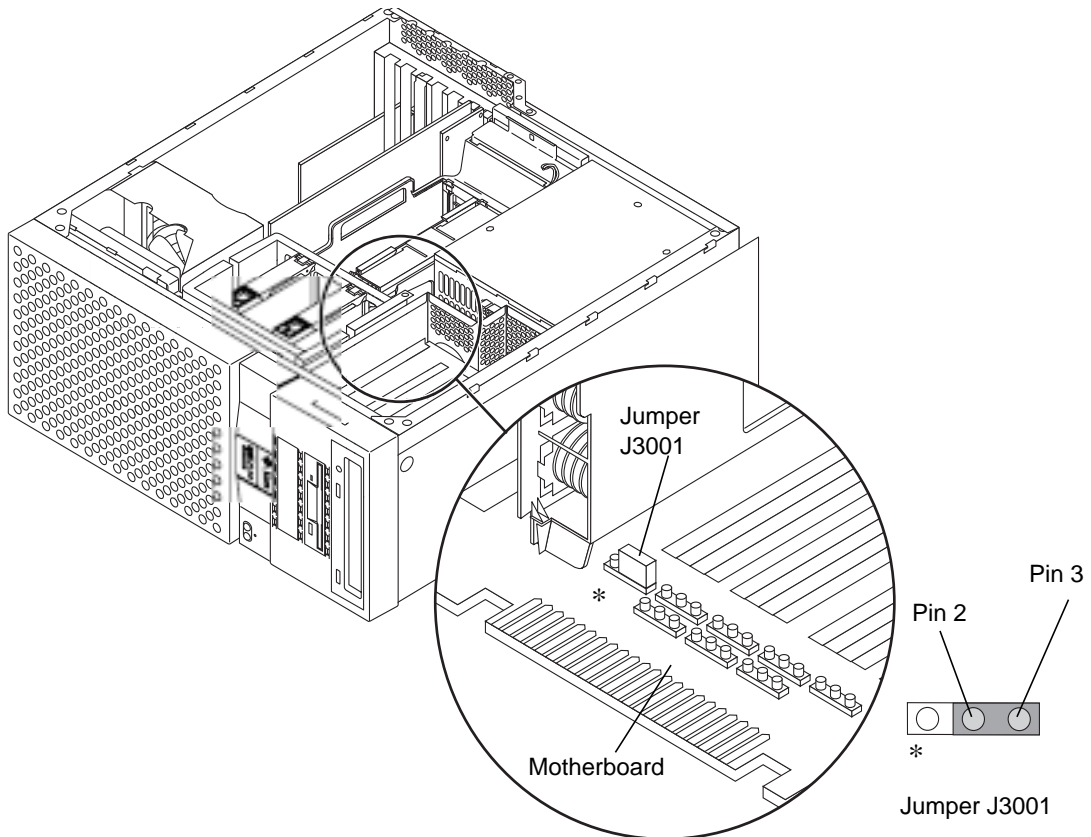


FIGURE 6 Position of Pins on Jumper J3001

2. **Verify that the position of the jumper is as shown (FIGURE 6).**  
If necessary adjust the position of the jumper.

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## Finishing the Installation

1. **Detach the wrist strap.**
2. **Replace the access panel (FIGURE 3).**
3. **Replace the lock block (FIGURE 2)**
4. **Connect the AC power cord for the workstation (FIGURE 4).**
5. **Connect all cables from any external equipment for the workstation.**
6. **Power on the system:**
  - a. **Turn on power to the monitor and to all external devices for the workstation.**
  - b. **Press the power switch on the front panel of the workstation and release it (FIGURE 1).**
  - c. **After several seconds, verify that the power-indicator LED on the power switch is energized and listen to verify that the system fans are operating (spinning).**
7. **The system should automatically recognize installation of the new CPU module(s).**

If you encounter problems, verify proper POST operation. If necessary, see Chapter 3, "Power-On Self-Test" in the *Sun Ultra 60 Service Manual (805-1709-11)*.

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## For More Information

You can the order a printed-copy of the *Sun Ultra 60 Service Manual (805-1709-11)* from the Fatbrain web site:

<http://fatbrain.com/documentation/sun>