

Sun™ Small Programmable
Object Technology (Sun SPOT)
Release Notes
Release 2.0

Sun Labs
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Sun™ Small Programmable Object Technology (Sun SPOT) Release Notes

These release notes accompany release 2.0 of the Sun SPOT system software.

New features in Release 2.0

The release 2.0 of the Sun SPOT software contains both new features and bug fixes. The most significant new features are:

- Output sent to `System.out` on remote SPOTs can now be redirected to be the host workstation using the radio.
- The Sun SPOT development software now supports Intel-based Macs as host workstations.
- The power management software can, optionally, be asked to manage the radio's on/off state to improve power saving.
- Application programs can open and use radio connections to SPOTs that are out of immediate radio range, provided these can be reached via multiple hops through other Sun SPOTs (mesh networking). For details, see the `RadiostreamConnection` javadocs. The `RadioConnection` class is now deprecated.
- The port numbers for radio connections, if not specified, are now automatically assigned.
- The new class `com.sun.spot.peripheral.radio.IRadioPolicyManager`, should be used to set radio parameters like `panID`, `channel`, `power`, and so on.
- Radiograms can now be longer than the radio packet size. Please note that, when getting a radiogram packet, `conn.getMaximumLength` is now 1260 bytes or ten physical packets.

- The accelerometer API has been revised. It now includes methods to return the current acceleration in Gs, relative acceleration, and the inclination of each axis. It also includes methods to calibrate the accelerometer. See the AppNote in `[SDKdirectory]/doc/AppNotes/AccelerometerAppNote.pdf` for details.
- The SPOT operating environment now contains a resource management system which allows the construction of device drivers which mediate resource conflicts between multiple clients on the same SPOT. The current eDemo board drivers do not yet use this system.
- The host workstation environment can allow multiple host processes to access the same basestation and, through it, other SPOTs. This means that one basestation can now monitor multiple Sun SPOTs. See the Sun SPOT Developer's Guide for details.
- It is no longer necessary to explicitly initiate the basestation in host applications.
- Sun SPOTs have support for the Record Management System defined in the Java IM Profile. This allows simple record-based access to persistent storage in flash memory. See the javadocs on `RecordStore` and `RecordListener` for details.
- The digital I/O pins on the eDEMO board can now generate interrupts handled in Java. Previously, the pins needed to be polled.
- Squawk performance has been improved considerably.
- It is easier to create new or modified SPOT libraries. See the *Sun SPOT Developers' Guide* for details.
- The behavior of the power LED (to the left of the control button) has changed slightly. Previously, when the battery was low, the power LED would alternate between off and a dim red. Now a low battery is indicated by a steady dim red.
- Resetting the SPOT requires a slightly longer press of the control button. Now it requires a press of 120 milliseconds or longer.

Optional Software

The following new, optional, software has been added to the release:

- SPOTManager monitors the system software available on the Sun SPOT web site and alerts developers when new software is available. It can download and install the new software on request. It also monitors the system software on specified Sun SPOTs and can download new versions to the Sun SPOTs on command.
- SpotWorld monitors the application software on all Sun SPOTs which are both within radio range and running its enabling software, Kami. SpotWorld allows for the SPOTs to be named and can control the application software on the Sun SPOTs under management.

In addition to these new features, approximately 180 bugs have been fixed.