



## Jornada Tecnológica SUN

*Sala de Grados • 29 de enero de 2009 • 16: 00*

*entrada libre hasta completar el aforo*

En esta jornada investigadores de SUN Microsystems presentarán diversas tecnologías innovadoras que están actualmente en desarrollo. Estas tecnologías son:

1. A new Anti-Phishing security pipe for the WWW
2. Sun SPOTs - An Experimental Technology from Sun
3. Project Yggdrasil - Data Collection framework for sensors

Es una jornada abierta a los investigadores, profesores y estudiantes de toda la comunidad universitaria así como al público empresarial. Las presentaciones se harán en inglés (no existirá traducción simultánea).

resumen:

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### **1. A new Anti-Phishing security pipe for the WWW**

Sun Labs has developed a new form of authenticated key exchange which we call multi-factor password-authenticated key exchange, where session establishment depends on successful authentication of multiple short secrets that are complementary in nature, such as a long-term password and a one-time response, allowing the client and server to be mutually assured of each other's identity without directly disclosing private information to the other party. Such technology when used to enhance web security provides a new security pipe for the WWW with anti-phishing properties. Multi-factor authentication can provide an enhanced level of assurance in higher security scenarios such as online banking, virtual private network access, and physical access because a multi-factor protocol is designed to remain secure even if all but one of the factors has been compromised. We introduce the first formal security model for multi-factor password-authenticated key exchange protocols, propose an efficient and secure protocol called MFPK, and provide a formal argument to show that our protocol is secure in this model.

### **2. Sun SPOTs - An Experimental Technology from Sun**

Sun SPOTs (Sun Small Programmable Object Technology) are small, wireless, battery-powered devices developed at Sun Labs to explore the next frontier of network computing. These devices can be used in a wide range of applications including robotics, environmental monitoring, asset tracking, proactive health care and many others. Sun SPOTs are powered by a specially designed small-footprint Java virtual machine, called Squawk, that can host multiple applications concurrently, and requires no underlying operating system. Stackable boards include application-specific sensors and actuators such as accelerometers, light detectors, temperature sensors, LEDs, push buttons and general I/O pins. The devices can be duty cycled to run for months on a single charge of their rechargeable battery.

### **3. Project Yggdrasil - Data Collection framework for sensors**

Udupi is working on developing a flexible data collection framework, called Yggdrasil, that takes into account the special characteristics and constraints of wireless sensor networks, e.g. power conservation. It targets applications like environmental monitoring, asset tracking, data center monitoring, security surveillance etc. The framework makes it easy for scientists and other domain experts, that do not necessarily have a strong computer programming background, to create applications that collect sensor data over long periods (months). The framework is being developed in close cooperation with several potential users including the United States Geological Survey (USGS), the Warren Wilson College, the CREA (Conservation Research Education Action) organization, The Royal Institute of Technology in Sweden as well as some of our Sun Microsystems' datacenter management teams.

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