

## **GSAW 2007 Tutorial H:**

Open Source Software Methods in Ground Systems

**Length:** Half day

### **Overview:**

Open Source and Standards, Emerging ground system technologies, Ground Systems supporting major space programs have software baselines that consist of several million lines of code. Historically, these systems are delivered years late, over budget and with less functionality than originally planned. Clearly, alternatives to the current acquisition approach need investigation.

In this tutorial, we will explain the alternative of Open Source Software (OSS) and the software development methods evolved by OSS developers. We will discuss what OSS is and is not, why ground system architects need to be aware of it, identify low overhead software development techniques, and how they can be applied to ground systems projects. In addition, we will explain, review the progress of, and present initial results from an Aerospace Corporation enterprise-level open source effort – “Aerosource,” recently funded by an Aerospace internal Innovation Grant.

Open Source Software is software, which allows users to access, modify, and redistribute the source code. OSS may be used by itself or part of a larger product. Many OSS products such as the Linux operating system or the Apache web server are used directly. Some are incorporated into commercial software. For example OpenSSH ships with MacOS X and Solaris. OSS products are also incorporated into commercial hardware such as routers and storage devices. Juniper routers run FreeBSD as do some NetApp network attached storage products.

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