

Lessons Learned while providing SiLK Training

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About me

- **Worked in a CSIRT as: Incident Analysis and Coordination, Penetration Testing, Antivirus support. Worked with SiLK on and off since 2002.**
- **Most of what I'm saying is first hand, but we've had other trainers too.**

DISA **Some variables and some constants**

- **Topics stayed largely the same over this discussion. Trained analysts on SiLK along with a few other tools (visualization, scan database, iSiLK) built using SiLK**
- **Started with real data and context, migrated towards obfuscated data**
- **Used different facilities and gear at different times**
- **Only recently started pre-testing for Unix proficiency**
- **No pre-testing for TCP/IP familiarity**



Facilities

- **Our customers are in roughly six different time zones**
- **Our own facility:**
 - **Having a CAC doesn't mean having a certificate on that CAC.**
 - **Live training via teleconferencing difficult to do and almost impossible to do effectively with in person students at the same time**
- **Customer provided facilities:**
 - **Insist on testing full connection including usernames and passwords (at least one!) before you jump on that plane. Then quietly check against your data server's logs.**
 - **Just because it works on one workstation doesn't mean all the workstations on a network have the same browser configuration.**
 - **Just because a commercial version of SSH client is installed doesn't mean the customer's firewall allows tcp/22 outbound to the training server.**
 - **If you've never seen pictures or been before, and the customer says there's an overhead projector, bring a pointer in case it's beyond arms reach.**

- **SiLK installed easily on Linux environment. iSiLK installed easily under Windows without System Admin privileges (your mileage may vary).**
- **At least one Unix (Ubuntu) environment where iSiLK client doesn't work. Open source software doesn't necessarily mean it'll work on an Open Source Operating System.**
- **rwrandomize could potentially be replaced with a process vice a simple tool, as others have suggested**



Training Data

- **If you can train on real data, with context, that's the most compelling to a student.**
- **If you obfuscate your data, save the map! We later added asset data and had to grab new netflow data to have them similarly obfuscated.**
- **Keep the general types of use cases, even if you change the names, locations, dates, etc. Otherwise, loses interest.**
- **For obfuscated data, we used a couple of /16s plus added some additional flow data covering a Denial of Service attack, and changed the IPs and times.**



Students & Training Material

- **A fair number of students had forgotten some important details about TCP like the 3 way handshake.**
- **A fair number had minimal experience with Unix, a few were software developers.**
- **Highlights found in SEI (or other existing or easily created material) are sufficient for the above cases.**



I've been trained, now what?

- **Users may not know what to do with flow data other than scope and impact based on IDS alerts.**
 - **Know the users overall mission and business processes**
 - **Integrate with this where it makes sense**
 - **Advocate rescoping where it makes sense**
 - **You may have to do a lot of the reworking**
- **Users may not have the skills to build out processes.**
 - **You may find it useful to write scripts, provide mappings, etc yourself.**
 - **Someone has to maintain these**