

NT Workshops/Perl Conference Impressions
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I attended three separate workshops/conferences this August. The first was a Usenix-sponsored "Research on NT" workshop (where I spoke as part of a panel along with Rémy Evard, former CCS Director of Technology). The second was a NT LISA (Large Integrated Systems Administration) workshop. From there I flew to San Jose to attend the O'Reilly Perl conference. Each of these meetings had the distinction of being the first ever of their kind. Here are my impressions from each:

NT Workshops

1. These workshops were essentially an experiment for the Usenix organization, since its focus had been primarily UNIX. To both Usenix (and Microsoft's) surprise, the demand for these workshops was very strong, drawing over 400 registrants. It is pretty clear NT is lapping right at the UNIX shore in a big way (think "tsunami"). It is also clear that everyone is currently struggling and searching for the "answers" to the questions posed by NT.
2. The papers submitted for these workshops (especially the NT LISA one) were exceptionally weak. There is a bootstrap process that has to take place in the community (just like the original LISA conferences went through) before it starts churning out engaging work. My sense is that people are too busy coping with the NT influx to begin to do interesting stuff with it (especially in the system administration domain). My hope is this is a function of age, not something inherent in the NT environment itself.
3. The most interesting portions of these two conferences were the talks given by Microsoft development team leaders on the future of NT (more on this later). These people were all extremely smart, surprisingly candid about the state of the product, and frightfully receptive to input from the people gathered. Some examples:
 - Frank Artale, head of the entire NT development effort said "We have the worst operating system around for laptops." He in turn was surprised to find a good 80% of the attendees appeared to be running this operating system on their laptop (including yours truly).
 - Michele Freed and Robert Corrington, program managers for Windows Administration stayed around for a good hour bouncing ideas back and forth with the people who attended the panel I spoke at. It's heartening to hear someone ask "So, I'm in the middle of designing this policy mechanism, do you think it should be done this way, or that way?"
 - Also heartening to hear is Microsoft person say "Yes, I know. I hate that about NT too. I'm personally fixing it as we speak." A mea culpa from Microsoft goes a long way.
4. All of this candor helped to highlight the places where Microsoft still has a ways to go in their system administration thinking. Most striking to me was the lack of recognition that folks in the UNIX world have bumped up against (and put a great deal of thought into) an awful lot of the large-scale systems administration problems that Microsoft now faces. I asked, point blank, the head of SMS (Systems Management Server, their software inventory and deployment product) development what steps MS has taken to tap into this wealth of knowledge. "Not enough, not enough." he said wistfully. Microsoft is on the cusp of moving out the single/personal/non-managed desktop mindset. They have no choice, or their Rome will crumble under its own weight.
5. Even as I leave that somber note to hang in the air, let me point out that this set of conferences was somewhat of conversion experience for me, because on the whole Microsoft is getting it. Here's some of the things NT5.0 is schedule to include:
 - Surface improvements: plug and pray, power management, process trees (process groups), decreased startup time (If I heard right "Bill hath said 'Thou shalt start up in 10 seconds'", though this is seen as a goal, not a reality), reduced reboots during configuration changes, login/logoff scripts

- Improved software sanity: their logo program will help certify “clean apps” that don’t write into the system directories, common shared library (like MAPI) updates will only be shipped in NT upgrade service packs (instead of by random software vendors who have created a revision soup).
 - New technologies: Wolfpack (the best product code name I have ever heard) for clustering, and Hydra for “thin clients” (Cytrix technology that allows you to have one hefty server and a bunch of other puny machines which act as display servers for this server. Sound familiar?)
 - Networking advances: Active directory (tightly integrated, very spiffy, enterprise-wide directory services), ATM/LANE support, Kerberos V for security (although their plans call for the Kerberos support to be non-interoperable with all of the currently deployed Kerberos infrastructures. It is this sort of proprietary move that helps to foster Microsoft’s unsavory reputation in the computing world. One wonders whether MS gets a special discount on shoes that have targets painted on them.)
 - Storage advances: removable media support, FAT32, sparse file support, defragmentation on the fly, mount points in addition to drive letters, symbolic links, compressed files moved compressed over the wire, meta-data filesystems (to provide encryption, full content indexing, and single instance storage (multiple copies of data only take up a single instance’s worth of storage space))
 - System Administration/management advances: IntelliMirror™ (take a hammer to your hard drive, plug a new one in, the machine rebuilds itself back to the pre-hammer state automatically), remote boot support, client-side caching (programs and data can be thought of as cached, rather than installed, which creates all sorts of mobile machine and user possibilities), improved application setup/management (publish an application for users to install at their request, or assign an application to a user and it follows them around. Another neat trick is to have a user click on a document created in an application they do not have installed, which triggers an automatic installation of that application), dynamic policy updates in background, Microsoft Management Console (uniform management UI framework that allows administrators to create their own custom management tools), administration powers and other privileges can be delegated to others in a hierarchical fashion.
 - Command line and scripting advances (important to any systems administrator with a large network): Windows Scripting Host environment (common environment to allow scripting using various engines like VisualBasic and Perl), Active Directory Scripting Interface (script operations anything the Active Directory service world), Web Based Management (a bit of a misnomer, it is more of an object framework)
6. Two of the best phrases heard at the conferences came from the talk given by Artale and Felipe Cabrera, (head of storage development): “That’s a technology piñata” and “knobs=calls” (indicating that every user- tweakable parameter leads to more support calls which leads to less profit).

Perl Conference

After a fairly intense week in Seattle, this conference proved to be less exciting in comparison (probably because I did not have much energy left for engagement). Here are some highlights:

1. Highly telling: I spent most of my time in the Perl for Win32 (i.e. NT) track sessions.
2. Virtually all of the “big names” in the Perl community attended.
3. There were over 1000 people registered for the conference (the very first one), which certainly speaks to the popularity of the language.
4. The Win32 port of Perl is maturing nicely and will shortly be integrated into the main development stream. Many people (confirmed at the previous weeks’ workshops) are using Perl under NT to do their SysAdmin tasks.
5. The next version of Perl (5.005, due in November) will have better support for compilation (using the alpha compiler currently circulating) and will begin to support multi-threading.
6. Larry Wall, inventor of Perl, is currently in the process of writing a backend for the Perl Compiler to output Java bytecode. Strange, but true.

7. Eric Raymond, editor of The Hackers Dictionary, gave a provocative/inspiring talk based on his paper "The Cathedral and the Bazaar." This paper's premise is that there are two models for software development: the cathedral (where you have one set of elite developers working hard in an ivory tower to release a bug-free product) and the bazaar (where you have a highly distributed development group which releases its code often and with bugs so everyone can work on it). Linux vs. Microsoft. His assertion is the bazaar model will ultimately triumph over the cathedral. This paper is on the web at <http://www.ccil.org/~esr/writings/cathedral-paper.html>. It's definitely worth the read.