ClearCase for Windows NT Development

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Development Environment (Eugene)

- 12 Software Engineers
- 10 NT Stations (486 100 with 32 MG RAM to Pentium 120 with 64, 1 Gig Disks) NT 3.5 and 3.51. Chameleon 4.01 and 4.03. ClearCase 2.0.2 Beta 7/26.
- 14 Unix Stations (3 HP 715, 5 Sparc 10, 5 Sparc 2, 1 SGI Indigo), VOB's on Sparc 10s. SunOS 4.1 to .4, Solaris 2.3 to .4, HPUX 9.01 to 10, SGI IRIS 5.2. All ClearCase 2.0.2 except 2.0.3 for HPUX 10.

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Development Cycles and Products

- 90 Day Time Based Release Cycle (We ship to customers every Quarter, each product family ships in a 6 month cycle)
- Eugene has a family of products (SmartCAM) which is composed of 4 distinct release packages (Milling, Turning, Wire EDM, and Fabrication). Each of these products are released on HPUX, SunOS, Solaris, Windows 3.1, Windows NT, and Windows 95.

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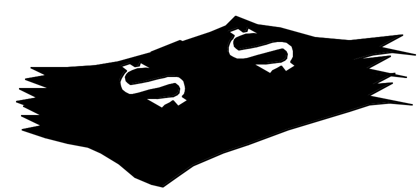
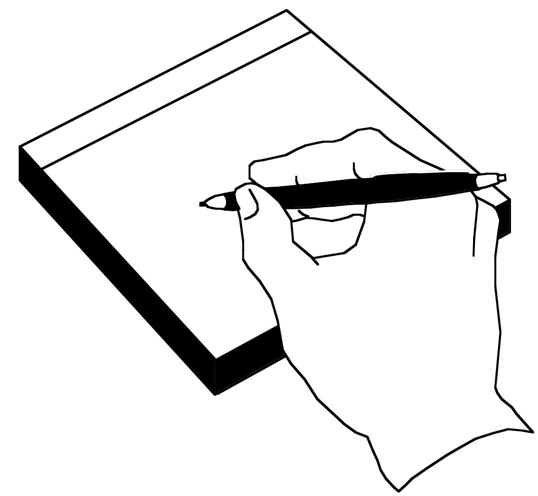
New Emphasis on NT Development

- Why the switch? Cost of NT Hardware, Development tools and CAMAX sales. Today 90% of SmartCAM sales are on Windows.
- How? ClearCase was the key. It provided an infrastructure that was targeted to all are supported platforms.
- When? We started development on ClearCase NT in February ‘95 and released our first version of software in June ‘95 and another in Sep ‘95.
- History. A year ago all developers worked primarily on UNIX, today 5 of 12 developers are focused on NT Development.



Grades

- NT Setup. D-
- NT Support A+
- Interoperation / Common Tools and Configuration Management. B
- Interoperation / Make. Identical commands and targets for builds. B+
- Interoperation / Views. A single view for both NT and UNIX. D-



NT Setup

- Off the shelf version 2.0 is unusable. Our recommendation is to get the Beta or the newly released 2.0.2. The 2.0 and Beta Software caused us to learn more about Atria's parts than we ever wanted to know.
- Registry, Groups, Location Broker have caused many agonizing problems. However the Beta software has been encouraging.
- NT registry makes you feel like you are typing redundant stuff. View tag registry is difficult to teach to a engineer.
- Logical drive consumption.

NT Support

- Atria's support organization has been fantastic. Turn around is lightning quick compared to standards set by MSDN, HP, SUN, etc..
- Patches for problems are easily obtained and made available. I have been notified when patches for specific problems were made available.
- Donna Conroy has been great at getting to the source of our NT problem. She was so thorough that I was even made aware of her vacation plans when I had outstanding calls.

Interoperation / Common Tools.

- NT basics from the command line are identical to Unix (except for glob handling "ct ls *.c").
- GUI commands are a little different, prompts and highlights don't match, and they all have different names.
- We have had occasional visits from Atria demons. "...not reading a vob object, ...corrupted derived objects, ... These red fuzzy devils have been rare and appear to be going away in the latest beta.

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NT Make Environment

- We achieved identical commands and targets for builds, but we opted to use a different make flavors. We build using “nmake” on NT and continued with “gnu” on Unix. We picked “omake -EN” because of nmake compatibility and response file support. Atria provides great flexibility in its make choices.
- Our implementation of make shares a “list file” to supply make targets (objects). We depend on ClearCase configuration records for release build dependencies.
- Config Recs for releases have been great, but the tradeoffs in speed for developer builds is too great.

A View Spanning NT/Unix

- Performance, performance, performance. We develop and test multiple platforms prior to checking changes into a shared code base. Validation on NT and Unix prior to a check-in requires a view to span platforms. This works but speed is an order of magnitude slower than a local NT build.
- We use ClearCase for NT release builds, but developers work on local copies for implementation and debug tasks. This eliminates performance problems, but defeats many of ClearCase's benefits (A common unified environment, seperate tools to build dependencies, move/delete problems).

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Bottom Line

- +++ CAMAX has come a long way in improving its development process with ClearCase providing the CM backbone. We perform automated (multi-platform) builds, regression, and qualification from a single view. This has added significant quality to our internal and external customers.
- --- The first year of ClearCase on NT has been difficult. We have had developers return to using non ClearCase tools to support faster build environments.
- +++ The hope for the future looks great. Atria is responding and fixing problems. They are taking action on their products limitations.

NT ClearCase Goals for CAMAX

- 2.0.2 ClearCase (ASAP)
- Upgrade NT O/S to 3.51 (Oct 95).
- Upgrade to Chameleon 4.03 (Oct 95).
- Establish an NT Domain Server (Oct 95)
- Pre-Compiled Headers (Nov 95).
- Multi-Site and Microsoft Network VOB's (Dec 95)
- Multi-Site between Minneapolis and Eugene (Q1 96)