

De-indirection in Computer Systems

Yiying Zhang

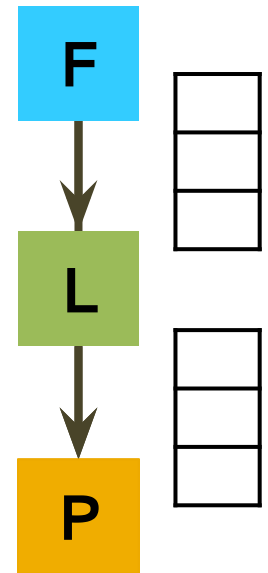
University of Wisconsin-Madison

Now at Non-Volatile Systems Laboratory

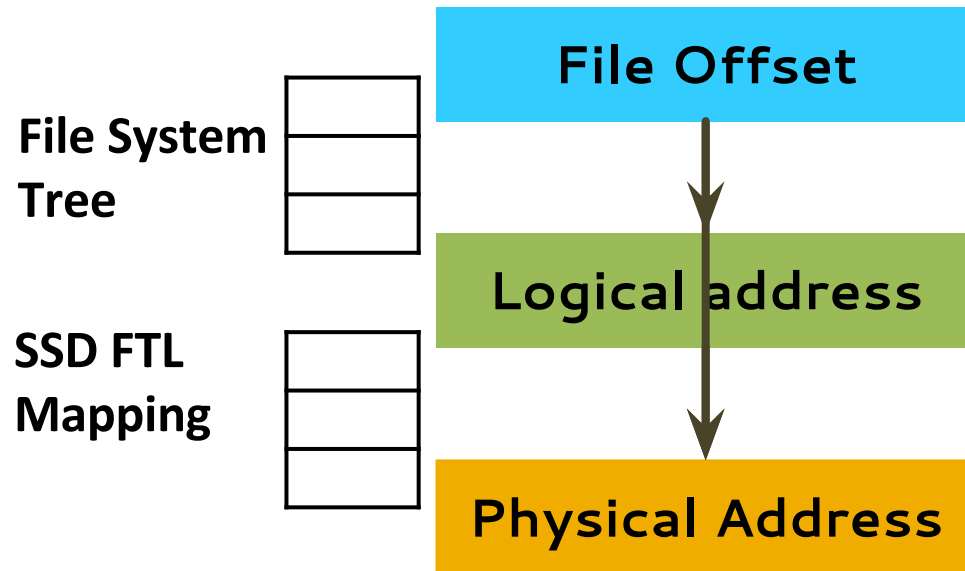
University of California, San Diego

Indirection: Too Much of a Good Thing?

- Indirection in computer systems
 - e.g., virtual memory, bad sector remapping
 - Flexibility, functionality, and more benefits

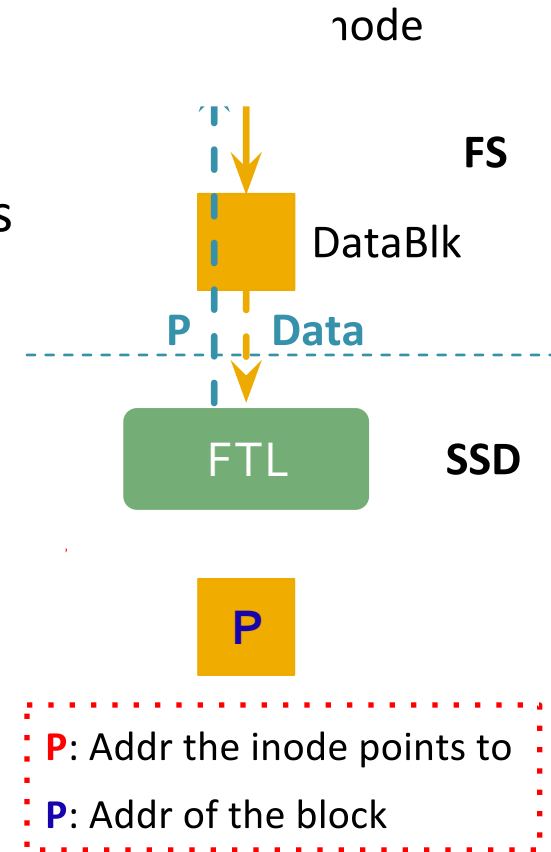


De-indirection: Remove Excess Indirection



De-indirection with Nameless Writes

- New interface: *Nameless Write*
 - Write without a name (logical address)
 - Device allocates and returns physical address
 - File system stores physical address



What about Other Systems?

- De-indirection for other clients
 - Databases
 - User-level applications

Conclusion

And Wheeler usually added:

Thank You !

Questions ?

yyzhang@cs.wisc.edu



NVSL
Non-volatile Systems Laboratory



UCSD CSE
Computer Science and Engineering



WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON