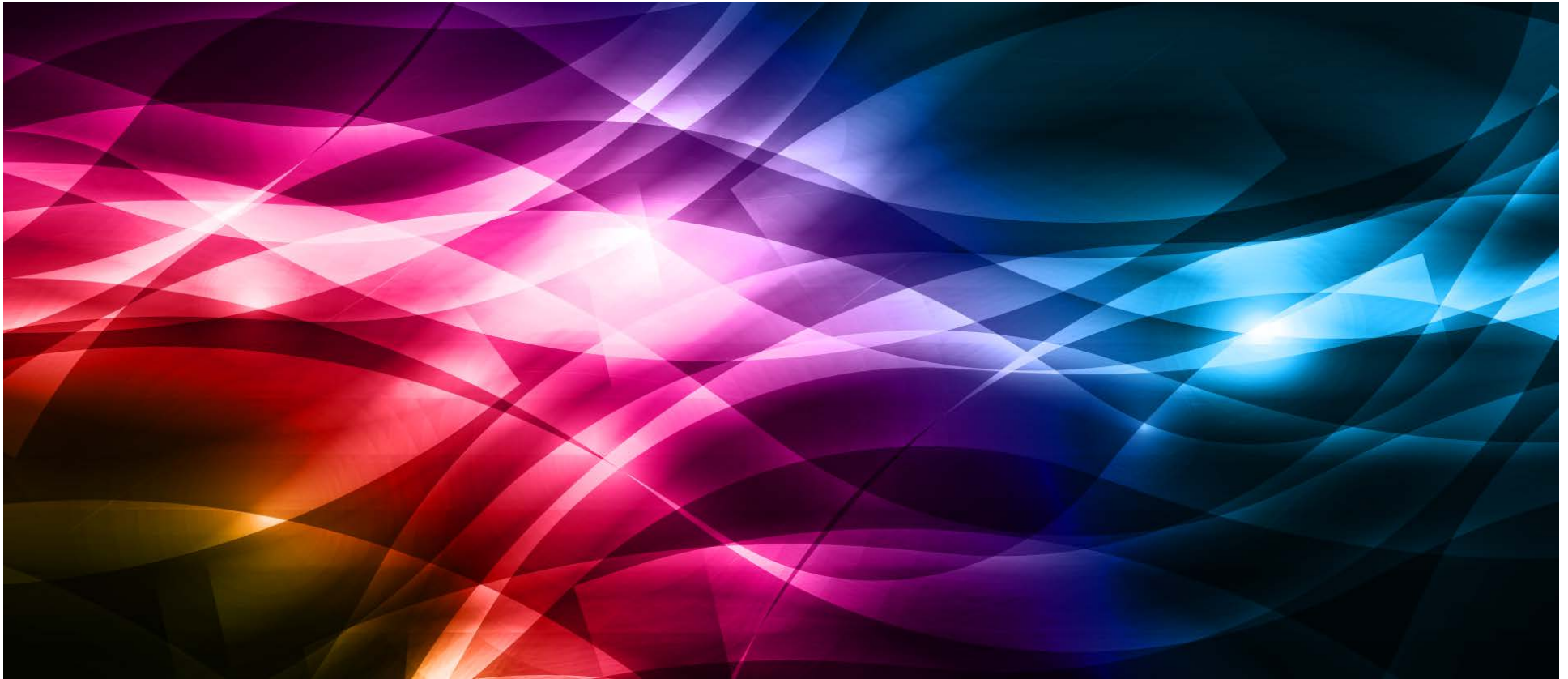




# Using OpenCL to Empower and Delight Users

Eric Berdahl | Sr. Eng. Manager, Creative Cloud Video; OpenCL Representative



# How much is enough?

## 2x?



# How much is enough?

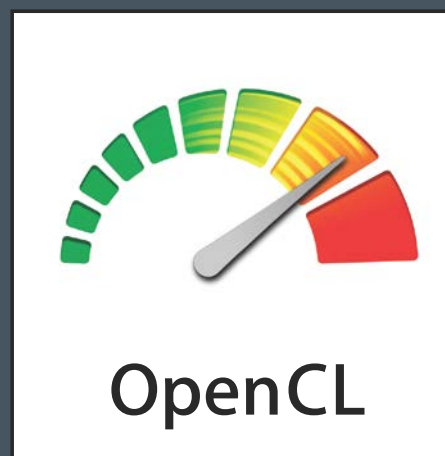


2x?

3x?

5x?

10x?



## Adobe ♥ OpenCL

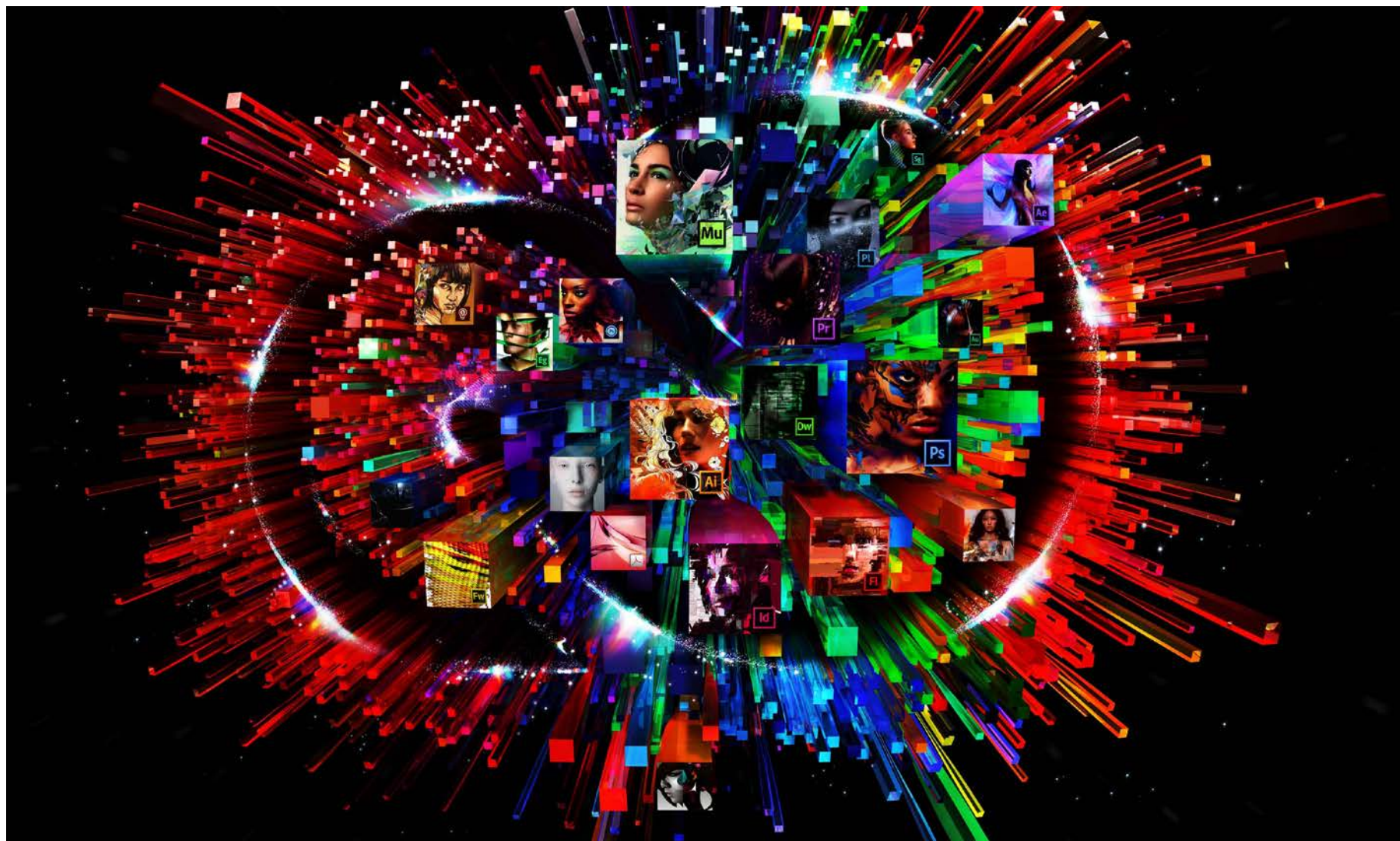
- Compute API supported across vendors and devices
- Programming model familiar to C programmers
- Demonstrated performance
- Adobe contributes to and benefits from community

- Compute API supported across vendors and devices
- Programming model familiar to C programmers
- Demonstrated performance
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Changes Software  
Development Economics!



Adobe ♥ Creativity

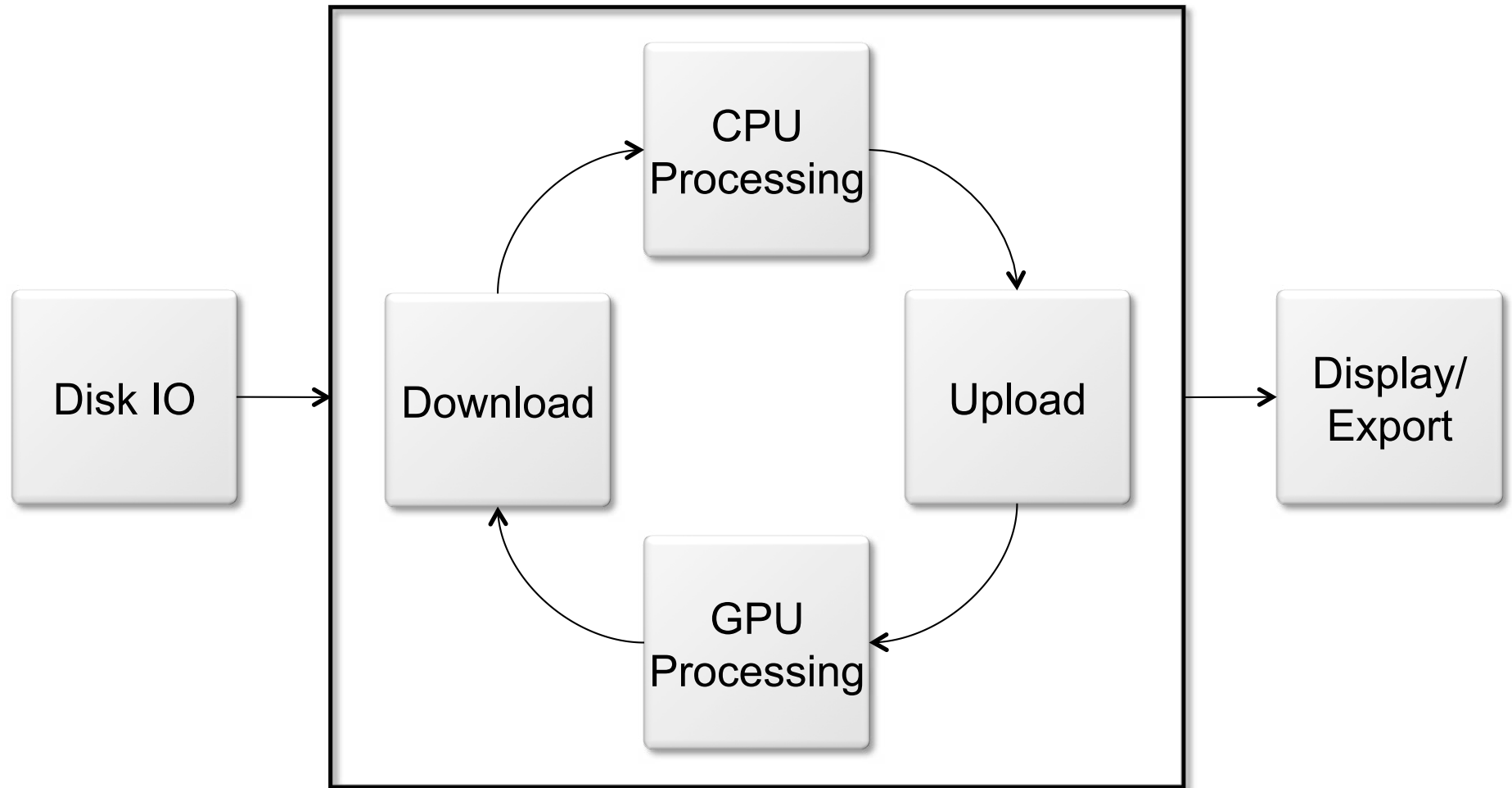


# Adobe ♥ Creativity

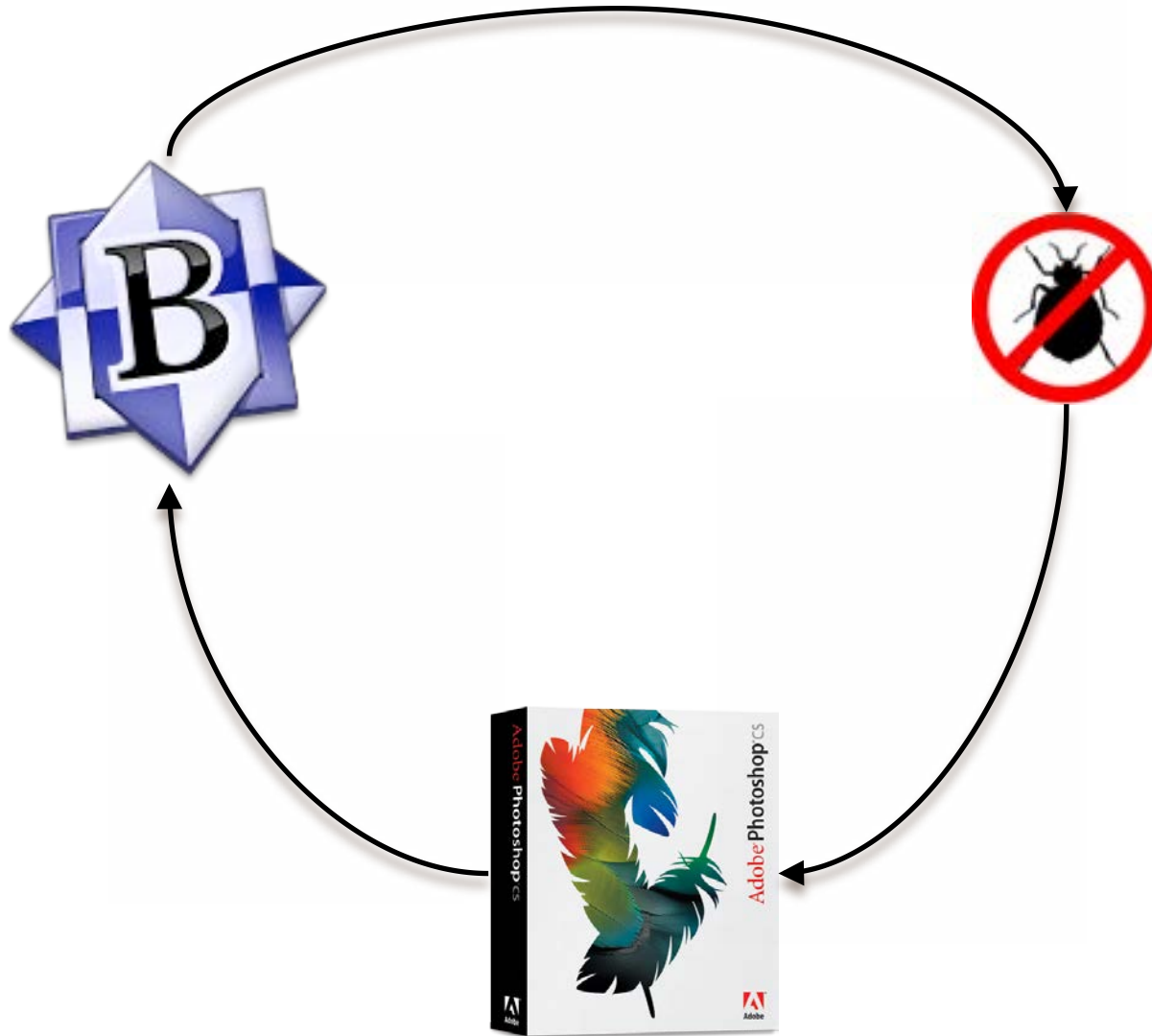




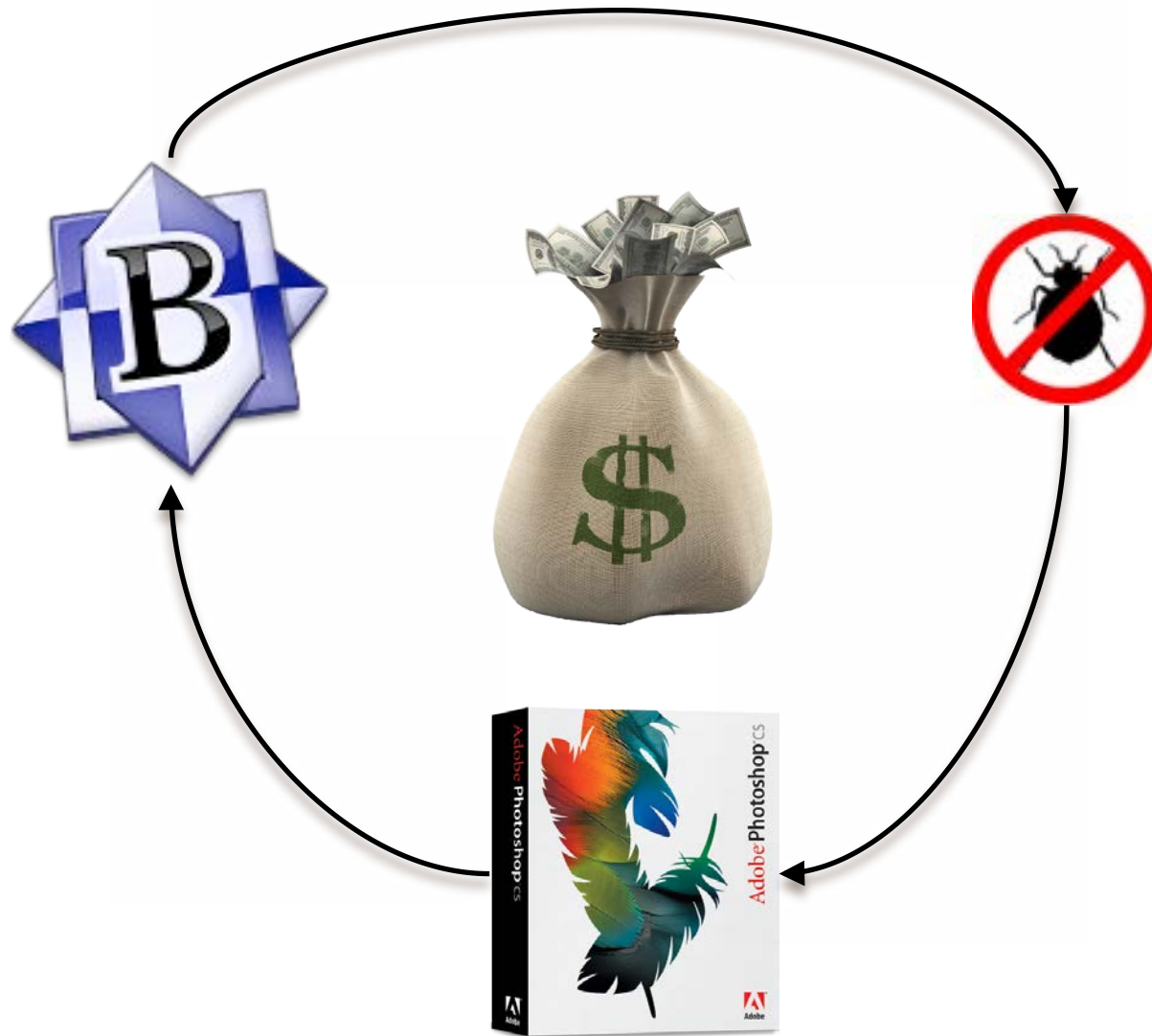
# Performance economics



# Software economics

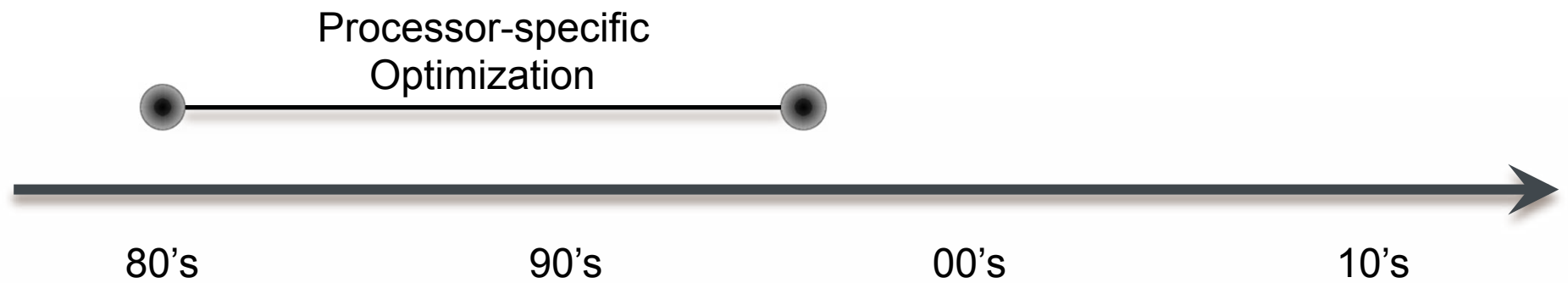


# Software economics

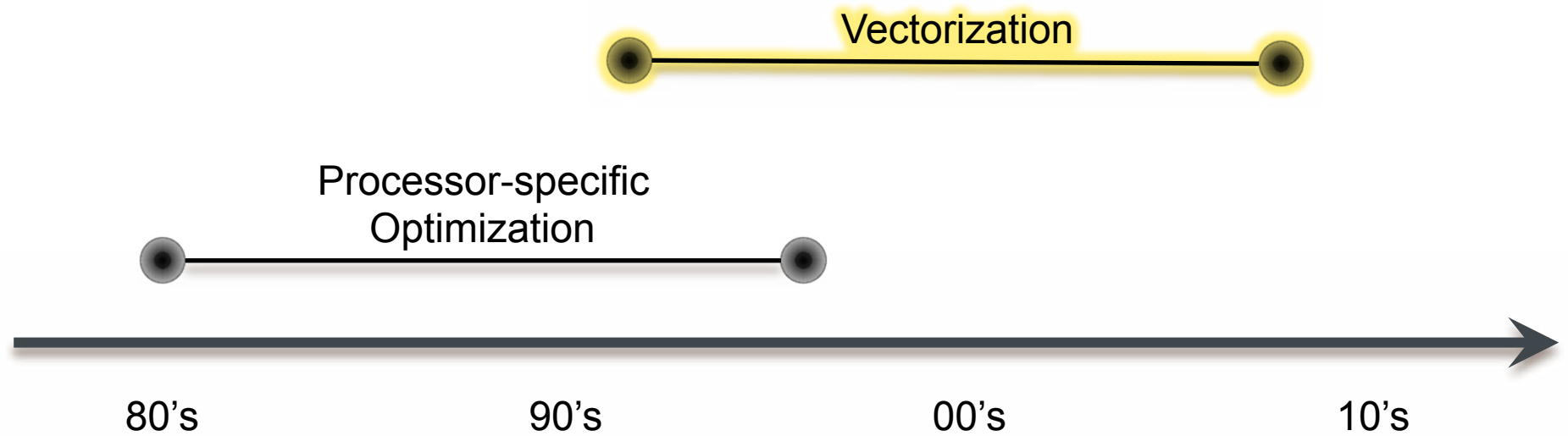


# Adobe ♥ Performance

# Adobe ♥ Performance

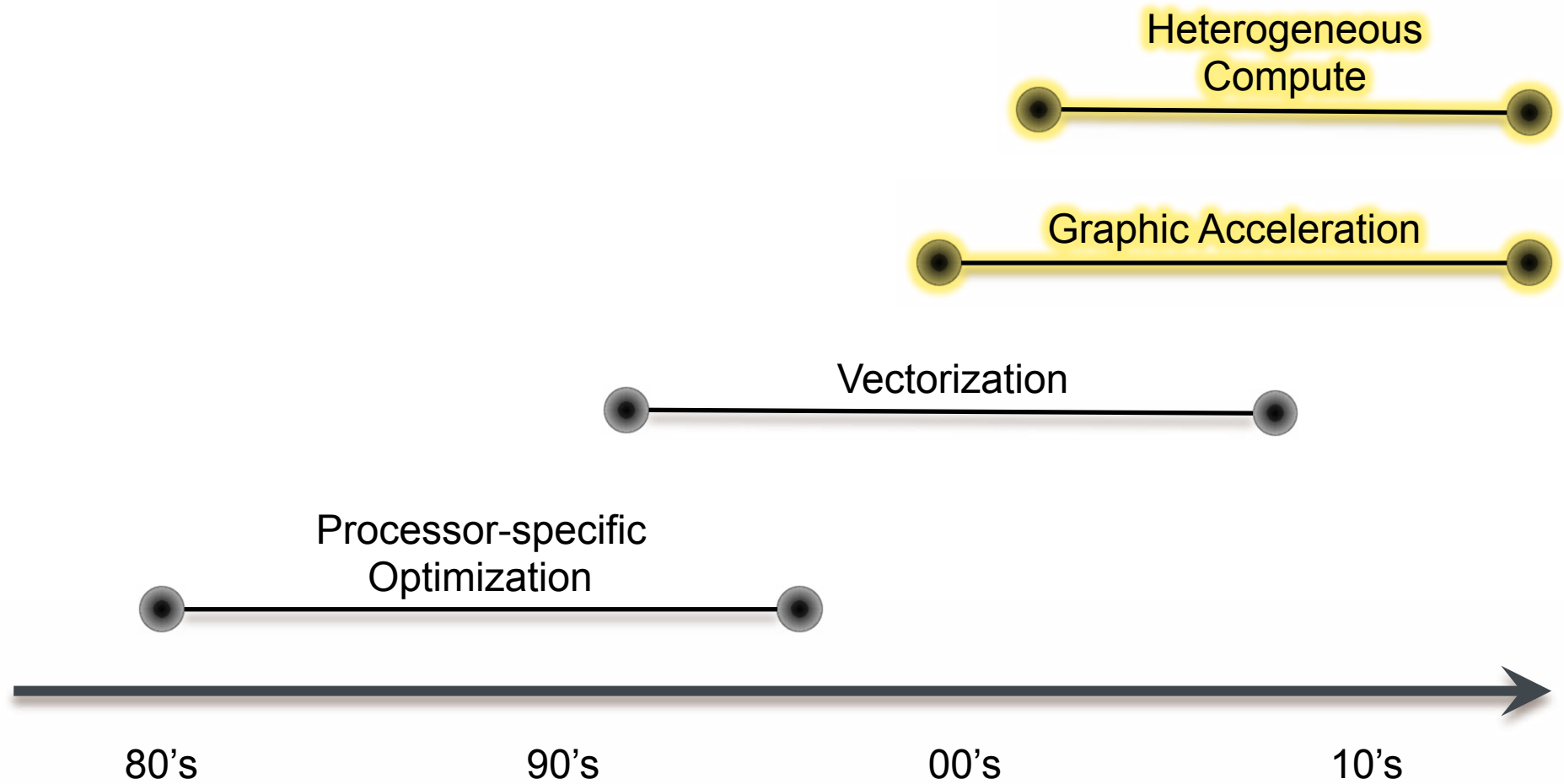


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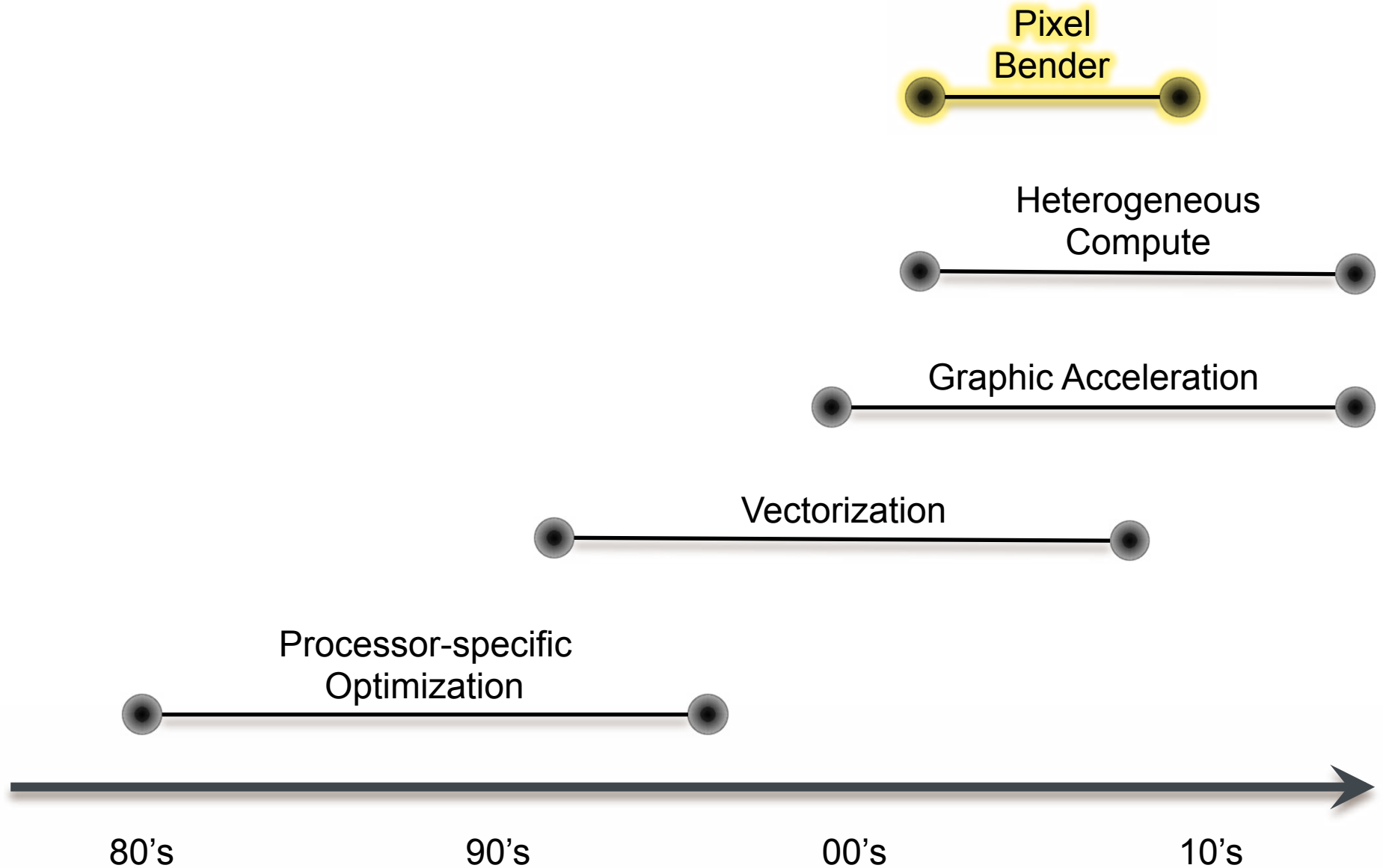




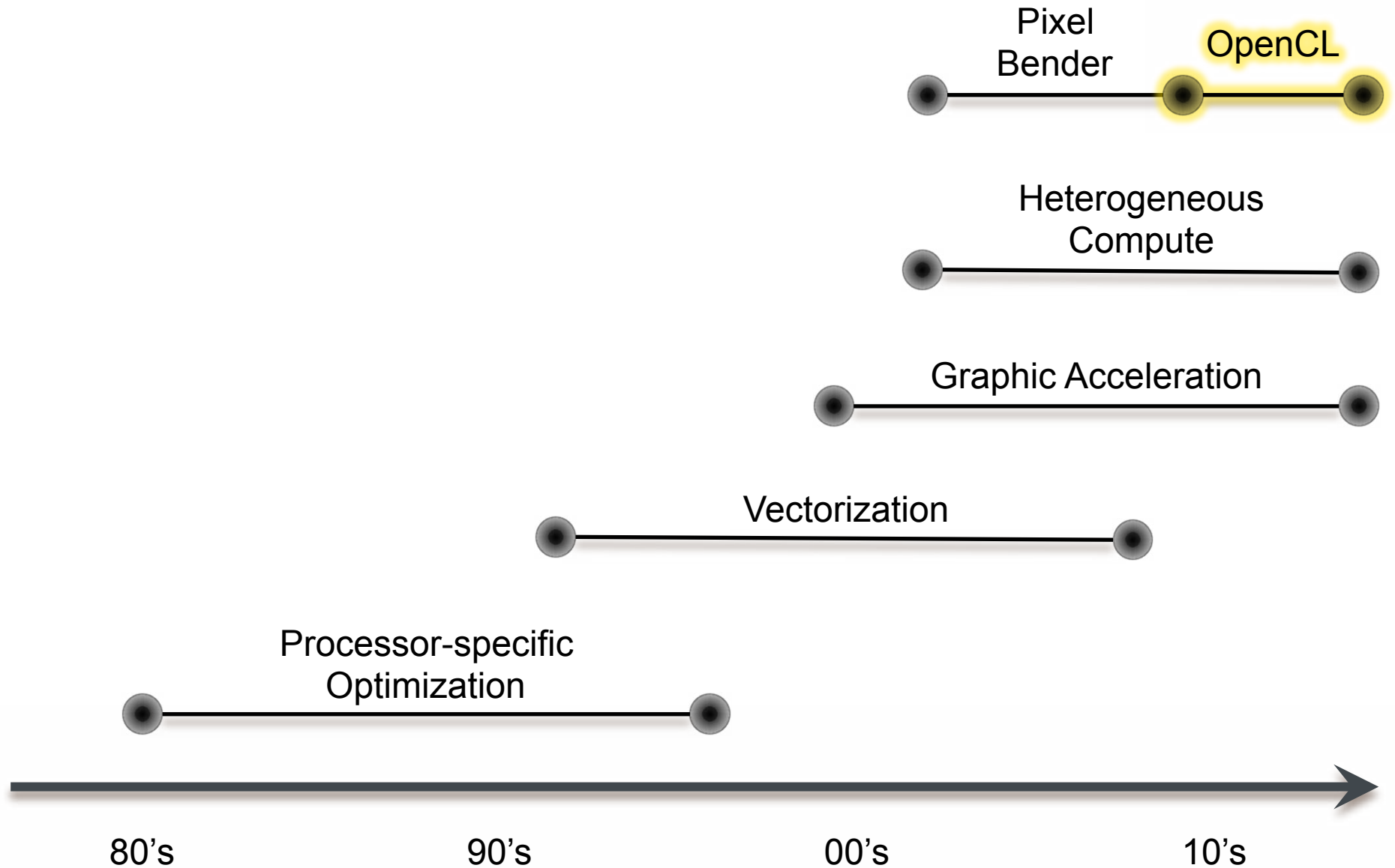
# Adobe ♥ Performance



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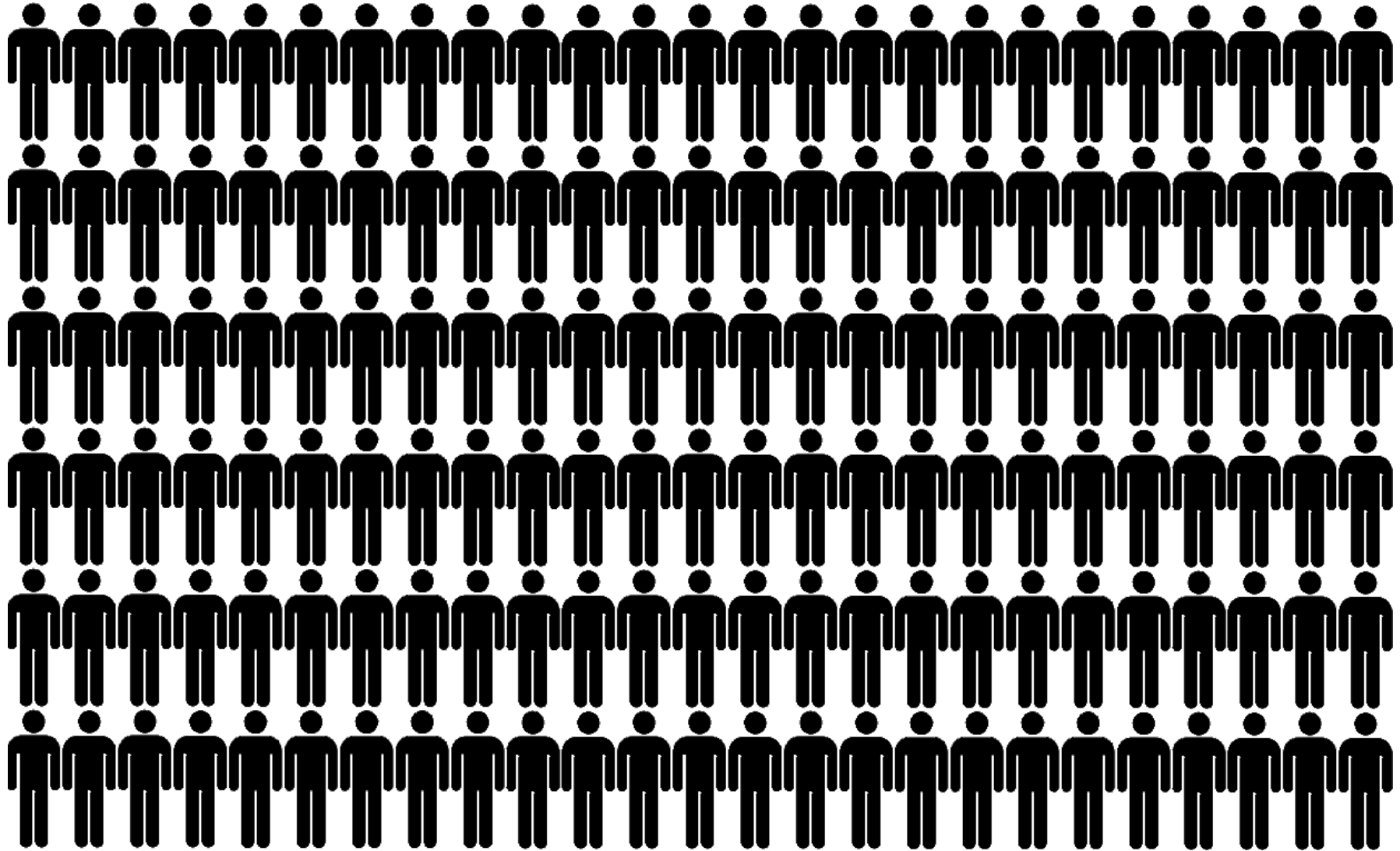


# Adobe ♥ Performance

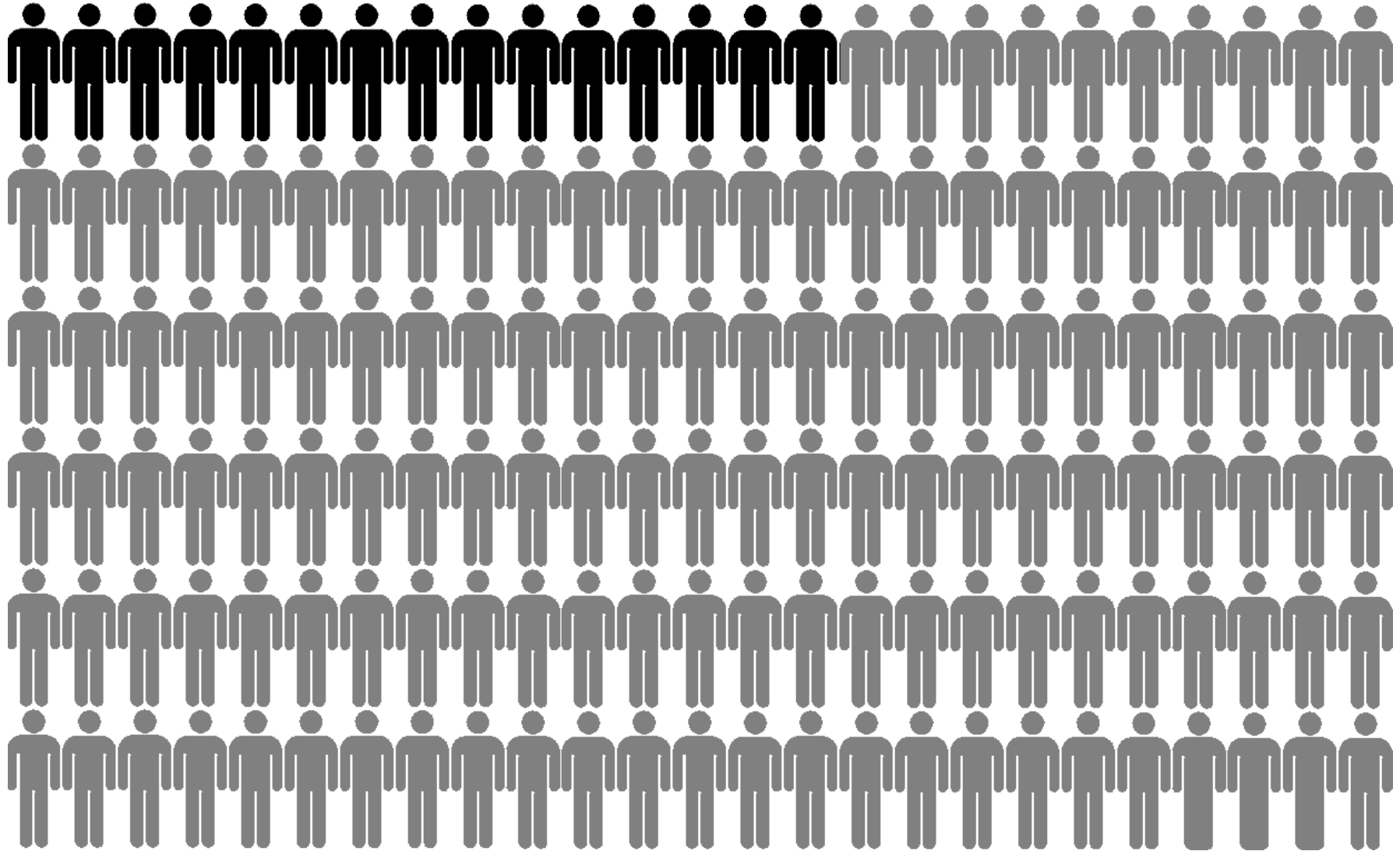


# Adobe ♥ Productivity

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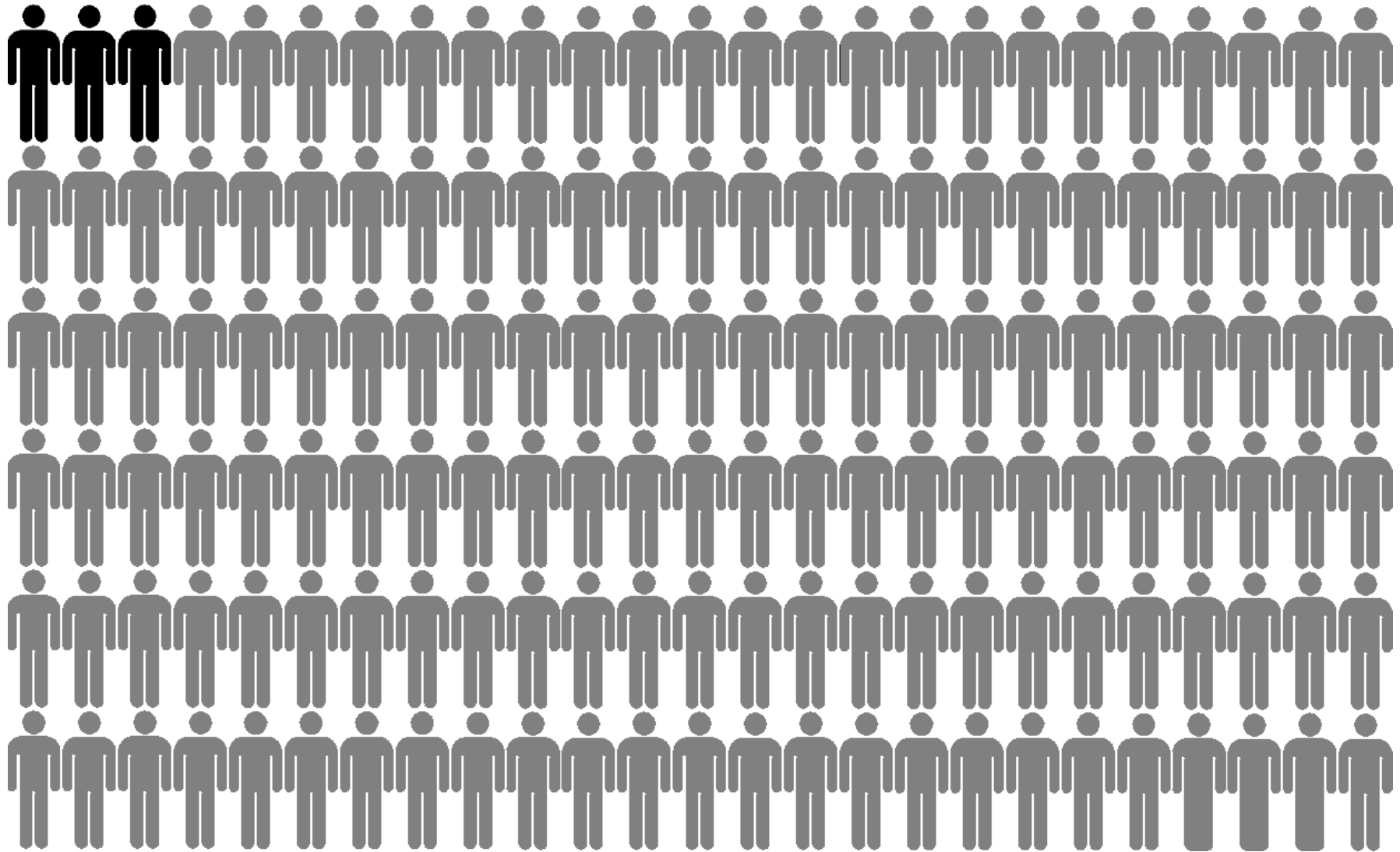


# Adobe ♥ Productivity

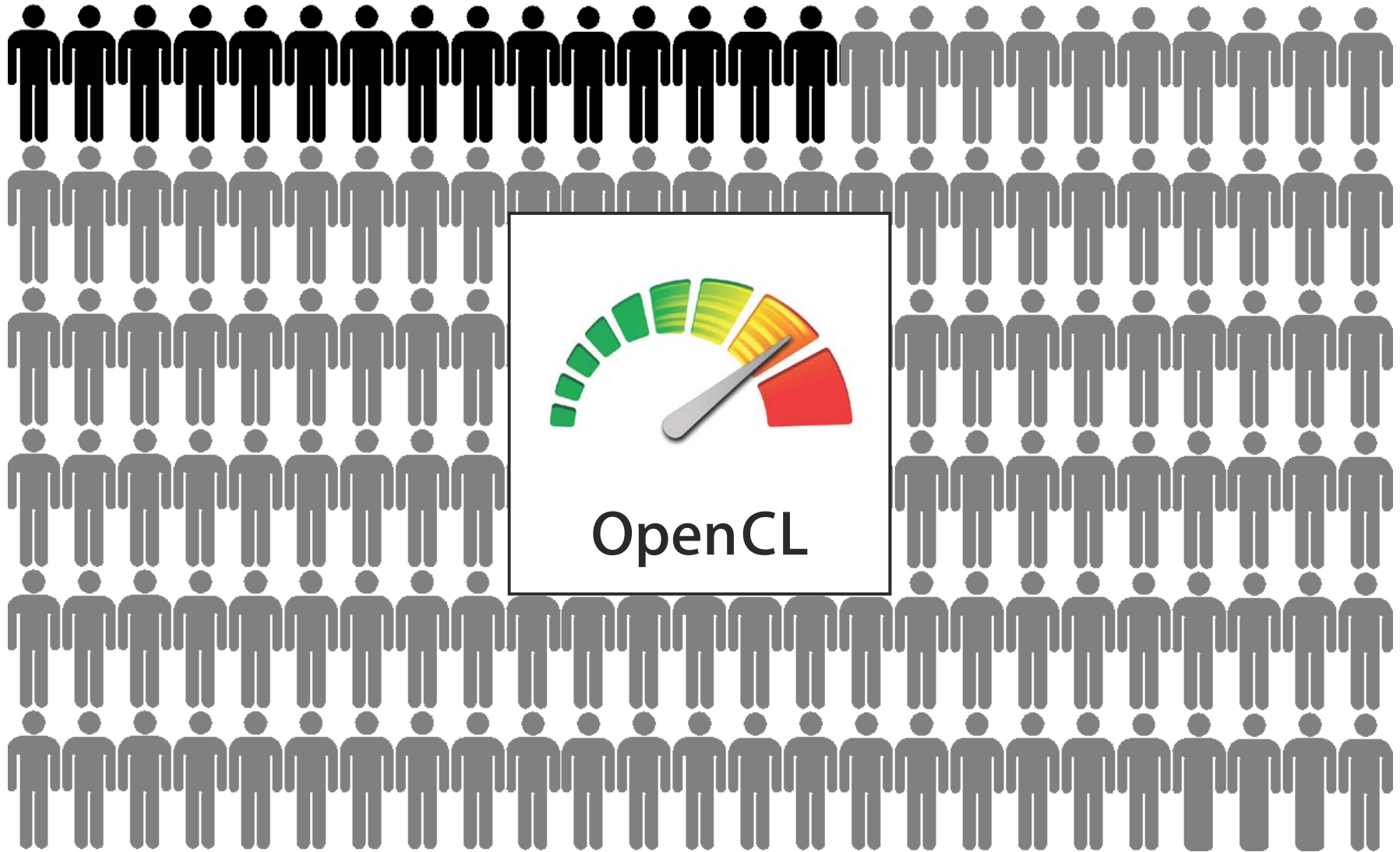




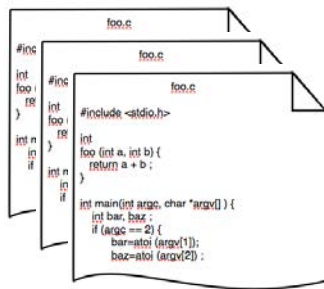
# Adobe ♥ Productivity



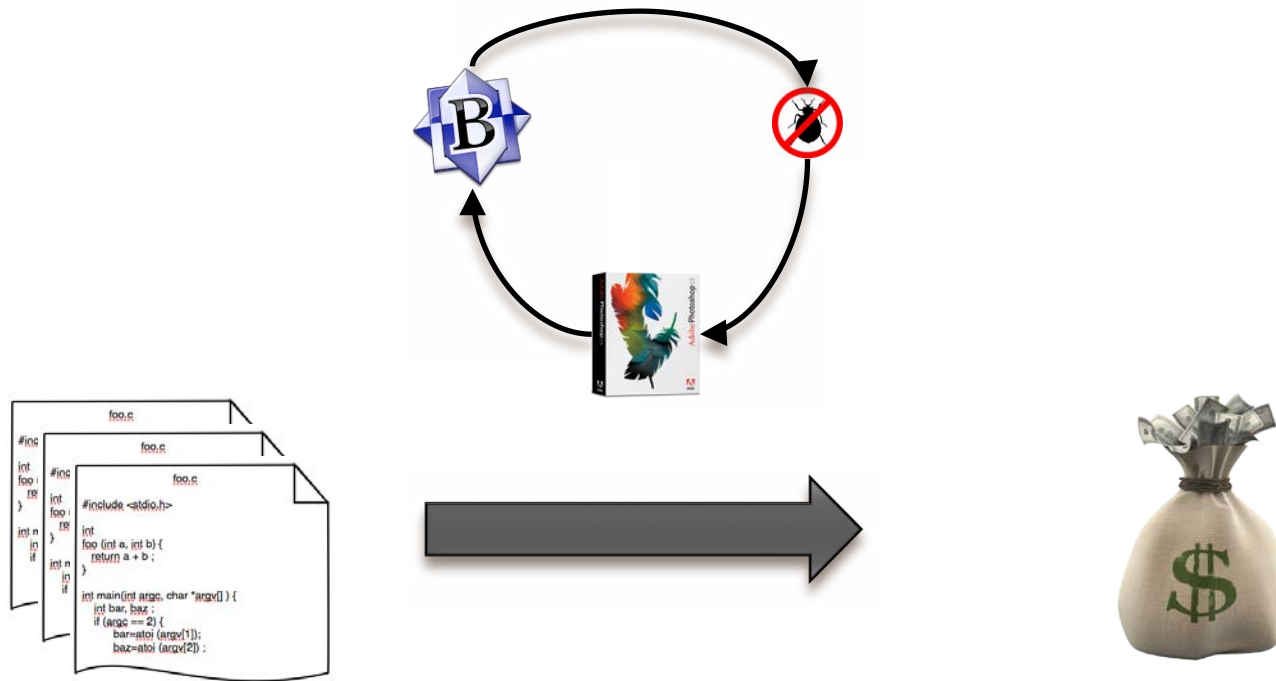




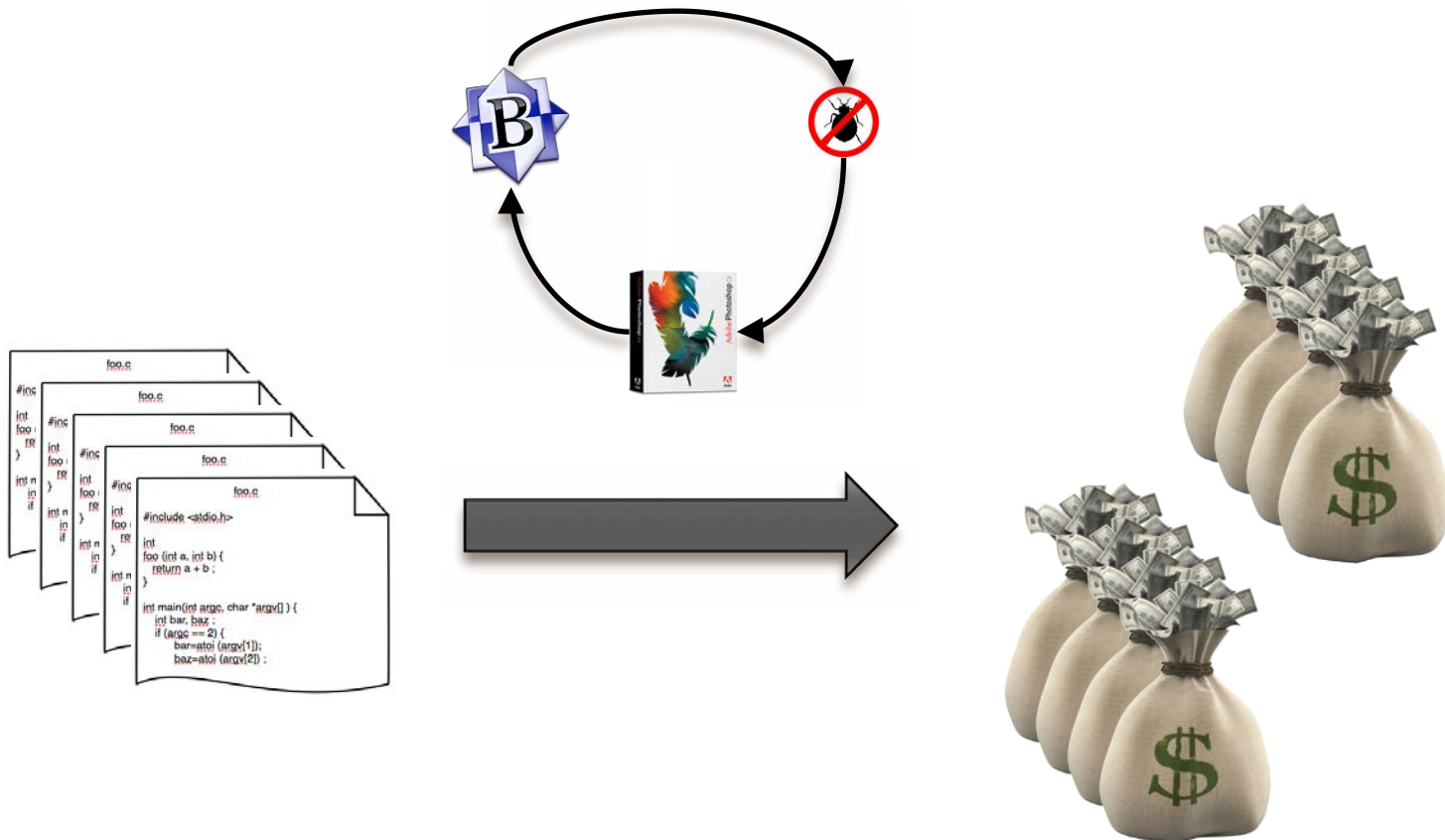
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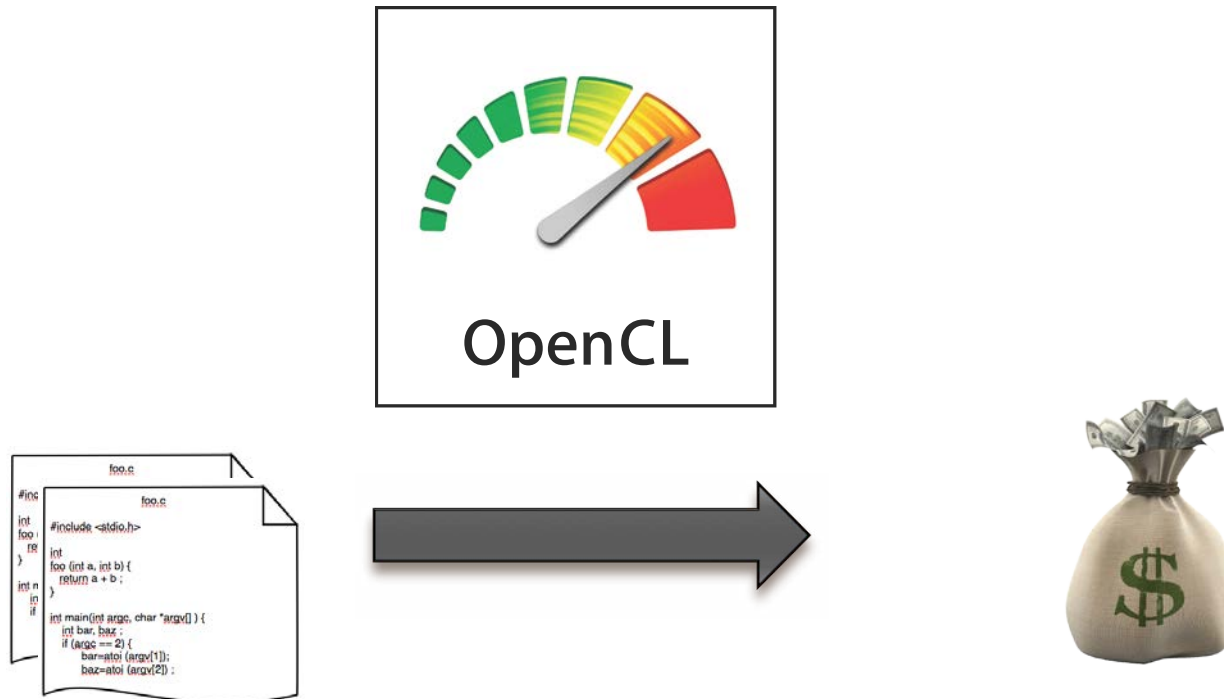


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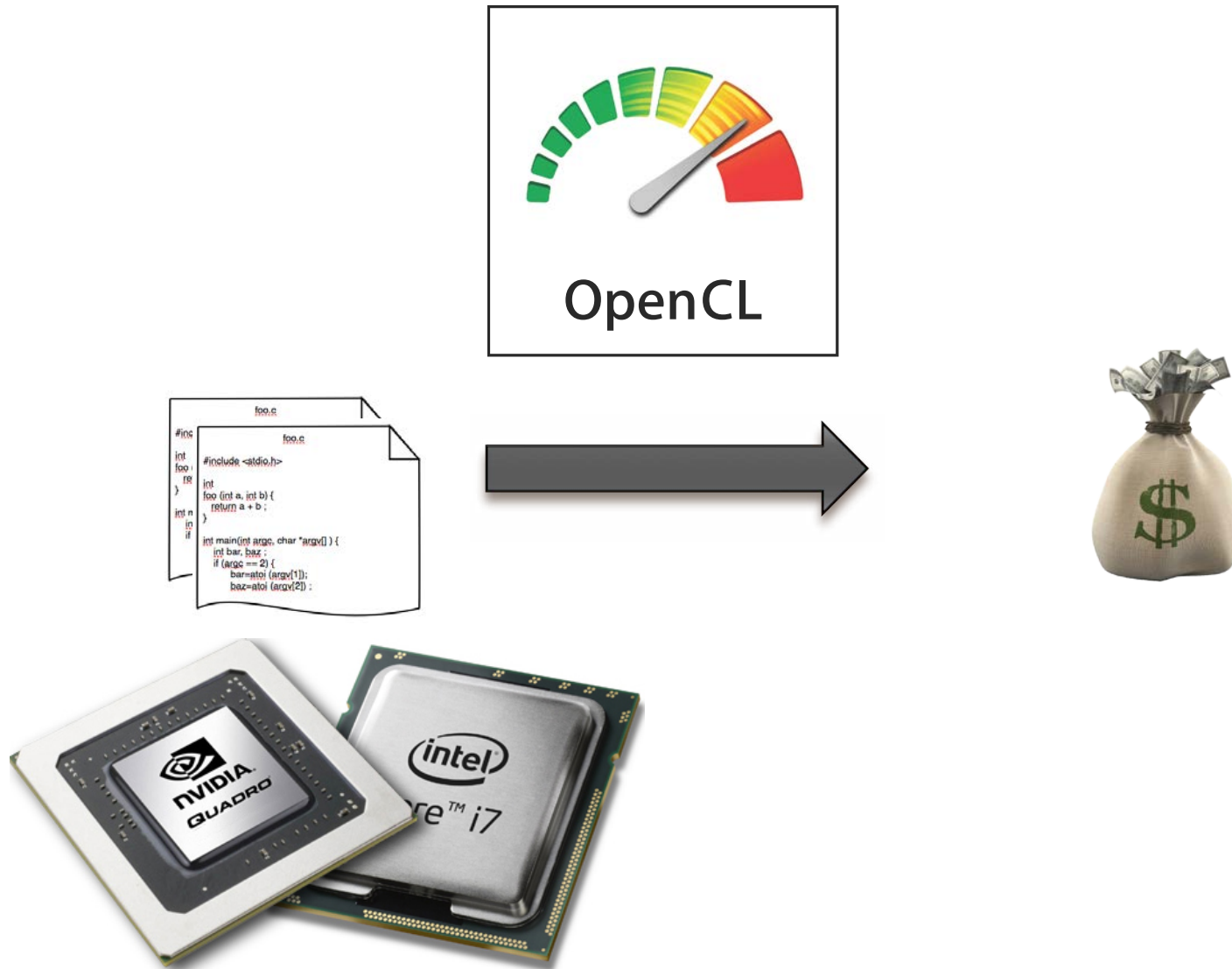




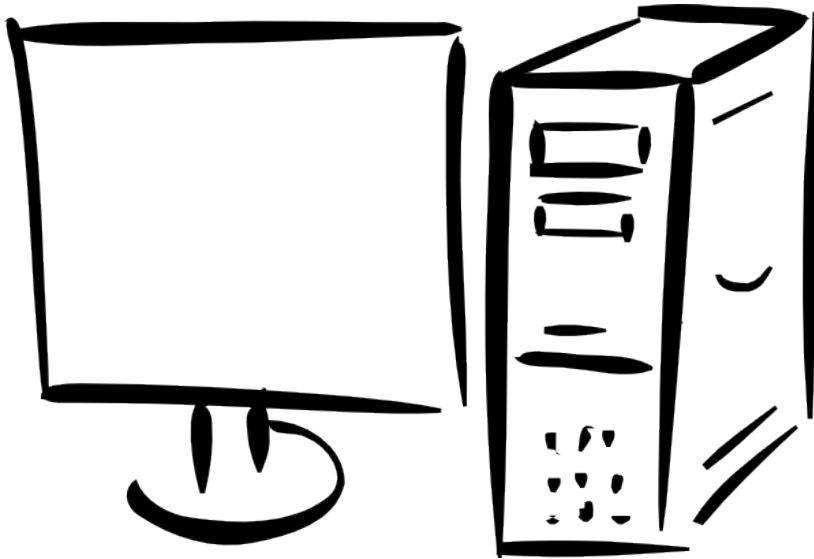
# Adobe ♥ Productivity



# Adobe ♥ Productivity



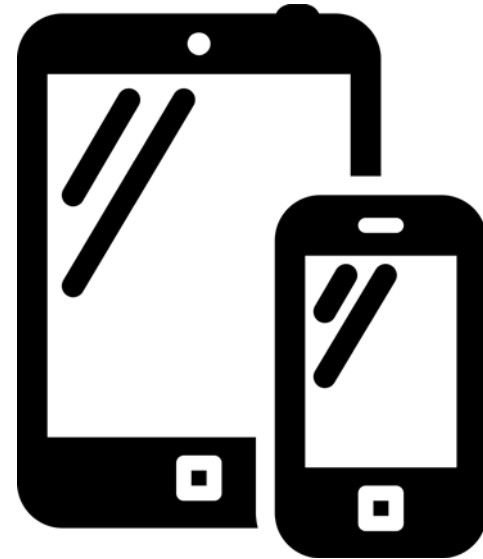
# Adobe ♥ Productivity



```
foo.c
#include <stdio.h>

int
foo (int a, int b) {
    return a + b;
}

int main(int argc, char *argv[]) {
    int bar, baz;
    if (argc == 2) {
        bar=atoi (argv[1]);
        baz=atoi (argv[2]);
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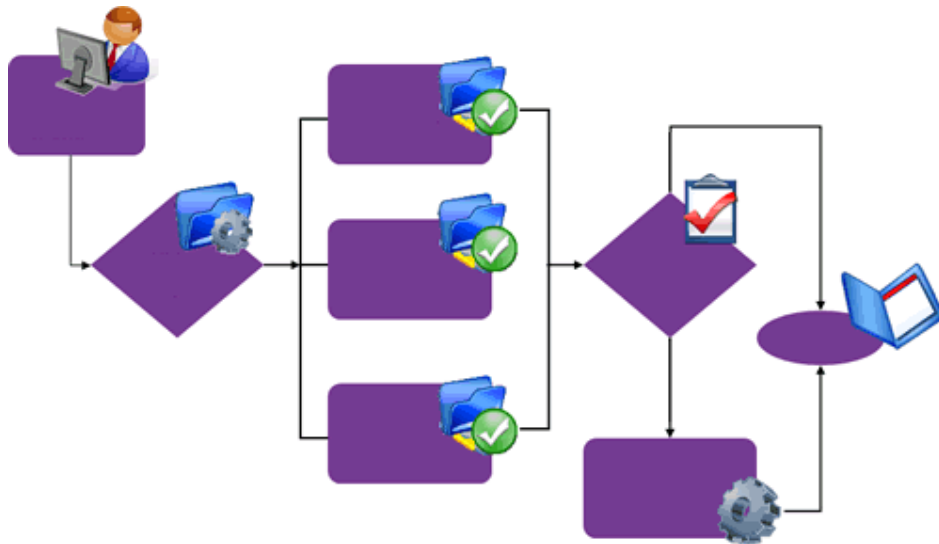
# Adobe ♥ Experience



“A good user experience isn’t necessarily that far removed from a poor user experience. It can be small, subtle differences that can have a huge impact.”

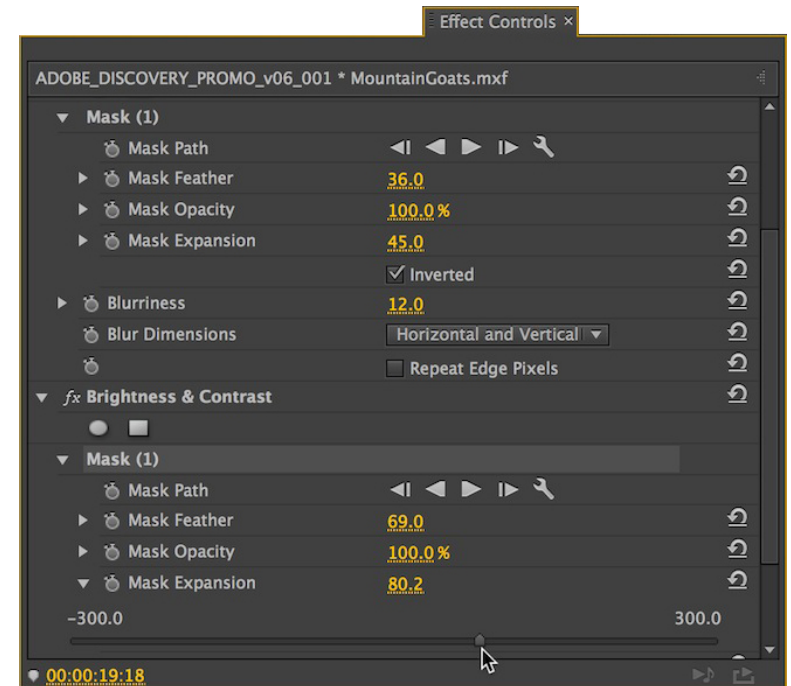
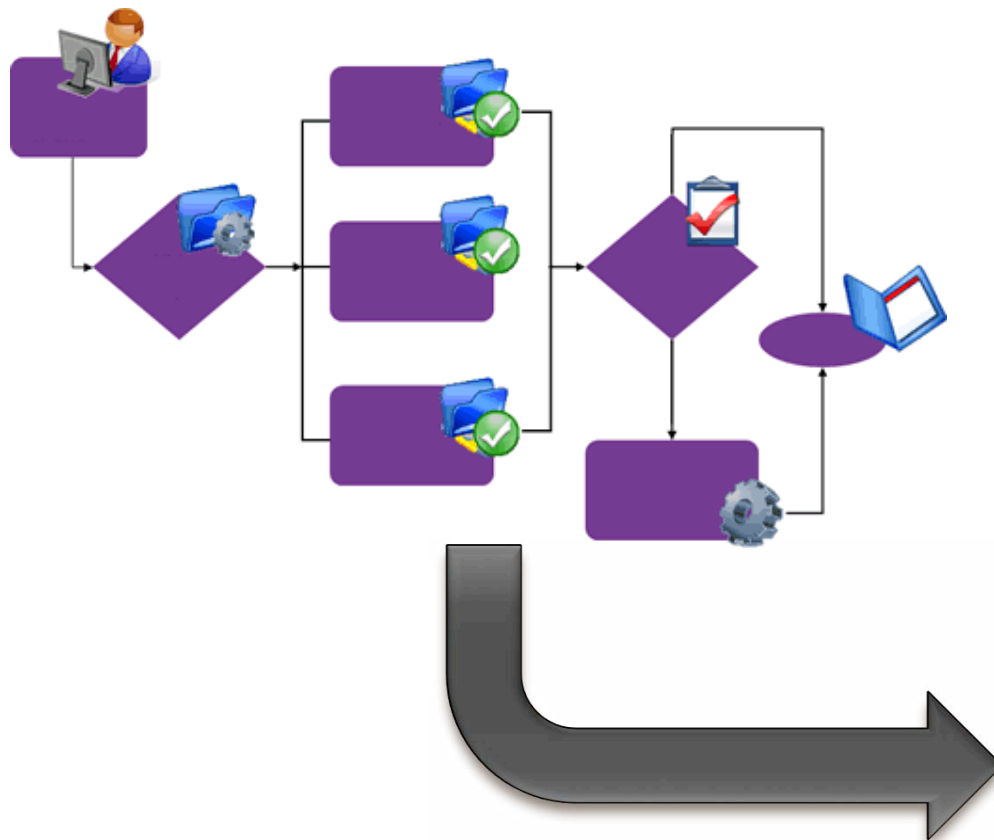
– Nathanael Boehm

# Adobe ♥ Experience

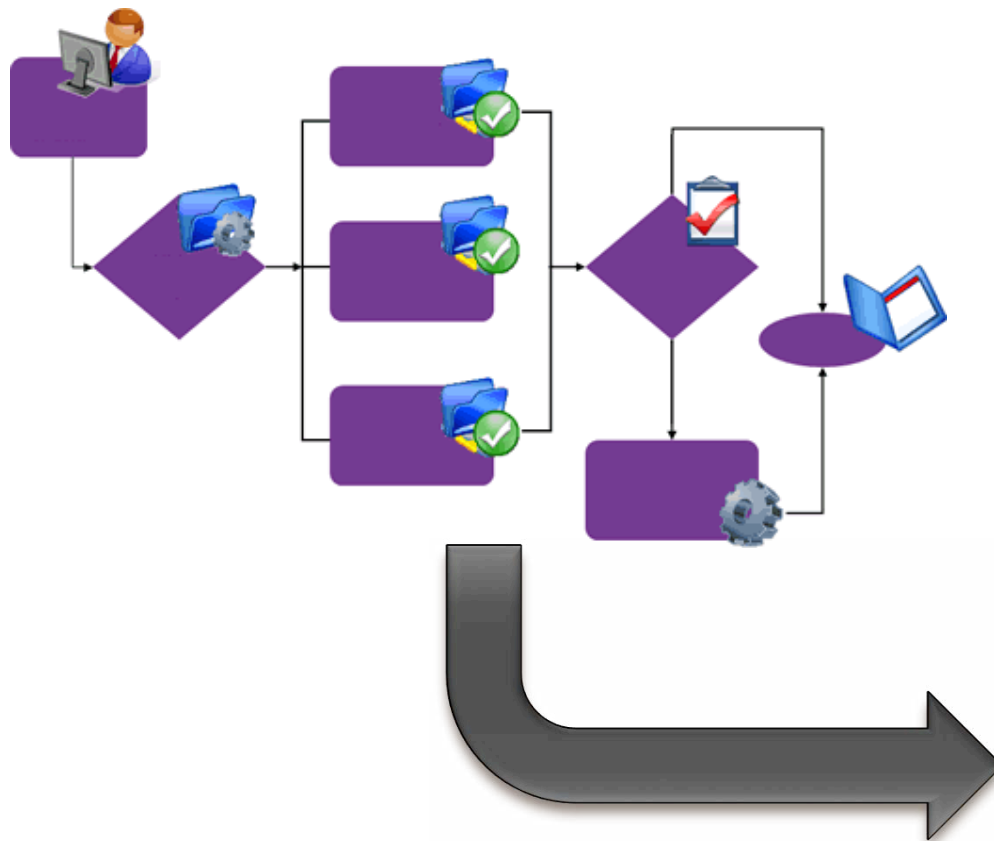




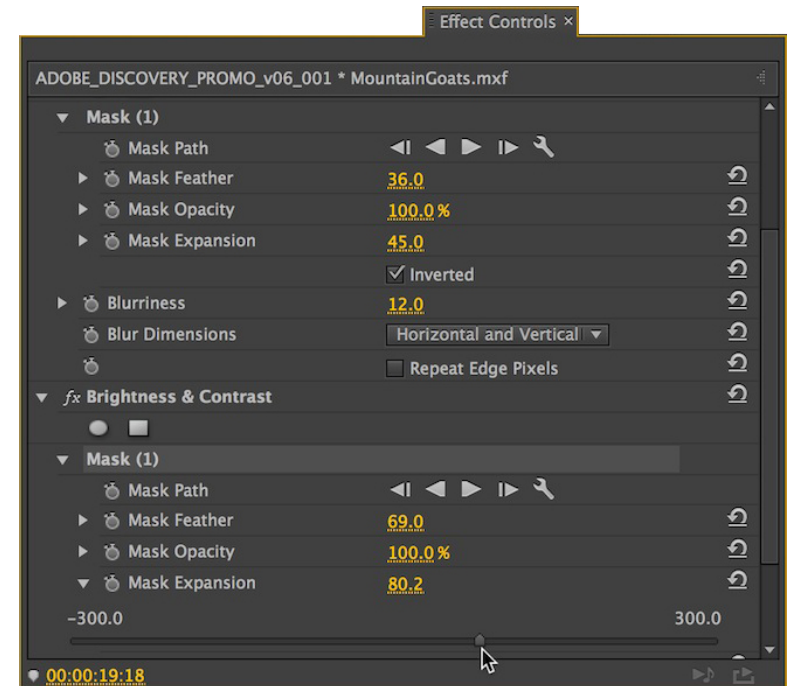
# Adobe ♥ Experience



# Adobe ♥ Experience

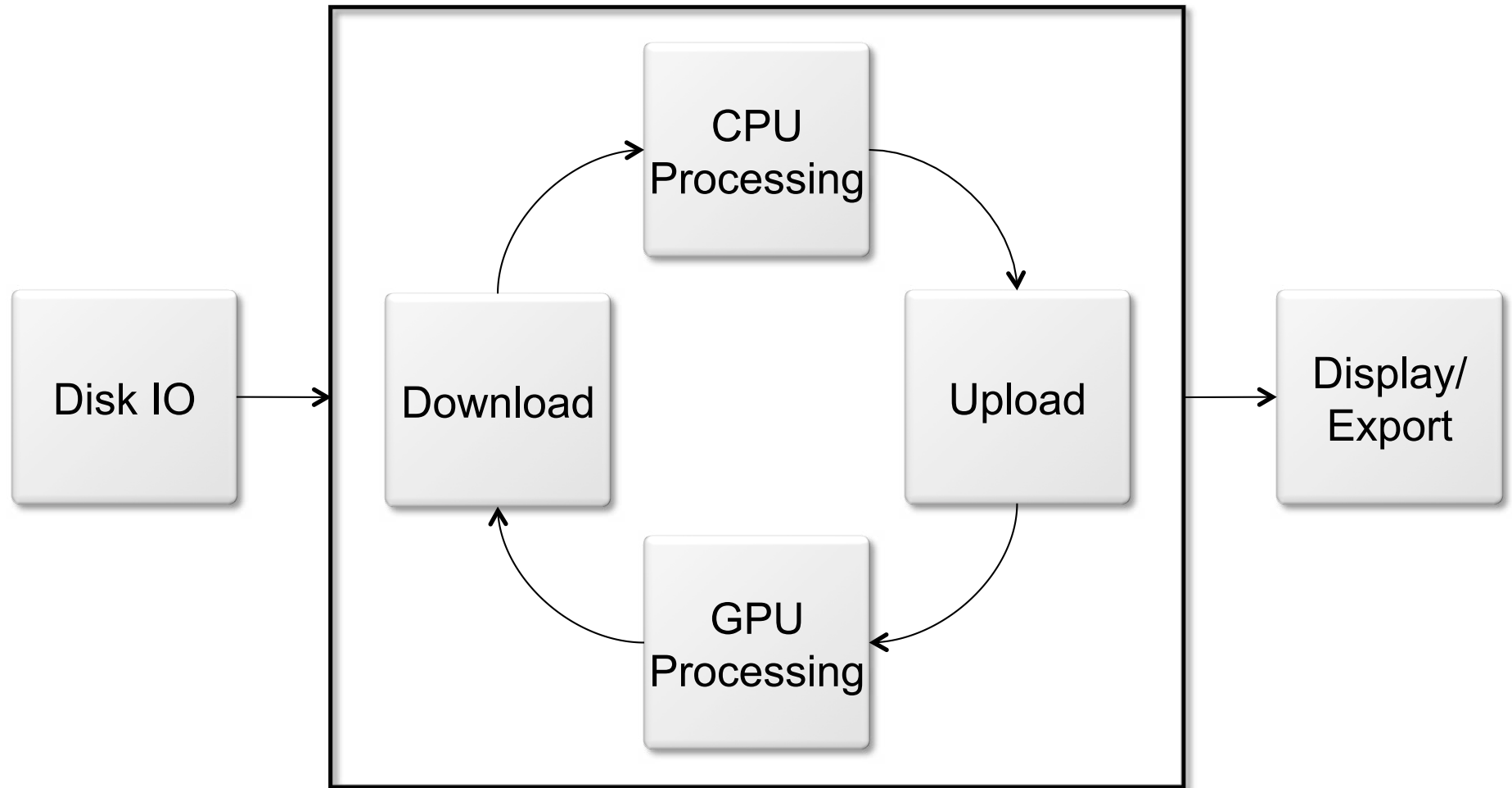


2-3x improvements can change experiences from tasks to interactive adjustments



# Adobe ♥ Experience





# Re-architect the pipeline!



# Adobe ♥ OpenCL

- Compute API supported across vendors and devices
- Programming model familiar to C programmers
- Demonstrated performance
- Adobe contributes to and benefits from community
- Enables us to invert economics of development
- Enables compelling and user experiences
- Enables user creative by making the tools interactive



**Adobe**