Performance
A simple web server

while (true) do {
    wait for message
    data = read(name)
    send data
}

I/O bottleneck

Hypothetical Effects of Dissimilar Doubling Rates Over a Decade
A simple web server

while (true) do {
    wait for message
    data = lookup(name)
    if (data not present) {
        data = read(name)
    }
    send data
}
Multi-threaded server

Run many threads, each with code

while (true) do {
    wait for message
    data = lookup(name)
    if (date not present) {
        data = read(name)
    }
    send data
}