CHAPTER 3

Type Internals

This chapter concerns the internals of .NET types, how value types and reference types are laid out in memory, what the JIT must do to invoke a virtual method, the intricacies of implementing a value type properly, and other details. Why would we trouble ourselves and spend a few dozen pages discussing these inner workings? How can these internal details affect our application's performance? It turns out that value types and reference types differ in layout, allocation, equality, assignment, storage, and numerous other parameters—which makes proper type selection of paramount importance to application performance.