**CIL Error Reporting Mechanisms**

* **Compiler-Level Errors**: When high-level language code (e.g., C#, F#) is compiled to CIL, syntax and semantic errors in source code are flagged by the compiler. These do not directly report as CIL errors but prevent faulty IL from being produced.[[1]](#fn1)[[2]](#fn2)
* **Verification Errors**: The Common Language Runtime (CLR) verifies the generated CIL for type safety and correct metadata before execution. If the CIL violates type safety, or if metadata is malformed, the CLR throws a verification exception when the code is loaded or executed.[[3]](#fn3)[[2]](#fn2)
* **JIT Compilation Errors**: At runtime, the Just-In-Time (JIT) compiler translates CIL into machine code. If the JIT encounters invalid CIL instructions or malformed assemblies, it can throw exceptions such as BadImageFormatException or VerificationException.[[2]](#fn2)
* **Assembly Loading Errors**: If the metadata in an assembly cannot be understood (e.g., due to corruption, unsupported features), .NET will throw loader exceptions, e.g., FileLoadException or BadImageFormatException.[[1]](#fn1)

1. <https://learn.microsoft.com/en-us/dotnet/standard/managed-code>
2. <https://dev.to/jarrydpatel/dotnet-basics-what-is-the-common-intermediate-language-586a>
3. <https://www.linkedin.com/pulse/common-mistakes-dot-net-framework-concepts-msil-cli-source-ramezani>