How do I get a foothold in the neutral apartment?

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The neutral apartment is a mysterious beast. You cannot initialize a thread in the neutral apartment, because the neutral apartment isn't tied to a thread. Instead, the neutral apartment *takes over* any thread it can find: If you are on an existing thread and call an object that lives in the neutral apartment, the calling thread is *converted* to a neutral apartment thread temporarily. When the call is finished, the thread is returned to its original apartment.

That's great, but now there's a chicken-and-egg problem: How do you get the first object into the neutral apartment?

One way is to `CoCreateInstance` an object whose definition specifies that it runs in the neutral apartment. But maybe you don't have one of those objects readily at hand. What if you just want to get into the neutral apartment directly?

The `CoGetDefaultContext` function will produce an `IContextCallback` for the apartment type you specify.

APTTYPE	Result
CURRENT	Same as `CoGetObjectContext`
STA	Not allowed
MTA	Returns the multithreaded apartment
NA	Returns the neutral apartment
MAINSTA	Returns the main STA

Passing `APTTYPE_STA` is not valid because it's ambiguous: There can be multiple STA apartments in a process.

Asking for the `APTTYPE_MAINSTA` when there is no main STA will fail. And asking for anything when COM isn't initialized will also fail.

And so we find our foothold: Calling `CoGetDefaultContext` with `APTTYPE_NA` will return the context for the neutral apartment. You can then use the `IContextCallback::ContextCallback` method to execute code in that context.

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