

# Module 24: "Mediator"



# Agenda

- ▶ Introductory Example: Colleague Chatroom
- ▶ Challenges
- ▶ Implementing the Mediator Pattern
- ▶ Pattern: Mediator
- ▶ Overview of Mediator Pattern



# Introductory Example: Colleague Chatroom

```
interface IColleague
{
    string Name { get; }
    void Register( IColleague colleague );
    void Send( string messageContents );
    void Receive( IMessage message );
}
```



```
IColleague c1 = new Colleague("Alice", "pattern", "shop", "beer");
IColleague c2 = new Colleague("Bob", "pattern", "beer");
IColleague c3 = new Colleague("Clyde", "awesome");
...
c1.Send("A pattern is emerging");
c2.Send("Wanna get an awesome BEER?");
c3.Send("Does anybody care?");
```

# Challenges

- ▶ How do we loosely couple the various chatroom participants?
- ▶ Do we really need to send all messages to everybody?

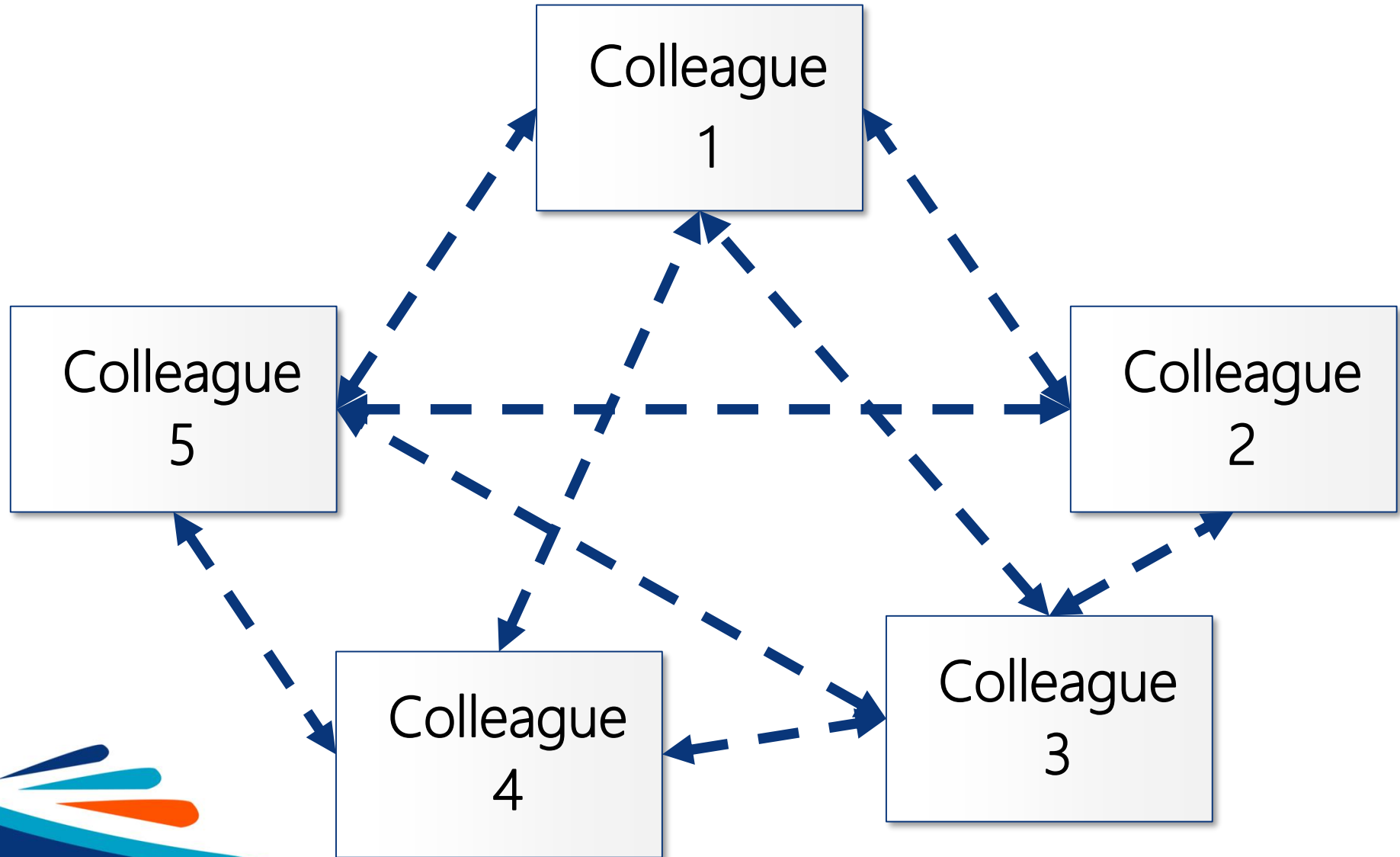


# Pattern: Mediator

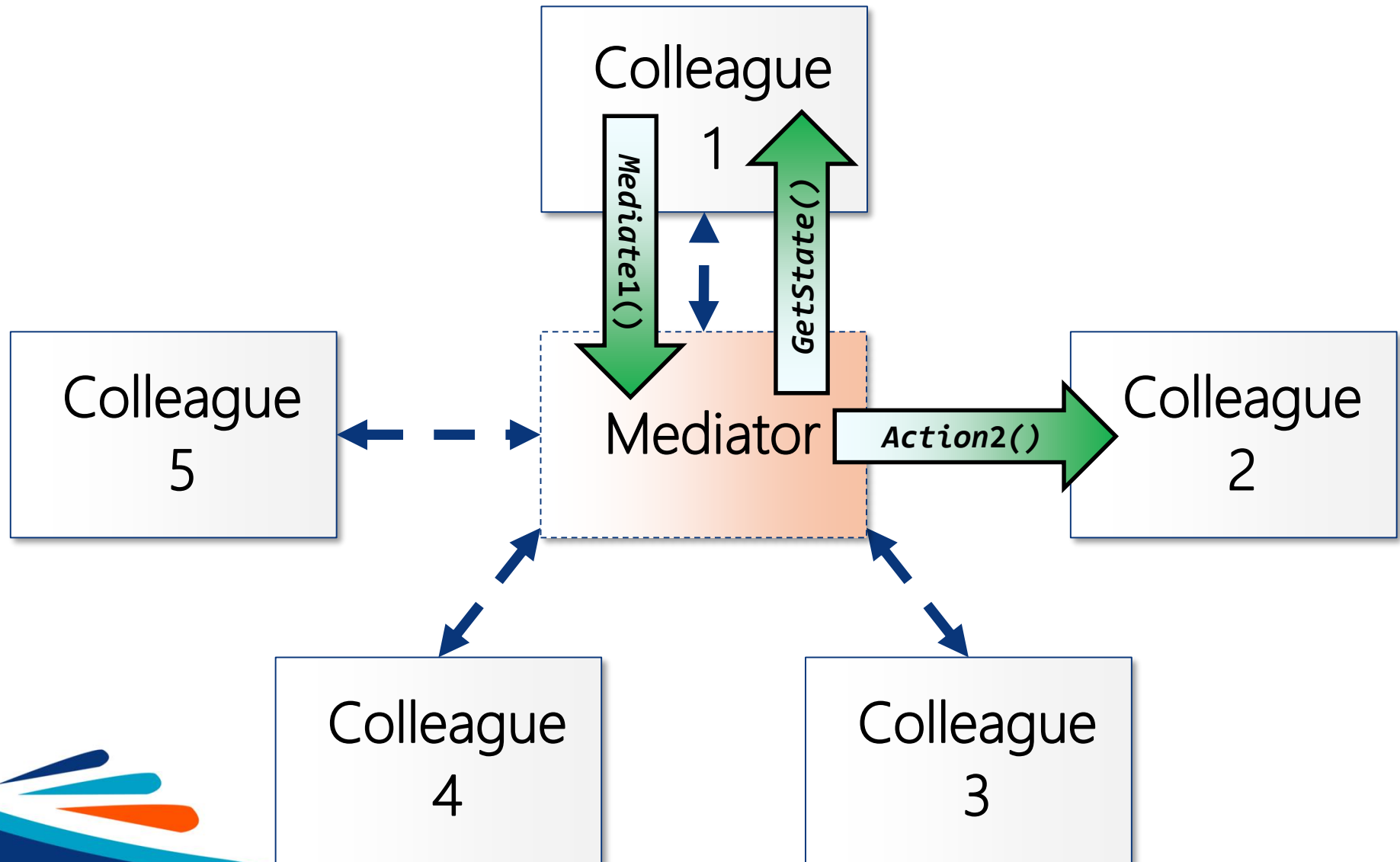
- ▶ *Define an object that encapsulates how a set of objects interact. Mediator promotes loose coupling by keeping objects from referring to each other explicitly, and it lets you vary their interactions independently.*
- ▶ Purpose
  - Define a separate object ("mediator") that encapsulates the interactions between objects
  - All objects interact with the mediator instead of interacting with each other directly
  - Objects have no explicit knowledge of other objects that the mediator
- ▶ Origin: Gang of Four



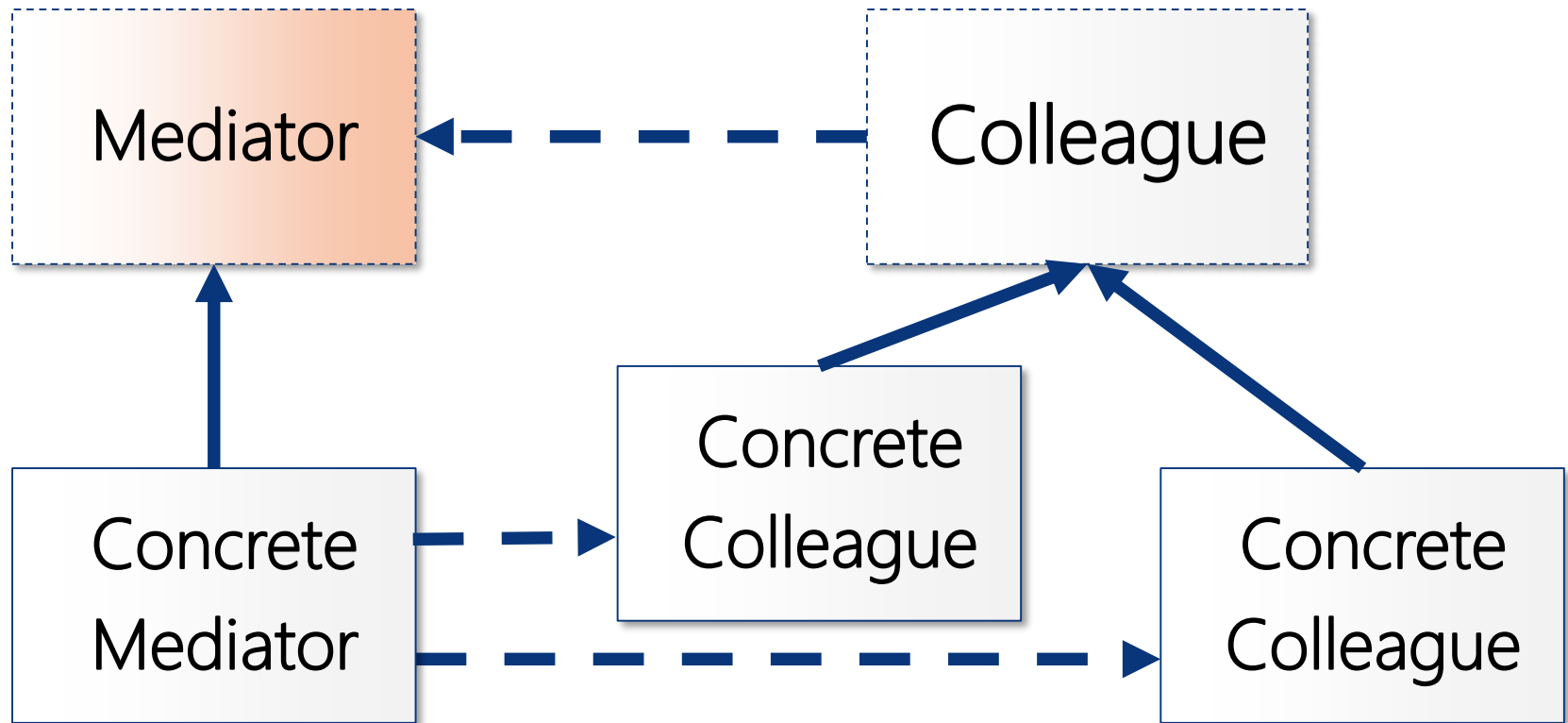
# Without the Mediator Pattern



# With the Mediator Pattern



# Overview of the Mediator Pattern





# Overview of Mediator Pattern

- ▶ Mediator
  - Interface or abstract class handling communication between Colleagues
- ▶ Concrete Mediator
  - Implements the Mediator interface
  - Aware of all Concrete Colleague objects
  - Coordinates communication between Colleagues
- ▶ Colleague
  - Defines the interface for communication with other Colleagues
- ▶ Concrete Colleague
  - Implements the Colleague interface
  - Communicates with other Colleagues indirectly through the Mediator





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