

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?

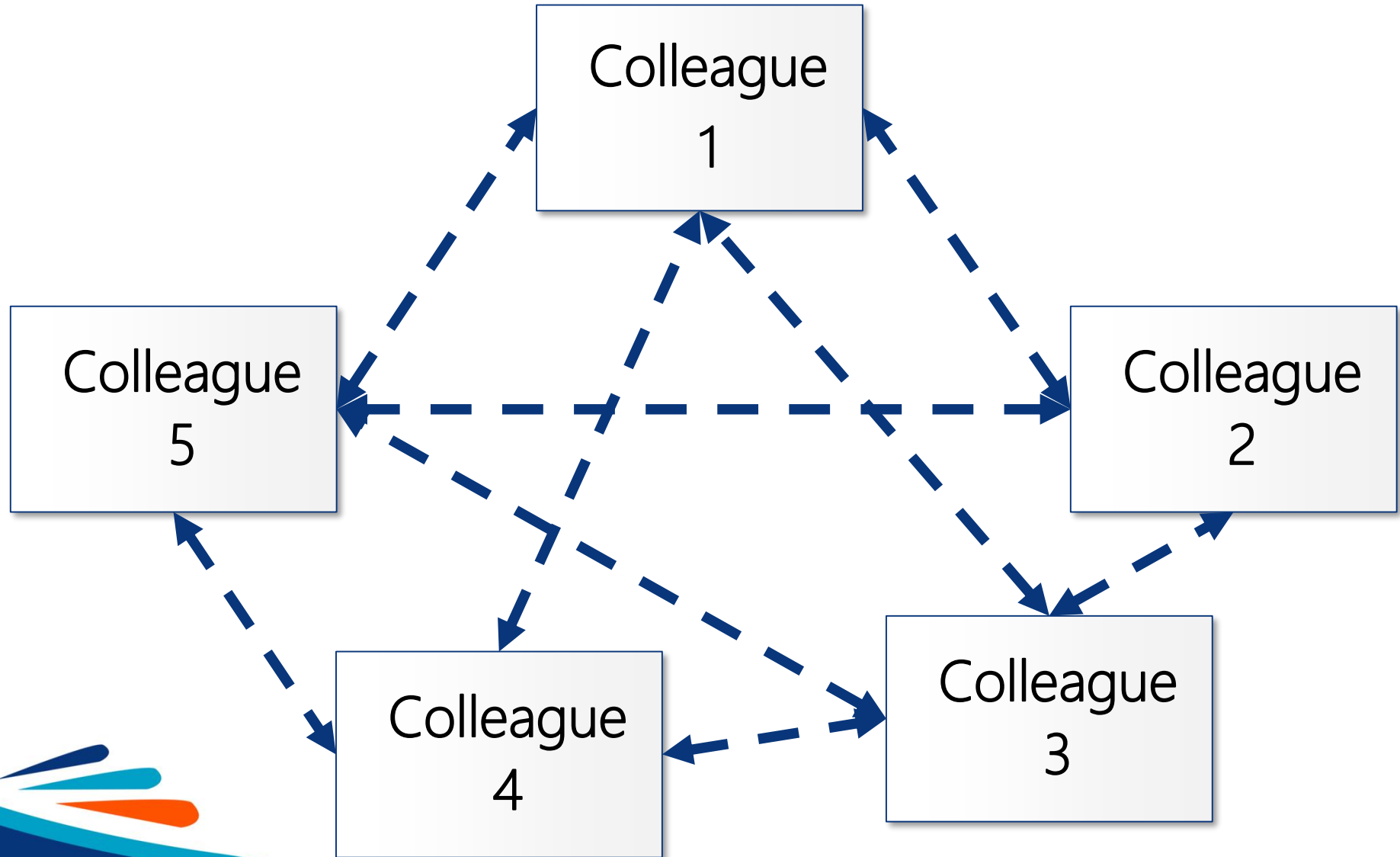


Pattern: Mediator

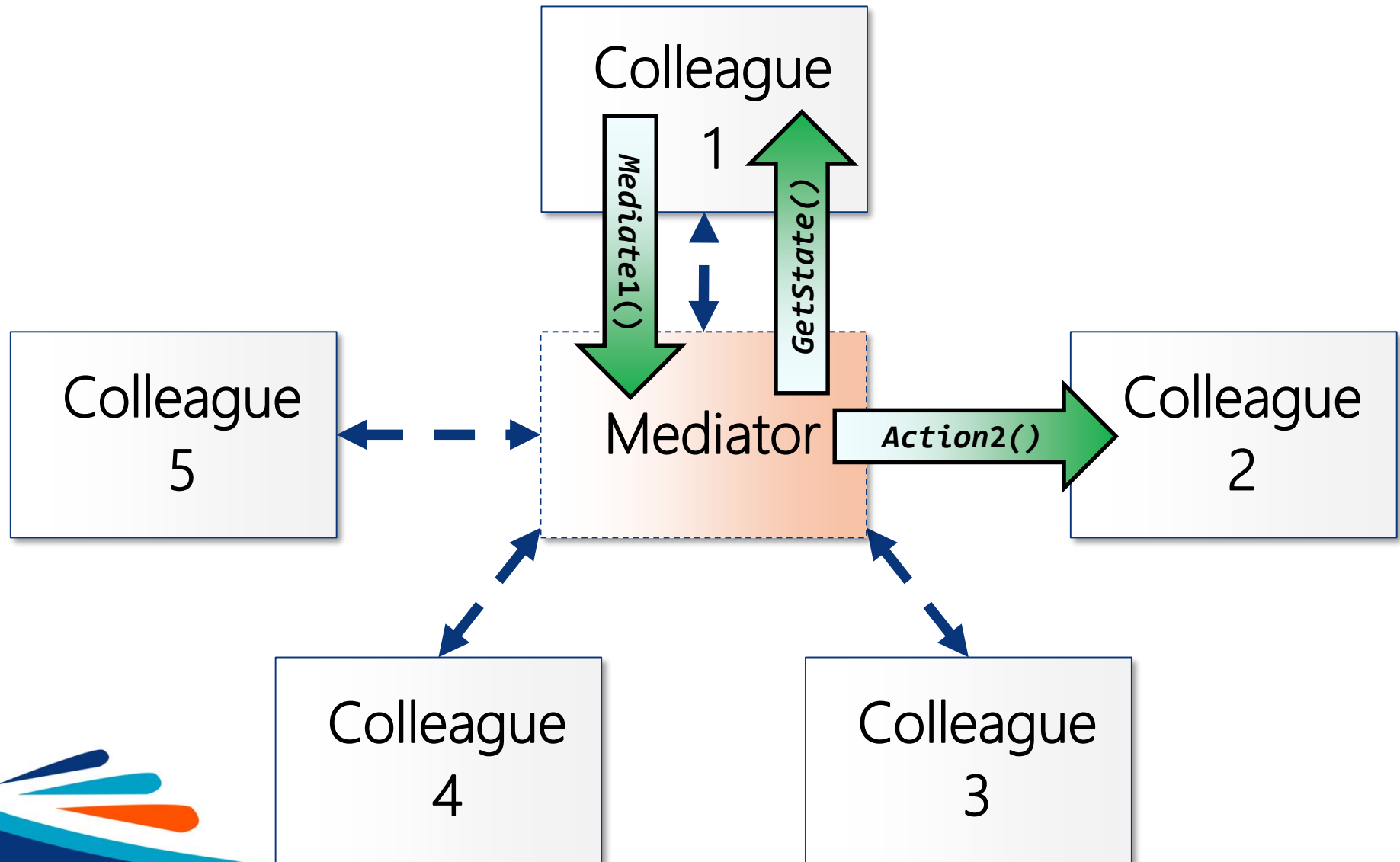
- ▶ *Define an object that encapsulates how a set of objects interact. Mediator promotes loose coupling by keeping objects from referring to each other explicitly, and it lets you vary their interactions independently.*
- ▶ Outline
 - Define a separate object ("mediator") that encapsulates the interactions 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



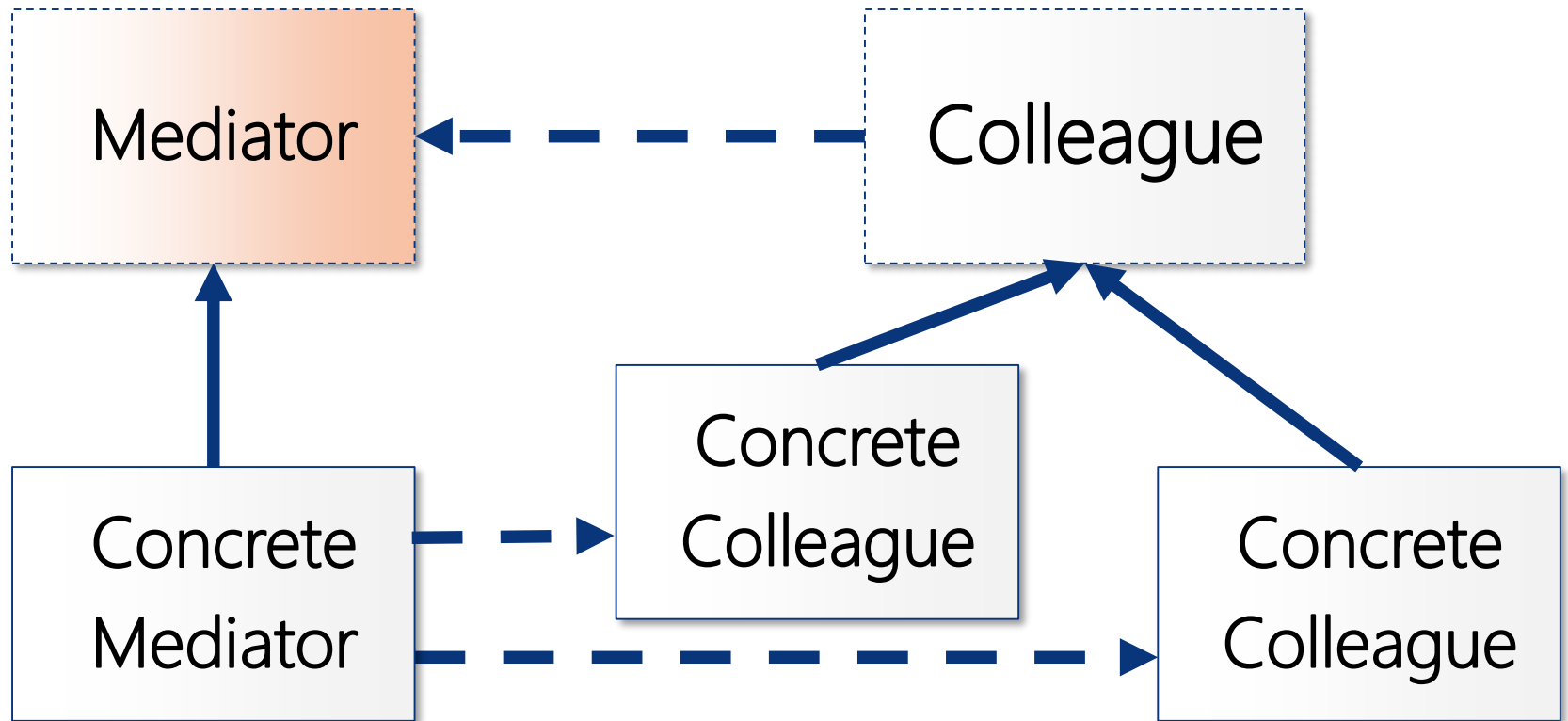
Without the Mediator Pattern



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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