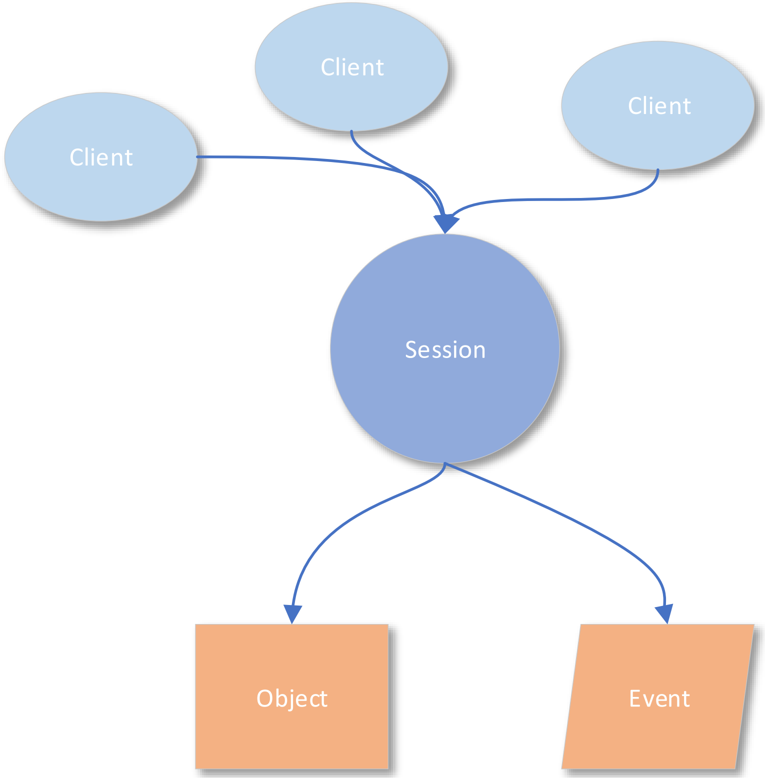
DISTRIBUTION TUTORIAL

- Learn Basic principles in Gizmo Distribution
- Build distributed SW
- C# interfaces

Anders Modén
Saab AB, Training & Simulation

SAAB DISTRIBUTION C# LIBRARY

- A platform independent C++/C# library for distributed objects and events
- High performance data throughput
- Easy to use API
- Subscription model
- Ownership model
- Management model



SESSION

- A session represents an interest in a topic
- Just like a conference room where you meet and discuss a topic
- Any number of sessions
- A session can be local or global
- You can join and resign interest in a session topic

MANAGER

- You need a manager to start working with distribution
- A manager will provide you resources
- Can be many managers but you typically work with the default manager
- A manager is like the booking system for conference rooms

CLIENT

- You identify yourself as a client when working with distribution
- You identify a client with a name
- Convenient to interact with system through your client
- When client goes out of scope, the sw shuts down
- A client gets information from manager and other components via delegate notifications
- A client has an async handling of notifications
- A client is like you in a conference room

LOCAL SESSION

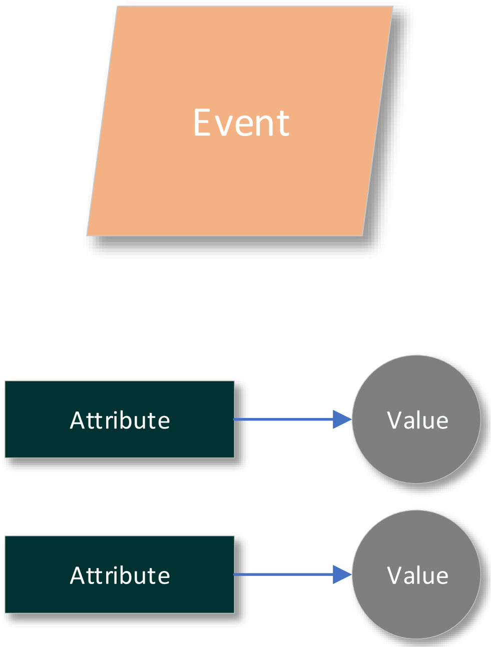
- A local session is a topic just in your process
- Only clients in your process (your code) can access this topic
- There can be many processes on the same machine that has the same topic but they are not visible to each other
- Local sessions are very fast as they don’t communicate outside process

GLOBAL SESSION

- A global session is a topic that can extend beyond your process
- A global session is visible in a tcp/udp network (or using other transport protocols)
- The network used can be a network between processes on many computers or a network between processes on your machine only
- A global process has a unique name between processes

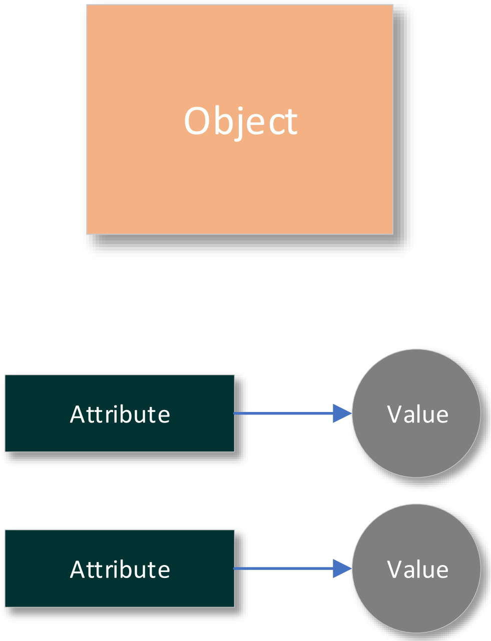
EVENTS

- An event is a temporal occurrence
- It can contain attributes and values
- It can be of a certain type
- Once sent it is no longer valid
- Once received you can only look at it
- An event is sent/received on a session
- Only subscribed event types are received



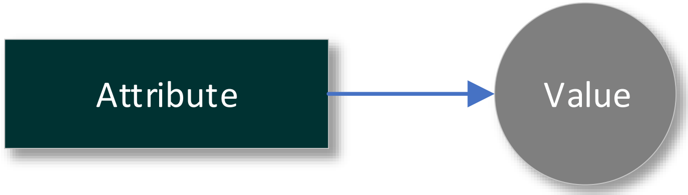
OBJECTS

- An object is a durable instance
- It can contain attributes and values
- It can be of a certain type
- An object has a life span from creation until destruction
- Only subscribed object types are notified



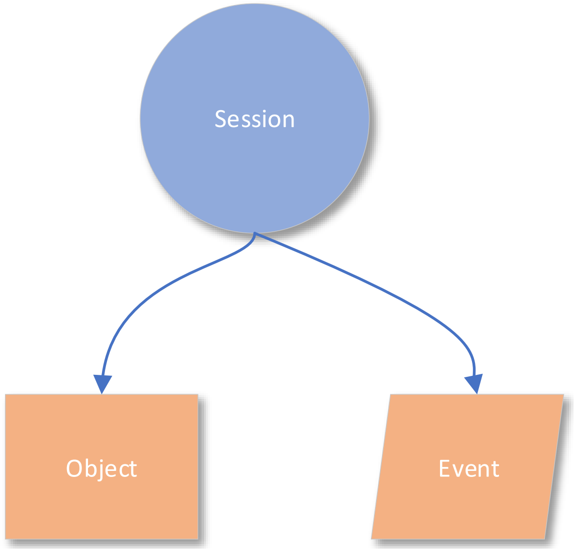
ATTRIBUTES

- An attribute is a named value
- Attributes are located in objects and events
- Attributes have unique names in an object instance or event instance
- The value of an attribute can be any type of data that can be serialized by DynamicType (number, string, guid etc..)



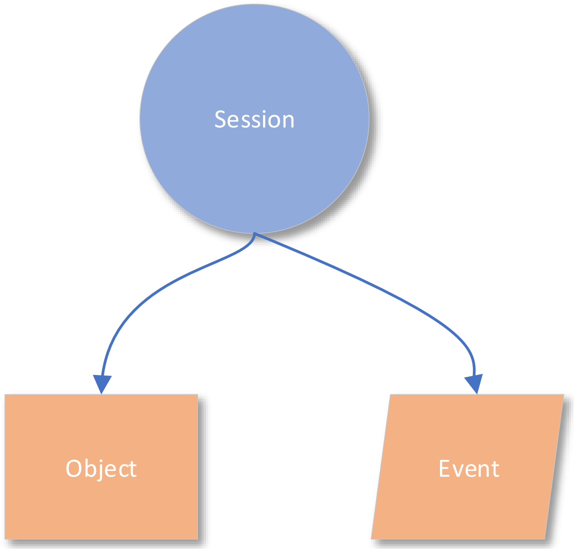
SESSION EVENTS

- Events are located in sessions
- An event can be sent and received in a session
- An event is like shouting out a message in a conference room
- An event can deliver attributes that describes the event



SESSION OBJECTS

- Objects are located in sessions
- An object can be created and destroyed in a session
- An object is like a cup of coffee standing on the table in the conference room
- The object can be described by its attributes like a cup with “color”=“blue”



SUBSCRIPTIONS

- Distribution uses subscriptions to define the required notifications for the client
- A client can subscribe events for a certain session
- A client can subscribe new and existing objects for a certain session
- A client can subscribe new and existing attributes for a certain object
- A client can subscribe attribute updates for a certain attribute
- A client can subscribe removal of all object related information above

anders.moden@saabgroup.com