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# Voice Microservices Events and Models Reference

Monitoring calls

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Learn about call monitoring models and flows.

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For simplicity, the examples on this page use abbreviated attribute values. For example, ConnID **1**, which - in actual events - displays as ConnID>@metainformation>.

The following comments and abbreviations are used in the call models:

- OPT—Optional.
- DIAL—Might be a dialed number or is not present if Voice Microservices have no information about the other party.

## Service observing on agent

The following tables describe service observing on an agent.

Party A (External)	Party B	Party C (Service Observer)
<b>Inbound call</b>		
	EventRinging ConnID <b>1</b> ThisDN <b>B</b> ThisDNRole <b>Destination</b> OtherDN <b>A</b> OtherDNRole <b>Origination</b> CallState <b>OK</b>	
	<b>Answer (TAnswerCall)</b>	
	EventEstablished ConnID <b>1</b> ThisDN <b>B</b> ThisDNRole <b>Destination</b> OtherDN <b>A</b> OtherDNRole <b>Origination</b> CallState <b>OK</b>	EventRinging ConnID <b>1</b> ThisDN <b>C</b> ThisDNRole <b>Observer</b> OtherDN <b>A</b> <sup>a</sup> OtherDNRole <b>Origination</b> <sup>b</sup>

		CallState <b>Bridged</b>
	<b>EventPartyAdded</b> ConnID <b>1</b> ThisDN <b>B</b> ThisDNRole <b>Destination</b> OtherDN <b>C</b> OtherDNRole <b>Observer</b> CallState <b>Bridged</b>	<b>EventEstablished</b> ConnID <b>1</b> ThisDN <b>C</b> ThisDNRole <b>Observer</b> OtherDN <b>A</b> OtherDNRole <b>Origination</b> CallState <b>Bridged</b>
<b>Conference</b>		
<b>Release phase (see descriptions below)</b>		

- a. For some switches, Voice Microservices use the party that initialized the Service Observer instead of Party A.
- b. For some switches, Voice Microservices use the role of the party that initialized the Service Observer instead of the role of Party A.

### Agent releases first

Party A (External)	Party B	Party C (Service Observer)
	<b>Release (TReleaseCall)</b>	
	<b>EventReleased</b> ConnID <b>1</b> ThisDN <b>B</b> ThisDNRole <b>Destination</b> CallState <b>OK</b>	<b>EventPartyDeleted</b> ConnID <b>1</b> ThisDN <b>C</b> ThisDNRole <b>Observer</b> OtherDN <b>B</b> OtherDNRole <b>DeletedParty</b> CallState <b>OK</b>
		<b>EventReleased</b> ConnID <b>1</b> ThisDN <b>C</b> ThisDNRole <b>Observer</b> OtherDN <b>A</b> CallState <b>OK</b>

### External party releases first

Party A (External)	Party B	Party C (Service Observer)
<b>External party releases a call</b>		
	<b>EventPartyDeleted</b> ConnID <b>1</b> ThisDN <b>B</b> ThisDNRole <b>Destination</b> OtherDN <b>A</b> OtherDNRole <b>DeletedParty</b> ThirdPartyDNRole <b>Observer</b> <sup>a</sup> ThirdPartyDN <b>C</b> <sup>a</sup> CallState <b>OK</b>	<b>EventPartyDeleted</b> ConnID <b>1</b> ThisDN <b>C</b> ThisDNRole <b>Observer</b> OtherDN <b>A</b> OtherDNRole <b>DeletedParty</b> CallState <b>OK</b>

	<b>EventReleased</b>  ConnID <b>1</b> ThisDN <b>B</b> ThisDNRole <b>Destination</b> OtherDN <b>C</b> CallState <b>OK</b>	<b>EventReleased</b>  ConnID <b>1</b> ThisDN <b>C</b> ThisDNRole <b>Observer</b> OtherDN <b>B</b> CallState <b>OK</b>
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a. The attribute contains observer information.

### Observer releases first

Party A (External)	Party B	Party C (Service Observer)
		<b>Observer releases a call</b>
	<b>EventPartyDeleted</b>  ConnID <b>1</b> ThisDN <b>B</b> ThisDNRole <b>Destination</b> OtherDN <b>C</b> OtherDNRole <b>Observer</b> ThirdPartyDNRole <b>DeletedBy</b> ThirdPartyDN <b>C</b> CallState <b>OK</b>	<b>EventReleased</b>  ConnID <b>1</b> ThisDN <b>C</b> ThisDNRole <b>Observer</b> CallState <b>OK</b>
<b>Release phase (ConnID 1)</b>		

### Abnormal call flow

Interruption point	Party A	Party B	Party C
*		<b>EventAbandoned</b>  ConnID <b>1</b> ThisDN <b>B</b> OtherDN <b>A</b> CallState <b>OK</b>	

### Service observing for agent-initiated call

The following table describes service observing for an agent-initiated call.

Party A	Party B	Party C
<b>EventRinging</b>  ConnID <b>1</b> ThisDN <b>A</b> ThisDNRole <b>Destination</b> OtherDN <b>B</b> OtherDNRole <b>Origination</b> CallState <b>OK</b>	<b>EventDialing</b>  ConnID <b>1</b> ThisDN <b>B</b> ThisDNRole <b>Origination</b> OtherDN <b>A</b> OtherDNRole <b>Destination</b> CallState <b>OK</b>	
<b>Answer</b>		

<b>EventEstablished</b> ConnID <b>1</b> ThisDN <b>A</b> ThisDNRole <b>Destination</b> OtherDN <b>B</b> OtherDNRole <b>Origination</b> CallState <b>OK</b>	<b>EventEstablished</b> ConnID <b>1</b> ThisDN <b>B</b> ThisDNRole <b>Origination</b> OtherDN <b>A</b> OtherDNRole <b>Destination</b> CallState <b>OK</b>	
<b>EventPartyAdded</b> ConnID <b>1</b> ThisDN <b>A</b> ThisDNRole <b>Destination</b> OtherDN <b>C</b> OtherDNRole <b>Observer</b> CallState <b>Bridged</b>	<b>EventPartyAdded</b> ConnID <b>1</b> ThisDN <b>B</b> ThisDNRole <b>Origination</b> OtherDN <b>C</b> OtherDNRole <b>Observer</b> CallState <b>Bridged</b>	<b>EventRinging</b> ConnID <b>1</b> ThisDN <b>C</b> ThisDNRole <b>Observer</b> OtherDN <b>B</b> OtherDNRole <b>Origination</b> CallState <b>Bridged</b>
		<b>Answer</b> <b>EventEstablished</b> ConnID <b>1</b> ThisDN <b>C</b> ThisDNRole <b>Observer</b> CallState <b>Bridged</b>
<b>Conference</b>		
<b>Release phase (for more information, see descriptions in Service observing on agent)</b>		

## Service observing on queue

The following table describes service observing on the queue.

<b>Party A (External)</b>	<b>Party B</b>	<b>Party C</b>	<b>Party D (Observer)</b>
<b>Inbound call</b>			
	<b>EventQueued</b> ConnID <b>1</b> ThisDN <b>B</b> ThisDNRole <b>Destination</b> OtherDN <b>A</b> OtherDNRole <b>Origination</b>		<b>EventRinging</b> ConnID <b>1</b> ThisDN <b>D</b> ThisDNRole <b>Observer</b> OtherDN <b>A</b> OtherDNRole <b>Origination</b> CallState <b>Bridged</b>
			<b>EventEstablished</b> ConnID <b>1</b> ThisDN <b>D</b> ThisDNRole <b>Observer</b> OtherDN <b>A</b> OtherDNRole <b>Origination</b> CallState <b>Bridged</b>
	<b>EventDiverted</b> ConnID <b>1</b> ThisDN <b>B</b>	<b>EventRinging</b> ConnID <b>1</b> ThisDN <b>C</b>	

	ThisQueue <b>B</b> ThisDNRole <b>Destination</b> OtherDN <b>A</b> OtherDNRole <b>Origination</b> ThirdPartyDN <b>C</b> *OPT ThirdPartyDNRole <b>Destination</b> *OPT	ThisDNRole <b>Destination</b> OtherDN <b>A</b> OtherDNRole <b>Origination</b> CallState <b>Bridged</b>	
		<b>Answer (TAnswerCall)</b>	
		EventEstablished  ConnID <b>1</b> ThisDN <b>C</b> ThisDNRole <b>Destination</b> OtherDN <b>A</b> OtherDNRole <b>Origination</b> CallState <b>Bridged</b> Extensions: OrigDN-1=A OrigDN-2=D	EventPartyAdded  ConnID <b>1</b> ThisDN <b>D</b> ThisDNRole <b>Observer</b> OtherDN <b>C</b> OtherDNRole <b>NewParty</b> ThirdPartyDN <b>C</b> ThirdPartyDNRole <b>AddedBy</b> CallState <b>Bridged</b>
<b>Conference</b>			
<b>Release phase (for more information, see descriptions in Service observing on agent)</b>			

### Abnormal call flow

Interruption point	Party A	Party B	Party C	Party D
*			EventAbandoned  ConnID <b>1</b> ThisDN <b>C</b> OtherDN <b>A</b> CallState <b>OK</b>	EventReleased  ConnID <b>1</b> ThisDN <b>D</b> ThisDNRole <b>Observer</b> OtherDN <b>A</b> CallState <b>OK</b>