Stat Server User's Guide

Classifying DN Actions

5/11/2025

Classifying DN Actions

At the uppermost level, actions can be segmented into one of the following three groups:

- Regular DN actions (generated from TEvents that are spawned from either T-Server or SIP Server)
- Mediation DN actions (generated from TEvents that are spawned from either T-Server or SIP Server)
- Media-channel actions (exclusively generated from events that are spawned from an Interaction Server)

Within each group, actions can be subclassified further as having the following properties:

- *Durable* or *instantaneous*
- Related to an interaction or not related to an interaction

The `CallRinging` action, for example, can be classified as a durable, interaction-related, regular DN action.

Regular DN actions, generated on multimedia DNs, are subdivided further into *media-dependent* and *media-independent* actions. An action is media-dependent if the `MediaType` attribute is applicable to the action and media-independent otherwise. `LoggedIn` is media-independent while all call-related actions, like `CallInbound`, are media-dependent.

Media-dependent actions are either *media-unique* or *media-common*. An action is media-unique if only one action per supported media type can exist on a multimedia device and media-common otherwise. These terms apply only within the context of multimedia DNs and were introduced in Stat Server release 7.6.1 to illustrate the difference between actions generated on regular DNs and actions sharing the same name which Stat Server generates on multimedia DNs.

The following sections describe these classifications:

[+] Uppermost Classification of DN Actions

Stat Server generates actions for the following high-level classifications of DNs.

- *Regular DNs* are DNs such as telephony DNs (`Extension` and `ACD Position`), Internet DNs (`Email, VoIP, Video, Chat,` and `CoBrowse`), and special types of telephony DNs (`EAPort, VoiceMail, Cellular, CP, FAX, Data, Music, Mixed`).
- *Multimedia DNs*, controlled by a SIP Server, enable more than one simultaneous interaction, of the same or differing media type, to occur at the same DN. This can be exemplified by an agent handling multiple chat sessions simultaneously. Stat Server recognizes a DN as a Multimedia DN if:
  - The DN's type is `Extension` (`CFGExtension` in Configuration Server).
  - The DN's switch is `SIPSwitch` or `VoIPCMCPSwitch`.
  - The value of the DN's [Tserver]**multimedia** configuration option value has been set to yes. (This option is defined under the **Options** tab in Genesys Administrator Extension).

> ### Tip
> Changing the value of the **multimedia** option in a DN's properties from yes to no, and vice versa, leads to a change in the DN's type from multimedia DN to regular DN, and vice versa. Any such reconfiguration *must* be performed while Stat Server is not running.

- *Mediation DNs* are DNs that regularly distribute interactions, such as ACD queues, routing points, virtual queues, virtual routing points, external routing points, and service numbers.

Media-channel actions are all sourced from the Genesys Multimedia solution, which follows an entirely different, non-DN-based interaction model.

The special agent group and place group actions, which occur only at the group level, reflect events from origination DNs. They are formally classified with regular DN actions, because all other agent or place group actions are propagated regular-DN actions, see Propagation of DN Actions.

[+] Durable Actions Versus Instantaneous Actions

Durable actions occur over time; they have a starting moment and an ending moment.

Status can only be based on durable actions.

Instantaneous actions occur at a single moment and are divided into two groups: retrospective and momentary:

- *Retrospective actions* are generally derived from durable actions and are determined by the termination of the corresponding durable actions. Thus, a durable action's total duration is also a retrospective action's total duration, but a retrospective action's occurrence is unknown until the durable action ends. For instance, the termination of the `CallOnHold` durable action can result in one of three retrospective actions: `CallRetrievedFromHold`, `TransferredFromHold`, or `CallAbandonedFromHold`. However, these three actions can occur only when the interaction is no longer on hold.
  The only retrospective actions that do not derive from durable actions are the following mediation DN actions:

  - CallTreatmentCompleted—This action's duration is taken from the parameters of `EventTreatmentCompleted`.

  - All actions reflecting events at mediation DNs receiving calls distributed to other mediation DNs. Refer to the CallDistributedToQueue actions.

  - All actions reflecting events at regular DNs receiving calls distributed from the mediation DN (see Retrospective, Interaction-Related Actions Reflecting Regular DNs). These actions take their duration either from the preceding CallWait durable action or from a related regular DN durable action.

> ### Important
> All actions specifically called out as *retrospective* are instantaneous actions.

- *Momentary actions* are generally not derived from durable actions, and their duration is always 0. An interaction-related durable action generally has a corresponding momentary action that marks the beginning of the durable action. For instance, the momentary `CallHeld` action marks the beginning of the `CallOnHold` durable action.

[+] Interaction-Related Actions Versus Non–Interaction-Related Actions

Actions that reflect events arising from particular interactions (events that carry connection ID information from T-Server or interaction ID information from Interaction Server) are called *interaction-related actions*. Because Stat Server remembers the connection ID (or interaction ID) of the interaction, and because the connection ID (interaction ID) provides a criterion for distinguishing between such actions, more than one interaction-related action of the same kind can occur at the same time on the same DN.

Non–interaction-related actions are caused by events that do not arise from particular interactions. Only one non–interaction-related action can occur at any moment at a DN. Filtered and custom-formula statistics cannot be based on non–interaction-related actions.

Logical Clusters of Interaction-Related Actions

Almost every interaction-related durable action forms the core of a cluster of logically related actions. This cluster comprises the durable action itself, the momentary action that marks the starting point of the durable action, and one or more retrospective actions that carry information about the outcome of the durable action.

The interaction-related durable actions that do *not* form a cluster of logically related actions include:

- The two complementary call-type actions of `CallInternal`: `CallInternalOriginated` and `CallInternalReceived`.
- The two complementary call-type actions of `CallConsult`: `CallConsultOriginated` and `CallConsultReceived`.
- The `AfterCallWork` action.

The Table below lists many of the basic actions that make up clusters of logically related actions. Each row in the Table comprises all the actions in a single cluster.

Logical Clusters of Interaction-Related Actions

Durable Action	Initial Momentary Action	Terminal Retrospective Actions
Regular DN Actions		
CallDialing	CallDialingStarted	CallDialed
		CallAbandonedFromDialing
		CallDialTransferred (only possible for consult calls)
		CallDialConferenced (only possible for consult calls)
CallRinging	CallRingingStarted	CallAnswered (Regular DNs)
		CallAbandonedFromRinging (Regular DNs)

		CallRingingPartyChanged (Regular DNs) (only possible for consult calls)
		CallForwarded (Regular DNs)
CallOnHold	CallHeld	CallRetrievedFromHold
		CallAbandonedFromHold
		TransferredFromHold
CallConsult		
CallConsultOriginated	CallConsultStarted	CallPartyChanged
CallConsultReceived		
CallInbound	CallInboundStarted	CallInboundCompleted
CallInternal	CallInternalStarted	CallInternalCompleted
CallOutbound	CallOutboundStarted	CallOutboundCompleted
CallUnknown	CallUnknownStarted	CallUnknownCompleted
Group Actions Reflecting Origination DNs		
OrigDNCallWait	OrigDNCallEntered	OrigDNCallDistributed
		OrigDNCallAbandoned
Mediation DN Actions		
CallWait	CallEntered	CallDistributed
		CallAbandoned
		CallCleared
Media Actions		
Delivering	DeliveringStarted	Accepted
		Rejected
HandlingInbound	HandlingInboundStarted	StoppedInbound
HandlingInternal	HandlingInternalStarted	StoppedInternal
HandlingOutbound	HandlingOutboundStarted	StoppedOutbound

For every cluster of logically related actions shown in the table above (except the Media actions), there are five clusters of interaction-type specific actions whose names are the same as those actions in the basic cluster, but with `Unknown`, `Inbound`, `Consult`, `Internal`, or `Outbound` appended to the end. The `CallDialTransferred` and `CallDialConferenced` actions are specific to consult calls, so they occur without name modification in the cluster based on `CallDialingConsult`, and have no counterpart in the clusters specific to other call-type actions. The same is true for `CallRingingPartyChanged`. Each of the clusters corresponding to the `CallRingingConsult`, `CallWaitConsult`, and `OrigDNCallWaitConsult` durable actions has an additional terminating retrospective action (`CallRingingPartyChanged`, `CallWaitPartyChanged`, and `OrigDNCallWaitPartyChanged`, respectively). These actions account for the possible termination of a consult call during two-step transfers. `CallDialTransferred` can occur only for a consult call.

Normally, at the end of a cluster's durable action, the durable action ends (and thus can be used for historical statistics), and a retrospective action that has the same duration occurs. However, when an interaction-related durable action ends because of a lost connection to T-Server or between T-Server and the switch (in either case, the `NotMonitored` action starts), none of the terminating retrospective

actions of the same cluster occurs.