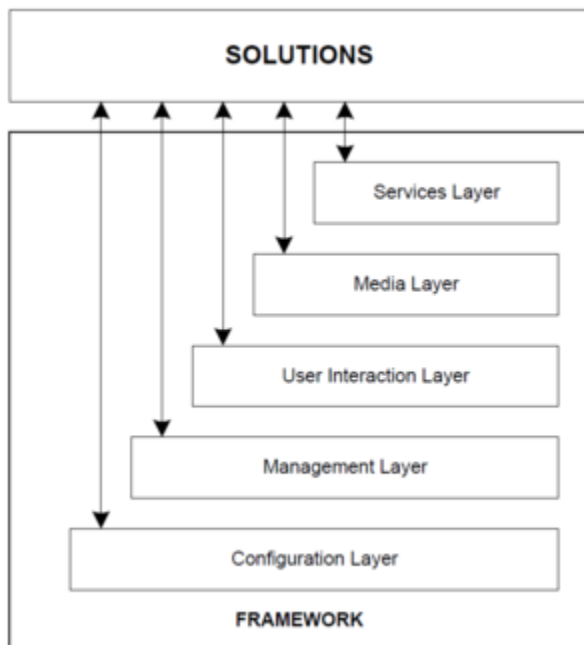# Stat Server Deployment Guide

Stat Server Overview

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Stat Server Overview

Stat Server is the component responsible for converting single interactions into statistical data that is useful for interaction processing and contact center reporting. This data is then used by various Genesys solutions and applications to determine the availability of resources and to generate statistical indicators of contact center performance.

The Genesys Statistics Server (Stat Server) is part of the Genesys Management Framework Services Layer:

Management Framework Architecture

Refer to the *Management Framework Deployment Guide* for more information about the Services Layer and Stat Server's role within the Genesys Management Framework.

As a client of T-Server, Session Initiation Protocol (SIP) Server (a type of T-Server), and Interaction Server, Stat Server processes raw information received from these applications. As a client of Configuration Server, Stat Server retrieves information about the following contact center objects:

- Regular DNs
- Agents
- Places
- Queues
- Group of agents, places, and queues
- Routing Points

- Staging areas

- Tenants

- Switches

- Campaigns

- Calling lists

Refer to Stat Server Object Types in the *Framework Stat Server User's Guide* for more information.

In short, Stat Server reconstructs the behavior of contact center objects in order to provide its clients with more elaborate and statistically useful reporting data.

To receive statistical information, Stat Server clients must specify the kind of data they need, following the Genesys Statistical Model described in the *Reporting Technical Reference 8.0* series. This specification consists of a request for statistics retrieval, via stat types, from the Stat Server application programming interface (API)—the Statistics Library, or Stat Lib for short. (This API is not documented.) For instance, the Universal Routing Server requests information for the purpose of monitoring virtual queues and determining agents' availability to process additional simultaneous interactions. And, the Genesys Outbound Contact Solution requests statistical information from Stat Server about the performance of its outbound campaigns and calling lists.

This *Framework Stat Server Deployment Guide* describes the configuration and installation of the Stat Server application (and supporting topics) whereas the *Framework Stat Server User's Guide* describes the configuration of statistics—their stat type definition. The *Reporting Technical Reference 8.0* series describes the application of Stat Server statistical types employed by the Solution Reporting applications—CCPulse+ and CC Analyzer. You can also reference other Genesys solution user guides for information about how the various solutions rely on Stat Server to provide statistical information.

New in This Release

This section describes the new or changed functionality that was introduced in release 8.5.1.

Release 8.5.112.10:

- Stat Server supports the following new Agent Workbin actions:

  - InteractionAbandonedDuringOffering

  - InteractionAccepted

  - InteractionAnswered

  - InteractionCleared

  - InteractionDistributed

  - InteractionEntered

  - InteractionReleased

  - InteractionWait

Release 8.5.112.07:

- Stat Server supports protected mode in addition to normal mode during configuration reloads.
- The following new configuration option is added in the **[statserver]** section:
    - config-reload-delay-if-primary
- Stat Server supports Kernel Virtual Machine (KVM) on Windows and Linux.
- Stat Server supports Microsoft SQL Server 2017.

Release 8.5.110.20:

- Stat Server supports changes of the interaction cost for budget-based routing.

Release 8.5.110.18:

- Stat Server supports the SinceLogin time profile for blended agents.
- Stat Server supports the durable InteractionAgentPartyInProgress action for Tenants.
- Stat Server supports the new DoNotDisturb action on a media channel.
- The following new configuration options are added in the **[statserver]** section:
    - interaction-agent-party-in-progress-on-tenant-max-number
    - interaction-agent-party-in-progress-on-tenant-media-list
    - old-stats-remove

Release 8.5.110.05:

- Enhanced tracking of a multimedia interaction associated with the virtual queue (VQ).
  **Stat Server continues to collect VQ tracking details using the `EventCustom` event, but now
  does so from all connected Interaction Servers that may participate in processing of the
  same interaction. This enhancement addresses cases where URS dispatches routing events
  through one Interaction Server and then offers the interaction with follow-up handling
  using another Interaction Server.**

Release 8.5.110.03:

- Stat Server supports the budget-based routing.
- The following new configuration options, configured in the new **[budget]** section, have been added to
  support the budget-based routing:
    - **Agent** or **Place** object:
          <media type name>
    - **MediaType** object:
          default-agent-budget

          default-cost

          default-cost-consult

          default-cost-inbound

default-cost-internal

default-cost-outbound

default-cost-unknown

- **Tenant** object:
default-agent-budget

default-cost

default-cost-consult

default-cost-inbound

default-cost-internal

default-cost-outbound

default-cost-unknown

enabled

interaction-cost-key

Release 8.5.109:

- In addition to Warm Standby, Stat Server supports the Hot Standby redundancy mode for Stat Server high availability (HA) pairs on Windows and Linux platforms. See Hot Standby for more information.

- The following new configuration options, configured in the new **[ha]** section, have been added to support Hot Standby redundancy:

  - addp-remote-timeout

  - addp-timeout

  - addp-trace

  - chunk-size

  - chunk-timeout

  - connect-timeout

  - session-expiration-period

  - session-expiration-timeout

- Stat Server maps the content of the `attribute_reason_desc` from Interaction Server events to the value of the `ReasonValue` key in a `UserData` key-value list on Action for the `CurrentState` or in a `Reasons` key-value list for the `CurrentStateReasons`. See CurrentState Categories for more information.

Release 8.5.108:

- Stat Server supports the overload protection method of reducing CPU consumption.

- The following new configuration options are added in the **[overload]** section:

  - allow-new-connections-during-overload

- allow-new-requests-during-overload
- cpu-cooldown-cycles
- cpu-poll-timeout
- cpu-threshold-high
- cpu-threshold-low
- cut-debug-log
- protection
- qos-default-overload-policy
- qos-recovery-enable-lms-messages

- Stat Server supports the new `DynamicOverloadPolicy` option in the **[<stat type>]** section.
- Stat Server supports the retrospective InteractionAbandoned action for Tenants.
- Stat Server supports Windows Server 2016 and Windows Server 2016 Hyper-V.

Release 8.5.107:

- Stat Server supports Sliding, Selection, and SinceLogin aggregation intervals in the the statistical category Formula.
- Stat Server logs operational statistics and current execution context into a special StatFile log file to help with diagnostics and troubleshooting.
- Stat Server supports the durable InteractionWait action for Tenants. The action is intended to track an interaction until it is actually handled by an agent.
- Stat Server supports the durable DND action on RegDN.
- Stat Server supports Red Hat Enterprise Linux 7.
- The following new configuration options are added in the **[statserver]** section:
  - interaction-wait-on-tenant-max-number
  - interaction-wait-on-tenant-media-list
  - stat-file-show-clients-list
  - stat-file-show-options
  - stat-file-timeout

Release 8.5.106:

- Stat Server supports the statistical category Formula for the `Growing` time profile.
- Stat Server supports the Ever Growing time profile for a limited set of the float-valued categories.
- Stat Server supports the new DialRemoteRelease action on `Campaign/CallingList` statistical objects.
- Stat Server supports enable-thread, throttle-period, and throttle-threshold options.

Release 8.5.104:

- Stat Server supports new Routable and NotRoutable actions on an agent or place.

- New DistinquishBy feature is introduced.

- Stat Server supports new ApplyFilterAtActionEndOnly stat type option.

- Stat Server supports new ExternalServiceRequested and ExternalServiceResponded actions for Tenants.

- Stat Server supports the ActorType and RequestEnvelope System attributes on selected actions.

- The following new configuration options are added in the **[statserver]** section:

    - consult-acw-mode

    - suppress-user-data

Release 8.5.103:

- New GroupBy feature is introduced.

- Support of the time zone specification in a growing TimeProfile definition.

- Stat Server supports the following new actions for Tenants:

    - InteractionAccepted

    - InteractionAnswered

    - InteractionReleased

- Stat Server supports new InteractionWait action on StagingArea.

- Stat Server supports new UserEventReceived action for a regular DN and mediation DN.

- Stat Server supports the AgentID System attribute on selected actions.

- Stat Server supports the GlobalUserData key-value list in filters and formulas.

- The following new configuration options are added in the **[statserver]** section:

    - interaction-wait-on-sa-max-number

    - interaction-wait-on-sa-media-list

Release 8.5.102:

- Stat Server supports the following new actions for Tenants:

    - InteractionCreated

    - InteractionAbandonedDuringOffering

    - InteractionAccepted1

    - InteractionDeleted

    - InteractionPastAcceptServiceLevel

    - InteractionPastCompletionServiceLevel

- Stat Server calculates regular statistics on StagingArea for the following new actions:

    - InteractionPastAcceptServiceLevel

    - InteractionPastCompletionServiceLevel

- The ExpectedWaitTime2 statistical category is now applicable to voice media.

- The new `backup-file-aggregates-store` configuration options is added in the `statserver` section.

- Stat Server supports System key-value list in filters.

- Stat Server supports SuspendAll/ResumeAll/PeekAll batch requests from a client.

Release 8.5.101:

- Stat Server supports the following new actions for a regular DN:

  - CallObserving...

  - CallOutboundOriginated

  - CallOutboundReceived

- Stat Server calculates regular statistics on StagingArea for the following new actions:

  - InteractionAbandonedDuringOffering

  - InteractionAccepted

  - InteractionAnswered

  - InteractionReleased

- Absolute paths are now mandatory for the `[java-config]/jvm-path` option. The JVM will not be initialized if the option is set to a relative path.

- Stat Server supports JDK 1.8.

- Stat Server includes functionality for the prevention of database update losses due to commit failures or loss of database server connection.
  Two new database-related options are added:

  - db-timeout

  - db-txn-max-retries

Release 8.5.100:

- Stat Server loads configuration data asynchronously. Therefore, during the initialization Stat Server is able to:

  - Immediately process changes of its configuration options.

  - Dynamically recognize configuration changes such as creating, deleting or editing of configuration objects.

  - Dynamically change the list of its connections.

- After a long disconnect from Configuration Server, when the history log expires, Stat Server is able to re-read its configuration. Therefore, Stat Server processes all configuration changes that were done during its disconnect to Configuration Server.
  This new functionality is essential for large environments, where Stat Server initialization takes a long time.

- The `reconnect-timeout` option in the `statserver` section now is also applicable to the Stat Server connection to Configuration Server.

- Stat Server calculates regular statistics on StagingArea for the following new actions:

  - InteractionCreated

- InteractionEntered

- InteractionDistributed

- InteractionCleared

- InteractionDistributedToQueue

- InteractionDeleted
  Stat Server Java Extensions do not need to be loaded for calculation of these statistics.

This section describes the new or changed functionality that was introduced in release 8.5.0.

- Stat Server supports multiple Interaction Servers that handle the same Tenant.
- Stat Server supports the EventHint panic signal from Interaction Server. Refer to the *eServices Reference Manual* for more information about this feature.
- Stat Server supports Interaction Server Proxy.
- Stat Server supports direct database connection.
- Stat Server features more robust DND model implementation for voice.
- Stat Server processes network messages (client and server) in a separate thread.
- Stat Server supports higher number of concurrent client connections (on most platforms).
- Stat Server no longer supports Resource Capacity Wizard and Stat Server Wizard. All deployment wizards migrate to Genesys Administrator Extension (GAX).