Performance Management Advisors Deployment Guide

FA Dynamic Hierarchy

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FA Dynamic Hierarchy

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In release 8.5, the Frontline Advisor (FA) hierarchy is monitored in real time, with structural changes being reflected almost immediately in the dashboards rather than requiring a 24-hour reload cycle or a manual hierarchy reload.

Metrics Generation

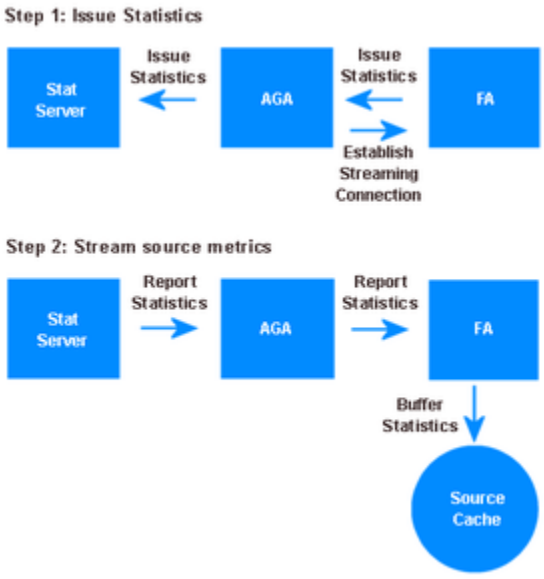
An administrator specifies how often state and performance metrics *roll up* to the hierarchy pane in the FA manager dashboard; this is the *rollup cycle*. The Frontline Advisor service generates metrics values at the beginning of each rollup cycle. There are two types of metrics:

- Source metrics
- Report metrics

Related Information

See FA Administration Overview for information about the FA page in the administration module and how to use it to configure your FA dashboard, which includes specifying the rollup intervals on the **Settings** tab.

Source Metrics



Source Metric Streaming

Advisors Genesys Adapters (AGA) for FA request source metrics from Stat Servers, and then open a reverse connection back to FA. The adapters stream source metrics to FA as they receive the metrics from Stat Servers. Source metrics do not require additional configuration or computation; their values are simply reported by adapters. The Figure, "Source Metric Streaming", shows this process.

FA Message Listening Port

When an FA instance initially requests to register with an adapter, the request includes the host and port on which FA is listening for inbound connections. For information about viewing or editing the port number post-installation, see FA Message Listening Port.

Report Metrics

Frontline Advisor performs metric rollups in memory. All report metrics that the aggregation engine must compute include additional configuration to tell the engine how to compute each metric (what *formula*, if any, to use) and the order (priority, or *rank*) in which to compute each metric relative to other contributing metrics.

Hierarchies and the Caches

The *monitoring* hierarchy is loaded from the Genesys Configuration Server at startup based on the configured top-level node. After this initial load, changes to the hierarchy in Configuration Server take effect immediately and are reflected in the FA dashboards at the end of each rollup cycle. You need no longer wait for the overnight refresh, nor force a hierarchy reload. For exceptions, see Aggregation Engine and Restrictions and Limitations.

While the monitoring hierarchy is a mutable structure, updated as relevant Configuration Server events occur, an immutable *rollup* hierarchy is generated from it during each rollup cycle. During the generation phase, events from the Configuration Server are temporarily buffered and do not resume until generation is complete. After the rollup cycle completes, the rollup hierarchy is then used to service dashboard requests for hierarchy structure.

> **Important**
>
> Agent Groups for which agent membership is not tracked in the Configuration Server are not dynamically monitored. For example, Virtual Agent Groups whose members are not evaluated by the Configuration Server. Such agent groups, and changes to them, are not part of the hierarchy.

Related Information

See FA Monitoring Hierarchy for more information about the monitoring hierarchy and the relationship between the hierarchy in the Configuration Server and the hierarchy in FA.

Data Caches

Frontline Advisor maintains three distinct caches:

- Source cache – This represents the current state of source data that the adapters provide for all agents in the hierarchy. It is updated real-time as FA receives new source data.
- Aggregation cache – At the beginning of each rollup cycle, FA makes a copy of the current source cache. The copy is input to the aggregation engine, which generates all computed metrics that are then appended to the aggregation cache.
- Live cache – When a rollup cycle completes, the aggregation cache (along with the corresponding rollup hierarchy) becomes available to dashboards. In this way, the aggregation cache becomes the new live cache; it provides data to clients until the next rollup cycle completes and it is, in turn, replaced.

Additionally, the configuration of default thresholds and overrides is stored in the database. FA caches this *constraint configuration*, including all constraint overrides. The constraint cache loads from the database at startup. You can change constraints using the FA page in the administration module after startup. At the beginning of each rollup cycle, an immutable copy is made and provided to the aggregation engine.

Tip

The Agent Skills metric is a state metric that has no corresponding source metric. When the dashboard requests a value for the Agent Skills metric, the FA server queries the hierarchy in Configuration Server for the skills list, rather than examining a cache generated from rollups.

Aggregation Engine

The FA aggregation engine runs within the FA service process. The aggregation engine executes formulas using the static rollup hierarchy. This means, of course, that hierarchy events received immediately after the current cycle begins will not be visible on the dashboard until the next cycle completes.

Dashboard Clients and Web Services

When the FA dashboard requests updated metrics values, it requests metrics for all nodes currently visible (the set of expanded nodes in the hierarchy pane, as well as the agents for the currently selected team). The FA server responds with metric values for the nodes, and uses the same nested structure. However, you or another administrator might add nodes to or remove nodes from the hierarchy between requests. The dashboard accounts for structural changes between requests as follows:

- A node that was previously visible on the dashboard is no longer in the monitoring hierarchy – The server does not include this node in the returned data set. This indicates to the dashboard that the node is removed, and the dashboard removes that node (and any previously visible sub-nodes) from the dashboard.
- A node that was not previously visible on the dashboard has been added to the monitoring hierarchy within the expanded set of nodes – The dashboard inserts new records in the hierarchy and/or team panes representing these new nodes.

Restrictions and Limitations

Dynamic hierarchy updates do not include the following events:

- name changes: the FA dashboard does not register a change, in Configuration Server, to the name of a node until the overnight refresh or a forced hierarchy reload. The FA dashboard does register the addition or deletion of a node in Configuration Server, however, and reflects the change after the current rollup cycle completes.
- changes in metric group configuration: for metric group changes to be reflected in the FA dashboard, you must wait for the overnight refresh or force a hierarchy reload. For information about metric groups, see Working with Metric Groups in the *Genesys Performance Management Advisors Contact Center Advisor and Workforce Advisor Administrator User's Guide*.
- permissions changes: changes to permissions settings, stored in the Configuration Server, are updated on the dashboards once each hour.