

Data Management in Blackbaud CRM Guide

06/25/2015 Blackbaud CRM 4.0 Data Management in Blackbaud CRM US

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Database Growth Management in Blackbaud CRM

This document offers guidance on typical areas of growth, how to evaluate database growth, and measures that can be taken to mitigate and manage that growth.

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Areas of Growth

While each database varies, there are common areas where databases tend to see the most growth.

- **Audit data** – Audit tables are useful for tracking historical changes to records in Blackbaud CRM. They are also used for investigating issues with system functionality. Since each audit entry is a copy of the record before and after a change, frequently updated audit tables can quickly outgrow their source tables. Under normal settings, audit data typically consumes 15%-30% of space in a database.
- **Output data** – Each time a business process is run, it saves any output to the database. This includes mailings, marketing processes, exports, and more. Saving data allows the results to be retrieved without needing to run the process again. Output data can build up over time. We have seen output data account for up to 30% of space in a database.
- **Historical data** – When appeals are sent out, a record is added to every constituent who receives it. Additionally, batches stay around after they are committed so they can be reviewed at a later date. Items like these can account for up to 10% of space in a database.
- **Log data** – SQL Server keeps a transaction log. SQL uses this log in case data needs to be recovered or restored. In normal scenarios, log data can account for 5%-15% of data in a database. This is perfectly normal. If your transaction log regularly exceeds this limit, you could be running processes that modify a significant number of records in a very short duration. If this is the case, examine those processes to ensure they are not performing unnecessary modifications as this can bloat both your transaction log and audit tables.

Database Growth Management

The Database Growth Management page allows you to view the size of your database and the space taken by different types of data. This data provides insight and tools related to business process history, audit tables, application data, selection data, and customization data.

To access the Database Growth Management page, from *Administration*, click **Database growth management** under **Administration**. Use the tabs to navigate detailed information about each data type in your database.

Note: When you first view this page, you may not see any data because the process has not run yet. By default, the process runs weekly, or you can manually run it anytime by clicking **Refresh now**.

The data included in this tool is updated weekly by default and the last refresh time is posted on the Summary tab. To refresh the data outside of the automatic refresh process, click **Refresh now** on the Summary tab. The program indicates an estimated time required for the refresh to let you decide if you want to wait or refresh at another time.

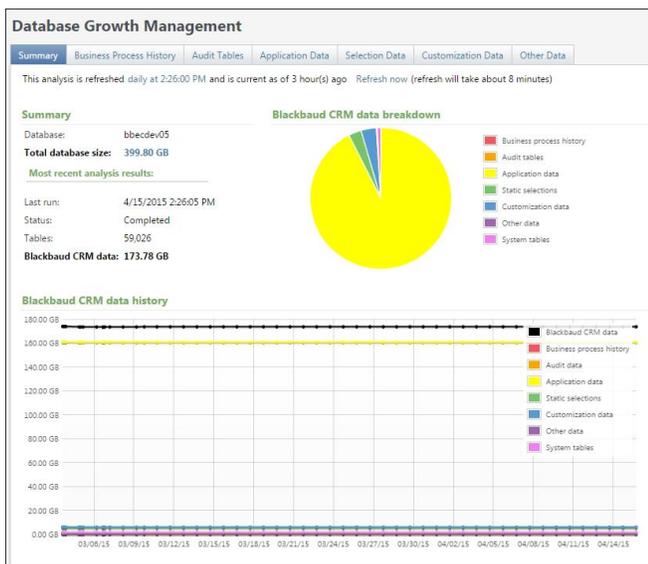
You can also edit the frequency of the update to better fit your needs. For more information, see *Edit Refresh Schedule* on page 4.

Summary Tab

In the Summary tab, you can see the overall size of your database and the distribution of data by type. You can also see how data size has changed over time. This is where you can also see when the information was last updated and refresh it manually.

The overall breakdown of your data can give you a good sense of the health of your database. Typically, application data takes up the majority of your database size. This is your transactional data, which makes up your records, payments, etc. When the application data portion of your database is smaller, that can indicate that you have an opportunity to reduce the size of other types of data, such as audit tables and business process output history.

Below is an example of what is likely a healthy database, where the application data makes up the overwhelming majority of the data.



In contrast, below is an example of a database where the application data, while still the largest portion, is not taking up as much of the total database size. In this example, business process history and audit tables make up a large portion of the database. It is likely that there is an opportunity to clean up some of that data to optimize space usage in this example.

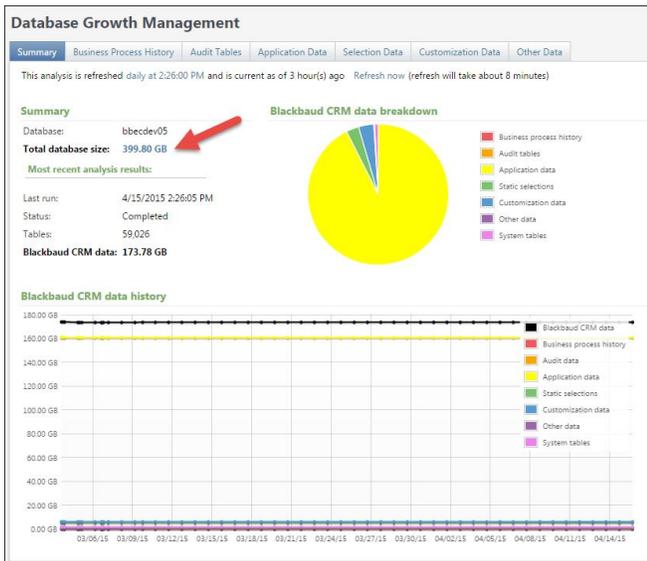


To drill into the details of each type of data, you can navigate the different tabs on this page or click any portion of the pie chart to see details about that data category.

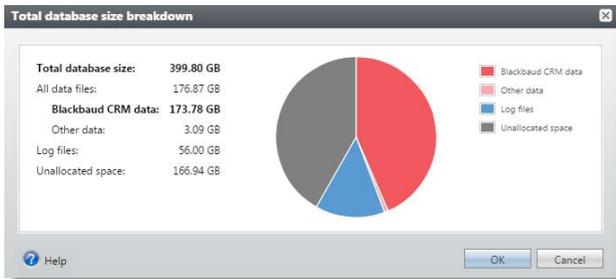
Total Database Size Breakdown

You can drill into the overall contents of your database above and beyond the data that you enter into **Blackbaud CRM**. The total data includes log files and other system files that are automatically generated in your database and that you cannot control from **Blackbaud CRM**.

From the Summary tab, click the total database size number to see a detailed breakdown.



The Total database size breakdown screen appears, where you can see details about your overall database. This can help you troubleshoot space issues outside of the transactional data in **Blackbaud CRM**.



The total database size reflected on this screen is the total data that your database requires to run. If Blackbaud hosts your data, this is the amount of data storage Blackbaud bills you for.

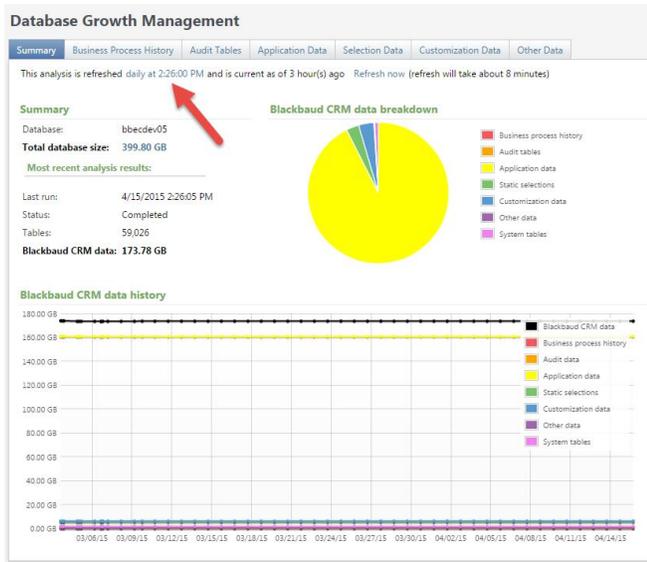
Note: The Database Growth Analysis process includes in its analysis of **Blackbaud CRM** data only those tables accessible to the BAppFServiceRole database role. Any tables not accessible to that role are accounted for in the total database size, but are not part of the "Blackbaud CRM data" slice and are not included in any of the tabs. That portion is included in the "Other data" slice of the total database size breakdown.

Note: The total database size does not include any data from the Blackbaud Data Warehouse.

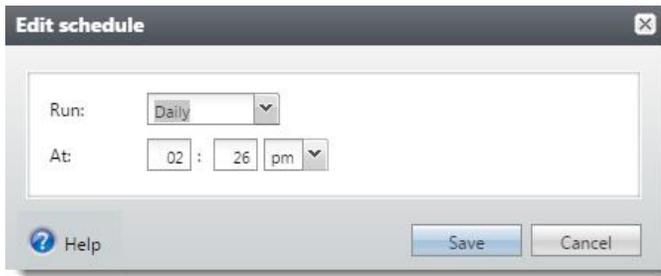
Edit Refresh Schedule

You can edit the schedule that the data is updated at any time. By default, the data is refreshed weekly early on Sunday mornings. However, you can choose how often and at what time the data is refreshed. The time you choose is based on the timezone of your database.

To edit the refresh schedule, on the Summary tab, click the hyperlink that indicates when the data was last refreshed.

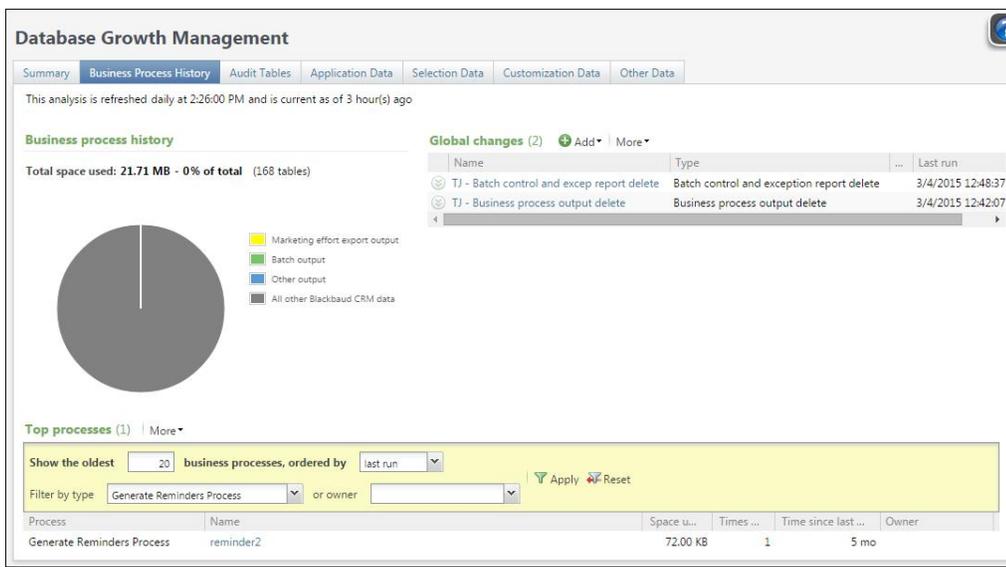


The Edit schedule screen appears. You can choose to refresh the data daily, weekly, or monthly, and indicate the time when you want this to occur. The process is not intensive and does not affect overall system performance. While you can choose to run this at a time when your database is not heavily used (such as overnight), this is not necessary.



Business Process History Tab

In the Business Process History tab you see the amount of data generated by business processes. When you run a business process such as an export in **Blackbaud CRM**, the program stores a copy of the output.



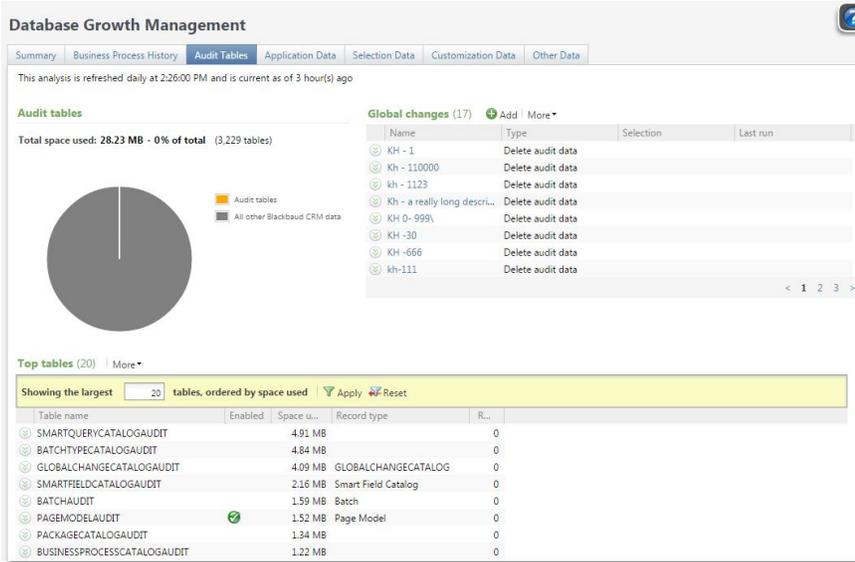
To regularly delete these outputs when you no longer need them, you can use the "Business process output delete" global change. **Blackbaud CRM** also keeps copies of batch output, which you can delete using the Batch report delete global change.

Note: Deleting business process output does not affect your ability to view business process history. You can still see the full history of business processes even when the output for those processes has been deleted.

You can create and manage these global changes from this screen. Under **Global changes**, click **Add** to add a new global change, or click the name of an existing global change to view and edit it.

Audit Tables Tab

The Audit Tables tab shows the amount of data used by audit tables. Audit tables keep details of changes made to the database by different users.



In addition to the overall breakdown, this screen shows you a list of all audit tables organized by size.

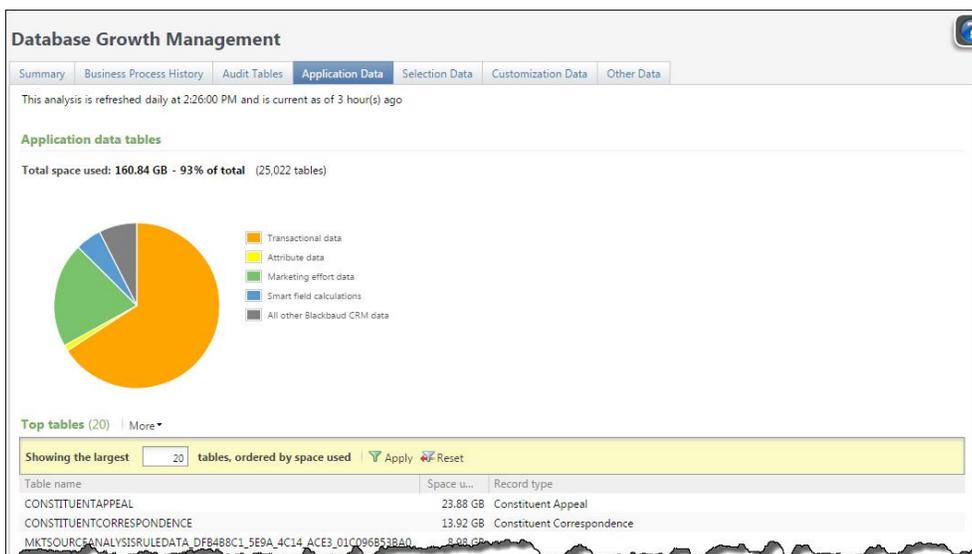
Note: This list does not include audit tables associated with any customizations.

You can use the "Delete audit data" global change to delete old audit table information you no longer want to keep.

You can create and manage these global changes from this screen. Under **Global changes**, click **Add** to add a new global change, or click the name of an existing global change to view and edit it.

Application Data Tab

The Application Data tab itemizes the data that you enter into **Blackbaud CRM**, including records, attributes you created, data related to marketing efforts, and smart field calculations.

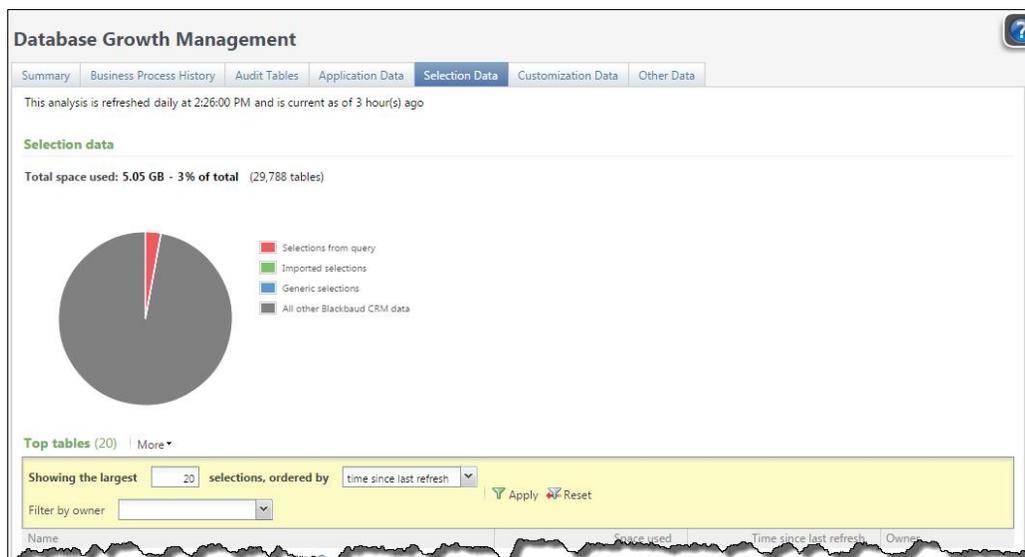


This tab shows you a breakdown of the application data. Normally, transactional data would form the majority of your application data. This is what most organizations consider "good" data, because it includes constituent information and transactions, which are the heart of your database. Also on this screen, you can see all your tables and the space they each take in your database.

Note: Table counts and sizes are limited to database tables to which the BBApPfxSystemRole has access. Other tables do not appear in table counts on this tab, but do appear on the Other Data tab.

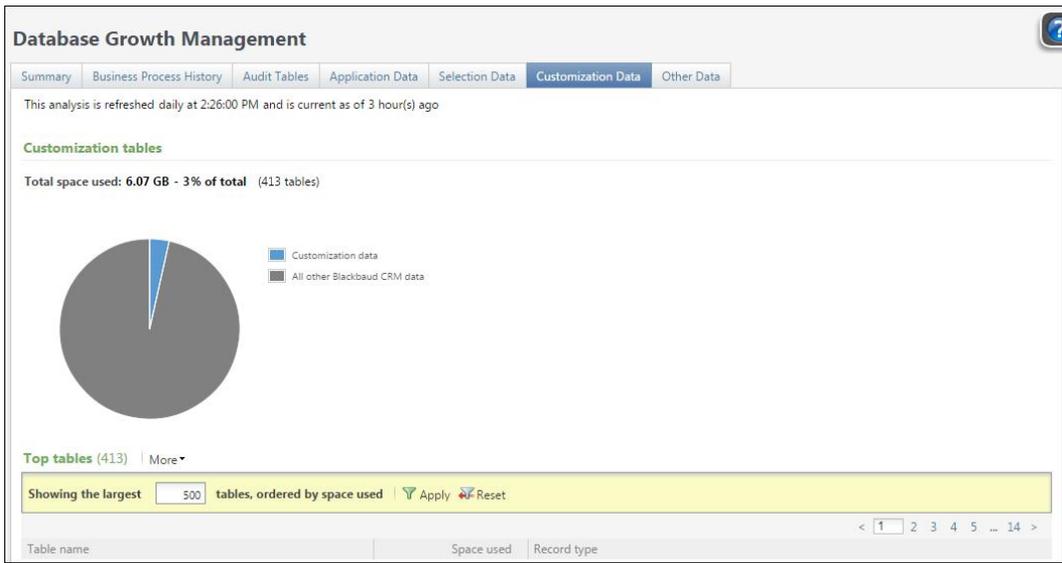
Selection Data Tab

In the Selection Data tab, you see the data taken up by selections, whether created by users, imported into the database, or generated by other elements of the system (generic selections).



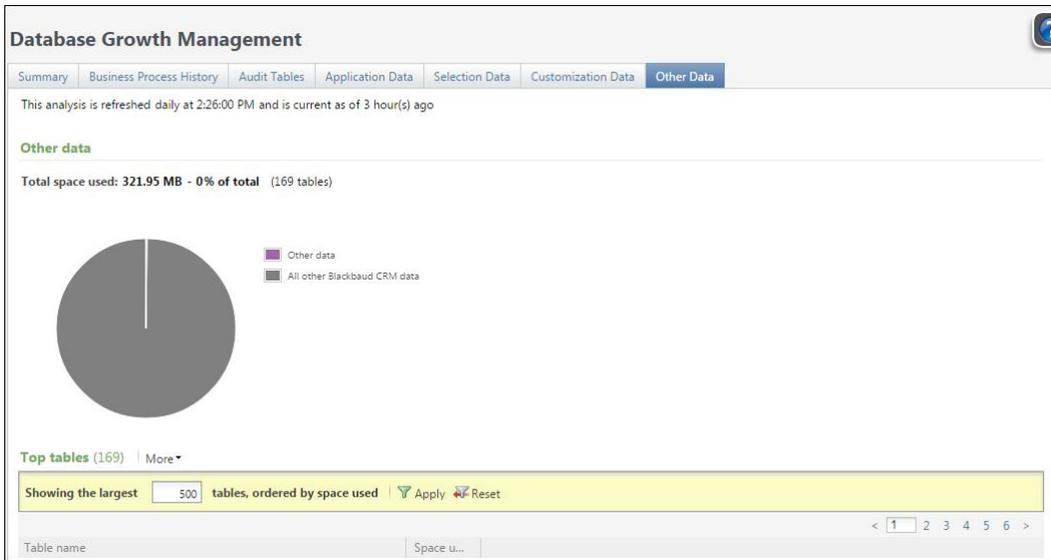
Customization Data Tab

In the Customization Data tab, you can see information about custom tables you created using the **Blackbaud CRM SDK**.



Other Data Tab

In the Other Data tab, you see the total amount of data that does not fall into any of the previous categories. This is usually minimal, but can show data from tables you created outside of the **Blackbaud CRM** SDK.



Measures to Reduce Database Growth

Audit Table Management

The application provides a couple of ways to manage audit tables.

First, you can enable/disable auditing for specific tables. To manage auditing, go to *Administration*, Audit Tables. Keep in mind that some audit tables must be enabled for functionality related to record history to work. For instance, the Constituent History report relies on audit data from a number of tables such as Constituent and Address. Audit tables required for system functionality are enabled by default.

Second, you can create a global change to delete audit data older than a certain time. From *Administration*, Global Changes, you can add a “Delete audit data” global change. You may select all audit tables or specific audit tables. This will allow you to limit the size that audit data takes up in your system.

Business Process Output Management

You can create a global change to purge business process output data older than a certain date from the database. Just like the Audit Table Delete global change, you may choose a selection of items to delete or delete all data older than a certain amount. Not all business processes outputs can be purged because some features require them for system functionality. Currently, you can purge output data from the Export, Marketing Effort Export, Segmented House File Import, Correspondence, and Finder File Import Processes. When you run the global delete, you can choose to retain as many of the most recent outputs as you indicate.

Batch Report Management

You can also delete batch control and exception reports with a global change. Just add an instance of the “Batch control and exception report delete” global change.

