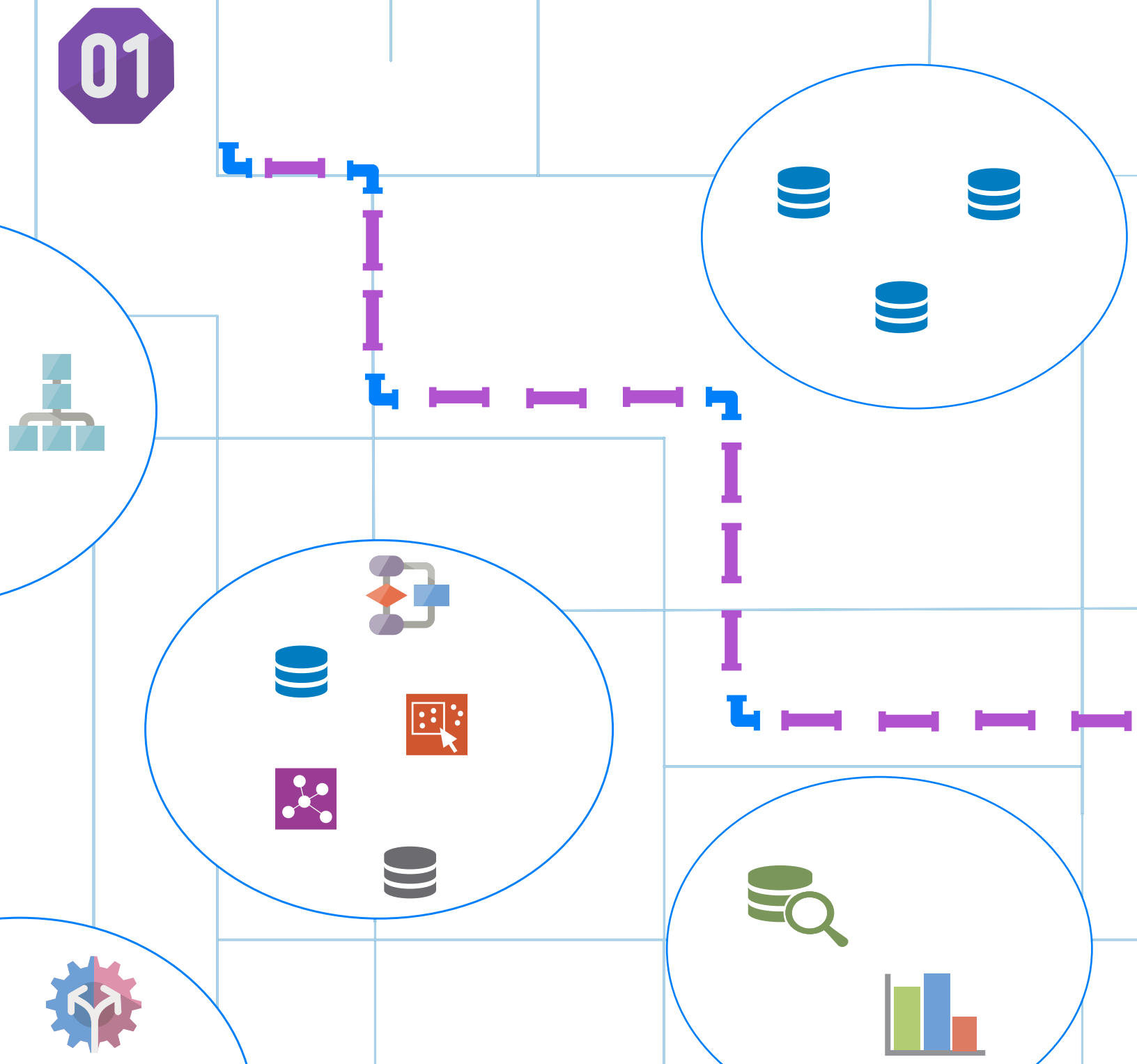
Infogix Data3Sixty®

Release Notes
Draft version 2.1.1



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What's New in 2.1?

The *Infogix Data3Sixty Release Notes* briefly describes enhancements and modifications included in Infogix Data3Sixty 2.1. For more detailed and functional descriptions of newly added features, please consult the Infogix Data3Sixty User Guide version 2.1.

Analysis Changes

Case Store Nodes in Analysis

As part of Case Management, a Case Store Input node and a Case Store Output node are now part of the Input/Output palette in Infogix Data3Sixty Analyses. The Case Store Input node allows case records to be manipulated via Analysis, whereas the Case Store Output node enables the user to push new case records into a Case Store.

Runtime Parameters

The concept of runtime parameters has been added to Analysis Data Store Inputs. Runtime parameters can be added to Data Store Inputs and read by any node in the Analysis, using functions. In certain situations, this can be more convenient than passing a field all the way through an Analysis.

Specification of Data Store Type

The ability to specify Internal or External as a Data Store type has been added to the Data Store Output node. Previously, only Data Stores of the Internal type could be used as Data Store Outputs. Using an External Data Store as a Data Store Output now allows the user to output the Analysis to an external file system or database.

Changes to New Column Creation in Analysis Sheets

The UI for New Column creation in Analysis Sheets has changed. New Column and Delete Column buttons have been replaced with + icon and Trash can icon buttons. Additionally, an Edit Column button has been added to change New Columns' names. Previously, column rename was preformed via double-click.

Custom Node

The Analysis Designer now features a 'Custom node', which allows customers to create customizable Analysis nodes by connecting to an API.

Improve performance of analysis when there is a large number of fields

With this release, execution performance has been improved for data sets that contain 100+ fields.

Add support for database based data store

Database based Data Stores may now be used as both inputs and outputs to an Analysis. In the case of outputs, an option exists to update the Data Store by a specific field.

Security Enhancements

Role Based Security

Infogix Data3Sixty now features role based security per Super Group and Environment. A Super Group's role will now determine which UI elements within a given Environment the Super Group can see.

Any time a user logs in to the system or switches Environments, the system will now reconfigure the UI based on the role definitions for that Environment.

Roles are as follows:

- **Power User:** Will have access to all features
- **Case Worker:** Will have access to the Home and Manage Cases areas. If there are Queues defined for a Case Store, then a case worker will be shown only the queues they have permissions to. They will not have access to the Case Store section that shows all Search Screen definitions.
- **Case Manager:** Will have access to the Home and Manage Cases areas. Case Managers will have access to Queues they have permissions to and the Case Store section with all Search Screens.
- **Visualization User:** Will have access to the Home and Explore Data areas.
- **Visualization Consumer:** Will have access to the Home and Explore Data areas. In the Explore Data area, they will not have access to Create Dashboard or the Visualizer but they will have access to view predefined dashboards.

Roles are additive. So, if a user belongs to more than one role, the user will have all of the features available in all of those roles. Users who have system wide administrator permissions are treated like power users irrespective of their role assignments.

Also note that if no role is assigned to a Super Group, users in that Super Group will only see the Home Screen.

Data Store Improvements

Store Type Selection for Internal Data Stores

A user may now designate a Store Type for Internal Data Stores. The options are Default, which as before creates a file based Data Store in the Infogix Data3Sixty instance's file system, and Database. In this release, the Database option is intended to support Case Management.

Store Type for Internal Data Stores may be designated upon Data Store creation; or, during the addition of a Data Store Output node to an Analysis, enabling the creation of the Internal Database type on the fly.

Index Tab

With the addition of Internal Database Data Stores, users can now also create indexes to enhance search speeds when searching these Data Stages. Index creation simply involves selecting a field from the Stage that is used to perform searches.

Screens Tab

The addition of Internal Database Data Stores has also meant the addition of a Screens Tab to this type of Data Store. The Screens Tab allows the user to define Search screens and View/Edit screens using a form editor, which can then be used by those working with the Data Store. Search Screens are used to query the Internal Database Data Store for specific records, via Case Stores or via the Drill to Screen from Dashboard functionality described below. View/Edit Screens are used to view or edit records that are returned from Search results.

Code Sets

The use of Code Sets within any type of Data Store is now supported. A Code Set may be used to create a more human readable display value for fields that contain non-human readable codes. Once a Code Set is created, its effects will be seen throughout the system - such as when the field's values are displayed in a Search Screen or a Dashboard.

Activity Logging

Since the records within an Internal Database Data Store may be edited via an Edit Screen (as described above), Activity Logging has also been added. With Internal Database Data Stores, activity is logged whenever a record is modified. This log of events is accessible within the Internal Database Data Store's View screen(s).

Owned Data Stores

The addition of Internal Database Data Stores has also required the addition of the concept of an "owned" Data Store. In this release, an owned Data Store is an Internal Database type Data Store that is associated with a Case Store. When such an association exists between these Stages, the Data Store is said to be "owned" by the Case Store. An owned Data Store will also have a number of fields added to it by the system, including: *OwningObjectId*, *OwningSubObjectUID*, *OwningSubObjectID*, and *SysDeleted*. These fields are created to help represent the relationship between the Data Store and its owning Case Store.

Wildcard Search for String Fields in Data Store Search Screens

When searching for String type fields within a Data Store Search Screen, the '%' character may now be used at the beginning or end of a string to trigger a wildcard search. As before, strings without a '%' at the beginning or end will perform an exact match search.

Test Button Added to Transform Tab

A Test Button has been added to the Data Store Transform Tab, to aid in the development of Scripts created within the tab. This button allows the user to test script changes directly within the Transform tab, instead of having to switch to the Fields tab.

Case Management

With this release, one of the biggest changes has been the addition of Case Management functionality, which allows Power Users to define custom work flows for processing cases and Case Managers/Case Workers to use what Power Users have built to work cases.

This addition has included the creation of a new Data Stage called the Case Store. As mentioned above, Case Management is also aided by the newly introduced Internal Database Data Store.

For this release, the addition of Case Management has included the addition of the following components.

Case Store Details

The Details Tab lets you define *what type* of Case Store you will be creating. In this release, types include *Case contains record(s) from Data Store(s)* and *Case is not associated with any Record of Stage*.

Case contains record(s) from Data Store(s) supports cases that have a header-detail record relationship.

Case is not associated with any Record of Stage supports cases that are comprised of header records only.

Case Store Fields

The Fields Tab allows users to view all fields that are built into a Case Store and create/edit new fields to hold the contents of header records pushed to the Case Store.

Case Store Screens

The Screens Tab is where those responsible for creating Case Stores build the UI components that allow case workers to interact with cases. When building a Case Store, two types of screens need to be created: Search Screens and View/Edit Screens.

A Search Screen is what a case worker will use to search for a specific case.

View/Edit Screens determine how a case is displayed after a user has found it with a Search Screen and then decided to view/edit it.

Case Store Workflows

The Workflow Tab is where Power Users define the series of *States* and *Queues* a case will *Transition* through as it is processed by Case Managers and Case Workers. The basic drag-and-drop functionality used to build a Workflow is similar to that found in Infogix Data3Sixty Analyses and Process Models; however, each node and even the connectors between nodes have specific functionality that is unique to Case Stores.

Case Store Indexes

As with Internal Database Data Stores, users can also create indexes to enhance search speeds when searching Case Stores. Index creation simply involves selecting a field from the Case Store that is used to perform searches

Case Store Other tab

The Case Store 'Other' tab contains miscellaneous functionality that can be used to perform a number of tasks - some of which are required during the creation of a Case Store.

Functionality includes, but is not limited to:

- Script based background processing
- Retention Processing

Case Management UI

Once Case Stores have been built, Case Workers and Case Managers will be able to access them via Infogix Data3Sixty's Main Menu, listed within the *Manage Cases* option. When a listed Case Store is clicked, the user will be brought to the series of screens that have been built for them to work cases.

A more detailed description of the Case Management UI is available in the Infogix Data3Sixty User Guide.

Additional functionality, beyond searching for and working with cases includes but is not limited to:

- Adding notes to a case
- Adding attachments to a case
- Merging Cases
- Deleting Cases and records associated with a Case
- Moving records from one Case to another

Support Retention Processing for Case Stores

As with other Data Stages, Retention Processing is now supported for Case Stores.

Visualization Changes

Data Store or Case Store to Dashboard

Where previously a user could only create a Dashboard using a Data View, users can now create Dashboards using Internal Database Data Stores or Case Stores.

Drill to Screen from Dashboard

In addition to being able to Drill To a Dashboard from a Dashboard, users can now drill to specific Search Screens within Internal Database Data Stores or Case Stores. As such, the feature has been changed from *Drill To Dashboard* to *Drill To Stage*.

Reorganization of Explore Data Menu

Previous editions of Infogix Data3Sixty have featured an 'Explore Data' menu accessible via the Main Menu. In the past, only the Visualizer and New Dashboard were accessible via Explore Data. With this release, the user will have the ability to add frequently viewed Dashboards to Explore Data, for ease of access.

Additionally, if a user has been assigned the Visualization Consumer role described above, the Dashboards that have been pinned to the Explore Data menu by an administrator are what they will see.

Data Quality

With this release, a new set of Analysis nodes have been added to the Analysis palette. All of these nodes focus on Data Quality functionality; and, within Infogix Data3Sixty they are referred to as "Check" nodes.

Profile Data Node

The Profile Data node allows you to gather information about any field in a data set. Using this node generates a sheet with fields containing useful information about each profiled field. Fields generated by the Profile Data node include: *uniqueCount, nullsCount, emptyCount, max, min*, and an array field called *values* which contains all unique values for the profiled field with an occurrence count for each value. Custom profiling may also be performed via *Custom Counters*.

Consistency Check Node

The Consistency Check node creates new fields containing Boolean outputs based on whether records satisfy expressions. Previously this type of check had to be done by creating new columns within any Analysis node and using nested IF statements. The Consistency Check node simplifies this type of validation.

Value Conformity Node

The Value Conformity Node is used to check whether data set values match specific values or fall within a range of values. The node produces a new field containing Boolean values for each Value Conformity Check that is written. If a data set value matches any of the values in a Value Conformity Check or falls within the Check's range, a *True* value is returned. Conversely, if a data set value does not match any of the values in a Value Conformity Check or falls outside of the Check's range, a *False* value is returned.

Timeliness Check Node

The Timeliness Check Node is used to check whether the amount of time between two fields surpasses an acceptable level. The node produces a new field containing Boolean values for each Timeliness Check that is written. If the difference between the two chosen fields is less than or equal to the acceptable interval, the record is considered timely and a *True* value is returned. Conversely, if the difference between the two chosen fields is greater than the acceptable interval, the record is not considered timely and a *False* value is returned.

Recon Check Node

The Recon Check Node allows you to reconcile records from up to 4 sources, using a number of different match criteria. Match criteria can come from a list of predefined options or may be customized.

Completeness Check Node

The Completeness Check node creates a single field containing a Boolean value, which represents whether a selected field has completely passed a set of checks. Checks can come from a predefined set of standard data quality checks, or checks can be comprised of custom expressions.

On-premises installation and infrastructure improvements

Support for migrating from previous releases

Migration from enterprise version 2.0 to enterprise version 2.1 is now supported.

Enterprise Installation without Hadoop

The enterprise installation process may now be ran without installing Hadoop. Running such an installation assumes that the customer already has a third party deployment of Hadoop that the system can point to.

Upgrade to Vertica 8.1

The enterprise installation package will now distribute Vertica 8.1. Previously, Vertica 8.0 was distributed.

Include Vertica Admin Console in Distribution of Product

Vertica's web based admin console is now included in the Enterprise distribution of the product. This user interface provides the customer with a simplified way to administer Vertica.

Make nginx optional

Usage of nginx in Enterprise installations is now optional. This gives the customer the option to use their own Load Balancer and extend SSL all the way to the application server.

Retention Processing Improvements

Retention Processing for the Audit Trail

Retention Processing is now applied to the Audit Trail, at an Environmental level.

Retention Processing for Comments, Annotations, and Documents associated with Dashboards

Retention Processing is now applied to comments, annotations, and documents that are associated to a Dashboard. Retention settings are inherited from the Data View of the Dashboard that has the shortest Retention period.

Retention Processing for Comments and Documents associated with other Data Stages

Retention Processing is now applied to comments and documents that are associated to Data Stages. Retention settings are inherited from the Retention settings of the Environment the Data Stage resides in.

What's New in 2.1.1?

The *Infogix Data3Sixty Release Notes* briefly describes enhancements and modifications included in Infogix Data3Sixty 2.1.1. For more detailed and functional descriptions of newly added features, please consult the Infogix Data3Sixty User Guide version 2.1.

Analysis Changes

Custom Completion Status Node

A Custom Completion Status node has been added to the Input/Output palette of the Analysis Designer. This node allows the user to define a custom completion status to be logged when an Analysis finishes executing, that represents something more than just a binary pass/fail of the execution. The status can then be referenced within a Process Model and used within the Model's logic.

Security Enhancements

Add new authentication mechanism based on http headers

A new mode of authentication based on http headers is now supported. The system now assumes that every http request contains headers. Header information can then be checked and used to support re-authentication of a logged in user when a session expires.

Data Store Improvements

Data Entry Functionality

Functionality to add records to an Internal Database Data Store has been added to the product. A user may access this functionality via the product's main menu, which now lists a 'Data Entry' option containing recently used Internal Database Data Stores. When a Data Store is selected, the user may add new records to it using the Screens that have been defined for the Data Store. At this point, they may also Edit or Delete existing records.

Delete Data Store Content via Process Model

A new task node has been added to the Process Modeler that allows for the deletion of a Data Store's content. This node essentially enables scheduled deletion of Data Store contents.

Regular Expression Path Patterns for file-based External Data Stores

When pointing to an external, file based Data Store, regular expressions may now be used to reference a file path pattern. This can be useful in situations where a file path has only changed slightly and changing the literal value would be tedious.

Sort Fields for Search Screens

When defining a Search Screen, the user may now specify which fields the results of the search should be sorted by. This can help the end user of the Search Screen find what they are looking for more quickly.

Query Filters and Edit Restrictions for Database based Data Stores and Case Stores

Query Filters - which restrict the data a user can access during a query - can now be added to Case Stores and Database based Data Stores. Additionally, Edit Restrictions may be applied to Case Stores and Database based Data Stores, to control which users can change the records within these types of Data Stages.

Control over whether a user can see all data when no Query Filter is matched in a Data View

In previous releases, Data View Query Filters prevented users from seeing data if their user account did not match any query filter criteria. With this release, Query Filters can be constructed to allow the user to see all of the data in a Data View even if their user account does not match any query filter criteria. This capability is provided via a check box in the Query Filter tab.

Handle Secure Fields in View/Edit Screens

Functionality has been added to allow the user to unmask secure fields when viewing them in Search Screens. To unmask a secure field, the user must have permission to do so. Unmasking is performed by clicking an unlock icon that will appear next to masked records.

Case Management

Support in-line editing of Search Screen results

When defining a search result field, users now have the option to mark the field as editable. If a result field is marked as editable, users may perform in-line editing on it within the Case Management UI by double clicking on the field's value. If only a single value needs to be changed, this can be more convenient than editing the record through its Edit Screen.

Note that this functionality applies to both result fields in Case Stores and Data Stores.

Visualization Changes

Hiding a Chart/Table for a Measure

A 'None' measure option is now supported for most charting types. This option allows the user to hide the measure in a chart or table but still use it in other dashlet queries, such as threshold rules and custom sorting.

Option to Remove Row Striping in Grids

A check box has been added to the Visualizer Properties of Data Grids and Pivot Grids that controls whether alternating grid rows are striped. Previously, grids were always striped no matter what.

Option to Drill Down on a Data Grid's Cell Value

Previously, when drilling from a Data Grid, values from every cell in the row would be passed as filters. With this release, the user is given the option to maintain this default behavior and 'Drill By Row', or only pass the specific value of the cell that was clicked, to 'Drill By Cell'. These options are found in the Visualizer Properties of Data Grids.

Tooltips for Filter Dashlets

When hovering over the title of a Filter Dashlet, a tooltip will now be displayed. This can be useful when the chart title is longer than what can be displayed in the filter header, as the tooltip will always display the Filter Dashlet's full title.

Show Null as an Option in Filter Dashlets

Filtering by null is now supported in filter dashlets. Fields that contain null values will now display null in the Filter Dashlet and this option can be selected to filter by null. This can be useful when a Dashboard user wants to see all data where a certain field was null.

Show time stamp of Data View's Latest Load in Dashboard

A latest load time stamp can now be added to the top of dashboards. The time stamp reflects the last time a Dashboard's default Data View loaded data. Configuration of the time stamp takes place in the Dashboard Settings dialog available when editing a Dashboard. This feature can help Dashboard users verify the last time a Dashboard loaded new data.

Support searchable text fields for Dashlet Filters that use String fields

This functionality allows the user to type in the specific value of a String field to filter by, instead of having to select from a list of potential values. As with other searching, wildcard search is supported through use of the % character. Wildcard search is particularly useful if a user does not remember the exact value they are looking for.

Display clickable URL links in Data Grids

Within Data Grids, URLs may now act as hyperlinks to external web pages. To enable this functionality, a field containing URLs must be given a semantic type of 'URL' in a Data View. This functionality can allow Dashboard builders to embed links to external websites within their grids.

Show Data and Export Options for Pivot Grid Dashlets

In previous releases, users were unable to 'Show Data' or export the contents of a Pivot Grid based dashlet. This functionality has now been added to the product.

Option to control Tick Interval in Axes

On chart types that support a y-axis or linear x-axis, the numeric increment between tick marks may now be controlled via a 'Tick Interval' setting available in Visualizer Properties. Previously, these tick mark intervals were automatically decided by the system and the user had no control.

Favorite Button added to Dashboard View

To support the introduction of user roles that may only allow a user to look at a Dashboard in View mode, a Favorite button has been added to Dashboard View mode. This button allows these types of users to add a Dashboard to their Home screen, as other users with more permissions may do from the Pipelines context.

Exploring a Dashlet in the Visualizer

Every Dashboard chart dashlet now features a button that will allow the user to explore the dashlet in the Visualizer. This feature essentially transmits the dashlet definition to the Visualizer as is and allows the user to play around with it, without affecting its original definition in the Dashboard. This functionality is particularly useful for users who do not have Edit access to a Dashboard. Previously, these types of users had no way to explore a dashlet's definition. With this feature, they can now see how the dashlet was constructed and experiment with other configurations.

Changes to Computation Name Concatenation in Legends

Dashboard legends have changed so that computation names are only appended to dimension values when more than one computation is shown in the chart. Previously, concatenation would always occur, even if only one computation was shown in the chart. This previous behavior was considered unnecessary, since the user does not need to know the computation name in the legend if only one computation is being used.

Ability to turn off Legends for a Computation

The user may now turn on/off the legends for individual computations in a chart, via Visualizer properties, within the Axes tab. By default, all computations used in a chart will have this setting turned on and will be included in the legend. The ability to control legend inclusion at a computation level provides a more granular level of control, as previously the user could only perform a mass on/off of all legends.

Data Quality

Type Conformity Check Node

The Type Conformity Check Node is used to check whether data set values conform to patterns. Patterns may be comprised of a Regular Expression, a Number format, or a Date Format.

Process Model Improvements

Option to recursively roll back child Process Models

When rolling back a Process Model, the user will now have the option to rollback child Process Models. Checking this option will recursively rollback all child Process Models, meaning it will rollback all of the selected Process Model's child Process Models and all of those children's child Process Models, and so on, until all children of children have been rolled back. This can be useful in cases where many Process Models are connected, as it allows the user to avoid rolling back each Process Model individually.

On-premises Installation and Infrastructure Improvements

Add SSL Mutual Authentication between Load Balancer and Tomcat

Mutual SSL authentication is now supported for cases where customers use their own Load Balancer. This configuration is accomplished through use of a set of new properties Improved Handling of Complex Data Types.

Add SSL Support for Postgres

SSL can now optionally be configured on the Postgres server that is distributed with the product. If choosing to enable SSL for Postgres, the customer must provide their own security certificate.

Add SSL Support for Vertica

SSL can now optionally be configured for Vertica. If choosing to enable SSL for Vertica, the customer must provide their own security certificate.

Other Improvements

Add REST API to get final completion information after a stage has completed execution

This functionality enables external schedulers to request the execution status of a Data Stage within Infogix Data3Sixty.

Write Audit Trail Information to Log File

Within the product's UI, the Audit Trail is a feature that helps administrators track what actions users have performed. In addition to writing out Audit Trail information to the product's database, this information is now also written out to a *cafe-audit.log* file. Having this information in a log file makes it available for further processing.

Technical Preview Features

The following features are available within Infogix Data3Sixty as “Tech Previews”. A feature classified as Tech Preview is not guaranteed to be 100% functional but has been included in this release to enable customer exploration. Infogix encourages you to explore these ”Tech Preview” features and provide feedback on your experiences. All “Tech Preview” functionality is marked as such within the Infogix Data3Sixty UI.

Infogix Data3Sixty Govern Integration

Infogix Data3Sixty can be configured per Environment to push metadata about its Data Stages to Infogix Data3Sixty Govern. The settings that make this possible are available within the *Admin->Environments* option in the product’s Main Menu. Within Environments, the configuration takes place under the *Govern* tab.

Once a connection is established, the product will then push metadata to Govern whenever a Data Stage is created, updated, or deleted. A Metadata Synchronization feature may also be used on demand or scheduled.

Additional Functions

The following functions have been added for use in the Analysis Designer. Detailed descriptions of each function can be found within the product itself.

- ISMATCHREGEX
- ISBLANK
- ISEMPTY
- ISNUMBER
- ISDATE
- IDENTIFYDATATYPE
- CONTAINSREGEX
- INDEXREGEX
- PHONEMATCH
- ZIPCODEMATCH
- NAMEMATCH
- COMPANYNAMEMATCH
- ADDRESSMATCH

With these 3 fields, the Recommendation node can compare the rankings that different users have given to the same products to predict how users might rank products they haven’t experienced yet.

Sqoop In Node

The Sqoop In node can be used to efficiently ingest data from an external, relational database. This feature utilizes Apache Sqoop.

Sqoop Out Node

The Sqoop Out node can be used to efficiently output data to an external, relational database. This feature utilizes Apache Sqoop.

Kinesis Node

The Kinesis Node can be used to pull in live data streams, for usage in an Analysis.