

# Improved User Experience, Performance Gains on large datasets and more developer options.

The focus of this release has been enabling end users to react and manage real-time streaming data in fewer key/mouse strokes. We've added easier column arrangement, smarter data formatting and better real-time search/filter tools. Data selection can now be used to drive complex real-time streaming analytics providing instant rollups on user-interested subsets of data, allowing users to absorb more information faster in rapidly changing market conditions.

We've made large performance improvements and eliminated the 2gb/128 column limit on user-driven batch events, meaning users can manage huge tasks on a nearly unlimited number of items at once.

As the adoption of AMI in critical use cases has grown, so have our developers tools grown with better features to identify real-time resource utilization and historical diagnostics.

Finally, we've continued to evolve the look and feel of AMI to provide crisper-looking dashboards while maintaining the speed and performance users rely on.

## User Experience:

- Real-time analytics on user selection –  
Example: as a user selects rows in a table, provide real-time aggregation on their selection, even as deltas are streaming in.
- Draggable column arrangement in tables and trees (instead of using arrangement tool)
- A new quick filter input for columns enabling convenient searching/filtering
- User ability to override column formats –  
End users can now conveniently customize date/time and number formatting
- Added a DateField and DateRangeField input field for table cell editing
- Added option to sort text in autocomplete dropdown of text fields
- Login button disabled when clicked/pushed, shows waiting message while logging in

## AMIDB:

- Added DIAGNOSE keyword –  
See memory usage on a column-by-column basis
- Can add/remove special reserved columns using ALTER clause
- Added DECORATE trigger –  
A faster alternative to the JOIN clause for the common case of blending across two streams of data without needing to produce a proper cartesian product.

## Performance Enhancements:

- The disk defragmentation engine has been redesigned, increasing data throughput 4x
- A single transaction is unlimited in size; prior it had a 2gb limit.
- Support for real-time updates to an unlimited number of columns; prior it was 128 realtime columns
- Fast AmiScript Compiler, handles query strings up to 2gb
- Minified core JavaScript files, reducing load time.
- Query Planner identifies large OR clauses and process as IN clause for much faster execution

## Developer Tools:

- Stdout.log & stderr.log files are preserved/rolled on startup now (instead of being overwritten)
- Added Statistics for Memory and Number of Users –  
See historical usage
- Added Import/Export data mode –  
Easily copy datamodels across layout files now.
- Added license info in the help menu
- Allow diffing layout for unsaved changes
- Added icons for user and memory stats in menu bar –  
See visual queue in header for resource utilization. Clicking on the icon will provide historical trends

## Adapters:

- AMPS Datasource Adapter –  
Added protobufs support; prior, only real-time streaming adapter existed
- Apache Ignite Datasource Adapter
- HP Vertica DB Datasource Adapter

## Configuration Options:

- `ami.default.user.timezone` –  
Set the default timezone for users (which users can then override in their preferences)
- `ami.font.java.mappings` –  
Assign aliases for font names
- `ami.db.onstartup.ondisk.defrag` –  
Allows defragmentation of on disk storage to be skipped, reducing startup time
- `ami.web.http.slow.response.warn.ms` –  
Log slow http network communication
- `http.slow.session.lock.warn.ms` –  
Log contention between realtime streaming data and user actions
- `ami.slow.amiscript.warn.ms` –  
Log slow amiscript methods

## AmiScript:

- `FormField::getLabel` –  
Get the label of a form field
- `FormField::getVariableName` –  
Get the variable name of a form field
- Added series of bitwise math operators –  
And, Or, Xor, Shift Left, Shift Right, Shift Right Unsigned (&, |, ^, <<, >>, >>>)
- Table copy constructor
- `Table::addRow(list)`:  
add a list of ordered items as a new row to the table
- Added `__ISDEV` and `__ISADMIN` global variables –  
Programmatically identify permissions of user
- Added `movingAvg` aggregate function to the `PREPARE` clause –  
Easily produce running average charts now
- Support `USE .... INSERT` and `USE ... SHOW TABLES` –  
To bulk insert data from the dashboard to AMI and other data sources
- `FormImageField::toBinary` –  
Get the binary data of the image in an image field
- `TablePanelColumn` class –  
Represents a column in a table
- `TreePanelColumn` class –  
Represents a column in a tree
- Added additional param inside the `onEdit` callback method for tables (access to values before edit)
- Added option to relationships to only run via AmiScript (not end user enabled)

## Look And Feel

- Improved UX for calendars
- Smart logo in dashboard and menu bar (react to color changes)
- New login page logo (colored version)
- New Blank Panel background image
- New style in data modeler and hover animation
- Updated all menu bar icons and form field icons
- Updated all datasource icons
- New styles in table chooser
- New window styles
- New help bubble styles
- New heatmap styles

**If you have any questions about these new features or would like a demo, please email [info@3forge.com](mailto:info@3forge.com).**