Active>360

Active>360 Version 4.2.1 Patch Notes

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The following sections describe notable changes available in this release of Active>360 Version 4.2.1 software:

Version 4.2.1.4

Notable changes

In Version 4.2.1.4, notable issues have been fixed in the following areas:

- Active>360 installation
- Active>Portal web application
- Runtime subsystem
- Triggers, watchers, events, and notifications

Active > 360 installation

- Previously, when using the **act-admin install --establish-from-config** command to resume an interrupted or failed installation, you could not modify usernames or passwords used in the installation script.
- When the value set by the **act.mhub.db.create** installation parameter was **False**, the Configurator script did not prompt for required values for the **act.mhub.db.hostname** and **act.mhub.db.port** parameters.
- When you specified installation configuration parameters that depended on the **observability.db.ssl_enabled** parameter, the Configurator script quit unexpectedly.
- When you used the **act-admin install --establish-from-config** command to migrate a deployed Active>360 image to a new environment — for example, migrating from DEV to TEST — the **KAFKA_BOOTSTRAP_SERVERS** export in the original **$ACT_HOME/bin/env.sh** file overrode any new values for the **messagebus.bootstrap_servers** installation configuration parameter. Active>360 subsequently failed to start in the new environment because a connection could not be made to the new Kafka bootstrap servers.

Active > Portal web application

- Deployment of a duplicated aggregate sometimes failed because the names of the generated DML helper functions in the duplicated aggregate's expression package conflicted with corresponding function names in the original aggregate's expression package.
- Previously, an Active>Portal user could modify the watchers flag on a deployed attribute without first deprecating the attribute or any associated watchers. Such modifications introduced errors in the Active>Data schema and caused subsequent deployments to fail.
- When an Active>Portal user edited a watcher, if the **Output Definition** drop-down list was empty — for example, if the last ruleset in the list was deleted — the list control no longer worked and the user could not add a ruleset to the list.
- Because of an internal SQL query that could consume large amounts of temporary disk space, the Active>Portal log viewer sometimes quit unexpectedly with a "No space left on device" error.
- Code generation for expressions produced DML functions that copied the expression inputs to the given function's outputs. When an expression input — for example, for an event or a watcher — contained a large number of attributes, Active>360 performance was sometimes degraded.

- When the name of the default ruleset was changed to something other than the default, the expression editor quit unexpectedly.

Runtime subsystem

- When a reference data file contained a list record with a vector of subfields, runtime code generation sometimes produced a spurious empty record in addition to the correct list record. Both records were generated with the same record name, which caused subsequent deployment to fail.
- When you used the **act-admin** command to restart Active>360, the command could not determine the state of the Kafka messaging subsystem before starting the Active>Data cluster. Consequently, Active>Data startup could fail if Kafka took too long to start.

Triggers, watchers, events, and notifications

- Transform dependency parsing errors sometimes occurred with watcher expressions based on keyed accumulator fields.
- When you saved and closed a new watcher ruleset and then reopened the ruleset to edit it, an "IndexOutOfBounds" error occurred.

Version 4.2.1.3

New features

Version 4.2.1.3 includes the following new features:

- To improve support for Active>Data upgrades, Active>360 now explicitly sets the Kafka **group.id** property for use by Declare Queue consumers of Active>Data graphs. This enhancement enables Kafka **group.id** offsets to be retained when an Active>Data cluster is destroyed and re-created.
- The Co>Operating System package that is bundled with Active>360 has been upgraded to Version 4.2.1.4.

Notable changes

In Version 4.2.1.3, notable issues have been fixed in the following areas:

- Active>360 installation
- Active>Portal web application
- Libraries and APIs
- Reference Application (RFA)
- Runtime subsystem
- Utility scripts

Active>360 installation

- If the Active>360 installer was configured to install the Reference Application (RFA) but not the seed metadata, the installation script did not configure an RFA import feed. If a user subsequently tried to import their own metadata into the RFA, the import feed failed.
- When using an existing (for example, enterprise) Authorization Gateway, if the Authorization Gateway responded too slowly to the join request from the Active>360 Metadata Portal, the Active>360 installation failed with a timeout error.
- When the RFA was installed with Active>360 in a Docker container, the RFA did not start.
- When passwords contained special characters, Active>360 installation failed.
- The Active>360 installer ignored the **env.java_home** installation configuration parameter and instead used the Java version specified by the JAVA_HOME variable in the installation shell environment. When that JAVA_HOME variable pointed to an unsupported Java version, Active>360 installation failed.
- Java version checking failed in multihost installation configurations.
- When the system time zone (**env.tz**) installation configuration parameter was not set to **America/New_York**, Active>360 installation failed.

Active>Portal web application

- When adding an attribute to a subset that already contained hundreds of attributes, the Active>Portal closed unexpectedly with an out-of-memory error.
- In Active>360 Version 4.2.1.2, aggregate names were not displayed with their corresponding variant names in Subset views.
- Deployment of a reference data attribute failed when the default value for the attribute was specified as data type **string**.

Libraries and APIs

- Because of errors in calls to the **regenerate_all_expression_deps** API endpoint, expression dependencies were not regenerated when Active>360 seed metadata was loaded.

Reference Application (RFA)

- The RFA ignored parameter values that were set to **false** in the RFA **application.yml** configuration file.

Runtime subsystem

- When a watched accumulator was reset, the value of the Current accumulator was properly set to a null value, but the Previous, Last Changed, and Just Changed fields were not updated properly. Similarly, when the accumulator was restarted, those watched fields were not properly updated.
- Invalid DML code was generated in the *entity_name*_**rt_aggr_hist_functions.xfr** transform for windowed gap aggregates that were defined using blocks.
- When in-memory calendar aggregates used reference data and the default key was a calculation, the compilation of these aggregates failed with expression validation errors.
- When Average Gap aggregates were defined using blocks, batch jobs failed.

Utility scripts

- The **act-admin status** command incorrectly listed some actively running Active>360 components as not running.
- The **bulk_importer.py** script did not support conditional attribute expressions.
- When an event with dependencies on a given attribute was not imported with that attribute in the same bulk import run (even when the event already existed in the Active>Portal), the **bulk_importer.py** script failed to create the required attribute expressions.
- The **bulk_importer.py** script could not determine or create unique numeric identifiers for imported attributes.
- Because of a Python limitation, the **export_postprocess.py** failed with very large ruleset expressions.

Security updates

This release contains important security fixes, including the following:

- The version of **lodash** used by **copy-files** has been upgraded from 2.4.2 to 4.17.12. This change addresses CVE-2019-10744.
- The version of **yeikos/js.merge** used by **watch** has been upgraded from 1.2.1 to 2.1.1. This change addresses CVE-2020-28499.
- The version of **y18n** used by **react-scripts/webpack-dev-server** has been upgraded from 4.0.0 to 5.0.8. This change addresses CVE-2020-7774.
- The version of **immer** used by **react-scripts/react-dev-utils** has been upgraded from 8.0.1 to 9.0.21. This change addresses the following CVEs:
  - CVE-2021-3757
  - CVE-2021-23436
- The version of **node-shell-quote** used by **react-scripts/react-dev-utils** has been upgraded from 1.7.2 to 1.8.1. This change addresses CVE-2021-42740.
- The version of **mde** (**ejs**) used by **react-scripts/workbox-webpack-plugin** has been upgraded from 2.7.4 to 3.1.9. This change addresses CVE-2022-29078.
- The version of **webpack/loader-utils** used by **react-scripts/resolve-url-loader** and **react-scripts/react-dev-utils** has been upgraded from 2.0.0 to 3.2.1. This change addresses CVE-2022-37601.
- The version of **tough-cookie** used by **react-scripts/jest** has been upgraded from 4.1.2 to 4.1.3. This change addresses CVE-2023-26136.

Version 4.2.1.2

New features

Version 4.2.1.2 includes the following new features:

- Technical triggers now support API access to Active>360 logging and metrics functions. As part of this enhancement, notifications sent by technical triggers now use the **log_functions.get_log().request_id** mechanism to set the notification **request_id**, similar to watcher notifications.
- As part of Active>360 rehydration support in Amazon Machine Image (AMI) environments, Active>360 now supports post-installation reconfiguration of Authorization Gateway and Control>Center integration in single-server and multiserver AMI settings. Active>360 now also supports post-installation reconfiguration of the Kafka messaging subsystem.
- All subsets imported from Active>360 Version 4.1.6 and later can now be used in notifications, enriched events, and query results.
- In the Active>360 Reference Application (RFA), JSON strings for inventory attributes are now displayed in a format that is easier to read.

Notable changes

In Version 4.2.1.2, notable issues have been fixed in the following areas:

- Active>360 installation
- Active>Portal web application
- CIP integration
- Libraries and APIs
- Messaging (Kafka) subsystem
- Metadata subsystem
- Observability stack
- Reference Application (RFA)
- Runtime subsystem
- Utility scripts

Active>360 installation

- The **act-admin install --resume-from portal** command failed because of an **AnsibleUndefinedVariable** error.
- Ansible could not initialize required Python libraries because a value for AB_HOME was not provided in the **run_ansible.sh** script.
- Active>360 installation sometimes failed on the Metadata import stage because the **ab-app** instance for the Metadata Portal took too long to shut down.

- Active>360 installation failed in cloud environments because a configuration file could not be found for the **ab-cinfod** daemon.
- Active>Portal deployment failed because of errors starting a bridge session and authenticating to the Active>360 runtime host.

Active>Portal web application

- If a watcher ruleset contained more than 100,000 characters, importing the ruleset failed with the error, "Value too long for field expressionxml[100000]".
- When a previously deployed reference data object was deprecated, added to a change group for redeployment, and then successfully redeployed, the object's status was not correctly updated from **Deprecation approved** to **Deployed**.
- If a non-primary child object for a deployed parent object was deleted, that non-primary child object continued to be displayed in the dependency list for the parent object.
- On the Derived Attributes page, you were able to delete a subset from the **Subset Membership** list even if the given attribute was still in use in that subset. This caused an Active>Portal error when you saved the attribute. The delete (**X**) button is now disabled for subsets in which the given attribute is still in use.

CIP integration

- A mismatch in the encoding used for decimal keyed accumulators in CIP protocol buffers and in Active>360 protocol buffers caused the values of **act_** keyed accumulator fields to be multiplied by 100 relative to their corresponding **cip** keyed accumulator fields.

Libraries and APIs

- If a technical trigger **process_message** or **get_entity** service call caused a runtime error (for example, handling **NULL** values), the entire service call failed instead of being wrapped with an **is_error()** flag and reported in the service logs.
- The **$ACT_HOME/sand/act/act_api/dml/schema_registry_types.dml** file referenced a non-existent **metadata_service_types.dml** file.

Messaging (Kafka) subsystem

- When an Active>Data error occurred, the default Kafka message broker behavior of autocreating message topics sometimes produced misleading symptoms.

  By default, Apache Kafka message brokers are configured to autocreate message topics. This configuration was retained in the Kafka implementations that were used in earlier versions of Active>360. Because Active>360 explicitly creates message topics during Active>360 installation and code generation, it does not rely on Kafka autocreate topic features. Therefore, to resolve this occasional Active>Data issue, the Active>360 installer now sets the value of the **auto.create.topics.enable** property to **false** in the **$ACT_HOME/kafka/config/server.properties** file.

Metadata subsystem

- When objects were imported into Active>360 using the **import_metadata.ksh** script, the objects remained in **Draft** state even after the import run was approved.

Observability stack

- **adc_*** metrics were not shown in Prometheus because the **$ACT_HOME/config/prometheus.yml** configuration file incorrectly specified the **scheme** key as **https** instead of **http**.

Reference Application (RFA)

- If an event contained a decimal field with an undefined (blank) value, the RFA sent an empty string (**""**) to the runtime instead of the value **undefined**. This caused the runtime error, "No digits in decimal (or size is zero or unknown)."
- Previously, if the RFA was installed in a lower environment only, and was not installed in a production environment, importing entity profiles from the lower environment to the production environment failed because the RFA profiles were missing in the production environment. Now, RFA profiles are still exported, but are only imported if the target environment is configured for them.

Runtime subsystem

- Previously, debugging information from Kafka command-line utilities that was returned by the **$ACT_HOME/sand/abinitio/act/main/http_static_service** pset was not sufficiently detailed to be useful for resolving **adc service load** errors.

  The **adc service load** command requires information about Kafka topics, which it obtains from various Kafka command-line utilities through the **http_static_service** pset. If the pset encounters a parameter resolution error in a Kafka command-line utility, the **adc service load** command fails. Now, the pset has been modified to return more detailed debugging information about such errors.
- Previously, when performing a Data>Catalog unload, the "latest" dataset from the unload was not published, and only the timestamped "historical" dataset was saved. This issue was caused by the Data>Catalog requirement that the **project** string be a parametrized project name, not a resolved parameter value; for example, **$ACTIVE360_DIR**, not **active360**.

  Now, the Active>360 runtime enforces a **$** prefix when specifying a Data>Catalog **project** string, and the Configurator script provides more guidance when prompting for Data>Catalog parameters.
- Loading generated code for a deployed object failed because of an error locating the **extract_current_value_vec_from_kv_map_sb5_dec** function.
- Code generation for an event failed because a referenced variable named **trigger** was not found in the **update_trigger_main_min_accum_test_event** transform.
- If the message payload for an event contained an inventory of attributes in which a member element was a **decimal** data type, execution of the transform for the temporary vector of inventory elements sometimes failed on that **decimal** element with the error, "This is not valid in a decimal."
- Code generation failed when calculating the **average of gap** for **decimal 3** values.
- Values for the **Versions** property were not created for branch segments.

Utility scripts

- A regression issue in Version 4.2.1.1 caused the **act-admin destroy** command to fail with configuration resolution errors.
- In the **act-admin** command-line interface, the **destroy** subcommand was misspelled and the example text for the **install --resume-from** subcommand did not use **nohup**.

Security updates

This release contains important security fixes, including the following:

- Insecure (**observability.prometheus.https_enabled** set to **false**) installation of Prometheus no longer incorrectly sets the **scheme** key to **https** in the generated **$ACT_HOME/observability/prometheus/prometheus.yml** configuration file. The generated **prometheus.yml** file also no longer includes an empty **tls_config** section.

Version 4.2.1.1

Notable changes

In Version 4.2.1.1, notable issues have been fixed in the following areas:

- Active>360 installation
- Active>Portal web application
- CIP integration
- Libraries and APIs
- Metadata subsystem
- Reference Application (RFA)
- Runtime subsystem
- Utility scripts

Active>360 installation

- Data>Catalog integration with the Active>Portal application failed because the installer was not using the new Data>Catalog integration installation parameters.
- Active>360 installation failed because the TimescaleDB component in the Active>360 observability stack consumed too much memory.
- Active>360 installation failed if HTTPS was enabled for the installation (**act.runtime.https_enabled** set to **True**) but a password was not provided for the **act.runtime.librd_messagebus_client.ssl_certificate_key_password** parameter, even if the corresponding PEM certificate-key pair did not require a password.
- The Active>360 installation script did not use the Java JDK path (**env.java_home**) that was specified in the **active.yml** file, but instead used the JDK specified by the JAVA_HOME path in the installation host shell environment. If that JAVA_HOME variable pointed to a nonexistent or incorrect JDK version, Active>360 installation failed.
- Active>360 installation failed if HTTPS was enabled for the installation (**act.runtime.https_enabled** set to **True**) but a password was not provided for the **messagebus.conductor_server_keystore.password** parameter, even if the corresponding PEM certificate-key pair did not require a password.

Active>Portal web application

- In some rare cases, if a user deleted an object and then clicked around the interface quickly enough, the object would be only partially deleted, leaving the object cache in an inconsistent state, subsequently resulting in an "object-not-found" error.
- Because of a CSS error, an errant white bar was displayed on the left side of the Active>Portal home page.
- Changes to segment tree branches were dropped from the corresponding top-level segment tree workflow.

- If the **doubles** data type was disabled for the Active>Portal, the **Subtype** selector was not available on Calculation and Aggregates Detail pages.

CIP integration

- When CIP integration was enabled, the CIP extractor did not add entity attributes to subsets.

Libraries and APIs

- The ACT_API_LOG_LEVEL_DEFAULT project parameter in the **$AI_XFR/parameter_utility_functions.xfr** transform file used a hexadecimal value instead of a decimal value, which caused the transform to fail with a DML error.
- When Data>Catalog integration was enabled (**data_catalog.integrated**), validation errors in API calls for uploading Data>Catalog datasets caused **unload_entity360.mp** jobs to fail.
- **ActSequence** objects were being deleted during cleanup of generic weak references (GWR).

Metadata subsystem

- In some cases, an in-progress object failed to inherit the workflow state of its parent object, which left the workflow in an undefined state. This could cause problems in the **DependService**, whereby objects with an undefined state were treated as "Deployed." In such cases, new nonprimary "Draft" objects could not be deleted because the **DependService** assumed that the object was in the "Deployed" state.
- In rare cases, if multiple Active>Portal users acted on multiple Metadata database records simultaneously, or if a single user acted on multiple database records extremely quickly, the database read cache could become out of sync with the actual state of the database. For example, if one user performed a read at the same time another user performed a write, some tables might be read in a "pre-write" state while others were read in a "post-write" state.

Reference Application (RFA)

- If the product names for the Active>Portal and Authorization Gateway were changed during an Active>360 rehydration procedure, the RFA did not start because of authorization errors.
- If an inventory attribute was deployed for an entity, the RFA could not use that entity.

Runtime subsystem

- A syntax error in a transform file used for technical trigger rulesets could cause a **RuntimeException** error during dependency analysis.

Utility scripts

- The **act-admin destroy** command did not completely clean the $ACT_HOME and **ab.tmp_dir** directories.

Version 4.2.1.0

There are no patch notes for Version 4.2.1.0.