# Release Notes

# 1integrate

## 1Integrate

Version 3.2.0

31 January 2022

# Table of Contents

# 1 Introduction

## 1.1 Scope

The purpose of the Release Note is to document the new functionality provided by the release and any known issues or limitations.  The release notes will also record any administrative instructions that are specific to this release and not recorded elsewhere.

## 1.2 Purpose of Release

A standard release of 1Integrate.

For users of previous versions, 1Spatial recommends the following before applying any changes to your live environment:

- Please read these release notes and the **Installation Guide** for your application server carefully before installing this release
- Ensure all running and paused sessions are completed
- Back up your repository database
- Deploy the new version and test the release on your test platform

## 1.3 System Requirements

### Operating Systems

This version of 1Integrate is supported on the following platforms:

| Operating System | Prerequisites |
|---|---|
| **Oracle Linux 7.9** | |
| **Windows Server 2019** | Microsoft Visual C++ 2019 64 bit Redistributable packages Download from this link and pick vcredist_x64.ex<br><br>https://support.microsoft.com/en-gb/help/2977003/the-latest-supported-visual-c-downloads |

## Application Servers

1Integrate requires an application server and the following are supported (Note that WildFly is provided as part of the installation package and Oracle WebLogic is a pre-requisite that must be installed beforehand):

| Application Server | Notes |
|---|---|
| Oracle WebLogic Server 14.1.1 | Any Edition, must be pre-installed |
| WildFly 24.0.1 | Delivered as part of the 1Integrate installation |

## Java JDK

The supported Java 8 (64-bit) JDK depends on which application server you are using.

| Application Server | Java JDK |
|---|---|
| Oracle WebLogic Server 14.1.1 | Oracle JDK (8 update 311-b11 and 11 update 13+10-LTS-370) |
| WildFly 24.0.1 | AdoptOpenJDK (8 update 312-b07 and 11 update 13+8) |

## Database Platforms

A database is required to act as the 1Integrate repository to store **configuration**. In addition, databases can be used as a source for **spatial data**. The following database platforms are supported with the following restrictions:

| Database | Restrictions |
|---|---|
| Oracle Database 12c R2 (Any Edition) Oracle Database 19c R1 (Any Edition) | None |
| Microsoft SQL Server 2019 | When used as a rules repository, only supported on WildFly application server. |
| PostgreSQL 12.4/12.6 (with PostGIS 3.1) | When used as rules repository, only supported on WildFly application server. |

## Containerisation Support

The containerisation and orchestration technologies that are supported NOTE: FME Data stores are not supported in this deployment mode

| Technology | Notes |
|---|---|

| Docker | Please contact 1Spatial support for access to a docker image |
|---|---|
| Kubernetes 1.19.11 | To streamline the deployment of 1Integrate on Kubernetes, there is a published official 1Integrate Helm chart. For the Helm chart and other information, please see here:<br><br>https://github.com/1SpatialGroupLtd/helm-charts |

## Optional FME desktop integration

Certain data formats are available only with an FME Desktop installation and license. For full data format support please check the 1Integrate online help under "Basic Steps-> Data Stores -> Supported Data Stores":

https://1spatial.com/documentation/1integrate/

| Component | Edition | Reason |
|---|---|---|
| FME Desktop 2018.1 (64-bit) | Professional Edition | • Bentley MicroStation DGN,<br>• Autodesk DWG/DXF |
| FME Desktop 2018.1 (64-bit) | Esri Edition | Formats listed above plus read or write<br>• Esri Enterprise Geodatabase (ArcSDE).<br>Requires installation of one of:<br>• ArcGIS for Desktop 64-bit Background Geoprocessing<br>• ArcGIS Pro 64-bit<br>• ArcGIS for Server |

## Web Browsers

This product works with most of the recent versions of Chrome, Firefox and Edge. Internet Explorer does not work with the session data viewer. The specific versions that have been tested for this release are:

| Tested Browsers |
|---|
| Microsoft Edge |
| ~~Microsoft Internet Explorer 11~~ IE 11 does not work with the Session Data Viewer and support for the rest of the 1Integrate user interface will be removed in a later release. Microsoft Edge is recommended as the Microsoft browser to use. |
| Google Chrome 95+ |
| ~~Mozilla Firefox 80~~ Not currently run through automated tests so correct behaviour cannot be guaranteed until a future release. |

Other browser clients can be used, but support requests can only be progressed if the issue can be replicated on a tested browser.

## Monitor Resolution

We recommend a minimum resolution of 1080p (1920×1080) for the best experience using the 1Integrate interface.

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# 2 Release details

## 2.1 Summary of Changes

Notable differences in 1Integrate 3.2

- Enhanced REST API Integration and Security:
    - o New API Key functionality - API keys can be used by software accessing the 1Integrate REST API, instead of creating specific service users to authenticate via usernames and passwords. Keys can be temporarily revoked or reinstated to securely control access.
    - o REST API role-based enforcement now consistent with user interface.
    - o New **monitoring only** role introduced to have to view-only access to session results and grid statistics endpoints.
- Ability to mark an engine for shut down – this will allow current session running on the engine to be completed but no new ones to be queued for execution on that engine, ready for safe shut down.
- New Open Schema task for sessions. Opens a data store's schema in a session without loading the associated data from that data store. This can be used for schema-only checks or to create a target schema to populate with data that needs to be written out but not read in.
- Support for Java 11 as well as Java 8.
- Support tab delimiters in DSV data store (\t can now be used a delimiter).
- Note, the deprecated Shape (FME) datastore has now been officially removed. Please use the as-standard Shape Datastore.
- Built-in functions:
    - o New Centroid built-in function to return the geometric centroid of a geometry.
    - o Enhancement to existing move_vertex() built-in to preserve source geometry height or measure values, if present, when the target point is a 2d geometry.
- Bug fixes and other enhancements.
- Note: You may encounter the following warnings starting the 1Integrate docker containers:
    ```
    WARN [org.jgroups.protocols.UDP] (ServerService Thread Pool -- 48) JGRP000015:
    the send buffer of socket ManagedMulticastSocketBinding was set to 1.00MB, but
    the OS only allocated 212.99KB
    ```
    If so, set the following Kernel parameters to suitable values on the docker host:
    ```
    net.core.rmem_max
    net.core.wmem_max
    ```

Notable differences in 1Integrate 3.1

- New as-standard Data formats without the need for external libraries:
    - o MySQL,
    - o MariaDB
    - o GeoPackage (Read + Copy-to only)
    - o Microsoft Access (read only)
    - o Microsoft SQL Server
    - o Esri File Geodatabase Write support (Read + Copy-to only)
- Improved Data Store implementations (Note: FME-based MS SQL Server, FME-based Shape and as-standard PostGIS data stores are now deprecated)
    - o PostgreSQL & PostGIS.

- o Microsoft SQL Server
  - o Esri File Geodatabase copy-to
  - o XYZ/XYM options now available for as-standard DSV and FGDB data stores
  - o Note, the Esri File Geodatabase as-standard data store now correctly reads null values as null and not 0. This changes the previous behaviour where null attributes were read in as 0.
- Kubernetes Deployment product support
  - o To streamline the deployment of 1Integrate on Kubernetes, we publish an official 1Integrate Helm chart. For more information on using the Helm chart, see here: https://github.com/1SpatialGroupLtd/helm-charts
- Simpler mechanism for including custom built-in functions and data-stores via an extensions folder outside of the deployment. Note: custom built-ins now need to be deployed into the new extension mechanism folder and not the deployment folders as these are securely signed and cannot be modified. Please consult Custom Extensions documentation for more details.
- The "All Geometric" superclass now correctly excludes all non-geometric classes (previously it included non-geometric classes and so behaved the same as the 'All' superclass).
- Security enhancements
  - o Securely signed artefacts
  - o Enhanced password encryption controlled via deployment settings
  - o Updated JQuery version
- Built-in functions:
  - o New built-in functions
    - ▪ Split string
    - ▪ rule_hotspot_attribute_names
  - o Existing Built-in improvements
    - ▪ Ability to use negative buffers to shrink geometry
- Parts of Solids and multihedral surfaces can iterated over in a rule or action
- New REST endpoint for folder management
- Other fixes and improvements
- Note that Windows Integrated authentication cannot be used on both the 1Integrate repository and the SQL Server data store at the same time.

## Notable differences in 1Integrate 3.0

- Full 3D support (licensed option) for 1Integrate
  - o Read and write 3D data via Oracle data store
  - o (Beta) Read and write 3D data via: PostGIS, SQL Server, Esri File and Enterprise GDB, Shape File, Tab file, DWG/DXF, DGN.
  - o Full 3D support for spatial operators
  - o New 3D built-in functions such as extrude, solid, volume
- New built-in function change_dimension,
- New built-in function get_geometry_as_WKT
- New built-in functions to report the locations and descriptions of invalidities within a geometry: report_invalid, report_invalid_get_geometry, report_invalid_get_description
- Other fixes and improvements

## 2.2  Full list of functionality and bugs fixed in this release

### New functionality

| 3.2.0 | |
|---|---|
| MSINT-3485 | Support tab delimiters in DSV data store |

| MSINT-3345 | Role-based REST API Access now consistent with user interface |
|---|---|
| MSINT-3279 | New API keys option for managing access to REST API |
| MSINT-3202 | Add an Open Schema task to only create schema but load no data |
| MSINT-3042 | Empty recycle bin button should delete all deletable items when some can't be deleted |
| MSINT-2832 | Drop deprecated FME datastore shape format |
| MSINT-2534 | Allow an engine to be marked for shut down (so that no new jobs are queued) |
| MSINT-2236 | Support Java 11 |
| MSINT-1528 | New Centroid built-in function |
| MSINT-683 | Add monitoring role (read-only access to session results and grid statistics) |

### Bugs fixed

| 3.2.0 | |
|---|---|
| MSINT-3505 | DSV Datastore - Unable to read UTF-8 BOM encoded files |
| MSINT-3458 | Enable both Repository and Data Store to use Integrated Security |
| MSINT-3456 | Sync tool not setting the content-type header |
| MSINT-3416 | M values are being changed when build topology task is run |
| MSINT-3193 | Measures (M Values) don't exist after Build Topology |
| MSINT-3134 | DSV Datastore fails load trailing commas in heading |

## 2.3 New functionality in previous releases

Note that not all releases add new functionality - bug fixes are listed in a separate table.

| 3.1.1 | |
|---|---|
| MSINT-3433 | Add X,Y,Z or X,Y,M option on as-standard DSV data store |
| MSINT-3420 | Add X,Y,Z or X,Y,M option on as-standard FGDB data store |
| MSINT-3402 | Update the folder REST endpoint to include the full path to each entry |
| **3.1.0** | |
| MSINT-2704 | As-standard ata store support via JDBC connections for<br>- MySQL/Maria DB<br>- Postgres/PostGIS<br>- Microsoft SQL Server |
| MSINT-3028 | GeoPackage as-standard Data store support |
| MSINT-3127 | Microsoft Access as-standard Data store support |
| MSINT-3120 | New DSV Data Store parameter to optionally include line numbers as a feature attribute |
| MSINT-2915 | FGDB write (copy-to) for as-standard Data store |
| MSINT-3132 | Deprecate legacy PostGIS and Microsoft SQL Server formats |
| MSINT-3128 | Deprecate legacy FME Shapefile format |
| MSINT-2936 | Add a Kubernetes mode to 1Integrate |
| MSINT-3048 | Add dynamic engines for Kubernetes deployments |
| MSINT-3171 | New easier deployment for custom built-in functions and custom Data Stores |
| MSINT-3164 | Modernise password encryption |
| MSINT-2721 | Signed 1Integrate EAR files for added security |
| MSINT-3067 | Session Data Viewer Enhancements |

| MSINT-3237 | The Parts of Solid and multihedral surface geometries can iterated over in a rule or action |
| MSINT-1523 | New Built-in Function - Split String |
| MSINT-501 | Buffer build-in can take a negative buffer size to shrink polygons. |
| MSINT-2803 | New Built-in function - rule_hotspot_attribute_names |
| MSINT-3227 | New "Folders" REST endpoint for folder management |
| MSINT-3263 | Add useRecycleBin query parameter on REST API delete calls |
| MSINT-3184 | Latest Java 8 update |
| MSINT-3136 | Update to WildFly 24 |
| MSINT-3135 | Update to GDAL 3.3 |
| MSINT-3382 | Out-of-date Version (jQuery) |

| **3.0.0** | |
| MSINT-2838 | Support Full 3D data as a licensed option: |
| | • Oracle Data Store: full support for read and write of Full 3D geometries |
| | • Beta support for read and write of full 3D geometries via: PostGIS, SQL Server, Esri File GDB and Enterprise GDB, Shapefile, Tab file, DWG/DXF, DGN |
| | • Full 3D support for existing built-ins such as union, difference, intersection, dimension, boundary, count_parts, is_valid etc. |
| | • New 3D built-in functions: count_surfaces, extrude, outer_shell, solid, volume, |
| | • Full 3D support for most spatial operators |
| GL3D-1087 | New built-in function change_dimension |
| GL3D-446 | New built-in function get_geometry_as_WKT |
| GL3D-1130 | Is_valid takes tolerance as a parameter |
| GL3D-1087 | Built-in functions to report the locations and descriptions of invalidities within a geometry: report_invalid, report_invalid_get_geometry, report_invalid_get_description |
| **2.10.0** | |
| MSINT-2842 | New and improved 1Integrate Session Data Viewer |
| MSINT-2201 | New Standard Superclasses for rule/action writing |
| MSINT-1185 | Support creation of Metadata stores via REST API |
| MSINT-2609 | Support creation of shortcuts via REST API |
| MSINT-2715 | New built-in function split_geometry (handles heighted geometries only, convert using change_dimension) |
| MSINT-2716 | New built-in polygons_from_lines |
| MSINT-2717 | New Collection Element value to handle "Array, collection or geometry element" |
| MSINT-1091 | Allow finding of nearest n objects |
| MSINT-2919 | Improve ArcGIS Feature server data store's error handling - catch non-successful status codes early |
| MSINT-2925 | Support Oracle Linux 7.9 |
| MSINT-2926 | Support latest Wildfly 23.x |
| MSINT-3010 | Add UK Patent number to 1Integrate footer |
| **2.9.0** | |
| MSINT-2823 | When running multiple actions in a task, run all features through each action (in UI order), rather than individual features through all actions |
| MSINT-2198 | Enable simple configuration of Wildfly logging levels in config file |
| MSINT-2237 | Support WebLogic Server 14.1.1 |
| MSINT-2546 | Native Delimited Separated Values data store (CSV) that supports geometry |
| MSINT-2695 | Ability to set and retrieve session parameters via REST API |

| MSINT-2687 | New session parameter value in Rules and Actions to access session parameters |
|---|---|
| MSINT-2690 | Ability to generate a Placekey for a location or address |
| MSINT-2703 | Backup/Restore improvement and new repository synchronisation tool |
| MSINT-2829 | Make 1Integrate docker images available (contact customer support) |
| MSINT-2877 | Update admin page to new style |
| MSINT-2910 | Full repository backup/restore from admin page |
| MSINT-2932 | Update grid statistics endpoint to include hostname details |
| **2.8.1** | |
| MSINT-2046 | Introduce a system warning when within 30 days of licence expiration date |
| MSINT-2416 | Allow users to choose between XYZ or XYM for XYZM data via SQL Server Data Store |
| MSINT-2434 | Configure Wildfly security settings via settings.properties |
| MSINT-2476 | New API call to get the number of engines, their availability and the queued jobs |
| MSINT-2569 | Show which tasks were disabled in the Cache Viewer session tasks tab. |
| MSINT-2585 | WFS data store: New OGC Web Feature Service data store supporting GeoJSON and OAuth. |
| MSINT-2666 | Clone an entity via REST API |
| MSINT-2623 | Remove PostGIS FME data store (PostGIS support is now only via inbuilt PostGIS data store) |
| MSINT-2622 | Support PostgreSQL 12.4 and PostGIS 12.4 |
| MSINT-2639 | Java version Support: Oracle Java 8 update 281 with WebLogic |
| MSINT-2653 | Java version Support: AdoptOpenJDK 8 update 282 with included WildFly |
| **2.8.0** | |
| MSINT-453 | New "Singleton" system class (sys:singleton) for performing action or rule logic exactly once |
| MSINT-1400 | Support for Microsoft Visual C++ 2019 64 bit Redistributable |
| MSINT-1570 | Support for Oracle databases that have no locator or spatial module installed |
| MSINT-2103 | Ability to temporarily disable a task within a session |
| MSINT-2132 | Support for MS SQL Server 2019 |
| MSINT-2200 | Support for deploying 1Integrate as a service on WildFly, on Windows only. See installation guide for details. |
| MSINT-2262 | New "session" scoped temporary value, and renaming of existing "local" and "global" scope to "object" "task" respectively within the UI (API functionality is unchanged) |
| MSINT-2454 | Esri Feature Service Data Store: Authentication via Portal |
| MSINT-2481, MSINT-1569 | Scripts and documentation for installing 1Integrate as a service on WildFly, on Windows. |
| MSINT-2512 | Ability to override the session extent for an open data task, to open all data. |
| MSINT-2520 | Latest Java patch support |
| MSINT-2529 | Esri Feature Service Data store: Related Non Spatial Objects |
| - | Support for Oracle Enterprise Linux 7.8 |

## 2.4  Bugs Fixed in previous releases

| **3.1.0** | |
|---|---|
| MSINT-1990 | Reduce the false positives or errors or warnings in Wildfly logs |
| MSINT-1966 | Esri FileGDB as-standard data store treats null values as 0 (fixed to load them as null) |
| MSINT-2966 | douglas_peucker built-in now tries to generate a valid geometry rather than erroring when simplification would result in an invalid geometry. |

| MSINT-779 | ALREADYLOCKED: Another process has already locked this file. Error can happen when running sessions after opening Data Viewer |
|---|---|
| MSINT-3267 | DSV Data store: Null geometries cause write errors |
| MSINT-3230 | JSON restore / sync tool does not set user and timestamp metadata |
| MSINT-3229 | Connection failure after restoring JSON backup for GDAL data store |
| MSINT-3204 | **All Geometric** superclass included non-geometric classes |
| MSINT-3168 | Additional attributes in DSV data store are not mapped correctly in the output mapping |
| MSINT-3108 | DSV Data store throws OpenData Session Task error if Properties file "countTotalObjects=True" |
| MSINT-3099 | Uploaded files not being deleted when load complete, causing disk space to grow |
| MSINT-3096 | 00036330: Rule discovery does not run |
| MSINT-3115 | Session Data Viewer: Unable to rotate and zoom at the same time |
| MSINT-3082 | Session Data Viewer: Erratic zoom behaviour in 3D mode after rotating the camera |
| MSINT-3063 | Session Data Viewer: Handle selecting unrun tasks more gracefully |
| MSINT-3018 | Session Data Viewer: Only show z values in Fly to Coordinates box when in in 3D mode |
| MSINT-1917 | Session Data Viewer not displaying all layers |
| MSINT-2802 | Data store parameters containing XML special characters cause session run failures |
| MSINT-2693 | 1Integrate session validation should not check tasks that have already run |
| MSINT-2490 | Restrict to Extent of Opened Data doesn't work with geometries that have M values |
| MSINT-2450 | Report summary conformance graphs in cache viewer display the incorrect number for conforming objects |
| MSINT-2447 | Copy_to_attributes built-in prevents features being written when using Copy to task to write to a different data store |
| MSINT-2309 | offset built-in has typo "bea" in description |
| MSINT-3310 | Regression: Unable to upload ontology through the UI |
| MSINT-3307 | Admin page repository backup can fail in certain conditions |
| **3.0.1** | |
| MSINT-3143 | Sync Tool 'Force Update Filesystem' error if folder names don't match across entity types |
| MSINT-2629 | Action Map with Filter Rule shows incorrect summary count |
| MSINT-3130 | Renamed entities cause errors when synching or restoring backups |
| MSINT-3060 | When a restore is blocked by a referenced entity being deleted, list the items blocking it |
| MSINT-2035 | When loading by extent of previously loaded data, use the convex hull of the data rather than the MBR. |
| **3.0.0** | |
| MSINT-3065 | Engine can crash when using nearest N objects functionality |
| MSINT-2883 | SQL Server Data store does not report the Z value when Reporting on geometry with Z enabled |
| MSINT-1210 | Report XML should include heights when reporting heighted geometries. |
| MSINT-3049 | Cannot commit to a PostgreSQL table with a foreign key constraint enabled |
| MSINT-3085 | Parallel heavy use of Session Map Viewer can cause interface crashes |
| **2.10.0** | |
| MSINT-3040 | Unable to read WFS with data format defined using lower case geojson. |
| MSINT-1269 | 00022194 GDAL Data Store type doesn't offer 'Fix ring direction and inclusion errors' option. |
| MSINT-2497 | Uploading a file through the REST API does not update the upload credential |
| MSINT-2886 | Shortcuts in restored backups not detecting clashing existing element/name |
| MSINT-2969 | DSV Data store reads invalid geometries regardless of Allow Invalid flag |
| MSINT-2981 | REST API and UI backup doesn't include all parameters |

| MSINT-2982 | DSV WKT polygon ring direction not being handled correctly. |
|---|---|
| MSINT-2991 | New Repo Sync Tool returns blank error message when synching from an old-style filesystem structure. |
| MSINT-3007 | 00036010: Regression: gdal_datetime parsing issue in FGDB date types from 1Int 2.8.1 "Unparseable date: "2018/09/07 00:00:0" |
| MSINT-3026 | Unable to backup shortcuts |
| MSINT-2960 | NullPointerException when writing to ArcGIS feature layer that doesn't exist |
| MSINT-3006 | Unable to clone data store with multiple file uploads |
| **2.9.0** | |
| MSINT-2902 | SQL Server Integrated Security has a missing a file in v2.8.1 |
| MSINT-2942 | ArcGIS Feature Service data store writes null for multipart polygons read in from other formats. |
| MSINT-2802 | Data store parameters containing XML special characters cause session run failures |
| MSINT-2920 | ArcGIS/AGOL Feature Service Data store not recognising some layers as spatial |
| MSINT-2691 | Recycle Bin records Radius Studio as the user who created the folder |
| MSINT-2900 | WFS data store should attempt retry for schema fetch calls not just data fetch |
| **2.8.1** | |
| MSINT-2799 | Unable to run a session with special characters in data store password |
| MSINT-1907 | copy_attributes built-in not locating class attributes when specifying attributes to exclude |
| MSINT-2119 | The error details text on the Licence validation error page is almost invisible |
| MSINT-2329 | Actions or rules referencing All Classes fails with UNKNOWN CLASS if run before any Open Data tasks |
| MSINT-2350 | 00032528: Unable to backup Session with no classes selected in open data task |
| MSINT-2385 | REST API doesn't return correct state for a partitioned session |
| MSINT-2470 | Don't show the FME data stores if the environment's FME build number is below the minimum supported version |
| MSINT-2525 | Do not load 1Spatial news on the landing page |
| MSINT-2557 | CAD data store unable to change attribute type mapping |
| MSINT-2567 | Opening non-spatial File Geodatabase data using the inbuilt GDAL Data Store in a session with an extent restriction causes the engine to crash. |
| MSINT-2574 | 1Integrate ignores the temp.directory setting |
| MSINT-2607 | Copying a file based data store does not copy the uploaded file |
| MSINT-2613 | 1Integrate REST API doesn't support CORS (cross-origin resource sharing) requests |
| MSINT-2705 | Installation guide update to clarify SQL Server repository user creation |
| MSINT-2709 | Large files between 500Mb and 1Gb fail upload to a data store when using a PostgreSQL repository. |
| MSINT-2725 | ArcGIS Feature Service Data Store does not handle incorrect polygon ring direction |
| MSINT-2730 | 1Integrate status is incorrectly set to warning even with supported SQL server version |
| MSINT-2731 | Data store input mapping attribute indexes are unset on upgrade to 1Integrate v2.8.0 (workaround if already upgraded is to download and re-upload the data store through the UI or API). |
| MSINT-2735 | REST API - Data store GET request is not returning the correct value for whether input mapping attributes are set to "report" |
| MSINT-2739 | ArcGIS Server Service that does not expose layer types can't be spatially filtered |
| **2.8.0** | |
| MSINT-1912 | Error message "unexpected geometry type: 12" when dealing with multisurface feature |
| MSINT-2328 | Accented characters corrupted in xml backups |

| MSINT-2401 | Cache viewer not always finding the feature for a non-conformance, when stepping through non-conformance report |
| MSINT-2437 | Unable to dismiss large error pop-ups |
| MSINT-2515 | The order object reports are retrieved from the database is not always the same order with which they were inserted |

## 2.5  Known Issues and Unresolved Bugs

| ID | Description |
|---|---|
| MSINT-3055 | split_geometry built-in function does not support 2d geometry inputs (workaround is to use change_dimension or make_3d on the inputs and output) |
| MSINT-2628 | Esri ArcGIS Server feature service returns GEOJSON in WGS84 regardless of data or 1Integrate SRS |
| MSINT-2927 | Microsoft SQL Server Data store with a where clause does not read all returned data, workaround is to set the 'command timeout' parameter to 0 (unlimited) or a large number of seconds |
| MSINT-2970 | DSV Data store loads WKT Heighted features as 2D |
| MSINT-2912 | Open data task showing classes not selected in input mappings |
| MSINT-2911 | Open data task link missing when workspace defined |
| MSINT-2884 | SQL Server Data store when applying Z value to an existing data store need to delete all mappings to apply the change |
| MSINT-2820 | Data store input mapping re-applies selected text after switching data stores |
| MSINT-2779 | REST API returns EntityRef member in RulesTask |
| MSINT-1465 | Using FME 2018 via Data Stores on Linux when running on WebLogic can cause crashes. |
| MSINT-1605 | 'javax.naming.NameNotFoundException: Name "PersistenceUnit"' errors occasionally seen in the logs when running on Linux.<br><br>This can be avoided by using a different random number generator or by adding a start server argument to 1Integrate by adding the following startup parameter on the application server:<br><br> -Djava.security.egd=file:/dev/./urandom |
| MSINT-859 | Uploading very large files (several Gb) to a data store may result in timeout errors. To increase the timeouts:<br><br>**On Wildlfy:** go to ..\wildfly-23.0.2.Final\standalone\configuration and edit stanadalone.xml line 381 to increase from 300s (5 mins) to a larger value e.g. 1200s (20 mins):<br><br><subsystem xmlns="urn:jboss:domain:transactions:2.0"><br><br>  …<br><br>  <coordinator-environment default-timeout="**300**"/><br><br>**On WebLogic** Increase  TransactionTimeout property in Configuration tab of DataStoreController in the WebLogic admin server |
| MSINT-688 | The Session Description fails on CheckRules and ApplyAction tasks containing a mixture of folders and single entities. |
|  | Unzipping the main 1Integrate zip file can fail using the built-in Windows "Extract All" facility due to a "Path too long error".  Use a third party zip program such as 7-Zip or extract the release to the top level directory of a drive and move it afterwards to the desired location. |

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| RST-4779 | When an object fails to import through FME, the co-ordinates of the MBR of the feature are reported when known. However, the values for maxX and minY are transposed. |
|---|---|
| RST-4781 | 1Integrate may fail to load the FME Objects DLL, with an error message similar to: <br><br>java.lang.UnsatisfiedLinkError: C:\Program Files (x86)\FME_2013_b13450\fmeobj_java.dll: The specified procedure could not be found <br><br>and /or <br><br>java.lang.NoClassDefFoundError: Could not initialize class COM.safe.fmeobjects.FMEObject <br><br>The most common cause of the error is a problem with the configuration of the PATH environment variable. <br><br>If FME is installed on Windows to a location where the path to the file includes spaces – for example C:\Program Files (x86)\FME, it must appear in the PATH environment variable in the shortened 8.3 name, e.g. C:\Progra~2\FME. It may be necessary for the FME entry to be the first entry in PATH to avoid an error similar to the one described above. <br><br>On Linux, a similar error may be reported if the <FME_HOME>/fmecore directory has not been added to LD_LIBRARY_PATH as described in the Installation Guide. |
| | When loading MapInfo TAB data via FME on Linux environments, the Data Store does not automatically identify the Coordinate Reference System (CRS). Users can work around this by specifying the CRS in the 'Coordinate Reference System' field on the 'Input Details' tab of the Data Store. The string required starts 'FME=' followed by the required FME CRS. For example if WGS84 is required, enter the following: <br><br>FME=LL-WGS84 <br><br>Or <br><br>FME=EPSG:4326 |
| MSINT-155 | The Gothic native library could not be initialised (Linux only) – often caused by the ICU libraries needing to be relinked after a machine reboot |
| MSINT-381 | Sessions will not run if a networked drive is set in the PATH Environment Variable on an Server that is offline |

# 3 Installation

Follow the instructions in the Installation Guide for your application server.

1Integrate will automatically upgrade the repository from the existing release on initial startup. Ensure that all running and paused sessions are stopped before upgrading, and we recommend creating a backup of the repository database first, as that repository may not be usable by older versions of 1Integrate once it has been upgraded.

Follow the installation guide to install the new release in alongside the existing version and use the same database connection details for the repository. For WildFly installations the easiest way to configure is usually to copy the files from the SETTINGS folder from the old installation folder to the new installation folder, however **check the release notes as some versions (e.g. 3.1, 2.8.0 or 2.8.1) contain changes to the structure of the settings file and so cannot be replaced by the older settings file.**

When the new version is started it will automatically upgrade the repository if necessary.

**Note that for some upgrades this can be a one-way upgrade, once you have started the new version then the repository is upgraded and can no longer be used by the older version, or easily downgraded. For this reason, it is recommended that the repository is backed up first as a database schema and also from the admin page.**

When performing an upgrade of 1Integrate on WebLogic (an uninstallation of an old version followed by the installation of a newer version) it is important to uninstall the existing version of 1Integrate using the installer that was packaged with that release. Using a newer, incompatible version of the installer will result in errors.

For example, if you are replacing 1Integrate v2.6.2 with 1Integrate v2.7.1, your steps will be:

1.  Uninstall 1Integrate v2.6.2 with the installer packaged in the v2.6.2 release
2.  Install 1Integrate v2.7.1 with the installer packaged in the v2.7.1 release

## 3.1  Special notes for upgrading to 1Integrate 3.1.0

Built-in functions and custom data stores are no longer deployed into the product Ear folder locations as these are now securely signed. There is a new extensions folder that can be used to place these custom extensions.

## 3.2  Special notes for upgrading to 1Integrate 2.8.0 or 2.8.1 on WildFly

From **2.8.0** the **start-SessionQueue.cmd** and **start-SessionQueue.sh** scripts have been renamed to **start-Engine.cmd** and **start-Engine.sh**.

From **2.8.0** some properties in the **settings.properties** file have been renamed (e.g. engine.http.port) and from **2.8.1** some new properties were added, so you cannot copy across an old **settings.properties** file from a previous version of 1Integrate. Instead open the old and new settings.properties files and copy across the appropriate settings.

From **2.8.1**, Configuration of HTTPS or LDAP is now easier and done from the settings.properties file. Follow the updated Security Settings topic in the 1Integrate online documentation.

## 3.3 NIC/Network Adaptor Configurations

For servers with multiple network adaptors, you must specify which adaptor/network to use for grid communication between the components. The Grid discovery used to find session queues by default uses the first found non-loopback address, for example a machine with Ethernet adaptors 'eth0' & 'eth1' and Local Loopback 'lo' will likely use 'eth0'.

### For Servers with multiple Networked Adaptors

The following properties must be set to specify the adaptor to use:

- **grid.local.address** - specifies the IP address of the network adaptor used for grid communication.
- **grid.communication.tcp.port** and **grid.discovery.tcp.port** - allows environments to specify known ports (for example, when using a firewall).

The communication port must be a minimum of 100 greater than the discovery port, in order to avoid conflict.

If there is only one adaptor and you do not need to modify the adaptor behaviour, then the properties can be omitted to provide the default behaviour.

For WildFly, the following properties must be included in the **settings.properties** file:

```
grid.local.address=[NIC Address]
grid.discovery.tcp.port=[default: 51300]
grid.communication.tcp.port=[default: 51401]
```

For WebLogic, include the following in the Server Start Arguments (within the WebLogic Server Administration Console):

```
-Dgrid.local.address=[NIC Address]
-Dgrid.discovery.tcp.port=[default: 51300]
-Dgrid.communication.tcp.port=[default: 51401]
```

### Standalone off-network environment

For non-networked standalone environments where there is not an active NIC/Network Adaptor, the loopback localhost can be used:

> (-D)grid.local.address=127.0.0.1

# 4   1Spatial Product Assistance

If assistance is required while deploying this release, contact either your distributor or 1Spatial Support.

To contact 1Spatial Support, please visit our website: http://www.1spatial.com/services/support

Maximise the value of this release with 1Spatial foundation and advanced training courses. For training enquiries please contact your Account Manager or email training@1spatial.com

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## 5.1  Open-Source Libraries

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https://www.mpfr.org/

### MPIR

B. Gladman, W. Hart, J. Moxham, et al. MPIR: Multiple Precision Integers and Rationals, 2015. version 2.7.0, A fork of the GNU MP package (T. Granlund et al.)

http://mpir.org/

### SFCGAL

http://www.sfcgal.org/

## 5.2 Redistributable Libraries

### Oracle JDBC Driver

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