Release Notes

1Integrate

Version 2.1.2

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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 live database, including your repository
- Test the release on your test platform

1.3 System Requirements

1.3.1 Operating Systems

This version of 1Integrate is supported on the following platforms

Operating System	Prerequisites
Oracle Enterprise Linux 6.7	
Windows Server 2012 R2	Microsoft Visual C++ 2013 64 bit Redistributable packages Download from this link and pick vcredist_x64.exe https://www.microsoft.com/en-gb/download/details.aspx?id=40784

1.3.2 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 12.1.3	Any Edition, must be pre-installed
Wildfly 9.0.1	Delivered as part of the 1Integrate installation

1.3.3 Java JDK

Java 8 JDK 1.8.0 update 141 (64-bit)

1.3.4 Database Platforms

A database is required to act as the **1Integrate rules repository**. 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 11g R2 (Any Edition)	None
Oracle Database 12c R1 (Any Edition)	None
Microsoft SQL Server 2008 R2	As data source, requires FME desktop (see below). As rules repository, only supported on Wildfly application server
PostgreSQL 9.5	As data source, requires FME desktop (see below). As rules repository, only supported on Wildfly application server

1.3.5 Optional FME desktop integration:

Component	**Edition**	**Reason**
FME Desktop 2015 SP1 (64-bit)	Professional Edition	Read or write CSV, Bentley Microstation DGN, PostGIS Write Esri File Geodatabase
FME Desktop 2015 SP1 (64-bit)	Esri Edition	Formats listed above plus read or write Esri Enterprise Geodatabase
FME Desktop 2015 SP1 (64-bit)	Database Edition	Formats listed above plus write to Microsoft SQL Server

1.3.6 Web Browsers

This product works with most of the recent versions of Chrome, Firefox and Internet Explorer. The specific versions that have been tested for this release are:

Browser
Microsoft Internet Explorer 11
Google Chrome 63
Mozilla Firefox 57

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

2 Release details

2.1 Notable differences since 1Integrate 2.0

- Support Java 1.8
- New Generate_UUID built-in function
- Improvements to documentation
- Improvements to remembering schema context settings
- Various bug fixes

2.1.1 Notable differences since 1Integrate 1.6

- New REST API available at **<server>:<port>/1Integrate/rest.** This is described in the 1Integrate Web help, accessible from https://1spatial.com/documentation/1integrate/v2_0/Topics/APIs.htm
- A new 'Production Mode' that can greatly reduce the amount of disk space used by sessions (note, this mode disables the cache viewer and the ability to step between the tasks)
- Much faster schema refresh for Oracle data stores, particularly when there are many tables.
- A 'minimised view' option to automatically collapse rules and actions so that they use the least screen space while still being fully readable
- Improvements to cache viewer
- Hide unused FGDB data store parameters

2.1.2 Notable differences since 1Integrate 1.5

- Support for reading and writing DWG/DXF data when an FME Desktop license is available
- New built-in functions to get inner rings, create a point, lookup metadata store keys or values, convert WKT to geometry and get the extents of the session's spatial metadata.
- Hyperlinks from session to data store and from rules/actions to templates
- Improved UI for uploading backup files
- Tooltips on built-in function list

2.1.3 Notable differences since 1Integrate 1.4

- Can now read and write Esri Shapefile and MapInfo Tab file and read Esri File Geodatabase without the need for an FME desktop license.
- New built-in: set_topology_edge_drag_mode
- New built-in: to_timestamp
- Various fixes and UI improvements

2.1.4 Notable differences since 1Integrate 1.3

- 1Integrate for ArcGIS backup files can now be restored into 1Integrate
- Esri Enterprise geodatabase data can be read and written

- New built-in to calculate Jaro-Winkler similarity between strings
- New built-in to return hotspot geometry from within Action
- Note a fix to the Sum and Product value calculation which used to ignore anything beyond second parameter.
- Note a fix to Boundary built-in which now works for mixed-type multi-part geometries, which used to return null in that case.
- Simplified release package structure
- Cache viewer: Many improvements including highlighting the hotspot location of non-conformances
- New built-in functions to generate balanced partitions by merging polygons

2.1.5 Notable differences since 1Integrate 1.2.4

- Can now read and write Esri File Geodatabase data using the FME integration option. Note that you can only use Copy-To for this data: You cannot commit to this data store.
- Hyperlinks to rules and actions now available from Action Map page
- New Built-ins added: vertices (returns vertices of a geometry as a multi-point) and segments (returns geometry segments as a multi-line)

2.1.6 Notable differences since 1Integrate 1.2

- From the Admin page, the Purge button (which deletes entire repository) will now delete any tables from the repository schema even ones not created by 1Integrate, and this works for all repository types: Oracle, PostgreSQL and Microsoft SQL Server.
- For a new installation on a PostgreSQL repository, in order to create the metadata tables in a schema other than `public` it is now possible to define the schema to use. A new Postgres driver version has been used which allows "?currentSchema=" to be added at the end of the variable "repository.url" located at the "settings.properties" (see installation guide).
- For PostgreSQL, only one 1Integrate repository can exist within a single PostgreSQL database. A PostgreSQL instance can contain multiple repositories, as long as each has its own database.
- When using a PostgreSQL repository ensure that no table called TBL_ADDRS exists in another schema within that database, otherwise an error will occur. If this error occurs, the table needs to be deleted manually first for the installation to succeed.

2.1.7 Notable differences since 1Integrate 1.1

There are no known changes to the product API in this release. The main changes to existing behaviour are described in the New Functionality section below and are primarily changes to the user interface for:

- Running partitioned Sessions using ‘Multiple predefined regions’
- The session cache viewer
- Error and Timing summaries for sessions
- A session description page to document the contents of a session
- New online help structure and style

2.1.8 Notable differences since 1Integrate 1.0

2.1.8.1 SOAP Web service endpoint change

As part of an improved security policy, the SOAP web service endpoint has changed from `http://<host>:<port>/soap`
to
`http://<host>:<port>/soap/StudioService?wsdl`

You can access the html help for the SOAP from the original location:

`http://<host>:<port>/soap`

2.1.8.2 SOAP Web service namespace encoding

The SOAP WebServices response has been refactored so that instead of using a prefix to denote namespace *http://schema.onespatial.com/radius/studio/v2* the prefix is omitted and the namespace is made the default one for that element.

For example, instead of

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:tns="http://schema.onespatial.com/radius/studio/v2">

<S:Body>

<tns:ReadDataStoreResp>DATASTORE://MY-DATASTORE</tns:ReadDataStoreResp>

…
```

It now reads

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">

<S:Body>

<ReadDataStoreResp xmlns="http://schema.onespatial.com/radius/studio/v2"
xmlns:gml="http://www.opengis.net/gml">DATASTORE://MY-DATASTORE</ReadDataStoreResp>

...
```

This is logically identical XML and should make no difference to XML parsers. Any code which is not using XML parsers but performs string searches for prefix and element name (e.g. if you code ever looks for anything starting “tns:”) will need to be updated to cope with this change. Note that 1Spatial highly recommends the use of standard XML parsing libraries, for example Xerces, for processing SOAP responses in order to avoid these sort of XML parsing issues.

2.1.8.3 Downloading data stores

For security reasons, Oracle Data store plaintext passwords are no longer present in the session backup XML.

2.1.8.4 Uploading any entities

Previous Radius Studio and 1Integrate 1.0 XML upload behaviour:

- For each type of object to restore (rules, actions, sessions, etc.) it creates a new folder at the root level named <username>_<timestamp>
- Everything in the backup xml is restored under these new folders.

New 1Integrate 1.1 and 1Validate 1.1 upload behaviour:

- The entities are restored to the original folder locations from which they were downloaded, creating those folders if they don't already exist. This makes it easier to replicate an environment, for example when copying from a development server to a production server.
- If an entity with that name already exists in that folder, then a version number is appended to the end of the entity being restored (e.g. Overlaps Rule 2).
- If restoring entities with identical names, then to avoid the version numbering, you must first rename any existing folders before doing the upload.
- Data store passwords are not backed up but if they exist in a backup they are restored correctly.

2.1.8.5 1Spatial DAM no longer required

Older versions of 1Integrate required the 1Spatial DAM software, from the v1.1.126 release this requirement has been removed. See below for instructions on uninstalling a pre-existing version of the 1Spatial DAM:

Windows:

1. To stop and remove the DAM as a Windows Service, use a command prompt and navigate to this directory -
   C:\Program Files (x86)\1Spatial\dam\com
2. and enter the command:
   dam –remove
3. The following output should be displayed:
   Stopping 1Spatial Data Access Manager.
   1Spatial Data Access Manager stopped.
   1Spatial Data Access Manager removed.
4. Once the above has been completed you can uninstall the DAM software in the normal way via **Control Panel > Uninstall a program**
5. Ensure the directory C:\Program Files (x86)\1Spatial\dam no longer exists
6. Remove the dataroot directory C:\1Spatial\data

Linux:

1. Identify the dam process, e.g. -
   ps -elf | grep dam
2. Note the process ID and kill the process
3. Locate and remove the dam and data root directories. Additionally, if the dam was installed under a separate user, i.e. lsldam, remove the user.

2.1.8.6 Session cache garbage collection

Stopping any paused session or deleting any session will now happen rapidly (for deleting via the UI, this applies to deleting from the recycle bin). The session data cache for these sessions will be cleaned up either when any session is run again, or else within 15 minutes, whichever comes first. Sessions which are stopped while running or run to completion behave as before and have their cache deleted immediately on stopping. The result of this change is that it is now possible to completely delete sessions without stopping them and stopping paused sessions is much faster.

2.2 New functionality in this release

2.1.0	
MSINT-1369	Support Java 1.8
MSINT-1475	New built-in function generate_UUID
MSINT-1455	Document which data stores support commit
MSINT-1420	Document more details on using MS SQL server as repository
MSINT-1477	Synchronise schema context between Rules and Actions
MSINT-1478	Persist schema context between logins
-	New LRS built-ins for measured geometries – these are not applicable until import and export for measured geometries is added in a subsequent release
2.0.1	
MSINT-1146	Faster Oracle Schema Refresh
MSINT-1373	Production mode for sessions to greatly reduce cache disk space for sessions which change the data (disables cache viewer and rewind/play of tasks)
MSINT-1412	New context menu or double click to collapse and expand Rule and Action nodes
MSINT-1294	New 'minimised view' for Rule and Action context menu to collapse nodes as much as possible while staying readable
2.0.0	
MSINT-1331	New REST API for 1Integrate
1.6.5	
MSINT-1364	Allow cache viewer map panels to be resized by dragging
MSINT-1322	Add rewind hyperlink to paused tasks
1.6.4	
MSINT-1300	Schema context selection is kept in sync between Rules and Actions authoring tabs
1.6.2	
MSINT-1282	New built-in function to get inner rings of a polygon
1.6.0	
MSINT-1196	Write DWG files (requires FME Desktop license)
MSINT-486	Read DWG files (requires FME Desktop license)
MSINT-1177	New built-in functions to lookup values or keys based on Metadata Store Named constants
MSINT-1187	New built-in function getJobExtentBuilt-in to get the geometry of the session's spatial metadata extents
MSINT-1188	New built-in function ParseWellKnownText to create a geometry from a WKT string
MSINT-1070	New built-in function to create a point from x, y and optionally z values
MSINT-938	Templates used within a rule or action show the location of the template and a hyperlink to it
MSINT-1047	Hyperlinks from Data store task on session page, back to the Data store page
MSINT-1073	Present user with a friendlier message when running a session in which the data does not match the rules
MSINT-1089	Display certain error messages in a more user friendly popup box without a stack trace
MSINT-801	XML backup upload UI allows drag and drop and provides better feedback
MSINT-1175	Add built-in function description as tooltip when browsing list of built-in functions
MSINT-1189	In Open Data task, Grey out classes where there were no features read
1.5.0	
MSINT-738	Support more formats out-of-the-box without the need for FME: Read and write Esri Shapefile, read and write MapInfo Tab file, read Esri File Geodatabase
MSINT-1157	New built-in: set_topology_edge_drag_mode to control behaviour of topology edges when

	topology nodes are moved
MSINT-1093	New built-in: to_timestamp which converts a date or datetime string into the datetime type
MSINT-657	Always show built-in function help text in the right hand panel when the built-in function is selected
1.4.1	
MSINT-982	Allow 1Integrate for ArcGIS backup files to be restored into 1Integrate
MSINT-508	Read and write Esri Enterprise geodatabase (Requires FME Desktop)
MSINT-871	New built-in to calculate Jaro-Winkler similarity between strings
MSINT-823	New built-in to return hotspot geometry from within Action
MSINT-621	Simplify the release package structure
MSINT-720	More precise and detailed session timing metrics required
MSINT-787	Include more task information on "Timing Statistics" and "View Map" pages
MSINT-619	Cache viewer: Highlight the hotspot location of non-conformances
MSINT-597	Added buttons for timing page navigation
MSINT-601	Built-in functions to generate balanced partitions by merging polygons
1.3.3	
MSINT-583	New built-ins: vertices (returns vertices of a geometry as a multi-point) and segments (returns geometry segments as a multi-line)
1.3.1	
MSINT-743	Add hyperlinks to rules and actions from Action Map page
MSINT-728	Sessions page no longer gives text feedback of running status
MSINT-700	Read/Write ESRI File Geodatabase (FGDB) format (via FME)
1.2.1	
MSINT-587	New Cache viewer available for any task: Can step through state of each task, improved UI for seeing non-conformances and selecting features
MSINT-300	Configurable styling of cache viewer
MSINT-320	Improve data partitioning via 'Several Predefined Regions'. By adding map overview and statistics page and seeing partition sub-sessions running in sub-folder
MSINT-636	Session description button to document contents of session including details of all rules and actions run
MSINT-582	New style for online help including improved search and structure and ability to use offline
MSINT-564	Shifting: Each constraint checked immediately so invalid constraints can be identified
MSINT-500	Shifting: Multi-part geometries can now be shifted
MSINT-596	New timings summary page for session
MSINT-587	New errors summary page for session

2.3 Bugs Fixed in this release

2.1.2	
MSINT-1515	Cache Viewer sometimes fails due to garbage collector
MSINT-1511	FGDB data (not using FME) can only be read if it has sequential FIDs starting from 0
2.1.0	
MSINT-1466	REST API: Data store GET request failing to return attribute indexes
MSINT-1467	REST API: Data store GET swaps source and target class names in the output mapping.
MSINT-1490	Debug ports and flags enabled by default in release
MSINT-1238	GDAL data stores not displayed on some Linux installations

MSINT-1494	Make cache viewer deal with range of SRS' more gracefully
MSINT-1459	WebLogic Installation missing rs_data_loaders group
MSINT-1450	Prevent Jaro-Winkler returning error with null string input
OSGBGDMS-1181	MetadataStoreReverseLookup builtin function fails intermittently with java.lang.NullPointerException
2.0.1	
MSINT-1391	Clicking the tools menu can also cause download to be clicked at the same time
MSINT-1398	Cache viewer opens in same tab rather than a new tab when using Chrome 60 or higher
2.0.0	
MSINT-1169	Cache Viewer does not highlight selected points
MSINT-590	Cache Viewer point colour setting gets ignored
MSINT-1386	Remove unused Esri File Geodatabase parameters ‘Retrieve all schemas’ and ‘Retrieve all table names’
1.6.5	
MSINT-1370	Upgrading repository from older versions of 1Integrate fails
MSINT-1232	Cache Viewer map legend style doesn't handle classes with spaces
1.6.4	
MSINT-1346	Tolerance for sessions loading built-in (GDAL) non-Oracle data stores is much too small, and changes when resuming a paused session
MSINT-1313	Rules author: Setting a value node to be 'built-in function' should put focus on the function name drop down
MSINT-1330	Cache Viewer location changes when stepping tasks
MSINT-1329	Aggregate value class and name fields should be above description
MSINT-1304	Change description for 'loop over collection' to mention geometry
MSINT-1101	Dragging statement fails when all others below are collapsed
1.6.3	
MSINT-753	Displaying polygons with holes in the cache viewer causes error to be written to the log file
ADVKARTO-3502	Support larger numbers in the coordinates (greater than two million) in shifting built-ins
MSINT-756	Cache Viewer doesn't support class names starting with numbers
MSINT-1228	Open data task for DWG data opens all classes, not the classes specified by the task
MSINT-1250	CSV Data Store only loads data from files called CSV.csv
MSINT-1251	CSV Data Store errors when encountering empty fields
MSINT-1280	Deadlock when deleting sessions in parallel
MSINT-1289	Built-in function selector doesn't show the name of missing built-ins
MSINT-1312	Typo in help text for difference_between_bearings built-in function
MSINT-1325	Grid communication error: "Failed to initialize NIO selector" due to garbage collector not releasing files
MSINT-1139	Non-selected attributes set to NULL when committing a subset of attributes for non-Oracle data stores
1.6.2	
AIDUAPS-7345	Remove_spikes not correctly removing all spikes from line geometries
1.6.1	
MSINT-1227	Cache viewer cannot zoom in or out when accessing features from the 'View Results' page in some cases
MSINT-1237	Cache viewer reports show wrong feature for features without primary keys
MSINT-1261	Cache viewer fails to highlight features with special characters in the name
MSINT-1255	Some geometry self-intersections not detected

1.6.0	
MSINT-1236	Cache viewer select tool limited to showing attributes only for first 10 features
MSINT-1193	The data store format type drop-list is displaying a wrong name for MapInfo Tab (FME)
MSINT-727	Busy spinner background flashes grey once per spin
MSINT-883	When adding rules to a session, it should expand to the folder of the existing rule
MSINT-1136	Cache viewer improvements to error handling of map requests
MSINT-1224	Re-name "Topological" group of built-in functions to "Topology"
USCEN-1114	Running multiple sessions in parallel can cause error: "Unhandled Exception… DAMDBATTACHED"
USCEN-1118	Running sessions can cause error: "ORA-00001: unique constraint (*.UNQ_TASK_RESULT_0) violated"
USCEN-1119	Running sessions can cause error: "Unhandled Exception… MSG: Space Storage not in operation"
1.5.0	
MSINT-1120	rule_hotspot_geometry built-in function: Optional parameter (default location) gets ignored
MSINT-1095	Session Commit or Copy To tasks now reports number of features per class in the UI
MSINT-1083	Enterprise Geodatabase data store parameters should not include search envelope
MSINT-859	Could not upload files to a data store that are larger than 2.2 Gb (note may also need to increase timeout, see known issues below for workaround)
MSINT-802	Attribute values set to null not updated when committing back to PostGIS or SQL Server
1.4.1	
MSINT-1005	Shifting built-in - Features not being shifted in some areas
MSINT-1006	00021222 Job continues to show as running when reaching java.lang.OutOfMemoryError: Java heap space
MSINT-1007	Cache viewer - Cache viewer - Refresh Map action is needed after Regenerate All or Save button (style configuration page)
MSINT-1009	View Results Page - The 'View' link of a non-conformance is always pointing to the first item of the page
MSVALIDATE-603	Hotspots for gaps appear along whole edge of shared features, not just gap
MSINT-939	Download FGDB from data store now has correct extension and name based on data store
GOTH-25802	Topology error when moving edge causes zero width ring
GOTH-25798	Updating node on edge dangling within face fails with 'Failure during node set geometry - unknown error'
GOTH-25811	Boundary built-in now succeeds for mixed type multi-part geometries instead of returning null
MSINT-980	Sum and Product values ignore anything beyond second parameter
MSINT-1048	Cannot commit to version-enabled Oracle table with history enabled
MSINT-979	Cache viewer style configuration – make button visible even with no style
MSINT-941	Timing Page - Started column is not being filled with the value for partition items.
MSINT-909	Data Store formats should be listed alphabetically in the drop-down
MSINT-902	Multilinestring geometry not being displayed in the cache viewer.
MSINT-847	Closed line features not being displayed in the cache viewer
MSINT-880	Map view does not start zoomed to the actual data
MSINT-795	Cache viewer: Map doesn't zoom in far enough
MSINT-790	Cache viewer: Long layer names should not wrap to a new line in legend
MSINT-789	Cache viewer: Layer on/off selection is not always remembered
MSINT-694	Cache viewer: The user needs to click twice to be redirect to the correct page/action
MSINT-596	Timing page - task ordering wrong

MSINT-811	Startup logs contain warning messages about missing argument descriptions in built-ins.
1.3.4	
MSVALIDATE-586	Hotspots location not correct for ‘gaps’ rule
MSINT-839	Hotspots not being created correctly for rules containing ‘And’ operator
MSINT-840	Hotspots not being created correctly for rules containing ‘Or’ operator
MSINT-841	Hotspots not being created where no shared vertex at T junction
MSINT-844	Session status text says ‘running’ when it is actually ‘waiting’ in some situations.
MSINT-896	User defined classes are not shown in the session cache viewer
MSINT-907	Cache viewer session restart makes map unresponsive or makes legend get out of synch
1.3.3	
MSINT-858	Error on 'Copy To' for file geodatabase.
MSINT-855	GDB Server for Gothic: Commit no longer sets the base object on modified objects
MSINT-850	Wildfly Install Guide: Error in documentation for SQL Server config XML files
MSINT-845	ForAll Predicate should return all the hotspots in validation report rather than only the first one
MSINT-806	ForAll Predicate does not create hotspots properly in validation report
MSINT-762	Garbage Collector throws errors in idle SessionQueue logs
USCEN-970 + GOTH-25708	When building topology, very narrow inner rings are removed from some faces
GOTH-25692	Topology regression: failure to structure self-touching outer rings
1.3.2	
MSCOMMON-637	Special characters not supported when role mapping via WLST
MSVALIDATE-592	00020424 'ORA-20156: there are active sessions using the workspace' when running sessions with a data store with JNDI connection
1.3.1	
MSINT-648	Order of nodes in action changes when parent node is switched between ‘and’, ‘or’, ‘if..then..else’
1.2.6	
MSINT-783	Cannot read features with null values from Postgres
1.2.5	
MSINT-703	00019915 int_user role can't access Sessions page
MSINT-726	Use Windows-style line endings for Wildfly startup batch files and uncomment JAVA_HOME to reduce installation steps
MSINT-737/USCEN-937	1Integrate session ignores geometry rounding value defined by data store API
MSINT-741	1Integrate user username and password is used by browsers to autocomplete data store database connection credentials
MSINT-759	00020077 Installing on Postgres repository throws "Unable to create Radius Studio repository...com.onespatial.radius.studio.buildrepo.SchemaCreateException"
MSINT-760	00020077 Installation of Postgres repository always deploys to public schema, cannot control target schema.
MSINT-768	Running a session containing a data store created in previous releases causes "Credentials Parameters missing parameter 'Reverse coordinate axis order (y,x)". Workaround is to save the data store again.
MSINT-778	Do not override JAVA_HOME if already defined on the environment
1.2.4	
MSINT-734	Session starting from beginning when resumed after a task is paused due to an error
MSINT-747	Scheduled dataroot garbage collection fails with long running sessions

1.2.3	
MSINT-718	Data Store transaction timeout when reading data store details, change from 120 seconds to 300 seconds. (any longer timeout indicates database connection problems).
MSINT-613	Error running a session with One Predefined Region but ticking the 'multiple partitions' option
MSINT-701	Sessions opened using 'One Predefined Region' load entire dataset instead of filtering to the region specified
1.2.2	
MSINT-697	Schema migration doesn't handle empty task results
MSINT-698	Cache viewer fails to display feature classes with numbers at the start of the class name
1.2.1	
MSINT-120	Cache viewer labels disappear/attribution not visible
MSINT-175	00017828 "MSG: Seem to be lost during geometry combination" error while doing a geometric union
MSINT-176	00017845 "CLRGEOM" error while doing a geometric union
MSINT-214	Deselecting all legend items in the cache viewer causes invalid map tiles and generates error messages.
MSINT-441	Empty values are loaded as "" (empty strings) instead of null values when opening Shapefile data stores
MSINT-457	Cache viewer does not allow selection of lines and points.
MSINT-484	Shifting: Enhance shift operations to not throw exceptions when a geometry is outside the triangulation
MSINT-500	Shifting: Multi-part geometries are not supported by Shift Vector built-ins
MSINT-502 + MSINT-375	A session that kills a session queue gets load balanced and cascades to all session queues
MSINT-628	Resumed session is not assigned to the next idle session queue
MSINT-638	1Integrate admin interface still refers to goth_dam_host & database.id
MSINT-640	Shifting: error "Unable to triangulate - There are 2 constraints that were not applied due to conflicting requirements."
MSINT-647	Shifting: process freezes while registering constraint vectors within a predefined region.
MSINT-653	Hotspot reporting causes log errors for 2.5d geometries
MSINT-669	Filter rule UI dialogue broken
RST-3874	Cache viewer unable to display >200 classes
RST-3875	Cache viewer, no case sensitivity for classes different only in case
RST-4678	Right clicking on the cache viewer when measuring causes the values to disappear but the measure line still stays
RST-4805	Cache viewer issues with the map data not displaying, the attributes not displaying or a mixture of both
RST-4854	Odd multiple class selection popups in Cache viewer
RST-4882	14448 Cache viewer is too zoomed on a feature
RST-4884	14448 Cache viewer doesn't always allow lines or points to be selected to check attributes

2.4 Known Issues and Unresolved Bugs

ID	Description
MSINT-859	Uploading very large files (several Gb) to a data store may result in timeout errors. To increase the timeouts:

	On Wildlfy: go to ..\wildfly-9.0.1.Final\standalone\configuration and edit stanadalone.xml line 381 to increase from 300s (5 mins) to a larger value e.g. 1200s (20 mins):
	`<subsystem xmlns="urn:jboss:domain:transactions:2.0">`
	`…`
	`<coordinator-environment default-timeout="300"/>`
	
	On WebLogic Increase TransactionTimeout property in Configuration tab of DataStoreController in the WebLogic admin server

	FGDB data cannot be downloaded from a data store containing non-standard characters in its name, or with a name longer than 145 characters.
	FGDB data downloaded from a data store cannot be opened by FME if the data store name is longer than 60 characters.
MSINT-688	The Session Description fails on CheckRules and ApplyAction tasks containing a mixture of folders and single entities.
	The Microsoft SQL Server Spatial data store does not support reading or writing tables that contain multiple geometry columns.
	1Integrate allows spatial columns to contain a mixture of geometry types – many formats force a geometry column to contain only points, lines or areas. When such data is written to Shapefile format via FME, there will be a shapefile for each geometry type whose name will have the geometry type appended, e.g. “Road_line.”
	It is not possible to create any geometry properties when importing data through the Comma Separated Values data store. Contact 1Spatial Customer Support for information about how to create geometry using 1Integrate actions. In order to be able to create the geometry, the schema for a CSV data store always includes a geometry attribute. If a geometry attribute is to be created later, the Allow Invalid Geometries option must be selected when importing data to allow them to be temporarily null. If no geometry is to be created, the geometry attribute should be deselected from the schema.
	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.
	The script for removing WebLogic from an existing domain does not remove everything necessary to be able to install a newer version. The release should be installed into a new domain or one that has never run 1Integrate.
RST-4774	After a file has been uploaded through the web service, the name of the file is blank in the Input Details of the data store in the UI. Test Connection, Get Schema and opening data from the data store will work, but it may be confusing.
RST-4775	Note related to accessing the 1Integrate SOAP web service from .NET clients. Technical issues prevent streaming of data for uploading and downloading files. Client-side buffers must be large enough to hold the complete message. The largest buffers possible can be set in `app.config` by updating the configuration to include: `maxBufferSize="2147483647" maxBufferPoolSize="2147483647" maxReceivedMessageSize="2147483647"` .NET does not fully conform to the HTTP 1.1 standard for continuations, which will result in the connection failing with a 505 error. To resolve this, configure either the client to use HTTP 1.0. This can be done by over-riding the `GetWebRequest` method in

	Reference.cs:
	`protected override WebRequest GetWebRequest(Uri uri)`
	`{`
	`  HttpWebRequest request =`
	`  (HttpWebRequest)base.GetWebRequest(uri);`
	`  request.ProtocolVersion =`
	`System.Net.HttpVersion.Version10;`
	`  return request;`
	`}`
	For more information see: http://devproj20.blogspot.co.uk/2008/01/force-c-web-service-proxy-to-use-http.html
	Alternatively, the problem can be worked around by adding the following statements to the .NET program to be executed before accessing 1Integrate:
	`ServicePointManager.MaxServicePointIdleTime = 15000;`
	`ServicePointManager.Expect100Continue = false;`

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-4780	A copy of an FME data store can't be used to read data until a data file is uploaded, even though a file name is displayed in the GUI and Test Connection will succeed. The session will run, but will not load any data. To resolve the issue, upload a new data file to the copy of the FME data store.

RST-4781	1Integrate may fail to load the FME Objects DLL, with an error message similar to:
	`java.lang.UnsatisfiedLinkError: C:\Program Files (x86)\FME_2013_b13450\fmeobj_java.dll: The specified procedure could not be found`
	and /or
	`java.lang.NoClassDefFoundError: Could not initialize class COM.safe.fmeobjects.FMEObject`
	The most common cause of the error is a problem with the configuration of the PATH environment variable.
	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.
	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 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: FME=LL-WGS84 Or FME=EPSG:4326
RST-5077	WM error, insufficient privileges when committing. This is due to an Oracle database bug. Either make the data owner a dba user, or apply Oracle patch 9190764 available here: https://updates.oracle.com/download/9190746.html

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.

3.1 Upgrading from 1Integrate 1.1 or higher

This release will automatically upgrade the repository from the 1Integrate 1.1 or higher release on initial startup. Ensure that all running and paused sessions are stopped before upgrading, particularly any paused sessions that are partitioned using 'Multiple Predefined Regions'. It is recommended that you take a database backup of the repository before doing the upgrade.

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 to copy the files from the SETTINGS folder from the old installation folder to the new installation folder.

When the new version is started it will automatically upgrade the repository. **Note that this is a one-way upgrade, once you have started the new version then the repository is upgraded and can no longer be used by 1Integrate 1.1 or downgraded. This is why it is recommended that you backup the repository first**.

3.2 Upgrading from Radius Studio 2.x

If upgrading from Radius Studio 2.x releases, follow the 1Integrate installation as documented in the installation guide. This should include creating a new repository. You cannot directly upgrade and re-use the existing Radius Studio repository but Radius Studio elements (data stores, rules, actions etc.) can be migrated to 1Integrate by following these steps:

1. Download elements as XML files using the 'Download' feature in the Radius Studio user interface. Remember that this will automatically include all elements that are needed. For example when downloading a session, all data stores, rules, actions and action maps that are referenced by that session will be automatically included.
2. Upload these XML files to the new 1Integrate installation using the 'Upload' feature in the 1Integrate user interface.

However, it is highly recommended that prior to performing an upgrade from Radius Studio to 1Integrate, 1Spatial Support should be contacted who will guide you through this process. To contact 1Spatial Support, please visit our website: http://www.1spatial.com/services/support.

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'.

3.3.1 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]
```

3.3.2 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

5 Oracle JDBC Driver Distribution License Terms

This 1Spatial product when deployed on Wildfly includes Oracle JDBC drivers which can fall within these license terms:

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