

SuperMap iServer 10i(2020)

Readme

(for Windows)

SuperMap Software Co., Ltd.
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Your advice and suggestions are welcomed!

Preface

Welcome to SuperMap iServer 10i(2020). This documentation includes:

- SuperMap iServer 10i(2020) Overview
- What's New
- System Requirements
- Install Software
- License Configuration
- Installation Directory
- Use SuperMap iServer

This document prepares you for the usage of SuperMap iServer 10i(2020) for Windows. Before using the product, you need to check the system requirements firstly to ensure that the product can run appropriately. By knowing the installation directory of the product, you can know how to handle certain problems you encountered when using the product.

To install the product, the user must have administrator privileges. For information about administrative privileges, consult your system administrator.

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SuperMap iServer 10i(2020) Overview

SuperMap iServer is a Cloud GIS server product based on cross-platform GIS kernel.

This product provides network clients the GIS services of which the functions are the same with the functions provided by professional GIS desktop products; it can manage, publish and seamlessly aggregate multiple source services, including REST service, OGC service (WMS, WMTS, WFS, WCS, WPS, CSW) etc; supports multiple client types; supports GIS functionalities, like data management, edit and analysis in the distributed environment; and provides a multi-tier extensible and service-oriented GIS development framework.

The features of SuperMap iServer mainly lies in two aspects: enterprise GIS server and service GIS development platform.

- Enterprise GIS Server

SuperMap iServer is a enterprise GIS server. It provides complete GIS services to meet various demands of users. The GIS service involves map service, data service, advanced analysis service, etc. In addition, it contains various system services such as aggregation service and cluster service. These services can be managed and configured by SuperMap iServer Manager.

SuperMap iServer supports multiple clients, including Web client, desktop applications, mobile devices, component applications, etc., to access local service or remote service.

SuperMap iServer comes with client GIS program development kit: SuperMap iClient. It includes mobile GIS development kits based on Android, iOS and Windows 8; 2D Web client development kits, such as for JavaScript, for Silverlight; and 3D development kit: iClient 3D for Plugin/WebGL.

SuperMap iServer is an open GIS server. It supports for various open standards, following various regulations to get, aggregate, and publish services.

SuperMap iServer has high performance, high stability and high reliability. It can meet users' demands for the server's capabilities.

- Service GIS Development Platform

SuperMap iServer is service GIS development platform. It is designed and implemented based on service-oriented architecture, which provides users not only the services, but also a complete suite of SDK (Software Development Kit) for extending each module in the architecture, facilitating the extension development for the secondary developers and the integration with the business system itself.

What's New

SuperMap iServer 10i(2020) Service Pack 2 (from SuperMap iServer 10i(2020) Service Pack 1 to SuperMap iServer 10i(2020) Service Pack 2)

New Features

- Adds support for publishing ArcGIS REST Geometry services:
 - Adds support for area measurement, length measurement, buffer analysis, intersection, and other functions
 - Supports 3.x version of ArcGIS JavaScript API

Enhancements

- Security enhancements:
 - Supports encryption of user name, password, and other sensitive information to prevent password plaintext transmission and other security issues
- Data Service enhancements:
 - Data service supports aggregate query based on Elasticsearch, and realizes grid aggregation of ten million level point data
- Map service optimization:
 - CartoCSS style of vectorStyle sub-resource supports vector tile layer groups
 - utfGrid resource supports querying layer group
- Geoprocessing Modeler enhancements:
 - Fixed the problem of missing set type parameter values when importing the geo processing model file
 - Optimized the output information content of the Geoprocessing Modeler, and provides more detailed exception information output.
- Address Matching Service supports generating traditional Chinese index and matching traditional Chinese font
- The War package adds the dependency for arm64 platform, which can be deployed on arm64 platform

SuperMap iServer 10i(2020) Service Pack 1 (from SuperMap iServer 10i(2020) to SuperMap iServer 10i(2020) Service Pack 1)

Enhancements

- Security enhancements:
 - iServer product passed the "Information Technology Product Safety Test" and obtained the certificate
 - Provides "GIS Server Security Best Practices", covering a variety of security problem avoidance measures
 - Adds support for limiting the working path and file type of uploaded files to prevent malicious scanning of server directories
 - Adds support for setting the host request header whitelist to better protect against "cross-site scripting attacks"
- Performance improvements:
 - Improved the server starting speed, especially the starting speed under no-load conditions
- Provides more fine-grained distribution packages
 - iServer for Realspace distribution package, iServer for Analysis distribution package, and iServer for Mapping distribution package are provided
 - Windows(x64) operating system and Linux(x64) operating system are supported to run the packages.
 - The packages support independent deployment, with a smaller deployment package size, faster startup speed, and less resource usage.
- Map service optimization
 - Fixed the problem that the labels of the label thematic map are duplicated when the map service enables the flow display function
- Data service optimization
 - Adds the disableFieldNameToUpperCase configuration item for disabling the conversion of the field name of the data service to uppercase
 - Adds maxFeatureWriteThreadCount and writePermitTimeout configuration items for multi-users to add features concurrently, effectively improving the performance of batch adding features
- 3D service enhancements:
 - Adds support for publishing block format image cache as 3D services
 - Adds support for publishing point cloud data stored in MongoDB as 3D services
 - Adds support for dynamic generation of 3D caches for 3D services published on solid data
 - ArcGIS REST map service enhancements:
 - Adds legend function, which can obtain legend information of all layers in the service

- The find resource adds support for returning spatial reference information
- Geoprocessing service enhancements
 - Adds the following capabilities:
 - The connection between modeling tools adds condition setting
 - An automatic mapping tool is added to support map-making based on datasets and layer templates
 - A multi-service publishing tool is added to support publishing map services and data services based on workspace
 - A UGCv5 tile publishing tool is added to support publishing raster tiles and vector tiles as map services and vector tile services, etc.
 - Optimized the following capabilities:
 - The custom tool adds support for displaying Chinese parameter names
 - Optimized the parameter settings and prompt messages of several modeling tools
- Web printing service enhancements
 - Adds support for printing label layers
 - Adds support for printing Tianditu map services loaded in WMTS format
 - Adds support for printing web services encrypted by HTTPS
 - Adds support for dynamically loading fonts
 - Adds support for printing the map from overlaying the REST map services in different coordinate systems
- Other enhancements
 - The spatial analysis service adds the function of constructing the 3D point dataset into geological bodies
 - The cache distribution function adds support for distributing 3D image tiles to designated iEdge nodes
 - Supports setting the RMI communication port of the geoprocessing service through configuration files, and supports configuring multi-process RMI communication ports through the page

SuperMap iServer 10i(2020) (from SuperMap iServer 10i Service Pack 1 to SuperMap iServer 10i(2020))

New Features

- New Web Printing service
 - Includes a built-in Web Printing service, which supports the output of a WebMap conforming to the SuperMap WebMap specification as a printable map document. And the asynchronous printing mode is enabled by default.
 - WebMaps made with SuperMap iPortal DataViz or other third party web applications are supported.
 - Supported WebMap layers include: iServer REST map service, WMTS, WMS, vector layer, unique value map, range map, grade symbol map, Tianditu map
 - Provides multiple layout templates, including horizontal and vertical A2, A3, A4 paper sizes
 - Provides a wealth of layout elements, each of them includes: legend, scale, north arrow, map title, map author information, map copyright information, minimap, etc.
 - Supports customizing the content of layout elements such as legend, scale, north arrow, map title, map author information, map copyright information, etc. by passing parameters
 - Supports to make and modify the layout template (*.jrxml) through Jaspersoft Studio software
 - Supports to output PNG, PDF format documents
 - The output PDF document supports stepless zoom, can display multiple layers and control the visibility of the layers, and the layer content can be edited
 - Supports output to large (A1, A2 map), high-precision (400DPI) map documents
 - Supports exporting map services published with HBase data as map documents
- New Cloud-native version of DataScience service
 - Splits DataScience service into multiple microservices to run them in different K8S Pods
 - Supports to run Notebook in Docker container in K8S cluster
 - Each user's notebook runs in a different K8S Pod
 - Integrates storage technologies such as K8S StorageClass, PV, etc., without worrying about the underlying storage implementation
 - Provides Helm Chart deployment package that is more suitable for deployment in K8S cluster environment
- Added data history service. supports the historical traceability of data space information and attribute information on the Geo-Blockchain chain, including all historical status information and historical change records of the query data since it was uploaded. Ensure that when spatial data is added, modified, or deleted, all operation information is recorded in the block and cannot be tampered with.
- The cache distribution function adds 3D tile distribution capabilities, supports the distribution of 3D tiles to designated agent nodes, supports distribution according to geographic scope, supports scaled distribution, and supports regular distribution

Enhancements

- Geoprocessing service

New Features:

- Adds a total of 322 new distributed tools such as dataset cache, SQL query, 3D and component tools such as mosaic dataset
- Supports shutdown and startup independently, avoiding restarting the whole iServer when only need to restart the Geoprocessing service
- Geoprocessing Modeler adds Environment parameters to support connecting to Spark cluster through environment parameter settings
- Geoprocessing Modeler adds multiple caches ability for visual modeling, which supports visual modeling based on browser tab cache to avoid the need for re-modeling due to incorrect refresh
- Geoprocessing Modeler supports double-clicking the tool function node to fold up all its parameter nodes and output nodes
- The publishing map service tool supports the use of Token to publish map services to ensure the use security
- Geoprocessing Modeler adds pre functions to support setting preconditions for models
- Geoprocessing Modeler supports editing custom tool parameters to make it more intuitive and more suitable for use scenarios

Optimization:

- Optimizes the Geoprocessing Modeler UI, and the page supports Chinese and English settings
- Optimizes the movement operation of tools in Geoprocessing Modeler, which supports to drag the tool function node to move the entire tool and supports to hold down Ctrl to drag the function node to move itself individually
- Optimizes the input method of array type parameters in Geoprocessing Modeler, which supports inputting all the contents of the array through an input node
- Optimizes the input operation of enumerated parameters in Geoprocessing Modeler, which supports to select through drop-down list
- Optimizes the import and export template function of the model in Geoprocessing Modeler, which can export visual model as xml template and import xml template as visual model
- Optimizes the front-end model operation mode in Geoprocessing Modeler, which supports one-click to run the entire model
- Optimizes the parameter saving settings of the publishing model in Geoprocessing Modeler, which can save the parameters in the model as the default values of the publishing tool
- Optimizes the tool list structure in Geoprocessing Modeler, which supports secondary grouping, improving the tool browsing convenience
- Fixed the problem of using the search box in Geoprocessing Modeler, which supports querying the tools by name

- Fixed the problem that the tool whose result was reused and its pre-tools that were reused multiple times in the visual modeling of Geoprocessing Modeler
- Geoprocessing Modeler optimizes the setting method of model environment parameters, and supports the selection of parameters to be set through the drop-down list
- Machine learning service
 - Added a variety of spatial machine learning operators:
 - Classification model: decision tree classification, support vector machine classification, naive Bayes classification, logical regression
 - Regression model: decision tree regression, linear regression
 - New object extraction function based on deep learning
- Enhancements of data publishing capabilities
 - New support for publishing 3D image tiles in .sci3d format (WebP, JPG, PNG) as 3D services
 - New support for publishing UGCV5 (MVT) tiles as 3D services
 - New support for publishing Dameng workspace as map service, data service, vector tile service, etc.
 - Supports publishing the workspace of distributed HBase and DSF datasources as data services, simplifying the parameter setting in the publishing of distributed data services
 - New support for publishing 3D tiles stored in OSS (Object Storage) as 3D services
 - New support for publishing blockchain spatial data as map services, data services, and data history services
- Map service optimization
 - The queryResults sub-resource under the map resource adds support for querying HBase and DSF distributed data layers. The query mode supports all existing modes. It also supports the use of ECQL query language to build query conditions. Currently, all query predicates of ECQL are basically supported, including: time predicates, spatial relation predicates, mathematical operators, comparison operators, logical relation judgments, etc.
 - Map resource adds new sub-resource tileImages, which can return multiple map tiles with only one request
 - Map resource adds new representation WebP, which can effectively reduce network bandwidth usage
- Data service enhancements
 - The tileFeature sub-resource under the data resource newly supports ViewBounds parameter to obtain the tiles within the specified range and returnField parameter to return the specified fields
 - The featureResults sub-resource under the data resource adds support for querying HBase and DSF distributed datasets. The query mode supports all existing models. It also supports the use of ECQL query language to construct query conditions. Currently, all query predicates of ECQL are basically supported, including: time predicate, spatial relation predicates, mathematical operators, comparison operators, logical relation judgments, etc.
- 3D service optimization

- After publishing the sci images in the workspace (including UGCv5 with global partitioning) as 3D services, the sci format images can be converted to sci3d format dynamically
- The data in the 3D service supports cache stream encryption
- Tile performance improvements
 - Optimizes the performance of dynamic generation of MVT vector tiles from workspace, Shape, PostGIS, and HBase data
 - Optimizes the method of obtaining ZXY tiles, improving the performance of tile output
- Security improvements
 - Newly adds anti-SQL injection enableSQLFilter, which can inspect all the SQL queries of the QueryResultSet sub-resource under the data resource, and all SQL queries of the FeatureResults sub-resource under the map resource.
- The geometry object of the analysis results of traffic network analysis and shortest path analysis adds projection information
- Temporary resource storage provides more options, supports to store temporary resources in Caffeine to meet high-concurrency temporary resource storage requirements
- Distributed tiling service adds support for splitting 2D and 3D map tiles into WebP format images
- New support for single sign out, simplifying logout operations
- New support for enabling remote login
- Optimizes the UI of the initialization wizard page to improve user experience

Changes

iServer data registration no longer supports registering MongoDB as a spatial database

SuperMap iServer 10i Service Pack 1 (from SuperMap iServer 10i to SuperMap iServer 10i Service Pack 1)

New Features

- Added support for ARM architecture, compatible with Feiteng chip and Kunpeng chip.
- Machine Learning service can run on Linux platform.
- Machine Learning service:
 - Adds density clustering analysis for spatial point data
 - Adds forest-based regression training for spatial data
 - Adds forest-based regression prediction for spatial data
 - Adds forest-based classification training for spatial data
 - Adds forest-based classification prediction for spatial data
 - Adds generalized linear regression training for spatial data
 - Adds generalized linear regression prediction for spatial data
 - Supports interactively selecting data in the data catalog service or local data for machine learning
 - Binary classification, feature classification, target detection and scene classification support automatic calculation of result storage paths and automatic generation of custom result paths
- Now supports accessing online Huawei MapReduce service for distributed storage and analysis of spatial data.
 - Supports publishing spatial data stored in MapReduce service.
 - Can use the computing power of MapReduce service to process and analyze the spatial data in distributed way.
 - MRS 2.1.0 and MRS.1.8.10 versions are supported.
- Adds map tile library aggregation capability. Multiple map tile libraries can be aggregated and published as a map service.
 - A unified virtual tile library is provided. The virtual tile library automatically merges the range and scale levels of tiles.
 - Intersected tiles of each tile library can be automatically spliced together.
 - Multiple aggregation modes are supported, including default mode, basemap mode, and custom mode.
 - Multiple tile formats are supported, including MBTiles, SMTile, UGCv5 formats for file storage, and map tiles from MongoDB.

- Supports directly publishing 3D terrain tiles as 3D services which can be browsed through WebGL3D representation.

Improvements

- Adds plotting, situation evolution, nautical chart service core-based extension modules (16 cores and 32 cores).
- The priority of GIS services' startup can be configured. Hotspot services are started preferentially, and idle services are subsequently started, effectively improving the efficiency of iServer startup.
- DataScience service adds spatial big data related functions, including spatial big data analysis and processing.
- When dynamically rendering the map based on HDFS, HBase raster data, settings such as layer transparency, color table, band index are supported.
- The map service by publishing distributed data supports viewing attribute and style information of each layer.

Problems Solved

- Fixed bug: When multiple layers of DSF image data are overlaid, the map service display range is incorrect.

SuperMap iServer 10i (from SuperMap iServer 9D(2019) Service Pack 2 to SuperMap iServer 10i)

New Features

- New DataScience service:
 - The accounts of the operating system are supported to log in to DataScience service.
 - The accounts in Keycloak are supported to log in to DataScience service.
 - An initialization wizard is offered to guide administrator to complete DataScience service initialization.
 - Supports to run NoteBook in local processes, local Docker, and Kubernetes Docker
 - Supports multi-user concurrent access
 - A Notebook Editor is provided for users to browse, write, and run the Notebook through a web browser.
 - The iObject Python and a variety of Python-based three-party libraries (such as NumPy, OpenCV, Proj4, TensorFlow, etc.) are included in iServer. Based on the capabilities of iObject Python and the built-in three-party libraries, users can open the local GIS data in Notebook to perform distributed analysis and machine learning tasks.
 - Examples of Notebook covering distributed analytics, machine learning, etc., are provided.
 - Support for monitoring the operation status of NoteBook. A running notebook can be manually terminated.
- New Machine Learning service
 - Supports binary classification for image data
 - Supports classification of objects based on image data
 - Supports target detection for image data
 - Supports scene classification for image data
- Distributed Analysis Service provides the ability to store raster data to databases in a distributed manner.
 - Raster file data (such as TIFF, GeoTIFF data) stored in local or HDFS is supported to store into HBase, HDFS distributed repositories, and local file system storage.
 - During the process of distributed storage, the raster pyramid is automatically created to improve the performance of raster data publishing.
 - Multiple distributed raster data is supported to publish to a single map service; and supports multiple version settings.

Improvements

- Service configuration and management capabilities are enhanced:
 - The storage of service configuration information supports Oracle or PostgreSQL databases to improve the performance of publishing services. And the service configuration information can be shared with multiple nodes.
 - The storage of temporary resources adds support for the Redis in-memory database to improve the performance of reading and creating temporary resources.
 - Global Settings added configurations for the entire server.
 - Global Settings added the support for setting the storage for REST service temporary resources. The temporary resources can be stored in local files, HSQLDB databases, MongoDB databases or Redis in-memory databases.
 - Global Settings added the support for setting the storage for service configuration information, which can be stored in local files, Oracle databases, or PostgreSQL databases.
 - Global Settings supports access to message middleware to realize the sharing of service configuration and service status between multiple machines. And the number of service instances can be precisely controlled to achieve dynamic scaling of services on multiple machines.
- Data publishing capabilities are enhanced:
 - Added support for publishing VTPK vector tiles as map services and vector tile services.
 - Added support for publishing 3D tile data (S3M, OSGB) directly as a 3D service. The scene resource of a 3D service published with S3M is supported to browse by WebGL3D representation.
 - Added support for publishing ArcGIS V2 of compact cache as map services.
 - Added support for publishing vector data stored in HBase with Kerberos authentication as map services and data services.
 - During the process of publishing the data stored in HBase with Kerberos authentication, the style of the default maps can be set with a Mapbox standard style file.
 - Added support for publishing raster tiles stored in HDFS, HBase, or local as a map service, and the style of the default maps can be specified through style files.
 - When publishing raster data in HBase as map services, the layers to be published can be set.
 - Customizing map name is supported when or after publishing raster data in HBase as map services.
 - DPI can be set when publishing workspaces as map services.
- Enhancements of data catalog service:
 - Added support for registering HBase clusters with Kerberos authentication for relational data storage.
 - Added support for registering raster data stored in the local file system and HDFS directory as a data source for the distributed storage of raster data.
 - Added support for registering HDFS directories as spatial databases for storing the raster data in a distributed manner.
 - Added support for registering machine learning training model data for machine learning service.

- Optimization of data service:
 - Added tilefeature sub-resource to support dynamic generation of MVT vector tiles and support browsing the data in a data service via vector tile mode by using Web Apps.
 - The dataset resource adds the openlayers(with MVT) representation, which allows you to efficiently preview the dataset.
- Enhancements of map service:
 - Raster layers add raster functions to support raster operations when plotting maps, such as calculating NDVI and HillShade.
 - The tileFeature resource query adds the ability of dynamic projection, which allows to generate vector tiles of different coordinate systems on demand.
 - Added component layer cache of MongoDB type to improve the performance of browsing map tiles.
- Enhancements of vector tile service:
 - Optimized the MVT tile generation algorithm of PostGIS data source, HBase data source and SHP file, which reduces the amount of calculation, effectively improves the performance of dynamically generation of MVT vector tiles, and significantly improves the front-end experience of vector tile dynamic rendering.
 - The MapboxGL representation adds support for the maps and data in 4326, 4490, 4214, or 4610 coordinate systems.
- Added support for Web License Center to support core-based license.
 - Access to Web License Center and licensing based on licenses in the Web License Center.
 - Added Standard Edition (16 cores / 32 cores), Professional Edition (16 cores / 32 cores), Advanced Edition (16 cores / 32 cores) core-based licensing modules.
 - The total number of cores residing on current machine where the iServer Software is installed can not exceed the permitted number of cores identified on the core-based license.
 - The use of core-based basic modules (Standard, Professional, Advanced) can be combined with core-based extension modules and core-unlimited extension modules.
 - The number of cores of the core-based license can be splitted/merged to use.
 - Core-based extension modules (eg, Network Analysis Service Extension(16 cores)) can run independently.
- The address matching service replaces thread pool configuration with multi-threaded queries to improve service performance.
- The WMS service adds the reverseCoordinateSRS parameter, which allows the user to set the coordinate system of the map and to determine whether the coordinates need to be reversed.
- Added support for publishing ArcGIS REST feature service which uses HTTPS protocol.

SuperMap iServer 9D(2019) Service Pack 2 (from SuperMap iServer 9D(2019) Service Pack 1 to SuperMap iServer 9D(2019) Service Pack 2)

New Features

- Added support for refreshing the content of the specified workspace in the service management, you can dynamically update the status of the workspace-associated services.
- Improvements
- Added support for protection against cross-site scripting (ie XSS attacks).
- Supplemented the license agreement information of the built-in third-party libraries, and integrated the license agreement. information of all built-in third-party libraries into the product package.
- Added support for setting token when accessing the Tianditu service.
- WMS service added support for configuring unique values map through SLD files.
- Data services published by Shapefile or PostGIS datasources supports paging query.
- Added more detailed operation logs (login, logout, lock, unlock, etc.)

Changes

- Remove the built-in ojdbc and jai-related jars of the product to avoid the license risk of some third-party libraries.
- The built-in JRE of the product has been changed from Oracle JDK to Open JDK.

SuperMap iServer 9D(2019) Service Pack 1 (from SuperMap iServer 9D(2019) to SuperMap iServer 9D(2019) Service Pack 1)

New Features

- Added support for accessing services using IPv6 addresses (recommended to set JAVA_OPTS-Diserver_ip to the desired IP in the %SuperMap iServer_HOME%/bin/catalina file (Windows is catalina.bat, Linux is catalina.sh).
- Added vector tile service to support browsing vector tile maps via iClient9 for OpenLayers, MapboxGL, etc.

Improvements

- Distributed Tiling Service Supports Generating Compact-Type UGCv5 Caches.
- Map service:
 - New added support for Updating the Layer Information in a Workspace.
- Distributed analysis service capability enhancement:
 - Distributed analysis service configuration optimization:
 - The associated service address supports the domain name address.
 - Added advanced options that allow users to choose whether to publish the analysis as a service.
 - Data copying capability enhancement:
 - Added support for copying UDB data registered to the data catalog service to the HBase database.
 - Added support for batch copying multiple datasets.
 - Added support for creating field indexes on specific fields of a specified dataset, which can effectively improve the performance of SQL queries, unique values map and the ranges map.
 - Added support for creating vector pyramids for specific datasets, effectively improving data browsing performance at small scales..
 - When copying large volume data, it supports automatic fragmentation of data to solve the problem that copying data occupies more memory resources.
 - Improved the usability of copying data on copyData page, supporting selection of datasets to be copied, and setting copy options such as field index and vector pyramid.
- Data catalog service capability enhancement:
 - Supports reading field information of HDFS index data registered to the data catalog service and applying it to the distributed analysis service.

- For PostgreSQL and PostGIS databases that have been registered to the data catalog service, they can dynamically sense changes in their data sources, such as adding, deleting, and changing datasets in the database.
- Added support for deleting datasets in HBase through the data catalog service.
- **Data publishing capability enhancement:**
 - Added support for publishing HBase data registered to the data catalog service directly as a map or data service.
 - Added support for setting the datasets to be published in the configuration file when publishing HBase data as a map service or a data service.
 - Data services published based on PostgreSQL and PostGIS data sources can dynamically sense data source changes, such as adding, deleting, and changing datasets in the database.
 - Added support for editing datasets after Shapefile and PostGIS are published as data services.
 - Optimized the performance of the unique values map and the ranges map based on HBase large volume data.
 - The map service adds support for the WebGL3D representation. After the map service is published, the published service can be browsed through the representation of WebGL 3D.

Problems Solved

- Fixed: When publishing the region data in Shapefile, PostGIS, and HBase, the style of the border line of polygons is lost.
- Fixed: After registering the HBase to the data catalog service and then publishing the data catalog as a map service, all the datasets in HBase are published.
- Fixed: The raster pyramid information is lost when importing the workspace into the iServer Datastore through the data catalog service.
- Fixed: The special value transparency of grid unique values map does not work
- Fixed: Failed to query the HBase-based map service and data service due to Chinese in the query condition.
- Fixed: Some datasources are not automatically reconnected when reconnecting the SQL Server database after been disconnected.
- Fixed: Failed to perform single object space query on the data of Oracle datasource.
- Fixed: Failed to delete features by ID mode on the data service by publishing Elasticsearch.
- Fixed: Failed to import Workspace to PostGIS database via data catalog service in Linux Environment.:

SuperMap iServer 9D(2019) (from SuperMap iServer 9D Service Pack 1 to SuperMap iServer 9D(2019))

New Features

- More service sources:
 - Supports Publishing Shape File as map service and data service. When publishing map service, you can add Mapbox style for the maps to be published.
 - Supports Publishing Spatial Data Stored in PostGIS Database as map service and data service. When publishing map service, you can add Mapbox style for the maps to be published.
 - Supports Publishing MVT Tiles Stored in MongoDB as map service.
 - Supports Publishing Address Matching Index File as Geocoding Service.
 - Supports Publishing the Massive Spatial Data Stored in HBase as Map Service and Data Service. When publishing map service, you can add Mapbox style for the maps to be published.
 - Supports Publishing Data Stored in Elasticsearch as Data Service. And this kind of data service offers SQL, spatial and aggregation query functions.
 - New added UDBX file engine, implemented based on SpatiaLite spatial database technology, supports to store and manage OGC-standard spatial objects and SuperMap spatial data models.
- Distributed Analysis Service added new analysis capabilities:
 - New added Reconstructing Tracks Analysis Function.
 - New added OD Line (Origin-Destination Line) constructing job.
- More 3D spatial analysis capabilities
 - New added Spatial Operations based on 3D Solid Data Model, including: Intersection, Union, Difference, etc.
 - New added 3D Spatial Query
 - New added 3D spatial analysis functions, including sunlight analysis, viewshed analysis, skyline analysis, etc.
 - New added 3D modeling capabilities, including stretching, Section Lofting, etc.
 - New added Constructing Shadow Volume, Constructing Convex Hull, Plane Projection, getting the polygon of the model border
 - After publishing the model dataset as a data service, you can add, modify, or delete a dataset via the data service.
 - New added creating 3D buffers for 3D point, 3D line, 3D polygon and 3D solid object
 - When using model dataset to dynamically generate S3M tiles, the data supports dynamic partial update
 - 3D geometric objects new added 3D point, 3D line, 3D polygon, GeoCylinder, GeoCone, GeoSphere, GeoBox, etc.

Improvements

- Distributed Tiling Service Supports Generating Compact-Type UGCV5 Caches.
- Map service:
 - New added support for Updating the Layer Information in a Workspace.
 - New added MVT Representation for the map services by publishing workspace, UGCV5(MVT) tiles, MVT tiles stored in MongoDB, shape files or data stored in PostGIS. And supports to Obtain the Mapbox-standard Style Infos from vector layer.
- Streaming service new added SingleTextFileReceiver, which supports setting the read interval and the rows to read each time.
- Distributed Analysis Service:
 - Supports Integrating Yarn (Yet Another Resource Negotiator) Cluster, including the Yarn cluster which enables the Kerberos authentication.
 - The security is enhanced. Supports controlling the users' authorities, only users with PUBLISHER or ADMIN role can create tasks.
 - New added analysis data sources, including: HDFS system which opens Kerberos authentication, Oracle, PostGIS, HBase databases.
 - New added output methods, including iServer DataStore and registered spatial database.
 - New added thematic map configuration parameters, including the segmentation method and the number of segments.
- Data Catalog Service:
 - Supports Registering HDFS System which Opens the Kerberos Authentication.
 - Supports to register local file directory and HDFS directory, and supports modify the meta-info uniformly.
 - Supports to open the HDFS directory and local CSV directory in read-only mode.
 - Supports to modify the field type of the registered CSV data in iServer Manager.
 - New added support for Registering Oracle, PostGIS and HBase, used for importing/exporting the relational data and performing distributed analysis.
 - When the registered PGSQL, PostGIS, HBase allow editing, they can be used as storage node to store the relational data uploaded via Data Catalog Service, and can also be used to store the analysis results.
 - Supports to import Shape file and the imported Shape file will be stored in HBase
 - Supports exporting as Shape file, udb data and WorkSpace
 - Supports to publish the data package imported in registered spatial database, such as: PostGIS and HBase, as map service and data service
- Data Service:

- Data service supports to set the datasets to be displayed via setting the datasets to be published on iServer Manager WEB page.
- SuperMap iClient 9D(2019) docked the aggregation function of data service, implemented the grid aggregation and heatmap.
- Geometry Service added spatial analysis functions, including Create Buffers and Overlay Analysis
- Enhanced portal capabilities. All the editions of the iServer license (including standard, professional and advanced) has 5 built-in iPortal official user licenses.
- Server Node Extension module:
 - iServer nodes can get all the licenses of the standard, professional or advanced iServer.
 - Automatically monitors the connection between main node and subnodes, with prompts when disconnecting.
 - Automatically monitors the license status of the main node and synchronize updates.

Problems Solved

- Fixed: When choosing MySQL to store the security infos, modifying password operation fails.
- Fixed: When enabling multi-progress, the results obtained by querying data service using https via 443 port includes gibberish characters.

Changes

- The output formats of REST map service:
 - Delete iClient for Flash3D and SuperMapCloud.com
 - for OpenLayers3 adds MVT representation, ie., for OpenLayers3(with MVT)
 - for JavaScript changed into for Classic
- Product name SuperMap iClient for JavaScript changed into SuperMap iClient JavaScript

SuperMap iServer 9D Service Pack 1(from SuperMap iServer iServer 9D to SuperMap iServer 9D Service Pack 1)

New Features

- Distributed Analysis Service provides more new data analysis and processing capabilities.
 - New added Buffer Analysis, Feature Join, Overlay Analysis and Summary Attribute functions.
 - New added data processing capabilities, including building Grid Index and Topology Validating functions.
- New added support for publishing data from MongoDB datasource to map services and data services.
- New added support for publishing PostgreSQL workspace.
- New added support for publishing Mapbox map tile packages.
- New Geometry Service, used to perform various operations on geometries such as calculate areas, distance, coordinate conversion and so on without the need to publish map services or data services.
- 2D facility network analysis added Connectivity Analysis, Tracing Analysis functions.

Improvements

- Distributed Analysis Service:
 - Support to concurrently process multiple analysis jobs, which effectively solves the problem of short time-consuming tasks can not be quickly responded to because the long time-consuming tasks are submitted earlier, and greatly improves the throughput of the distributed analysis service.
 - HDFS directory with spatial index can be set as the datasource for analysis.
 - Single object query and vector clip analysis support for an geometric object or its buffer region as the query region or clip region.
 - Support to export the analysis results to PostgreSQL and MongoDB database.
 - The performance is improved, especially the performance of small data analysis is improved obviously.
 - New support for showing the thumbnail of the analysis results.
- Data Service
 - Grid Query and Image Query support query with multiple bounds which are passed in batch and support for circle and polygon bounds.
 - Dynamic projection is supported when performing buffer query on dataset.
 - When publishing data services, publishing only part of the datasets in the datasource is also supported.
- Map Service

- When publishing map tiles as map services, the user is enabled to set whether the service to be published has watermarks to protect the copyright of the user.
- The tile resource of ArcGIS REST map services published through iServer returns transparent background images by default, and supports to configure whether the background is transparent.
- Streaming Service supports to configure and publish the flow processing model through interface, eliminating the need to manually build the model.
- Address Matching Service supports to separately publish the address matching index file.
- Optimized the ArcGIS cache access speed.
- Optimized the CPU usage in multi-process mode.
- Optimized the performance of publishing services.
- Added support for configuring the daemon port.
- Cloud licensing stability is enhanced.

SuperMap iServer 9D (from SuperMap iServer iServer 8C(2017) Service Pack 1 to SuperMap iServer 9D)

New Features

- New iServer DataStore, an independent data storage application
 - Provide built-in configuration wizard to help user configure quickly
 - Provide built-in PostgreSQL and Elasticsearch database to store relational data and spatio-temporal data; Support to associate MongoDB database to store binary data and cached tiles data
 - Support to deploy the storage data into multiple DataStore nodes automatically to reduce the storage pressure of a single DataStore
 - Can be as the data source for distributed analysis services. The distributed analysis results can also be stored in DataStore
- New Data Catalog Service
 - Support to manage multiple iServer DataStores, thus to manage thousands of relational data sets, spatial-temporal data sets
 - Support for ordinary users to view, retrieve various types of data, including CSV data file, excel file, binary data, tiles data and GeoJSON file
 - Support to import multiple types of spatial and non-spatial data
 - Support to import relational data in UDB, CSV, workspace, Excel and GeoJSON formats
 - Support to import binary data in all formats
 - Support to import cached tiles data in SMTiles and GeoPackage formats
 - The relational data and cached tiles data in Data Catalog Service can be published as GIS services
 - Relational data can be published as map services, data services and spatial analysis services
 - Cached tiles data can be published as map services
- New Data Registration function
 - Support to register MongoDB, FastDFS and OTS as distributed tile libraries to store the tiles generated by Distributed Tiling services
 - Support to register HDFS directory and shared files as Big data file sharing. Administrator needs to set the connection information, meta-info, etc., so that the ordinary users can directly use the registered data to perform distributed analysis
 - Support to register OraclePlus and Postgresql as spatial database, so that the ordinary users can directly use the datasets in the spatial database to perform distributed analysis
- Improvements for distributed analysis
 - All the packages of iServer, including Windows, Linux and war package, support distributed analysis service
 - Provide built-in distributed computing framework. You can quickly deploy the distributed analysis service by building a cluster

- Distributed analysis services support points aggregation analysis , vector clipping analysis , single object query and summary region functions
- Distributed analysis tasks support unified format for input data, including the relational datasets stored in iServer DataStore, the datasets in big data file sharing, and the datasets stored in spatial database
- In terms of visualization, it provides rangs map and lable map to display the analysis results more intuitively, beautifully
- New Address Matching Service
 - Support to publish workspace as REST address matching services
 - Provide the API for address matching service. That is, according to the location description and city area, it can return the corresponding geographic coordinates and structured address detailed description
 - Provide the API for the reverse address matching service. That is, according to the input address coordinates, it can return the corresponding address description
- New Streaming Service
 - Base on Spark Streaming distributed real-time computing framework
 - Support to access real-time data in CSV, JSON, GeoJSON formats via WebSocket protocol,TCP protocol, HTTP protocol and Kafka dedicated communication protocol
 - Support attributes filtering or spatial relations filtering for real-time data
 - Support attributes mapping for real-time data
 - Geofences support real-time data
 - The processed real-time data supports outputting to various destinations in CSV , JSON or GeoJSON formats, including iServer DataStore and iServer data stream service
- New Data Flow Service
 - Based on the WebSocket protocol, the data processed by Streaming Service is transimitted, so that the data stream is transimitted with low delay between the server and multiple clients
 - Support the client to subscribe the data flow service to receive the data automatically
 - Support administrators to publish data flow. After publishing, the server will automatically push the data to the client

Improvements

- In the map service module, tileFeature resource supports mvt representation
- Map service module supports heat map type

- In the data service module, raster query supports query by polygon and circle range
- In the data service module, featureResults resource supports dynamic projection
- Data service module supports querying model data by ID or SQL, and supports online editing the model data
- Multi-process mode supports setting forwarding mode which the master node uses to forward requests to the child node; And supports setting the timeout
- iServer opens cross-domain access by default
- Internationalization
 - Provides product documentation in Chinese and English
 - Provides sample data in Chinese and English. You can choose the language for the sample services when initializing the configuration of iServer
- Distributed map tiling supports enabling auto-avoid by default, and provides options to turn it off
- New sample data is added, new sample maps are added

Problem solved

- Fixed: In multi-process mode, when the number of Worker nodes is large, iServer starts slowly
- Fixed: In multi-process mode, when the number of Worker nodes is large, deploying tiling tasks for distributed tiling service responds slowly
- Fixed: The Capabilities document of WMTS service is incomplete

SuperMap iServer 8C (from SuperMap iServer iServer 7C(2015) Service Pack 2 to SuperMap iServer 8C)

New Features

- Added configuration for single machine multi-process, it supports to start multiple Worker processes automatically in the multi-process mode, and deploy service automatically.
- Added: Feiteng CPU (FT1500A) and latest version of BeyonDB are supported.
- Added: ArcGIS element service and network analysis service is supported to publish as the local service.
- Added: OSGB 3D model cache stored in MongoDB is supported to publish.
- Added: Data service is supported to attach the attachment for the element, record meta information such as creating and editing the geo element.

Improvements

- Efficiency of the cluster improves more. The configuration of cluster forward parameter is supported.
- Workspace of database type is supported to reconnect automatically after disconnecting.
- The safety of MongoDB tile storage is enhanced, and the configuration of the database and user account is supported.
- The planning ability of communication transfer analysis is enhanced, configuration of priority and avoiding stop or route is supported, and set of the communication time is supported.
- Enhancing the usability of distributed 3D tile, providing recommended scale plan

SuperMap iServer 7C (2015) Service Pack 2 (from SuperMap iServer 7C to SuperMap iServer 7C(2015) Service Pack 2)

New Features

- Added support of AIX platform
- Added support of WFS 2.0
- Added support of distributed tiling 3D services to image and terrain tiles, and save them to MongoDB. Added support of publishing 2D and 3D tiles in MongoDB as 3D services directly.
- Distributed tile service supported to create GeoPackage standard map tiles
- Distributed tile service supported to tile the aggregated map services
- Added support of cache distribution function. Supports to distribute the tiles with specified services and scale to specified proxy node; supports to distribute based on geographical range; support timely distribution.
- Added support of WebLogic12c
- Added support of TiandituWMTS services
- Added support of 3D network analyst module, 3D spatial analyst module, sink finding, source finding, upstream and downstream tracking, upstream infrastructure finding
- Added support of OAuth 2.0 protocol
- Added support of LDAP login and role control using users stored on LDAP server
- Added support of publishing data from MySQL database
- Added support of publishing Geopackage tile package as REST Map, WMS, WMTS services and REST Data, WFS services.
- Service aggregation supports more datasources, added support of OpenStreetMap
- Added support of algebraic calculations such as curvature calculation, kernel density analysis based on point and line datasets for spatial analyses
- Added support of SQL query and bounds query based on CAD layer , added support of custom thematic map
- New tile update tool supports importing tiles of FastDFS, MongoDB, SMTiles,
- UGCV5
- Added support of tracing and debugging function for map cache, which allows users to view the debug information of the current request
- Added support of data preprocessing for distributed tiling service. NoData area will be handled automatically to enhance tiling efficiency
- Added support of MongoDB Storage for distributed tiling service. Added support of SuperMapUGC (V5) , SMTiles, MBTiles, UTFGrid, SVTilesTile Formats
- Added support of Publishing Tile Package (map package) as map services, such as FastDFS, MongoDB, SuperMapUGC (V5), SMTiles, SVTiles, GDP, TPK packages

- Added support of SQLite security domain and extension for the security module. Added support for user groups
- Offline SVTiles vector tile package supports thinging on the server side, supports line, region attribute query, and POI feature query
- 3D client supports cross-browser browsing, currently, commonly used browsers such as Microsoft Internet Explorer, Chrome, Safari, Opera, Firefox, etc. are supported
- Added function of Viewing Service Proxy Status

Improvements

- The security is further enhanced:
- Fixed the bug of file uploading
- Passed the detection of AppScan vulnerability scanning software. There is no obvious high risk problem
- Change the default password complexity of 3D data
- Traffic transfer analyst service supports to set the road network data, making the walking scheme more reasonable
- Controlled cluster supported to push the services that the data source is Oracle workspace
- 3D service supported to compress the scene, improving the speed of client loading the scene
- 3D service supported to publish scene with Web data source
- Added support of editing model data for data service
- Added support of applying and using Token without client condition limit (Referer or IP for instance)
- Added support of tiling nautical chart data for distributed tiling service
- Added support of extended tile storage format for distributed tiling service
- Enhanced ease of use for distributed tiling service, added support for cloud tiling solution of geographic coordinate system, support setting tiling origin
- Enhanced performance for distributed tiling service
- Added support of automatic update of vector data for 3D module, 3D scenes support loading data in Projected Coordinate System
- Enhanced cross-platform feature, added support of Ubuntu 14.04
- Distributed tiling service supports listening to availability of distributed storage (FastDFS, MongoDB) in real time and prompt warning message through logs
- Optimized configuration interface and operation process of service management. Added support of configuring cache strategy with one click

Problem solved

- Solve the problem that standard and professional version can not publish data service through WebManager
- Solve tile missing problem for large scales under WGS84 coordinate system while publishing tiles
- Solve problem that controllable cluster nodes cannot participate into distributed tiling
- Solve the problem that workspace password display in plain text in the log file

Changes

- Changed interfaces list: see iServer7C(2015) SP2 Interface Changes
- Realspace service name changed to 3D service. realspace formulation name changed to 3D. The suffix is the same
- When developing the DSSE, the support for common Java class changed to must be use interface in the note. That is, the providerTypes property in service component note @Component which is used to declare service provider type should be one or more Java interfaces; the componentTypes property in service component note @Interface which is used to declare component type should be one or more Java interfaces.
- Changed interfaces list: see iServer 7C(2015) SP1 Interface Changes.
- Changed interfaces list: see iServer 7C(2015) Interface Changes.
- Changed interfaces list: see iServer 7C SP1 Interface Changes.

SuperMap iServer7C (from SuperMap iServer Java 6R(2012) Service Pack 3 to SuperMap iServer7C)

New Features

- New system monitoring and statistics functions to support real-time monitoring of service status, statistics of server history status, mail notification of exception message
- New cluster controlled deployment function to realize automatic push and intelligent synchronization of GIS services and data
- Perfect authorization policy of security module, new access control of service management features, and built-in Publisher roles
- Perfect cache policy to provide support for producing and delegating MBTiles raster tiles, UTFGrid property tiles and SVTiles vector tiles
- New Initialization Configuration Wizard to achieve a simpler and more intuitive initialization configuration
- New support for the Flash3D format by the REST map service

Improvements

- The GIS cluster enhances the fault tolerance of nodes, which can dynamically detect the plotting correctness of child nodes
- New support for the GDP format by distributed tiling service, which improves the loading mode of nodes, supports automatic distribution of original data, optimizes the storage of tiles, greatly enhances the tiling speed and reduces the storage space
- Optimizes the service access log, which supports to load files and query the file size. The url supports * and ?

Changes

- SuperMap iServer7C starts using SuperMap iObjects Java 7C from the current version, consistent with the relevant interface changes, in which fields of the UDB datasource generated by the system change from "Automatically Capitalized" into "Be consistent with the input field name". This change will influence the field name generated by the result dataset, i.e., the response results of resources that generate the result dataset by the Post operation will be changed.

System Requirements

3.1 Hardware Requirements

Minimum:

- Processor: 800MHz
- RAM: 2GB
- Free Disk Space: 20GB
- Network Adapter: Required
- Display Adapter: 64M (Installed display adapter driver)

Recommended:

- Processor: Dual core 2GHz, or higher
- RAM: 4GB or higher
- Free Disk Space: 80 GB or higher
- Network Adapter: 100M or higher
- Display Adapter: 512M or higher, OpenGL version 3.0

Notes: Please select NVIDIA graphics to get the best 3D effects.

3.2 Software Requirements

Supported Operating Systems:

- Microsoft® Windows® 7 SP1 Series
- Microsoft® Windows® Server 2008 Series
- Microsoft® Windows® Server 2008 R2 Series
- Microsoft® Windows® 8 Series
- Microsoft® Windows® Server 2012 Series
- Microsoft® Windows® Server 2012 R2 Series
- Microsoft® Windows® 10 Series
- Microsoft® Windows® Server 2016 Series

Other Requirements:

- JRE 1.8 or later
- SuperMap iObjects Java 10i(2020) for Windows

Other Software Configuration Instruction:

It is not a must to set the environmental variables above, and SuperMap iServer will configure those variables automatically. If your system has already set the environmental variables of JRE/JDK and SuperMap Objects Java, those variables will not be changed.

Install Product

4.1 Get Software Package

You can get a SuperMap iServer 10i(2020) package by the following ways:

- Purchase SuperMap iServer to get the installation disc containing the software package.
- Download the installation package from the SuperMap official Website:
http://www.supermap.com/en/html/SuperMap_GIS_ProductPackages.html.

4.2 Install SuperMap iServer 10i(2020)

SuperMap iServer 10i(2020) provides the following packages for windows operating system users:

- 32-bit setup package for Windows_x86 and Windows_x64 systems
- 64-bit setup package for Windows_x64 systems
- 32-bit decompression(*.zip) for Windows_x86 and Windows_x64 systems
- 64-bit decompression(*.zip) for Windows_x64 systems, including full distribution package and light deployment distribution package, where the deployment distribution package does not contain sample code, help documentations and client development kits.

4.2.1 Install setup Package

SuperMap iServer provides 32-bit and 64-bit setup packages for Windows system.

When installing SuperMap iServer 10i(2020), please refer to these suggestions:

- Close all the running applications on the system before installation. In addition, it's also recommended to temporarily close the virus protection programs during the installation process.
- You must have the system administrative privileges or can pass the administrator authentication.
- If you have installed other versions of SuperMap iServer before, please uninstall and then install. For uninstall, refer to **4.4Uninstall**.

Before installing, please check whether the installation machine meets the minimum hardware and software configuration requirements of SuperMap iServer. If it is satisfied, please follow the steps below to complete the installation of SuperMap iServer on Windows:

1. Start the installer. Corresponds the above two ways to get the product, here we have two ways to start the installer.

- Insert the SuperMap iServer product installation CD into the CD-ROM drive (such as G :), if the system allows automatic operations, SuperMap iServer installation will start the interface, otherwise, please go to the drive to find SuperMap iServer installation directory, and then double-click Setup.exe.
 - Decompress the downloaded product package from the official website, and double-click the Setup.exe.
2. After the preparation phase is finished, Welcome dialog box will pop up and click the Next button to continue the installation.
 3. Read the pop-up License Agreement carefully. If you accept this agreement, please choose accept the terms of the license agreement, click the Next button. If you do not accept the terms of the license agreement, click the Cancel button to exit the installation.
 4. The pop-up Installation Instructions dialog box describes some basic requirements. Click "Next" to continue the installation.
 5. On the pop up Setup Type dialog box, select the setup type. The system defaults to Complete, you can choose different installation type according to different needs. Click the Next button to proceed with the installation
 6. On the Choose Destination Location dialog, select the installation path, the system will provide a default installation path. If you want to install SuperMap iServer to another directory, click the Browse button and select the installation path in the pop-up dialog box. You can also manually fill in the target path in the text box that displays the installation path.
 7. Continue to install. On the Ready to Install the Program, click the Install button to start the installation.

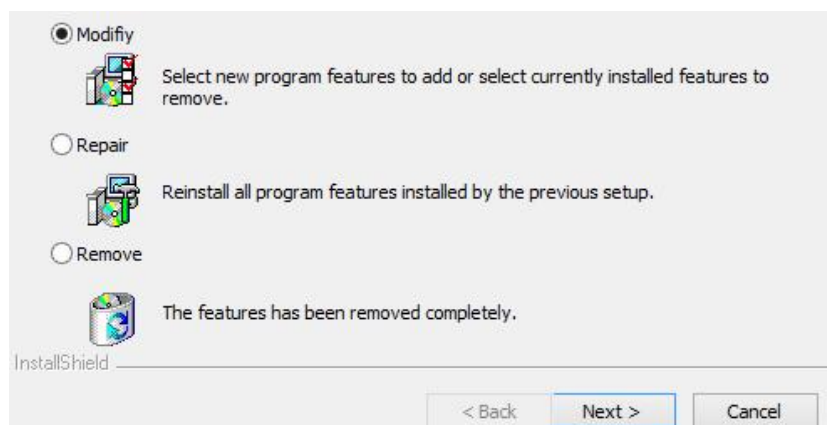
Note: If you choose the custom mode, the Select Features dialog box will pop up, as shown in the following figure. Custom installation only installs the selected function in the list. When the selection is complete, click the Next button.
 8. It will show Setup Status dialog box, indicating the installation progress. You can also cancel the installation by clicking the Cancel button.
 9. After the installation is complete, the system pops up the InstallShield Wizard Complete dialog box, click the Finish button to complete the SuperMap iServer installation.

4.2.2 Use zip Package

SuperMap iServer provides 32bit zip package that can run on Windows_x86 systems and Windows_x64 systems, 64bit zip package that can run on Windows_x64 systems. You can use them by just decompressing the .zip package and double-click the startup.bat file.

4.3 Update

Take Windows XP as an example, in Control Panel > Programs> Add/Remove programs, you can use the Change function to modify the installation of SuperMap iServer, for example add or remove some installation elements. Or you can run the SuperMap iServer installer again to implement the operations.



You also can run the new patch package to update the installation.

4.4 Uninstall

Uninstall via Control Panel

Follow the steps below, you can uninstall iServer using Control Panel:

- (1) Click “Start” > “Control Panel” to open the Control Panel;
- (2) Click “Uninstall a Program”;
- (3) Select SuperMap iServer 10i(2020) from the list, and uninstall it.

Uninstall by Running the Installer

1. Double-click the setup.exe in the product installation directory.
2. Select Delete, and click Next.
3. In the popup window, click Yes to confirm uninstall.

License Configuration

5.1 Get License

Before you configure the license, please make sure that you already have a license authorized by SuperMap Software Co., Ltd.

Ways to get the SuperMap license:

- Purchase SuperMap GIS products.
- Contact to our sales: globalsupport@supermap.com or +86-10-59896503

5.2 Get SuperMap License Center

SuperMap GIS 10i series products use the unified SuperMap License Center to manage the license, including configuring license, managing the license and viewing the license status and usage.

You can get the license center by following way:

- SuperMap iServer product package provides the SuperMap License Center, located in %SuperMap iServer_HOME%\support\SuperMapLicenseCenter.

After you get the SuperMap license center, run the SuperMap.LicenseCenter.exe or SuperMap.LicenseCenter(for .NET 4.0).exe file to start the license center.

Notes:

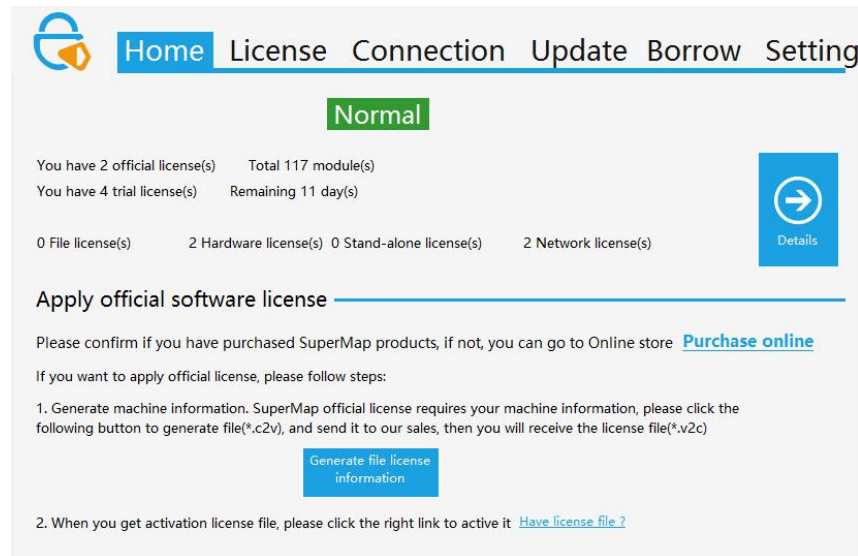
1. On Windows 8.1/Windows 8/Windows Server 2012 R2/Windows Server 201, double click SuperMap.LicenseCenter(for .NET 4.0).exe to start the license center;
2. On Windows 7/Windows Vista/Windows Server 2008 R2/Windows Server 2008/Windows Server 2003, double click Super Map.LicenseCenter.exe file to start;
3. On Windows XP, you need to install .NET Framework 3.5/2.0 first, then double click SuperMap.LicenseCenter.exe file to start.

5.3 Install and Start SuperMap License Center

When you install and start, please refer to these suggestions:

- Close all running applications in your system. Besides, it is recommended that close the virus protection program temporarily.
- You should have the system administrator, or you can pass the administrator authentication.

After you get the SuperMap license, double click the SuperMap.LicenseCenter.exe file to start the License Center. If this is the first time you run the License Center, the system will install a 90-day trial license.



5.4 Configure License

For the Windows, SuperMap GIS 10i(2020) software provides two types of licenses: trial license and official license. The trial license does not require users to obtain separately, SuperMap GIS 10i series products provide a 90-day trial license by default. The official licenses have two types: file license and hardware license. Hardware license is divided into two types: stand-alone encrypted key and network encrypted key.

1. File License is the legal software license obtained through online or offline. File license has two types: stand-alone file license and network file license.
 - If you activate the stand-alone file license, it can provide services for the local computer.
 - If you activate the network file license, it can provide services for all computers within the network.

Note: If you activate the network file license in the license server, the network file license can not be emigrated.

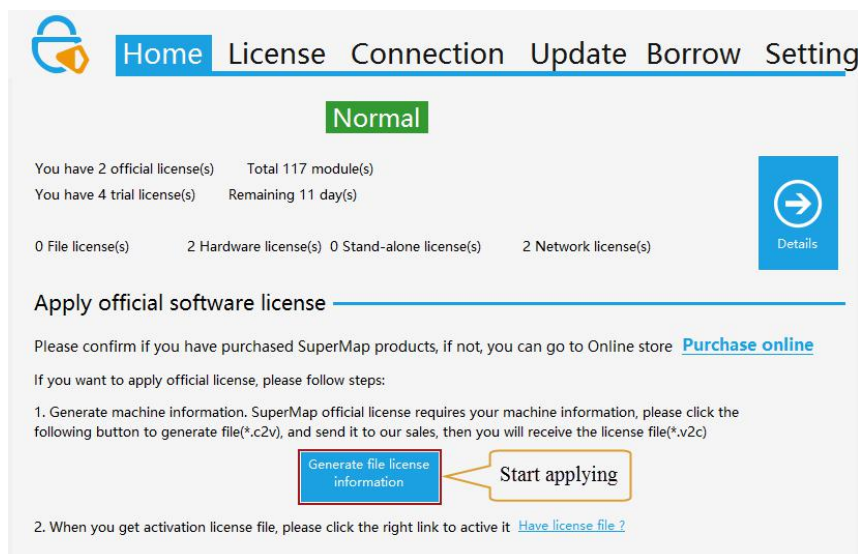
2. Hardware license is the legal software license in the form of hardware encryption key. It has following two types:
 - Stand-alone Key: The stand-alone key provides only one license. It needs to be installed in the same computer with SuperMap GIS software. The stand-alone is green frost.
 - Network key: The network key can be installed on any computer within the network, and it can provide multiple licenses. The computer that installed the network key is called license server. The clients whether it installed license drive or not within in this network can use this network key. The hardware is red frost.

5.4.1 Configure File License

Use SuperMap License Center to get the local machine information and submit it to SuperMap Software Co., Ltd to obtain official license. After got the official license, update it to local machine to finish the configuration.

1. Generate information about the local machine

Open the main page of SuperMap License Center, and then click "Generate the file license information" to generate a file named *.c2v in the specified path.

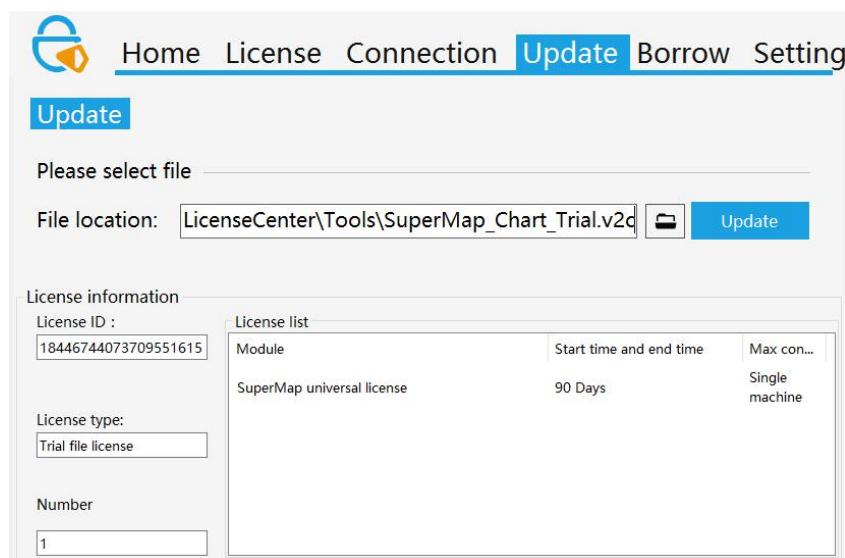


2. Submit the information file to SuperMap.

Submit the *.c2v file into SuperMap, SuperMap will generate an official license named *.v2c and return it to you.

3. Enable the license

Open the "Update" page on the SuperMap License Center as shown in the figure below, specify the *.v2c file at the "File Location", then click "Update" to make it effect.



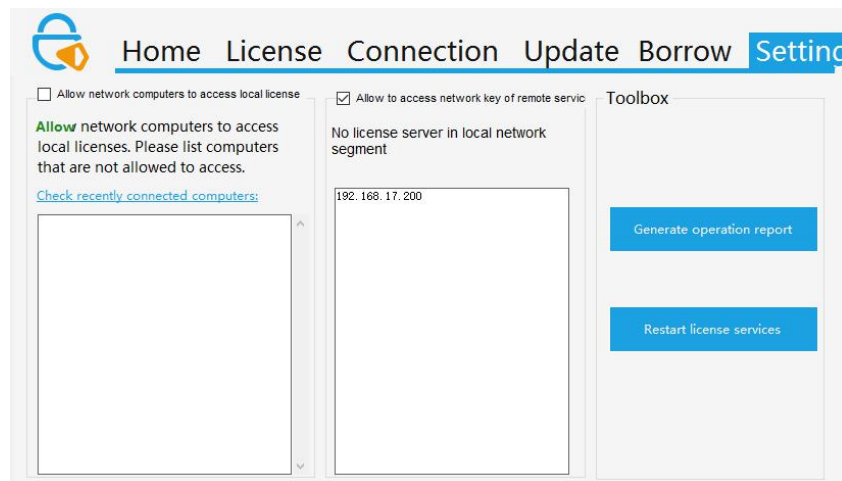
5.4.2 Configure Hardware License

For the Windows OS, License Center can run normally on the stand-alone key client and network key client without the need to install driver; But the license server of the network key needs installing the license driver.

If a network segment in the current network environment has configured an available license server, then the license will be automatically obtained and configured;

If other network segment has available license server, please configure the license according to the following procedures:

1. Open the "Settings" page of SuperMap License Center.
2. Make sure that you have checked the "Allow network computers to access local license"
3. If the current computer and the network license are not in the same network segment, please input the license server IP or name in the "Computers not in the network segment". Default is null. You can click the "Restart license services" to take effect.



Notes:

1. After inserting the hardware license, that the signal on the hardware license lights represents the license is available.
2. On Windows, the hardware license will be used as a USB. You can run it directly.
3. On Linux, you need to install the driver. If you use the stand-alone license, please install the driver of encrypted key on local computer; If you use the network key, you should install the driver of encrypted key on license server.
4. If there are two types of hardware licenses configured in a computer, it will use the stand-alone license.
5. If you use the hardware license in a virtual machine, you need to connect the hardware key device to the virtual machine through the settings of the virtual software.

5.4.3 Apply and Configure Trial License

Before you apply the trial license, please make sure that you have set JRE and SuperMap iObjects Java environment variables. If you started the iServer service before, iServer has already set the above environment variables for you.

1. Generate the running report.

Before applying for a trial license, you need to generate a running report for local machine.

Open the "Settings" page of SuperMap License Center, click Generate Operation Report in the Toolbox on the right side of the tab; A report file with suffix ".report" will be generated. You need to specify a location to store it.

2. Apply the trial license

You can directly apply for it via the Beijing SuperMap Software Co.,Ltd. official website , "SuperMap Technology Resource Center" section. After the application you will receive:

- If you are applying for SuperMap GIS 7C series, you will receive a *.lic7c format license file
- If you are applying for the SuperMap GIS 8C series, you will receive a *.lic format license
- If you are applying for the SuperMap GIS 9D/10i series, you will receive a *.lic9d/*.lic10i format license

3. Make the trial license take effect

Open the "Update" page at SuperMap License Center, specify your trial license file at the "File Location", and then click "Update" to make it take effect. The 8C-version License Center can activate the 7C and 8C file licenses; the 9D-version License Center can only activate 9D file license.

5.4.4 Remove Trial license

The applied trial license can be removed from the SuperMap License Center. Open the "License" page, on the right side of the trial license, click the "Clear Trial License" button. The license will be removed.

① Note

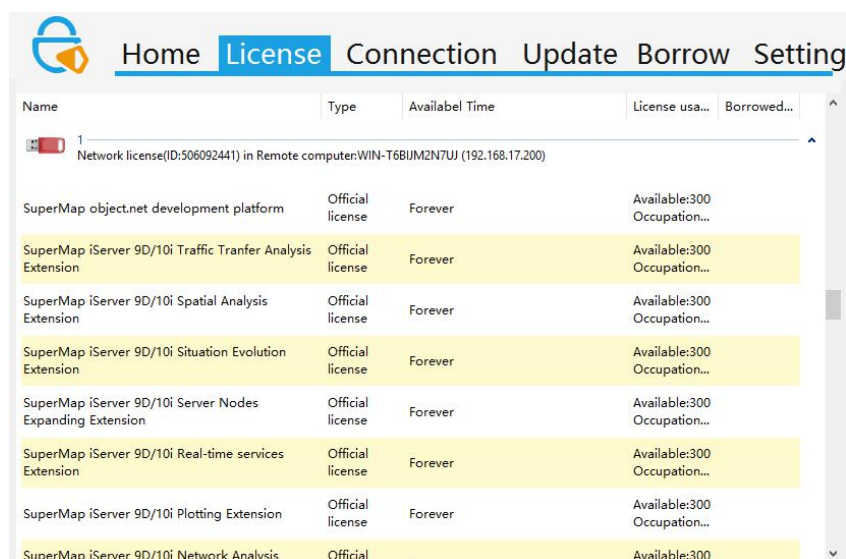
The trial license that comes with the product package does not support removal.

5.5 Manage License

Through SuperMap License Center, you can view license status, usage, update new license, borrow/lend a license, and return a license.

5.5.1 View License Status

The "License" page of SuperMap License Center displays the license information about the SuperMap GIS 10i(2020) products. The organization of the information is classified according to the products. Each record corresponds to a license module of the product.



Name	Type	Availabel Time	License usa...	Borrowed...
1 Network license(ID:506092441) in Remote computer:WIN-T6BUM2N7UJ (192.168.17.200)				
SuperMap object.net development platform	Official license	Forever	Available:300 Occupation...	
SuperMap iServer 9D/10i Traffic Tranfer Analysis Extension	Official license	Forever	Available:300 Occupation...	
SuperMap iServer 9D/10i Spatial Analysis Extension	Official license	Forever	Available:300 Occupation...	
SuperMap iServer 9D/10i Situation Evolution Extension	Official license	Forever	Available:300 Occupation...	
SuperMap iServer 9D/10i Server Nodes Expanding Extension	Official license	Forever	Available:300 Occupation...	
SuperMap iServer 9D/10i Real-time services Extension	Official license	Forever	Available:300 Occupation...	
SuperMap iServer 9D/10i Plotting Extension	Official license	Forever	Available:300 Occupation...	
SuperMap iServer 9D/10i Network Analysis	Official	-	Available:300	

Each license module records the detailed license information, in which the specific meaning of each field is as follows:

- Name: The name of the module.
- Type: Shows whether the license is a trial license or an official license.
- Available Time: Shows the number of the remaining available days.
- Usage: Shows the current status of the module.
- Lend: Shows the number of emigrations.

5.5.2 View License Usage

The "Connection" page of SuperMap License Center displays the detailed usage information of license module of all the SuperMap GIS 10i(2020) products on the target machine.

The specific meaning of each field is as follows:

- ID: The ID value of the license module.
- Module: Name of the license module.
- Address: Location of the license module, if it is originated from the local machine, then "Local" will be displayed, otherwise its IP address will be displayed.
- User: The username and computer name of the computer where the license module exists.
- Process: Displays the process which uses the current license module.
- Time: The connected time of the current license module.

5.5.3 Update License

After you got the official license (*.v2c), you need to configure it to the local machine on the "Update" page of the License Center. The following lists the supported files for different purposes.

- License activation file (*.v2c), used to activate the purchased official license on the current computer. You need to acquire the local information to generate the license activation file firstly.
- File license for 7C (*.lic7c), used to update the trial license of 7C series products on the current computer. You need to generate the running report of the computer firstly.
- File license for 8C (*.lic), used to update the trial license of 8C series products on the current computer. You need to generate the running report of the computer firstly.
- File license for 9D/10i (*.lic9d/*.lic10i), used to update the trial license of 9D series products on the current computer. You need to generate the running report of the computer firstly.
- License lending credential (*.h2r), used to lend a license of the network file license to the current computer.

- License returning credential (*.r2h), used to return a lent license to the license server, which is generated by the computer who borrows the license.

For trial license, the 8C-version License Center can update the 7C and 8C files, while the 9C-version License Center can only update 9D files.

If you select an activation file or an update file, the content of license will be displayed automatically. But if you select an encrypted file or the certificate for lending or returning, the content won't be displayed. But it still can be updated normally.

Specific update operations:

Open the "Update" page of SuperMap License Center, specify the target file at the "File Location", and then click "Update".

Module	Start time and end time	Max con...
SuperMap universal license	90 Days	Single machine

5.5.4 License Borrowing and Lending

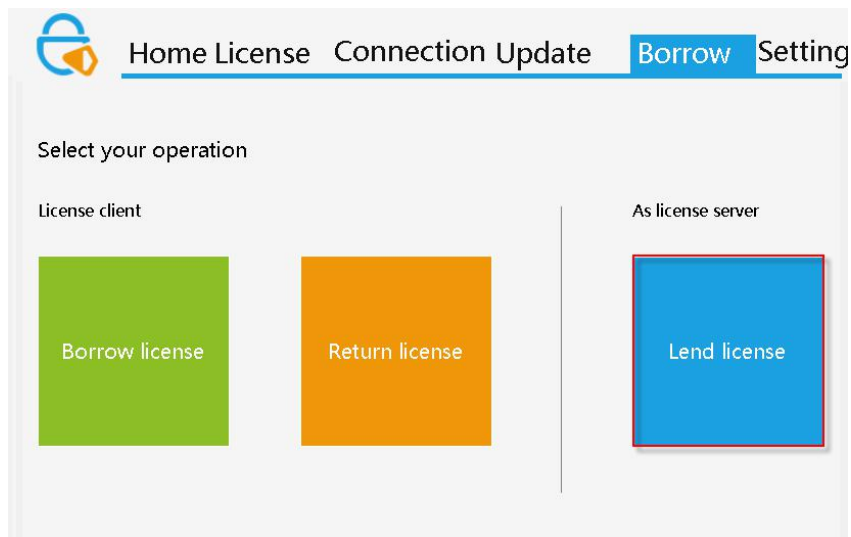
The SuperMap 10i(2020) license supports to lend licenses from network file license to other computers in the network.

Note: Only network file license supports license lending, network hardware key or stand-alone file license can not lend a license!

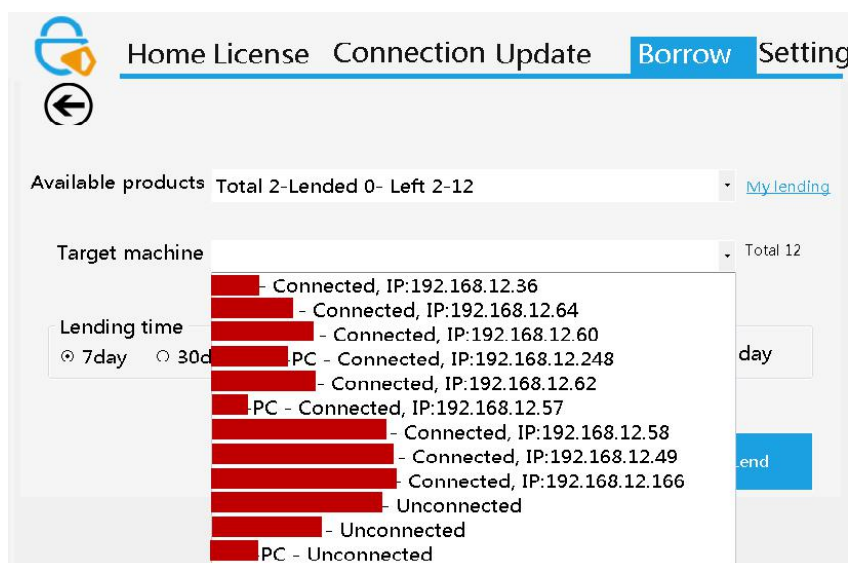
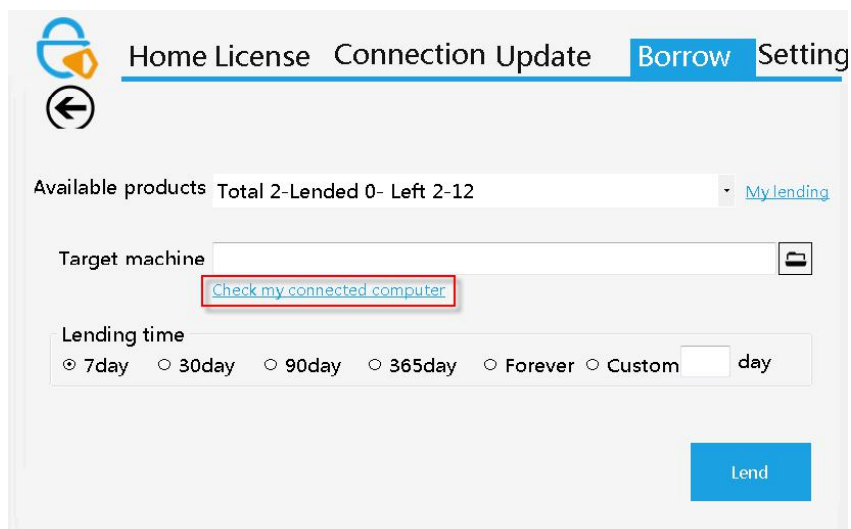
Operating steps:

1. Check if you can lend a license or not, check the connected computers for borrowing
- Go to the Borrow tab of SuperMap license center on the license server, you will see the figure as shown below.

If there are licenses that can be lent, the Lend License button will appear. Click it, and enter the page for lending. If there are not any licenses that can be lent, the Lend License button won't appear. There are only Borrow License and Return License buttons. You can't lend license.

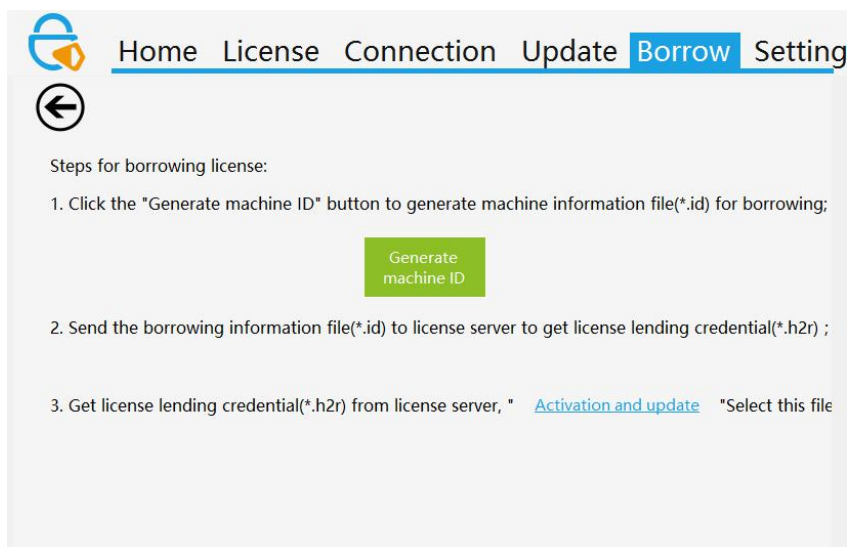


Click Lend License to enter the page for lending license. Find out target connected computers for borrowing, if the target computer exists in this list, then go to Step 3. If it doesn't exist, please go to the next step.



2. Generate the ID information of the target computer

Open the Borrow tab of SuperMap License Center on the target machine, click Borrow license, generate machine ID by clicking Generate Machine ID, then the borrow information file will be generated (*.id). Then you need to transfer the file to the license server.



3. Generate the lending credential file

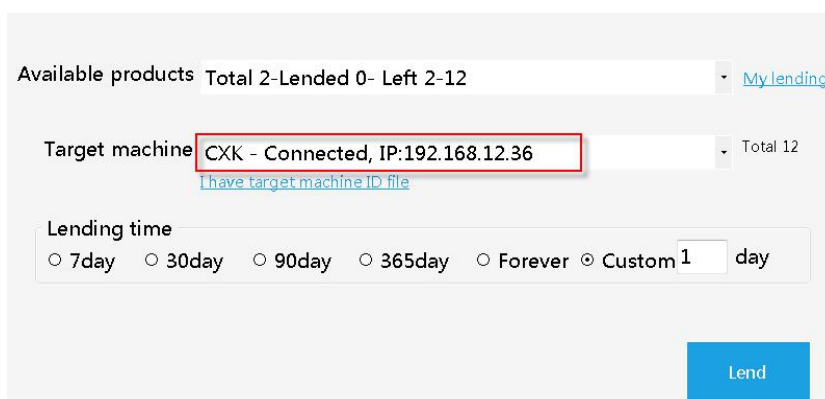
On license server, enter Borrow page, check the products that can be lent. When you click a product in the list of products that can be lent, total number of licenses, number of lent licenses, number of remained licenses of the product will display.

It indicates that all the licenses have been lent(can be judged by the number of loans), or all the current licenses are using, or there aren't any licenses that can be lent if following information shows and the Lend button is disabled. For the second case, we can turn off the application that is using the license or disconnect the network connection so that the loan license is valid.



You can view the lent time and expiration time of the target computer who lent the license, through My lending.

If the target machine can be found in the list of computers that can be connected, select the target machine directly from the list.



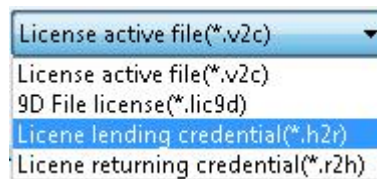
If the target machine doesn't exist in this list, after generating the ID information of the target computer, on License server you need to specify the ID info file by clicking the File button and choose the information file of the target machine transferred to the license server.

Lending time indicates days needed to lend. You can also input a number for lending by yourself. "Permanent" is only a long time concept, represents 9999 days, more than 27 years.

At last, click the Lend button, generate the lending credential file (*.h2r), and transfer this file to the target machine

4. Update the borrowed credential

On the target computer, enter Update tab, select the borrowed credential file generated and transferred from the server, click Update to finish the process of license lending to the target machine. You can check the license information on License page.



5.5.5 License Returning

The license borrowed from the license server has the time limit. When the borrowed license expires, the license borrowed by the current computer will be deleted. And the license server will restore a license number correspondingly. This process is automatically finished by the license driver.

If you want to return a borrowed license in advance, please refer to the following steps:

1. Generate the license returning credential

Go to the Borrow tab of SuperMap license center on the machine which borrowed license from the server, click Return license.

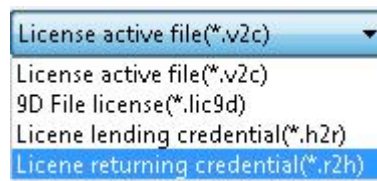
In the list of borrowed license, users can view all the borrowed licenses, click the license for return, the information of the license will show below, including the remained days, expiration time, and the module information.

After confirm the information, click Return to generate the license returning credential file (*.r2h), which needs to be transferred to the license server.

Note: When return a license on the local machine, only the borrowed license is cleared. The numbers of licenses of server can't be recovered automatically. You still need to transfer the returning credential to the server to update to recover the number. Please keep the license returning credential file carefully. The number won't be recovered until the license is expired.

2. Update the returned credential on the License server

On the License server, enter Update tab, select the returned credential generated and transferred from the target machine, click Update to finish returning process.



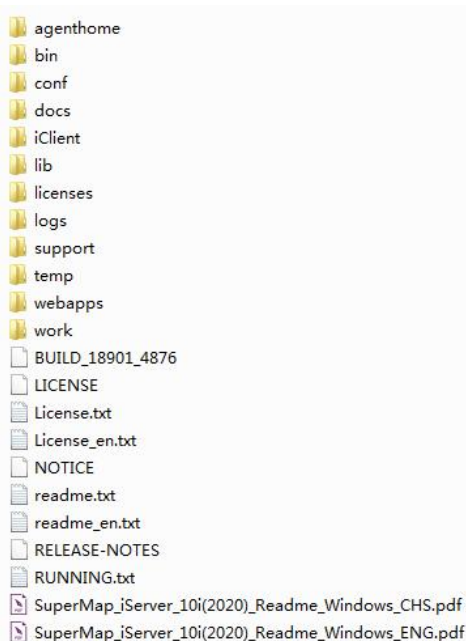
Installation Directory

SuperMap iServer 10i(2020) provides 64-bit zip package for users on Windows system.

For Windows x64 system, SuperMap iServer provides full distribution package and light version--the deployment distribution package, where the deployment distribution package does not contain sample code, help documentation and client development kits.

6.1 Full Distribution Package

The zip package for SuperMap iServer 10i(2020) includes the following contents:



- **agenthome** folder: including configuration file and data when starting SuperMap iServer in the way of Agent.
- **bin** folder: including script files for starting and stopping the Tomcat service, etc. On Windows, use startup.bat to start service.
- **conf** folder: including configuration file for Tomcat, related file-type definitions and some SuperMap iServer configuration files.
- **docs** folder: including help and e-books of SuperMap iServer.
- **iClient** folder: including client GIS development tool libraries and sample code for SuperMap iClient.
- **lib** folder: including .jar files that Tomcat needs.
- **licenses** folder: including licenses and statements of open source libraries used by SuperMap iServer.

- **logs** folder: including logs about the process of starting and running SuperMap iServer and Tomcat.
- **samples** folder: including sample code and sample data for SuperMap iServer. English sample data locates in data_en folder.
- **support** folder: including the bin folder of SuperMap iObjects Java, License configuration tool and JRE.
- **temp** folder: including temporary files for Tomcat.
- **webapps** folder: the folder for deploying SuperMap iServer. The subfolder, iserver, contains jars, config files, etc., depended by iServer.
- **license.txt** file: User License Agreement for SuperMap iServer.
- **license_en.txt** file: User License Agreement for SuperMap iServer.
- **readme.txt** file: Information of installation and service startup.
- **readme_en.txt** file: Information of installation and service startup.
- **SuperMap_iServer_10i(2020)_Readme_Windows_CHS/ENG.pdf** file: SuperMap iServer 10i(2020) Readme.
- **BUILD_*** file: The version of SuperMap iServer (identified by *).
- Other files are license or statement for Tomcat.

Among them, conf\Catalina\localhost directory includes configuration files of SuperMap iServer, see detail in Table 6-1.

Table6-1 Configuration files in conf\Catalina\localhost

File Name	Description
iserver#help.xml	For publishing SuperMap iServer online help.
iserver#iClient#forAndroid.xml	For publishing directory %SuperMap iServer_HOME%\iClient\forAndroid.
iserver #iClient#forJavaScript.xml	For publishing directory %SuperMap iServer_HOME%\iClient\forJavaScript.
iserver #iClient#for3D.xml	For publishing directory %SuperMap iServer_HOME%\iClient\for3D.
SuperMapRealspace.xml	Specifies the sample data used by iClient for 3D.
RealspaceSample.xml	For publishing the iClient for 3D plugin installer.

docs folder's directory structure is as following:

- **html** folder: SuperMap iServer help in HTML format, for publishing online help.
- **WEB-INF** folder: Web configuration file.
- **Index.htm** file: shortcut that points to online help entrance.
- ***.chm** file: SuperMap iServer help in CHM format.

SuperMap iServer 10i(2020) Readme

6.2 Deployment Distribution Package

After decompressing the deployment package of SuperMap iServer normally, the decompression path doesn't include the samples folder, and the other folders' structure except conf, docs and iClient folders, is the same as the full distribution package. Below is a detailed description for conf, docs and iClient folder.

- conf\Catalina\localhost folder doesn't contain iServer#iClient#for3D#demo.xml, iServer#iClient#for3D#samplecode.xml, and Realspace.sample.xml. Other files are the same as files shown in Table 6-1.
- docs folder only contains WEB-INF folder for storing web configuration files.
- Each forxxx folder in iClient folder excludes SuperMap iClient development tools and sample code, only including WEB-INF configuration files, ie., the deployment package does not provide SuperMap iClient demo program.

6.3 Start Menu

After installing the SuperMap iServer setup-package, shortcuts about iServer appear in **Start> Programs> SuperMap> SuperMap iServer 10i(2020)** (take Windows XP as an example), including iServer service start and stop, help documentation, etc.

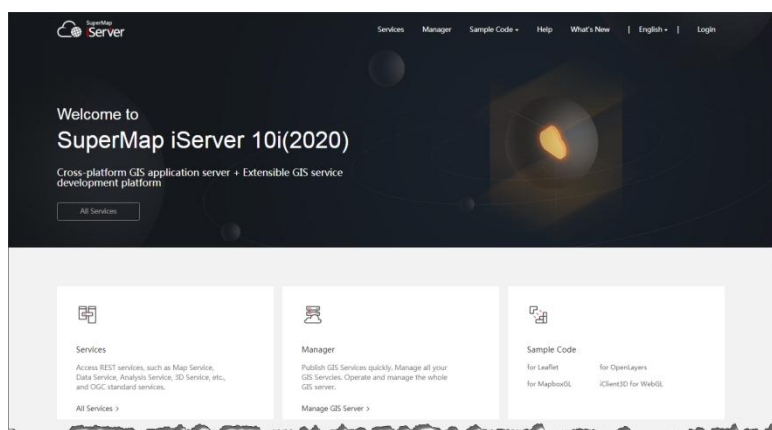
Use SuperMap iServer

7.1 Start/Stop Server

To start or stop SuperMap iServer 10i(2020), run startup.bat or shutdown.bat in %SuperMap iServer_HOME%\bin directory.

7.2 Access Services

After starting SuperMap iServer, the default sample services will be published automatically, and the default port is 8090. You can access the home page via `http://<server>:<port>/iserver`.



Click Services to view all published services.

Click Manager to enter service management page.

Click Samples Codes to view the SuperMapiClient samples code and Demo services.

Click Help to view iServer help documentation.