

SuperMap iServer Service Management

SuperMap Software Co., Ltd.



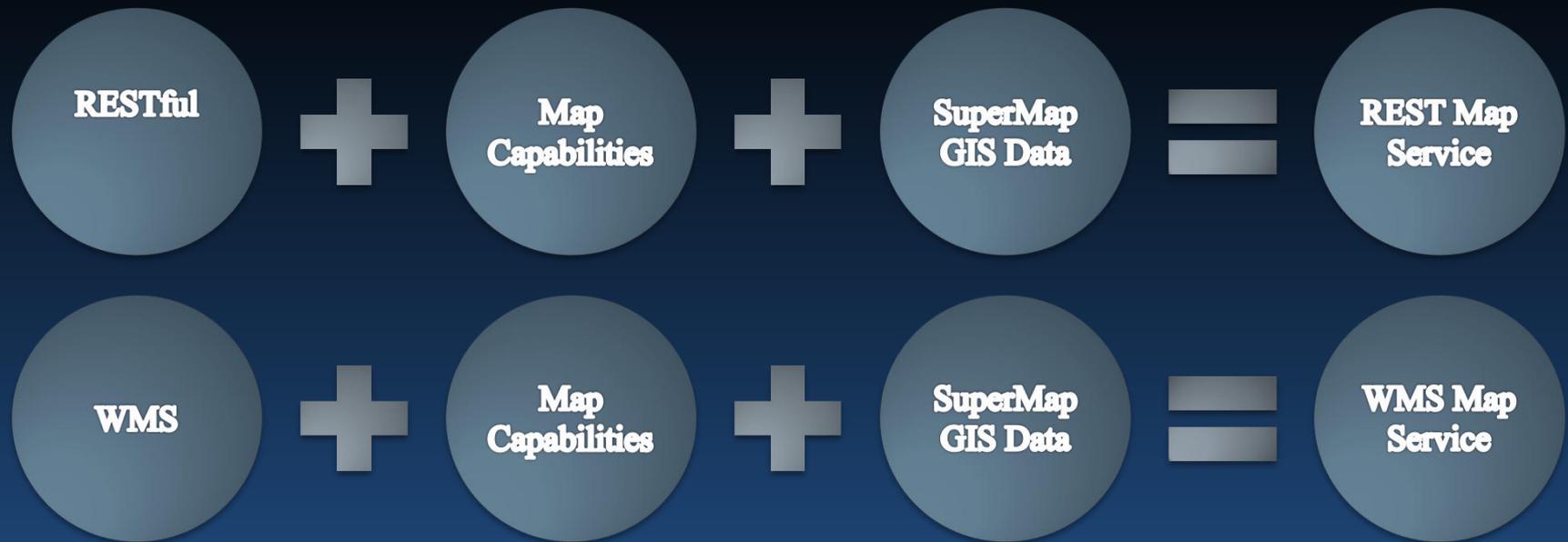
Main Contents

- **iServer Service Description**
- **iServer Service Management**
 - **Create iServer Service**
 - **Modify iServer Service**
 - **Delete iServer Service**
 - **Log Management**
 - **Security Configuration**
 - **Backup and Restore**
 - **License Information Query**
 - **Monitoring and Statistics**

Notice: The “iServer” mentioned in this document is SuperMap iServer except for other special explanation.

What are iServer Services?

- Services published through network
- Publish various sources of GIS data with GIS capabilities
- Publish through a network protocol or service standard



Default iServer Services

Map services

- Browse, zoom, pan
- Measure, query
- Thematic mapping

Spatial analysis services

- Geometry /dataset clip, erase, identify, intersect, union, update, XOR
- Buffer analysis, spatial relation analysis, linear referencing
- Extract isolines

Data services

- Query datasources, datasets
- Online dataset editing

Traffic transfer analysis services

- Traffic transfer analysis
- Bus stop query

Transport analysis services

- Optimal path, TSP/MTSP
- Service area, location-allocation
- Closest facility

3D services

- 3D data publishing
- 3D scene publishing, browse and query 3D data with 3D plugin

iServer Service Management

- **Service Management Tool-SuperMap iServer Manager**
 - A Web based service management tool
 - Address: [http://\[server IP\]:8090/iserver/manager/](http://[server IP]:8090/iserver/manager/)
 - Security Control: User name and password



 **Log in SuperMap iServer**

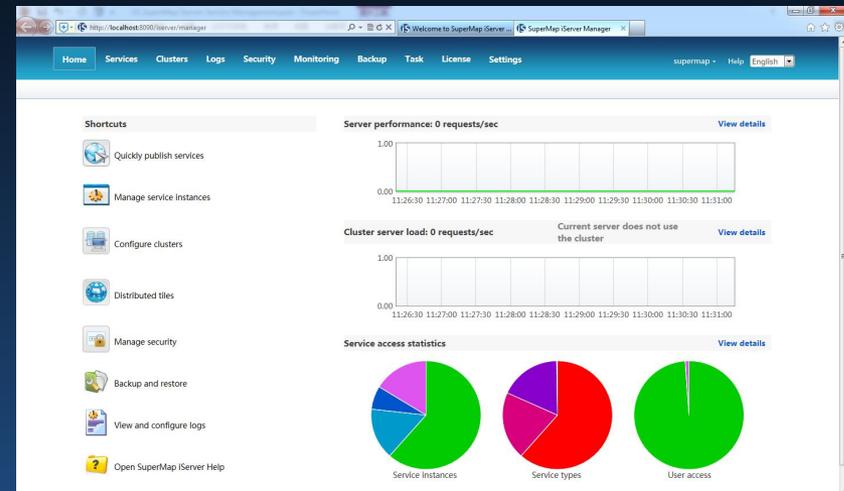
Version 8.0

Welcome to SuperMap iServer !

Username:

Password: [Lost Password](#)

Remember me



iServer Service Management

- **Service Management Tool-SuperMap iServer Manager**

- **Managing Contents:**

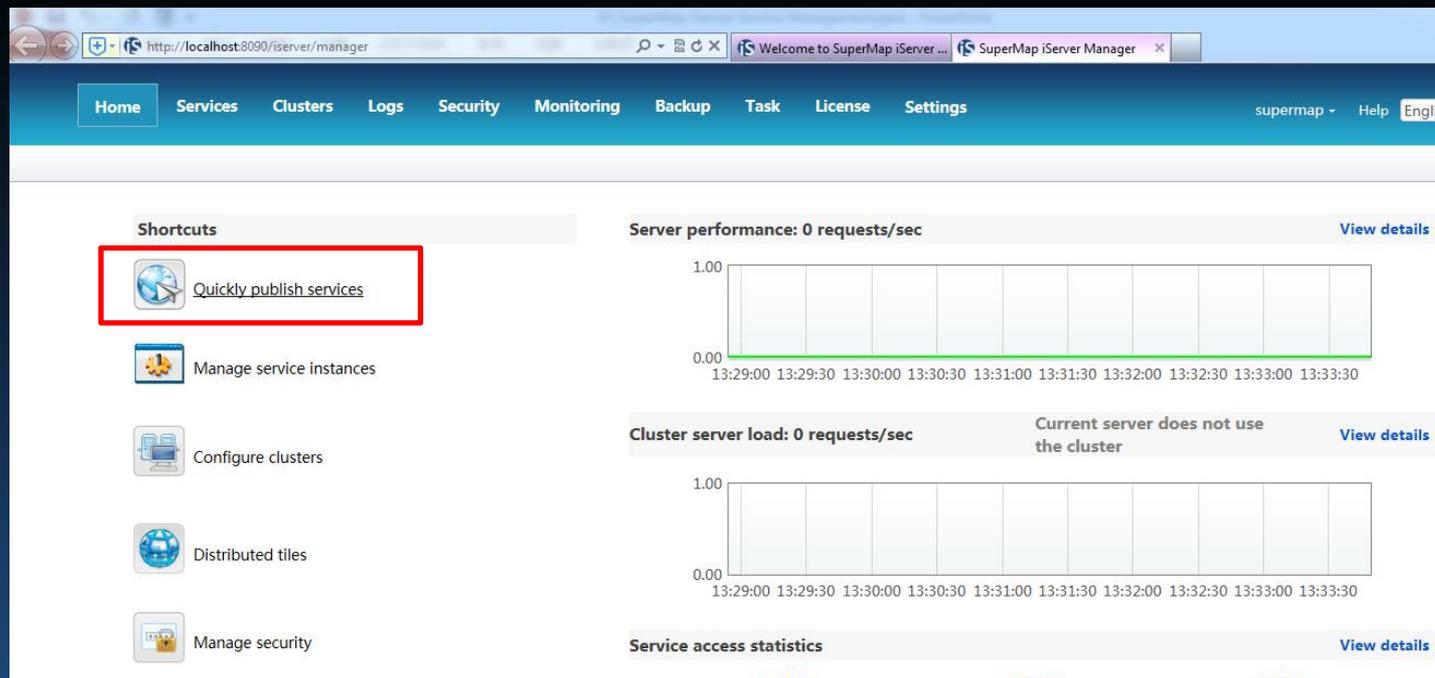
- **Create, delete, modify and query iServer services**
 - **Log browsing and management**
 - **Cluster management**
 - **Security settings of 3D data**
 - **Map pre-cache generating**
 - **License information browsing**
 - **Backup and restore**
 - **Distributed cache configuration**

Create iServer Service

- **Method 1: Publish services quickly**
 - SuperMap iServer Manager provides the wizard of creating service, which could easily create most of the iServer service types.
- **Method 2: Configure the service provider, service component and service interface**
 - Create services according to the iServer service structure

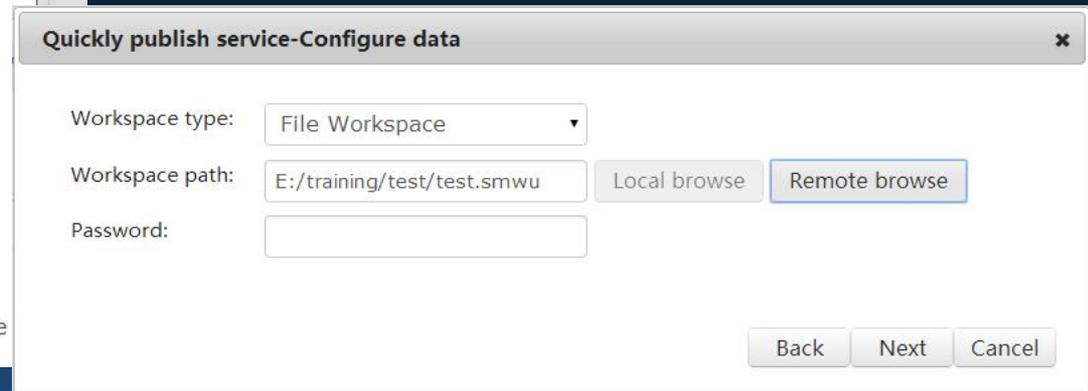
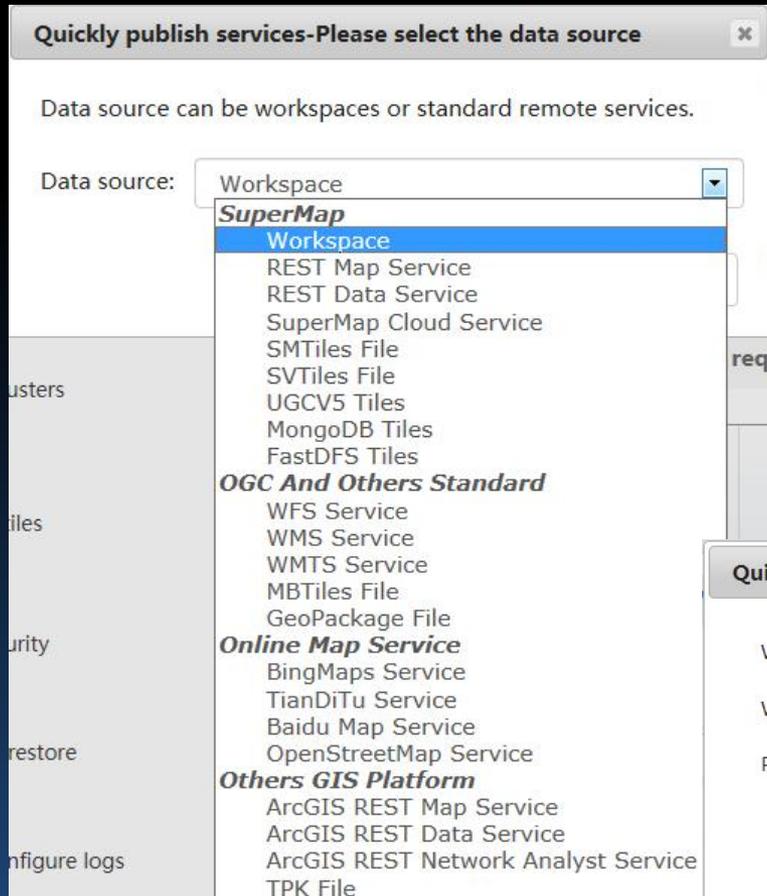
Publish iServer Service Quickly

- **Method 1: Home>>Quickly publish services**
- **Method 2: Services>>Overview>>Quickly publish service**



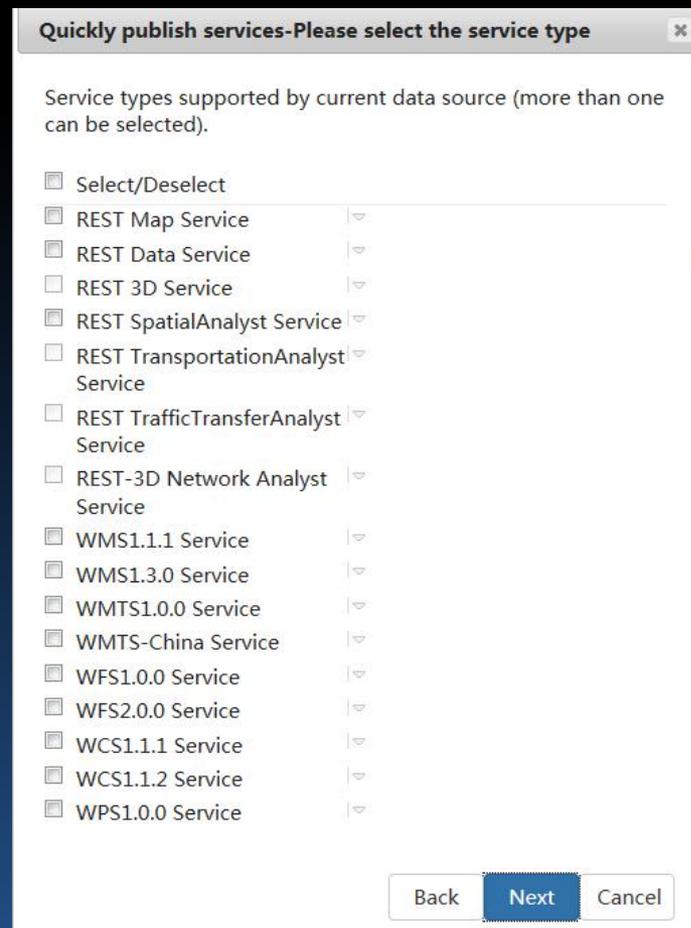
Steps of Publishing Service Quickly

- **Step1: Configure data**



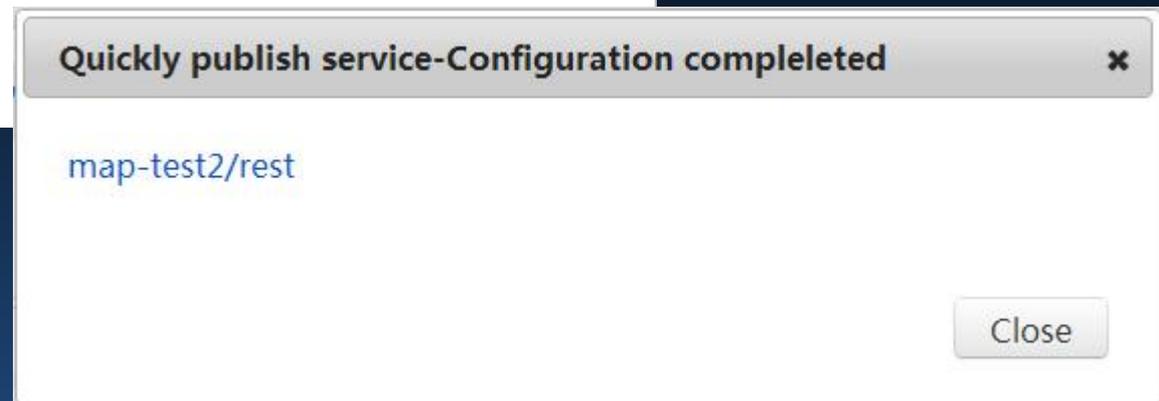
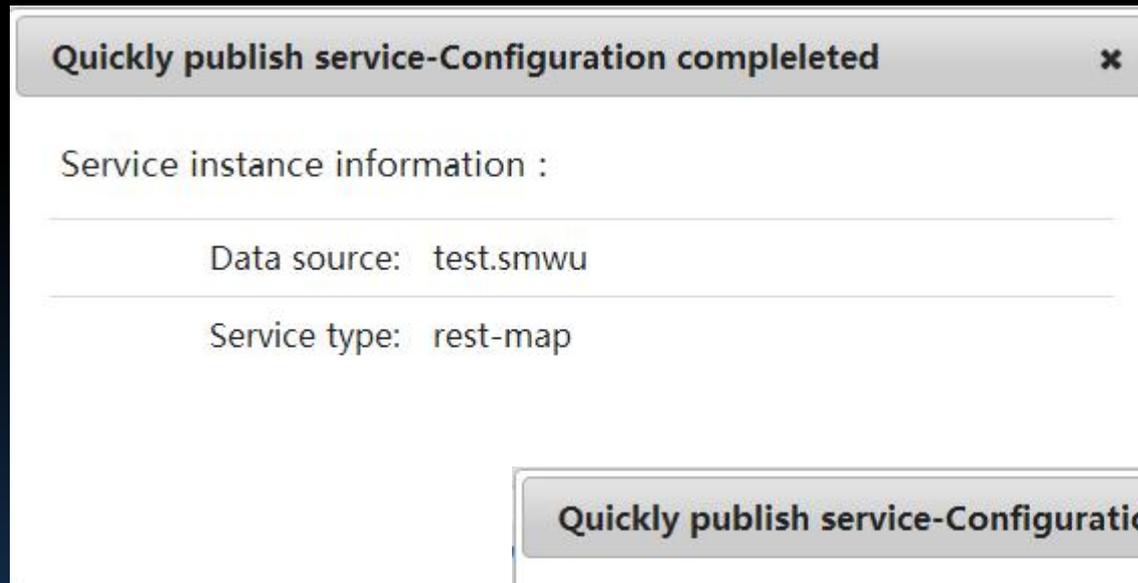
Steps of Publishing Service Quickly

- **Step2: Select the service type(service interface type)**



Steps of Publishing Service Quickly

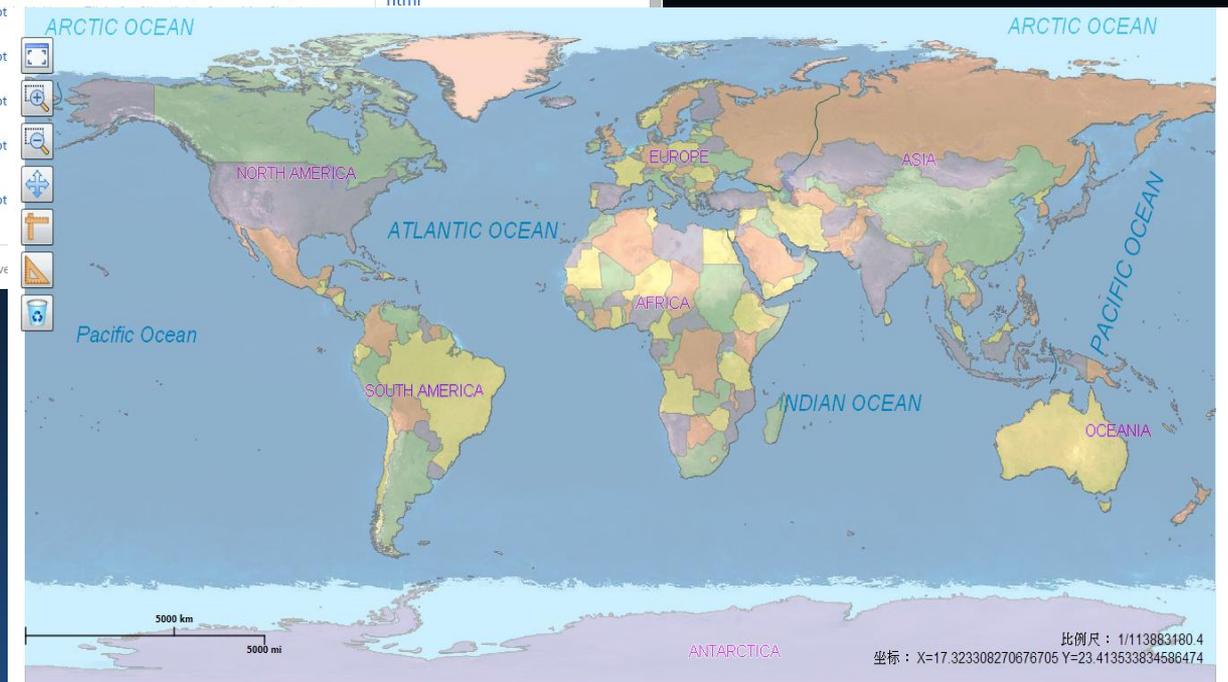
- **Step3: Configuration complete**



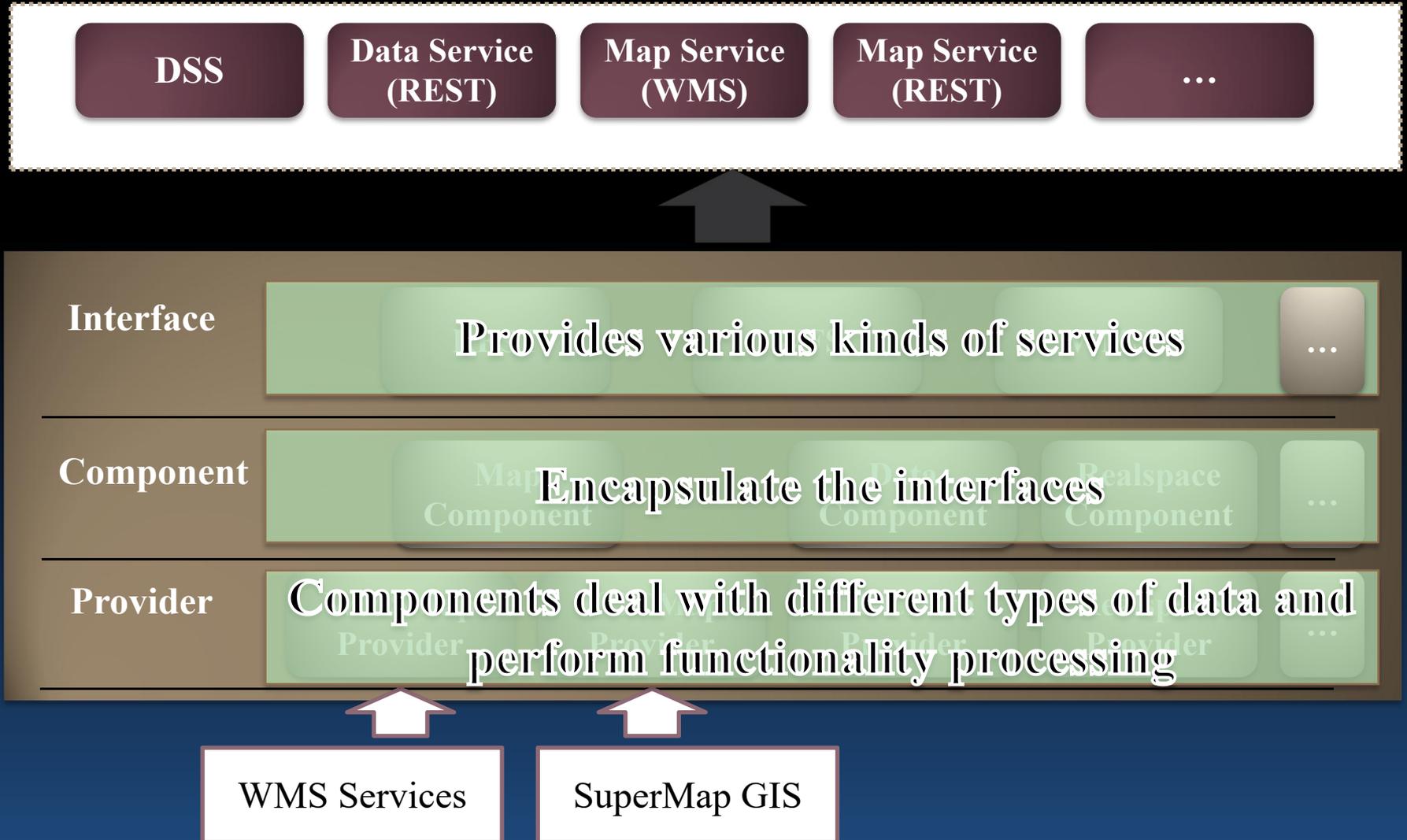
Browse iServer Services

The screenshot shows the iServer web interface. At the top, there is a search bar with 'resourceID' and a search button, along with user information 'Leon - Token Help' and a language dropdown set to 'English'. Below the search bar is a 'home' link. The main content area is titled 'maps'. On the left, there is a 'Description:' section stating: 'Contains the list of all visible maps, the supported HTTP request methods, and the supported output formats. You can decide how the map list is represented according to your needs. Also, you can view maps with Flash, Flash3D, JavaScript, Silverlight, SuperMapCloud, or Tianditu.' Below this is a 'Maps:' section with a list of maps and their supported technologies. On the right, there are two sections: 'HTTP methods' listing 'GET' and 'HEAD', and 'Output formats' listing 'xml', 'json', 'rjson', and 'html'. At the bottom of the interface, it says 'Powered by SuperMap iServe'.

Maps:	View with
WorldMap_Day	iClient for Flash, for Flash3D, for JavaScript (with Vector Tile), for Silverlight, SuperMapCloud.com, Tianditu.com
WorldMap	iClient for Flash, for Flash3D, for JavaScript Tianditu.com
WorldMap_Night	iClient for Flash, for Flash3D, for JavaScript Tianditu.com
World Map	iClient for Flash, for Flash3D, for JavaScript Tianditu.com
World	iClient for Flash, for Flash3D, for JavaScript Tianditu.com
ChangChunCityMap	iClient for Flash, for Flash3D, for JavaScript

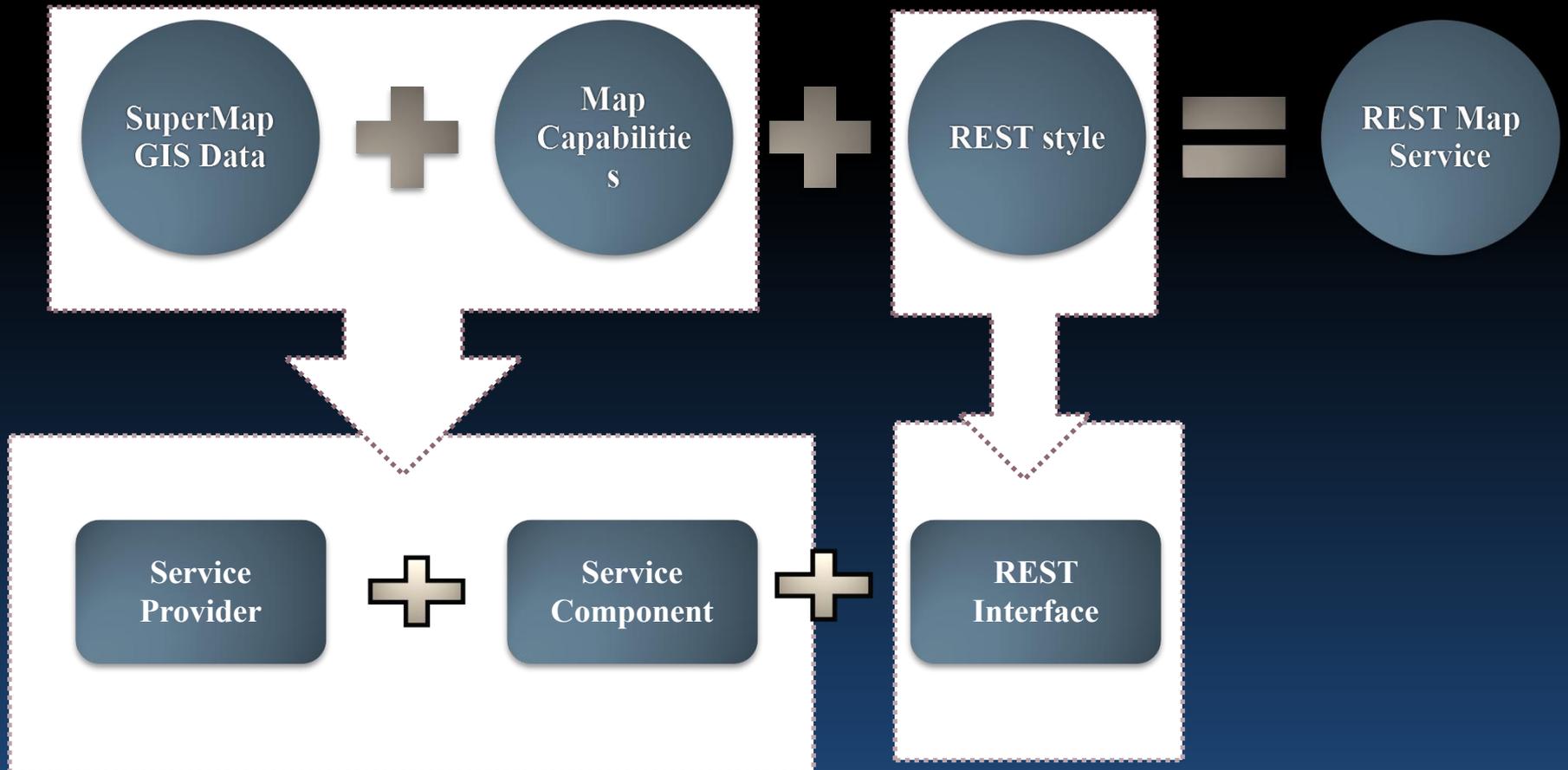


Service Structure



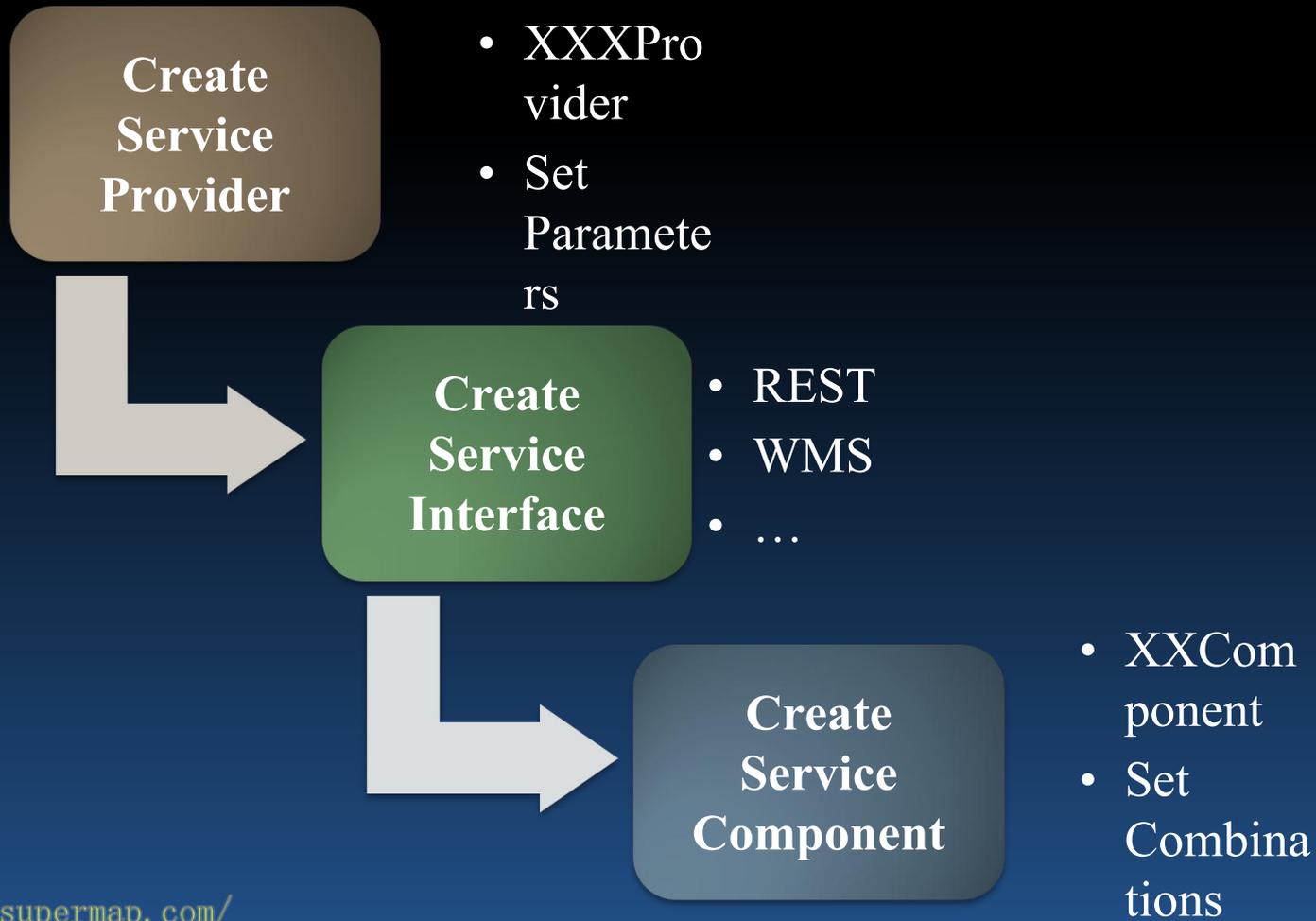
iServer Service Structure Analyze

- For example:



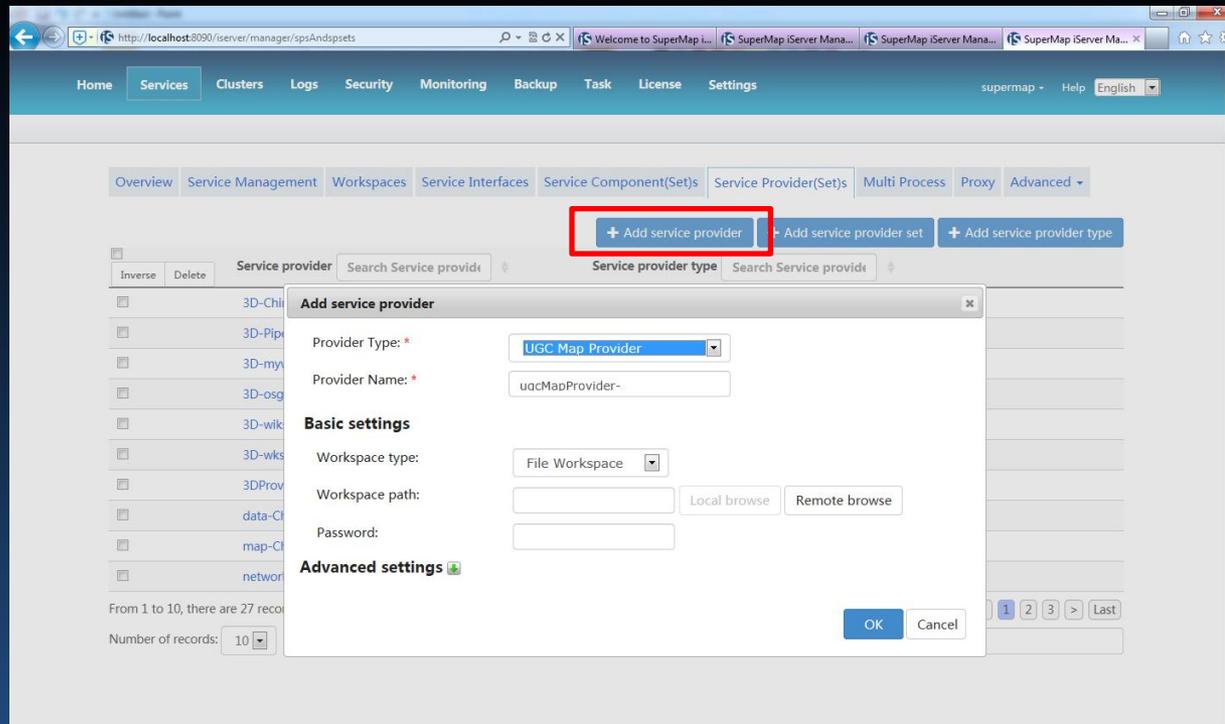
Steps of Publish Services

- **The Procedure:**



Step 1 Create Service Provider

- Select service type
- Specify data source
- Set other parameters



Service Provider Description

- Deal with different types of data and perform GIS capability encapsulation
- Types:
 - Map Service Provider
 - Data Service Provider
 - 3D Service Provider
 - Spatial Analysis Service Provider
 - Transportation Analysis Provider
 - Traffic Transfer Analysis Provider

Note: Users could customize their own service provider.

Service Providers

- **Map service providers**

	Description
UGCMapProvider	Get SuperMap data and provide map capabilities
RESTMapProvider	Handle REST GIS data and provide map capabilities
WMTSMapProvider	Handle WMTS data and provide map capabilities
WMSMapProvider	Handle WMS data and provide map capabilities
BingMapsMapProvider	Handle BingMaps GIS data and provide map capabilities
CloudMapProvider	Handle SuperMapCloud data and provide map capabilities
TiandituMapProvider	Handle Tianditu GIS data and provide map capabilities
AggregationMapProvider	Aggregates map capabilities for multiple sources of data
MBTilesMapProvider	Publish services using MBTiles files

Service Providers

- **Data service provider**

UGCDataProvider

Get SuperMap data and provide data capabilities

WFSDDataProvider

Handle WFS data and provide data capabilities

RESTDataProvider

Handle Remote REST data and provide data capabilities

AggregationDataProvider

Aggregates data capabilities for multiple sources of data

Description

Service Providers

- Others

UGCRealspaceProvider

Description
Get SuperMap data and provide 3D capabilities

UGCTransportationAnalystProvider

Get SuperMap data and provide transportation analysis capabilities

UGCSpatialAnalystProvider

Get SuperMap data and provide spatial analysis capabilities

TrafficTransferAnalystProvider

Get SuperMap data and provide traffic transfer analysis capabilities

Step 2: Create Service Interface

- **Examine whether the service interface exists**
 - Yes. Next step
 - No. Create a new service interface

The screenshot displays the SuperMap web interface. At the top, there is a navigation bar with tabs for Home, Services, Clusters, Logs, Security, Monitoring, Backup, Task, License, and Settings. Below this, a secondary navigation bar includes Overview, Service Management, Workspaces, Service Interfaces, Service Component(Set)s, Service Provider(Set)s, Multi Process, Proxy, and Advanced. The main content area shows a table of service interfaces with columns for Interface name and Interface type. A red box highlights the '+ Add service interface' button. A modal dialog box titled 'Add service interface' is open, featuring fields for Interface name, Interface type (with a dropdown menu showing options like WMS Interface, WFS Interface, WCS Interface, WPS Interface, REST Service Interface, WMTS Interface, and REST/JSR Service Interface), Map name, Service description, SLD configuration information, and Version (set to 1.1.1). The dialog has OK and Cancel buttons.

Service Interface Description

- **Publish the service components using different interfaces**
- **Default service interface types:**
 - REST
 - REST/JSR WMS
 - WFS
 - WPS
 - WCS
 - WMTS
 - Handler
- **Notice: users could customize their own service interface.**

Step 3: Create Service Component

- Select service type
- Set service provider to use
- Set interface to bind

Add service component

Service component name: *

Service component alias:

Service component type: * Map Component

Used service provider/set:

Name of service provider/set	Selected
ugcMapProvider-China400	<input type="checkbox"/>
ugcMapProvider-World	<input type="checkbox"/>
ugcMapProvider-Changchun	<input type="checkbox"/>
ugcMapProvider-Jingjin	<input type="checkbox"/>
ugcMapProvider-temperature	<input type="checkbox"/>
map-ChinaProvinces	<input type="checkbox"/>
ugcMapProvider-testus	<input type="checkbox"/>
ugcMapProviderSet	<input type="checkbox"/>

Interface bound to component: *

Name of bound interface	Selected
wms111	<input type="checkbox"/>
wms130	<input type="checkbox"/>
rest	<input type="checkbox"/>
wmts100	<input type="checkbox"/>
wmts-china	<input type="checkbox"/>

GeneralSetting

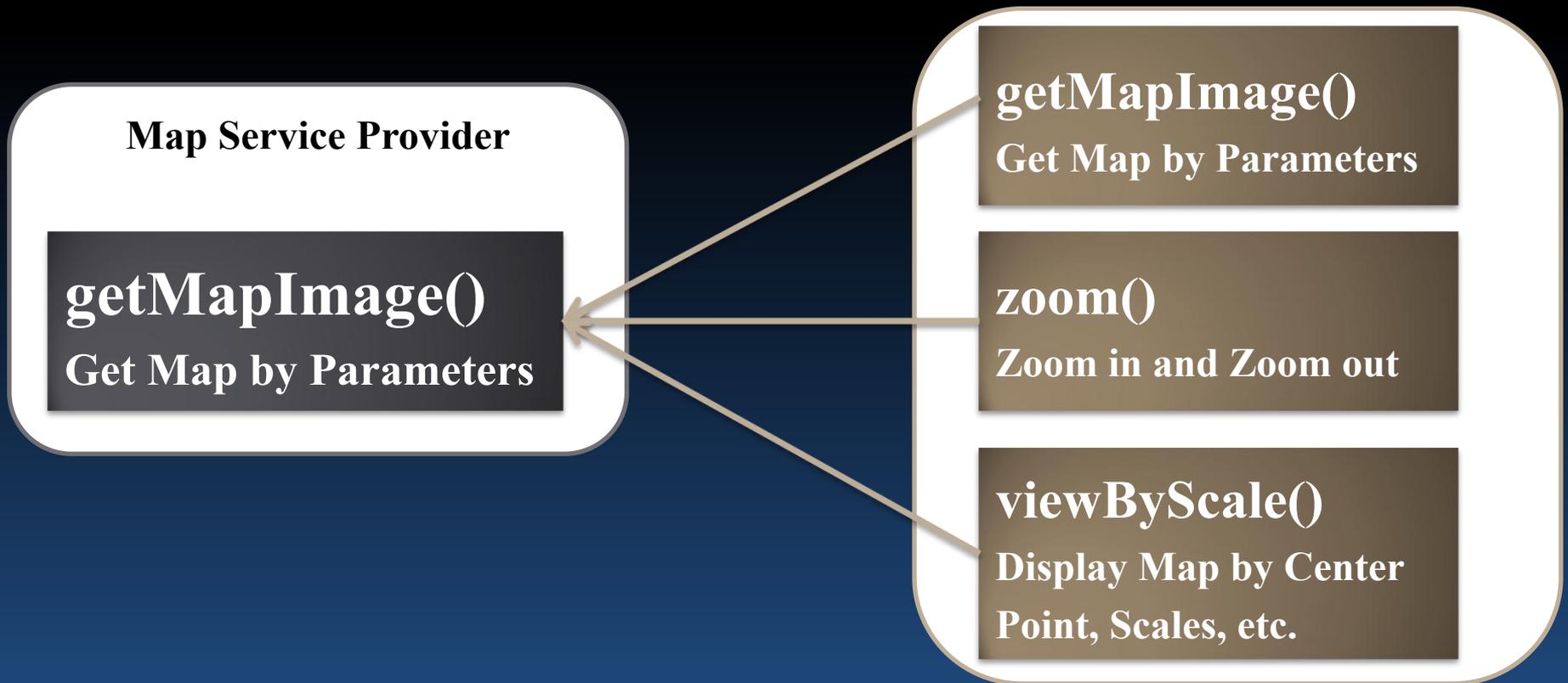
Enable map tile caching:

Enable attribute tile caching:

Enable vector tile caching:

iServer Services - Service Components

- Encapsulates GIS capabilities to components, which are easier to use



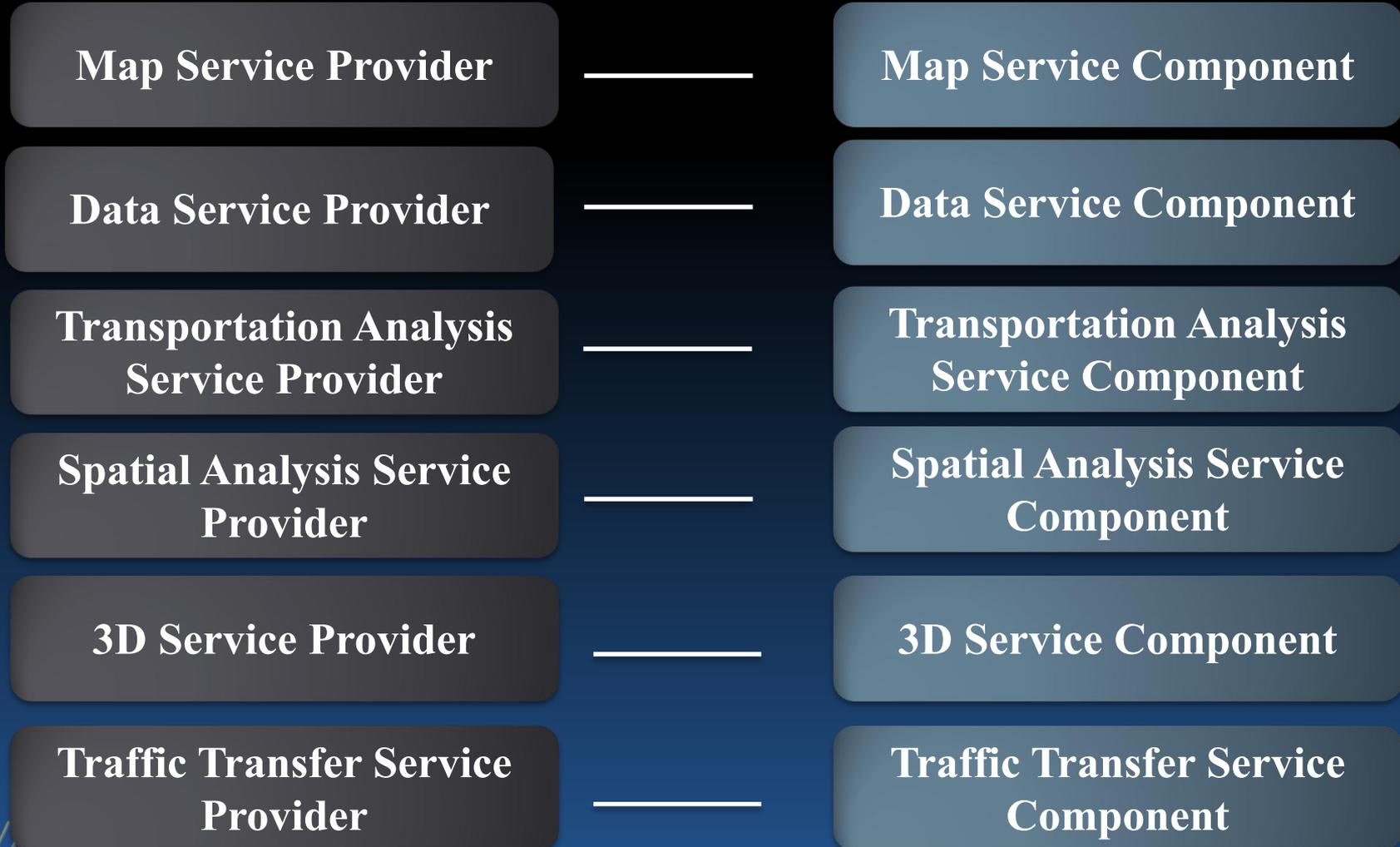
iServer Services - Service Components

- **Default types:**
 - **Map Service Component**
 - **Data Service Component**
 - **Transportation Analysis Service Component**
 - **Realspace Service Component**
 - **Spatial Analysis Service Component**
 - **Traffic Transfer Analysis Service Component**

Notice: users could customize their own service component.

iServer Services - Service Components

- **Correlation between Components and Service Provider**

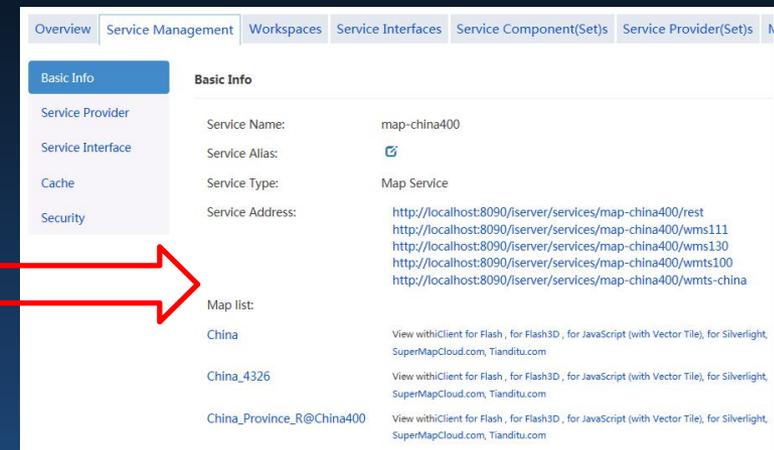
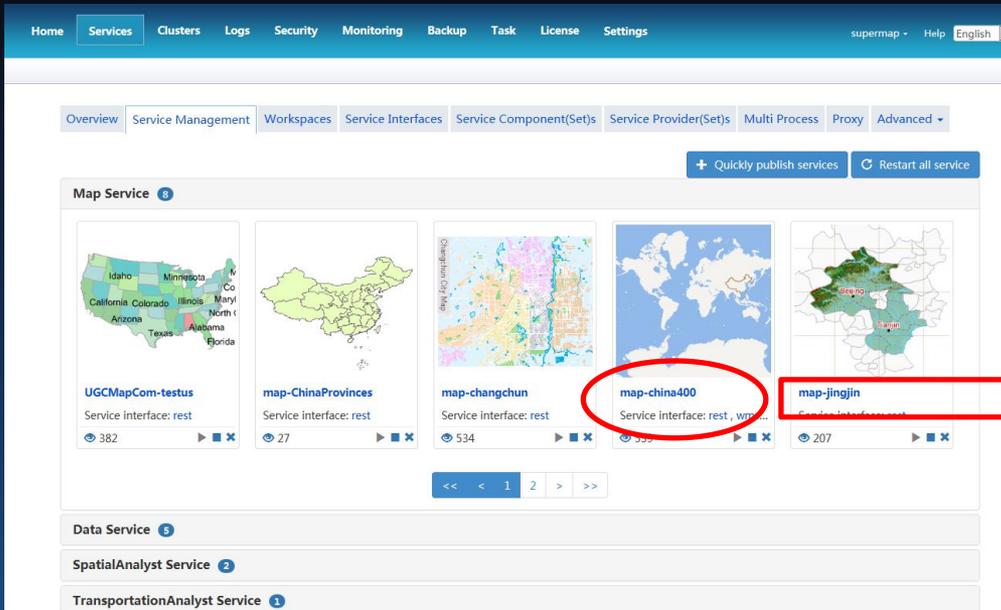


iServer Services - Service Interfaces



Step 4: iServer Service Browsing

- iServer service instance naming rule
 - `http://<IP>:<PORT>/iserver/services/<service component name>/<service interface name>`
- Check configuration for service instance in SuperMap iServer Manager

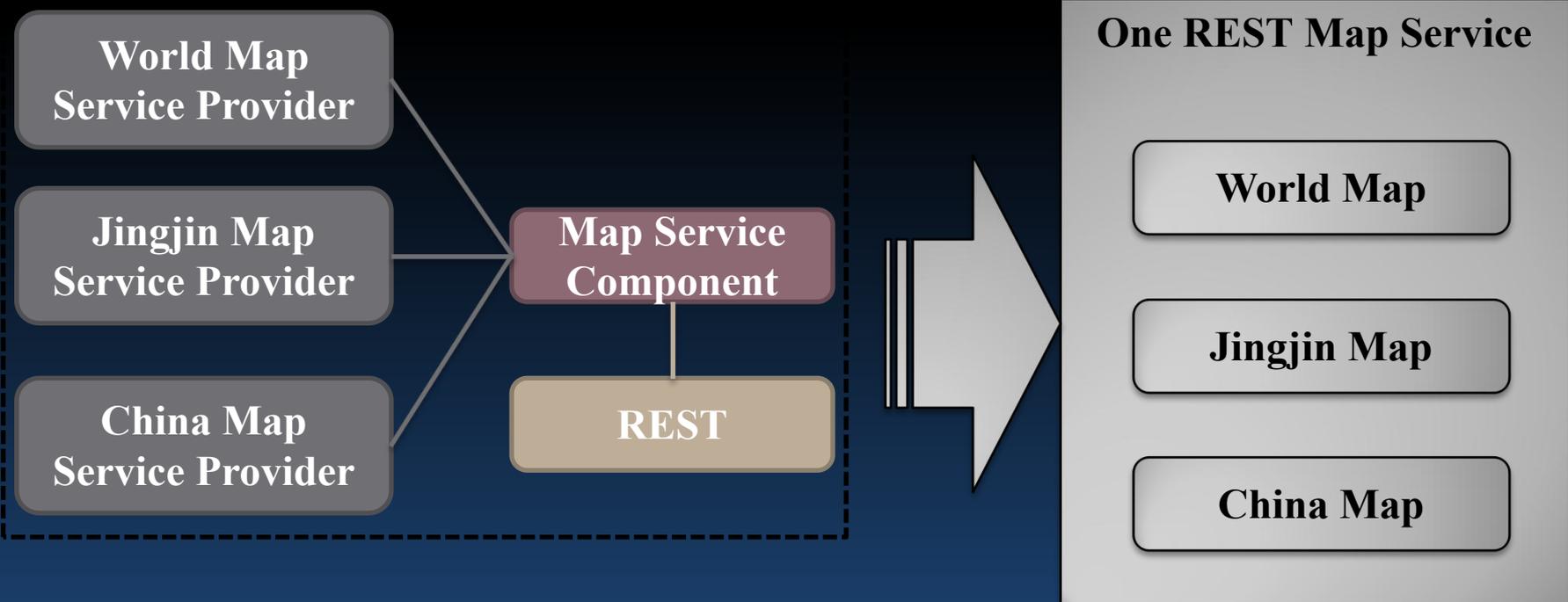


Practice

- **Publish a map WMS service by SuperMap data source**
 - **Data: world.smwu**

Supplementary Remarks

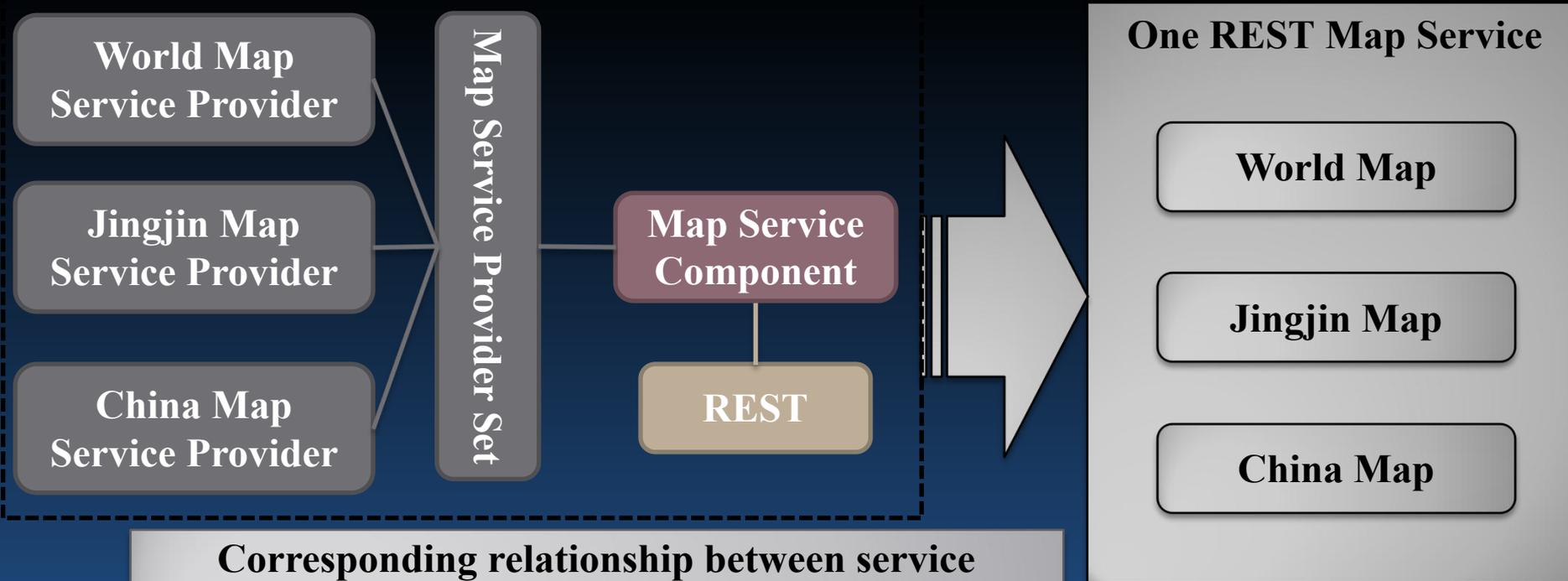
- For one GIS service instance
 - Service provider : service component = N : 1



Corresponding relationship between service provider types and service component types remain the same

Supplementary Remarks

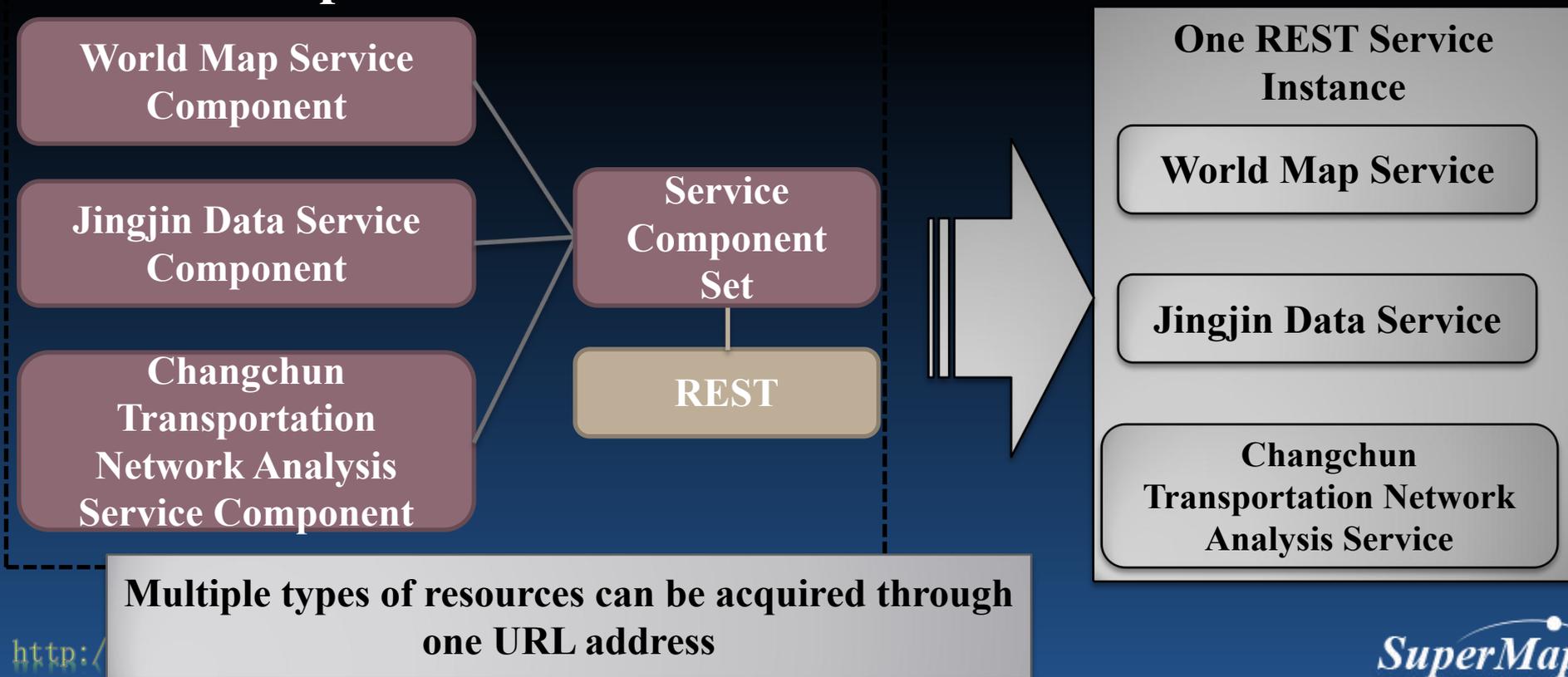
- **For one GIS service instance**
 - **Multiple service providers of the same type can compose one service provider set**



Corresponding relationship between service provider types and service component types remain the same

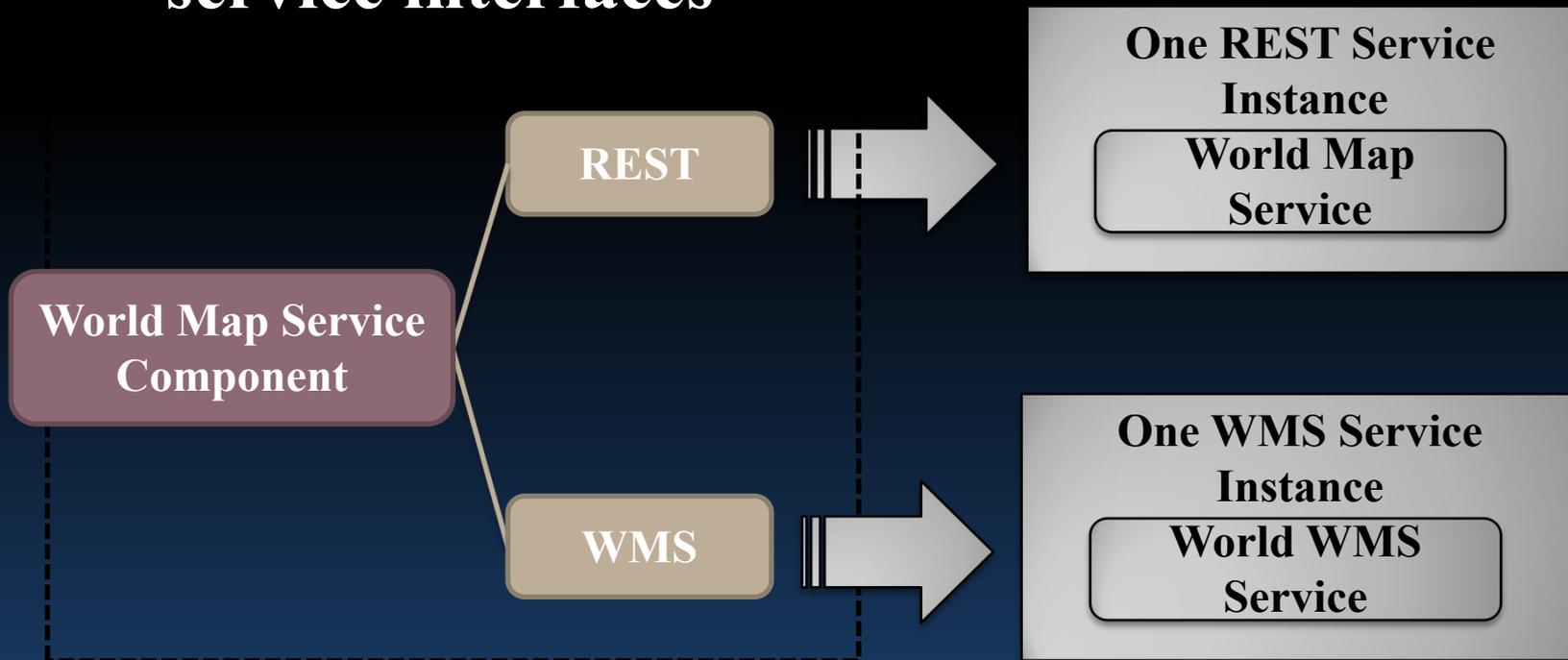
Supplementary Remarks

- **Multiple service components can compose one service component set**
 - **Service component set can contain multiple types of components**



Supplementary Remarks

- **Service component can be bound to multiple service interfaces**



Service compliant to multiple protocols or standards can be published

Modify Service

- **Methods**
 - **1. Find which service layer needs to be modified(Service component, Service provider, Service interface).**
 - **2. Enter the diagram page to modify**

Modify Service

- **Method 1**

- Enter the configuration page of corresponding layer

Home Services Clusters Logs Security Monitoring Backup Task License Settings

Overview Service Management Workspaces Service Interfaces Service Component(Set)s Service Provider(Set)s Multi Pro

Basic Info

Service Name: map-china400

Service Alias:

Service Type: Map Service

Service Address:
http://localhost:8090/isever/services/map-china400/rest
http://localhost:8090/isever/services/map-china400/wms111
http://localhost:8090/isever/services/map-china400/wms130
http://localhost:8090/isever/services/map-china400/wmts100
http://localhost:8090/isever/services/map-china400/wmts-china

Map list:

China View withClient for Flash , for Flash3D , for SuperMapCloud.com, Tianditu.com

China_4326 View withClient for Flash , for Flash3D , for SuperMapCloud.com, Tianditu.com

China_Province_R@China400 View withClient for Flash , for Flash3D , for SuperMapCloud.com, Tianditu.com

Service Provider

ugcMapProvider-China400(UGC Map Provider)

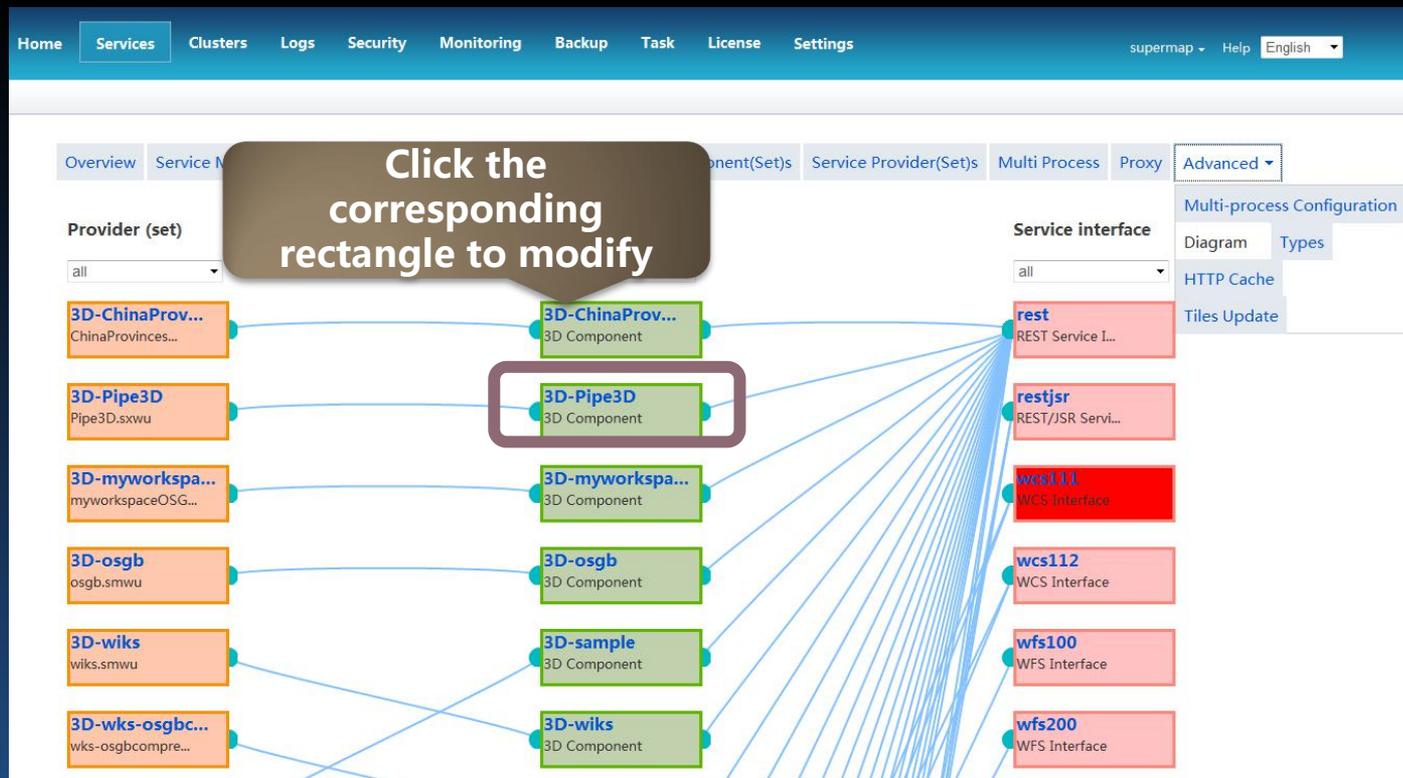
Save Cancel

Click "Save" after modification

Modify Service

- **Method 2**

- Enter the diagram to modify the services through super link



Delete Service

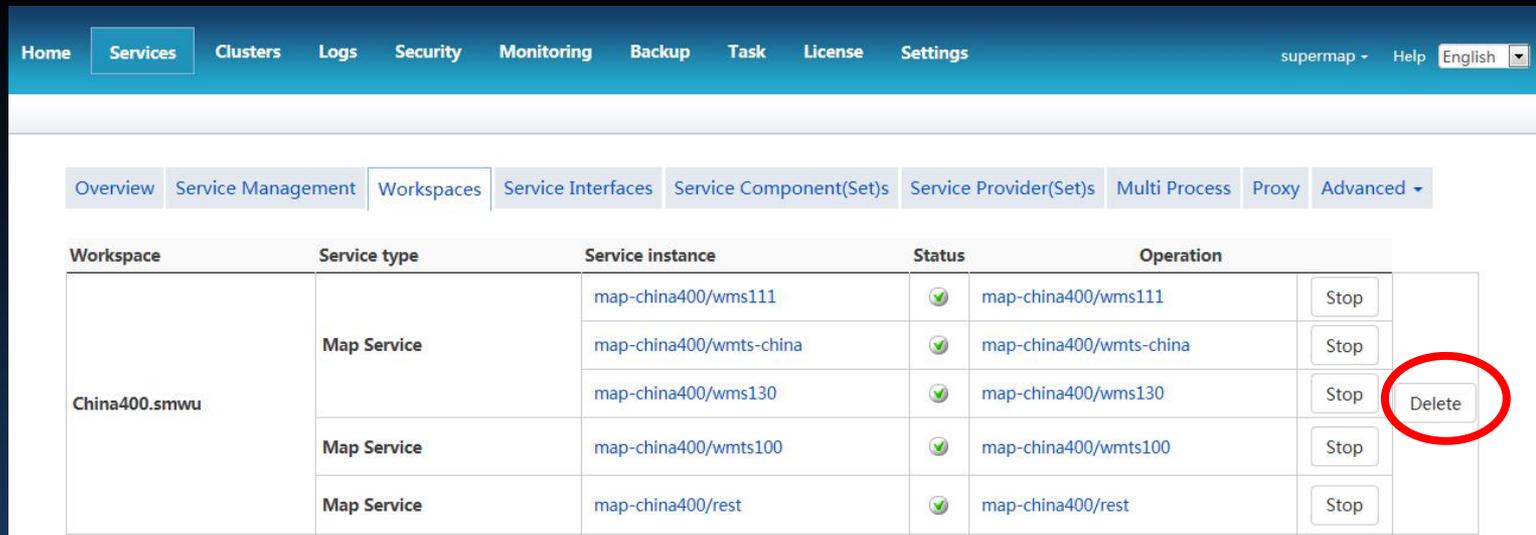
- **Method 1:**
 - Delete the service in the instance list and then delete the corresponding service component and provider

The screenshot displays the SuperMap web interface for managing services. The top navigation bar includes 'Home', 'Services', 'Clusters', 'Logs', 'Security', 'Monitoring', 'Backup', 'Task', 'License', and 'Settings'. The 'Services' tab is active, and the sub-menu shows 'Service Management' selected. The main content area is titled 'Map Service' and contains a list of five services. Each service card shows a thumbnail, name, service interface, and view count. Two services, 'UGCMapCom-testus' and 'map-ChinaProvinces', have their delete icons (a square with an 'x') circled in red. The interface also includes buttons for 'Quickly publish services' and 'Restart all service'.

Notice: Make sure that the service component and provider to be deleted are not used by other service instances.

Delete Service

- **Method 2:**
 - **Enter the workspace page, and delete the services which use the same workspace**



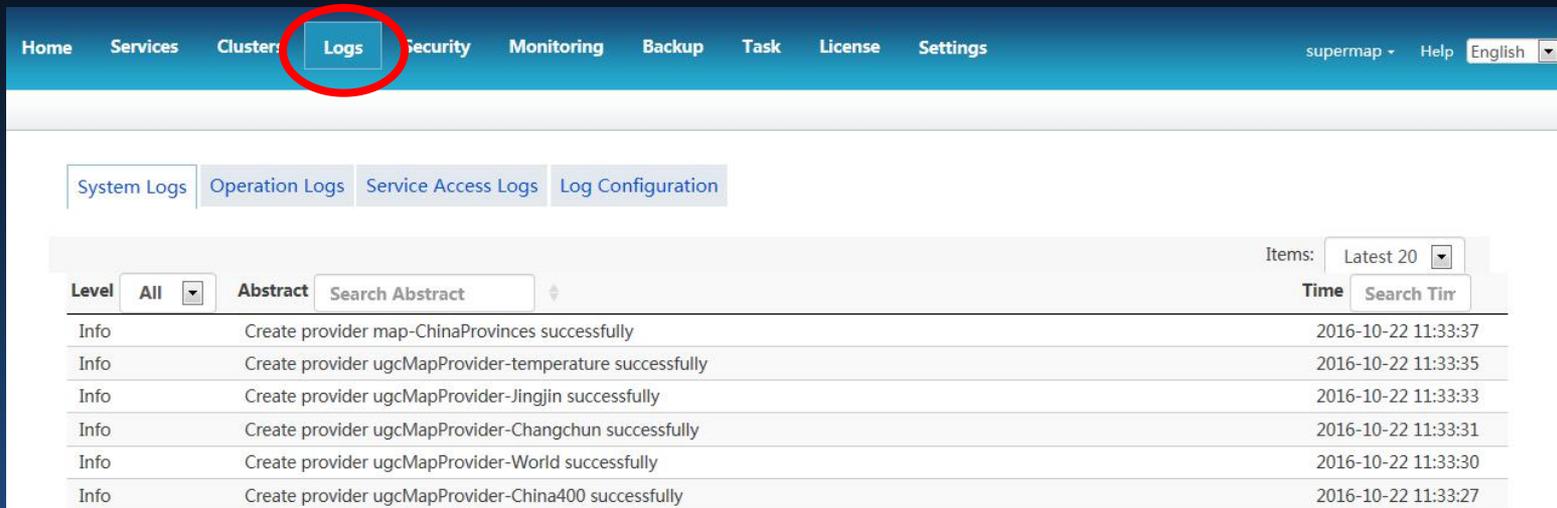
The screenshot shows the SuperMap Services Management interface. The top navigation bar includes 'Home', 'Services', 'Clusters', 'Logs', 'Security', 'Monitoring', 'Backup', 'Task', 'License', and 'Settings'. The 'Services' tab is active. Below the navigation bar, there are sub-tabs: 'Overview', 'Service Management', 'Workspaces', 'Service Interfaces', 'Service Component(Set)s', 'Service Provider(Set)s', 'Multi Process', 'Proxy', and 'Advanced'. The 'Workspaces' sub-tab is selected. The main content area displays a table with the following columns: 'Workspace', 'Service type', 'Service instance', 'Status', and 'Operation'. The table lists five services for the workspace 'China400.smwu'. A 'Delete' button is circled in red in the 'Operation' column for the third row.

Workspace	Service type	Service instance	Status	Operation
China400.smwu	Map Service	map-china400/wms111	✔	map-china400/wms111 [Stop]
		map-china400/wmts-china	✔	map-china400/wmts-china [Stop]
		map-china400/wms130	✔	map-china400/wms130 [Stop] Delete
	Map Service	map-china400/wmts100	✔	map-china400/wmts100 [Stop]
	Map Service	map-china400/rest	✔	map-china400/rest [Stop]

Notice: This method will delete all service providers and components which corresponds to that workspace, so please pay attention.

Log Management

- **Browse logs**
- **Configure logs**
 - Log file directory
 - Log file size
 - Output log level



Home Services Clusters **Logs** Security Monitoring Backup Task License Settings supermap - Help English

System Logs Operation Logs Service Access Logs Log Configuration

Items: Latest 20

Level	Abstract	Time
Info	Create provider map-ChinaProvinces successfully	2016-10-22 11:33:37
Info	Create provider ugcMapProvider-temperature successfully	2016-10-22 11:33:35
Info	Create provider ugcMapProvider-Jingjin successfully	2016-10-22 11:33:33
Info	Create provider ugcMapProvider-Changchun successfully	2016-10-22 11:33:31
Info	Create provider ugcMapProvider-World successfully	2016-10-22 11:33:30
Info	Create provider ugcMapProvider-China400 successfully	2016-10-22 11:33:27

Security Management

- **Security of GIS service and service manager**
 - Control the service accessing based on user identification and authority
 - Only the administrator account has the authority of publishing, editing and deleting the services
- **3D Data Security**
 - Set the 3D data password

GIS Service Security Control

- **Control the GIS service accessing, which will determine which users could access the corresponding services.**



GIS Service Security Control

- **User and Role Management**
 - **The relationship between role and user**
 - **One user could belong to multiple roles, one role could include multiple users.**
 - **The relationship between authority and role**
 - **The administrator could set authority to the specified role, users could only access the services as the specified role.**

GIS Service Security Control

- User and role management
 - Role management—Add, Edit, Delete, Query

The screenshot displays the 'Security' tab in the GIS Service Security Control interface. The main navigation bar includes 'Home', 'Services', 'Clusters', 'Logs', 'Security', 'Monitoring', 'Backup', 'Task', 'License', 'Settings', 'Leon - Help', and 'English'. The 'Security' sub-tab is active, showing 'Security Config', 'User Management', 'Role Management', 'CAS Configuration', and 'Realspace Security'. The 'Role Management' sub-tab is selected, displaying a table of roles with columns for 'Inverse', 'Delete', and 'Role Name'. The roles listed are ADMIN, Seeker, PUBLISHER, PORTAL_US, and USER. A modal dialog box titled 'Add role info' is open, featuring a red error message: 'The role name should not be null.' The dialog contains fields for 'Role name', 'Description', and 'Role type' (User and Service administrator). It also includes 'Select from' and 'Selected' lists with 'Add' and 'Remove' buttons. A green box highlights the '+ Add role' button in the background, with an arrow pointing to the error message. The dialog has 'OK' and 'Cancel' buttons at the bottom.

GIS Service Security Control

- User and role management
 - User management—Add, Edit, Delete, Query

The screenshot displays the 'Security' tab of a GIS service management interface. A modal dialog box titled 'Add user' is open, allowing for the creation of a new user. The dialog includes the following fields and controls:

- User name:** * (Required) - Input field containing 'User name'
- Password:** * (Required) - Input field containing 'Password'
- Confirm password:** * (Required) - Input field containing 'Confirm password'
- Description:** - Input field containing 'Description'
- Select from:** A list box containing 'ADMIN', 'Seeker', 'PUBLISHER', and 'PORTAL_USER'. An 'Add >' button is positioned to the right of this list.
- Selected:** A list box containing 'USER'. A '< Remove' button is positioned to the left of this list.
- Buttons:** 'OK' and 'Cancel' buttons are located at the bottom right of the dialog.

In the background, the main interface shows a table of users with columns for 'User name' and 'Role'. The first three rows are 'Leon', 'Dean', and 'Leon2'. A '+ Add user' button is circled in red in the top right corner of the main interface, with a red arrow pointing to it.

GIS Service Security Control

- Authorize the GIS service accessing
 - Step 1: Start service security control

Home Services Clusters Logs **Security** Monitoring Backup Task License Settings

Security Config Users User Groups Roles CAS Configuration LDAP Configuration Third-party Configuration Realspace Security

GIS service security:

Enable service security: Enable **Disable**

After disabled, the service instance authorization setting is invalid, and the security settings will not be affected.

Token:

Current shared key:

Modify shared key: (The key length cannot be less than 16)

GIS Service Security Control

- **Authorize GIS service accessing**
 - **Step 2: Authorize and set the management authority to services**

The screenshot shows the 'Cache' and 'Security' sections of the GIS Service Security Control interface. The 'Cache' section includes options for 'Enable map tile caches', 'Cache Type' (UGC), 'Cache Version' (4.0), and 'Preferred PNG Cache Type' (PNG). The 'Security' section includes a table for 'Set users visit right aim to each service example' with a 'Volume Authorization' column. A red circle highlights the lock icon in the 'Volume Authorization' column for the first row.

Service Example	Volume Authorization
map-china400/wms111	🔒
map-china400/wmts-china	🔒
map-china400/wms130	🔒
map-china400/wmts100	🔒
map-china400/rest	🔒

The screenshot shows the 'Authorize' dialog box. It includes options for 'Anonymous users can access', 'Specified users can access', and 'All logged in users can visit'. The 'Specified users can access' option is selected. Below these options, there is a section for 'Roles to be selected:' with a list of roles: ADMIN, UNAUTHORIZED, PUBLISHER, NOPASSWORD, and PORTAL_USER. There are 'Add' and 'Remove' buttons between the 'Roles to be selected:' and 'Selected role:' sections. The 'Set visit forbidden role to service example' option is also present.

GIS Service Security Control

- **Control the GIS service security by Token**
 - **Advantage: Avoid disclosing users' account when accessing the authorized service**
 - **Premise: The GIS service has been authorized**
 - **Token has the using time limit**

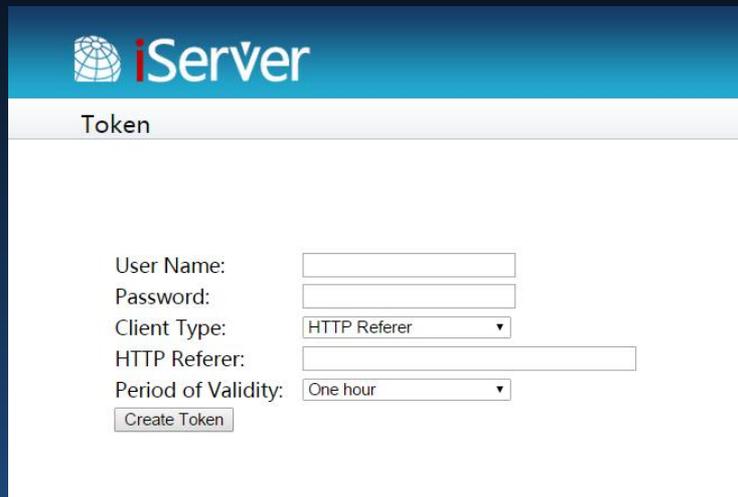
GIS Service Security Control

- **Control GIS service security by Token**
 - **Step 1: Set the shared key**
 - **Length: 16 characters**
 - **Random key is advised**
 - **All previous key will expire if the key is modified**
 - **Modify the shared key in a regular time**

The screenshot displays a web interface for configuring GIS service security. At the top, there is a navigation bar with tabs: Security Config, Users, User Groups, Roles, CAS Configuration, LDAP Configuration, Third-party Configuration, and Realspace Security. Below this, the 'GIS service security:' section is visible. It includes a toggle for 'Enable service security' which is currently set to 'Disable' with a green checkmark icon. A note below the toggle states: 'After disabled, the service instance authorization setting is invalid, and the security settings will not be affected.' The 'Token:' section is highlighted with a red border and contains two input fields: 'Current shared key' with the value '9c0a84a5fb03440ca9423439cd1d2e48' and 'Modify shared key' with the value '9d3daa447f294eb28d274f001388e412'. A note next to the second field says '(The key length cannot be less than 16)'. At the bottom of the 'Token:' section, there are two buttons: 'Generate random key' and 'Change key'.

GIS Service Security Control

- **Control service security by Token**
 - **Step 2: Generate Token key**
 - Apply address:
 - **http://[IP]:8090/iserver/services/security/tokens**
 - Way of delivering key:



The screenshot shows the 'Token' page of the iServer application. It features a header with the iServer logo and a title bar labeled 'Token'. Below the title bar, there are several input fields and a button:

- User Name:
- Password:
- Client Type:
- HTTP Referer:
- Period of Validity:
-

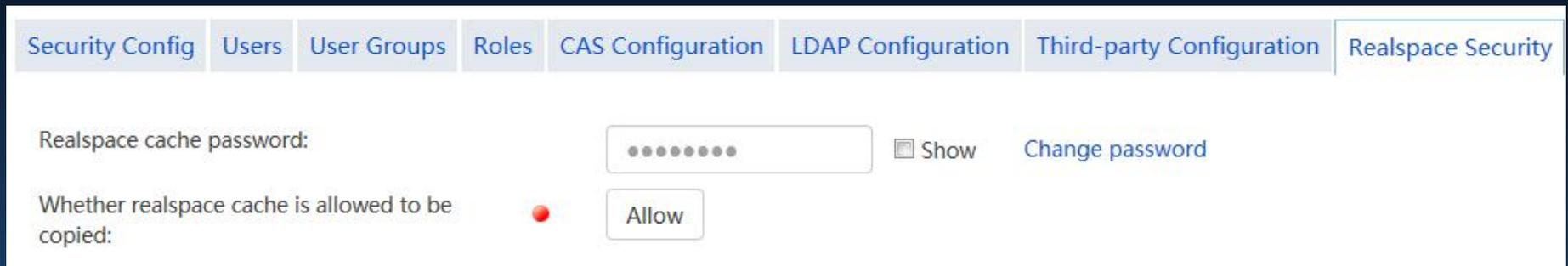
HTTP Referer	The Token URL
Client IP	The indicated used IP address of Token
The current requested IP	Indicate the current requested IP address which is sending the requests as the Token IP address

Service Manager Accessing Control

- **Service Manager Accessing Control**
 - Only the administrator can access the service manager to add, edit or delete the GIS services
- **User and role management**
 - The same as which in GIS service security control

3D Data Security

- **To protect the 3D data security downloaded on the client side**
 - **If the users want to view the 3D cache on the client side, password verification is required**

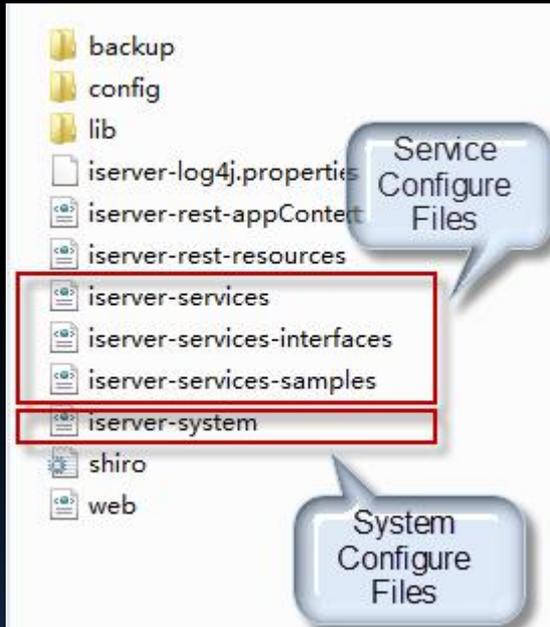


The screenshot shows a web interface for configuring security settings. At the top, there is a navigation bar with tabs: Security Config, Users, User Groups, Roles, CAS Configuration, LDAP Configuration, Third-party Configuration, and Realspace Security. The 'Realspace Security' tab is active. Below the navigation bar, there are two main configuration sections. The first section is for the 'Realspace cache password', which includes a text input field with masked characters (dots), a 'Show' checkbox, and a 'Change password' link. The second section is for 'Whether realspace cache is allowed to be copied', which features a red indicator light and an 'Allow' button.

Backup and Restore

- **How to save the configuration information of iServer?**
 - Save as the configuration file
 - Location: [installation directory]\webapps\iserver\WEB-INF\
– Visualized management and configuration by SuperMap iServer Manager
- **Backup the configuration file of iServer services**
 - Saved at [Installation directory]\webapps\iserver\WEB-INF\backup

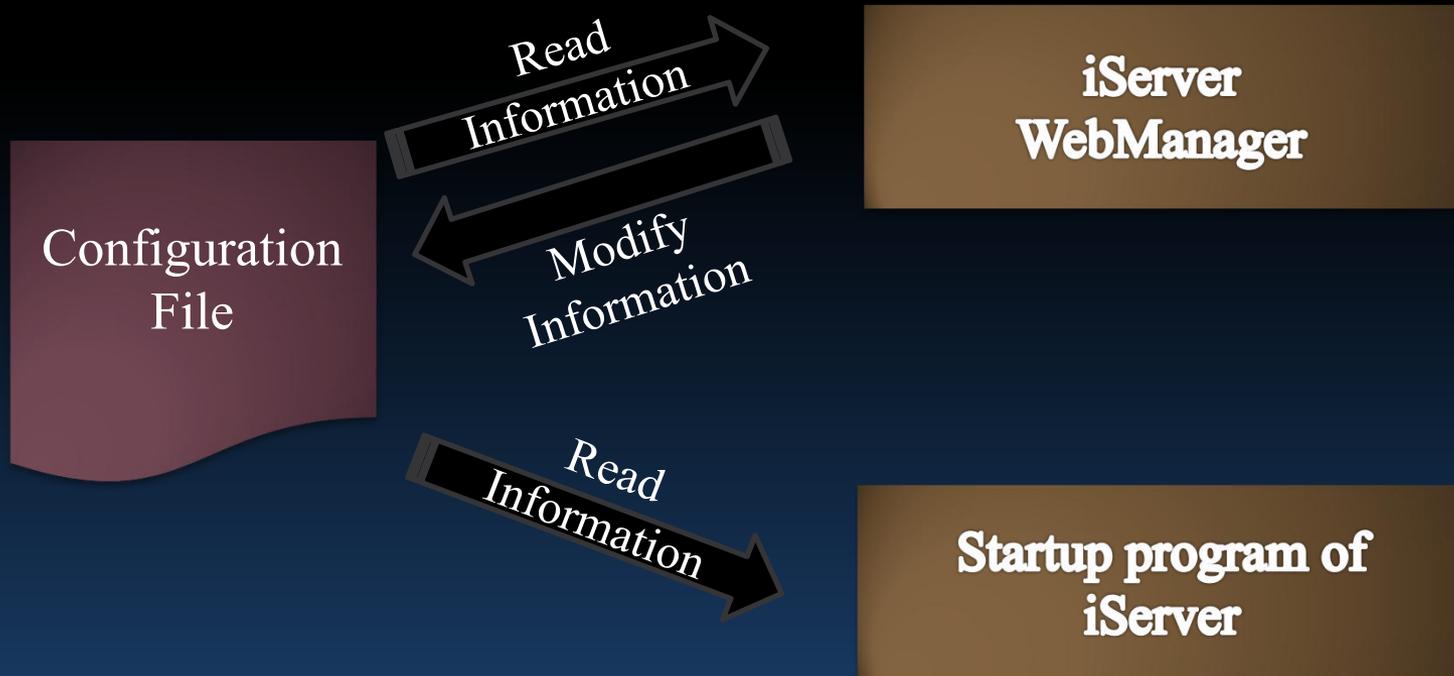
Backup and Restore—Configuration Files



File Name	Description
iserver-log4j.properties	The configuration file of logs.
iserver-preCacheConfig.xml	Pre-cache configuration, generated automatically when using pre-cache service.
kmlStyles.xml	Store the KML displaying style set by the users.
iserver-rest-appContext.xml	REST application configuration file.
iserver-rest-resources.xml	The configuration file of extensive resources, users could define the resource name, URI, type, etc.
iserver-services-interfaces.xml	Service interface instances, including the interface instances used in iserver-services-samples.xml and iserver-services-user.xml
iserver-services-samples.xml	The configuration file for the sample services.
iserver-services.xml	The configuration file of service published by users. The server could recognize this file if the file starts with "iserver-services", and it also support multiple customized service configuration files, such as iserver-services-1.xml, iserver-services-2.xml.
iserver-system.xml	System configuration file, including metadata, cluster, kml style, etc.
web.xml	The initialized configuration file of iServer, which have define the mapping relationship between functions and classed.

Configuration File - Managing iServer Services

- **Function of configuration files**



Backup and Restore

Backup Restore

Configuration file: E:\Deskpro Versions\supermap_issuer_8.0.0a_win64_zip_eng_usingnew\webapps\issuer\WEB-INF
Backup directory: E:\Deskpro Versions\supermap_issuer_8.0.0a_win64_zip_eng_usingnew\webapps\issuer\WEB-INF\backup
Backup file:

Backup

Others

- **Plan and Task**
 - Server restarts in a specified time range
- **Monitoring and Statistics**
 - Server load, cluster load, accessing history, etc.
- **Global Property Settings**
 - Configure the global variable information in the system, such as the service output path and accessing website

Thank You!

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