SuperMap iServer Service Management

SuperMap Software Co., Ltd.

SuperMap

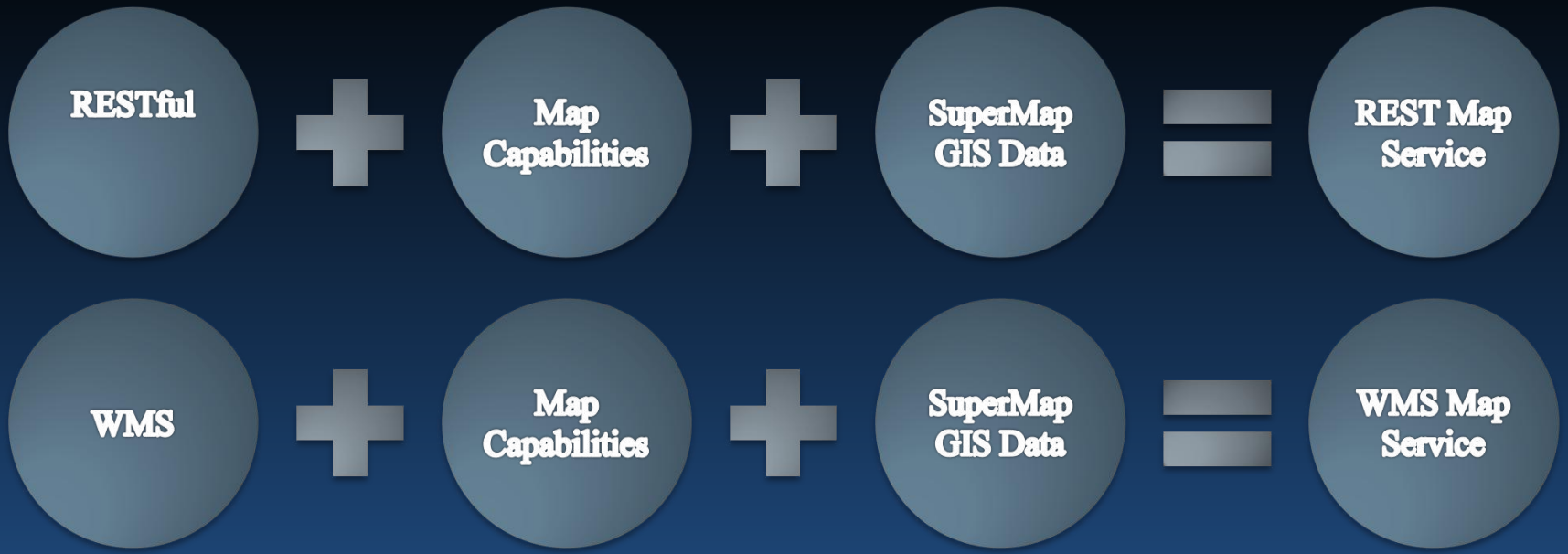
Main Contents

- 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

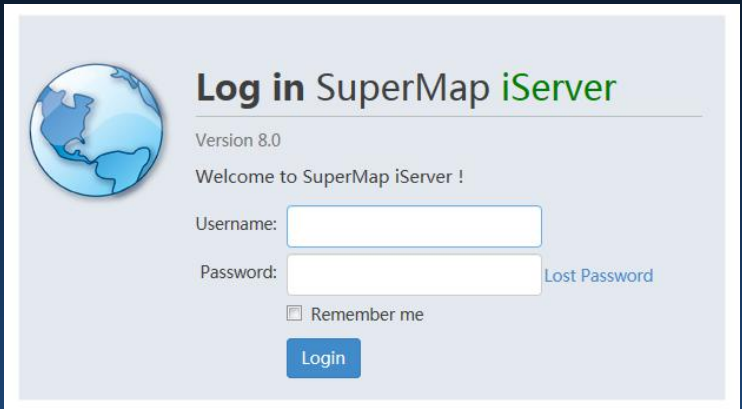


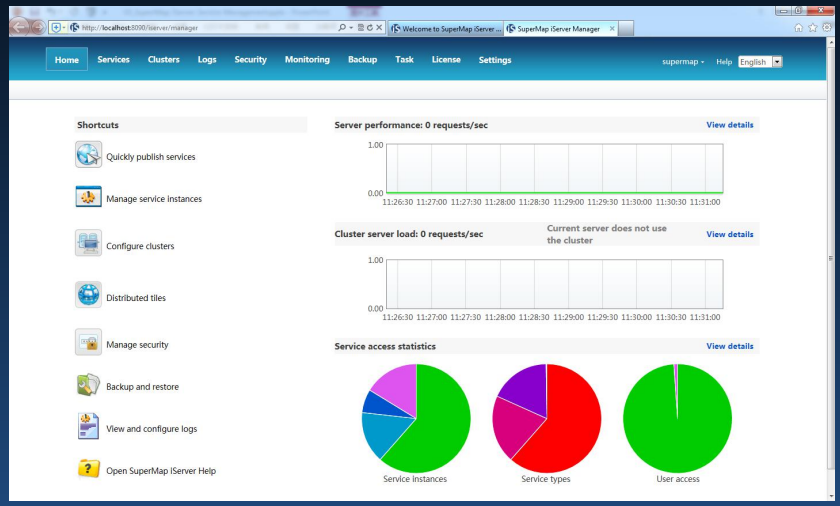
Default iServer Services

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/**
  - **Security Control: User name and password**





iServer Service Management

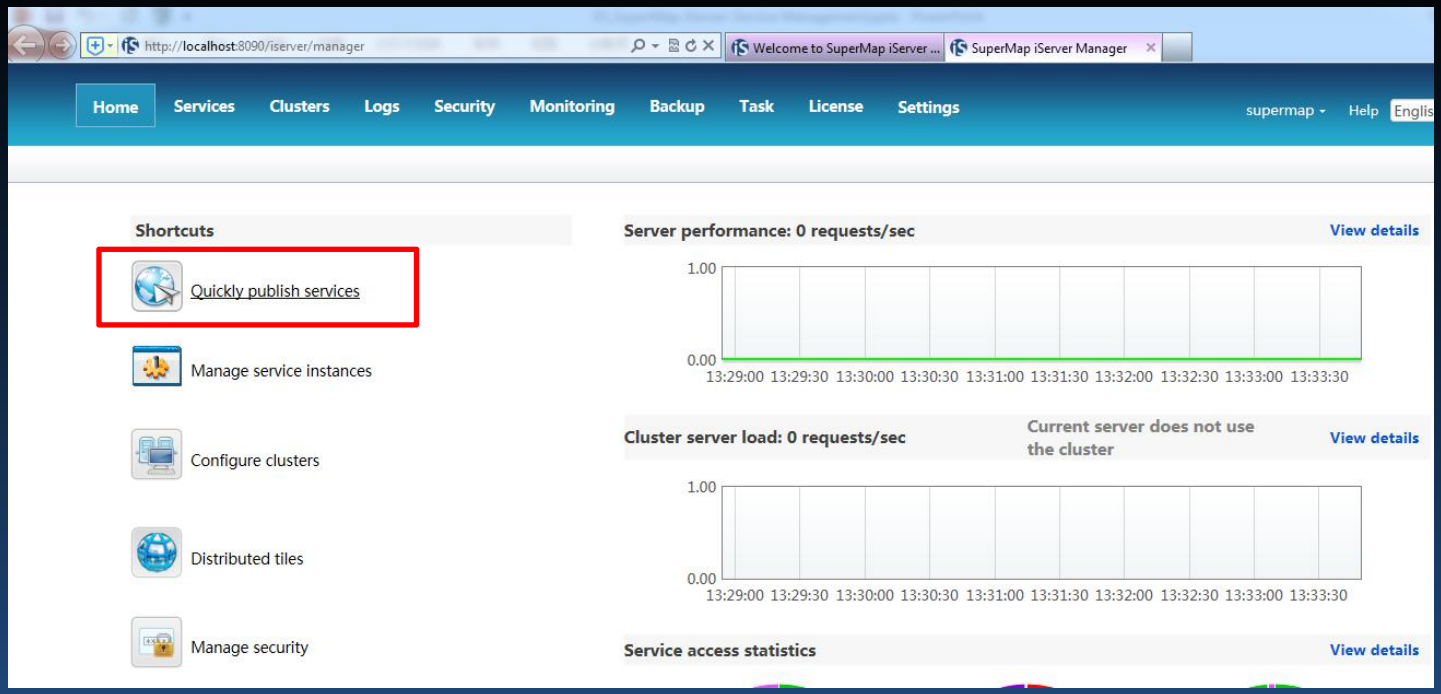
- **Service Management Tool-SuperMap iServer Manager**
  - **Managing Contents:**
    - **Create, delete, modify and query iServer services**
    - **Log browsing and management**
    - **Cluster management**
    - **Security settings of 3D data**
    - **Map pre-cache generating**
    - **License information 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**

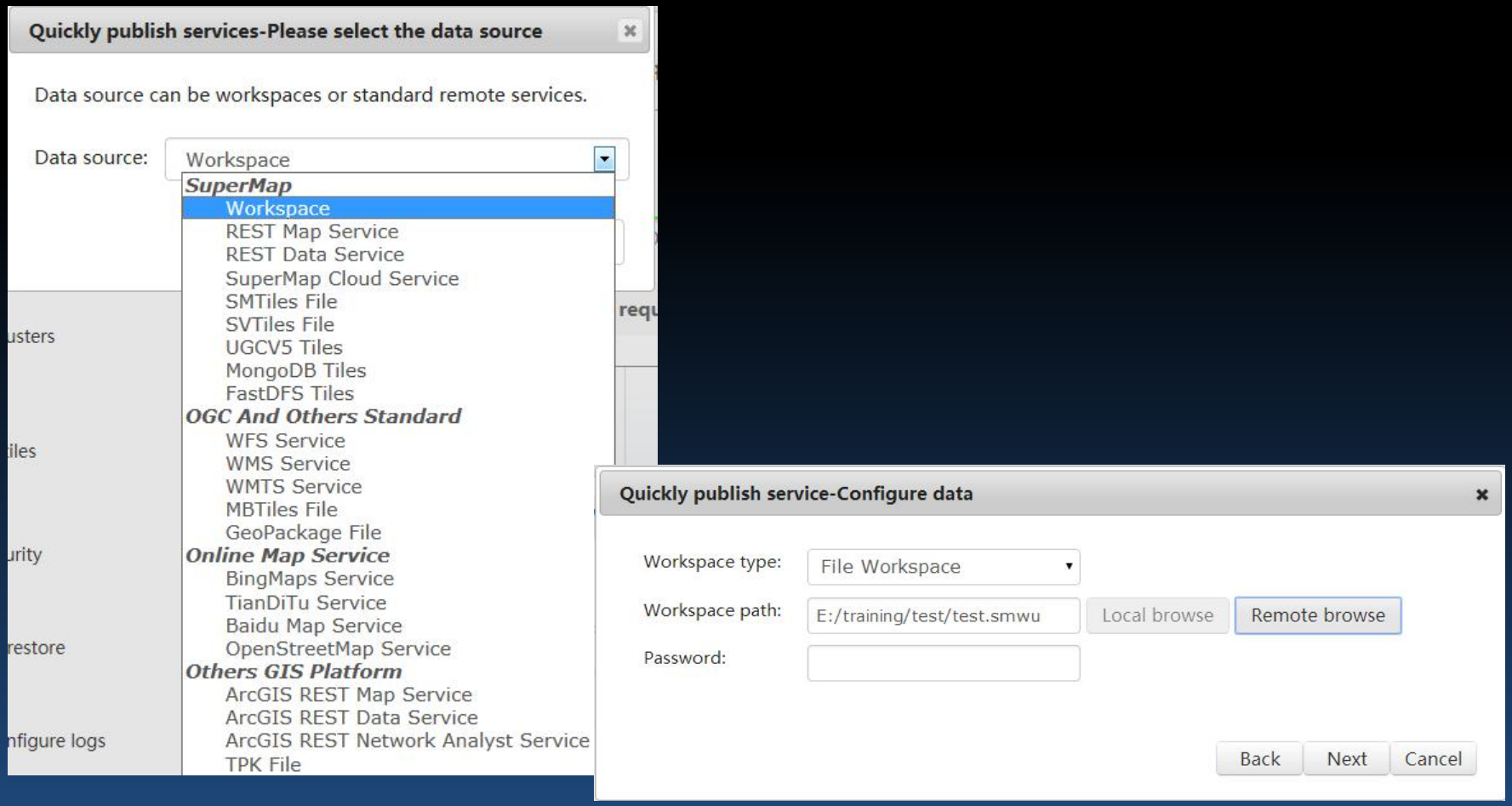
Publish iServer Service Quickly

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



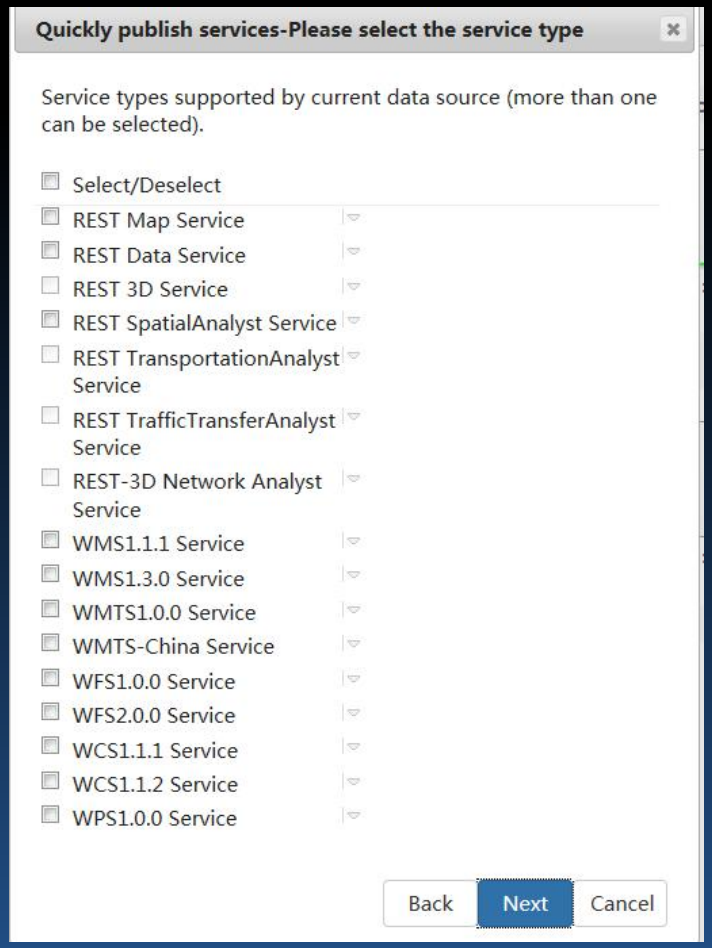
Steps of Publishing Service Quickly

- **Step1: Configure data**



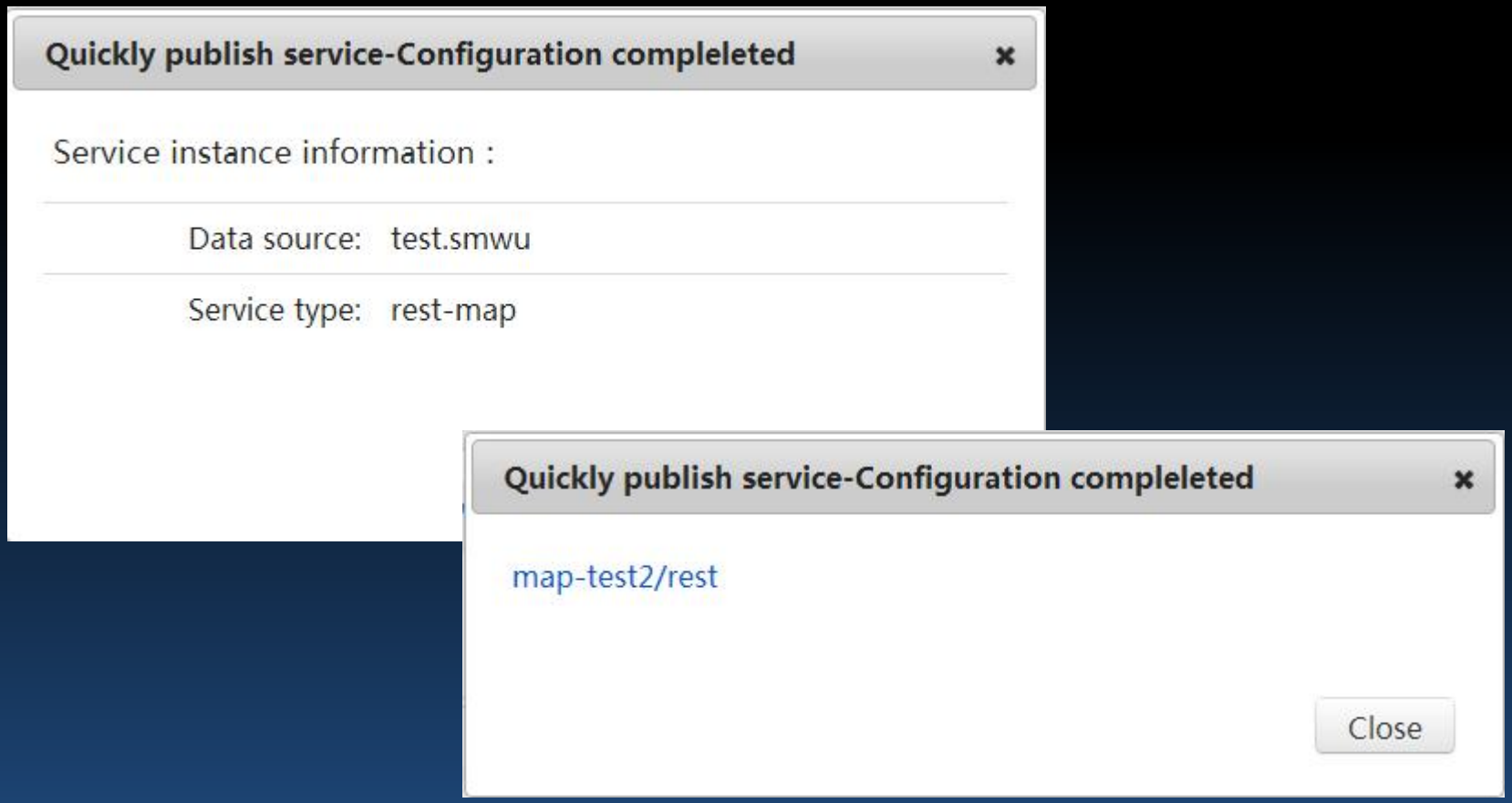
Steps of Publishing Service Quickly

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

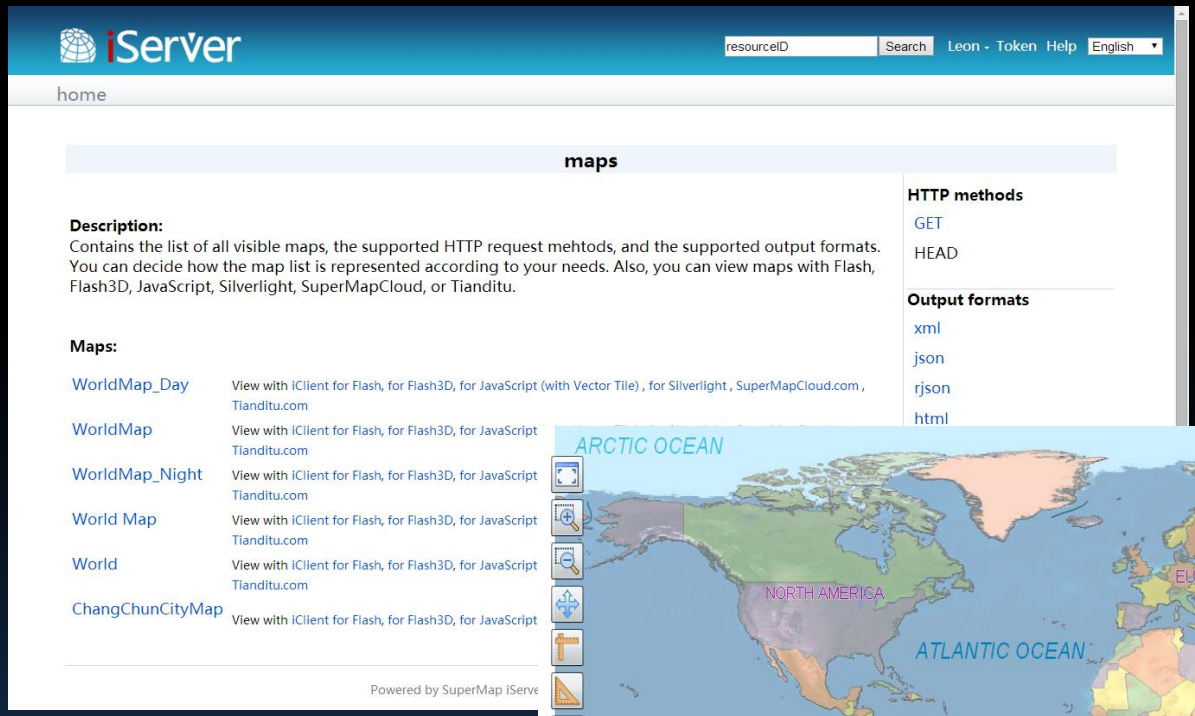


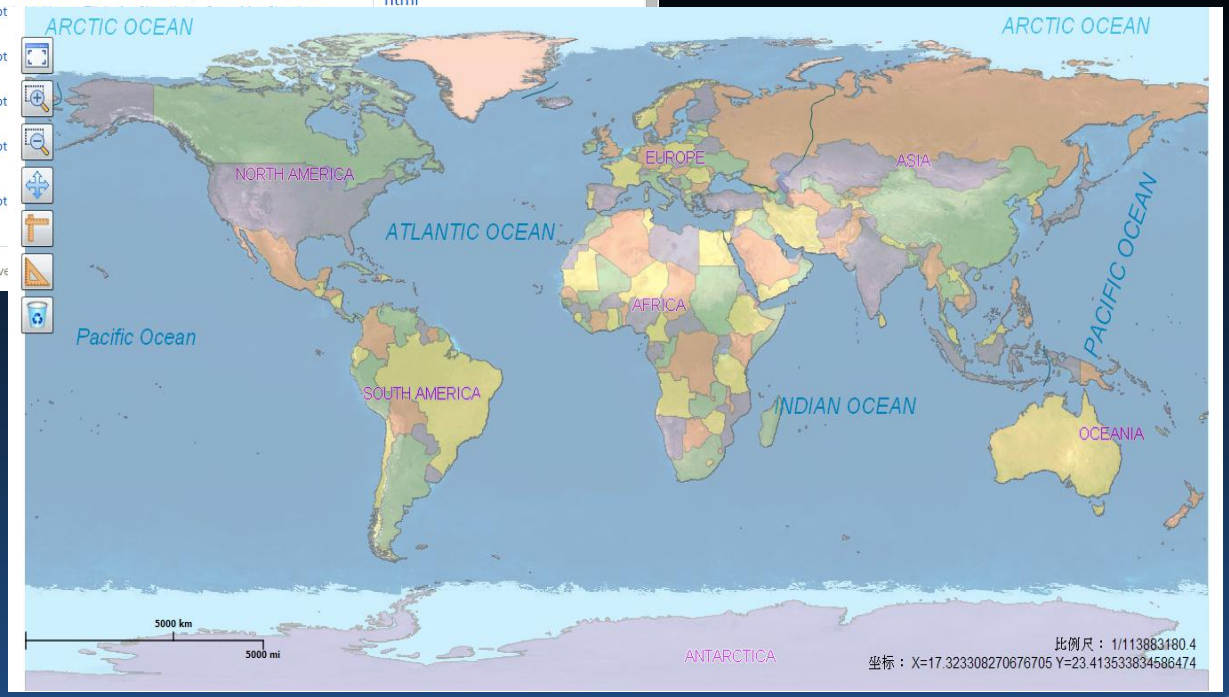
Steps of Publishing Service Quickly

- **Step3：Configuration complete**

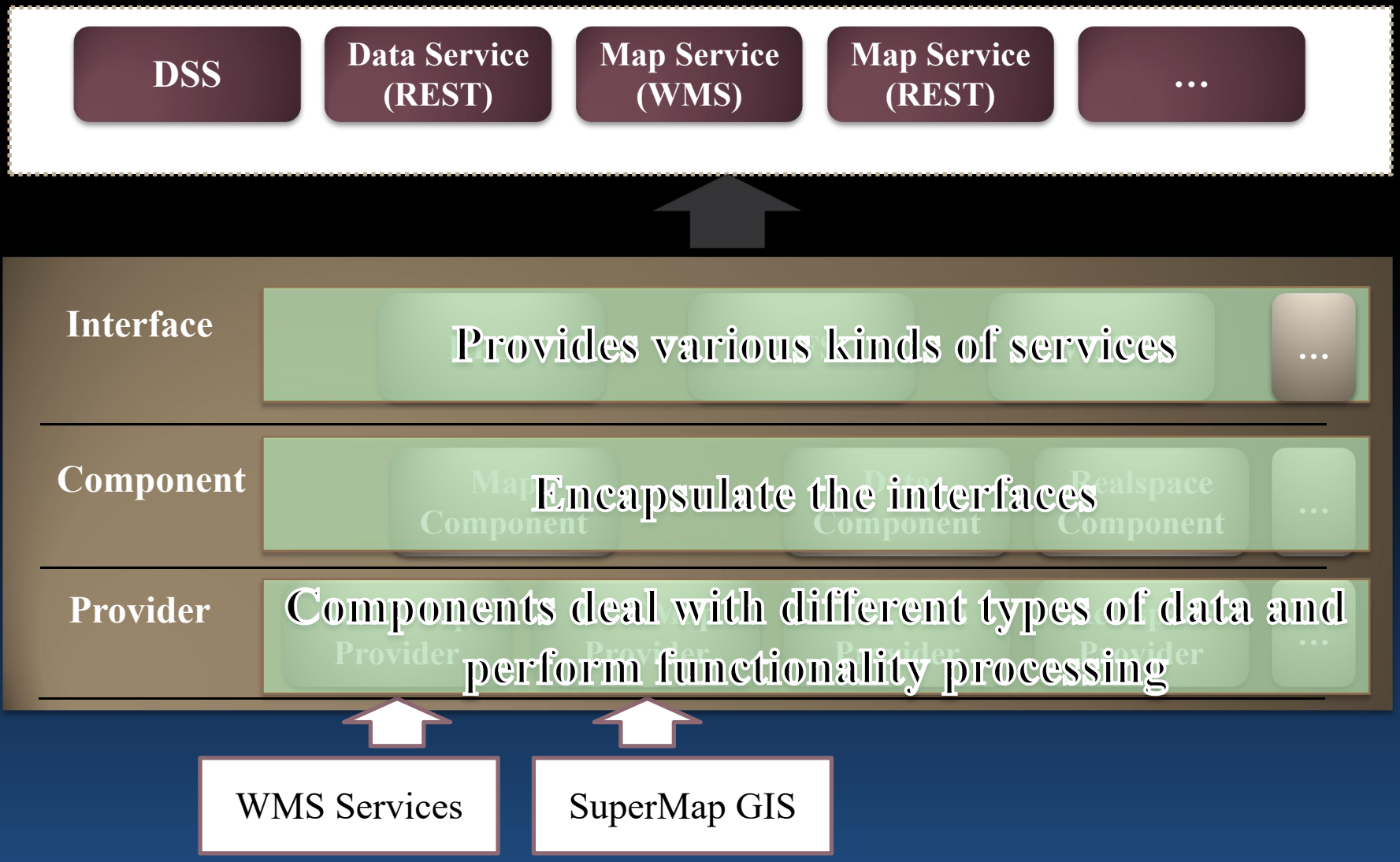


Browse iServer Services



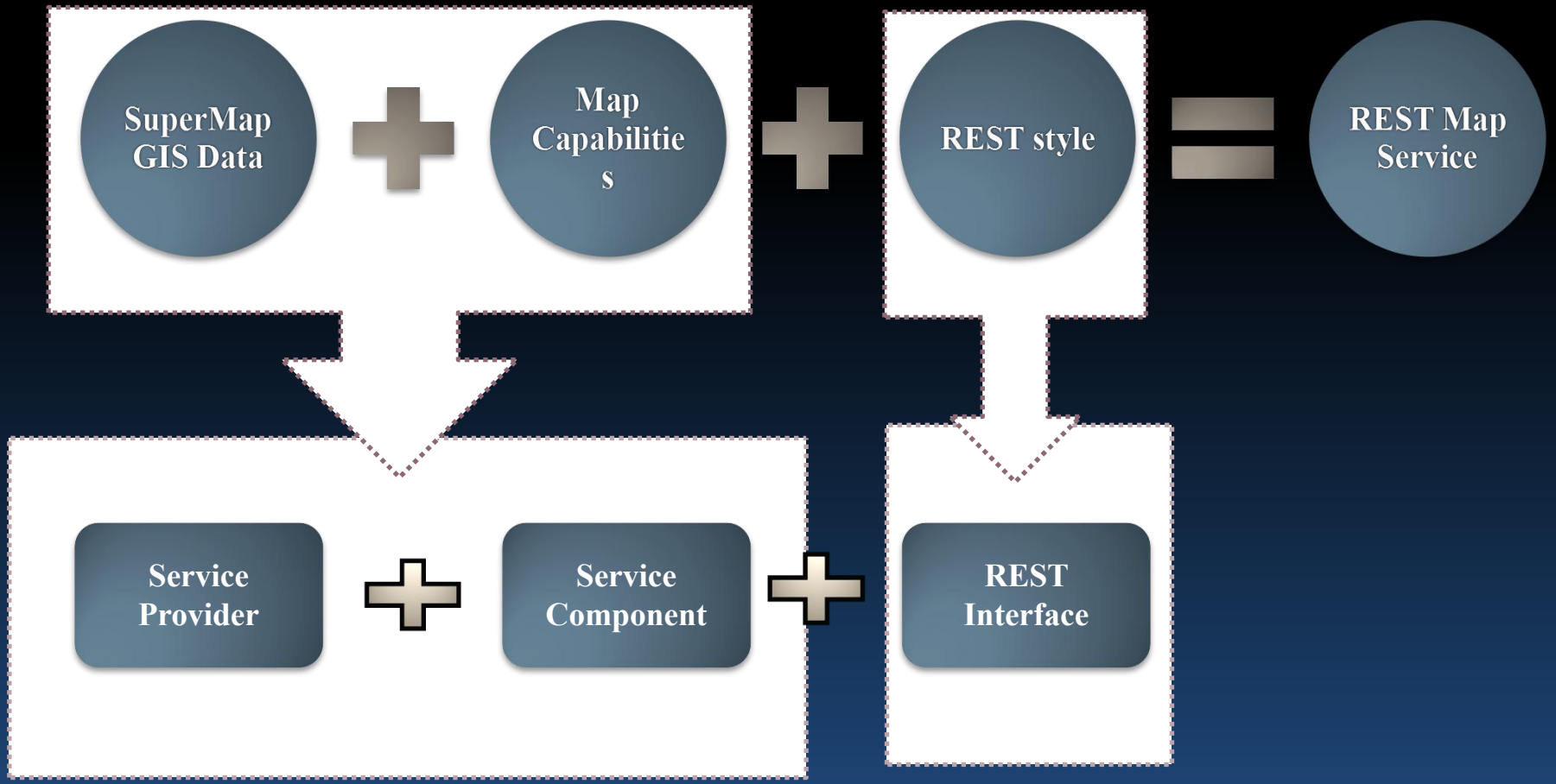


Service Structure



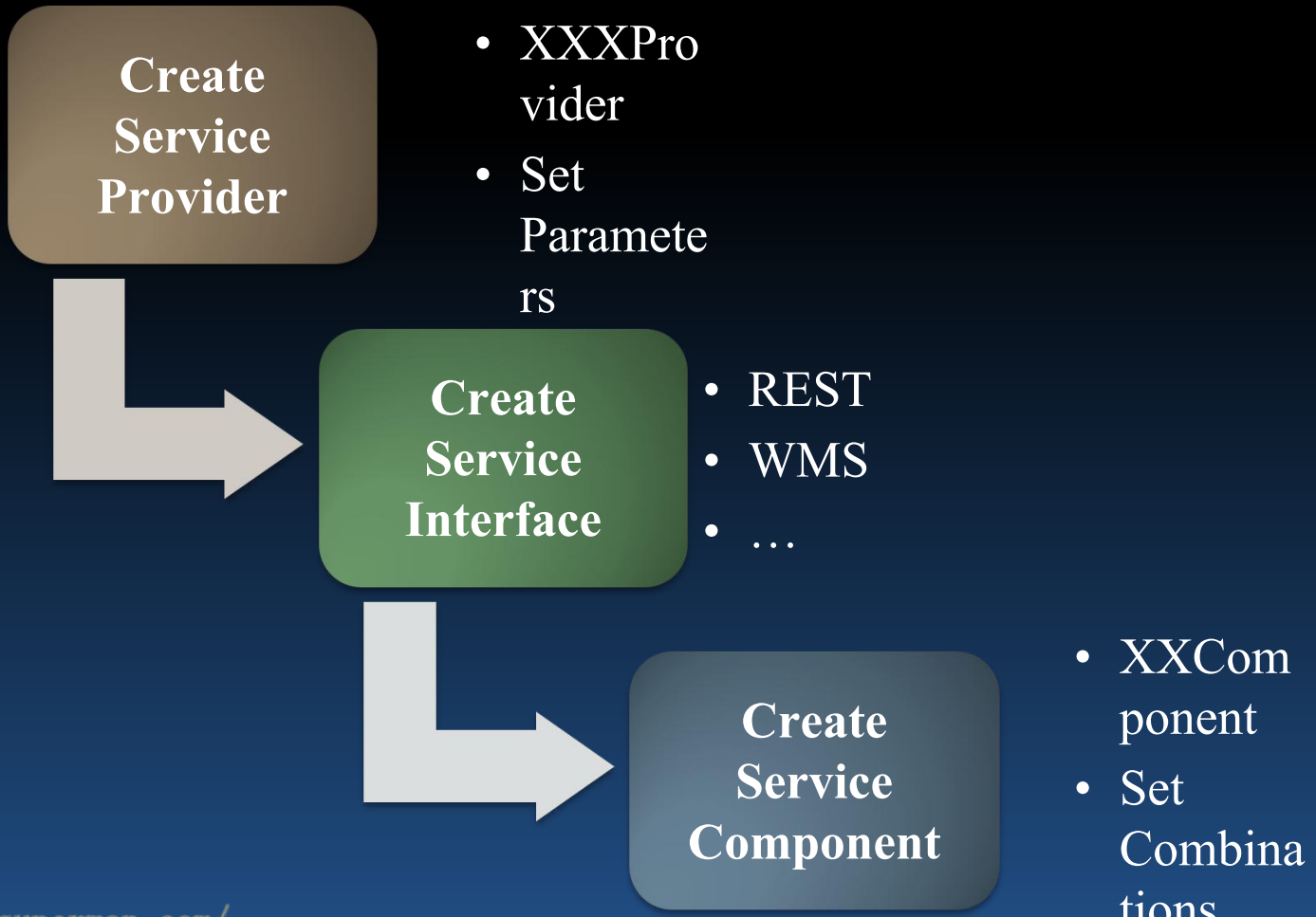
iServer Service Structure Analyze

- For example:



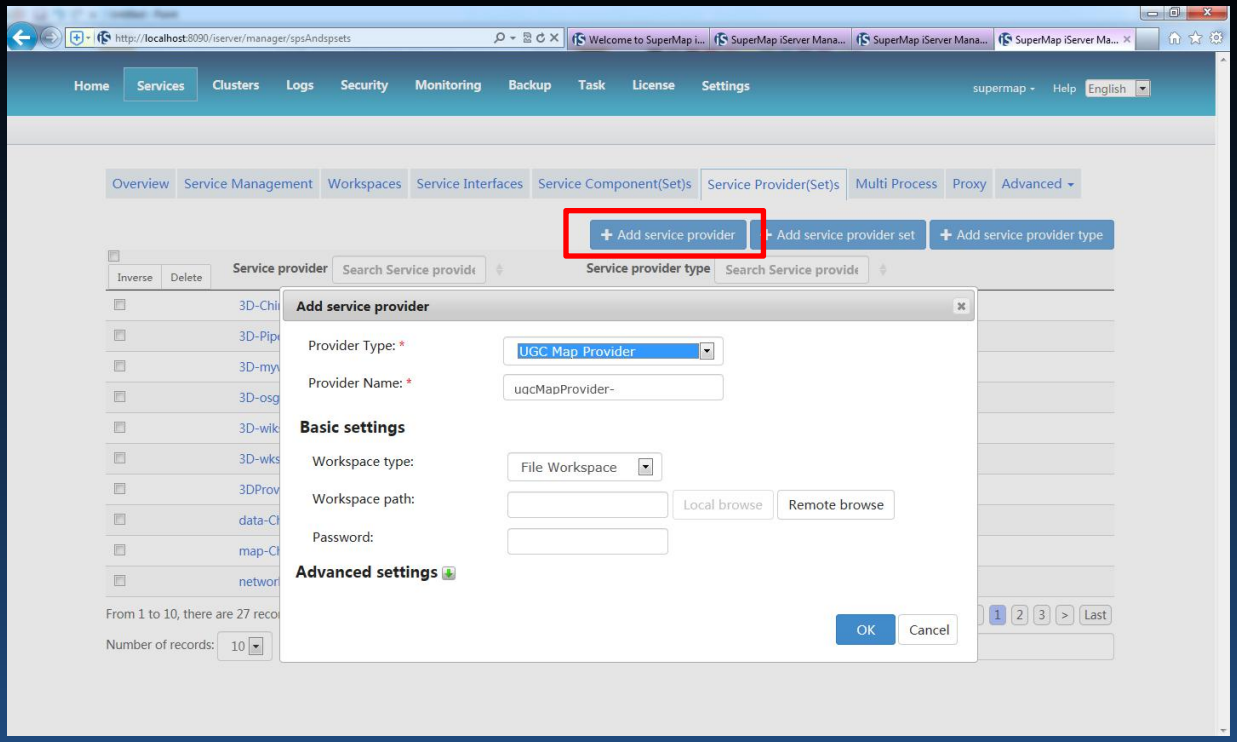
Steps of Publish Services

- **The Procedure:**



Step 1 Create Service Provider

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



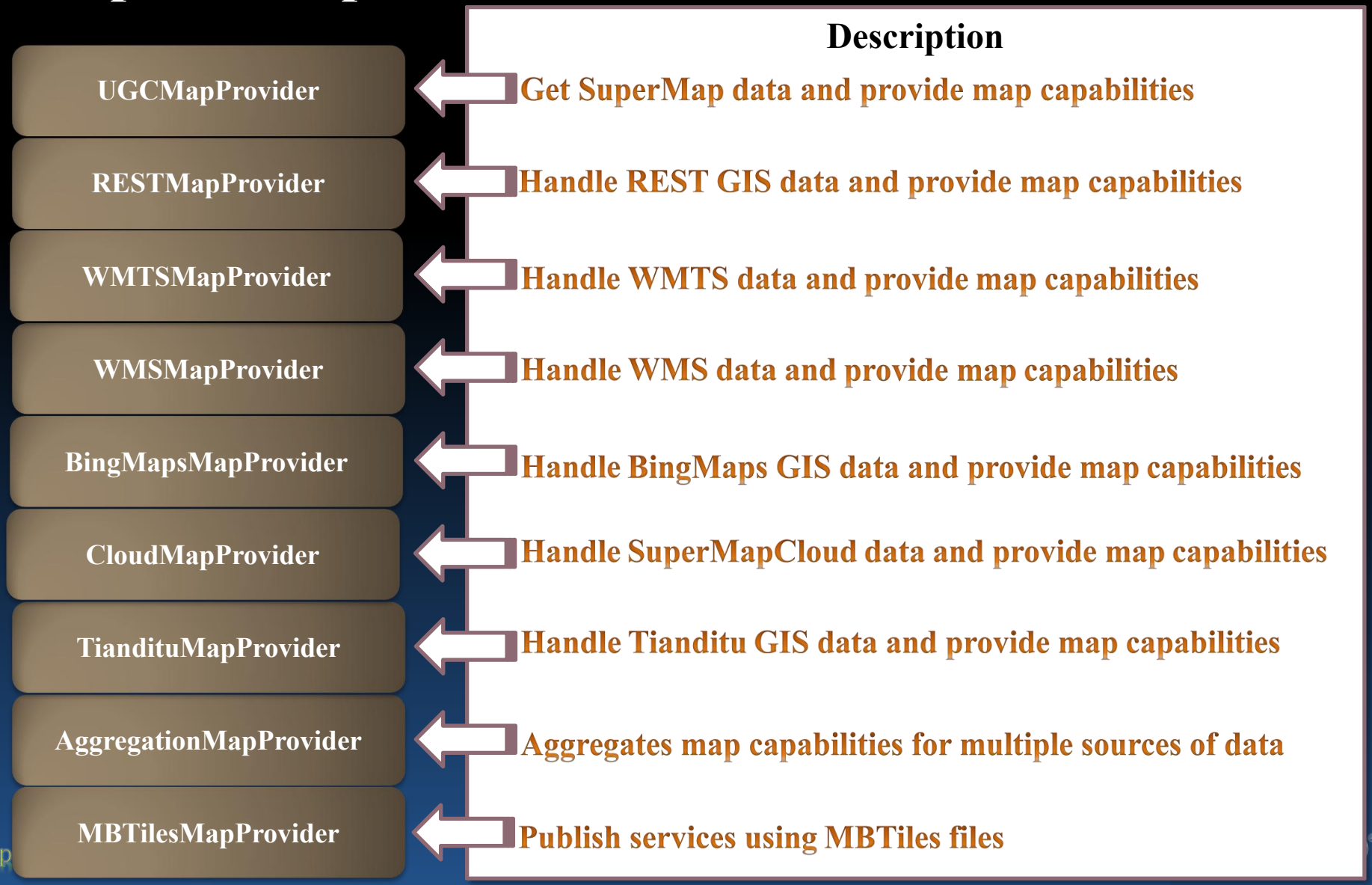
Service Provider Description

- 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.

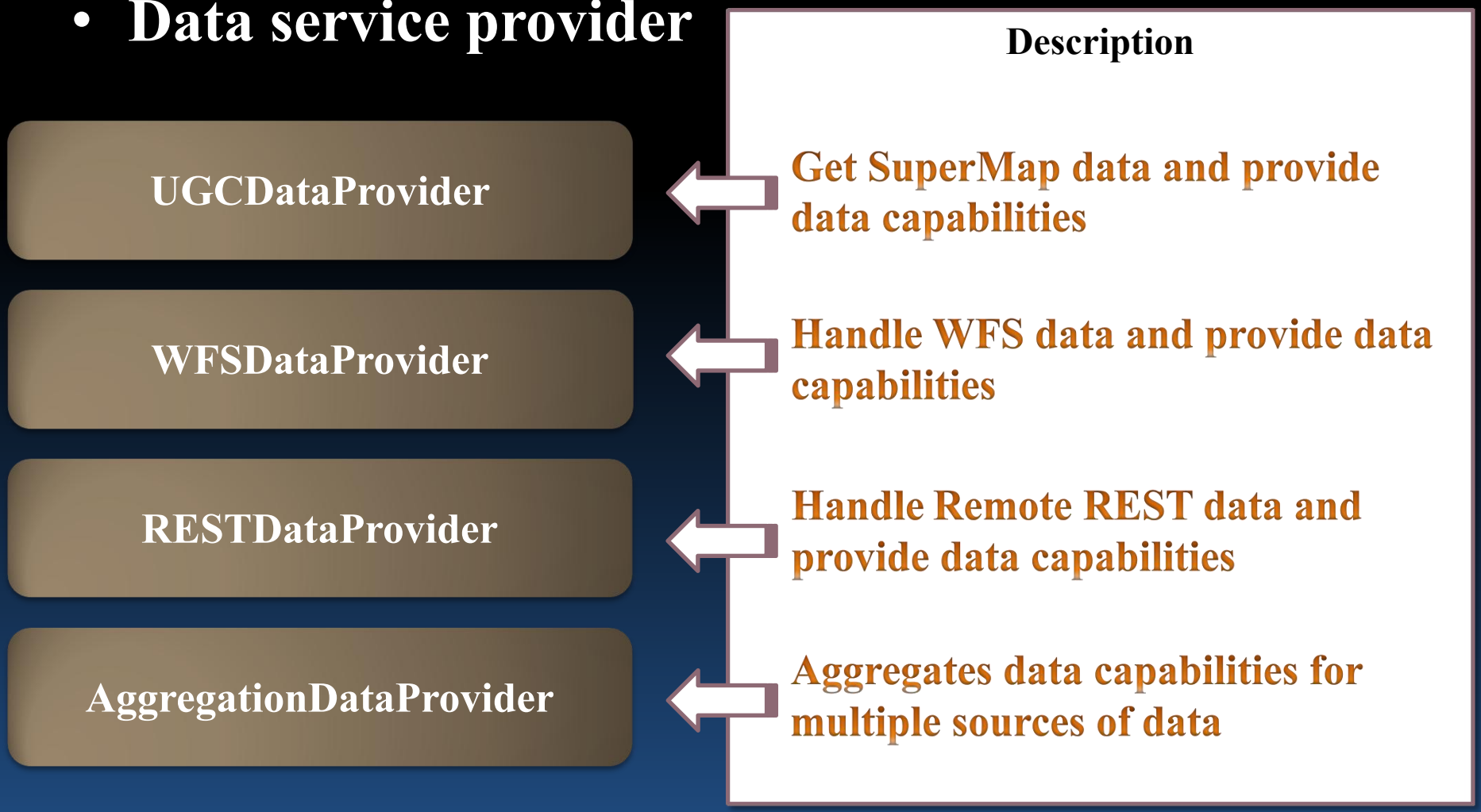
Service Providers

- Map service providers



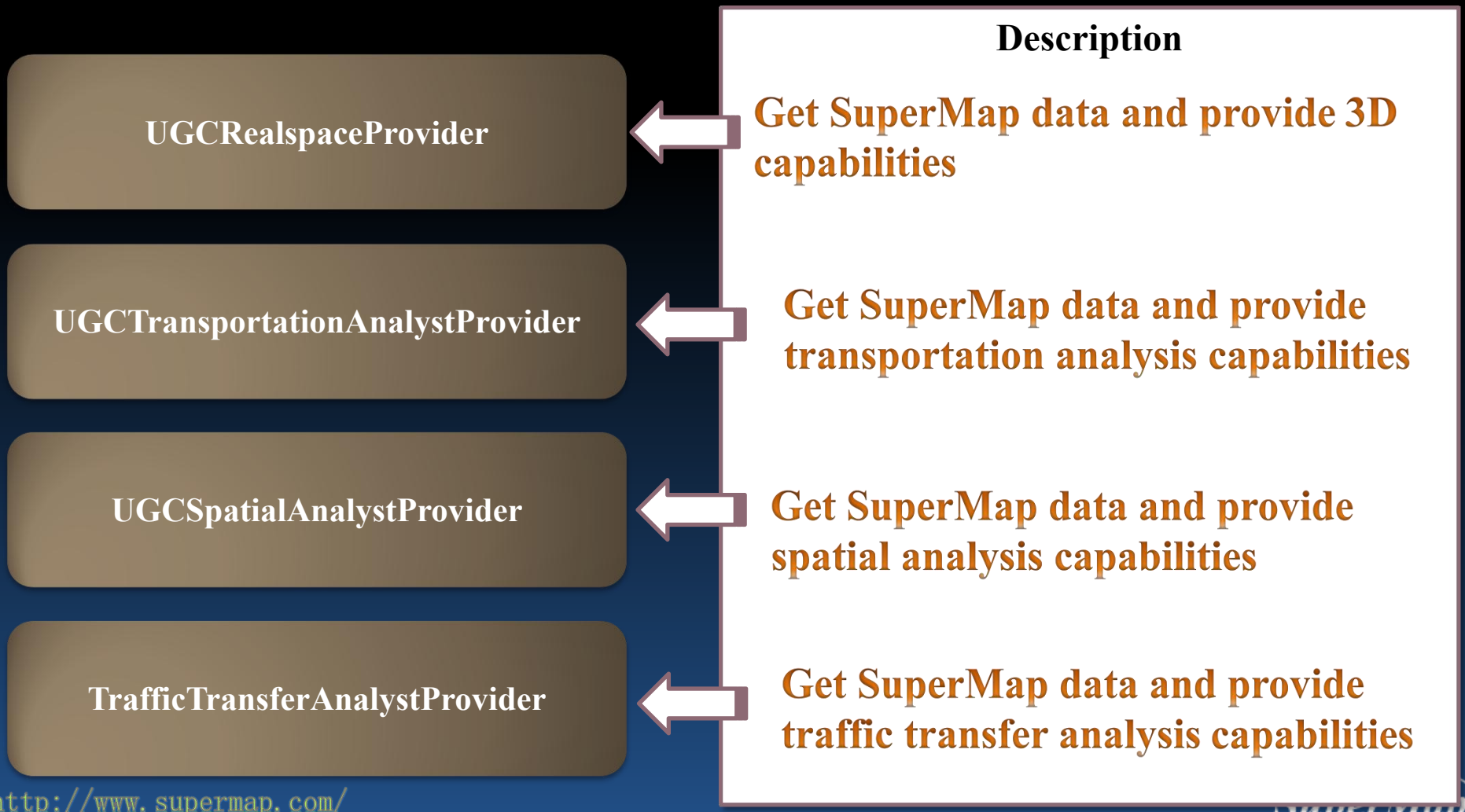
Service Providers

- **Data service provider**



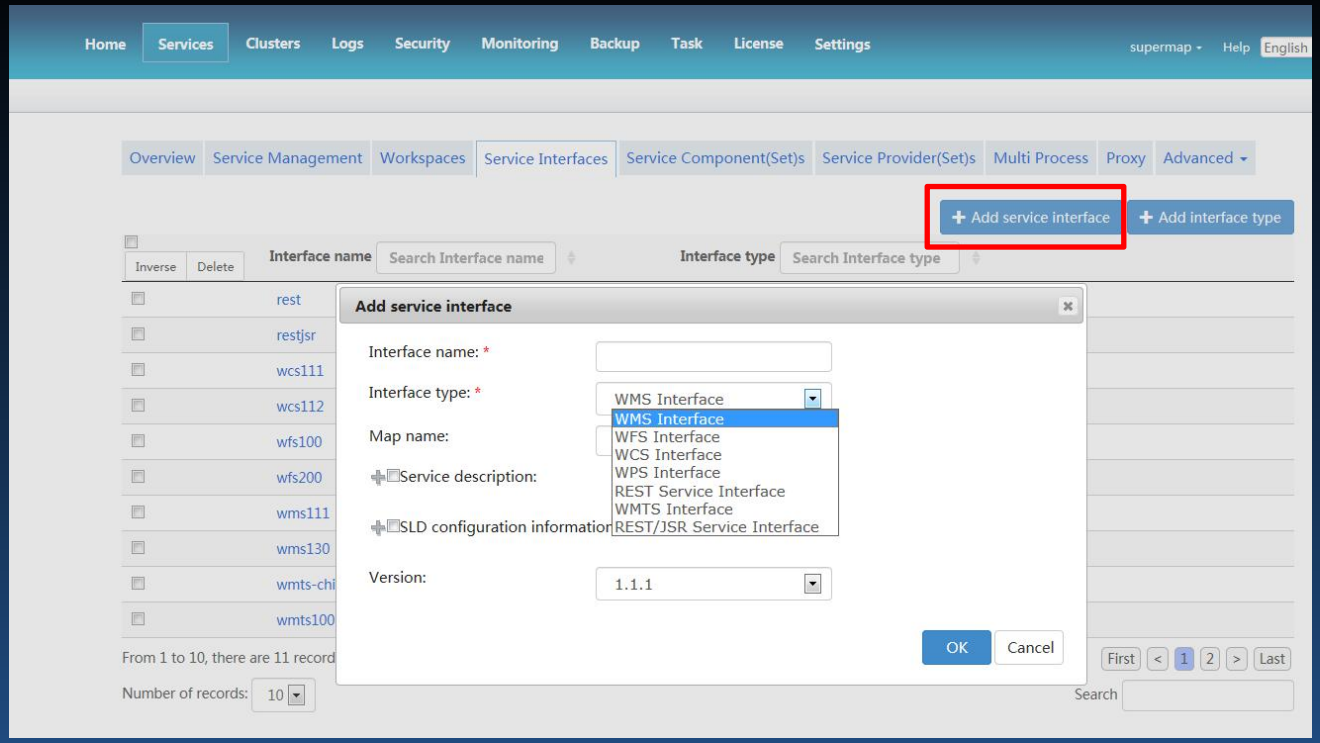
Service Providers

- Others



Step 2: Create Service Interface

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

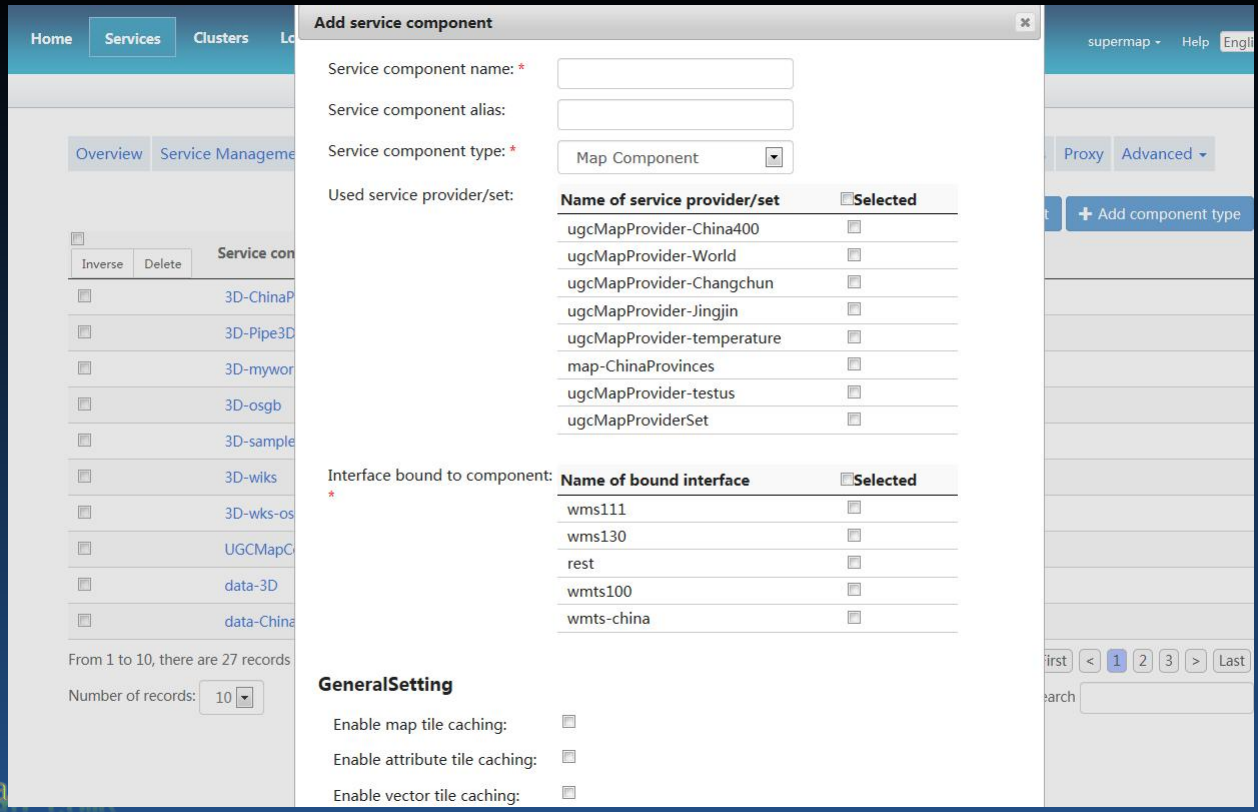


Service Interface Description

- 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.

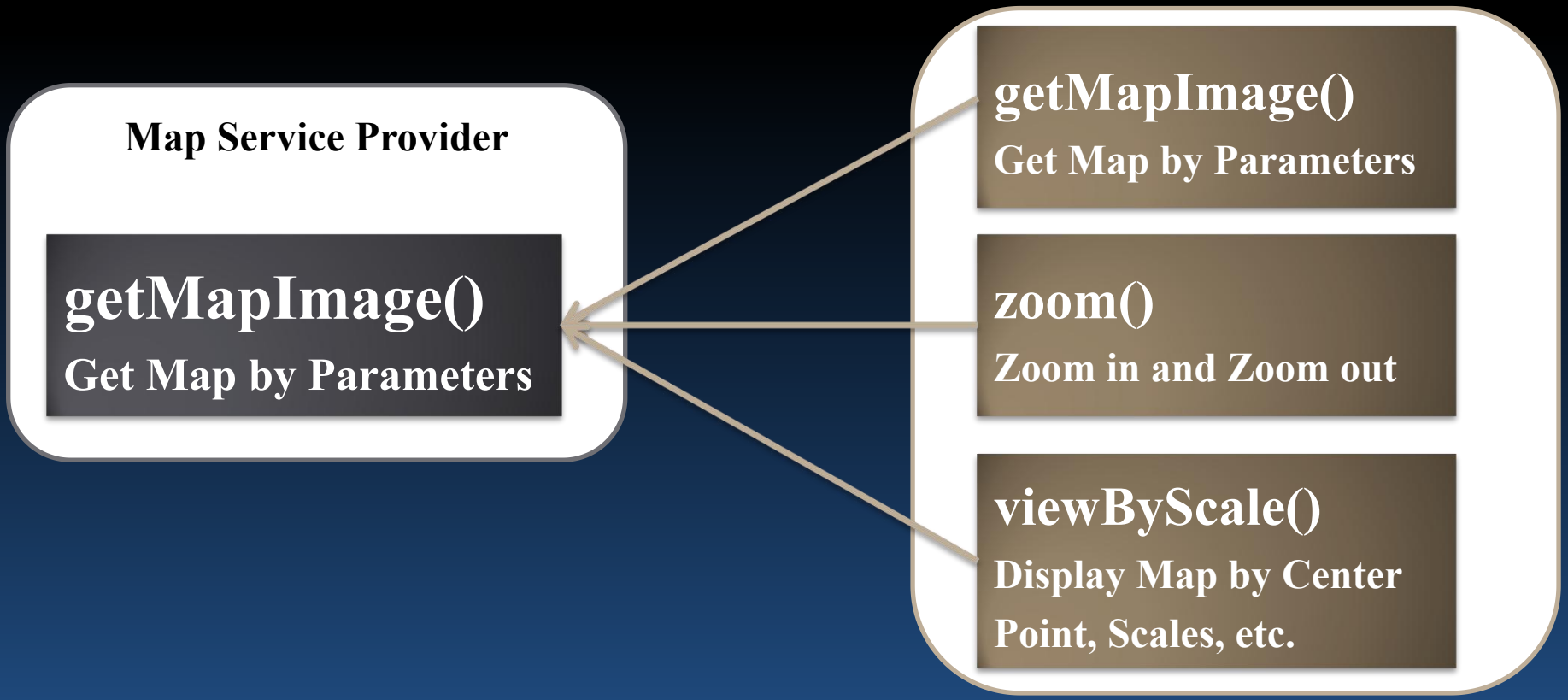
Step 3: Create Service Component

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



iServer Services - Service Components

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



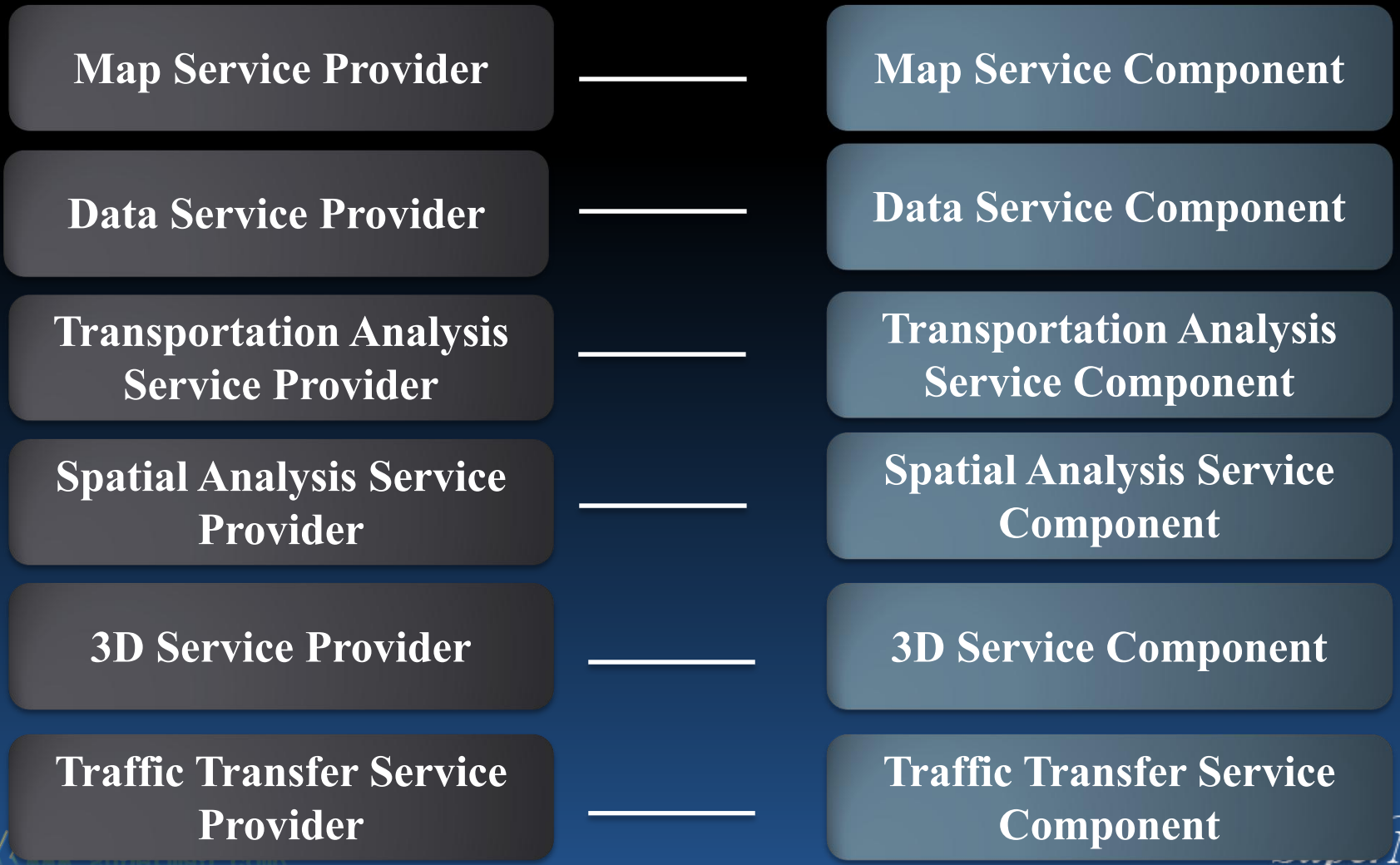
iServer Services - Service Components

- **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

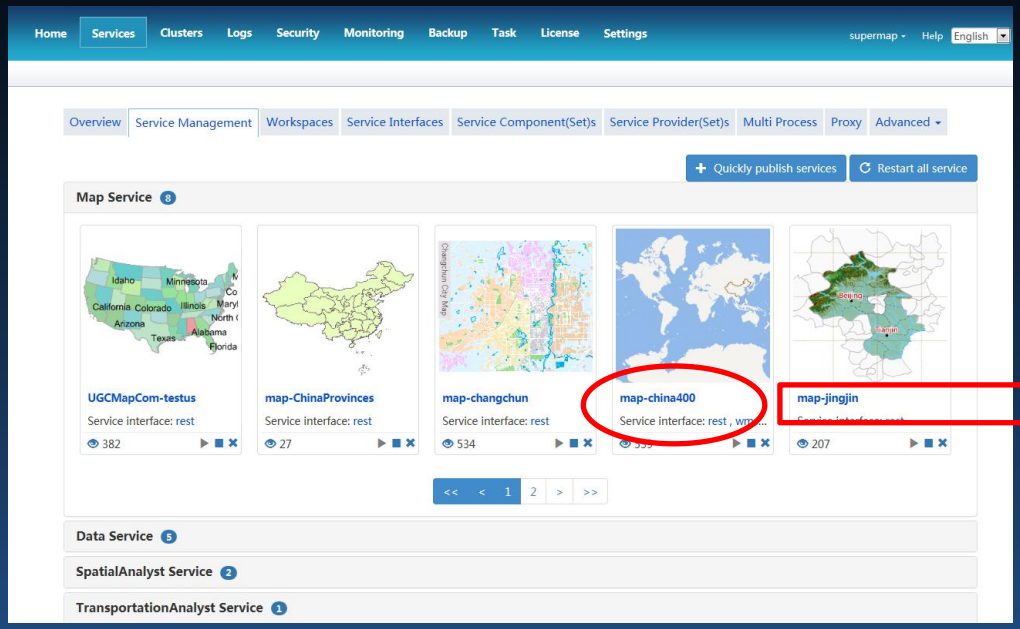
- Correlation between Components and Service Provider

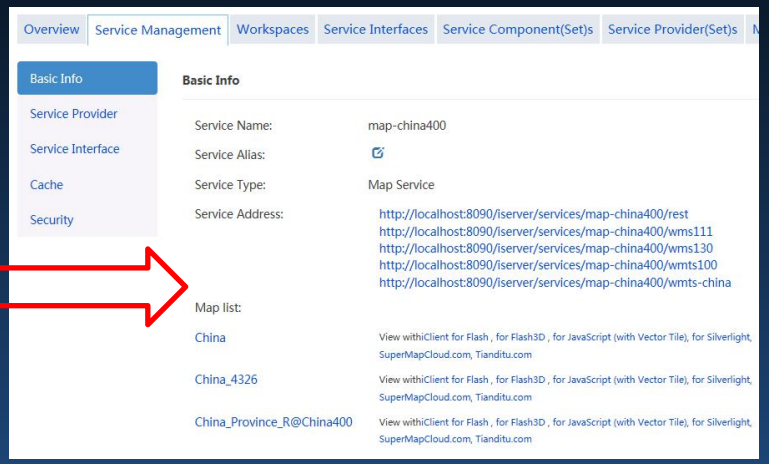


iServer Services - Service Interfaces

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



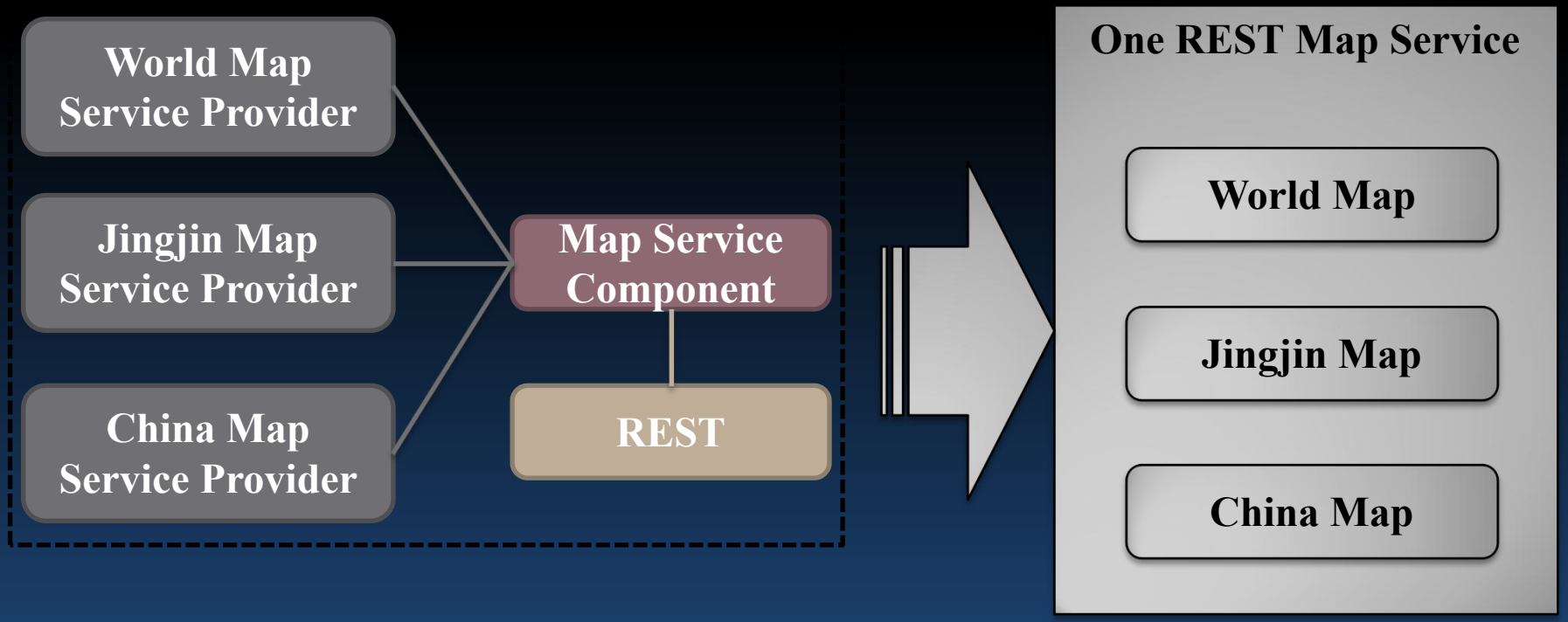


Practice

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

Supplementary Remarks

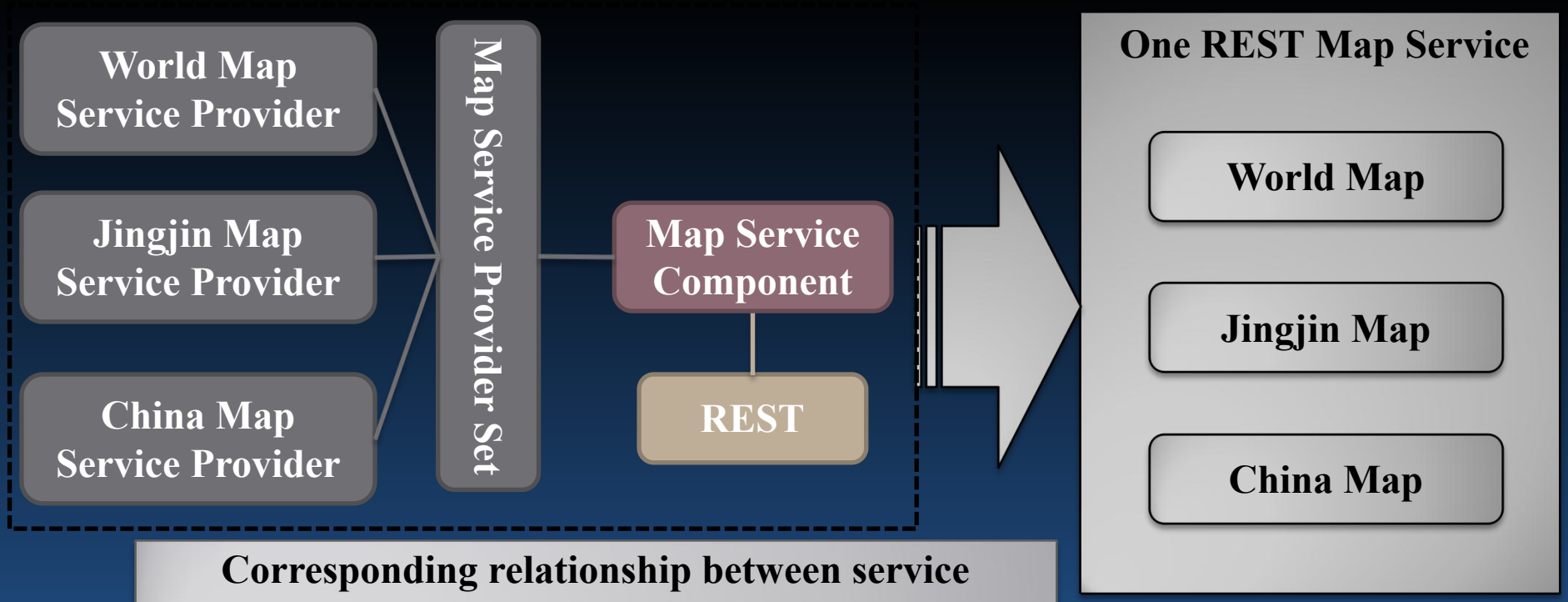
- For one GIS service instance
  - Service provider : service component = N : 1



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

Supplementary Remarks

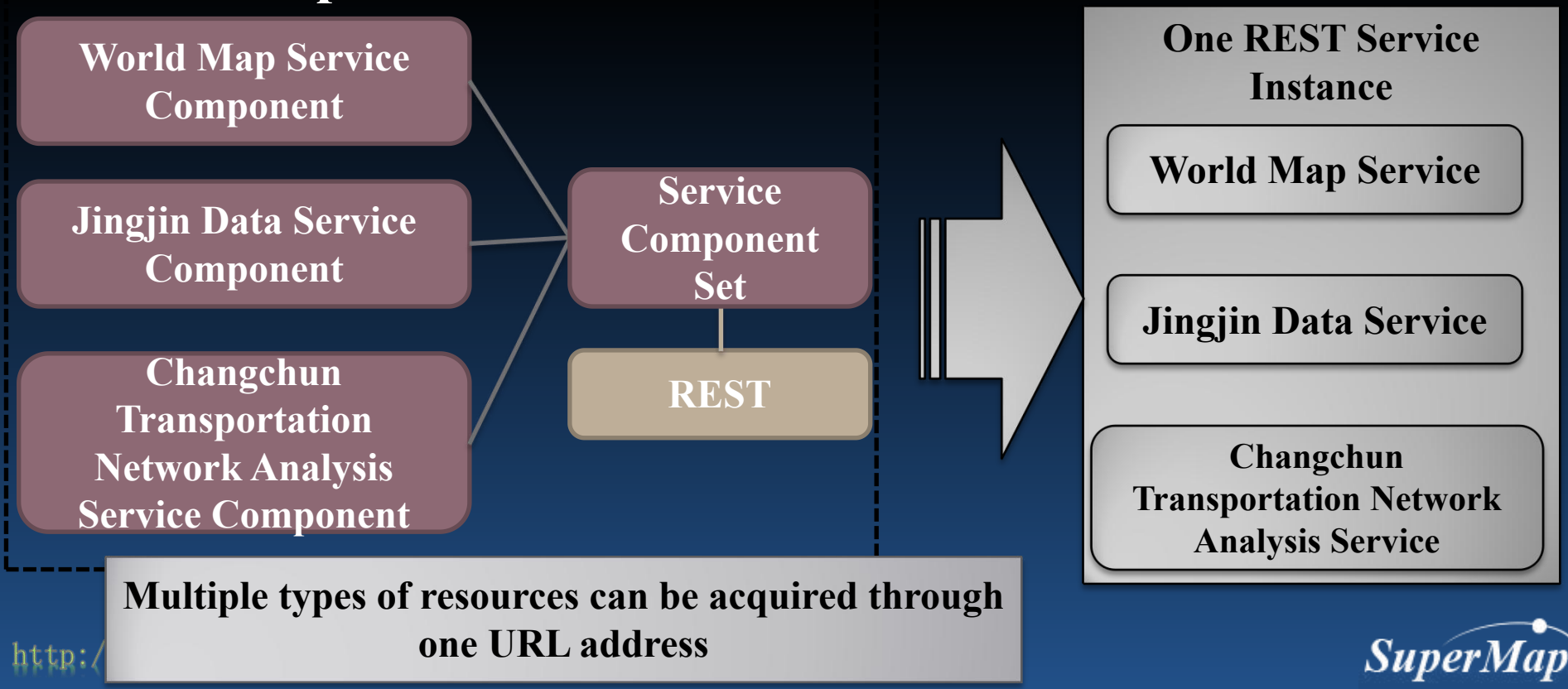
- For one GIS service instance
  - Multiple service providers of the same type can compose one service provider set



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

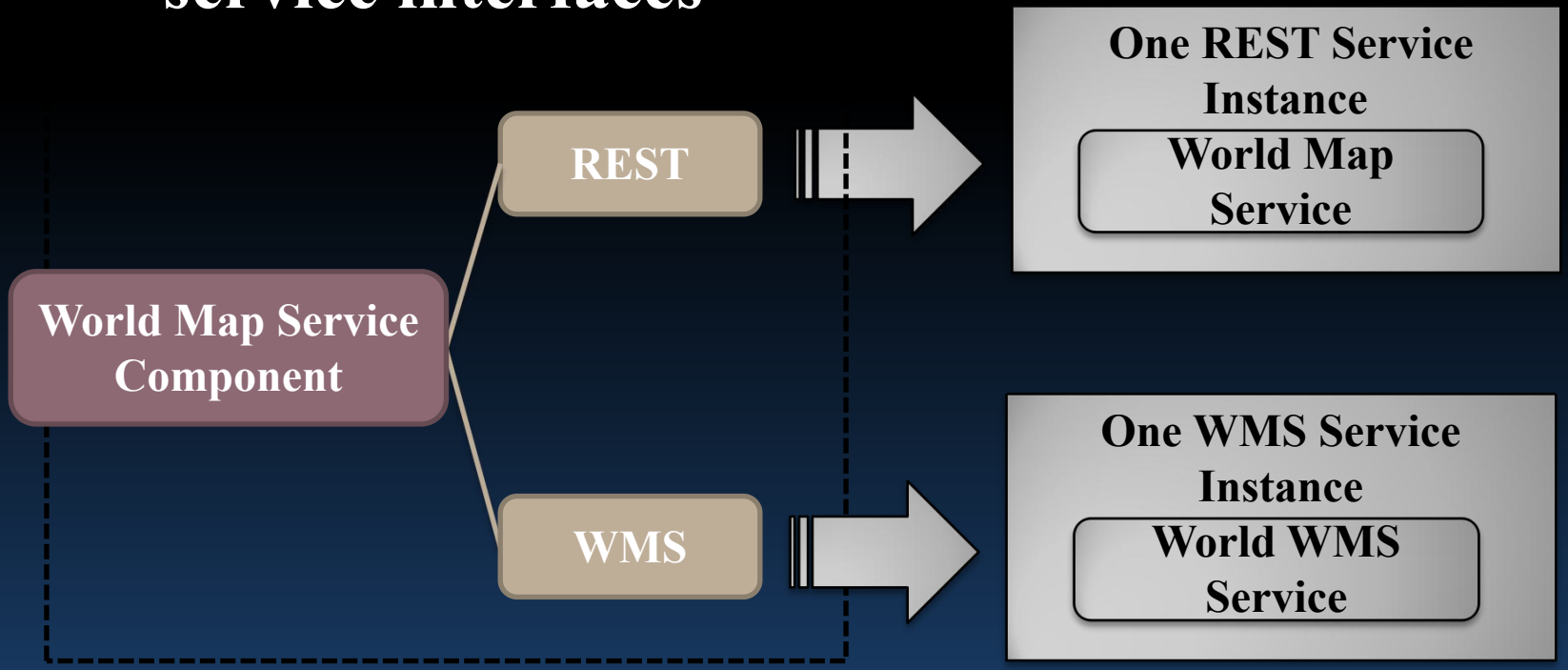
Supplementary Remarks

- 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



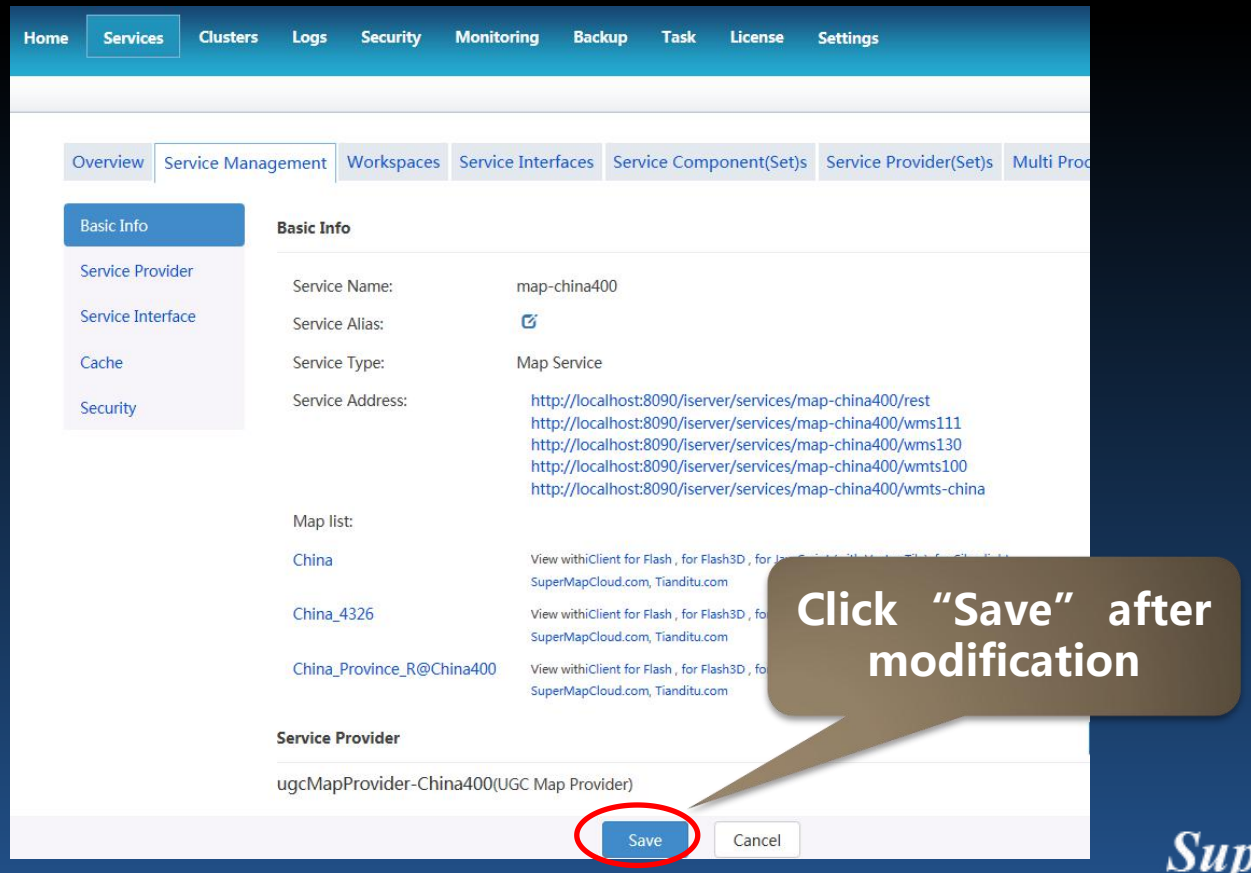
Service compliant to multiple protocols or standards can be published

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**

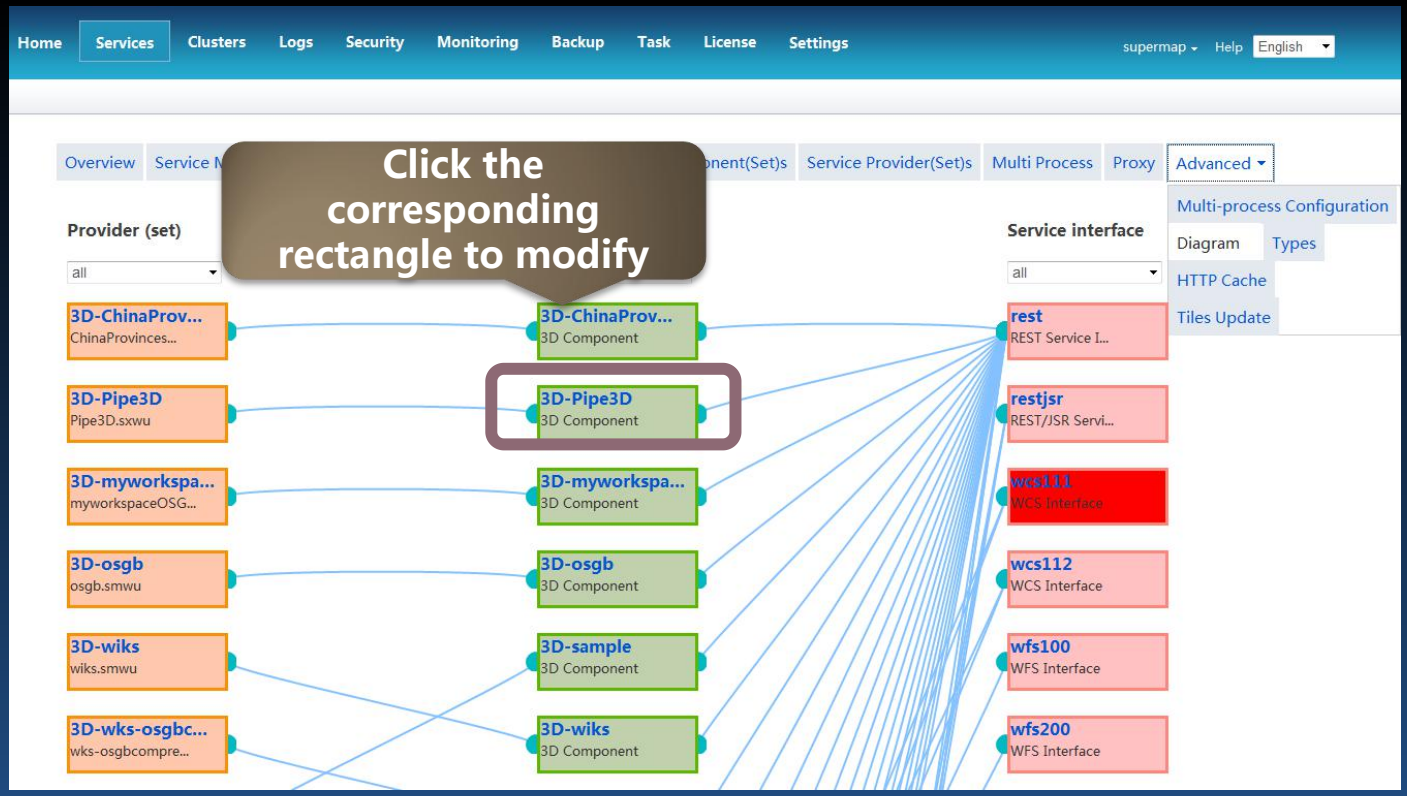
Modify Service

- **Method 1**
  - **Enter the configuration page of corresponding layer**



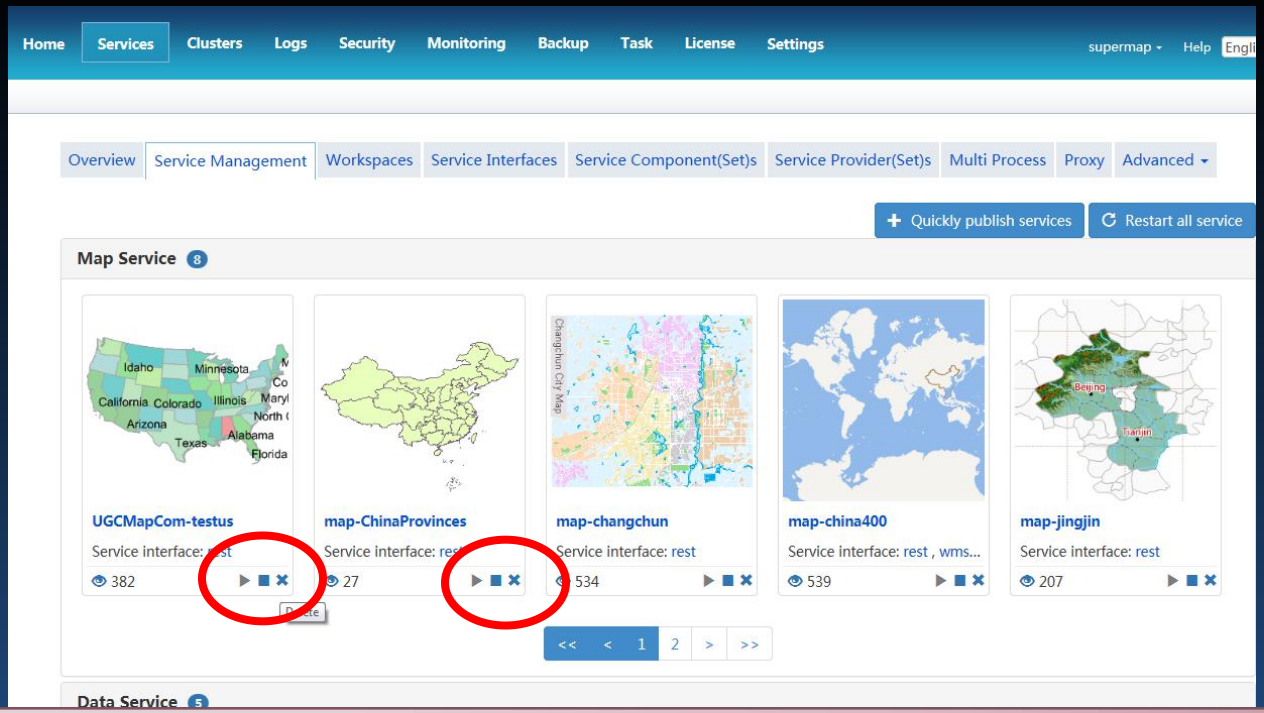
Modify Service

- Method 2
  - Enter the diagram to modify the services through super link



Delete Service

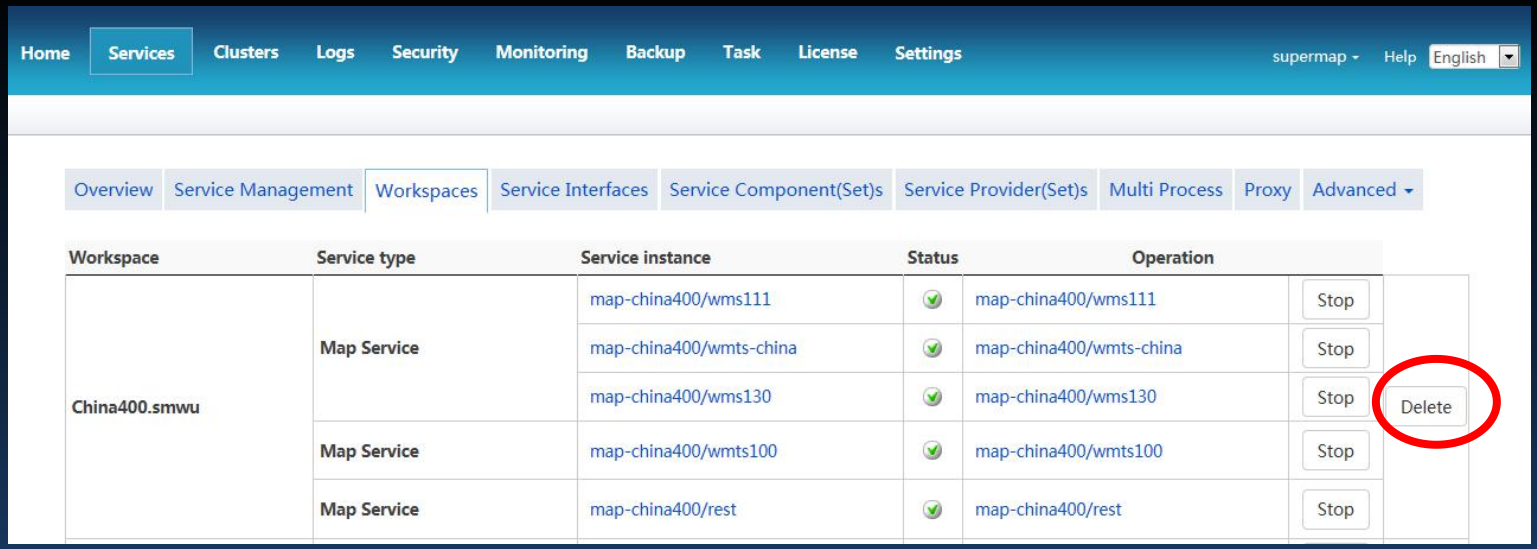
- **Method 1:**
  - **Delete the service in the instance list and then delete the corresponding service component and provider**



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

Delete Service

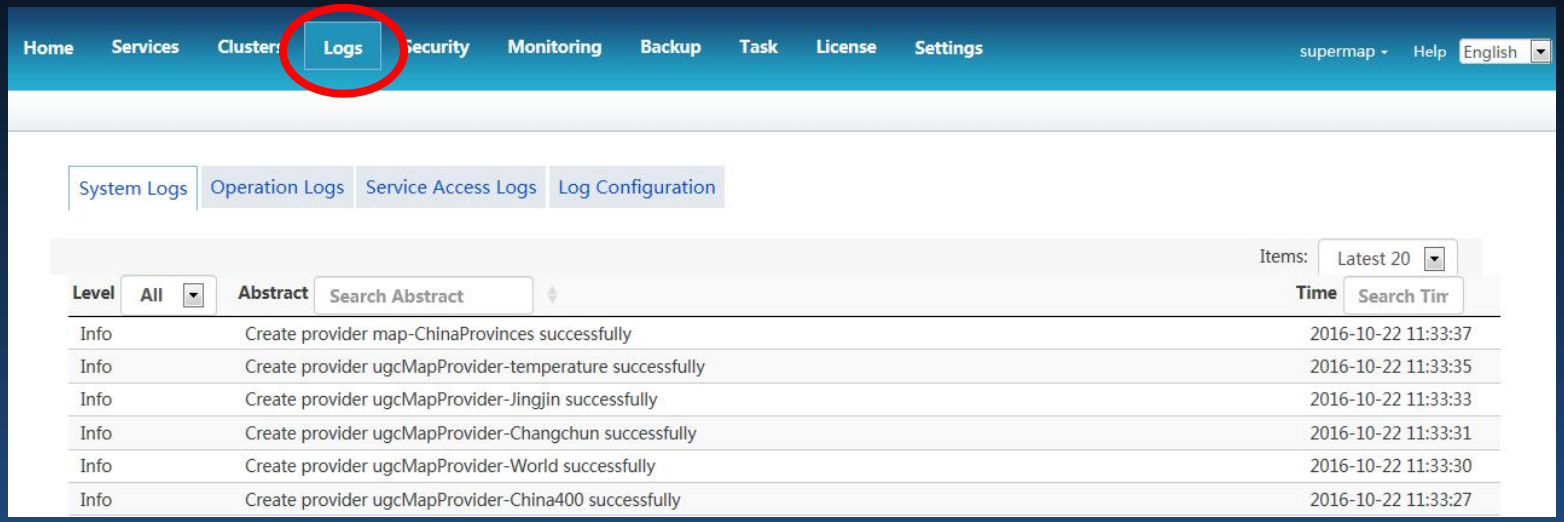
- **Method 2:**
  - **Enter the workspace page, and delete the services which use the same workspace**



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



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

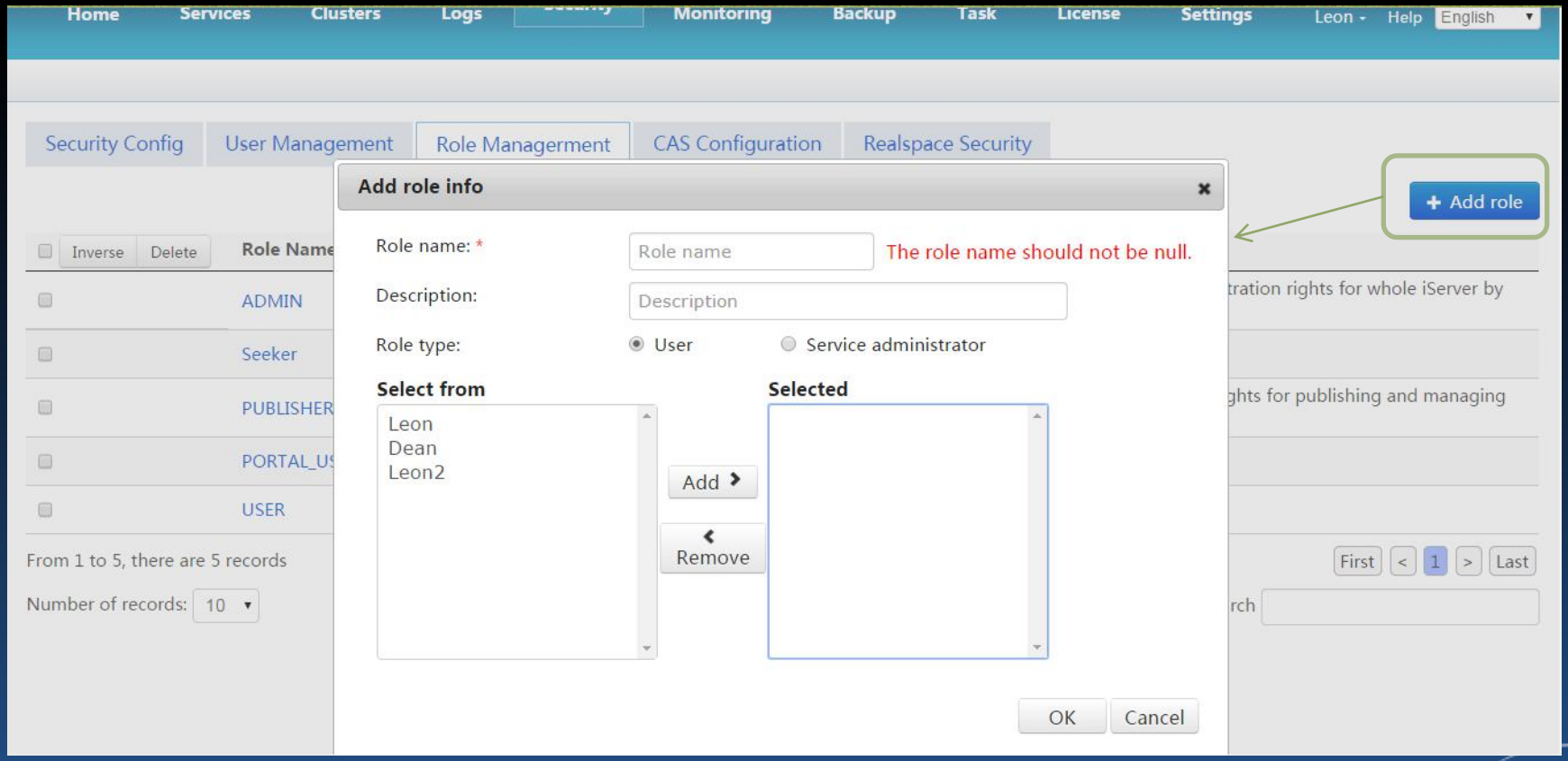
- **Control the GIS service accessing, which will determine which users could access the corresponding services.**

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.**

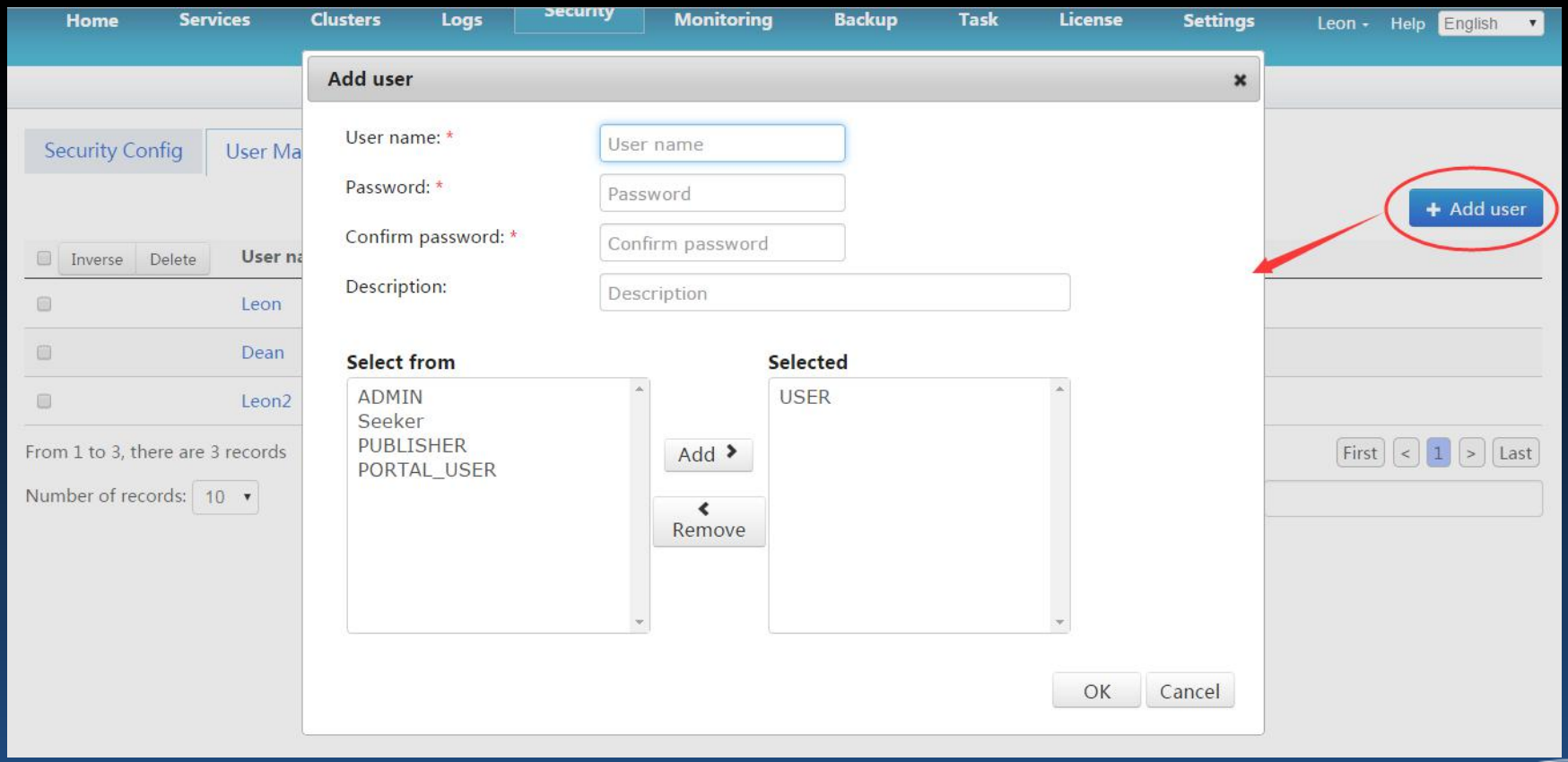
GIS Service Security Control

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



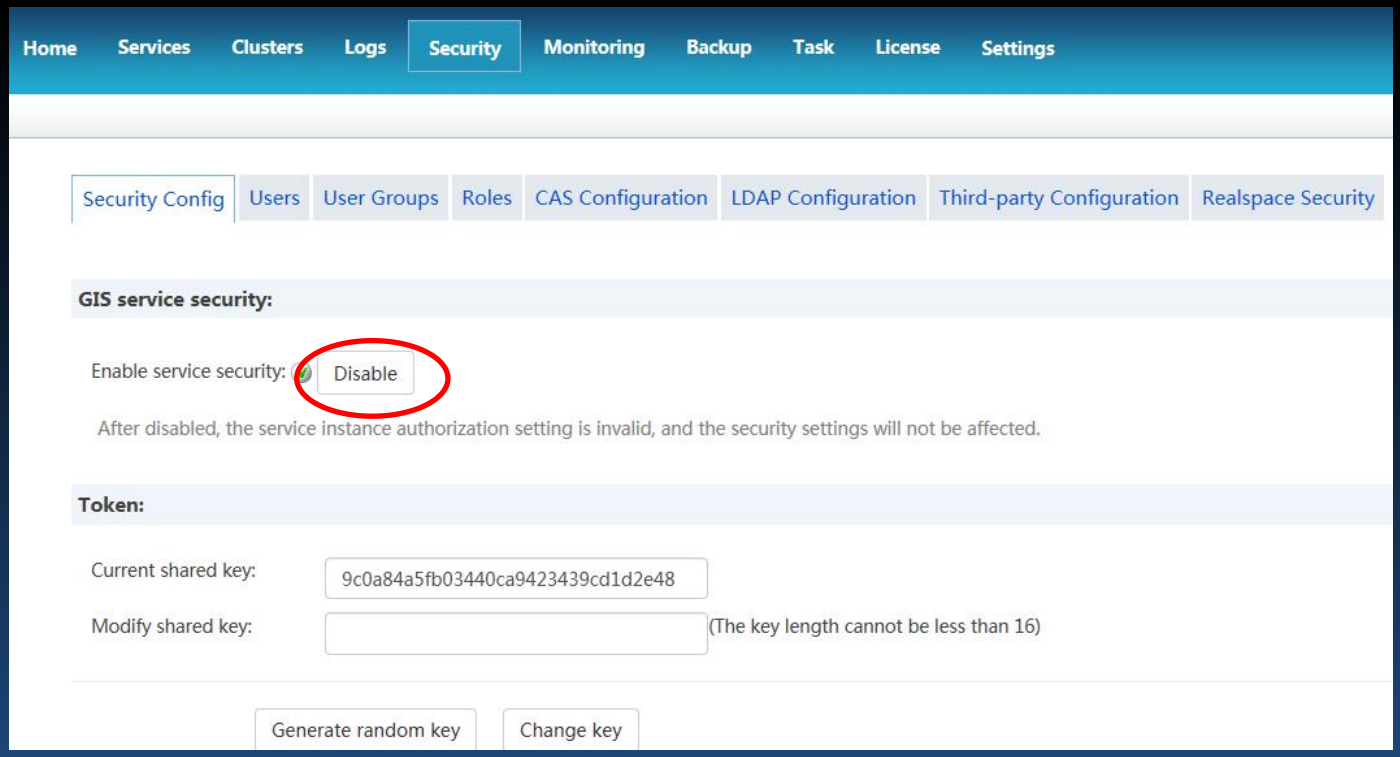
GIS Service Security Control

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



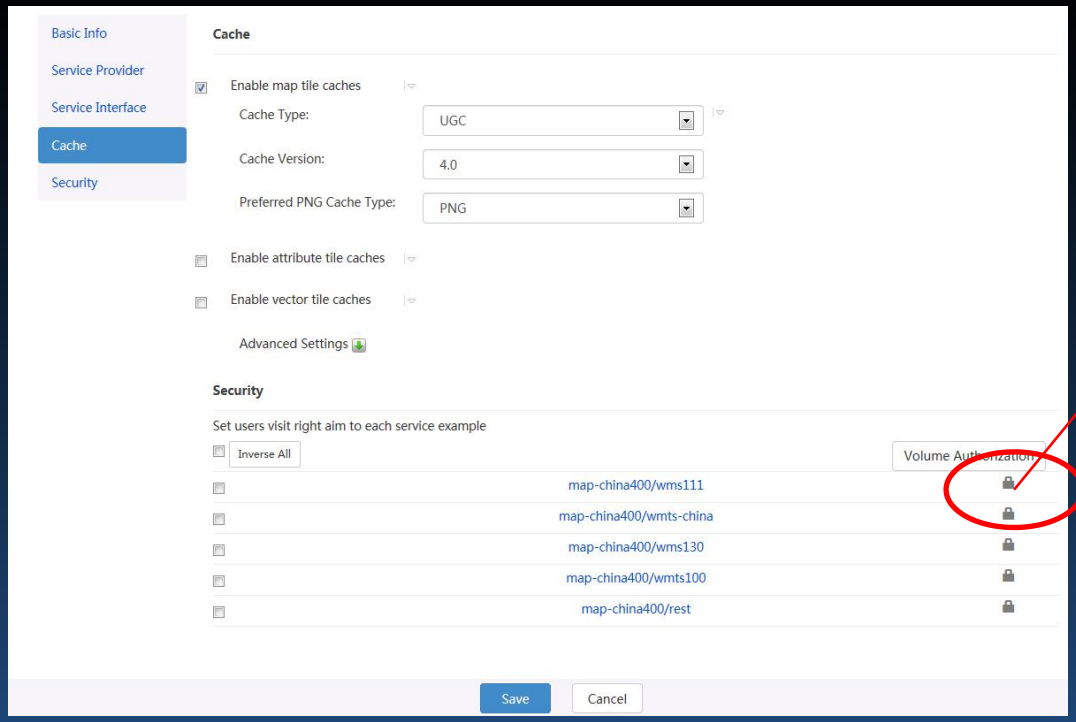
GIS Service Security Control

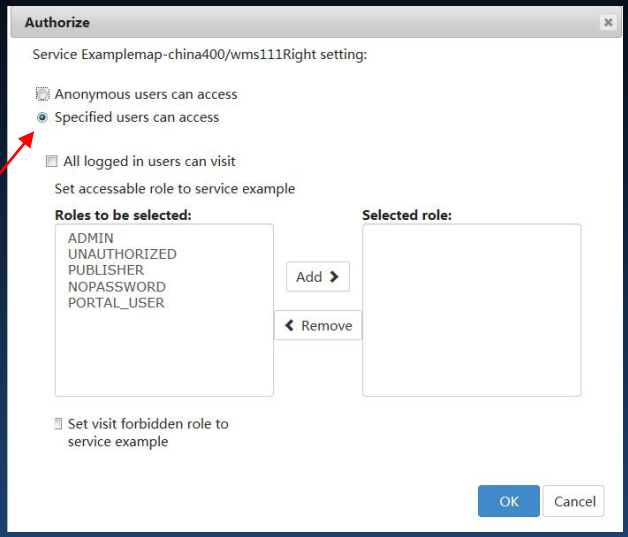
- **Authorize the GIS service accessing**
  - **Step 1: Start service security control**



GIS Service Security Control

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



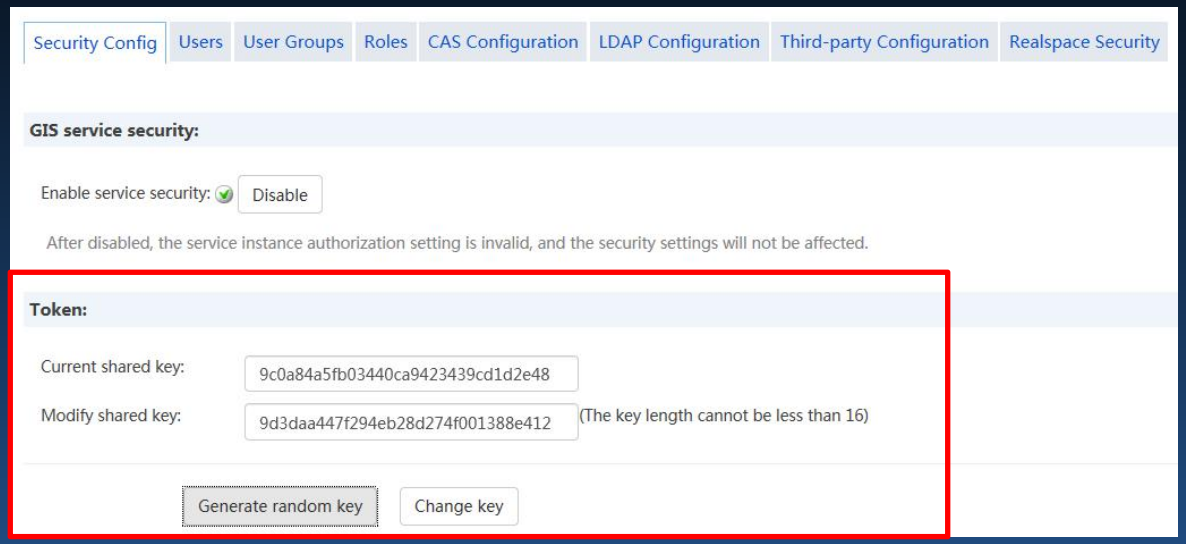


GIS Service Security Control

- 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

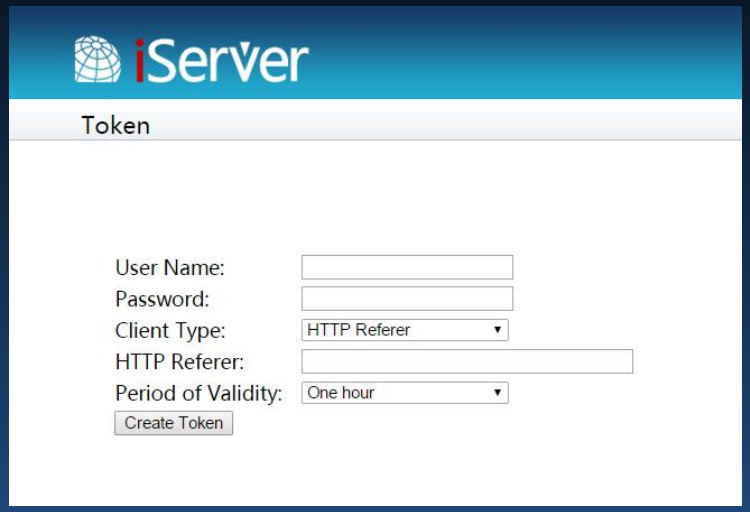
GIS Service Security Control

- 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



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:



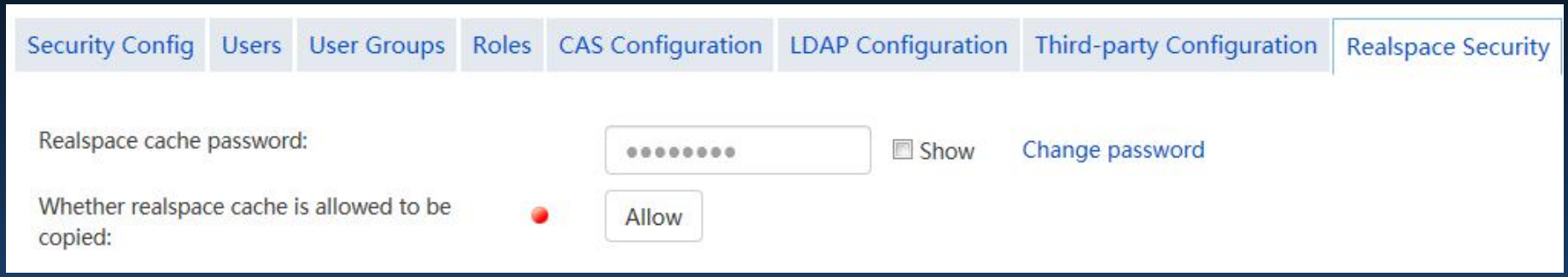
HTTP Referer	The Token URL
Client IP	The indicated used IP address of Token
The current requested IP	Indicate the current requested IP address which is sending the requests as the Token IP address

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

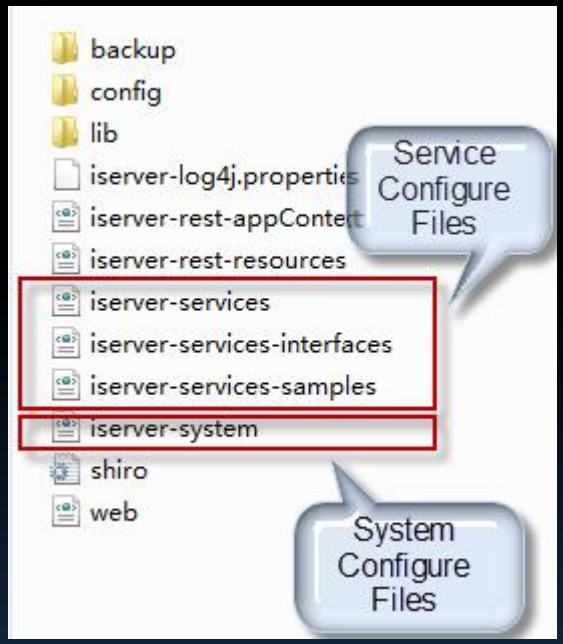


Backup and Restore

- 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

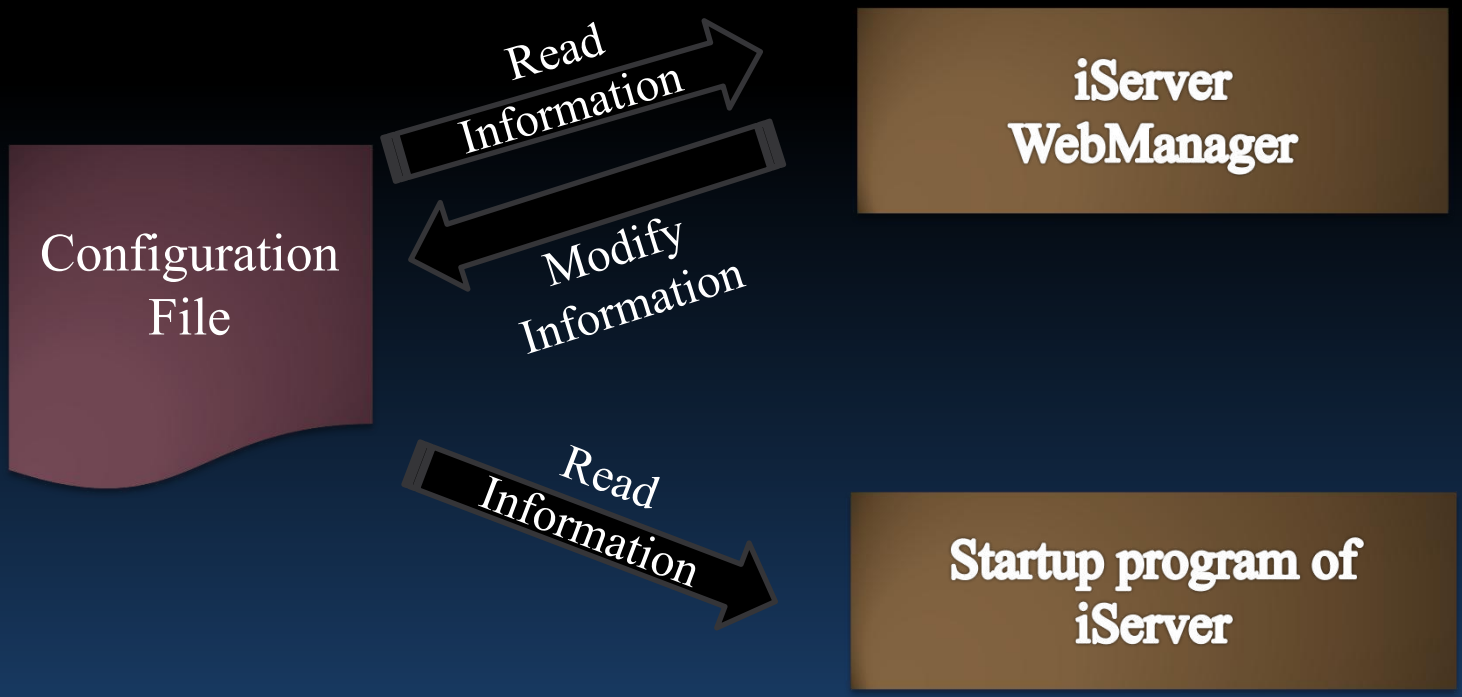
Backup and Restore—Configuration Files



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

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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