SuperMap Deskpro .NET is a GIS desktop application that integrates 2D with 3D and supports extension development. The key features are as follows:

- The .NET Framework and exception mechanism makes the system stable and efficient
- What you see is what you get
- Rich templates enable reuse, and improve work efficiency
- The plug-in mechanism makes customization and extension development easier

**Better User Experience**
- Beautiful and distinct Ribbon style
- Various map templates
- Flexible floating modes
- Customizable user interface

**Quickly Build Industry Desktop GIS Application**
- Flexibly customize “new” desktop products that meet industry applications and operating habits
- The ability to quickly extend the application based on the open framework
- Full support of the storage, display and publication of nautical chart

**Real Integration of 2D and 3D**
- Integrated 2D and 3D data management
- Integrated 2D and 3D representation
- Integrated 2D and 3D symbol management and display
- Massive data loading and operating
- Realistic 3D experience
- Various 3D effects, such as particle, shadow, water surface, etc
- Professional analysis functions such as match terrain, visibility analysis

**Rich Mapping and Visualization**
- Unique layer management method to control the layers efficiently
- Efficient and easy-to-use symbol library manager makes the map clear to read
- Seven thematic map types make the representation of geographic data more intuitive
- Unique Mapping for Scale tool brings convenience for visualization of large data
- Powerful layout capabilities, supports a variety of output formats
**SuperMap Deskpro .NET**

**Powerful and Easy to Use Data Processing Tools**
- Supports multiple data engines, can read and display online map services
- Abundant data formats are supported, diversifies data interoperability
- Professional and efficient drawing and editing functions meet the requirements for common data production
- Various vector and raster data processing functions improving the efficiency in dealing with data
- 2D map cache and 3D scene cache bring convenience in publishing smooth services and improve user experience

![Data Processing Tools Diagram]

**Efficient and Accurate Spatial Analysis**
- Supports simple and multiple buffer analysis, and the ends of line dataset can be flat or round
- Provides 7 overlay algorithms to meet a variety of geospatial data processing needs
- Provides 5 interpolation algorithms for accurate prediction of areas with no data
- Supports the extraction of isolines and isoregions, the smooth processing ensures accurate results
- Provides viewshed and visibility analysis, the operations are simple and the results are intuitive
- Supports slope, aspect analysis and cut and fill analysis to help users get more field information

![Spatial Analysis Diagram]

**Powerful and Easy-to-Use Extension Development**
- Adds the quick reference tool, bringing convenience for users to add common reference of SuperMap Deskpro .NET
- Opens a large number of properties, methods, events, making the development more convenient and flexible
SuperMap Objects Java/.NET is a component GIS development platform integrated 2D and 3D based on Realspace technology. There are the following advantages:

- Cross-platform, Objects Java can run on many operating systems, such as Windows, Linux, AIX
- Supports 32bit and 64bit development platform
- Powerful functionalities, clear structure, compact development code
- Integrating 2D and 3D, builds the new generation of GIS applications.
- Flexible installation and convenient distribution, high scalability

**Complete SDX+ Data Engine**

- Supports GoogleMaps, iServer REST map service, users have multiple data source choices
- Supports a variety of large scale relational databases such as Oracle, Oracle Spatial, SQL Server, PostgreSQL, DB2, users can enjoy the high efficiency data management

**Complete Data Treatment Functions**

- Supports importing MapInfo data, users don’t need mapping after importing the Wor data
- Supports importing multiple vector data, such as telecom data, Shapefiles, AutoCAD, etc
- Supports importing multiple raster data, such as Erdas Image, Tiff/GeoTIFF, ESRI GRID, etc
- Completes 2D and 3D cache system, which can seamlessly integrate the current mainstream network map services, and users can use one cache file integrating 2D and 3D

**Powerful 3D Module**

- Loading 2D data directly in 3D scenes
- Displaying 3D terrain data on the globe in high resolution
- Support for operations including select, query, locate and measure in 3D scenes
- Support for multiple 3D effects, such as sun effect, particle effects
- Support for 3D animation
- Support for rapid modeling based on 2D data
- Supports integration operation and view of 2D and 3D
- Supports 2D operations in 3D, such as making thematic maps in 3D

**Comprehensive Symbol Solution**

- Supports making 2D marker symbol, line symbol, fill symbol and generating 3D marker symbol, line symbol and fill symbol
- Efficient and easy-use symbol manager, users can manage their symbols efficiently and conveniently
- Users can manage and display 2D and 3D symbols uniformly
- Supports gradient fill effect of symbols and translucent effect of raster symbols
SuperMap Objects Java/.NET

Strong Map Visualization and Interoperation

- Displays and operates large-volume data with high performance
- Wonderful map displaying, many details are optimized, such as the cross optimization
- Supports exporting map to multiple formats of image file, and the exporting of oversized image file
- The map objects support the settings of avoiding tolerance. Users can ensure the objects in map unit area to display uniformly and balance the map display objects density by setting the avoiding tolerance

Useful Layout and Printing Functions

- Supports exporting and printing of oversized image or large data amount
- Supports drawing all kinds of geometry objects on the layout page, and setting the styles

Innovative Application Fields

- SuperMap has integrated chart data and land data into one platform for storage, displaying and publishing
- Provides the import and export of the chart data based on the Transfer Standards for Digital Hydrographic Data
- Abundant chart display style setting, including the display mode, color mode, safety depth contour and the highlight display style of the landmark
- Views and edits the attribute information of landmarks

Professional and Powerful Spatial Analysis Functions

- Users can perform spatial query based on spatial location and attribute information
- Multiple buffer analysis functions, which can satisfy the different requests from the users
- Multiple kinds of network analysis functionality, including path analysis, location analysis, TSP analysis, etc. They can be used in the field of public transportation, pipeline network management, etc
- New transfer analysis, which can provide the solution of bus transfer solution including the bus stops and lines
- Provides professional function of raster data modeling, including generating DEM data, hill shade, 3D orthographic projection images, etc
- Provides powerful raster analysis and calculating functions, including calculating slope and aspect, raster resample and reclassify, etc
- New support for dynamic segmentation, which could satisfy the simulation and analysis of linear features, such as road, river, pipeline, etc
- Provides a series of hydrology analysis functions of filling depression, calculating the flow length, flow accumulation, dividing drainage basin, extracting vector drainage system and so on
SuperMap iServer Java is a cross-platform enterprise product that is specially designed for setting up GIS servers to share data and GIS capabilities based on the SOA architecture. It also provides multiple SDKs for GIS developers to quickly customize their own Web GIS applications, including JavaScript (HTML5), Silverlight, Flex, Realspace, etc.

**Features**

- Supports 3D service and 3D web application SDKs. Supports 2D&3D integration functions and map cache
- Cross-platform: Supports Windows, Linux and Unix(AIX)
- Fully supports 64-bit CPUs and operating systems. The maximum memory supported is 16EB (16 billion GB)
- Supports publishing and consuming OGC standard services such as WMS, WFS, WCS, WMTS, WFS-T, WPS, etc
- Supports server aggregation and client aggregation for GIS services like OGC services, GoogleMaps, BingMaps, OpenStreetMap, etc
- Supports hierarchical clustering technology which makes the clustering more stable and the fault tolerance higher
- Easy for extension development with open structure. Provides customization scheme for industry requirements. Provides extension APIs with REST SDK, Java SDK and .NET SDK

**Supports Multiple OS, Middleware and Databases**

<table>
<thead>
<tr>
<th>OS supported</th>
<th>Middleware supported</th>
<th>Databases supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows series</td>
<td>Apache Tomcat 6.0.x/7.0.x</td>
<td>SQL Server 2000/2005/2008</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 5.4 or above</td>
<td>GlassFish 3.x</td>
<td>Oracle 9i/10g/11g</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 6.x</td>
<td>IBM WebSphere Application Server 7.0.0.11</td>
<td>PostgreSQL 8.3 or above</td>
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<tr>
<td>SUSE Linux Enterprise 10 SP2 or above</td>
<td>Red Hat JBoss Application Server 4.2/5.1</td>
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<td>SUSE Linux Enterprise 11.x</td>
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<tr>
<td>CentOS 5.6 or above</td>
<td>Jetty 6.x/7.x/8.x</td>
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<tr>
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<td>Oracle WebLogic Application Server 10.3</td>
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<tr>
<td>IBM AIX 5.3/6.1</td>
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</table>

**Strong and Complete Service Capabilities**

SuperMap iServer Java is enterprise GIS server software. It supports publishing OGC services such as WMTS, WMS, WFS, WCS, WPS, KML as well as SuperMap service in REST interface. The functionalities provided by iServer Java does not only include basic map and data functions, but also online editing and professional GIS analysis functions like bus transfer, network analysis, spatial analysis, etc. Besides 2D GIS service, iServer Java also provides 2D&3D integration services and 3D web SDK for development.

Certificated as "OGC Compliant"
SuperMap iServer Java

Supports Aggregating Data from Different Sources Seamlessly

SuperMap Service GIS product supports service aggregation both on the client side and server side. The client and the server can aggregate services published by third parties conveniently without any programming knowledge. The supported map services for aggregation include SuperMap REST service, OGC map service, GoogleMaps, BingMaps, and OpenStreetMap. The supported data services for aggregation include SuperMap data service, WFS service, etc.

- **Server-side Aggregation**
- **Client-side Aggregation**

Supports Hierarchical Clustering Technology

The cluster technology is essential for enterprise GIS servers to increase the extensibility and availability. The unique iServer technology supports hierarchical cluster and heterogeneous cluster. It also has a redundant design, flexible level structure and security control to improve the stability and performance of the cluster.

- **Improved availability:** Fail-over mechanism that ensures the steady operation of the system in case of errors
- **Reduced cost:** To achieve the same performance, a cluster of several computers has lower price than a mainframe
- **Improved performance:** The performance is better with load balance

Supports Flexible Extension Capability

iServer Java enables more flexibility in the extension development of service. The domain spatial information services (DSS) provided by iServer Java allows users to build services for processing spatial information based on special business logics of their domains, such as a map service for wind direction symbols applied in the meteorology industry.

- **Domain spatial service extension**
  Provides core-level extension schemes for industry customization with GIS platform
- **REST service extension**
  Provides REST service extension schemes for Extending resources, Extending representation encoders, Extending parameter decoders, etc
SuperMap iClient is a cross-browser, cross-platform client development platform for developers to develop rich client GIS applications. It supports Adobe Flex, Silverlight, JavaScript (HTML5) and Realspace. It can be used not only to display web maps, but also to build rich client applications and integrate map data and service from SuperMap GIS servers or third party servers to build powerful, interactive map applications with excellent user experience.

- Provides multiple client series products based on different technologies for the convenience of the user’s choice
- Capability to aggregate multi-source data including WFS-T, WMS, WMTS, Bing Maps, OpenStreetMap, Google Maps, etc
- Seamlessly opens WMS service directly in 3D scene
- Supports complete GIS functions such as map browsing, map editing, thematic mapping, query, GIS analysis on client side by supporting all the data and services published by SuperMap iServer Java

- Online Editing
- Heat Map
- Spatial Query
- Dynamic Simulation
- Bus Transfer Analysis

2D&3D Integration
SuperMap iClient

- Fantastic 3D functions with 2D&3D integration technology
- Supports fast rendering of massive vector data by providing the GraphicsLayer class
- Helps users to quickly build applications, which support multiple terminals, cross-browser by supporting HTML5 technology. Especially the Canvas2 rendering mode that is very suitable for vector data animation rendering
- Ability to control the map display range on client side
- Provides mobile solutions based on PhoneGap and Adobe AIR to realize GIS functions in mobile devices
SuperMap Mobile products include hybrid app product, light-weight native app product and full-function native app product. SuperMap iMobile is the first full-function native app in GIS industry. It does not only support the function of online services and offline tile map which are supported by most hybrid apps and light-weight apps, but also supports offline vector map, offline query, offline editing and offline analysis functions. It is also the only mobile product that can support both GIS functions and navigation engine, both 2D and 3D functions, which makes the product unique and outstanding with a huge market potential.

**Classification of Mobile GIS**

- **Web**
  Low performance, poor user experience, almost deprecated

- **Hybrid, Light-weight Native APP**
  Relatively high performance, good user experience, choice for online devices

- **Full-function Native APP**
  High performance, available for online devices, essential for offline devices

**Supports Popular Mobile Systems**

- Google Android
- Apple iOS
- Windows Phone

**What Can You Do with SuperMap Mobile Products?**

- **Offline Tile Map Browsing**
  Tile tile map data can be stored on local machine for easy access.

- **Online Service Access**
  Supports SuperMap iServer Services, Google Maps, OGC Services, OpenStreetMap and other public services.

- **Multi-source Data Aggregation**
  Aggregates and displays data from multiple sources, including tile caches, images, and external information services.
SuperMap Mobile Products

- **Online Spatial and Network Analysis**
  Supports essential GIS analysis functions, such as best path analysis and buffer analysis.

- **Online Dynamic Thematic Mapping**
  Supports dynamic thematic map with various styles.

- **Routing and Navigating**
  Provides modules for developing professional mobile navigation application or adding the path guide into existing application.

- **Offline Functions, Data Collection**
  Provides offline vector map, offline editing, offline query and offline analysis functions. Also the mobile terminals can collect and record on-site information and exchange the collected data with local and online service.

- **3D Map**
  A quick way to build integrated 2D/3D mobile GIS application, 3D scenes can be displayed on mobile terminals.

Success Story

- **Beihai Marine GIS & Navigation Platform**
  The project covers comprehensive GIS functions, such as map display, data management, thematic mapping, spatial analysis, etc. It also integrates GPS navigation, measurement, camera, audio recording and law cases statistic functions to meet the requirements of enforcement of marine regulatory. With SuperMap SIT technology, it can manage large volume data and provide fluent user experience during the navigating.

- **Chongqing Public Service 3D Mobile Platform**
  The system uses iMobile for iOS for development. The app is installed on iPad to display the 3D scene of the city. It provides quite vivid 3D effects and useful query functions. It is also a part of Chongqing Smart City Information System.
SuperMap Realspace technology is integrated in the whole SuperMap GIS product line which is featured with the integration of 2D and 3D. By providing functions such as 3D data displaying, managing, querying and analyzing, SuperMap Realspace technology satisfies your multiple requirements with the following features.

### Realistic 3D Effects

Objects in the real world such as buildings, water surfaces, moving objects and fountains can be realistically displayed in SuperMap 3D scene.

Stereo displaying, multi-touch, motion detection and 3D mouse are provided for better 3D experience.

With SuperMap3D scene, you can view things that are on the ground, underground, indoors, in the ocean and even in the outer space.

### High Performance

Massive data over 1TB can be browsed smoothly in SuperMap 3D scene, such as global terrain and image data, detailed models of cities that are larger than 1000 kilometers, etc.

### Powerful Functionalities

The integration of 2D and 3D is implemented from the bottom data structure layer, which distinguishes SuperMap 3D from other 3D visualization software.

**Product Integration:** SuperMap 3D is not an independent product, but a technology that is integrated in all SuperMap products, including desktop, component, server and mobile products. Each product has both 2D and 3D modules, and they can run simultaneously in the same application.

**Data Integration:** The storage and management of 3D data is exactly the same as 2D data; they can be both managed in large relational databases. Moreover, 2D data can be displayed as 3D model by simply stretching and texturing.

**Symbol Integration:** 2D symbol and 3D symbol are managed in the same way, they both can be edited and customized easily. With 3D symbols, you can create beautiful 3D scenes just by using 2D vector data.

**Analysis Integration:** All 2D analysis functions are supported in 3D scene, such as network analysis, visibility analysis, buffer analysis, spatial analysis, etc., and you can also customize analysis functions by extension development.
Refined Disaster Forecasting and Early Warning
- Various functions including making alarm warning products, making service products, managing service products, managing and expanding product templates
- Interactively prediction platform that lets forecasters plot the drop zone of the real-time meteorological disaster
- Multiple techniques including massive spatial database, service GIS, GIS cloud services and forecasting and warning mobile phone system (FWMPS) to produce a well refined meteorological forecasting diagrams such as display of meteorological forecast in 3D scene, district-level meteorological forecast, street-level meteorological forecast, top tourist attractions meteorological forecast, and hotspots meteorological forecast

Professional Meteorological Analysis
- Integrates various professional algorithms of meteorology such as isolines analysis, weather diagnostic analysis, weather system analysis, weather radar analysis, weather simulation, and forecasting production
- Provides professional comprehensive analysis of meteorological disasters

Rapid Emergency Rescue Decision-making System
- Provides various command decision-making tools that include the emergency rescue cooperation between the meteorological department and the departments of transportation, public security, agriculture and health care, the meteorological information collection and real-time warning of on-site rescue, and the 2D-3D integrated dynamic plotting
- A publication system that sends emergency rescue information to the relevant decision-making authorities
- According to real-time weather situations, the system automatically provides suggestions of command actions and rescue measures for all the departments to obtain the impact evaluations and countermeasures of different industries and crowds

Success Story
Meteorological 3D Touch-screen System for World Expo
- The touch-screen system is developed based on SuperMap GIS platform, and has realized a variety of new techniques like 2D-3D integrated GIS and Multipoint touch. It can connect with Feng-Yun-2 geostationary meteorological satellite and national Doppler weather radar network to get the real-time updates of satellite images and radar mosaics. This system can quickly and accurately display the comprehensive meteorological data such as satellite images, radar mosaics, real-time weather and weather forecast. It can also show the early warning information such as high temperature, rainstorm, snowstorm, tornado, sandstorm and haze, in addition to animation demonstration of typhoon trajectory. Hence, this system gives people an overview of weather vicissitudes with a 3D global perspective so as to fully prepare for the day-to-day travel and disaster prevention and rescue. It made debut in the meteorological pavilion at World Expo 2010 in Shanghai, and later received wide acclamations from the publics and the professionals.

Highly Efficient Decision Management in Disaster Defense
- The ability to query and edit various disaster material libraries, defensive measures and contingency plan libraries
- Comparatively analyzes different forms of disaster extreme values
SuperMap Cadastre Management System is the professional cadastre administrative application in the land industry. Taking MIS, workflow, GIS, information exchange, distributed database and network as the core technology, the system has realized a variety of cadastral business functions including cadastral survey, cadastral registration and approval, cadastral data editing, cadastral file management, cadastral information query and statistics, cadastral historical retrospect, etc. Furthermore, the system provides solutions to customize the work processes quickly for different cadastral businesses based on the workflow technology.

### Cadastral Survey

Based on SuperMap mobile products, the system has realized field survey, task scheduling and management. The detailed functions of the system include navigation and positioning, administrative boundary survey, parcel survey, ground objects survey, etc.

Data collected by field survey will be stored in the database, and pretreatments need to be done including projection transformation, format transformation, etc. Moreover, the data needs to be checked including topology checking, data validity checking, data consistency checking, business rules checking, etc, so that it can ensure the data effectiveness and accuracy.

### Cadastral Registration and Approval

Users can complete the registration process by the business process template, and the whole process will be monitored in real time. The land certificate number and the corresponding tables, certificates or cards will be generated automatically in the registration process. In addition users can modify the existing process templates or customize new ones.

The land management department will approve the land use application after the registration information is uploaded, including the position, area and use of the land. Taking the existing data as the base map, users can perform the approval operation and compare it with the survey data on the map for correction and finally store the right data in the database.

The tables, certificates and cards generated in the registration and approval process can be exported and printed. The system provides the export and print function for a variety of maps, such as parcel map, standard partial map and administrative map.
**Cadastral Data Editing**

The system provides a variety of data import and data editing ways for modifying the parcel graphs (such as importing the coordinate files of boundary points, importing CAD data, drawing, splitting, union, exactly importing by boundary points, getting the boundary coordinates by analytical method). After the cadastral survey, the attribute information should be imported and connected to the corresponding parcel graphs to realize the cadastral data changing.

**Electronic Archives Management**

The system will classify all the electronic archives to several parts for storage. All the application files, approval files and other paper files will be saved in the system.

Each file has an index for query, the system does not only provide a menu listing all the file indexes, but also supports the controlling of data dictionary, metadata, approval template and statistical report, etc.

**Cadastral Information Query and Statistics**

The cadastral business query contains cadastral query and retrieval, cadastral business statistics and cadastral classification statistics, users can perform statistics based on the query result shown as a variety of forms such as composite tables or thematic maps.

**Cadastral Historical Retrospect**

The system can perform the historical retrospect of single parcel based on the data of one parcel saved at different times. Users can find out the changing process of each parcel and its detailed graph or attribute information, or even the parcel history status of one time point. The historical retrospect content contains parcel morphological changes, ownership changes, etc.

**Key Features**

**Complete Business Relationship Templates**

The system provides all business relationship templates of the cadastral management, and users can also customize their own templates. Each step in the business process has strict authority control, users can customize the rules of completing one step to the next, so that the whole process can be monitored in real-time.

**Realspace**

The system has integrated 2D and 3D data management and operation. Users can add 2D cadastral data to 3D scene and generate 3D models rapidly based on the 2D data. With that, the display of the cadastral information is more intuitive.

**Collaborative Management of Business in Different Places**

The system supports network office, and users can handle business in different places.

**Success Story**

Maoming City Cadastral Management System is built under the request of the Ministry of Land and Resources and provincial department of land. The Cadastral management system can be divided into these modules: the management of business processes of land registration, land registration business, cadastral queries, cadastral survey, print and system management. Each module is realized by the corresponding component. The system greatly improves the office efficiency of the cadastral department to provide much better services for the public.
SuperMap digital urban management system is an integrated digital city solution covering from data production, data sharing to data application based on basic surveying and mapping platform. The system provides timely, proactive and efficient management for municipal engineering facilities, municipal utilities, environmental issues, etc.

**System Architecture**

The system includes network and hardware layer, platform software layer, data layer, application service layer and access layer. The architecture also meets the requirement of digital city system.

**Main Functions**

**Wireless Acquisition Subsystem**
Supervisor can report urban management issues to the command center. The form of information includes text, image, sound and location information.

**Supervision Center Subsystem**
The functions include accepting the cases, performing basic map operations, querying, taking statistic and parameters setting, etc.

**Collaborative Work Subsystem**
Collaborative work subsystem associates task dispatch, task handling and results feedback together. It improves data sharing and collaborative work between supervision center, command center and professional departments.

**Video Monitoring Subsystem**
Video monitoring information can be highly associated with electronic maps and archives. The subsystem realizes the function of monitoring the key areas, key streets for the auxiliary of supervision, filing and inspection.

**Comprehensive Evaluation Subsystem**
The subsystem uses a comprehensive set of scientific supervision and evaluation methods for the assessment and evaluation of the various aspects of urban management. It provides a platform to monitor the progress of the issues and oversee the quality of law enforcement.

**Basic Geographic Data Management Subsystem**
The basic geographic data management subsystem realizes the functions of the management and maintenance of the geospatial data. The display and style of geospatial data can be customized.
SuperMap Application Platform

SuperMap digital urban management application platform software-SuperVision V6.0 (Standard version, county version and community version)

The software provides an application platform for the supervision of municipal engineering facilities, utilities, city appearance and environment. It also provides the function of city emergency management. Different versions are provided for different scales.

SuperMap Urban Management Mobile Platform-SuperMap Mobile SuperVision V6.0

The software uses the latest technologies of wireless communication, GPS, information processing and computer networks to realize the functions of reporting and verification of the urban management issues.

Features

Multi-layer System Design Based on Web Application Structure, Powerful Graphics Editing Capabilities

The system is designed based on web application structure. It realizes the business process integration of GIS, workflow and business processing form. It has strong scalability and flexibility. It also supports online editing function for graphics editing.

Cross-Platform, Aggregating Data from Different Sources Seamlessly

The system can run on windows, linux, as well as unix(AIX). The supported databases include Oracle, SQL Server, PostgreSQL, etc. The system also fully supports OGC standard services like WMS, WFS, WMTS, WCS, WPS, OCW. The system can aggregate map services like Bing Maps, Google Maps, OpenStreetMap, etc.

Success Story

Wuhu Digital City Management System

The Wuhu digital city management system classified the monitoring areas as four levels-city, district, street and community. A full network system is constructed based on the classification. The system also integrates video monitoring system, office automation system and real image display system.

The system solves 400 urban management issues every day since the system comes into operation. The issues can be timely and properly handled, thus the urban management capability is improved.

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Tel: +86-10-59896503      Fax: +86-10-59896666      Email: globalsupport@supermap.com      Website: www.supermap.com
SuperMap decision-making solution for meteorological disaster warning and emergency rescue offers the storage and sharing of massive data, and the display, simulation and analysis of multisource heterogeneous data. This solution delivers significant improvements to accuracy and precision of the refined weather forecast, plays a very important role on meteorological emergency rescue, and makes the public weather services more convenient and intuitive.

**Powerful Spatial Data Support Capability**
- A powerful embedded spatial data engine that directly reads 18 common GIS data formats and 9 meteorological data formats including Micaps, GRID, HDF, NetCDF, AWX, BUFR, Grads, Radar, SWAN
- Better management of massive vector data and images
- Facilitates displaying and switching between real-time data

**Real-time Collection of Massive and Multisource Data**
- Various ways of data collection such as hidden-hazard data collection based on mobile devices, access to SuperMap Cloud Maps services and Google Maps services
- The ability to observe, transmit, access to, store, update, maintain, build the comprehensive database using various hydrometeorological data, basic geographic data, real-time disaster data, and forecasting and early warning products

**Dynamically Real-time Disaster Monitoring and Warning System**
- Highly efficient data interpretation programs that help validate the real-time monitoring and warning of the meteorological data including automatic weather station, WS report, radar, numerical weather prediction model data, water level, snow data, and early warning signals
- Various alarms such as SMS, sound, screen flicker and prompt box that warn the staff to process immediately

**2D-3D Integration for Disaster Display and Simulation**
- Professionally displays various real-time meteorological disaster information such as ground mapping, aerial mapping, isolines, isosurfaces, radar mosaic, satellite images, wind field data, typhoon data
- Multi-touch operations that give you interactive experiences
- Highly efficient visualization and analysis of meteorological 3D data
- High-performance embedded particle system that helps simulate various weather scenes such as clouds, fog, rainfall, snow and typhoons
**Multiple Data Sources**

Besides the 2D data, such as terrain, image, map data, and OGC standard data, SuperMap 3D also supports 3D model data, including models produced by 3D Studio Max, LiDAR and oblique photography.

**Oblique Photography:** Through the cooperation with Astrium, SuperMap 3D scene supports the 3D model data (*.osgb) produced by StreetFactory.

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**Multiple Terminals**

SuperMap Realspace technology is supported for desktop application, web application and mobile application.

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**Success Story**

**Digital Dongtou 3D Landscape System**

The Digital Dongtou 3D landscape system realized the integrated management of 3D models, remote sensing images and topographic data; accurately restored the landform, vegetation, roads, residential areas and other information; you can freely observe the city, query all kinds of information, compare planning schemes on the same screen, and perform distance measurement, model editing, etc. The system fully demonstrated the convenient transportation, good ecological environment, rich marine resources and tourism resources, providing a visual platform for urban planning and business investment.

**Digital Shenyang University**

Shenyang University was a typical digital campus project. It not only showed the beautiful campus scenery, but also provided functions for managing and analyzing the underground pipelines, including query, distance analysis, collision analysis, burst analysis, tracking analysis, section analysis, etc., which greatly reduced the time and effort on repeating excavation.
Typhoon, the devastating tropical storm, always causes series of natural disasters such as storm, rough waves, torrential rain, flood, landslide, debris flow, etc. The system is developed by SuperMap GIS products, integrates the functions of typhoon information overall viewing, real-time monitoring of typhoon status, typhoon evolution analysis, prediction of typhoon path and evaluation of typhoon disaster, in order to meet the requirements of typhoon services of the coastal area. For the government, the system could help to publish an early warning of the typhoon and start the emergency preplan for such meteorological disaster. For the public, they can get real-time information of the typhoon to take necessary measures of preparedness.

**Typhoon Information Overview**

Based on the high resolution 2D map and 3D scene, the system can show the detailed information of the typhoon, including the typhoon’s name, position, intensity, actual path, predicted path, evolution state, wind circle radius, distance from the interest point, and the live state information of the event point. The different stages of a typhoon evolution are highlighted in different colors as well as the presence of a play bar of the typhoon’s time line.

The system can synchronize the wind and rainfall data caused by the typhoon and display it on the map, the wind and rainfall data features include the maximum wind speed and direction in one hour and in one day, the precipitation in 2 hours as well as in 6 hours, etc. The features supported are displayed as discrete points, isolines and iso-regions.

**Typhoon Status Real-time Monitoring**

The system could connect to the typhoon monitoring data directly, and overlay a variety of real-time forecast information, including automatic weather station, regional station, cloud photo and radar so as to monitor and analyze the dynamic development and evolution of typhoon.

**Typhoon Evolution Analysis**

While browsing the typhoon history data, the system can quickly display the weather information of the affected period of the typhoon including temperature, visibility, cloud picture, radar, etc. The animation displaying of typhoon tracks by time is supported, this function can help researchers or forecasting personnel to analyze the typhoon history data and generate the law of typhoon’s development and evolution.
Prediction of Typhoon’s Path

The system can provide the overlay analysis of the live meteorological data including satellite cloud photo, radar, pressure, wind level and direction, etc. which can help the forecaster to correct the typhoon’s forecast. It can also perform the error statistics of different forecasting centers after forecasting.

Otherwise, based on the 3G network, integrating the embedded technology and SuperMap mobile GIS technology, the system can satisfy the users’ requirement of real time typhoon information query and operations on typhoon warning anytime and anywhere. This system provides a complete mobile typhoon early warning solution including quickly query, smart analysis, free communication and precise early warning. The detailed functions are weather live scene, city weather, weather forecast, satellite cloud photo, radar image, typhoon path, brief report, address book and knowledge library, etc.

SuperMap provides the complete mobile GIS solution, based on the real requirements. There are 3 different levels of SuperMap mobile products. From the light weight level to the heavy weight level (based on the amount of functions), SuperMap mobile products can be divided into:

- Hybrid: SuperMap iClient for HTML5 and Flex Mobile.
- Light weight native APP: SuperMap iClient for Android and Windows Phone.
- Full functionality native APP: SuperMap iMobile for iOS and Android.

The full functionality native APP, SuperMap iMobile for iOS/Android has the most powerful functionalities, it supports offline map browsing, editing, query and analysis.

Evaluation of Typhoon Disaster

Based on the geographic data and terrain data, the system has built the evaluation model of typhoon influence, which can help to analyze the economic data and perform statistics of the loss of the typhoon affected area, so that it could provide the reference of disaster evaluation for the corresponding department.

Typical Projects

- National and provincial wind energy resource data sharing system for National Meteorology Information Center
- Meteorological GIS system cooperated with National Meteorology Center
- Sandstorm Monitoring GIS System cooperated with National Satellite Meteorology Center
- Drought Prediction and Warning system cooperated with National Climate Center
- Meteorology and Geological Hazard service system cooperated with National Meteorology Administration
- Public Health and Meteorology Service System cooperated with National Meteorology Administration and Shanghai Meteorology Administration

Major Customers

- China Meteorology Administration
- National Meteorology Center of China
- National Satellite Meteorology Center
- National Climate Center of China
- National Meteorology Information Center of China
- Shanghai Meteorology Administration
Modern Emergency Response Management Systems (ERMS) is based on integration of modern technologies such as Wireless Trunking System (WTS), Closed-circuit Television System (CCTV), Global Navigation Satellite System (GNSS), Geographic Information System (GIS) and Computer Telephony Integration (CTI), etc. SuperMap Integrated Emergency Response Management System (SIERMS) provides an integrated solution to all public emergency related governmental agencies. Our SIERMS products are committed to enhance government’s capabilities of unified command, timely response, and cross-department coordination. It will improve the efficiency of emergency receiving, handling, supervising and closing, keeping secure records of all operations.

**System Architecture**

SIERMS architecture consists of five layers, starting from bottom up: Infrastructure Layer, Data Layer, Applications Layer, Communication Layer and Users Layer.

**Layout and Network Design**

The diagram below shows the typical layout design of SIERMS. It employs just one unified Call Center and one Supervision Center but with many Dispatch Centers. If needed, SIERMS can support multi-level Call Centers, Supervision Centers and Dispatch Centers with minimal modifications.
Key Features

Easy to deploy and maintain
Browser/server architecture is an industry standard and easy to deploy and maintain. SIERMS uses standard internet browsers and technologies to access centralized data and services.

Integrated with CCTV
SIERMS also integrates with CCTV systems. Supervisors and dispatchers can find emergency’s nearest CCTV cameras using geographical queries directly on maps and switch to them accessing real-time images.

Integrated with Call Center
SIERMS integrates very well with call center systems. Whenever there is a call, the caller’s number, name address and coordinates appear in the emergency record and a history of related calls is ready for easy reference.

Integrated with SMS
SIERMS support SMS gateways so that any dispatching information is available to response units via SMS compatible devices just by clicking.

Statistics on maps
The SIERMS provides native support for visualizing emergency reports and statistics information with highly customizable thematic maps and graphs. Evaluation of the overall situation and response unit’s performance is intuitive with minimal effort.

Fast navigation aids
SIERMS provides native support for shortest/quickest route finding over detailed road networks to minimize delays of response units heading to the emergency location.

Automatic locating
SIERMS intelligent locating module can quickly convert text addresses, phone numbers, road milestones and street crossings to geographic coordinates and show locations on reference maps in real-time.

Quick dispatch
SIERMS can automatically match declared emergencies with a preplan schema according to location, type and level and will recommend response units and actions.

Automatic alarm
When an emergency becomes active, the SIERMS alerts the corresponding dispatchers both using its own software interface and other signals (sirens, lights) according to predefined emergency levels.

Integrated with GNSS
With the native integration of GNSS technology on SIERMS, supervisors and dispatchers can see the real-time locations of police cars or officers, ambulances and fire engines.

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Success Story

SuperMap Software has successfully implemented more than 20 emergency response systems in China. The Emergency Response System of Wuhu City is one example.

Wuhu is a beautiful city in Anhui province with a population of 2.3 million of inhabitants. After adopting the SIERMS since September 2009, the Emergency Call Center of Wuhu city receives and processes more than four hundred emergency reports in average every day. Relevant authorities can deal with these emergency cases in a faster and better-coordinated way.

“The SIERMS builds up an easy and convenient bridge for the government to safeguard the public so as to building a harmonious society.”
(Mr. YANG Xiaoming, director of the Informatics Center, Wuhu Urban Management Authority)