## Network analysis performance optimization

## **Create index**

Because of mobile device, network analysis needs to adopt small memory, and analyzing network data without creating an index will be very slow. So creating spatial index and field index for network dataset and its child dataset can improve the analysis performance.

At SuperMap iDesktop, steps of creating index for network dataset are:

## **Creatig spatial index**

1. Select network dataset to be analyzed from workspace, and then select "Rebuild Spatial Index" (Figure 1);

Workspace Manager	<b>₽ ×</b> Start Tab ×
<b>₽</b> 4	Oper
<u>ভি</u> -। 🖻 । 🔎-	
FacilityAnalyst	
Regic H	Browse Attributes
····✓ Wate ····✓ New_ ····△ Subd	Add to New Map Add to Current Map
····(A) Marg ····(A) Mapg	Add To Diagram
Cente 👧	Add to New Spherical Scene
Cente	Add to New Plane Scene Add to Current Scene
	Copy Dataset
Layouts	Export Dataset
	SQL Query
Layer Manager	Rebuild Spatial Index
	Create Scene Cache
	Close Dataset Recompute Range
面	Delete Dataset
	Rename Dataset
()	Properties
Figure1 Creati	ng spatial index a

2. Set Index Type of related network dataset as "R-tree index" at pop-up "Spatial Index Manager" dialog box, and then click "OK" (Figure 2).

Spatial Index Ma	anager					×
				Index Type:	None	-
Dataset	Datasource	Original Index	Index Type	"None" of spatial index indicating no spatial index during the range querying, applicable for low-volume data circumstance.		
💥 WaterNet	FacilityNet	None	R-tree Index ∨ None			
			R-tree Index			
					ОК	Cancel

Figure2 Creating spatial index b

## Creating field index of network dataset

1. Select "Start" tab in the function area, and then click "Field Index" (Figure 3).



Figure3 Creating field index a

2. At the pop-up "Dataset Field Index" dialog box, select network dataset and then select field, finally click "OK". Note: The field to create index should be the field identifying arc ID. (Figure 4).

Data Source Datasource: 🛛 🔂 Faci	lityNet 👻	Dataset:	💥 WaterNet	-
Index				
Index Name	Fields That Cre	ated Index		OK
Create Field Index		>	<	Delete
Index Name:				Modify
WaterNet_FieldIndex				
Index Field:				
Field	Туре			
SMLENGTH	Double			
	DR Int			
	Int			
	Int			
SMEDGEID	Int			Close
	YSIZE Int			
	Int			

Figure4 Creating field index b

3. Select child dataset from network dataset, select field to create index, finally click "OK". The index field should be the field identifying node ID. (Figure 5).

Dataset	Field Index			$\times$
Data S				
Dataso	urce: 🔚 FacilityNet	✓ Dataset:	<ul> <li>WaterNet_Node</li> </ul>	-
Create	Field Index		×	
Index	Jame		ок	
	Net_Node_FieldIndex		Delete	
Index F	ield:		Modify	-1
	Field	Туре	^	
	SMID	Int		
	SMX	Double		
	SMY	Double		
	SMLIBTILEID	Int		
	SMNODEID	Int		
	SMUSERID	Int		
	SMGEOMETRYSIZE	Int		-
	NodeType	Int	✓ Close	
		OK Canc	el	

Figure5 Creating field index c