

Esri Developer Summit

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esri.com/events/devsummit



Map Caching in ArcGIS 10.1 for Server

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A decorative graphic at the bottom of the slide. It features a curved orange band at the top, followed by a semi-transparent map of a landscape. Overlaid on the map is a semi-transparent code editor window with a dark background and light-colored text. The code is JavaScript, showing the creation and configuration of symbols and polylines for a map.

```
esri.symbol.SimpleLineSymbol,
new dojo.Color([0, 0, 0, 0.5]),
polysymbol,
feature.setSymbol(polysymbol);
} else if(f == 1) {
var polysymbolGreen =
polysymbolGreen.setOutlineColor([0, 0, 0, 0.5]), 1);
polysymbolGreen.setSymbol(polysymbolGreen);
} else if(f == 2) {
polysymbolBlue = new esri.symbol.SimpleLineSymbol,
polysymbolBlue.setOutlineColor([0, 0, 0, 0.5]), 1);
polysymbolBlue.setSymbol(polysymbolBlue);
}
```

Schedule

- New features in 10.1
- Architectures for caching
- Caching in the cloud

Please!
Turn **OFF** cell phones
and paging devices



- We will hold periodic breaks for questions

Demo of new caching features in 10.1

- **CachingTools geoprocessing service**
- **New experience for defining cache properties**
 - **Build automatically or manually**
 - **Min and max cached scales**
 - **New PNG format**
- **Calculating cache size**
- **Asynchronous caching**
- **Real-time cache status updates**
- **Viewing job status and fixing problems**
- **Visualizing cache creation over time**

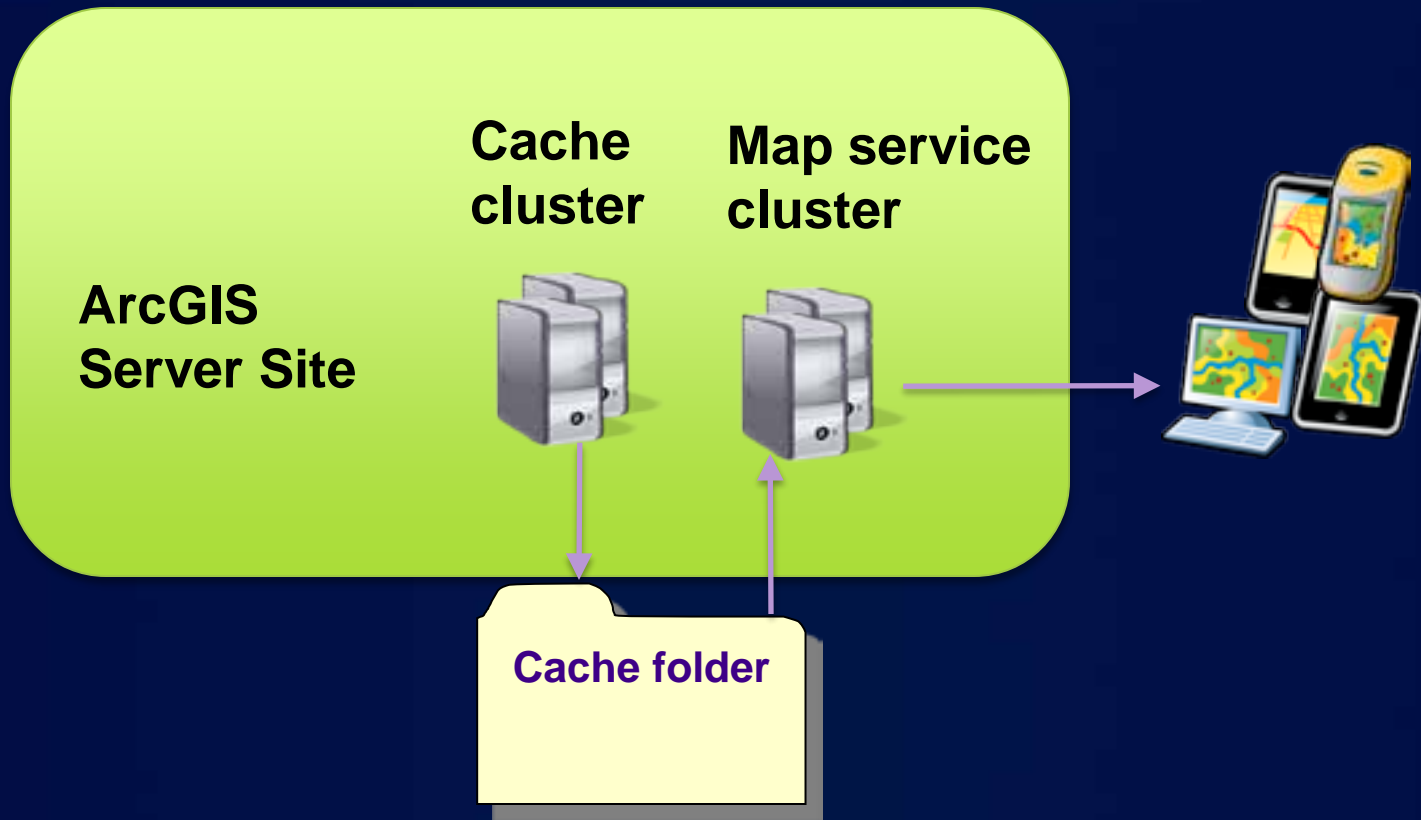
Short break for questions



Architecture for caching

```
esri.symbol.SimpleLineSymbol,
new dojo.Color([0,0,0,0.5]),
polySymbol.setColor([0,0,0,0.5]),
feature.setSymbol(polySymbol);
} else if(f === 1) {
var polySymbolGreen =
polySymbolGreen.setColor([0,0,0,0.5]),
polySymbolGreen.setOutline(
Symbol.SimpleLineSymbol([0,0,0,0.5]), 1));
polySymbolGreen.setColor([0,0,0,0.5]),
polySymbolGreen.setSymbol(polySymbolGreen);
```

Clusters allow you to isolate cache creation



Cache cluster can scale out while the cache job is running

Update a cache using a staging server

Staging ArcGIS Server Instance



Map service



All layers for cartography of map service

Production ArcGIS Server Instance



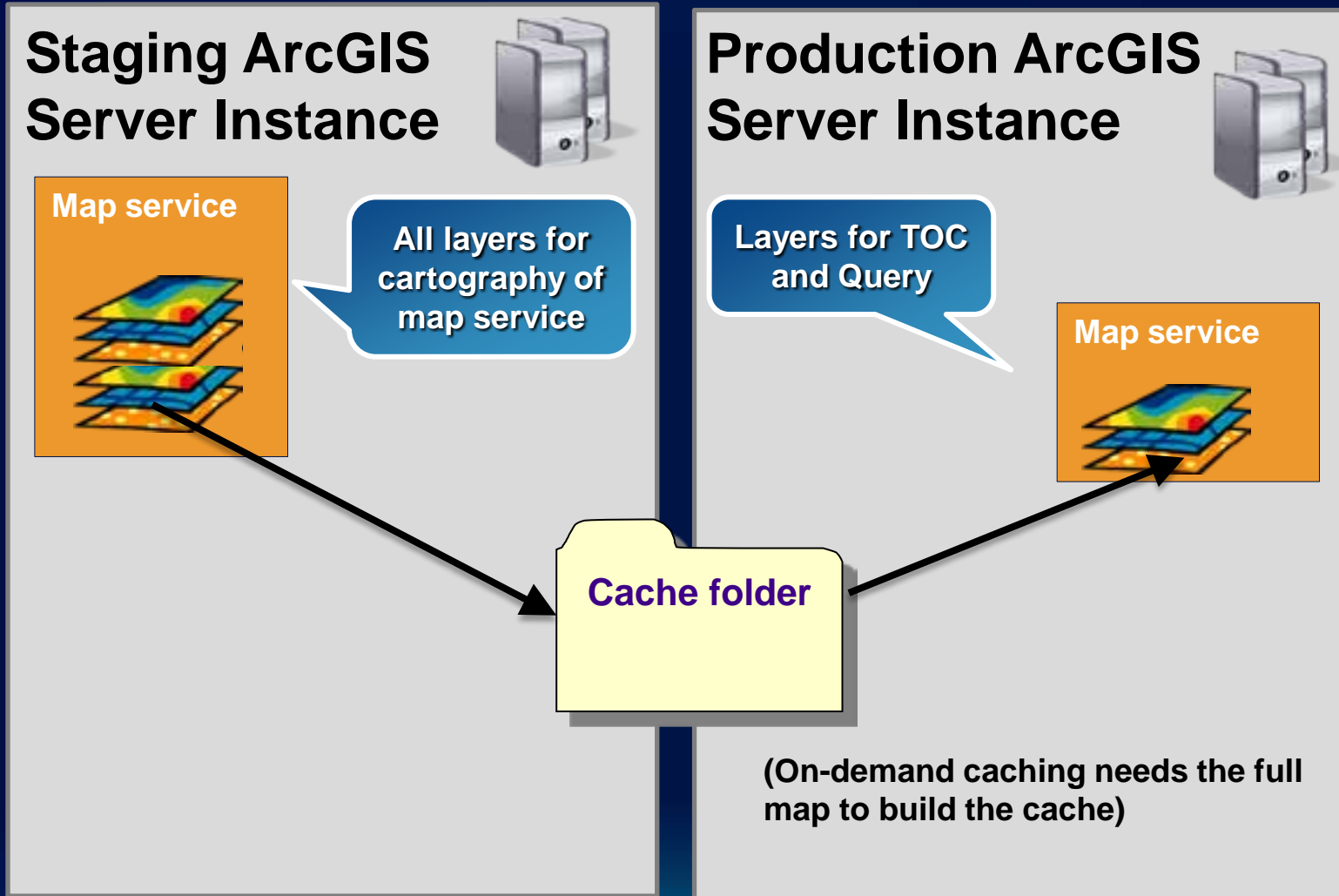
Layers for TOC and Query

Map service



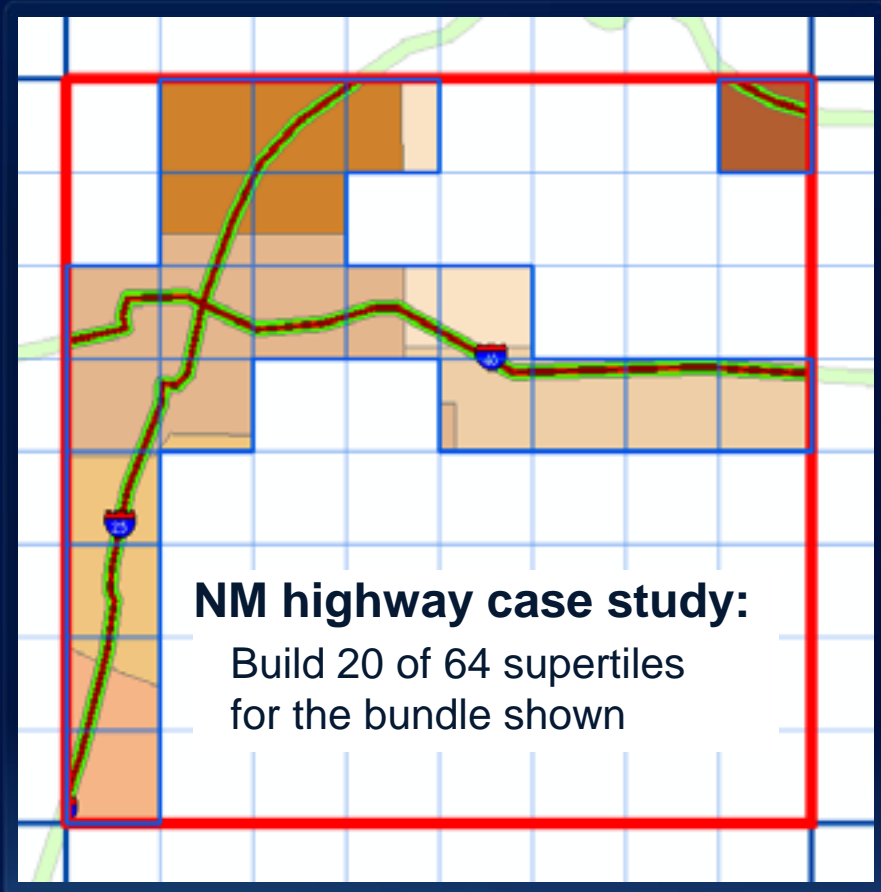
Cache folder

(On-demand caching needs the full map to build the cache)



How much of a cache should you generate?

- **Cache by feature**
 - Geographic elements
 - Generates tiles for intersecting supertiles
- **Saves on...**
 - Generation time
 - Processor resource
 - Disk usage



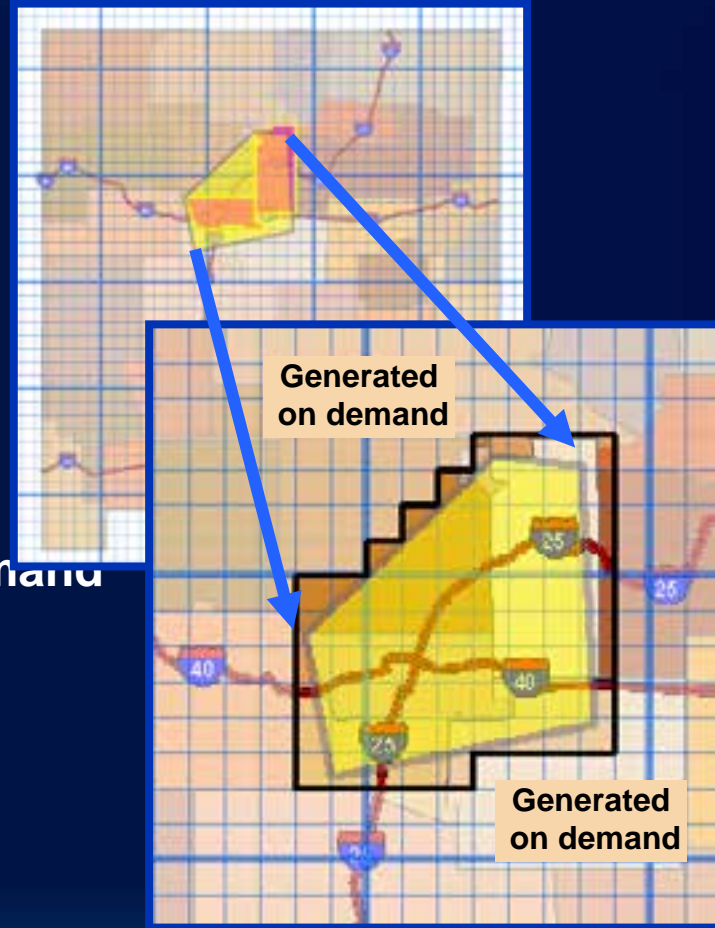
Strategic cache creation

- **Feature class covers about 25% of California**
- **Contains about 97% of California's population**
- **Caching with this layer saves:**
 - **943,000 tiles**
 - **9.3 GB of space**
 - **17 hours of caching time**
- **Bing analysis of access**
 - <http://hotmap.msresearch.us>



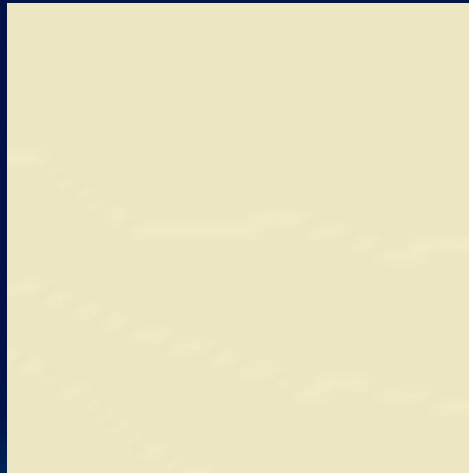
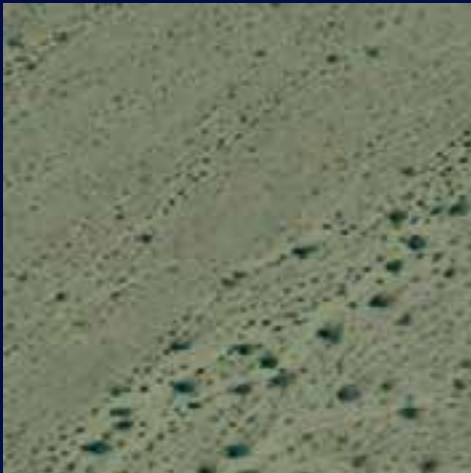
Pre-create coupled with cache on demand

- **Pre-create high use areas**
 - Population centers
 - Parks, roads, attractions
- **Features**
 - Cover popular extent
 - Generate key tiles
 - All others generated on demand



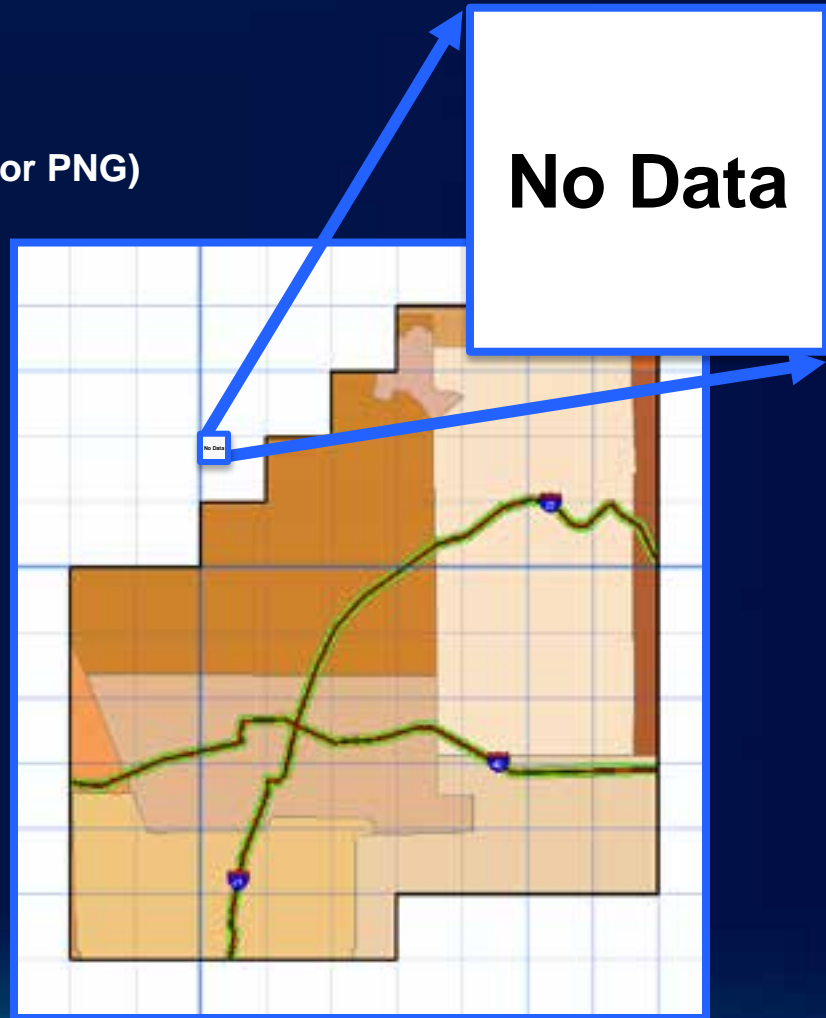
The ideal tiles to cache on demand

- **Few simple features**
 - Barren homogenous area
 - Rarely accessed
- **Draw relatively fast**
- **Large scales only**



Handling tiles you do NOT create

- Create “No Data” tile
 - Same image format (JPG or PNG)
 - Same size (256 x 256)
 - Save in cache folder
...\`<dataframe>`_alllayers
- Knowledge base article [36939](#) has sample files

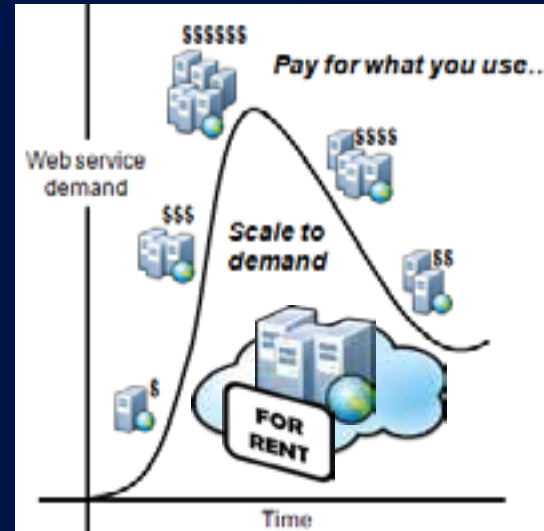


Caching in the cloud

```
esri.symbol.SimpleLineSymbol  
new dojo.Color([0, 0, 0, 1])  
polySymbol.setColor([0, 0, 0, 1])  
feature.setSymbol(polySymbol)  
}  
else if(f == 1) {  
var polySymbolGreen =  
polySymbolGreen.setColor([0, 0, 0, 1]);  
polySymbolGreen.setOutlineColor([0, 0, 0, 1]);  
polySymbolGreen.setSymbol(polySymbolGreen)  
}
```

Cloud computing

- **ArcGIS server for rent**
 - Scale up/down as needed
 - Pay as you go (Esri + Amazon)
 - Reduce on-premise costs
- **Deployment**
 - Clone a new system from an Esri snapshot
 - License system, upload data and configure services
 - Create custom snapshots
 - Deploy additional or backup instances
 - Cloud Builder makes this much easier in 10.1



Cloud builder + caching

- Auto scaling can be used to scale up for cache jobs
- Linux



Caching in ArcGIS Online

- **ArcGIS Online subscription allows for caching**
- **No need to worry about capacity**
- **Charged by storage**

Demo of new caching features in 10.1

- **ArcGIS Online**
- **Amazon**
- **Image services**
- **Cache by feature class**

Questions



Thank you

Please fill out a session survey

www.esri.com/sessionevals

Questions...



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