TODAY’S PRESENTATION: “SPATIAL DATA MANAGEMENT”

BY SEAN MILNE OF SASKTEL
TODAY’S GUEST SPEAKER: SEAN MILNE OF SASKTEL

Sean attended the University of Regina where he studied Economics and Geography. After completing his degree, Sean received a post-baccalaureate certification from Penn State University in Geographic Information Systems. His professional experience began at the Town of Banff working as a GIS Analyst where he performed spatial analytics for a variety of projects. Sean has been at SaskTel for the past seven years in a variety of roles. He was previously the Client Technology Manager for the GIS system. In this role he performed GIS research and development and worked to evolve their spatial system. He is currently SaskTel’s Data Analyst-Planner, where he works on data projects throughout the Technology Division.
SPATIAL DATA MANAGEMENT:

Spatial data has become an integral component within the telecommunication sector. From network design to service calls, spatial data is a necessity in our industry. This presentation will detail how we transformed our spatial data to create a competitive advantage. It will go through the processes, tools and data management techniques that help us deliver quality services to our customers.
Evolution of Spatial Data Architecture

Internal Databases

- Data Analysis
- Addresses

Geographic Information System (GIS)

- Monitoring
- Routing
- GEO AI and AR
- CAD

SaskTel
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CAD

SaskTel
In 2013 the province was converted.
The conversion was more difficult than anyone could have imagined.
Vector vs Raster

Vector Storage

http://www.geog.ucsb.edu/~jeff/gis/data_models1.html
Why use a GIS???

- A GIS allows us to view, understand and visualize data.
- It reveals relationships and patterns in data that are not normally observable.
- GIS allowed us to integrate with other systems within the company.
Telco: Wireline

- All our wireline data is represented as vectors.
- Our network is integrated into a geometric network to aide in design and tracing.
- ESRI is used as the base GIS software
Wireless Data

- Wireless data is generated in raster.
- Signal strengths are generated for every tower.
- MapInfo is used as the base GIS application
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Address Data

- Addresses are central to our business.

- We were able to make it a core strength by using GIS to manage the data.

Data Model
Address Data Model

We used the ESRI and The City of Calgary data model as our starting point.

Modifications were added to suite our existing address data set, as well as to accommodate unique addressing within Saskatchewan.
SaskTel Address Tool

We built an address creation tool that allows users to enter hundreds of addresses for high rise buildings or subdivisions as quickly as a single address.
Lessons Learned

- Focus on both Data literacy and Digital Literacy, and know the difference.
- Communicate and coordinate all changes with the entire company
- Work with outside organizations to expand data
- Tailor the data maintenance with the users
- There will always be data that is outside of your model
- Don't reinvent the wheel, detailed data models are available.
Data Analysis/Planning

The integration of wireless and wireline data in a GIS has allowed us to perform data analysis beyond what we could have ever thought possible.
Fusion Customer Locations

Our Fusion Finder Application allows dealers to provide accurate information to customers about our network.

- Fusion Tower Coverage
- Fusion Customer

1st Call Data Clean Up and Automation

GIS has improved our 1st Call processes, which allows us to:
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New Cell Tower Analysis
Do I qualify for fixed wireless?
How far is the nearest connection?
Will facilities be impacted by a large infrastructure move?
Lessons Learned

- Accurate data is key to all analysis.
- Analysis usually uncovers data issues.
- Anything is possible with the right data.
- Deliver more than asked for.
- All analysis tasks will take longer than you think.
- Collaborate and communicate with every task.
Network Monitoring

Real time network monitoring has increased exponentially in the last year.
Routing and Scheduling

SaskTel customizes our routing network to provide more accurate scheduling.

We include detours construction and temporary roads
“Artificial intelligence and machine learning are about getting more value from data is about”
Augmented Reality
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