Real World Lessons Learned From Multiple Enterprise GIS Migrations to the Cloud

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Presentation Overview

- Overview of Bowne

- The Opportunity

- Notable Issues

- Case Studies:
  - CNR
  - WCCOG
  - NYCEDC

What The "Cloud" Is

- IT infrastructure that is hosted remotely

- Users do not control the physical computing resource, nor do they know where it's located

- Access is via secure internet connection(s)

Bowne

- Bowne Management Systems, Inc. was founded in 1986

- The company is part of the Bowne AE&T Group

- We specialize in GIS / IT services and consulting

- Our focus is local government

- Headquartered in NYC area (Mineola)

- We have more than 20 full-time staff

Bowne and Technology

- We manage over 120 servers of which over 75% are remotely hosted (cloud)

- We do VOIP, e-mail, HR, financials, ERP, CRM, CAD (dispatch) and GIS

- We use many vendor's technology

- We are vendor agnostic / independent

We Were an Early Adapter

To serve the needs of:

- The USPS

- FedEx Ground

- Waste Management

- amazon.com

- … and many others.

The Opportunity

- **Reduced costs –** For our customers that are using it, cloud hosting is producing significant cost savings

- **More nimble –** Adding capacity or new infrastructure and publishing applications and services are quick

- **Increase productivity –** Administration can be largely automated, which reduces mundane IT "chores" and provides additional new capabilities

Notable Issues

- **Allow time to implement –** Setting up remote hosting takes time

- **Your connection to the Web is key –** To avoid performance issues use a fast and reliable connection

- **Limited commitment from hosting services –** Most do not offer a rigorous SLA

- **Security should not be ignored –** Any cloud configuration can be highly secure

Three Case Studies

1. City of New Rochelle (CNR)

2. Western Connecticut Council of Governments (WCCOG)

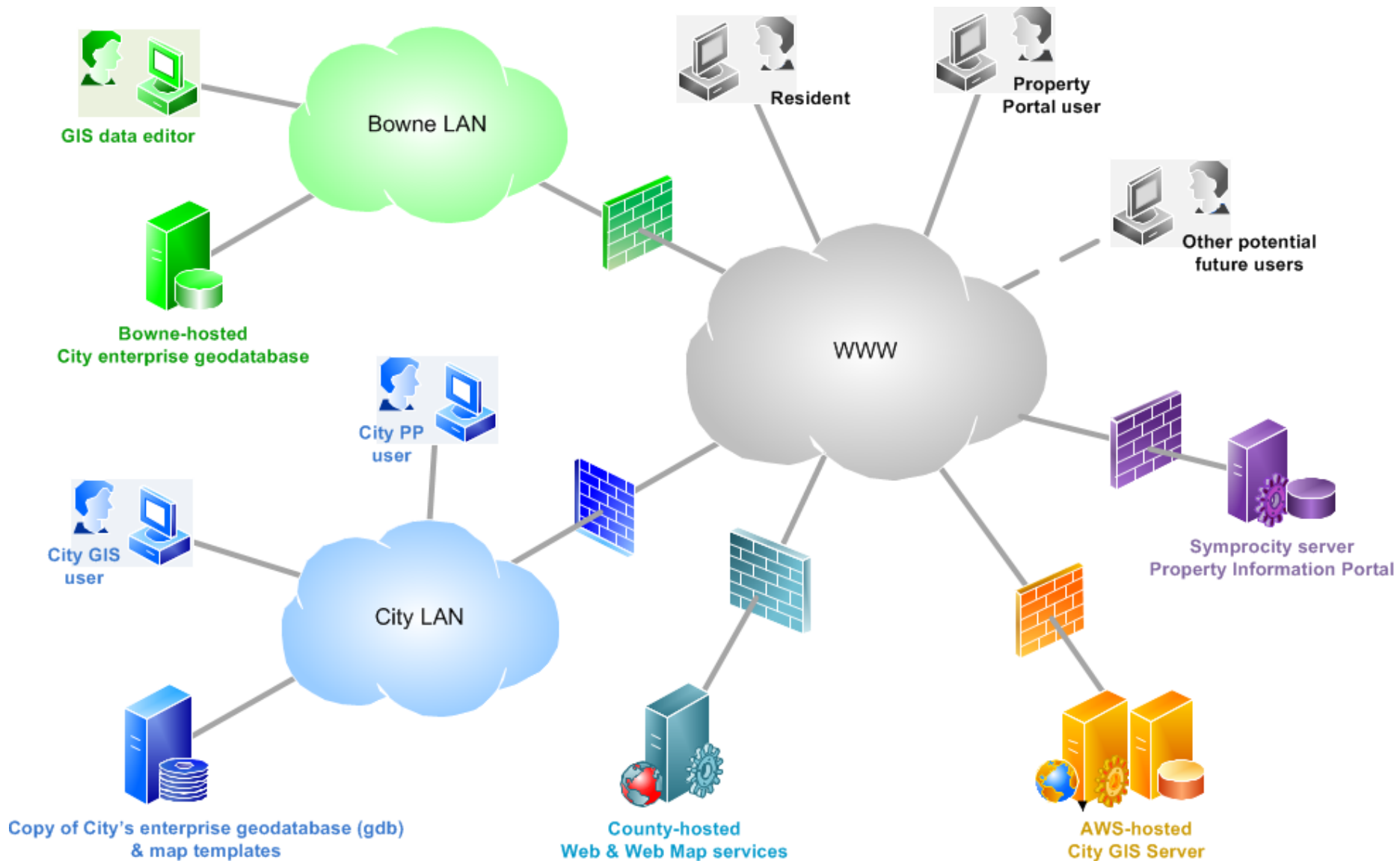3. The New York City Economic Development Corporation (NYCEDC)

Case Study 1 - CNR

Goals:

– Update the City's GIS infrastructure to be current

– Outsource administration of the City's GIS infrastructure

– Establish centralized data storage and hosting

– Reduce costs

Solution for CNR

- Existing Esri and Microsoft-based configuration

- ArcGIS for Server, ArcSDE, Web map services and ~5 desktop users

- Approx. 10 GBs of City data

- Single cloud server

- Hybrid cloud / internal configuration

GIS data editor

Bowne LAN

Bowne-hosted
City enterprise geodatabase

City PP
user

City GIS
user

City LAN

Copy of City's enterprise geodatabase (gdb)
& map templates

Resident

Property
Portal user

Other potential
future users

WWW

Symprocity server
Property Information Portal

County-hosted
Web & Web Map services

AWS-hosted
City GIS Server

Case Study 2 - WCCOG

Goals:

– Provide read / write access to GIS data via a browser over the internet

– Use a new hosted infrastructure since organization does not have notable IT resources

– Keep costs low

Solution for WCCOG

- New hosted systems infrastructure based on:
  - Esri ArcGIS for Portal
  - PostgreSQL database
  - Federated ArcGIS for Server
- Single cloud server
- 100% cloud solution

Case Study 3 - NYCEDC

- Existing mature enterprise GIS configuration

- Multiple Web applications

- New need: internet GIS Web application in a rigorous IT environment

- ~30 desktop users

- Over 9 TBs of data

Solution for NYCEDC

- To the cloud:

  – All GIS servers, Web applications and services

  – About 25% of GIS-related files and data (incl. ArcSDE, SQL Server)

- Kept on internal WAN:

  – Esri and Autodesk license managers

  – About 75% of files and data (incl. mxds, CAD, LiDAR and uncached orthos)

- Hybrid cloud / internal configuration

Enterprise GIS Configuration
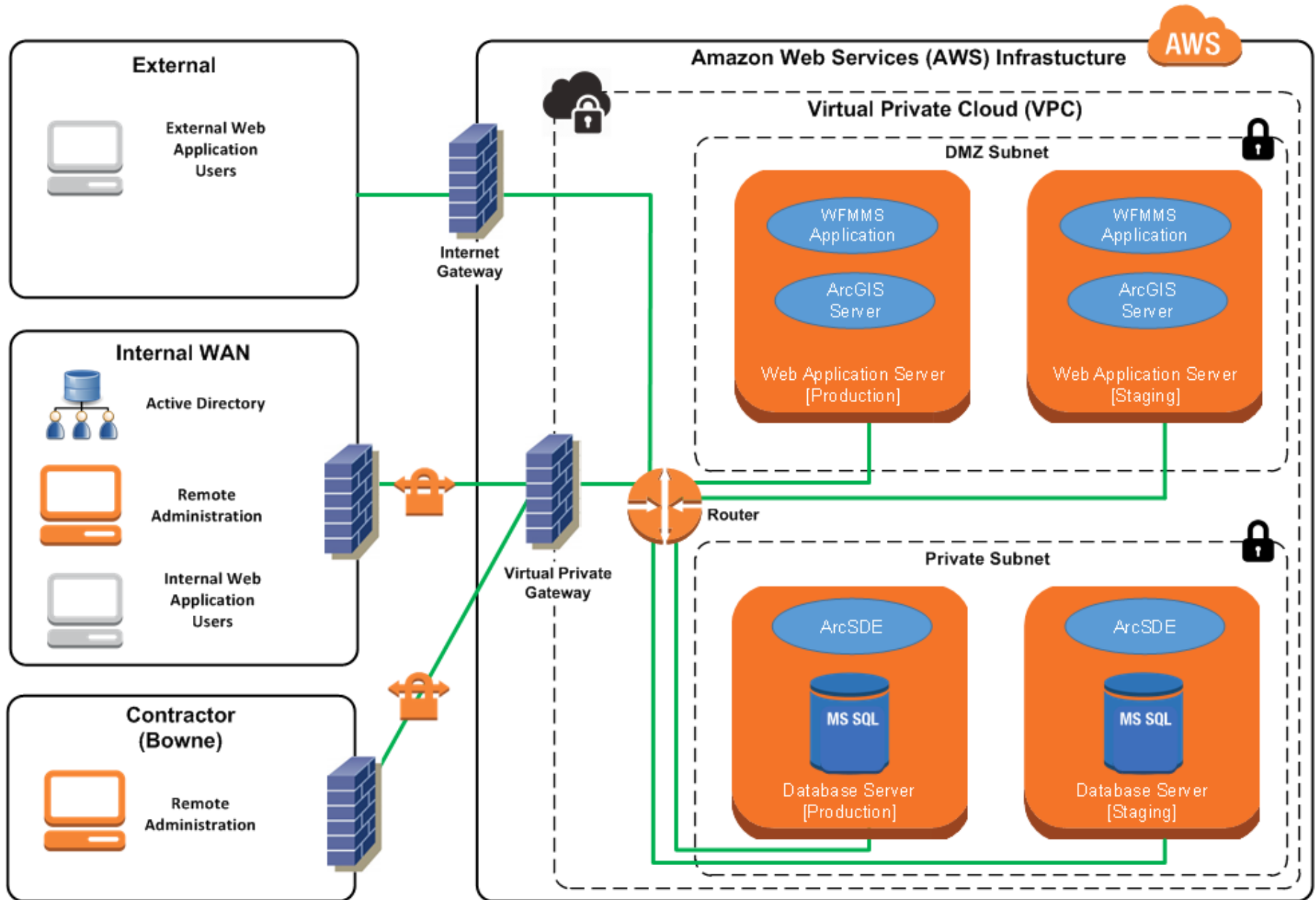
Goals and Results

Goals:

– Establish an internet-facing GIS Web hosting capability in a rigorous IT environment

– Outsource administration of the organization's GIS server and database infrastructure

– Improve backup and recovery coverage for a key Web application

Results:

– It is expected that all goals will be achieved

Questions?

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