



EMPOWERING TRIBAL GOVERNMENTS WITH ENTERPRISE GIS

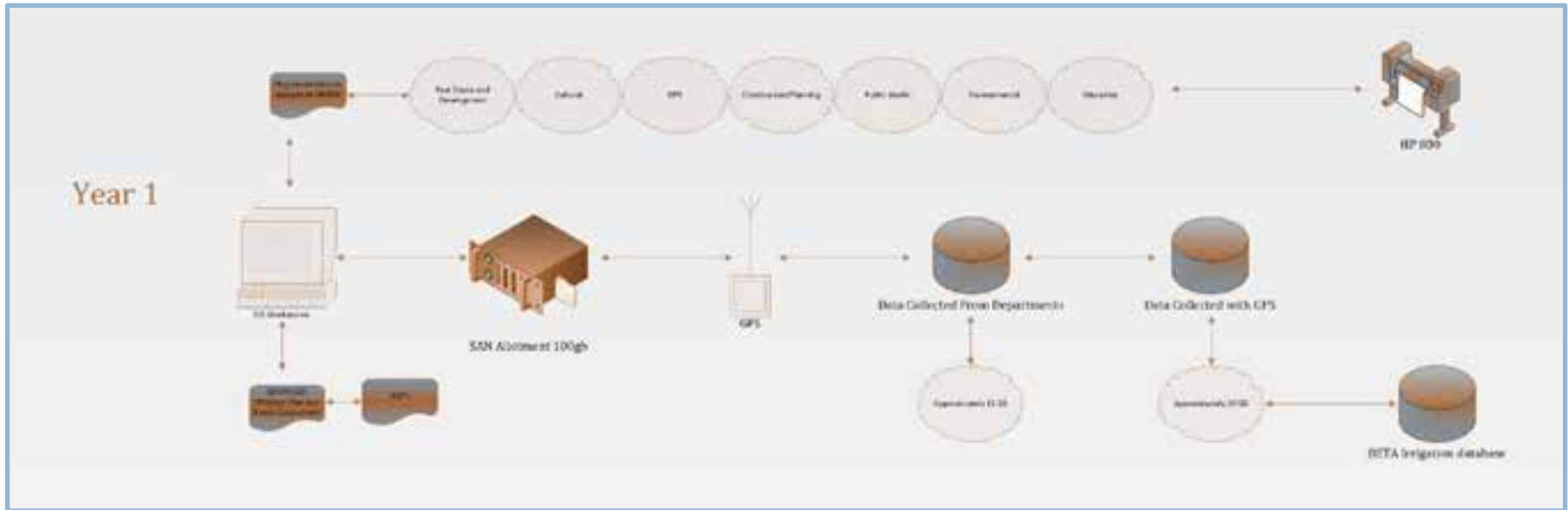
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Implementation, Support and Solutions

Back story - In the beginning....

- 1 machine, 1 GPS, a 15 year old plotter, an antiquated scanner and 10 gigabytes of information
 - ✧ Supported 7 Departments, Sections or Groups
 - n Reality
 - n Cultural
 - n DPS
 - n Construction
 - n Public Works
 - n Environmental
 - n Education

Back story - Year 1: The Transformation....



Back story - Year 2....



Success Factors...

- .. Internal Marketing and Networking
- .. GIS/IT relationship
- .. Tribal support for hardware
- .. Documentation

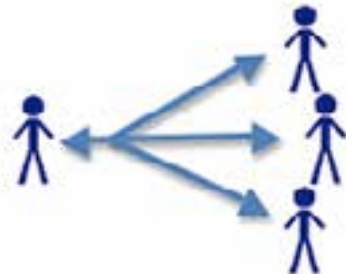
- .. Personality matters
- .. Rapport produces confidence
- .. Confidence creates Commitment
- .. Commitment forms Foundations

Intent: How do we get there...

- Tribal GIS' are sometimes cumbersome and frustrating. Design and planning often take a backseat to urgent needs like ad hoc maps or even to perform duties in a non GIS title. GIS ambiguity from Tribe to Tribe can often shadow the path to success. By enhancing vision and strategy, we can administratively steer a standard GIS to an Enterprise GIS. My presentation highlights administrative checkpoints and showcases goals for successfully implementing an Enterprise GIS.

The Birth of an Enterprise GIS

- ESRI GIS is evolving to meet the needs of technology and customers
- GIS supports many professions and it is often expected that it is cross compatible through software and hardware
- ESRI's vision of GIS for everyone is changing the platform from one to many to many to one.



GIS Physical – Preparing for Enterprise

- Annual exams can be important in maintaining healthy programs
 - ✧ GIS infrastructure age
 - ✧ Strategic plan updates
 - ✧ Business plan development
 - ✧ Enhancement planning
 - ✧ Sufficient storage (insurance)

How many Tribal Enterprise GIS are in the room? How many are moving towards one?



Designing an Enterprise Solution: The Who

- Evaluate the needs of the organization through a survey that is designed around user input in order to drive the direction of the Tribal GIS.
- The questionnaire can be digital and will assist in writing a GIS management/strategic plan
 - Needs assessments can identify:
 - n GIS data requirements
 - n GIS functionality/acceptance
 - n Human capacity/training
 - n Computing infrastructure/IT

9. Data Sharing methods: (Indicate with an "X" all mechanisms used to share information and data)

Phone	Paper discs	Maps	Fax/ail	Floppy disk	CDs	Intranet	Internet	Other (list)

10. Geographic area served: (What is the geographic area serviced by your department? (e.g., reservations, traditional use areas?))

11. Number of departmental staff: (How many people work in your department, in A/E/S?)

12. Number of GIS personnel with GIS knowledge in your department: (How many people in your department are familiar with GIS?)

13. GIS Familiarity: (Number of employees familiar with GIS by level of familiarity)

No / Little Familiarity	Moderate Familiarity	High Familiarity

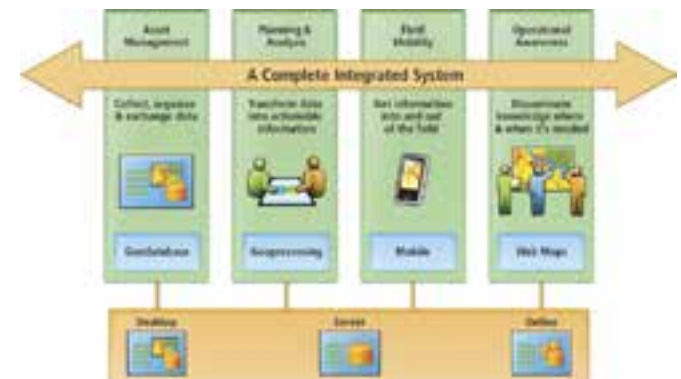
GIS Data Requirements

14. If you have GIS data, what is the quality of it? (Identify the quality the GIS data within your organization)

Poor	Good	Excellent	Not Sure

Designing an Enterprise Solution: The What -

- A cross platform geographical decision enhancing solution that can communicate with other Tribal Enterprise systems
- ELA licensing –
 - ArcGIS (latest version) with Portal
- Enterprise Geodatabases like SQL or Oracle
- Hardware configured for Enterprise access
- Plotting/GPS solutions/Computers/mobile devices
- The platform of the future
- Documentation



Designing an Enterprise Solution - Documentation: The What continued....

- .. Needs assessment
- .. Mission Statement
- .. SOP's
- .. Management Plan
- .. Business Plan
- .. Strategic Plan
- .. Product delivery standards
- .. Training/education guidelines
- .. Certification standards

"To better the San Manuel Tribal Community; Through the application of geospatial technology, data management and analysis; Facilitating efficient business work-flows, improve departmental operations and collaboration, and increase geographical awareness; Resulting in greater resources protection, cultural preservation, and efficient business processes; By fostering the exchange of knowledge, ideas, ambitions, experiences, and promotion of its' value and benefits interdepartmentally"

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Appendix i - SQL Geodatabase Structure

Name	Type	User	Description
SDE	Production	GIS Production Environment	Main GIS database where current data is maintained
SDE Web	Replica	GIS Users in the Tribal Government	Replica subset of SDE consumed on client machines

Designing an Enterprise Solution: The Where

- Where will GIS fit in your organization? GIS has many functions.

- How can you:

- Network to educate use
- Support the goals of the Tribe
- Educate users



- Structurally, What makes sense for this system and a Tribe?

- Visibility/Competency

- Budget
- Are there developmental choke points?



Designing an Enterprise Solution: The Why -

- Honed Enterprise Tribal GIS' are able to support and integrate with multiple departments that have the same common goal
- Documentation keeps a well oiled machine running regardless of employment turnover.
- Training and education and consistent trusted support become a marketing tool that funds the future
- The GIS trade is starting to infiltrate the masses and one will need to configure a solution that will answer the call.

















Design/Develop an Enterprise Solution: The How -

- By understanding your existing platform, one can dissect it and configure it to support the organization with a multitude of geospatial solutions
- By developing and designing the Who x What x Where x Why = How method, one essentially forms and designs the framework for an Enterprise GIS



GIS Return on Investment: Program Justification

GIS RETURN ON INVESTMENT

 <p>IMPROVE EFFICIENCY</p> <p>GIS helps organizations reduce and eliminate redundant work in existing processes. By implementing GIS, companies can reduce work hours for your staff and you also increase your productivity resulting in increased profits, better and consistent customer service.</p>	 <p>INCREASE PRODUCTIVITY</p> <p>GIS puts accurate, current information at your staff's fingertips when they need it, eliminating the need to waste time searching for vital data or trying to obtain inaccurate data. Accurate digital and analytical GIS mapping can be easily accessed by and shared among all departments. And because information can be accessed so quickly and accurately, productivity will improve in all departments.</p>	 <p>SAVE TIME</p> <p>Having the information when the need arises saves time and cost resources, and if necessary, saving resources can be made available to the public through a Web site or other means. Maps in computer systems, reducing the amount of travel time.</p>	 <p>SAVE MONEY</p> <p>GIS helps control spending through cost savings and cost avoidance. Immediate savings can be seen through better decisions and increased productivity. Cost avoidance becomes apparent over time, as GIS helps organizations reduce and eliminate costs.</p>	 <p>ONLY ONLY ONLY</p> <p>MAKE BETTER QUALITY AND MORE EFFECTIVE DECISIONS</p> <p>GIS is a central tool in many areas and maps used in the home, business, GIS can be used to analyze a location, for a development project and to determine the best location for a project.</p>	 <p>IMPROVE DATA ACCURACY</p> <p>GIS creates maps from data. Paper maps can be digitized and translated into GIS. Maps can be created on any location, at any scale, and showing selected information to highlight specific characteristics. Because GIS data enables users to generate accurate reports and produce quality maps instantly.</p>	 <p>AUTOMATE WORKFLOW PROCEDURES</p> <p>GIS helps automate and integrate workflow and process your data to meet customer's needs. GIS can automate workflow systems, map creation, data management, reporting, and analysis systems.</p>	 <p>SAVE LIVES</p> <p>In an emergency, GIS can lead recovery quickly and accurately to the scene. In an emergency, every second counts. The time saved in locating a citizen can be the difference between life and death.</p>
 <p>IMPROVE INFORMATION PROCESSING</p> <p>Enterprise-wide GIS streamlines the flow of information throughout the organization, leading to better accuracy, better access, and increased efficiency in every aspect of the organization.</p>	 <p>COMPLY WITH STATE AND FEDERAL MANDATES</p> <p>GIS helps organizations meet state and federal mandates for data accuracy, security, and data integrity. GIS can help organizations meet state and federal mandates for data accuracy, security, and data integrity. GIS can help organizations meet state and federal mandates for data accuracy, security, and data integrity.</p>	 <p>PROTECT YOUR COMMUNITY</p> <p>GIS helps public safety officials develop emergency plans and respond to disasters more effectively than ever before. GIS offers the tools to monitor conditions, recognize threats, predict consequences, and respond effectively and efficiently to man-made or natural disasters. GIS can also help officials deliver information to citizens during an emergency through emergency notification systems and the Internet.</p>	 <p>IMPROVE COMMUNICATION, COORDINATION, AND COLLABORATION</p> <p>GIS helps organizations improve communication, coordination, and collaboration. GIS can help organizations improve communication, coordination, and collaboration. GIS can help organizations improve communication, coordination, and collaboration.</p>	 <p>PROVIDE DATA TO REGULATORS, DEVELOPERS, AND OTHER INTERESTED PARTIES</p> <p>GIS makes it easy to deliver information for complex political and regulatory requirements. GIS allows regulators and developers to consider all pertinent data, which results in informed decisions and better results.</p>	 <p>RESPOND MORE QUICKLY TO CITIZEN REQUESTS</p> <p>GIS helps organizations respond more quickly to citizen requests. GIS can help organizations respond more quickly to citizen requests. GIS can help organizations respond more quickly to citizen requests.</p>	 <p>IMPROVE CITIZEN ACCESS TO GOVERNMENT</p> <p>Internet access to GIS information is the ultimate convenience for citizens. 24/7 GIS from their home or office. Staff is free to help citizens with more complicated requests, resulting in increased customer satisfaction.</p>	 <p>EFFECTIVE MANAGEMENT OF ASSETS AND RESOURCES</p> <p>GIS helps organizations manage assets and resources more effectively. GIS can help organizations manage assets and resources more effectively. GIS can help organizations manage assets and resources more effectively.</p>

Questions?