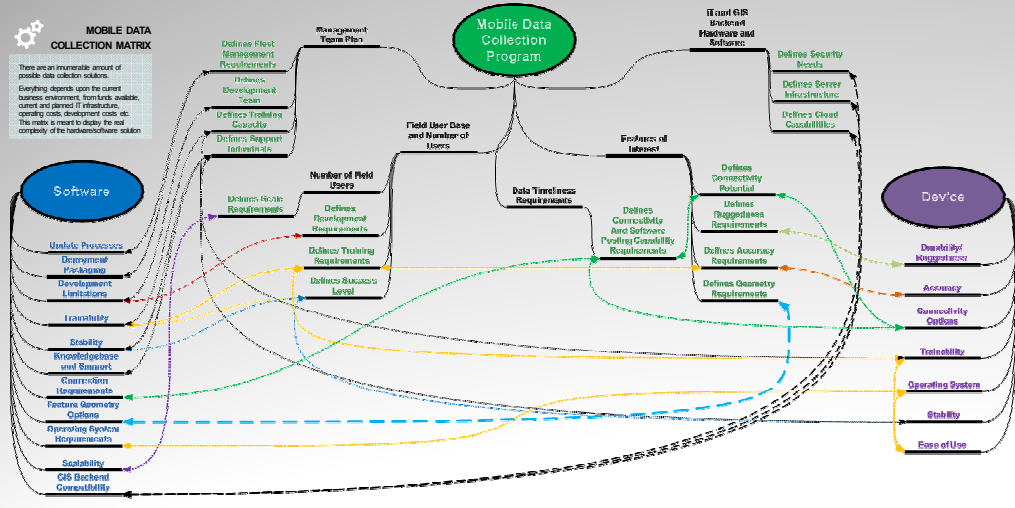


Program

Lessons Learned from the BP MC252 Response
Douglas Anderson
Ag GIS Solutions Inc.



Professional Devices



Field



Office

INTRODUCTION

April to June 2010
The data collection began with 375 devices. Specifically 275 rugged handhelds with the remaining consisting of laptops, ipads and tablets. The program was based on the use of the ArcGIS Online (AGOL) cloud-based deployment supported by the Fort Base version 10.0 ArcGIS Server Enterprise Advanced. The software was selected for its ability to provide multi user capability and virtual host deployment capability. The program was based on the use of the ArcGIS Online (AGOL) cloud-based deployment supported by the Fort Base version 10.0 ArcGIS Server Enterprise Advanced. The software was selected for its ability to provide multi user capability and virtual host deployment capability. The program was based on the use of the ArcGIS Online (AGOL) cloud-based deployment supported by the Fort Base version 10.0 ArcGIS Server Enterprise Advanced. The software was selected for its ability to provide multi user capability and virtual host deployment capability.

METHODS

June to Nov 2010
When the first batch of the program and general support for additional mobile team to be put in place for development support, project development, quality controlling of projects, training and technical support for the field. The team consisted of the field, program team and support. In the field, where the work was done every day to collect. Major program issues were addressed first: Accuracy management software solution that allowed remote management of the devices was not in place. The solution provided remote screen display, location tracking, project deployment and update capabilities, and flexible shooting jobs. This improved the cycles of deployment, support and management of the device group. Incorporating a digital training course followed. Classes were often handed in on-site for 30 minutes including a hands on training portion. Project development management including testing of the program before deployment was required. The management team focused the items that would require an immediate amount of time to develop and potentially log down the projects usability, functionality, and overall success potential. Environmental and core software issues were then exposed and addressed. Connectivity was always an issue, especially along the remote barrier islands in the Gulf of Mexico. Creative solutions arose from strategically placed WiFi units to satellite internet services to handle installations. ArcMobile was in beta and thus not for general software issues. Errors in the source programming were common, causing many of the projects to have system based failures. In the end, ArcMobile Beta had undergone over 100 hot fixes for the response. ArcMobile was unable to support collection of polygons or polygons reliably. This was corrected by the development team, but not without the cost of much time. Business level issues remained at this point: The first hurdle was "Change Management". Many projects resulted in a color format before the "Timeline" arrived. The team was perceived as changing everything, hence reorganizing the individuals. It was when the project managers fully embraced the program and pushed that down to the leadership within that the program was accepted, endorsed and allowed to flourish. Project mission creep occurred where additional tasks were attempted to be laid upon an existing project where the original intent of the project was modified or lost entirely. Keep in mind, the strongest unit in a response will always be the operators. This is part of the reasoning that viable coordination should be incorporated towards the top of the organization chart, who can protect the ownership of a project. Team Ownership: Project managers rarely engaged the full concept of what GIS is and why. A common use was to collect data that could be hidden and automatically collected. The purpose of the data was often not fully understood. Data ownership transferred without creation of a data table. Project data was commonly created. The was an ownership by the management team that groups such as the Technical Assessment team are now working to simply because internet use was either not desired or understood by the project at the time. Once a project immediate need occurred the long term intended goal of the project, it is important to note that many of these projects intended to provide regulatory compliance but were blocked by project structural weaknesses.

RESULTS

Nov 2010 to Present
Eventually the program became profitable. At peak, the program hosted 16 simultaneous projects at over 100% deployment of functional devices, collecting more than 100,000 features per day. On average every device was managed and a majority of functional devices was being used. When the BP user and ESRI project team ESRI mobile was local. At the time, cloud-based collection was just coming into the field and not capabilities were being recognized, hence the data was not available on the server. The Trimble Navstar G Series was an excellent solution as it offered the most rugged and available on the market, collecting professional grade GIS and modern connectivity for the field. However, the Windows CE/Windows Mobile system version was not given the option within the core grade phone offering. Data collection software for consumer grade devices was also lacking. At this point, the management team had been reduced significantly and had been able to resolve the disparities within the mobile and base with a shared understanding mobile data collection program.

CONCLUSIONS

By way of sales individuals. Consult a professional before purchase of devices or software. Purchase a software and hardware solution that fits your needs. These devices and software were purchased with simple criteria of rugged, connectable, and scalable. Management, ground training of environmental variables, training needs, and adaptability of the software was largely overlooked. Empower your management team to protect integrity of the data collection projects. This was one of the biggest issues that is not easily addressed. This is an aim to change the GIS log sheet for emergency responses and focus the view of the organization to be a wildlife organization as opposed to the first responder only. In highly dynamic environment where the balance of threat are unknown, select a software solution that is proven and provides easy flexibility and customization that might require an advanced development team to implement. Even after the implementation of all of these concepts, the team still missed the mark on some heavy issues that affected the only evidence of the project existence, and that is the data. This is something that was negotiable, but not reimbursable. At the end of the day, the data manager just has to create in his or her own conviction. At least two weeks of data instead of a month of paper documents.

CONCLUSIONS

Significance of national significance are a difficult thing to plan for but to leave execute. At the time of need decision to purchase ArcMobile and Trimble devices was made and was. To use the term here would be out of line, as the decisions were made using course from those that GIS already had. When the BP user and ESRI project team ESRI mobile was local. At the time, cloud-based collection was just coming into the field and not capabilities were being recognized, hence the data was not available on the server. The Trimble Navstar G Series was an excellent solution as it offered the most rugged and available on the market, collecting professional grade GIS and modern connectivity for the field. However, the Windows CE/Windows Mobile system version was not given the option within the core grade phone offering. Data collection software for consumer grade devices was also lacking. At this point, the management team had been reduced significantly and had been able to resolve the disparities within the mobile and base with a shared understanding mobile data collection program.

	Deployment	Transition	Fully Operational
Management Plan <ul style="list-style-type: none"> Fleet Management Development Team Training Support Team Support 	<ul style="list-style-type: none"> Limited No Remote Management ESRI Team None None 	<ul style="list-style-type: none"> Complete Remote Management ESRI Team Basic User Training 24 Hr Phone 	<ul style="list-style-type: none"> Complete Remote Management Private Contractor Full Training w/ Follow-up 10 Hr Phone
User Base <ul style="list-style-type: none"> Scale Development Training Success 	<ul style="list-style-type: none"> Highly Variable 375 Devices 25% Deployment No Customization Limited to None Limited 	<ul style="list-style-type: none"> User Base 375 Devices 85% Deployment Limited Customization Full Training Moderate Success 	<ul style="list-style-type: none"> User Base 500+ Devices Deployment 15% Resolved High Customization Full Training High Success
Data Timeliness <ul style="list-style-type: none"> Connectivity Requirements 	<ul style="list-style-type: none"> Immediate Data Post within 12 hrs Limited Field Connectivity 	<ul style="list-style-type: none"> Immediate Data Post within 12 hrs Improved Field Connectivity 	<ul style="list-style-type: none"> Immediate Data Post within 12 hrs Backup Web App to Post
IT and GIS Backend <ul style="list-style-type: none"> Security Server Infrastructure Cloud Capability 	<ul style="list-style-type: none"> IT and GIS Backend Unsecured Services Virtual MS Cloud Capable 	<ul style="list-style-type: none"> IT and GIS Backend Unsecured Services Virtual MS Cloud Backup 	<ul style="list-style-type: none"> IT and GIS Backend Full PKI Token Authentication Virtual MS Cloud Backup
Features of Interest <ul style="list-style-type: none"> Connectivity Potential Ruggedness Need Accuracy Need Geometry Needs 	<ul style="list-style-type: none"> Off Shore/Min On Shore Limited Satellite, Limited Cell, Limited Hard-line Extreme 2-5 meter Point, Polygon, Polyline 	<ul style="list-style-type: none"> Off/On Shore Satellite, Limited-Improved Cell, Limited Hard-line Extreme 2-5 meter Point, Polygon, Polyline 	<ul style="list-style-type: none"> On Shore/Min Off Shore Improved Cell, Improved Hard-line Extreme - Mid 2-5 meter Major, Limited Point, Polygon, Polyline