CASE STUDY

Critigen – how a leading global GIS integrator leveraged Telerik's advanced Silverlight expertise to deliver a complex logistics solution for the US government

CRITIGEN

OVERVIEW

COUNTRY
US

INDUSTRY
Defense

CUSTOMER PROFILE
Critigen is a full-lifecycle spatial systems integrator improving government and private-sector performance through spatial IT solutions and managed IT services.

BUSINESS SITUATION
The US government required a system to manage complex military base relocation projects. This involved the visualization of large quantities of disparate data in a single interface.
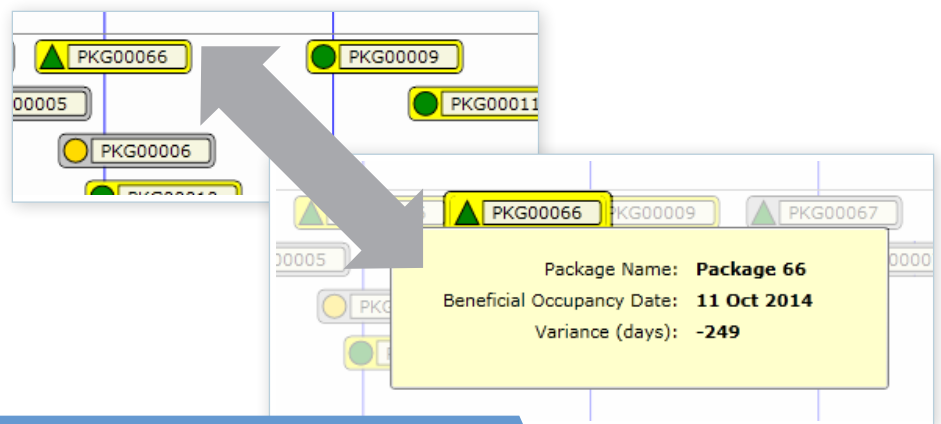
SOLUTION
Unable to find out of the box UI controls that could meet their ambitious requirements, Critigen leveraged Telerik Services' deep Silverlight knowledge to radically extend the RadControls for Silverlight by Telerik.

BENEFITS
• Rapid development of unique functionality within two week period
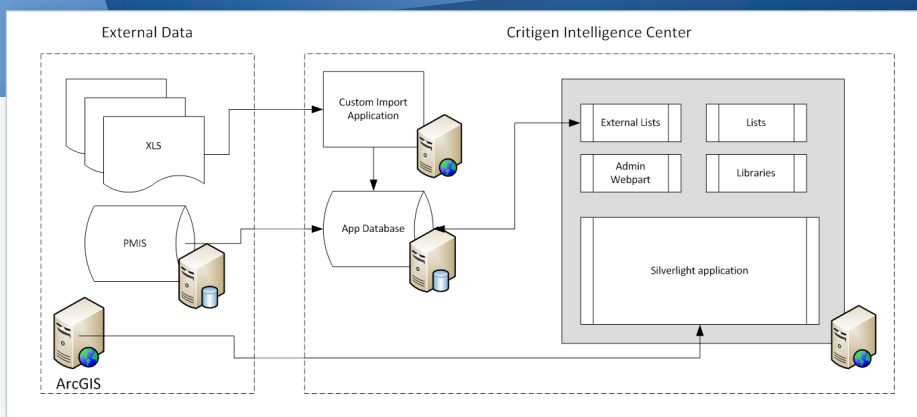• Telerik expertise enabled realization of ambitious project aims

Relocating an entire city is challenging. When that city is a large military base and several smaller bases near hostile countries, the challenge becomes truly daunting. Critigen, charged with building a system to manage such projects, set out with an ambitious vision to bring together many different types of data in a single, intuitive interface. Teaming up with Telerik Services and using Telerik's RadControls for Silverlight, they succeeded in delivering an outstanding solution within tight timelines.

www.critigen.com

Detail views

> " Telerik was the perfect partner. They understood what we wanted to do and they rapidly figured out the quickest route to get us there."
>
> William Griep, Director of Software Development, Critigen

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Architecture overview

TIMELY ASSISTANCE FROM THE ULTIMATE EXPERTS

The Telerik Services team prides itself on the quality of its work and relishes challenging projects. No matter the technology, if Telerik offers tools or controls for the platform, Telerik Services has experts on staff who can assist our customers with customizing a solution to meet their needs.

Telerik Services works closely with clients, and occasionally key Telerik Partners, to deliver the most valuable and challenging portions of a project up front, while there is still time and budget to adjust the project plan if necessary. We look forward to solving your most challenging problems!

BACKGROUND

Critigen is familiar with the high standards required by the military. As specialists in information management for critical infrastructure, they have implemented solutions for hundreds of US Department of Defense (DoD) clients in North America, Europe and Asia. Typical projects include delivering comprehensive GIS support for the US Navy GeoReadiness Program and providing technology support for the management of all US Air Force bases worldwide.

Critigen was in familiar territory when the US Army commissioned them to build a system to manage the relocation of assets that comprise military bases. "This kind of project is our bread and butter," says Ed Riegelmann, Chief Geospatial Officer at Critigen. "We've been working for DoD customers for more than 20 years, including when we were the Enterprise Management Solutions division of CH2M HILL and continuing when we became an independent company in 2009."

THE CHALLENGE

The project goal was ambitious: to provide a data visualization display that would allow Army facilities and operational managers to track all the activities involved in moving the mobile assets of entire military bases from one location to another. This included the physical movement of every kind of asset from portable buildings through
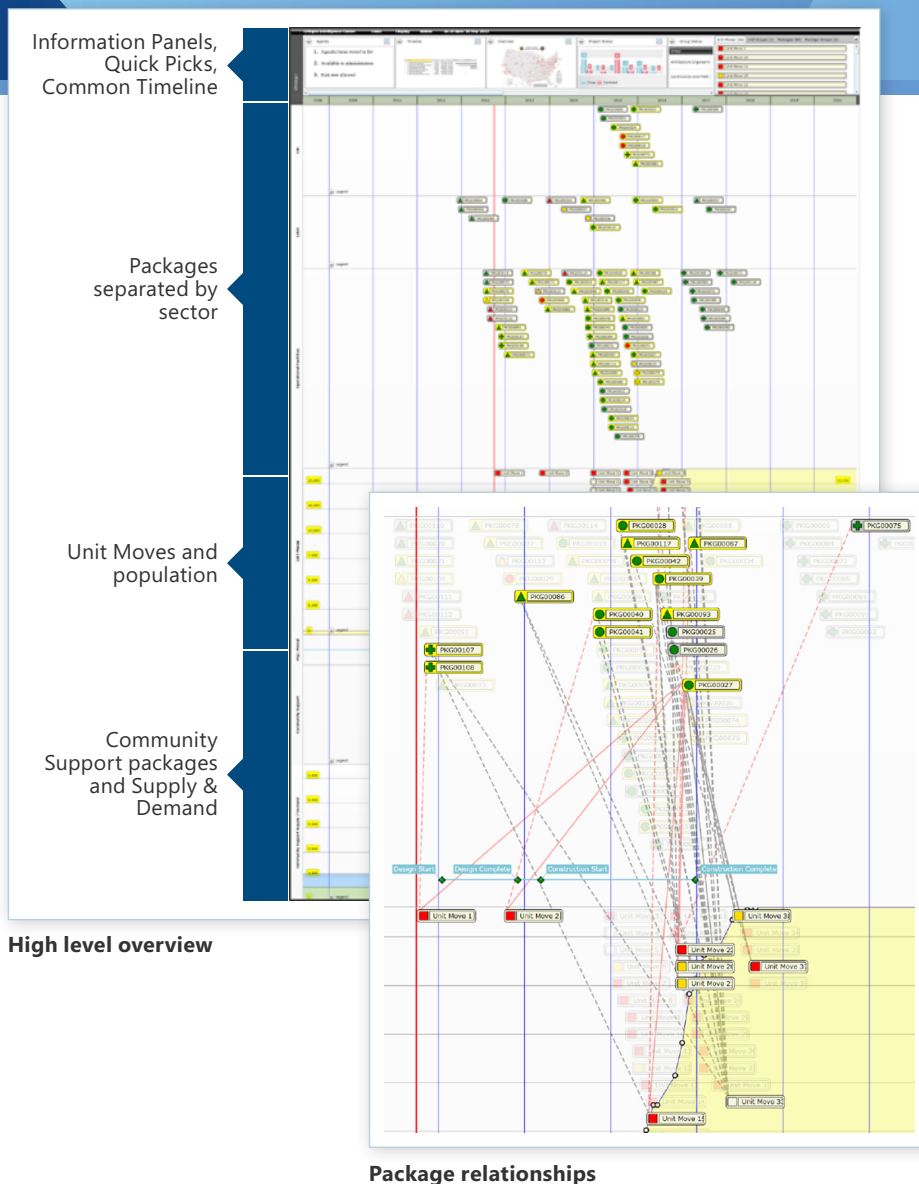
to weapons systems to personnel – and even soldiers' home assets and families – and the construction or retrofitting of all necessary facilities at the destination base.

Managers would be able to see all the required elements associated with each move activity, unified on a single timeline, and have the ability to drill down and see the detail – everything from the exact physical location to detailed facility and unit transition dependencies and planning information – all without leaving the main interface environment.

To achieve this, Critigen would bring together data from more than a half-dozen sources, relating them geospatially and against a common timeline. Leveraging their considerable expertise in location intelligence and data solutions, Critigen rapidly developed the data architecture for the project. Naturally, Critigen's ability to synthesize the vast amounts of information to deliver insight and intuitive navigation would be an essential factor in the success of the project.

"It was clear from the moment we started wire framing that delivering an intuitive and impactful UI was going to be technically demanding," says William Griep, Director of Software Development at Critigen. "Our strategy was first to solve the data challenge, then identify the best technology to meet the resulting data visualization needs."

Critigen selected Silverlight as the most suitable technology for the project because of its strength as a platform for rich interactive business applications and ability to integrate data from a wide variety of sources, including SharePoint. Then they auditioned UI controls from several vendors. "We knew we would not

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Information Panels, Quick Picks, Common Timeline

Packages separated by sector

Unit Moves and population

Community Support packages and Supply & Demand

High level overview

Package relationships

Evangelist for XAML technologies and a key member of the Telerik Services team. "We worked onsite with Critigen for two days. We met with senior developers and architects to discuss the project and spec out requirements for what they needed to do. Our priority was to get them started on a path towards the type of visuals they would need to make it work."

The Telerik team realized that what Critigen needed was beyond the capabilities of any UI toolkit on the market. The answer was to create custom UI layers above and beyond the regular RadChart drawing surface while utilizing the built-in RadChart APIs to create a multi-part, interactive map. The extended RadChart would display each unit and facility that needed to transition, along with additional schedule and dependency information, by using custom visualizations to give the impression of a single charting surface.

This involved working with the team to understand requirements, provide detailed code samples on how to implement certain functionality, and being available on-demand for any issues that came up or changes to requirements.

THE RESULT

During a period of just two weeks, Telerik Services helped Critigen design and build radical modifications to the RadChart control. The enhanced tools allowed Critigen to deliver a UI that is delighting the system's users.

Telerik's responsive Services assistance meant no compromises on schedule or budget either. The system is now in use by the US Army.

By successfully integrating data from all units and all engineering/construction

ADAPTABLE AND VERSATILE - RADCONTROLS FOR SILVERLIGHT

One of the challenges faced by the Telerik XAML development team when architecting the Telerik RadControls was to ensure that they served a dual purpose – easily covering 95% of customer scenarios while remaining flexible enough that customers can use them for that other 5%. This is a key differentiator for the Telerik controls, ensuring that no scenario is out of reach with the right controls and framework expertise.

In the case of Critigen's project, this versatility is what allowed for RadChart to be used in such a unique way. By combining the capabilities of the Silverlight framework, built-in API for effects and layout, and a customized visualization layer for turning several charting surfaces into a single display, the teams were able to solve a complex problem.

get all the functionality we needed out of the box. We were looking for solid, reliable products that could be extended to provide the functionality we needed. Telerik RadControls met all our requirements. The only question was whether we would be able to implement the additional features we needed in the timeframe available."

THE SOLUTION

Critigen called on Telerik to evaluate the task. "Nobody knows Telerik controls better than Telerik, so we went straight to the source."

Telerik responded by immediately deploying senior members of its Services team onsite at Critigen.

"We flew straight down to Atlanta," says Evan Hutnick, Telerik's Senior

responsibilities, the system provides General Officers with the reliable, single source of truth data they use to report progress to the US Congress. It also provides the data needed to coordinate construction relocation and demolition activities while ensuring critical defense operations are not compromised.

"Telerik was the perfect partner," says William Griep. "They understood what we wanted to do and they rapidly figured out the quickest route to get us there. There was also an easy cultural fit for us. Both teams were laser-focused on driving success for our client."

Our initial partnering session was highly interactive and creative and resulted in a creative and practical path forward. After the initial briefing we were able to call on Evan and his team whenever we needed them, and they responded quickly with advice and code to keep us on track."

"Without Telerik's assistance, we'd have had to delay delivery or compromise the usability of the application. Neither of those are in Critigen's DNA. Having Telerik on board accelerated the project to the extent that we were even able to include additional features that were on the 'nice to have' list."

In addition to these critical contributions, Critigen calculates that involving Telerik Services delivered cost savings of approximately 20% compared with attempting to develop the same solution without expert advice.

THE VERDICT

Would Critigen call on Telerik Services again? "In the short time since we completed that project, we have already worked with Telerik on another Silverlight project. We won't hesitate to involve them whenever we need their expertise."

FIND OUT MORE

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ABOUT CRITIGEN

Critigen is a full-lifecycle spatial systems integrator improving business performance through spatial IT solutions and managed IT services. Critigen helps clients make spatial technologies "work" in organizations of all sizes, integrates spatial technologies with enterprise systems, and enables field users with mobile spatial solutions.

With global reach, top-tier partnerships and a full-lifecycle approach, Critigen delivers all components of a geospatial program: data collection, spatial processing, analytics and intelligence, application development, mobile solution development, hosting and Cloud services. Critigen's Spatial Enterprise consulting services tie these technology and process components together with business strategies that maximize the value of geospatial information. **www.critigen.com**

ABOUT TELERIK SERVICES

Telerik Services provides skilled, knowledgeable consultants who can help you successfully implement your solution, improve your processes and increase productivity and quality. Expertise in ALM,

UXD, project management, development, customization, testing and training means Telerik Services can make an effective contribution at every point in your project.

ABOUT **RADCONTROLS FOR SILVERLIGHT** BY TELERIK

RadControls for Silverlight is a powerful business-ready suite of UI controls for creating engaging, interactive user experiences for Web and Desktop. With more than 65 individual controls, RadControls for Silverlight cuts your development time and accelerates project delivery, thanks to its shallow learning curve and industry-leading support.

ABOUT TELERIK

Telerik is the market-leading provider of end-to-end solutions for application development, automated software testing, agile project management, reporting, and content management across all major Microsoft development platforms. Telerik is trusted by more than 100,000 customers worldwide for its innovation and industry-best technical support.

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