CASE STUDY

Conversion from Bentley V8.5 to Bentley V8i

Client Requirement:

A Major MSO with over 15.3 million homes passed in the United States, wanted to convert several hundred thousand miles of Strand , RF and Fiber from Bentley's V8.5 platform to Bentley V8i platform.

Challenges:

During this proposal, Bentley V8i platform was relatively new. No contractors had experimented with either converting to V8i or drafting in V8i. For this reason, the platform's reliability and usability for clients' requirement was a big question. The existing V8.5 data was constructed over a period of several years that the drafting standards were not same across various systems. Moreover, each system used cell libraries and spec files which were different from each other.

IMMCO Approach and Value Addition:

IMMCO started with test conversions. During the course of their work, IMMCO identified that Bentley's default table structure was not enough to accommodate all the features required by the client. In order to rectify that, IMMCO modified the Bentley database schema. IMMCO also identified that the default scripts provided by Bentley were not enough to carry out the conversion from the existing file system. With IMMCO's strong knowledge in Oracle Spatial queries and strong understanding of HFC domain, customs scripts were then developed to convert 8.5 file-based data to Oracle spatial database.

Apart from converting the files from the old format to the new version, there were requirements to combine multiple projects into single project, quality improvement, etc. Merging of projects brought in challenges like geographic re-projection, merging of various cell libraries and spec files.

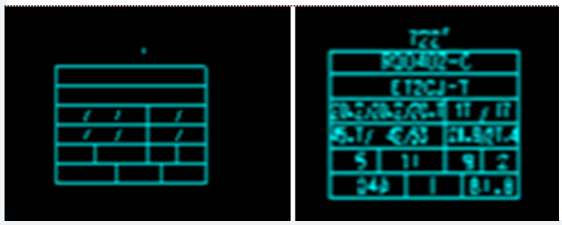
With IMMCO's in-depth knowledge in HFC design, IMMCO was able to enhance the converted data with additions like fiber splicing information, address comparison and correction against billing data, MDU (Multi Dwelling Units) representations, Fiber ring clean up in coordination with System Engineers, and landbase correction.

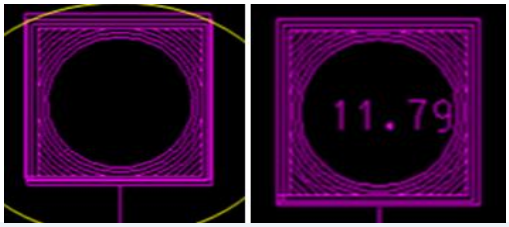
Once the tools were ready, IMMCO formulated the work process to put this to production. Due to the nonstandard source files, the processes were a combination of automated and manual steps.

IMMCO also developed Quality Check tools to run on the Bentley V8i dataset to ensure that the deliverables are meeting the client expectations.

Project Status:

Over a period of one year, IMMCO was able to convert around 250,000 miles of V8.5 files to Bentley V8i format.



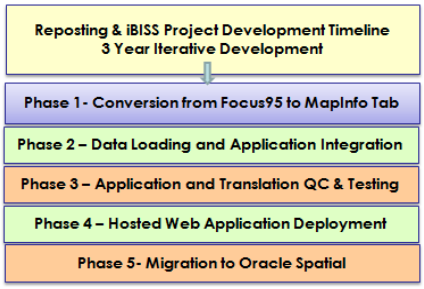


CASE STUDY

iBISS – GIS Web Platform

Client Requirement

One of top cable operators in the US, this southern system of this fortune 100 company has over 1.7 million homes passed, over 30,000 miles of strand and 6,000 miles of fiber. The system data was acquired and consolidated from multiple CATV operators and hence the data was a mix of many drafting standards, spec and cell libraries. Some were in old AutoCAD or legacy Bentley data and so were not geo-correct. Customer didn't want to spend the money to redraft the entire system as a single project in Bentley Comms but wanted to work with the data seamlessly.



Challenge:

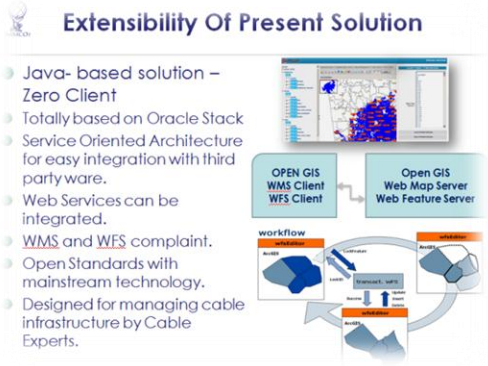
The mix of data had to be geo-corrected by rubber sheeting or geo-positioning and overlaid with the latest landbase to enable a single view of the systems data that was all a mosaic of multi-scaled, multi projection, multi-positioned.

IMMCO Approach & Solution:

iBISS-Net (V.3.0) is a web-based, GIS-enabled decision support system powered by Oracle 11g Spatial. This allows import of engineering maps into a single data warehouse and enables faster updates. The Oracle Viewer version provides enterprise-wide access to and analysis of latest network asset information at your fingertip.

iBISS solution - Version One (2004-5): Version One translated & positioned Bentley v8.5 and the legacy data (FocusOne and Focus 95) to Mapinfo Tab by rescaling, rubber sheeting and other data complex translation processes using tools like FME. System data converted to GIS format was integrated into a Web Application using apache tomcat in MapXtreme Viewer. This was made available to 40 concurrent users and 200 registered users. The application was hosted and maintained with the database in IMMCO's data center. Locate address, features, equipments and location reports can be generated. Geo-coding on the fly, analysis, and trouble shooting failures, are some of its most sought-after features. 40 reports can be generated.

iBISS solution - Version two (2010-12): The V8.5 Bentley and V8i data are loaded to Oracle spatial database together, integrated using Oracle viewer and hosted and deployed at the IMMCO data center and in the Google cloud as web application for 50 - 100 concurrent users and 200+ registered users. The new solution enhanced its functionality greatly with oracle viewpoint. Locate features could be integrated with third party data. Sales and marketing analysis, serviceability analysis, modem monitoring, OTDR trace, Bandwidth management, CRM, Google Earth integration, avoid out-of-franchise truck rolls, etc are in use today. 50 reports and many custom queries can be made.



Project Status:

The seven years of experience in creating seamless viewer Cable outside plant has increased out clientele to multiple systems and multiple customers. GPS/AirCard Enablement, integration of Network health monitoring, ISP module integrations are some of our latest enhancements.

CASE STUDY

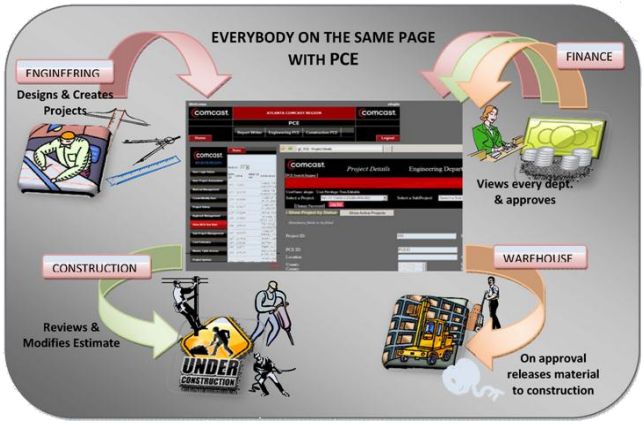
PCE – Project Cost Estimation for Communication Providers

Client Requirement:

A solution to make project estimates and manage labor and material cost for cable television construction projects integrating multiple departments like Engineering, Construction, Finance and Warehouse.

Challenge:

PCE solution had to replace multiple, cumbersome spreadsheets that were in use earlier, create seamlessness and assist the distribution and flow of projects for multiple departments. The solution also needed to provide automatic e-mail notification to update each department of modifications and approvals throughout each stage of projects. Facilitating seamless flow of construction project tasks from start to end and providing quick and easy access for an efficient project estimation, material tracking, reporting and execution were also important features.



IMMCO Approach & Solution:

IMMCO developed quick and easy access to efficient project estimation, forecasting and rollout system for this MSO. With PCE, inventories always meet the needs of the business because each department can plan and anticipate supply and demand. Since PCE automatically tracks supply, demand and cost, businesses avoid project delays. With PCE, the user can design a specific project template that fits his business model and can view summaries or details of the project BOM at all stages in the approval process from "Open" to "Materials List Printed." Whether in the field or in the office, all departments stay connected.

The PCE solution generates a status email at each stage of "Freeze," "Release" and "Approved." Regardless of departmental organization, PCE will assist the user in managing every aspect of a project. Supervisors create, review and modify the project. Administrators approve or deny projects and access all other administrator functions. Modules on field survey, invoicing, single BOM repository, data standardization across entire system, instant payback calculation, cable specific calculators, real-time warehouse inventory status, etc are new components to PCE being built for other customers. There are no more wrong parts, incorrect pricing, missing items or construction delays.

Other notable benefits of this solution are easy Web access, increasing field personnel efficiency, automatic E-mail notification, review and modification ease of decisions at multiple levels, track & change project statuses at any stage, efficient & paper free work environment – Go green!!

Project Status:

A user-friendly web application that has handled tens of thousands of construction projects, since 2005, has moved through multiple departments during its project flow. IMMCO has expanded from PCE to create more clients and more modules since then.

CASE STUDY

Quality Automation

Client Requirement

A Denver, Colorado based Multiple System Operator needed a solution to make quality checks on the Bentley drafting files they were receiving in huge number from contractors. The MSO needed to store, analyze, and retrieve massive amounts of hybrid fiber coaxial outside plant (OSP) data.

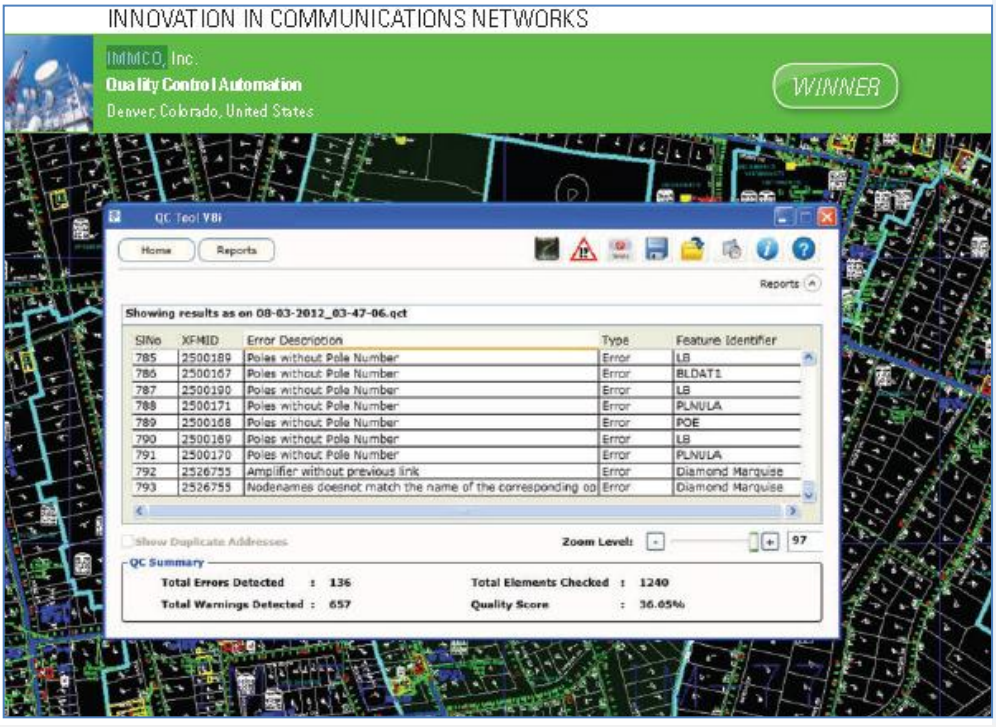
Challenge:

Automated quality control checks and procedures maintain the accuracy and consistency of data used for critical applications such as serviceability analysis, customer provisioning, inventory tracking, facility and equipment maintenance, and network planning. Even though the specs were universal, checking if the data reposted on the latest platform was consistent was the main challenge.

IMMCO Approach & Solution:

IMMCO developed an automated Quality Control Toolkit that works seamlessly with Bentley Expert Designer Communications. The Toolkit takes advantage of Bentley's relational database storage model so OSP data analysis can be quickly performed against enterprise-wide databases. The toolkit improves accuracy and data consistency, saves time, and reduces costs. A typical analysis now takes about 24 minutes instead of one week.

IMMCO has engineered its own data validation and data collection tools for Bentley Comms, which enabled IMMCO to create this quality automation toolkit for this MSO. The ROI is that the tool helps collect information or locate errors 30% faster than normal methods or known previous efforts. Thus the combination of highly refined processes and tools to locate errors helps speed up the QC process and cuts project timelines by nearly 50%. This has made IMMCO more competitive in this tough economy.



Project Status:

The automation tool has been adapted enterprise-wide and is being used on every shipment the MSO receives from its Contractors.