

PowerVision Creates Web-based Billing System for Motorola's iKno Product

Motorola, Inc. needed a custom designed, web-based billing system to track cost and revenue for its iKno product. The system needed to be integrated to Motorola's current system, also in a developmental stage. PowerVision was able to design and develop such a system to meet Motorola's needs. The system is a dynamic web-based product that is driven from the billing database PowerVision created.

The Need to Track Billing Information...

Motorola's Content Services division created a new service product, iKno. iKno is the delivery of information services to pagers (i.e., Sports Updates). Motorola started to build a system to create these services and handle the operational aspects of transmitting these services; however, the component to track service activity and its associated revenue and cost was missing.

PowerVision was contracted by Motorola to design and implement a billing system that could be accessed by distributed users. The two main pieces of the billing system were developing web-based screens for data input and maintenance, and creating reports to bill clients, analyze profits and support management decision making.

Motorola wanted a system that could be easily integrated with the system already in development.

...Accomplished through a Web-based System

PowerVision played a major role in the analysis and design of the Billing System. PowerVision strongly influenced Motorola's decision to move the entire database to Oracle8. Motorola had already selected Cold Fusion as the tool for creating the web-based screens. PowerVision developed Cold Fusion scripts for server-side processing on Microsoft's Internet Information Server. To expedite development, PowerVision used Perl5 to develop a suite of code generators to produce Cold Fusion modules for interacting with the Oracle8 back-end database. For client-side processing and validation of the

Business Area:

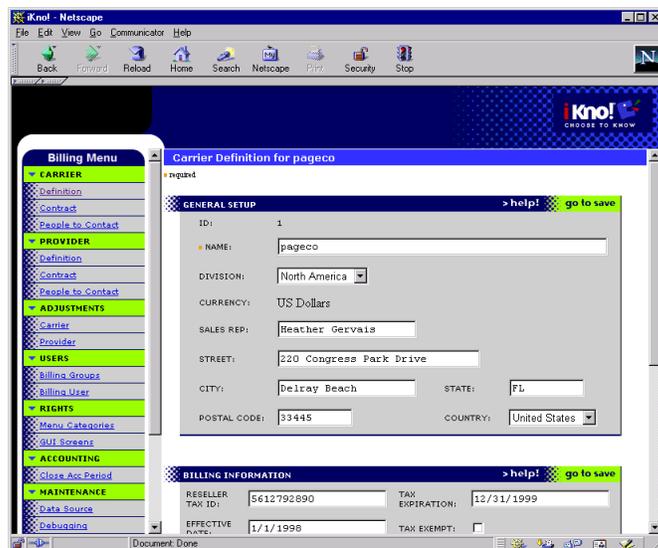
- Billing and Cost Tracking

Key Technologies:

- Oracle8 RDBMS
- Cold Fusion
- Crystal Reports 6.0/Crystal Runtime
- Adobe Distiller (Acrobat/PDF printer)
- NT 4.0 Custom Application (VC++)

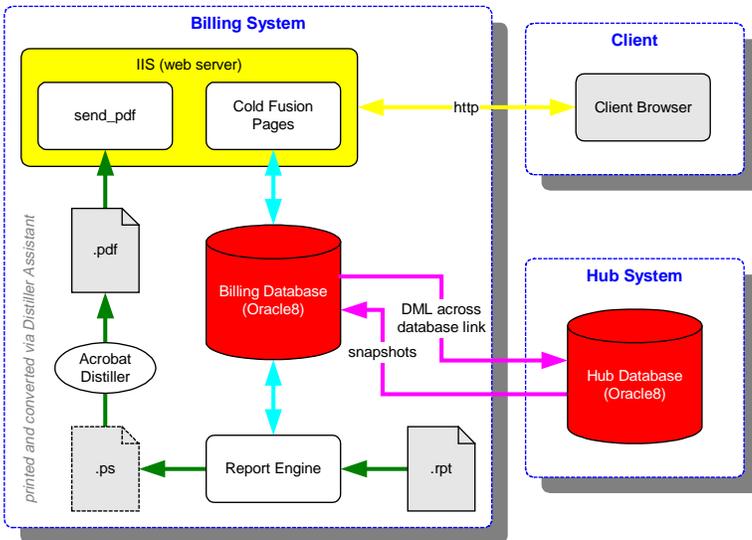
PowerVision's Role:

- Analyst
- Designer
- Architect
- Developer



PowerVision Solution—PowerVision Creates Web-based Billing System for Motorola's iKno Product

data, PowerVision developed JavaScript modules to run within the client web-browser. Additionally, PowerVision automatically generated the HTML help pages for each data entry screen by passing a data dictionary extract from the ERwin/ERX data model through a custom, Perl5, code generator.



ERwin is the database design tool that PowerVision selected for quick and reliable database design and creation. The use of ERwin also made reconciliation to the other system database much easier.

PowerVision used Crystal Reports 6.0 to create 13 report templates to report on the monthly accounting period activity. Because these reports needed to be available to distributed users, PowerVision created a mechanism to view and print the reports from one of the web-based screens. Through Visual C++, PowerVision created a custom report runner engine to run each report, convert the output to a PDF file, and make the result available for download from the server.

To reduce processing time at the report generation level, PowerVision created roll-up tables in the billing database to store historical information. Populated nightly through complex stored procedures, these tables reduce the amount of detailed historical data that needs to be stored in the database.

Operations Currency										Reporting Currency (USD)							
Prov	Carrier	Carrier #	Tr	Carrier Service	Contract #	Start Date	End Date	Rate	Usage	ET Rate (Service)	Av. Rate (Service)	Total Volume (Service)	Allocated Total Revenue	Revenue	Total Revenue	Allocated Total Revenue	Total Revenue
Provider3				301													
PEE25	Carrier1	101	1	Service1	200	2,000	35	\$46.34	\$1.02	\$3,858.43	1,000.00	\$3,858.43	\$0.00	\$3,858.43	\$0.00	\$3,858.43	
PEE24	Carrier2	301	2	Service1	400	1,800	35	\$55.00	\$1.41	\$2,638.10	1,000.00	\$2,638.10	\$0.00	\$2,638.10	\$0.00	\$2,638.10	
PEE24	Carrier3	301	2	Service1	500	2,200	35	\$1,000.00	1.3476	4,313,624.76	0.7000	\$6,162.04	\$0.00	\$6,162.04	\$0.00	\$6,162.04	
PEE26	Carrier3	301	2	Service1	600	2,200	35	\$1,000.00	1.3476	4,313,624.76	0.7000	\$6,162.04	\$0.00	\$6,162.04	\$0.00	\$6,162.04	
PEE26	Carrier3	301	2	Service1	800	1,800	35	\$1,000.00	1.3476	2,156,713.26	0.7000	\$3,089.02	\$0.00	\$3,089.02	\$0.00	\$3,089.02	
101	Carrier1	101	F	FIXED PAYMENT						\$39.79	1,000.00	\$39.79	\$39.79	\$39.79	\$39.79	\$39.79	\$39.79
301	Carrier1	101	F	FIXED PAYMENT						\$16.74	1,000.00	\$16.74	\$16.74	\$16.74	\$16.74	\$16.74	\$16.74
301	Carrier2	201	F	FIXED PAYMENT						\$237.34	1,000.00	\$237.34	\$237.34	\$237.34	\$237.34	\$237.34	\$237.34
301	Carrier3	201	F	FIXED PAYMENT						\$5,497.00	1,000.00	\$5,497.00	\$5,497.00	\$5,497.00	\$5,497.00	\$5,497.00	\$5,497.00
101	Carrier1	101	F							\$0.00	1,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
201	Carrier1	101	Y							\$216.89	\$641.00	\$1,457.89	\$1,457.89	\$1,457.89	\$1,457.89	\$1,457.89	\$1,457.89
301	Carrier2	201	F							\$0.00	1,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Provider1				101													
PEE21	Carrier1	101	1	Service1	1	6,300	35	\$46.34	\$1.02	\$9,673.41	1,000.00	\$9,673.41	\$0.00	\$9,673.41	\$0.00	\$9,673.41	
PEE25	Carrier1	101	2	Service1	100	7,200	35	\$27.50	\$1.23	\$6,851.14	1,000.00	\$6,851.14	\$0.00	\$6,851.14	\$0.00	\$6,851.14	
101	Carrier1	101	F	FIXED PAYMENT						\$212.53	1,000.00	\$212.53	\$212.53	\$212.53	\$212.53	\$212.53	\$212.53
301	Carrier1	101	F	FIXED PAYMENT						\$58.40	1,000.00	\$58.40	\$58.40	\$58.40	\$58.40	\$58.40	\$58.40
101	Carrier1	101	F							\$0.00	1,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
201	Carrier1	101	Y							\$1,138.41	\$763.00	\$1,901.41	\$1,901.41	\$1,901.41	\$1,901.41	\$1,901.41	\$1,901.41
301	Carrier2	201	F							\$0.00	1,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Provider2				201													
PEE25	Carrier1	101	2	Service1	100	1,800	35	\$37.50	\$1.23	\$1,473.45	1,000.00	\$1,473.45	\$0.00	\$1,473.45	\$0.00	\$1,473.45	
PEE25	Carrier2	201	1	Service1	200	1,200	35	\$60.00	\$1.97	\$2,367.12	1,000.00	\$2,367.12	\$0.00	\$2,367.12	\$0.00	\$2,367.12	
PEE24	Carrier2	201	2	Service1	400	600	35	\$55.00	\$1.41	\$1,064.83	1,000.00	\$1,064.83	\$0.00	\$1,064.83	\$0.00	\$1,064.83	
PEE24	Carrier3	301	2	Service1	500	1,200	35	\$1,000.00	1.3476	1,617,244.20	0.7000	\$2,213.76	\$0.00	\$2,213.76	\$0.00	\$2,213.76	
PEE25	Carrier3	301	2	Service1	100	2,400	35	\$1,000.00	1.3506	3,240,375.00	0.7000	\$4,435.58	\$0.00	\$4,435.58	\$0.00	\$4,435.58	

PowerVision successfully completed the design and development of the Billing System. It recently passed the system-testing phase and is currently being rolled out throughout the Americas.