

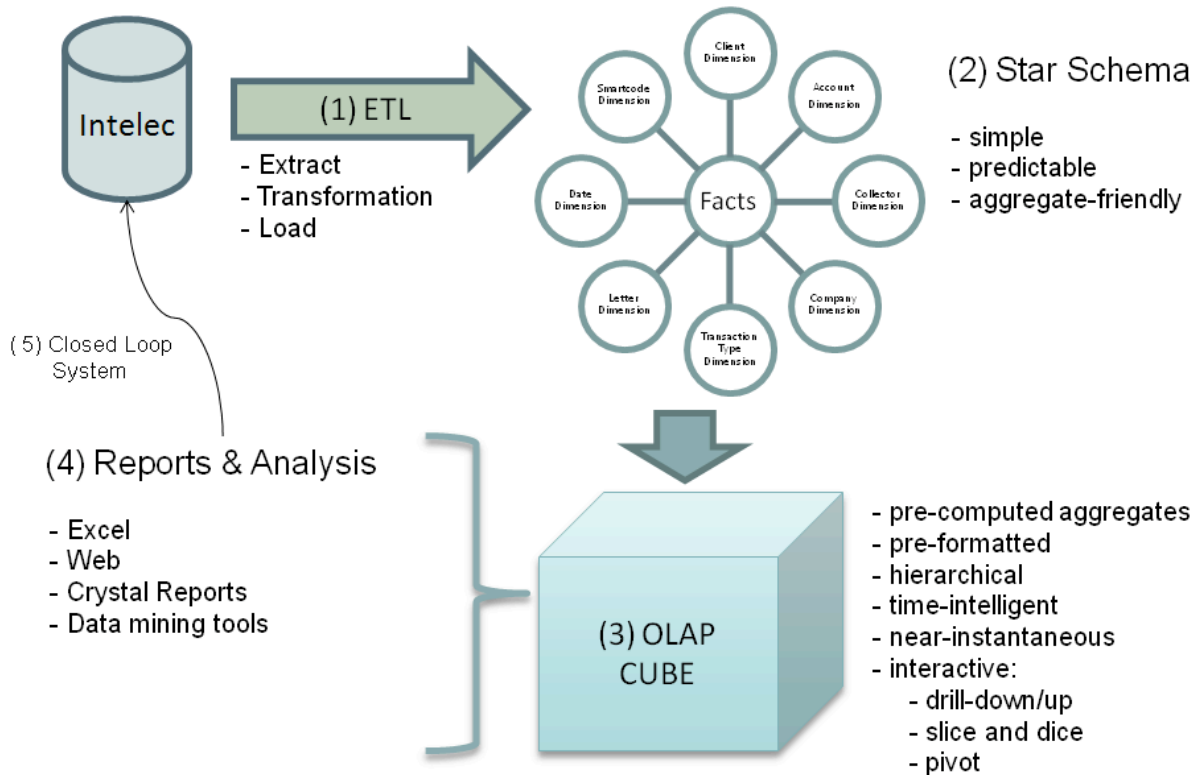
I-Biz – Quantrax’s Business Intelligence platform



In management it is often said that “if you can measure it, you can manage it”. Business intelligence is a significant part of knowledge engineering, which is the foundation of Quantrax’s advanced collection technology. Wikipedia has the following description of Business Intelligence: “Business intelligence (BI) refers to skills, technologies, applications and practices used to help a business acquire a better understanding of its commercial context.... BI applications provide historical, current, and predictive views of business operations. Common functions of business intelligence applications are reporting, OLAP, analytics, data mining, business performance management, benchmarks, text mining, and predictive analytics. Business intelligence often aims to support better business decision-making. Thus a BI system can be called a decision support system.”

Quantrax’s I-Biz product suite is a powerful BI platform for the RM/Ex (formerly Intelec) collection system. Developed over 6 years and using state-of-the-art relational and dimensional database technologies, the I-Biz platform will transform the way in which you manage your collections and portfolio performance. No longer will you be constrained by plain paper reports or one-dimensional and time-consuming data exports: I-Biz replicates your collections data to a Windows-based SQL Server database and OLAP cube to offer you near-instantaneous report run-times with a high degree of interactivity for data exploration (filtering, slicing, dicing and drill-down).

The technology



The I-Biz analytics platform includes:

1. High-performance Extract-Transform-Load (“ETL”) code (deployed within SQL Server Integration Services (SSIS)) to transfer, restructure, define, clean and load data from the collection platform (host system) into a specialized, reporting-oriented data model.
2. STAR SCHEMA dimensional data model (deployed using the SQL Server Relational Database Management System). The star schema is a specialized data model for business intelligence operations, and it enables high performance aggregations of data useful in reporting.
3. OLAP CUBE (Online analytical processing, or OLAP, is an approach to quickly answer multi-dimensional analytical queries) - an OLAP cube comprised of dimensions to describe and facts to measure RM/Ex data. The OLAP cube employs a multi-dimensional data model that allows for complex analytical and ad-hoc queries to be returned with a rapid, near-instantaneous execution time.
4. REPORTS & ANALYSIS - various pre-structured business reports which dynamically interact with the OLAP cube. The platform includes a number of “standard” interactive report views in Microsoft Excel pivots, and client-specific / customized reports can also be rendered using Microsoft Excel, SQL Server Reporting Services, Crystal Reports and / or Tableau Software.
5. CLOSED LOOP SYSTEM – the ability to back-load interesting account-level results (accessed via interactive drill-down) back into your operational systems (i.e., RM/Ex system or your dialer platform) for modified production activities (e.g., load dialer campaigns, execute smart codes, etc.) against these accounts.

Features and highlights

The following is a summary of the key features of the system:

- OLAP cube fluent in RM/Ex language / structures which can report at “company” level and across companies. Analytics are structured to take advantage of hierarchies and definitions set-up within Intelec. This simplifies and expedites analytics training and maintenance.
- Separate drill-downs defined for each fact measure group: account-level drilldown, transaction level drilldown, smart code drilldown, etc. Drilldowns customizable to suit business needs—e.g., you can set-up drilldown in format required for dialer list loads.
- Result formats pre-defined within the cube space for expedited consumption by business users.
- Calculations (like unit yield and RPC rates) are encoded within the cube space, so if you want to break out yearly performance by placement period and then by client group, the report will grow accordingly without requiring the time-consuming formula copy-and-paste in Excel.
- The security structure is able to restrict access to discrete facts, dimensions and attributes. VPN access can be granted to a “client”, and output can be easily restricted so only that client’s data is accessible.



- Account dimension includes optional Census Bureau demographic attributes by zip. This allows analysis of debtors' "home" areas by median income, household values, age / race / education make-up, and geographic descriptors.

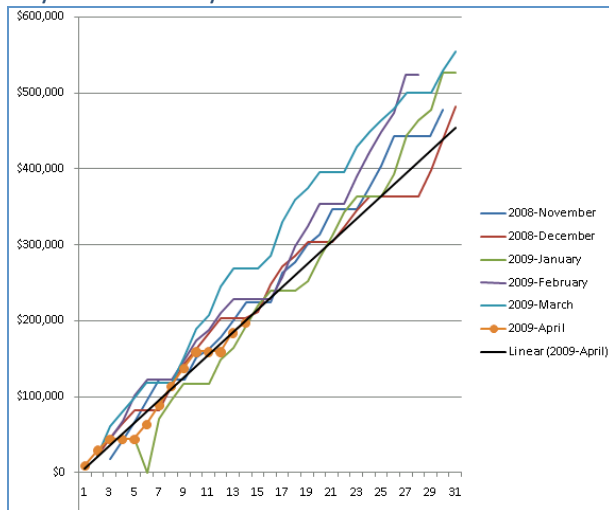
Report Examples

The I-Biz system was designed to provide both traditional and even more advanced collection reports. The I-Biz platform enables creative and interactive exploration of data. The following are some examples.

Financial Performance Tracking – Payments & Commissions

- Where are we this month vs. goal vs. last month?
- Where do we expect to finish this month?
- Are we going to meet client X's expectations?

Day of Month Payments



This and ALL REPORTS can be filtered or grouped by:

- Full Portfolio
- Product Type
- Client Group
- Client Name / ID
- Placement period
- Etc.

Collections Dashboard

Time Series	Current							
Company Product Id	All							
Values								
Row Labels	Payments	Payments Goal	Payments Status	Payments Trend	Commissions	Commissions Goal	Commissions Status	Commissions Trend
2008	\$2,066,381	\$2,120,000	●	↑	\$369,821	\$1,419,200	◆	↑
+ 2008-September	\$556,142	\$530,000	●	→	\$103,276	\$127,039	◆	→
+ 2008-October	\$551,292	\$530,000	●	→	\$99,374	\$132,220	◆	↓
+ 2008-November	\$477,478	\$530,000	◆	↓	\$84,283	\$112,522	◆	↓
+ 2008-December	\$481,470	\$530,000	◆	→	\$82,888	\$108,287	◆	→
2009	\$1,802,078	\$1,590,000	●	↑	\$320,021	\$1,305,752	◆	↑
+ 2009-January	\$526,939	\$530,000	●	↑	\$92,908	\$145,092	◆	↑
+ 2009-February	\$523,438	\$530,000	●	→	\$92,872	\$122,232	◆	→
+ 2009-March	\$554,282	\$530,000	●	↑	\$98,195	\$122,102	◆	↑
+ 2009-April	\$197,420	\$530,000	●	↓	\$36,047	\$125,019	◆	↓
Grand Total	\$3,868,460	\$3,710,000	●	↑	\$689,841		●	↑

(FYI: graphical indicators represent KPI vs. Goal (Status) and period vs. prior period direction (Trend).)

Placement Tracking

You are familiar with the placement analysis reports from a collection system. In RM/Ex, we have several version of the placement history report. This system significantly expands that area of reporting. We can get the answers to questions such as:

- Where is our volume coming from?
- How much did we place this month as opposed to the same month last year?
- What is the consistency of this client’s / product’s placements?

Year over Year Placements

Origination Amt	Column Labels												Grand Total
Row Labels	January	February	March	April	May	June	July	August	September	October	November	December	Grand Total
3rd Party Liability	\$621,190	\$551,132	\$759,904	\$745,419	\$413,365	\$401,848	\$453,238	\$488,655	\$502,667	\$517,421	\$477,280	\$394,030	\$6,326,147
2004	\$154,315	\$52,301	\$141,824	\$168,445	\$73,838	\$45,436	\$69,484	\$98,561	\$73,620	\$118,276	\$86,717	\$86,000	\$1,168,817
2005	\$55,543	\$48,469	\$203,324	\$115,646	\$62,778	\$115,894	\$77,818	\$66,505	\$37,195	\$71,575	\$58,165	\$34,791	\$947,702
2006	\$74,028	\$81,361	\$93,154	\$73,172	\$96,059	\$66,491	\$100,410	\$49,563	\$101,158	\$113,662	\$125,983	\$72,926	\$1,047,965
2007	\$123,362	\$174,080	\$152,050	\$108,941	\$119,048	\$89,418	\$144,423	\$181,242	\$112,965	\$133,264	\$112,876	\$121,637	\$1,573,306
2008	\$160,835	\$68,753	\$54,206	\$175,441	\$61,642	\$84,610	\$61,104	\$92,784	\$177,730	\$80,643	\$93,539	\$78,676	\$1,189,964
2009	\$53,107	\$126,168	\$115,346	\$103,774									\$398,394
Bad Debt	\$17,847,932	\$16,370,736	\$19,357,309	\$17,231,520	\$14,762,017	\$16,515,464	\$14,618,057	\$14,929,853	\$14,156,230	\$14,325,829	\$13,466,228	\$16,720,488	\$190,301,662
2004	\$3,637,330	\$1,700,455	\$3,940,989	\$3,358,859	\$2,842,795	\$3,213,717	\$3,377,584	\$3,057,426	\$3,520,164	\$3,253,307	\$3,196,364	\$2,699,725	\$37,798,714
2005	\$3,990,157	\$4,150,564	\$2,987,132	\$3,259,285	\$3,855,043	\$3,674,996	\$3,238,169	\$2,083,001	\$3,192,117	\$2,563,823	\$3,124,976	\$3,382,479	\$39,501,744
2006	\$3,123,910	\$3,546,681	\$4,158,231	\$4,000,132	\$3,788,435	\$3,971,887	\$3,575,305	\$4,147,713	\$4,357,459	\$4,230,234	\$2,757,130	\$3,384,327	\$45,041,446
2007	\$2,558,723	\$1,876,018	\$2,324,753	\$1,832,211	\$1,932,098	\$2,424,401	\$2,664,109	\$3,230,469	\$1,502,918	\$1,841,083	\$1,904,760	\$4,312,853	\$28,404,396
2008	\$2,629,961	\$2,620,301	\$2,491,669	\$3,562,563	\$2,343,645	\$3,230,462	\$1,762,890	\$2,411,244	\$1,583,572	\$2,437,381	\$2,482,997	\$2,941,104	\$30,497,790
2009	\$1,907,850	\$2,476,717	\$3,454,535	\$1,218,470									\$9,057,573
Purchased Debt	\$104,995		\$115,095	\$264,481		\$195,145	\$99,152		\$3,631	\$221,359	\$0		\$1,003,858
2005				\$128,730						\$221,359			\$128,730
2006	\$104,995												\$326,353
2007			\$115,095	\$135,751		\$195,145	\$99,152		\$3,631		\$0		\$548,775
Self-pay	\$4,351,720	\$3,467,662	\$3,795,518	\$3,632,095	\$2,928,149	\$2,961,700	\$3,308,496	\$3,492,905	\$5,175,426	\$3,785,904	\$4,239,905	\$3,604,519	\$44,744,079
2004	\$747,455	\$376,543	\$644,174	\$551,418	\$485,346	\$438,701	\$494,538	\$219,607	\$200,766	\$587,490	\$323,463	\$516,614	\$5,586,115
2005	\$362,559	\$358,300	\$362,916	\$244,524	\$418,406	\$359,158	\$320,025	\$394,495	\$360,817	\$425,736	\$726,619	\$419,200	\$4,772,756
2006	\$530,361	\$475,523	\$441,716	\$916,454	\$501,328	\$487,222	\$534,243	\$691,001	\$401,685	\$545,757	\$399,370	\$430,433	\$6,355,093
2007	\$465,448	\$525,093	\$367,374	\$485,317	\$572,237	\$597,031	\$600,326	\$1,367,953	\$2,587,290	\$1,062,367	\$1,169,003	\$1,199,582	\$10,999,021
2008	\$1,051,578	\$983,088	\$729,776	\$867,336	\$950,833	\$1,079,589	\$1,359,364	\$819,848	\$1,624,868	\$1,164,633	\$1,621,449	\$1,038,691	\$13,291,051
2009	\$1,174,319	\$749,115	\$1,249,563	\$567,047									\$3,740,043
Grand Total	\$22,925,836	\$20,389,530	\$24,027,826	\$21,873,515	\$18,103,531	\$20,074,157	\$18,478,943	\$18,911,413	\$19,837,956	\$18,850,592	\$18,183,413	\$20,719,037	\$242,375,747

The drill down features will allow you to select a period and then display the individual accounts that make up that group of placements. You can work with different views of the account-related information. You then have the ability to select a group of accounts and apply a Smart Code or place those accounts into a queue that you define.

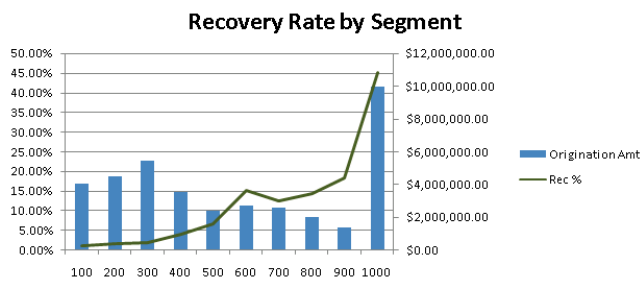
Recovery Analysis

In these examples, we try to address questions such as:

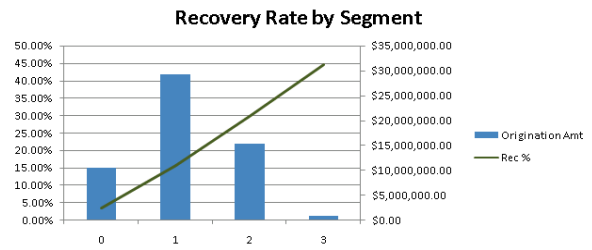
- What variables affect recovery rates?
- How has this paper performed over time?
- How much should we pay for this paper? If we do not buy accounts, what commission rate should we be charging the client?
- When do we receive the majority of our payments?

Account Stratification

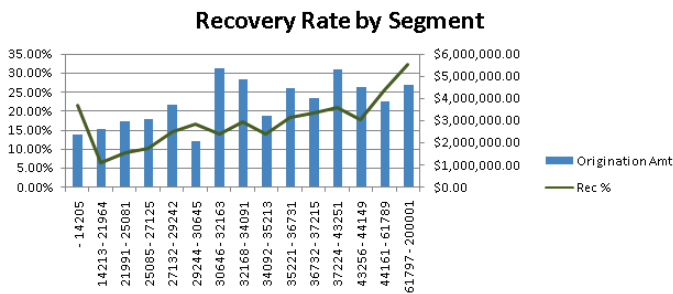
By Intelec Score



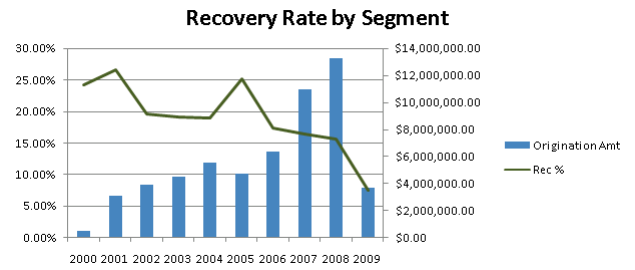
By Phone Numbers on Acct



By Median Household Income Range (Census Bureau Stats)

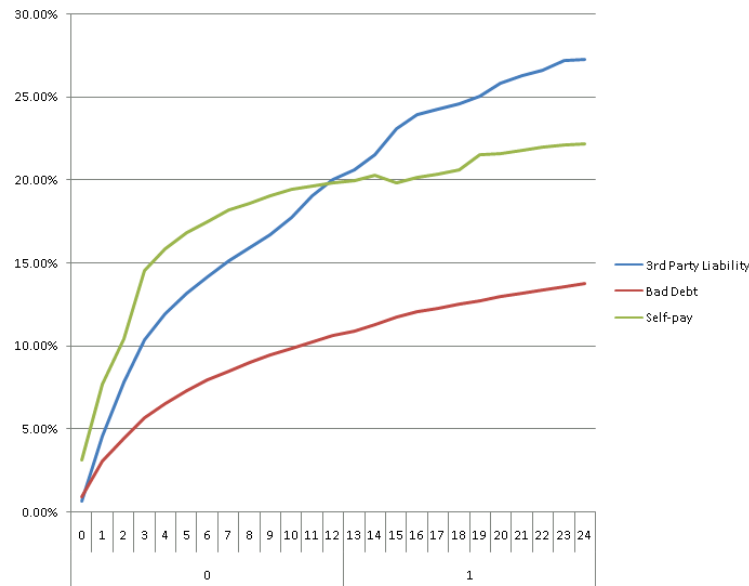


By Year of Placement



Liquidation Curves (Stair Step Analysis)

Company Pro Self-pay										
WeightedLiq Column Labels										
Row Label	2005	2006	2007	2008	2008-January	2008-February	2008-March	2008-April	2008-May	2008-June
0	21.23%	13.17%	14.35%	17.61%	14.82%	16.23%	18.86%	15.70%	12.85%	
1	4.28%	2.20%	3.37%	4.45%	2.44%	2.72%	4.21%	4.05%	3.37%	
2	10.40%	6.13%	7.41%	9.26%	7.86%	8.29%	10.75%	9.06%	7.24%	
3	13.77%	8.29%	9.84%	12.77%	10.08%	11.22%	13.34%	11.37%	9.19%	
4	16.05%	9.81%	11.26%	14.52%	11.40%	12.68%	15.39%	12.63%	10.45%	
5	17.59%	10.82%	12.18%	15.29%	12.63%	13.93%	16.57%	13.57%	11.20%	
6	18.34%	11.34%	12.83%	15.89%	13.17%	14.50%	17.48%	14.14%	11.62%	
7	19.00%	11.77%	13.30%	16.40%	13.62%	14.97%	17.93%	14.63%	12.00%	
8	19.58%	12.30%	13.58%	16.69%	13.94%	15.23%	18.22%	14.99%	12.30%	
9	20.07%	12.55%	13.80%	16.88%	14.25%	15.55%	18.47%	15.33%	12.54%	
10	20.54%	12.74%	13.97%	17.06%	14.41%	15.74%	18.63%	15.57%	12.85%	
11	20.76%	12.90%	14.14%	17.26%	14.59%	16.00%	18.77%	15.70%		
12	21.03%	13.03%	14.26%	17.42%	14.71%	16.17%	18.86%			
13	21.23%	13.17%	14.35%	17.61%	14.82%	16.23%				
14	22.67%	13.87%	14.77%	17.83%	14.95%	16.23%	18.86%	15.70%	12.85%	
15	21.38%	13.26%	14.43%	17.73%	14.95%					
16	21.78%	13.32%	14.54%	17.83%						



The ability to present Liquidation Curves at a level ABOVE placement period represents a **MAJOR ADVANCEMENT in collection analytics** and a **COMPETITIVE ADVANTAGE** to those operations which take advantage of such a view. Liquidation % aggregates have to be normalized by the weighted average originations of only “possibly informing” monthly vintages. This type of complex math can ONLY be done efficiently within an OLAP cube. The view to the left is the **“million-dollar” view**: representing true recovery performance over time at a product type or client level.

Two Variable Heatmap

Company Product Name	Bad Debt												
Row Labels	Column Labels	100	200	300	400	500	600	700	800	900	1000		
Rec %													
1000.00000000		12.8%	0.6%	2.0%	2.1%	4.2%	7.4%	19.3%	37.8%	26.4%	12.8%	43.0%	
2000.00000000		11.2%	0.5%	1.2%	1.2%	1.9%	4.8%	12.7%	30.1%	20.7%	2.6%	33.7%	
3000.00000000		9.7%	0.6%	1.2%	1.5%	1.2%	6.3%	12.2%	24.0%	18.3%	3.7%	27.6%	
4000.00000000		8.9%	0.1%	0.0%	1.2%	1.6%	2.2%	13.8%	19.6%	11.2%	0.4%	23.9%	
5000.00000000		8.2%	0.1%	0.5%	0.5%	0.9%	5.4%	8.2%	15.7%	16.0%	0.2%	21.4%	
6000.00000000		7.8%	0.0%	0.5%	0.7%	1.6%	2.4%	18.7%	8.9%	5.8%	0.1%	18.7%	
7000.00000000		7.6%	0.0%	3.8%	1.2%	3.2%	5.9%	12.2%	10.1%	3.7%	5.5%	22.1%	
8000.00000000		6.5%	1.3%	0.0%	0.6%	3.2%	6.3%	8.7%	13.2%	9.2%	0.0%	14.1%	
9000.00000000		7.9%	0.0%	0.0%	2.8%	2.3%	0.0%	25.6%	3.9%	5.2%	0.0%	18.0%	
10000.00000000		6.9%	0.0%	3.0%	0.0%	2.5%	8.9%	4.4%	5.2%	3.7%	0.0%	10.5%	
11000.00000000		7.4%	0.0%	0.0%	1.5%	0.1%	0.0%	19.9%	7.2%	0.0%		12.4%	
12000.00000000		9.2%	0.0%	0.0%	0.0%	0.0%	23.5%	0.0%	17.9%	3.7%		19.4%	
13000.00000000		6.8%	0.0%	0.0%	0.1%	4.5%	0.0%	22.6%			0.0%	6.0%	
14000.00000000		3.7%	0.0%	0.0%	0.0%	6.1%	0.0%	33.0%	16.5%	0.0%	0.0%	12.0%	
15000.00000000		3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	25.4%	0.0%	0.0%	0.0%	0.0%	
16000.00000000		2.7%	0.0%	0.0%	10.2%	0.0%	0.0%	30.7%	0.0%	0.0%	0.0%	26.9%	
17000.00000000		5.5%	0.0%	0.0%	0.0%	0.0%	0.0%	25.3%	10.7%	1.0%		10.5%	
18000.00000000		4.7%	0.0%	0.0%	0.0%	0.0%	0.0%	8.6%	0.0%			0.0%	
19000.00000000		6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%		0.0%	
20000.00000000		1.9%	0.0%		1.7%	0.0%	0.0%		9.1%	0.0%		0.0%	
21000.00000000		0.4%	0.0%	0.0%	0.0%	2.4%	0.0%	6.7%				0.0%	
22000.00000000		3.3%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%		0.0%	
23000.00000000		2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.4%			0.5%	

(In the above example, two popular attributes (score and balance range) are used, but you can dynamically select ANY two attributes for recovery correlation review. It is also easy (and constructive) to look at originations volumes or calling rates side-by-side with recovery rates.)

Portfolio / Inventory Analysis

What about analyzing the impact of production on collections and profitability? Or questions such as:

- What is the Recovery Rate and Unit Yield of this product / client versus another?
- How do production metrics (RPC %, Conversion %, Letter and Call Volumes) inform recovery rates?
- Is my active inventory queued properly?

Portfolio / Production

Row Labels	Acct Count	Origination Amt	Avg Place	Payments	Rec %	Commissions	Comm Rate	Unit Yield (c)	Letters	Letters / Acct	Calls	Calls / Acct	RPC	RPC %	PTP	Conversion %
Bad Debt	23,525	\$9,057,573	\$385	\$161,336	1.78%	\$32,506	20.15%	\$1.38	31,753	1.3	20,479	.9	3,245	15.85%	2,573	79.29%
2009	23,525	\$9,057,573	\$385	\$161,336	1.78%	\$32,506	20.15%	\$1.38	31,753	1.3	20,479	.9	3,245	15.85%	2,573	79.29%
2009-January	6,760	\$1,907,850	\$282	\$65,670	3.44%	\$14,239	21.68%	\$2.11	10,787	1.6	8,857	1.3	1,533	17.31%	1,261	82.26%
2009-February	6,718	\$2,476,717	\$369	\$60,193	2.43%	\$11,105	18.45%	\$1.65	10,133	1.5	6,760	1.0	1,066	15.77%	796	74.67%
2009-March	6,813	\$3,454,535	\$507	\$32,699	0.95%	\$6,717	20.54%	\$0.99	8,588	1.3	4,601	.7	616	13.39%	496	80.52%
2009-April	3,234	\$1,218,470	\$377	\$2,774	0.23%	\$445	16.03%	\$0.14	2,245	.7	261	.1	30	11.49%	20	66.67%
Grand Total	23,525	\$9,057,573	\$385	\$161,336	1.78%	\$32,506	20.15%	\$1.38	31,753	1.3	20,479	.9	3,245	15.85%	2,573	79.29%

Production Tracking

- Which collector performed the best / worst yesterday?
- Are we meeting our clients' work standards?
- How many accounts did we refer to legal last year?

Collector Performance Tracking

Row Labels	Notes Count	Calls	Inbound Calls	RPCs	RPC %	PTPs	PTP %	
Collector	2,616	1,368		207	467	34.14%	212	45.40%
ALICE EVANS	324	156		30	66	42.31%	28	42.42%
ANGELICA GARZA	284	103		23	44	42.72%	26	59.09%
LISA CAVAZOS	267	181		14	46	25.41%	20	43.48%
LISA KHAN	38							
LORI PIEPENBURG	33	25			25	100.00%		
LUCY LATULIPPE	276	134		25	53	39.55%	26	49.06%
MELISSA LEWIS	588	305		40	91	29.84%	43	47.25%
MICHELLE DORSEY	395	228		38	60	26.32%	28	46.67%
RUTH BRENES	182	96		19	39	40.63%	16	41.03%
WENDY HUNT	229	140		18	43	30.71%	25	58.14%
Supervisor	3							
SHIRLEY FOSTER	3							
Grand Total	2,619	1,368		207	467	34.14%	212	45.40%

Side-by-Side Transaction

Time Series	YTD			
Balance Type Desc	Principal			
Values				
Row Labels	Placement Amt	Payment Amt	Commission Amt	Calls
2008	N/A	N/A	N/A	
2008-January	\$4,793,359	\$759,027	\$144,958	22,621
2008-February	\$9,588,278	\$1,401,230	\$267,069	50,889
2008-March	\$13,399,796	\$2,051,598	\$388,952	82,067
2008-April	\$18,603,998	\$2,695,978	\$513,950	109,586
2008-May	\$22,438,048	\$3,286,195	\$623,881	134,201
2008-June	\$27,560,157	\$3,815,915	\$723,952	156,446
2008-July	\$31,241,499	\$4,378,387	\$832,990	172,677
2008-August	\$34,963,784	\$4,909,166	\$932,959	186,626
2008-September	\$38,707,388	\$5,435,014	\$1,035,672	208,041
2008-October	\$42,802,793	\$5,956,795	\$1,134,953	227,547
2008-November	\$47,300,591	\$6,408,860	\$1,218,874	245,429
2008-December	\$51,732,947	\$6,863,919	\$1,301,724	255,273
2009	N/A	N/A	N/A	
2009-January	\$3,381,348	\$505,105	\$92,905	5,255
2009-February	\$7,176,590	\$1,000,474	\$185,220	7,613
2009-March	\$12,093,752	\$1,528,848	\$283,044	12,365
Grand Total	N/A	N/A	N/A	

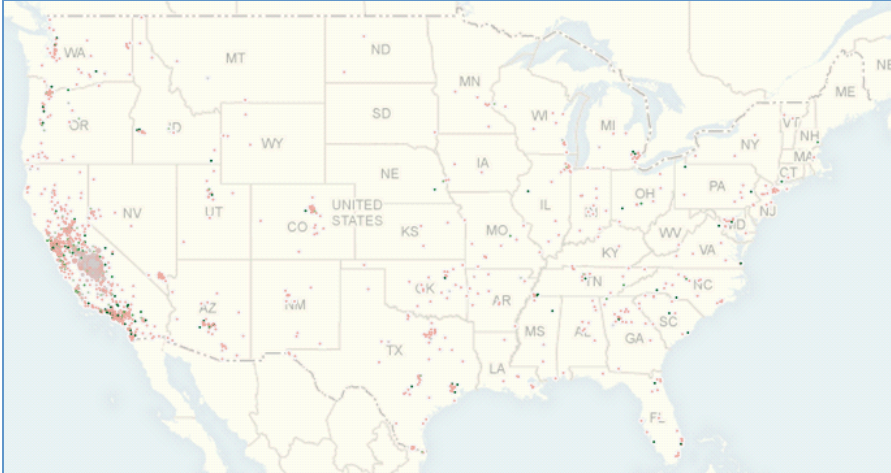
Note: this view employs the Time Series "YTD" attribute which automatically converts displayed numbers to "year-to-date" figures.

Map Analysis

A picture almost always conveys more than a report, when you want to visualize the big picture. You have seen graphical views of data. How about maps? These examples try to answer the questions:

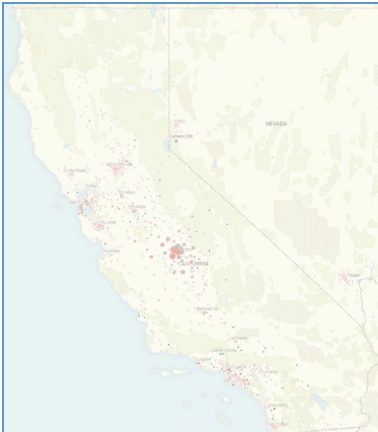
- Where is most of my debt located? Where is most of my debt for this client group located?
- Which geographic areas perform the best?

United States



In the example, most of this user's accounts are placed from California. We can take a closer look at a specific area of the map, as below.

California State



(Dot size represents volume of placed dollars, dot color represents recovery rate)

For more information, please contact the Quantrax support team.

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