Tax Fraud Prevention and Detection

Government Areas for Fraud and Improper Payments Review

Tax & Revenue

Medicaid and Medicare

Statewide Fraud Analysis System

Unemployment Insurance

Food & Nutrition Programs

Worker's Compensation

Improper Payments

Components for fraud and improper activity detection

- Identity resolution
- Industry specific solutions
- Healthcare claims algorithms
- Tax and Finance algorithms
- Patterns and trends analysis
- Rules-based decision analysis
- Predictive modeling
- Predictive analytics
- Text Analytics
- Geographic Information Systems (GIS) Geospatial mapping
- Research analysts and fraud identification and detection specialists
- IBM brings research, intellectual capital, experts, assets, and software together

Fraud detection and predictive analytics - substantial results

Actual Results for Government Agencies

Client	Program	Dollar value of claims identified for investigation
State Government	Medicaid	**$140 million**
State Revenue Agency	Tax/Revenue	**$1.2 billion** (over 6 years)
State Social Services Agency	Food & Nutrition	**$2 million** (annually)
Federal Government Agency	Improper Payments to Vendors	**$13 million**

Minnesota can use advanced analytics to drive substantial revenue – without the need for additional state staff

- **Stop fraudulent income tax refunds**
  - Use predictive models to analyze income tax refund requests before payment
  - Send “tough” cases to desk auditors; automate “easy” cases
  - Pinpoint only those taxpayers who are likely cheats

- **Prioritize delinquent tax debts**
  - Recommend best action to take on cases
  - Optimize assignment of cases and actions to maximize $’s collected with existing staff
  - Use most aggressive collection actions only when required AND effective

Key point – analytics improve even the most sophisticated tax agencies

CASE STUDY – State of New York
Stopping income tax refund fraud

Challenge

New York wanted to enhance current audit case selection methods for detection of audit issues at the time a return is processed. Specific audit programs include Earned Income Credit, Dependent Child Care Credit, Itemized Deductions, Wage/Withholding, and Identity Theft.

Solution

IBM's fraud analytics solutions. Our solution applies business rules and predictive models to categorize and score returns nightly and identifies the 'next best case' for audit selection. In addition, a separate web based portal provides screening and resolution of cases.

Benefits

- **$1.2 billion** increase in refund denials over a 6 year period
- Increased screener and auditor productivity
- "Honest" taxpayers have refunds quickly processed with less hassle

Lessons Learned for MN

- Real-time analytics are complex but provide great benefit
- Benefits can be gained without substantial increase in staff
- Don't believe the "we're already doing that" argument
- Having an aggressive Business Champion is essential

CASE STUDY – State of New York
Optimizing collection of delinquent tax debt

Challenge

The Department of Tax & Finance (DTF) was asked by the Governor to increase collections to reduce the state's budget deficit, while maintaining a sense of fairness by pursuing all debtors with equal vigor. Yet, DTF had limited resources to perform the required work.

Solution

IBM's fraud analytics solutions. Our solution uses new analytical methods developed by IBM Research to predict collectability, recommend next best action, and optimize assignment of work to agents.

Benefits

- **$83 million** increase (8%) in collections in first 6 months
- 22% increase in $'s collected per warrant; 9% fewer warrants issued
- No increase in staffing levels

Lessons Learned for MN

- Analytics succeed only if they consider resource constraints
- Make results easy-to-understand for collections unit
- Even a sophisticated collections unit can benefit from analytics

MN Initiative: Minimize fraud, waste and abuse

- Minnesota can save an estimated $490m in the next biennium
  - Proof of Concept will provide more accurate estimates
  - Actual savings will depend on:
    - Aggressiveness of the rollout of the solution
    - How quickly we start the process

Program Area	Total Spend for Biennium (000's)	Error Rate (est)	Exposure (000's)	Collection Rate	**Cost Saving Potential** (000's)
Income Tax Fraud	15,675,900	11%	1,724,349	17.5%	$301,761
Sales Tax Evasion	9,030,900	11%	993,399	5.0%	$49,670
Delinquent Tax Collections	--	--	552,000	12%	$66,240
Medicaid	6,360,000	6.50%	413,400	12%	$49,608
Unemployment Insurance	3,720,000	5.00%	186,000	12%	$22,320
					$489,599

Total Spend (general fund): Savings figures are for the two year biennium. 2008 Medicaid spending data from Kaiser Family Foundation. All other figures from 2009 Minnesota Comprehensive Annual Financial Report and Fund Balance Analysis February 2011 Governor's Recommendations.

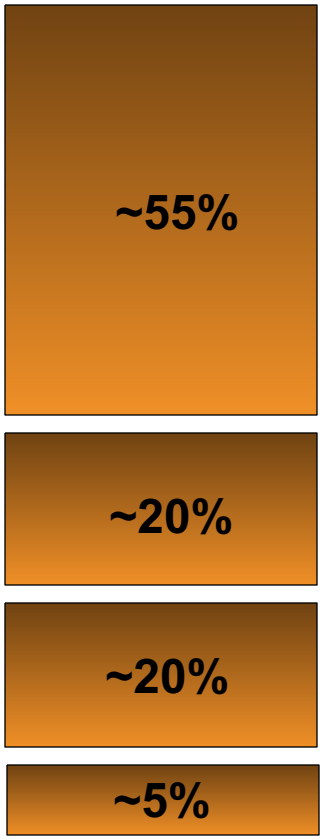
Error Rates:
(1) Income tax and sales tax – Minnesota Tax Gap Study (2002)
(2) Medicaid – National Health Care Anti-fraud Association (2010)
(3) Unemployment Insurance – US Department of Labor, Benefit Accuracy Measurement Program (2009)

State Building Efficiency

IBM Rochester Overview

- Established 1956
- 3.1M Sq Ft / 36 Bldgs
- Variety of Space Type
- Office
- HW & SW Labs
- Data Center
- Manufacturing
- Warehouse
- Wide Variety of Equip.
- Central Utility Plant
- Metasys Controls Sys. (~ 30,000 Points)

IBM Building Efficiency Solution addresses the entire Real Estate Portfolio



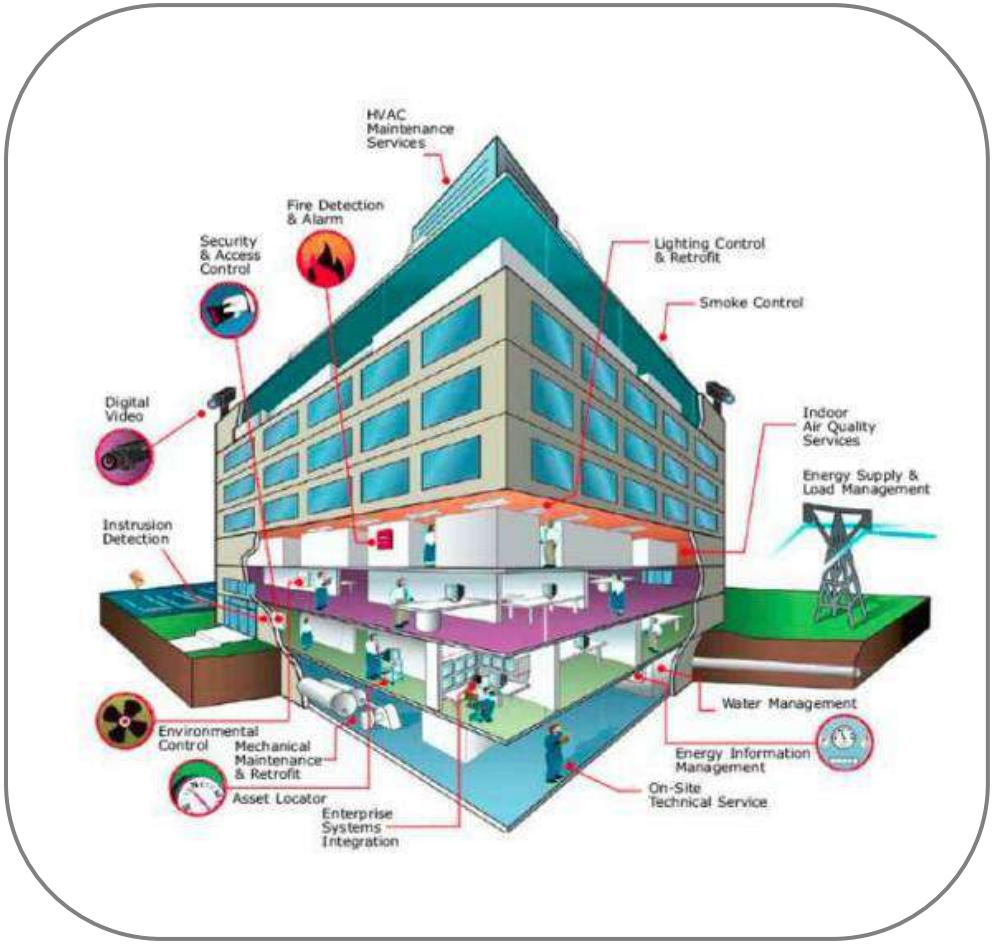
Space (Rent, Depreciation, Taxes and Insurance)

Facilities Operations (Grounds, Housekeeping, Equipment)

Energy (Electricity, Natural Gas, Fuel Oil)

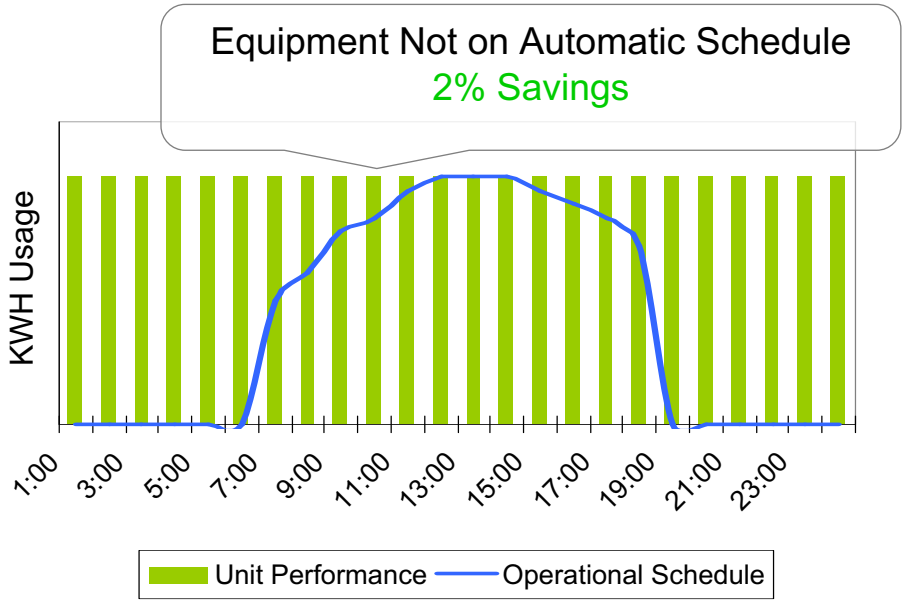
Other

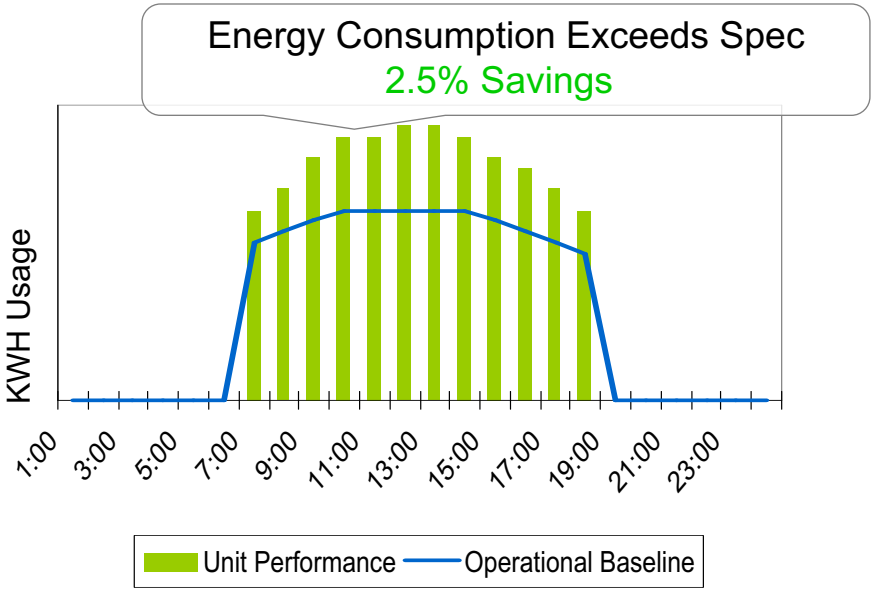
The Objective For Making Our Buildings Smarter Was Based on a Few Fundamental Thoughts….

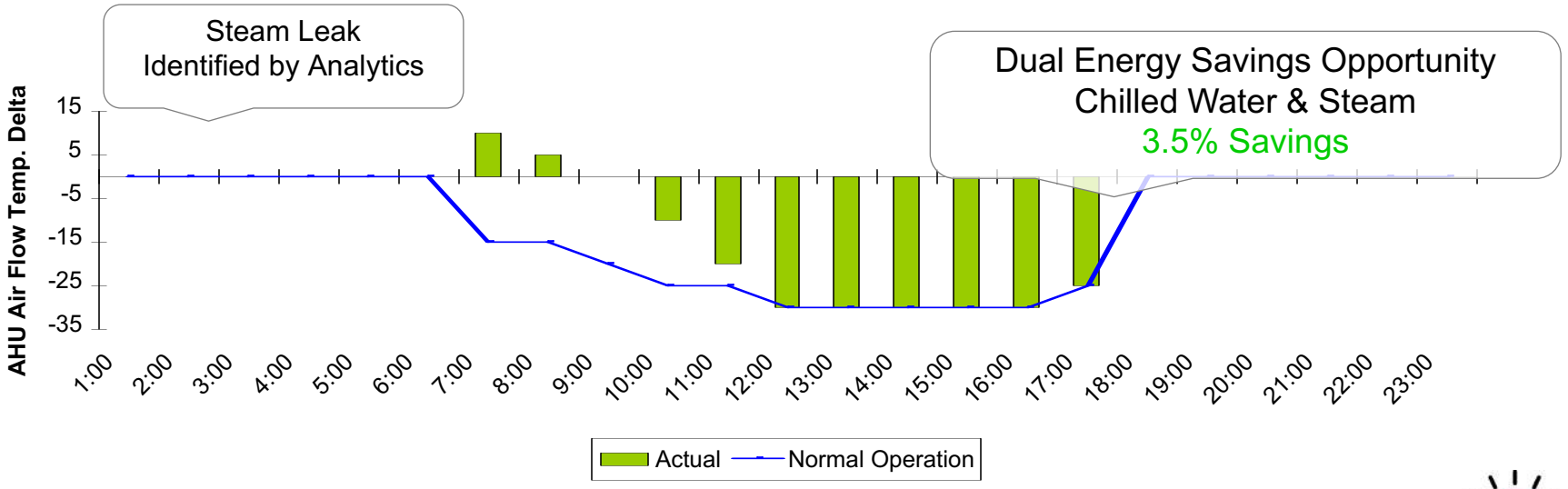


- We can meter almost every subsystem in a building
- We have software capability to aggregate data from disparate sources
- If we could integrate our software with these subsystems, we could display data in a way that could drive higher levels of efficiency

Rochester Smarter Building Cost Reduction Results: 8%







Rochester Smarter Building Results

Return on Investment: One Year Payback

- Factors that will Influence Location Specific Results:

  - Implementation Cost:
    - Level of Existing Instrumentation
    - Building Management System Sophistication
    - Work Order Logistics System
    - Skilled Staff Availability

  - Benefits:
    - Maintenance Productivity
    - Equipment Efficiency Levels
    - Depth of Implementation
    - Type of Space (Office, Data Center, Etc.)

State Building Efficiency

- Minnesota can save an estimated $1.7m - $3.4m in the next biennium
  - Proof of Concept will provide more accurate estimates
  - Estimate for energy and operational savings only
  - Space management would yield additional savings (including additional energy and operational savings)
  - Actual savings will depend on:
    - Level of instrumentation in existing buildings
    - Aggressiveness of the rollout of the solution

Fleet Management Improvements

Fleet Management Improvements

- **More than 500 transportation organizations globally** rely on IBM to help optimize their asset management departments
  - Decrease the amount of time it takes to schedule and assign work
  - Monitor and manage their efforts to meet safety and quality requirements
  - Reduce administrative time
- IBM now provides real-time vehicle condition monitoring data which is combined with optimized scheduling algorithms to provide an on-demand maintenance capability
  - Mileage
  - Fuel
  - Temperature ranges
  - Tire pressure alerts
  - Other vehicle information that is passed through the vehicle bus
- The solution not only extends the vehicle life cycle and maximizes returns on investment but also decreases energy usage

Washington Metro

Asset Management in the United States' Capital

With a 106.3 mile rail network and more than 12,300 bus stops, Washington Metropolitan Area Transit Authority (WMATA) is one of the largest North American Transit Systems.

Business Challenges	IBM Solution	Business Benefits
▪ A complex operating environment with 1,141 rail cars, 1,500 active buses, 1,686 service vehicles and other equipment ▪ Deploy a single asset management solution across the enterprise to manage all assets ▪ Replace antiquated financial, HR, maintenance, inventory control and purchasing systems	▪ IBM Maximo for Transportation to manage rolling stock and support fleet ▪ IBM Maximo Asset Management to manage linear assets and facilities ▪ Integration to corporate financial, HR & dispatching systems	▪ Increased labor utilization and asset reliability ▪ Inventory fully visible to Maintenance Staff ▪ Real time access to up to date asset information, enabling efficient job scheduling to minimize passenger impact ▪ Able to accurately capture assets maintenance costs ▪ Standardized business process across the enterprise

Fleet Management Improvements

- Minnesota can save an estimated $5m - $10m in the next biennium
  - Proof of Concept will provide more accurate estimates
  - Actual savings will depend on:
    - Aggressiveness of the rollout of the solution
    - Number of agencies involved

Solutions for Minnesota's Deficit Challenges

- Save ~$500 million over the next 6-24 months
- No job loss associated with achieving the savings
- Does not require any capital expense
- No cost assessment to validate the savings projections
- IBM will continue to identify additional cost savings opportunities

IBM can help address Minnesota's deficit challenges by utilizing proven technologies and processes