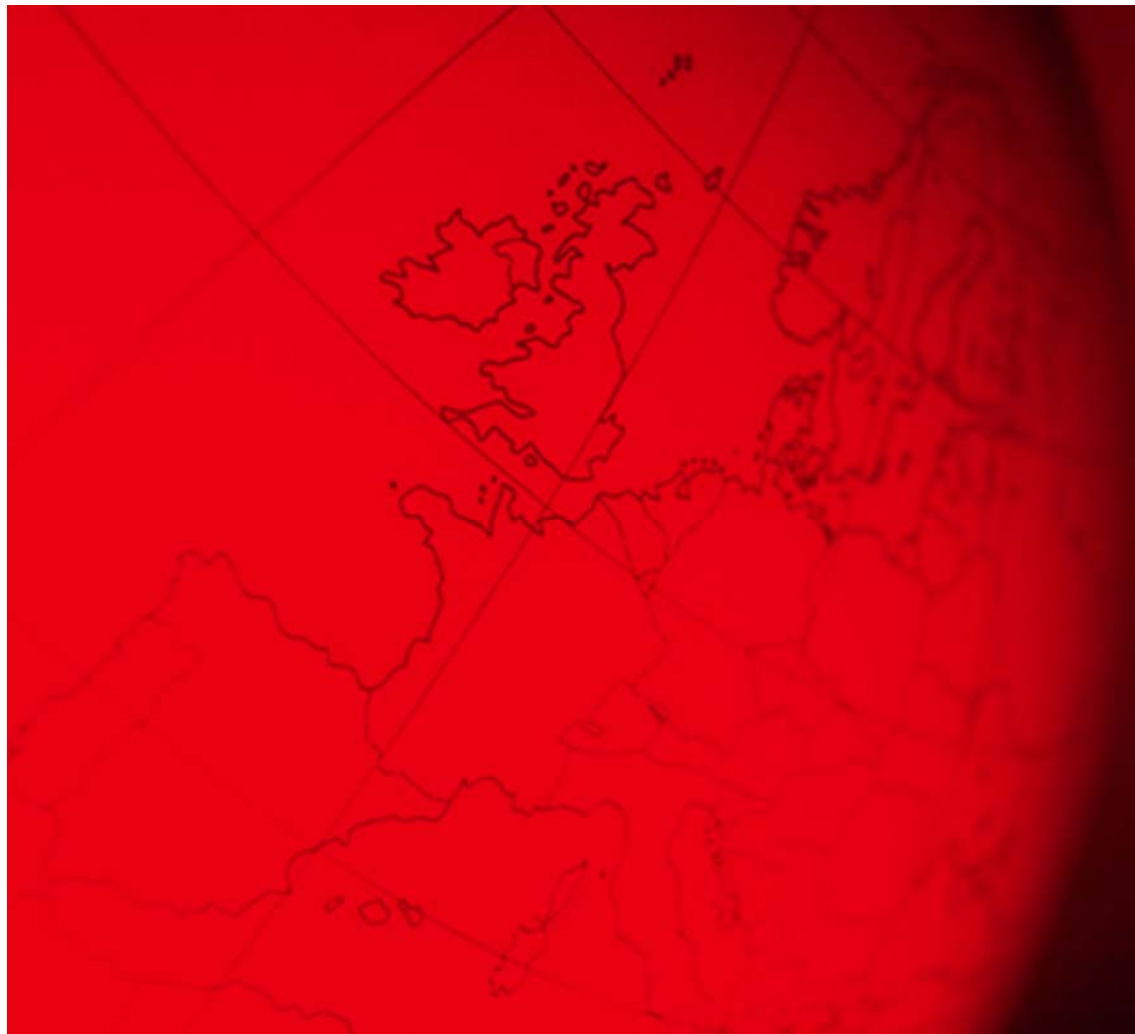


NUCLEUS
RESEARCH

April 2011

Document **L12**

TECHNOLOGY IN GOVERNMENT: CASE STUDIES OF EIGHT EXCEPTIONAL DEPLOYMENTS



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TOPICS

Business Intelligence & Analytics
Customer Relationship Management
Employee Management Applications
IT Management & Operations
Software-as-a-Service

THE BOTTOM LINE

State and local governments must support the growing safety and security needs of its citizens with shrinking resources, and many are doing so by employing technology. In years of examining government technology projects, Nucleus Research analysts have identified a number of winning strategies for governments in areas such as business analytics and customer relationship management. This research highlights the strategies of eight government organizations that deployed technology to achieve significant returns – while delivering greater services to constituents.

Although many Nucleus case studies focus on the success of businesses in deploying technology, Nucleus analysts have also found many exemplary cases of effective use of technology in the public sector. Smart government decision makers faced with budgetary challenges are looking to technology to help them do more with less, driving greater efficiencies and real return on the taxpayer's investment. In more than 10 years of working with international, federal, state, and local government agencies to plan and evaluate technology projects, Nucleus Research has identified technology areas that increase efficiency and productivity and the winning strategies of decision makers that have deployed them. This research highlights the technologies and best practices of eight outstanding public sector case studies.

THE TECHNOLOGIES

Key technologies deployed to drive greater efficiency in government include business analytics, customer relationship management, employee management, cloud computing, and infrastructure management.

Business Analytics

Business Analytics technology enables organizations to identify, extract, and analyze operational data to support better decision making. Common Business Intelligence (BI) projects include reporting, online analytical processing, dashboarding, and benchmarking. Nucleus analysts found government agencies used BI to identify areas of unusual activity that may be fraudulent or inefficient, increase productivity by providing rapid access to information, and support improved decision making. For example, the Clark County Department of Family Services used IBM Cognos software to streamline its case management and reporting practices. This enabled it to increase case worker and manager productivity while improving its ability to track the compliance of family court clients and justify its funding.

Unlike BI technology that reports on past operations and performance, predictive analytics applies statistical and contextual data models to both operational and external data to predict future outcomes. In its experience with predictive analytics users in government, Nucleus has found agencies can predict issues to prioritize resources – increasing effectiveness despite limited staffing. In one case,

the City of Memphis was able to integrate geographical data with historical crime statistics to prioritize beat coverage, reducing violent crimes despite an increase in territory and limited staff budgets.

Customer Relationship Management

Customer relationship management (CRM) technologies include sales force automation, marketing automation, call center, and customer service and support automation applications as well as other applications, such as integration tools, analytics, or portals, that are used to support customer (or in the case of government, constituent or agency) relationships. In many cases, Nucleus analysts found that employing CRM technologies automated manual processes and, in the case of constituent service and support, addressed Freedom of Information (FOI) requirements without the need for additional staff resources. For example, the Colorado Department of Revenue was able to reduce spending on temporary workers during tax filing and refund time while providing more accurate and consistent information to the public over its Web site.

Employee management

Employee management applications cover all areas of technology used to recruit, hire, compensate, train, and manage employees, including human resources and labor management, time and attendance, payroll management, talent management and training, and recruiting. Government agencies have indicated they can reduce overtime, payroll overpayments, and legal fees by automating labor management activities such as time keeping and time reporting.

Cloud computing

Cloud computing technologies provide access to data, software applications, and computing resources on an on-demand subscription basis. Nucleus found that these capabilities can be particularly useful when government agencies have numerous remote sites that need to share resources or workers that spend a lot of time in the field as opposed to in a central office. The US State Department, for example, used a custom application built on Salesforce.com's Force.com cloud computing platform to deliver and update account information so managers in the field could have real-time access to project and budget data, enabling them to quickly identify areas of potential inefficiency and avoid budget overruns.

Infrastructure management

Infrastructure management technologies include IT tools for network optimization, asset management, and IT troubleshooting that enable IT departments to deliver more consistent and reliable access to IT applications and data at a lower cost. This is particularly important when teams are working across multiple sites and rely on applications such as e-mail to communicate project updates and collaborate on research projects. The National Institutes of Health, for example, used NetPro to simplify its network management and deliver greater uptime to its remote researchers, who now have much more rapid access to applications and data.

BEST PRACTICES

Nucleus found winning government technology projects focused on effective user adoption and, in some cases, used political finesse to ensure their ultimate goals of increased efficiency would be met.

Pilot

The most successful government projects began with a proof of concept or pilot or broke the project up into phases. This limited initial capital investment and enabled the project team to learn from their experience and make fewer mistakes as the deployment reached a broad scale. It also allowed the project team to show the value of their initial efforts to gain political momentum for moving on to the next, potentially more disruptive, step of the project.

Promote

Another factor in winning government technology projects was the efforts of team members to communicate the expected benefits of the project – to both impacted workers and constituents – early and often. Many involved different user groups in user testing and requirements planning and promoted the benefits of the project that would make employees' lives easier (such as applications that enabled them to update records from the road rather than returning to the office). They also worked with their vendors to gain recognition for their efforts beyond the department. The United States Army, for example, was recognized after being nominated for a Technology ROI Award by IBM Cognos; the Colorado Department of Revenue was nominated for a Technology ROI Award by its vendor, RightNow Technologies.

Profile users

As is the case with any technology deployment, users will have different levels of skill and comfort in changing working practices and adopting technology. Winning government projects took into account the adoption issues for both internal users and constituents and tailored applications and training content accordingly. This often included:

- Providing some users with extensive training and access to full functionality of the application while providing other users with limited training and read-only or dashboard access to information. This proved particularly effective in projects such as business analytics.
- Phasing in training with deployment of the application so more functionality could be exposed over time as users became more familiar with it. In areas like CRM, limiting the amount of information in the beginning and exposing more to users over time made the initial adoption less overwhelming.
- Identifying more expert users that could be both champions for use of the application and application experts that users in their department could go to for assistance when they had questions.
- Providing specific training that was focused on how users could take advantage of the application to make their jobs easier, rather than basic functionality training.

Pinpoint opportunities for advancement

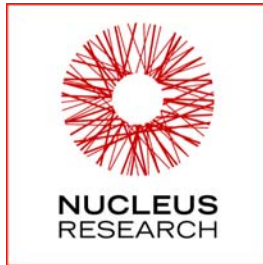
Particularly in areas like business analytics, many organizations promoted application skills as a way for employees to access greater opportunities for advancement within their department or organization. In the case of the Memphis Police Department, for example, those who became skilled at mapping and analyzing data to predict crime were more likely to have access to coveted desk jobs as opposed to car or foot patrol shifts.

CONCLUSION

The winning government case studies in this research were selected based on the return on investment of their projects, their ability to think creatively about how to harness technology to meet their specific public sector needs, and their best practices for deployment and adoption.

Government agencies face significant challenges today, with limited resources and increasing demands for services. Smart government decision makers are turning to information technology projects that make government workers more productive, more accountable, and more effective – and, in doing so, deliver clear returns on investment. Government agencies looking to do more with less should review the details of these cases with an eye to how similar projects could deliver both short-term wins and long-term sustainable savings for their organization.

Following are the eight case studies in their original published format.



September 2010

Document K46

ROI CASE STUDY IBM BUSINESS ANALYTICS CLARK COUNTY FAMILY SERVICES

THE BOTTOM LINE

Clark County Department of Family Services used IBM Cognos software to streamline its case management and reporting practices, which increased visibility and productivity while improving its ability to justify funding of targeted case management activities.

ROI: 245%

Payback: 9 months

Average annual benefit: \$4,393,259

THE COMPANY

Clark County, the nation's fifteenth-largest county, is located in Southern Nevada and houses the state's most populous city, Las Vegas. The county supports more than 2 million residents and 42 million tourists a year. Clark County employs more than 12,000 employees in 38 departments with a total budget of \$5.9 billion. The Department of Family Services is the county's fourth-largest department, employing 595 full-time and 90 part-time staff.

THE CHALLENGE

In 2004, the State of Nevada gave Clark County's Family Services Department the responsibility and complete control of all operations concerning the intake, documentation, and case management of all child welfare, foster care, and adoption services in the county. A fast-growing population and the need to track and report on all aspects of child welfare presented challenges for the department, which had limited visibility into case processing and case loads. Clark County needed:

- A better way to input, retrieve, and share information within each sector of the Family Services Department.
- A method to better manage the status of both pending and active cases. This included response times for abuse and neglect investigations and measuring the effectiveness and overall success of those active investigations.
- A way to ensure and prove that it was in accordance with Federal and State requirements in regards to policies, regulations, and legislation.
- A way to support and claim funding for activities like targeted case management.

THE STRATEGY

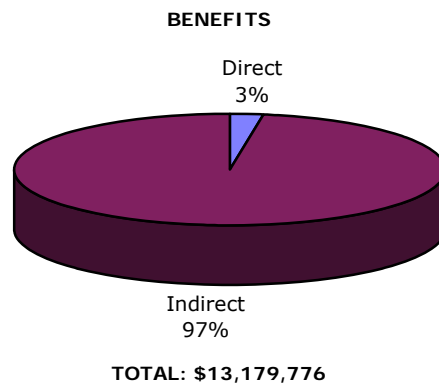
In 2004, Clark County began looking for solutions that could both integrate its existing system with Nevada's automated child welfare information system and accommodate future growth within the Family Services Department as well as other departments within the county.

After interviewing several vendors, Clark County's internal committee chose IBM Business Analytics – specifically, IBM Cognos software – because of its ease of use and functionality and scalability, and the ability to integrate with other systems. Clark County also chose consultants (currently with PerformanceG2, an IBM partner) to support development and deployment of the application, which occurred in two phases from 2005 to 2007. During this time, the department started with development of department level scorecards, then moved on to build a number of pilot cubes and, ultimately, data marts to support dashboards and reporting around key department processes including placement, intake, investigations, permanency, licensing, adoption, court, visits, eligibility, payments, recruitment, and training.

Clark County has continued to make upgrades within the system to accommodate growth in other departments. In 2010, the software is planned to be upgraded and deployed to further support dashboards and reporting.

KEY BENEFIT AREAS

Clark County Department of Family Services used Cognos software to provide staff members and managers with a single source of information about all departmental processes and operations, reducing users' reliance on IT while increasing visibility into information.



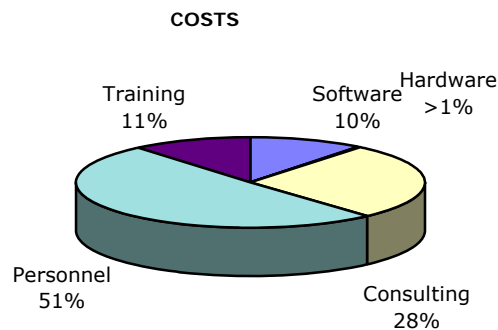
Key benefits from the project include:

- Increased office productivity. Staff can easily access data and run reports that exist on dashboards maintained by the department's business analysts. Supervisors can monitor their case workers' activities through real-time dashboards and reports, saving time that can then be spent on other activities.
- Improved case management. With ready access to information about all the processes and programs impacting a case, case workers and supervisors can make decisions that direct the best course of action for a particular case.

- Improved compliance. With a central data store, supervisors can quickly track and ensure that policies and procedures such as regular contact with children and parents are followed.
- Improved justification for additional funding. Because the data is available and accessible, analysts are able to work with eligibility staff to identify funding the county can receive based on its targeted case management practices and bring in that additional funding.

KEY COST AREAS

Key cost areas for the deployment included software, personnel, hardware, consulting, and training. Initial personnel consisted of the project team of one half-time project manager, 2.5 business analysts, 1.5 developers, and a half-time database administrator.



TOTAL: \$3,043,826

BEST PRACTICES

Having a single source of information has helped the department to reduce errors and improve performance across a number of key business processes. Key to success was making the reports easy to access for non-technical users and providing visual dashboards that staff could quickly view and drill down on to make decisions. Also important was Clark County's decision to break the project down into manageable phases so costs could be incurred inline with benefits and initial gains could be used to drive greater project momentum.

CALCULATING THE ROI

Nucleus quantified the initial and ongoing costs of software, hardware, personnel, consulting, and training over a 3-year period to quantify Clark County's total investment in IBM Cognos software.

Direct benefits quantified included IT resources that were redeployed and avoided because staff can now run reports. Indirect benefits quantified included increased productivity of supervisors and case workers and were calculated based on their average fully-loaded cost using a productivity correction factor to account for the inefficient transfer of time. Other indirect benefits quantified included the additional funds the department received by being able to accurately report on its targeted case management. Benefits not quantified include clear improvements in services impacting the welfare of children and adults in Clark County.

DETAILED FINANCIAL ANALYSIS

CLARK COUNTY FAMILY SERVICES

SUMMARY

Project:	IBM Business Analytics
Annual return on investment (ROI)	245%
Payback period (years)	0.76
Average annual benefit	4,393,259
Average annual total cost of ownership	1,014,609

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	115,144	115,144	115,144
Indirect	0	2,556,563	5,138,891	5,138,891
Total Benefits Per Period	0	2,671,706	5,254,035	5,254,035

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	233,201	0	0	0
Hardware	0	0	0	0
Total Per Period	233,201	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	46,640	46,640	46,640
Hardware	0	0	0	0
Total Per Period	0	46,640	46,640	46,640

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	0	0	37,354	48,907
Hardware	7,327	0	0	0
Consulting	211,502	211,502	416,400	0
Personnel	563,613	431,725	273,754	273,754
Training	334,788	0	0	0
Other	0	0	0	0
Total Per Period	1,117,230	643,227	727,508	322,661

FINANCIAL ANALYSIS	Pre-start	Year 1	Year 2	Year 3
Net cash flow before taxes	(1,350,431)	2,028,479	4,526,527	4,931,374
Net cash flow after taxes	(791,816)	1,037,560	2,286,584	2,489,007
Annual ROI - direct and indirect benefits				245%
Annual ROI - direct benefits only				-25%
Net present value (NPV)				4,105,119
Payback (years)				0.76
Average annual cost of ownership				1,014,609
3-year IRR				177%

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	8%



June 2010

Document **K31**

ROI CASE STUDY IBM SPSS MEMPHIS POLICE DEPARTMENT

THE BOTTOM LINE

Memphis Police Department used IBM SPSS predictive analytics software to improve its overall operations, enabling it to considerably reduce crime without a proportional increase in staff while expanding its territory.

ROI: 863%

Payback: 2.7 months

Average annual benefit: \$7,205,501

THE COMPANY

The Memphis Police Department (MPD), located in Memphis, TN, was first established in 1827 when it appointed its first town constable. Today, with approximately 2300 officers, MPD has been recognized for its efforts to improve the quality and standard of living for its citizens through the use of technology and training facilities.

THE CHALLENGE

In 2004 and 2005, the MPD was experiencing a sharp increase in crime. The FBI's 2005 report on crime within the United States showed that violent crimes on a national level increased 2.3 percent from 2004 to 2005, and in Memphis, that increase was 2.5 percent. MPD recognized it needed to move beyond traditional policing approaches. It needed:

- A way to respond faster to unfolding crime. With the time-consuming process of searching through an array of spreadsheets and paper files, officers were spending several hours looking for information vital to solving or preventing crimes instead of responding faster.
- Innovative, new practices to predict, track, and respond promptly to crimes committed.
- A way to cost-efficiently upgrade its resources, utilize funds in the most effective way, and increase the overall effectiveness of the department.

THE STRATEGY

In 2005, Memphis Police Department partnered with the Department of Criminology and Criminal Justice at The University of Memphis to create a predictive analytics system called Blue CRUSH (Criminal Reduction Utilizing Statistical History). It selected IBM SPSS predictive analytics software to support Blue CRUSH for two main reasons:

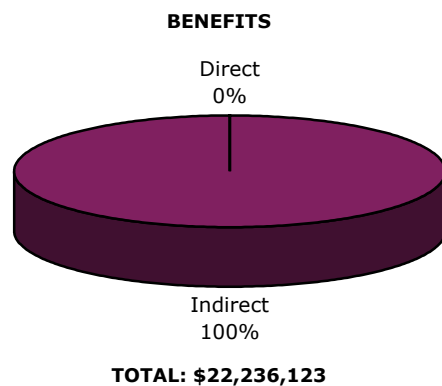
- MPD had a long-standing relationship with the university and Professor W. Richard Janikowski, director of the university's Center for Community Criminology and Research. The university had been using IBM SPSS for many years to evaluate crime-related and other data, and MPD could take advantage of the university's experience and expertise with the software.
- IBM SPSS could easily integrate with other solutions, allowing MPD to create a customized application that best met its overall needs. Blue CRUSH was able to integrate IBM SPSS and a geographic information systems tool to both analyze and visualize data in the form of charts, geographical maps, and reports.

After extensive training of civilian personnel and field officers by MPD and the University of Memphis, Blue CRUSH was deployed in August 2005 within select precincts before going citywide.

KEY BENEFIT AREAS

The analytical and statistical capabilities available to the MPD through the use of IBM SPSS has allowed it to identify, target, and better respond to crime. Key benefits of the project include

- Increased overall visibility into crime activity. MPD has the capability to evaluate "incident patterns" throughout the city based on previous and current crime patterns that are analyzed and updated continually. This has allowed the department to identify crime "hot spots," the type of offenses committed in these zones along with the time of day or day of the week they occurred, and offender characteristics.



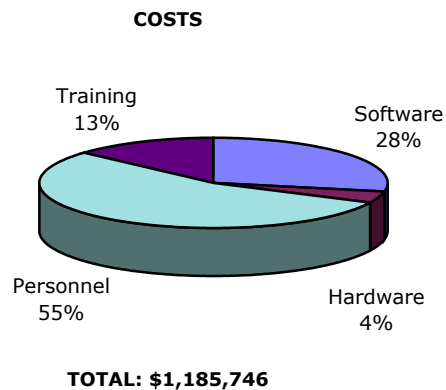
- Improved communication. With the use of IBM SPSS, MPD is able to share information with government agencies or other law enforcement agencies to aid in the proper prosecution of criminals. It also enables MPD to communicate with the media and local communities about offenders and specific "hot spot" areas to better assist in the prevention and overall decline of criminal activity through neighborhood watch initiatives and other strategies.
- Increased overall productivity. With information readily available, officers no longer need to spend valuable time looking for reports or information pertaining to a crime. As a result, MPD has seen a reduction in violent crime, property crime, and part 1 crimes (which include violent and property crimes)

by an average of 15.8 percent without a corresponding increase in officers — while expanding its overall geographical coverage.

KEY COST AREAS

Key cost areas for the deployment included software, personnel, hardware, and training. The initial costs to implement the software were minimal for Memphis Police Department because it relied on expertise from the University of Memphis's Department of Criminology and Criminal Justice. MPD does pay for ongoing software costs in the form of yearly license contract renewal and annual maintenance.

Hardware costs consisted of servers and PCs needed to utilize the application. The greatest cost areas include personnel and the initial and ongoing training of civilians and officers.



BEST PRACTICES

Key to the success of the MPD's analytics strategy has been the expertise of the University of Memphis and the University's Center for Community Criminology and Research's ability to provide training and support for the project. A collaborative relationship and support from the director of the center has helped the MPD to improve its crime fighting efforts on an ongoing basis by leveraging both existing historical data and analytics.

The MPD gives officers who are interested and technically minded the opportunity to take training courses to learn the system each year; officers are tested and must maintain high scores to continue working in the program. As such, becoming a predictive analytics expert is an opportunity for seasoned officers who are technologically oriented to expand their horizons.

CALCULATING THE ROI

Nucleus calculated the costs of software, hardware, consulting, personnel, training, and other investments over a 3-year period to quantify Memphis Police Department's investment in SPSS predictive analytics software. Because the police department has an enterprise license for its GIS software, part of the cost was attributed to the project based on the estimated share of users.

Nucleus quantified the benefit of reduced crime by calculating the percentage change in part one crimes year on year since the launch of Blue CRUSH and the percentage change in overall payroll to determine the number of additional officers that would have been needed to reduce an equivalent amount of crimes. This is a conservative estimate, as the MPD has also taken responsibility for more geographical territory without additional staff since the launch of Blue CRUSH.

DETAILED FINANCIAL ANALYSIS

MEMPHIS POLICE DEPARTMENT

SUMMARY

Project:	IBM SPSS
Annual return on investment (ROI)	863%
Payback period (years)	0.23
Average annual benefit	7,205,501
Average annual total cost of ownership	395,249

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	0	0	0
Indirect	0	3,793,196	4,397,852	13,425,454
Total Benefits Per Period	0	3,793,196	4,397,852	13,425,454

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	62,796	0	0	0
Hardware	25,000	0	0	0
Total Per Period	87,796	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	12,559	12,559	12,559
Hardware	0	5,000	5,000	5,000
Total Per Period	0	17,559	17,559	17,559

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	75,000	90,000	90,000	15,000
Hardware	25,000	0	0	0
Consulting	0	0	0	0
Personnel	541,350	35,000	35,000	35,000
Training	2,700	51,300	51,300	51,300
Other	0	0	0	0
Total Per Period	644,050	176,300	176,300	101,300

FINANCIAL ANALYSIS	Pre-start	Year 1	Year 2	Year 3
Net cash flow before taxes	(731,846)	3,616,896	4,221,552	13,324,154
Net cash flow after taxes	(409,821)	1,817,228	2,119,555	6,670,856
Annual ROI - direct and indirect benefits				863%
Annual ROI - direct benefits only				-16%
Net present value (NPV)				7,159,262
Payback (years)				0.23
Average annual cost of ownership				395,249
3-year IRR				481%

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%



August 2010

Document **K12**

ROI CASE STUDY **IBM SSIRS** **ALAMEDA COUNTY SOCIAL SERVICES AGENCY**

THE BOTTOM LINE

Alameda County Social Services Agency implemented IBM's Social Services Integrated Reporting System (SSIRS) to achieve the visibility it needed to avoid overpayments and improve productivity.

ROI: 631%

Payback: 2 months

Average annual benefit: \$24,725,000

THE COMPANY

The Alameda County Social Services Agency (SSA) is a 2,200-employee organization that works collectively and in partnership with community-based organizations to serve the social service needs of the citizens of Alameda County. The agency assists approximately 11 percent of Alameda County's 1.6 million residents who receive assistance in areas that include employment, training, financial assistance, housing, and homelessness prevention. In addition to the departments that provide these services, Alameda County SSA's departments include administration and finance, adult and aging, children and family services, economic benefits, and employment services.

THE CHALLENGE

In 2008, Alameda County SSA determined that it needed a centralized and unified way to store and analyze all of the data related to its clients and the programs in which they participate. The agency had historically used a number of manual and disparate systems to track clients, their identities, information about their benefits, and data about their activities within the agency's programs. Although reliance on manual or semi-automated systems is a common practice for large social service agencies, this resulted in challenges for Alameda County SSA that included:

- **Volume.** Keeping current on a client's status was almost impossible, as 1,200 case workers were responsible for 500 to 600 cases at any given time.
- **Visibility.** The agency had outsourced its engagement rate reporting that helps track client activity, but the reports that were received were typically inaccurate and always more than a month late.
- **Productivity.** Analysts spent too much time on tasks such as manually analyzing agency performance and tracking client participation in the agency's various programs.
- **Overpayments.** Because of the high caseload volumes and a lack of visibility, clients sometimes received benefits from an education or employment-related

TOPICS

Business Intelligence &
Analytics

program even though they were not in compliance with the terms of their participation in it. Overpayments also occurred when benefits continued to be issued even after a client died or was incarcerated.

- Performance tracking. Without accurate reporting at various levels, the agency was unable measure critical success factors, such as the migration of clients from welfare to self sufficiency.

In order to overcome these challenges, Alameda County SSA decided to deploy a unified platform for tracking all of the data related to its services, benefits, eligibility, clients, and other operationally critical data points. The business requirements for the platform included integration of the agency's various data sources, improved collaboration among agency departments, increased productivity, improved ability to detect and prevent fraud, and a reduction in overpayments.

THE STRATEGY

In late 2008, Alameda County SSA decided to deploy IBM's IBM InfoSphere Identity Insight with IBM Cognos and IBM InfoSphere Warehouse. The platform was eventually named the Social Services Integrated Reporting System (SSIRS) and became the model for the IBM Government Industry Framework. The IBM platform was selected largely because of its pre-built analytics, ease of customization, and ease of use. Other aspects of the platform that the director wanted for SSA included a single vendor, the ability to drill into data at any desired level of granularity, and the ability to provide a view of clients that revealed their interactions with a variety of agencies and services.

IBM's SSIRS was deployed by IBM and integrated with the agency's data sources over a 6-month period beginning in January 2009. The platform was configured to automate processes that included:

- Integrating various data sources to help ensure that clients receive payments under the agency's various programs only if they are both eligible to receive them and in compliance with the terms of those programs.
- Providing more accurate status of clients and their activities, which is critical when there is a need to invoke sanctions for non-compliance.
- Closing the gap between actions required and actions taken in order to make better use of taxpayer funding of the agency.
- Sending notices to clients regarding any actions taken by the agency or requests to contact their case worker.
- Verifying addresses and tracking address changes.
- Reporting to support the compliance process and ensure that sanctions are applied as appropriate.
- Sending automatic status alerts to case workers and supervisors so that workers have up-to-date information regarding certain client activity or automated actions taken by SSIRS.

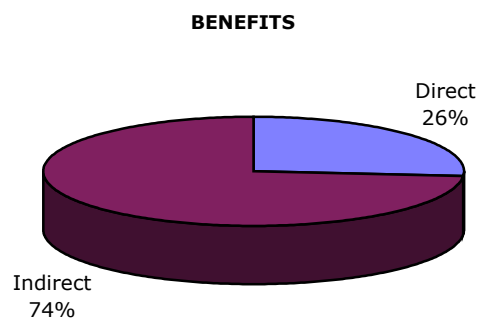
SSIRS went live with a rolling deployment that began in July 2009. At the end of 2009, it was used by 1,200 employees in various departments. The system integrates data from separate data sources related to welfare, child welfare, services for the elderly and disabled, probation, and the state's welfare benefits

and welfare-to-work programs. During 2010 and 2011, the deployment will be broadened to between 10 and 20 new data sources.

KEY BENEFIT AREAS

Deploying SSIRS has enabled the Alameda County SSA to lower costs while also improving the productivity of case workers, who are able to spend more of their time providing social services. Specific benefits of the deployment include:

- Reduced benefits overpayments. Prior to the deployment, benefit checks were sometimes sent to clients who were deceased or incarcerated. Some clients continued to receive benefits even though they were not participating in welfare-to-work activities such as orientation, training, or education. SSIRS enables case workers to rapidly identify such non-compliant clients and discontinue their benefits.

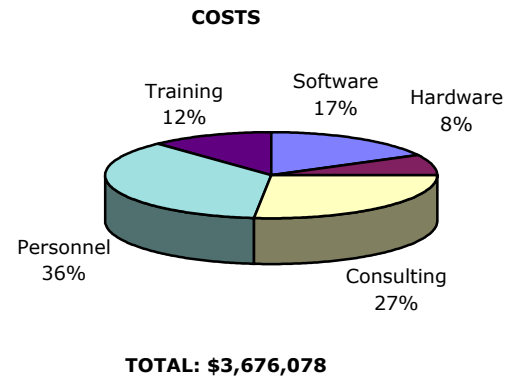


TOTAL: \$74,175,000

- Improved appeals litigation. Having access to better data means the organization has better documentation when it discontinues benefits to a client. This has resulted in increased win rates for the organization when claimants appeal discontinuation of benefits, further enabling the organization to avoid unnecessary payments and saving approximately \$900,000 annually.
- Improved case worker productivity. By automating a variety of service-related workflows, SSIRS has made case workers more productive.

KEY COST AREAS

Key cost areas for the deployment included software, consulting, personnel, hardware, and training. The deployment was completed over a 6-month period by a team of both IBM consultants and agency employees. IBM consultants configured the applications within SSIRS to meet the business requirements of the agency, integrated them with the agency's various data sources, and completed data modeling. Formal training was initially provided to 36 end users who attended a 5-day training program and four members of the integration group who required an average of 30 days of training. Additional users received training on a department-by-department basis as the rolling deployment proceeded. Hardware costs consisted of servers, including annual service agreements, for running the applications and storing the supporting data.



BEST PRACTICES

One reason the deployment was so successful is that its champion maximized the number of departments and types of data touched by SSIRS. This was accomplished largely by performing demonstrations with a variety of managers who learned how the platform could benefit them and therefore became more willing to share their data. Sometimes, restrictions or permissions had to be carefully managed in order to share data while also remaining in compliance with applicable privacy and data-sharing laws.

Because so many databases are integrated with the system, it enables employees to view clients based on a large variety of parameters. Clients can be associated and connected by social security number, address, or family. They can also be analyzed to identify all the services they use at a given time or over the life of their relationship with the agency. This enables employees to better understand clients' needs and meet them more cost effectively. In fact, the practices of maximizing the breadth of organizational adoption and the storing of all client-related data on a preconfigured data warehouse have been used to broaden and improve IBM's Government Industry Framework.

CALCULATING THE ROI

Nucleus calculated the costs of software, hardware, consulting, personnel, training, and other investments over a 3-year period to quantify Alameda County SSA's total investment in the IBM SSIRS system.

Direct benefits calculated included the elimination of benefits overpayments to clients in noncompliance with their programs and reduced fines as a result of improved appeals litigation. Indirect benefits consisted of improved case worker productivity. This benefit was calculated based on the average fully loaded cost of these case workers and an estimation of the time saved because of the automation of client-related processes on the SSIRS platform.

DETAILED FINANCIAL ANALYSIS

ALAMEDA COUNTY SOCIAL SERVICES AGENCY

SUMMARY

Project:	IBM SSIRS
Annual return on investment (ROI)	631%
Payback period (years)	0.17
Average annual benefit	24,725,000
Average annual total cost of ownership	1,225,359

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	4,260,000	7,620,000	7,620,000
Indirect	0	18,225,000	18,225,000	18,225,000
Total Benefits Per Period	0	22,485,000	25,845,000	25,845,000

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	474,728	0	0	0
Hardware	178,796	0	0	0
Total Per Period	653,524	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	94,946	94,946	94,946
Hardware	0	35,759	35,759	35,759
Total Per Period	0	130,705	130,705	130,705

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	0	0	0	156,464
Hardware	0	35,759	35,759	35,759
Consulting	982,120	0	0	0
Personnel	1,336,500	0	0	0
Training	290,192	150,000	0	0
Other	0	0	0	0
Total Per Period	2,608,812	185,759	35,759	192,223

FINANCIAL ANALYSIS	Pre-start	Year 1	Year 2	Year 3
Net cash flow before taxes	(3,262,336)	22,299,241	25,809,241	25,652,777
Net cash flow after taxes	(1,957,930)	11,214,973	12,969,973	12,891,741
Annual ROI - direct and indirect benefits				631%
Annual ROI - direct benefits only				166%
Net present value (NPV)				26,077,912
Payback (years)				0.17
Average annual cost of ownership				1,225,359
3-year IRR				584%

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%



August 2009

Document J65

ROI CASE STUDY SALESFORCE.COM STATE DEPARTMENT

THE BOTTOM LINE

The State Department's Nonproliferation and Disarmament Fund (NDF) used Salesforce.com's Force.com platform to create a custom application to provide program managers around the world with ready access to up-to-date budget information. This increased productivity while enabling NDF to better manage contractor costs.

ROI: 216%

Payback: 8 months

Average annual benefit: \$1,625,066

THE COMPANY

The State Department's Nonproliferation and Disarmament Fund (NDF), established in 1994, provides a means for the US government to respond rapidly to nonproliferation and disarmament opportunities, circumstances or conditions that are unanticipated or unusually difficult, but of high priority.

The flexibility and immediate response available from the Fund ensures that the United States will be able to respond to unforeseen proliferation issues anywhere in the world and is an important tool to take advantage of opportunities to counter proliferation. The NDF is a global operation, and directly supports the President's national strategy to combat weapons of mass destruction and other key US initiatives.

THE CHALLENGE

NDF program managers work all around the world and don't always have consistent access to government facilities and information systems. Although the NDF used the State Department's financial system of record and had also developed a custom application to provide program managers with project budget information while they were in the office, NDF program managers were still challenged to manage their program budgets: without up-to-date consistent access to information, they either had to run programs with larger budgets or risk cost overruns.

The NDF needed a means to track costs across multiple programs and geographies on a real-time basis so it could expend its capital most effectively — and they needed to be able to access the information from anywhere on almost any device.

TOPICS

Customer Relationship
Management
Software as a Service

THE STRATEGY

The NDF considered a number of different technology strategies including database development and customizing an Oracle or SAP application. Ultimately the organization decided on Force.com for two main reasons:

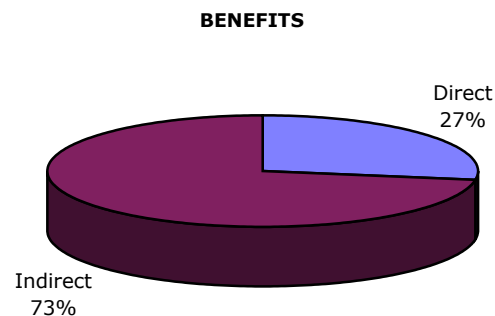
- The cloud computing model appealed to NDF from an operational perspective because its core competence was in diplomacy, not in procuring and managing databases and servers.
- After exploring the Force.com functionality and the capabilities of Acumen Solutions, a Salesforce.com implementation partner, the NDF was comfortable that a secure and reliable application that would meet its needs could be built and integrated with other existing systems in less than a year.

NDF started working with Acumen to develop the application in March 2008. A team at NDF worked closely with Acumen to define requirements and iteratively develop the application and it went live in October 2008. The system was then formally audited. Acumen continues to further enhance the application to bring new functionality to end users as needed.

KEY BENEFIT AREAS

Developing a custom application on Force.com enabled the NDF to provide program managers with accurate, up-to-date program budget information from anywhere so they can manage programs more cost-effectively. Key benefits from the solution include:

- Improved technology management. Using Force.com, the NDF was able to deliver the application at less than a quarter of the time and cost that would have been required with traditional on-premise development environments.
- Increased productivity. Ready access to information enables program managers to make decisions more quickly and plan program initiatives.
- Better contractor management. Better visibility into contract and invoice details on an ongoing basis enables program managers to run projects in a more hands-on fashion to reduce the time and cost of changes and increase overall efficiency.

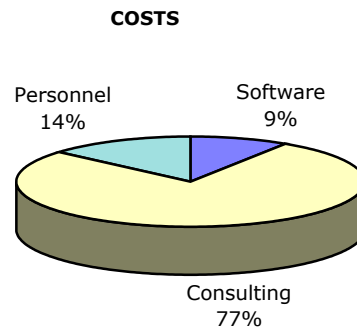


TOTAL: \$4,875,199

KEY COST AREAS

Key cost areas for the deployment included consulting, software, and personnel. Consulting made up the most significant cost area as NDF used Acumen Solutions

to develop, test, integrate, and further enhance the application iteratively based on user input.



TOTAL: \$1,426,691

BEST PRACTICES

Given the significant growth of projects and programs to manage, and the need to manage them from any location (not just a standard secured State Department network), NDF program managers were ideal candidates for use of a cloud computing application. The NDF also took advantage of the opportunity to develop the application iteratively with ongoing user input to ensure that functional requirements that weren't identified in the beginning could still be supported in the application.

CALCULATING THE ROI

Nucleus calculated the costs of software, consulting, and personnel over a 3-year period to quantify NDF's total investment in the Force.com platform. Direct benefits quantified included the number of additional hires avoided by making existing staff more productive and the value of reduced contractor overbilling, which was calculated based on the overall annual budget of the organization and the estimated potential loss from overbilling.

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DETAILED FINANCIAL ANALYSIS

STATE DEPARTMENT

SUMMARY

Project:	Salesforce.com
Annual return on investment (ROI)	216%
Payback period (years)	0.65
Average annual benefit	1,625,066
Average annual total cost of ownership	475,564

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	445,066	445,066	445,066
Indirect	0	1,180,000	1,180,000	1,180,000
Total Benefits Per Period	0	1,625,066	1,625,066	1,625,066

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	0	0	0	0
Hardware	0	0	0	0
Total Per Period	0	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	0	0	0
Hardware	0	0	0	0
Total Per Period	0	0	0	0

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	44,250	44,250	44,250	0
Hardware	0	0	0	0
Consulting	550,000	550,000	0	0
Personnel	35,000	55,606	51,668	51,668
Training	0	0	0	0
Other	0	0	0	0
Total Per Period	629,250	649,856	95,918	51,668

FINANCIAL ANALYSIS	Pre-start	Year 1	Year 2	Year 3
Net cash flow before taxes	(629,250)	975,210	1,529,149	1,573,399
Net cash flow after taxes	(314,625)	487,605	764,574	786,699
Annual ROI - direct and indirect benefits				216%
Annual ROI - direct benefits only				28%
Net present value (NPV)				1,204,775
Payback (years)				0.65
Average annual cost of ownership				475,564
3-year IRR				176%

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%



August 2008

Document **I101**

ROI CASE STUDY **IBM COGNOS** **UNITED STATES ARMY**

THE BOTTOM LINE

The United States Army's Armament Research Development and Engineering Center improved employee productivity by upgrading to IBM Cognos 8 BI version 8.3 and creating a competency center for the propagation and standardization of BI-related best practices.

ROI: 146%

Payback: 1.53 years

THE COMPANY

The United States Army's Armament Research and Engineering Center (ARDEC) is the Army's principal researcher, developer, and sustainer of current and future armament and munitions systems. The organization is responsible for the development, production, field support, and demilitarization of munitions, weapons, fire-control systems, and related equipment used by United States soldiers. ARDEC has more than 3,067 highly-skilled scientists, engineers, and other technical specialists working in five locations.

THE CHALLENGE

The United States military is continually looking for ways to cut costs by reducing staff, closing down facilities, and terminating programs that are found not to be cost effective. As a result of the wars in Afghanistan and Iraq, efforts to reduce costs have recently intensified. In order to survive these successive rounds of cost-cutting efforts, military bases and organizations such as ARDEC need to be able to prove that they are adding value and spending their funding effectively.

In early 2007, ARDEC was seeking ways to use financial business intelligence (BI) more efficiently. Managers at various levels across ARDEC relied on BI for a variety of finance-related tasks such as monitoring and analyzing funding and expense statistics. ARDEC also relied heavily on BI to prove that it was generating value as the result of its funding. The organization had already survived several rounds of base closures, but the financial management department knew that it needed to address a number of impediments to its use of BI tools, including:

- System ownership. Mandates beyond the control of the financial management department resulted in ARDEC's ownership of its financial data, but not the SAP-based ERP system which processed it. As a result, the organization was not always able to obtain the data needed for financial reporting and analysis.

TOPICS

Business Intelligence &
Analytics

- Complex workflows. Because ARDEC had limited access to the financial data in SAP, its procedures around BI were inconsistent and complex, resulting in labor-intensive workflows, rework, and redundant report building. Additionally, the user community had no defined process for submitting report requests.
- Report quality challenges. Because the BI environment had multiple reporting environments and conflicting business rules, reports typically were limited in both their content and user interactivity. As a result, users spent too much time manually performing follow-on research or consumed additional finance staff time by requesting additional custom reports.
- Low adoption. Although ARDEC had been using BI since the late 1990s, it was yet to pursue many best practices to broaden adoption, such as user-driven queries and drill-down or drill-across reports. Additionally, multiple user interfaces and complex procedures for obtaining reports inhibited adoption.

THE STRATEGY

In early 2007, ARDEC undertook an initiative that was designed to improve its use of BI and included the following:

- Cognos upgrade. ARDEC upgraded from Cognos 8 BI version 8.2 to IBM Cognos 8 BI version 8.3, which has a number of features designed specifically to broaden adoption, including user driven report building, self-service query building, and browser-based interfaces that reduce adoption resistance and training requirements (IBM completed its acquisition of Cognos in early 2008 and Cognos's formal name is Cognos, an IBM company).
- SAP integration. Portals from SAP and Cognos were used to integrate the SAP business warehouse with Cognos in a single repository. Because these portals are SOA-based, costly ABAP reporting was avoided. Deploying these portals eliminated reporting barriers to financial data in SAP.
- Best practice propagation. Seven members of ARDEC's financial BI staff dedicated a portion of their time to internal BI consultancy and the creation and dissemination of best practices through a BI competency center. Ownership of the ERP system will continue to reside outside of ARDEC's financial management team, so the team created a set of standardized best practices that enable the financial analysts to independently obtain through Cognos the analytical tools they need.
- Standardized report creation. The financial business intelligence team used six-sigma process improvement practices to standardize report creation. This project was based on IBM Cognos 8 BI version 8.3 and included the development of guidelines for tasks such as requirements gathering, report building, and report publication, as well as effective communication regarding the proper use of reports once they are deployed.

With the upgrade and integration in place, ARDEC then created a single user interface for accessing financial data from SAP. The team also provided users with formal training designed to teach them not only how to use BI better, but also how to build their own queries, reports, and analyses so that they would become less reliant on the financial BI staff.

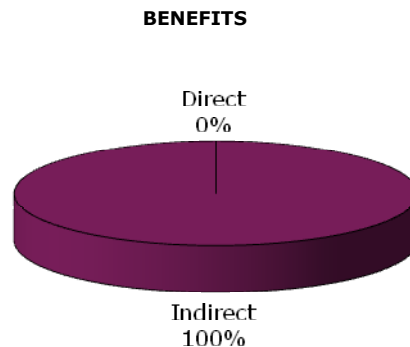
As a result of the upgrade to IBM Cognos 8.3, the use of portals to integrate with SAP, and the aggressive propagation of BI-related best practices, adoption of

financial BI has increased significantly. The number of financial analysts using it increased from 75 to 150, while the number of engineers using it has increased from 25 to 400. Data analysis is used for a variety of financial analysis tasks, including funding applications, cost accounting, budgeting, and presentations validating value generation at all ARDEC levels.

KEY BENEFIT AREAS

Upgrading to IBM Cognos 8 BI version 8.3, establishing a BI competency center, and integrating with SAP have improved the ability of ARDEC employees to use financial BI. Specific benefits of the deployment include:

- Improved productivity of finance staff. The standardized reports and end-user driven functionalities in IBM Cognos 8 BI version 8.3 enabled ARDEC's business analysts and engineers to become more self sufficient in their use of financial BI. As a result, the finance staff now spends far less time fulfilling custom report requests and more time on value-added activities such as working on unfunded projects and propagating BI-related best practices.



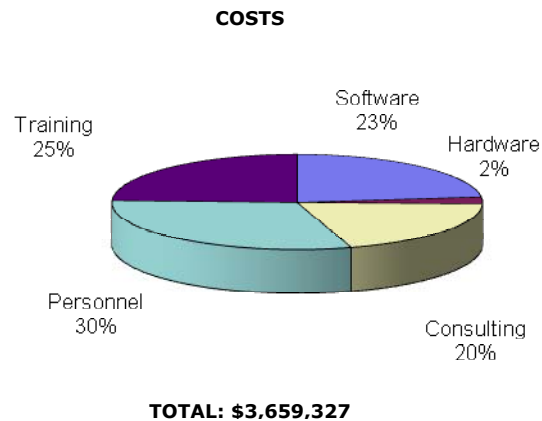
TOTAL: \$10,742,625

- Improved analyst productivity. BI end users now take advantage of the standard user interface and end-user driven functionality to more rapidly acquire the financial information they need. Additionally, because of best practice propagation by the BI competency center and the usage of end-user driven functionality in IBM Cognos 8 BI version 8.3, these users now complete their financial analysis projects more rapidly.

The deployment also had benefits that were important, but not quantifiable because of the non-financial nature of ARDEC's mission. Although ARDEC's goal is to provide better protection and lethality for United States soldiers, the organization is continually striving to accomplish more with a fixed budget, and many intended projects are never funded. The productivity improvements resulting from the IBM Cognos 8 BI version 8.3 upgrade and the best practice propagation efforts enable ARDEC employees to spend less time on tactical, non-core tasks, and more time supporting the soldiers in the field who are their ultimate customers.

KEY COST AREAS

Key costs for the deployment included personnel, software, consulting, hardware, and training.



The deployment began in early 2007 and was completed by five members of ARDEC's financial management team who each spent a portion of their time working with seven internal consultants over a 66-week period. When IBM Cognos 8 BI version 8.3 went live, formalized training was given to 450 end users who each attended either one or two-day training sessions. Following the deployment, seven members of the financial management team began dedicating between 5 percent and 25 percent of their time to the BI competency center. ARDEC purchased 500 seats of IBM Cognos 8.3, and 25 seats of IBM Cognos 8 Go! Mobile. Two servers were purchased for storage of the application, single data repository, and reference library.

BEST PRACTICES

The primary reason the project was so successful is that team members stayed in close contact with end users throughout the entire project. In creating assets such as standardized reports, a single user interface, and the competency center, the team made extensive use of interviews, beta tests, surveys, and focus groups. This enabled them to get highly detailed information about business requirements, as well as user preferences that would enhance adoption. Once a deliverable such as the user interface or an interactive report was created, iterative end-user testing ensured that business needs were being met and adoption would be high.

CALCULATING THE ROI

Nucleus calculated the costs of personnel, software, consulting, hardware, and training over a 3-year period to quantify ARDEC's total investment in IBM Cognos 8 BI version 8.3. Indirect benefits quantified included the improved productivity of analysts within ARDEC's financial management department, as well as 400 analysts, engineers, and project managers throughout the organization. These benefits were quantified based on the employees' average fully loaded annual cost. A correction factor was applied to the benefit to account for the inefficient transfer of time between time saved and time worked.

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DETAILED FINANCIAL ANALYSIS

UNITED STATES ARMY

SUMMARY

Project:	IBM Cognos 8 BI Version 8.3
Annual return on investment (ROI)	146%
Payback period (years)	1.53
Net present value (NPV)	2,106,177
Average yearly cost of ownership	1,219,776

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	0	0	0
Indirect	0	960,750	3,695,625	6,086,250
Total Benefits Per Period	0	960,750	3,695,625	6,086,250

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	436,769	0	0	0
Hardware	83,998	0	0	0
Total Per Period	520,767	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	87,354	87,354	87,354
Hardware	0	16,800	16,800	16,800
Total Per Period	0	104,153	104,153	104,153

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	0	137,161	137,161	137,161
Hardware	0	0	0	0
Consulting	725,972	0	0	0
Personnel	217,498	405,842	242,962	242,962
Training	40,153	181,396	242,896	427,396
Other	0	0	0	0
Total Per Period	983,623	724,399	623,019	807,519

FINANCIAL ANALYSIS	Pre-start	Year 1	Year 2	Year 3
Net cash flow before taxes	(1,504,390)	236,351	3,072,606	5,278,731
Net cash flow after taxes	(1,012,579)	170,252	1,588,380	2,691,442
Annual ROI - direct and indirect benefits				146%
Annual ROI - direct benefits only				-30%
Net present value (NPV)				2,106,177
Payback (years)				1.53
Average annual cost of ownership				1,219,776
3-year IRR				83%

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%



June 2008

Document **I72**

ROI CASE STUDY RIGHTNOW TECHNOLOGIES COLORADO DEPARTMENT OF REVENUE

THE BOTTOM LINE

The Colorado Department of Revenue (DOR) used RightNow Technologies to provide self-service research to taxpayers, reduce call center and e-mail volumes, and improve the accuracy and consistency of information provided to the public.

ROI: 8,732%

Payback: 3 days

THE COMPANY

The Colorado Department of Revenue (DOR) is responsible for the collection of tax revenues for the state of Colorado and during its peak season from early February to mid April provides tax filing assistance to more than 2.4 million individual income tax filers, 221,000 sales tax accountants, and 169,000 wage-withholding organizations. During the income tax filing season — and for several months following it — all of these individuals have questions regarding the proper application of tax rules, the obtaining of forms, and the status of returns.

THE CHALLENGE

During the income tax filing season, it is difficult for the Colorado DOR to adequately and cost effectively handle the spike in inquiries from the taxpayer base it serves. Although call volumes can spike from approximately 3,000 calls per week to more than 7,700 calls per week during tax season, the organization is able to hire fewer than a dozen additional tax experts to handle calls and e-mails. Because tax law is subtle and complex it is difficult to recruit, train, and retain people with the breadth of expertise necessary to handle potentially arcane and complex questions that people may ask. Worsening conditions for the call center was the fact that taxpayers often repeatedly call or e-mail the DOR with the same question until they get the answer they like. Because the Colorado DOR needs its best tax experts to work on more important issues, such as the formulation of tax policy, the organization has few highly informed employees available for staffing its call center and replying to e-mails.

THE STRATEGY

In 2000, the Colorado DOR began looking for ways to reduce the volume of calls to its call center, and to provide answers to the public in a rapid, precise, correct, and consistent manner. A large portion of the public's questions tends to be similar and readily answered and a smaller portion tends to be more complex, requiring the help of tax-trained subject matter experts. The Colorado DOR wanted to make

TOPICS

IT / Infrastructure
 Operations
 Government
 Customer Relationship
 Management
 E-Commerce
 Software as a Service

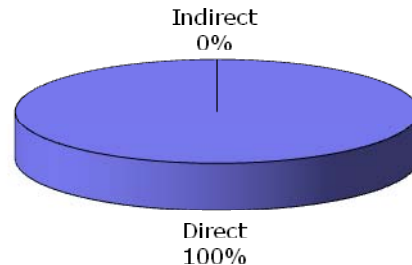
self-service tax research available for questions that are easily answered, so that it could reduce the volume of calls to its call centers and make its highly trained tax available for the more difficult and complex questions.

In mid 2000, the Colorado DOR began using RightNow to create a knowledge base that the public could use to answer questions on its own, rather than call the organization's call center. First, the organization assembled all of its content, scrubbed it for accuracy, and then formatted it for consumption by the public over the Web. Then it built a portal and designed interfaces that would enable people to rapidly find the information they needed for the most commonly asked questions. Automated e-mail responses were also created for the most often asked questions. Lastly, the knowledge base was divided into two portions, a public version that appears on the Web site, and a private version that is available only to employees. RightNow is used on a continuous basis to capture knowledge anywhere in the Colorado DOR and apply it to taxpayer interactions, regardless of how that person contacts the organization.

Using RightNow to divert public inquiries from its call center and e-mail to its publicly available knowledge base has resulted in annual Web site hit volumes of more than one million. As a result, there have been dramatic reductions to the volumes of e-mail and phone-based inquiries. RightNow is also used to monitor how the public is using the knowledge base, enabling the organization to fine tune the publicly available portion of the knowledge base and how it is used by the public.

KEY BENEFIT AREAS

Using RightNow Technologies to access its institutional knowledge base and make it available to the tax-paying public has enabled the Colorado DOR to reduce staffing needs, improve customer service, and increase the accuracy and consistency of information provided to taxpayers.

BENEFITS

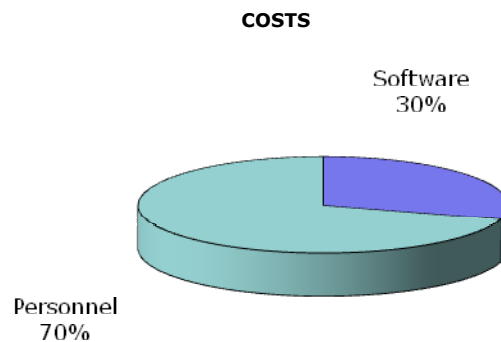
TOTAL: \$266,285

Key benefits from the solution include reduced call center costs. By using the knowledge base to divert inquiries away from the call center and e-mail, the Colorado DOR avoided spending additional money on temporary workers and reassigning its staff and tax-trained subject matter experts to the call center during the tax season.

Using RightNow to make a knowledge base available to the public has also had broader business benefits that are valuable to a service-driven organization, but are not readily quantified. As the result of both Web-based delivery of to commonly asked questions and automated e-mails, the Colorado DOR now provides answers to the public in a far more rapid and consistent manner. These techniques have also improved customer service levels and made it easier for taxpayers to complete the tax preparation process. Additionally, using RightNow to analyze its Web-based interactions with the public has enabled the Colorado DOR to better understand the questions and concerns of the public, which has led to increased customer service levels.

KEY COST AREAS

Key cost areas for the deployment were software, and personnel. One employee of the Colorado DOR spent two days building the knowledge base and creating the Web pages for access by the public. Another employee spends 40 percent of her time researching new content for the knowledge base, publishing content, and maintaining the system.



TOTAL: \$118,840

LESSONS LEARNED

Continuous fine tuning of both the knowledge base and how the public interacts with it has been key to the success of the deployment. Initially, the Colorado DOR was aggressive in publishing as much content to the knowledge base as possible. However, this frequently resulted in a member of the public receiving too many potential answers to a question, becoming frustrated, and then turning to either the phone or e-mail for resolution. After using RightNow to discover that these users were sometimes overwhelmed, the organization reduced the public portion of its knowledge base — RightNow enables creation of separate knowledge bases for people inside and outside of the organization — by 75 percent. This made it easier for people to find the information they needed, and increased the self-service rate.

Since the deployment, the Colorado DOR has continually monitored public interaction with the knowledge base — the questions they ask, the content that is most useful, and how these change at different points in the tax season. This has enabled the organization to fine tune what information the public sees, which

questions are featured at the home page as the 20 most often-asked questions, and the allocation of content between the private and public portions of the knowledge base.

CALCULATING THE ROI

Nucleus calculated the costs of software and personnel over a 3-year period to quantify Colorado DOR's total investment in RightNow.

Direct benefits calculated consisted of avoided new hires for the call center. This savings was quantified based on the assumption that a small percentage of Web site page views would have translated into calls to the call center if the knowledge base was not available. The calculation was made using the average time of a call today and the average annual fully loaded cost of a call center employee.

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DETAILED FINANCIAL ANALYSIS

COLORADO DEPARTMENT OF REVENUE

SUMMARY

Project:	RightNow Technologies
Annual return on investment (ROI)	8732%
Payback period (years)	0.01
Net present value (NPV)	56,041
Average yearly cost of ownership	39,613

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	88,762	88,762	88,762
Indirect	0	0	0	0
Total Benefits Per Period	0	88,762	88,762	88,762

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	0	0	0	0
Hardware	0	0	0	0
Total Per Period	0	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	0	0	0
Hardware	0	0	0	0
Total Per Period	0	0	0	0

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	0	11,750	11,750	11,750
Hardware	0	0	0	0
Consulting	0	0	0	0
Personnel	565	27,675	27,675	27,675
Training	0	0	0	0
Other	0	0	0	0
Total Per Period	565	39,425	39,425	39,425

FINANCIAL ANALYSIS	Pre-start	Year 1	Year 2	Year 3
Net cash flow before taxes	(565)	49,337	49,337	49,337
Net cash flow after taxes	(283)	24,668	24,668	24,668
Annual ROI - direct and indirect benefits				8732%
Annual ROI - direct benefits only				8732%
Net present value (NPV)				56,041
Payback (years)				0.01
Average annual cost of ownership				39,613
3-year IRR				8732%

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%



November 2006

Document **G60**

ROI CASE STUDY KRONOS WORKFORCE LEAVE CITY OF EL PASO

THE BOTTOM LINE

The city of El Paso deployed Kronos Workforce Leave to ensure a consistent way to track FMLA-related employee leave time, resulting in increased productivity, reduced staffing and benefits costs, and reduced legal liability.

ROI: 463%

Payback: 3 months

THE COMPANY

Located in the western corner of Texas along the Rio Grande River, El Paso is a mix of American and Mexican culture. Discovered by Spanish explorers in 1581, El Paso del Norte was colonized by Don Juan de Onate in 1598. Today, the city of El Paso, Texas is home to more than 500,000 residents. Six thousand city employees manage the daily operations of city affairs and programs for a culturally diverse metropolitan area.

THE CHALLENGE

The city of El Paso had been using an automated timekeeping system, but it had no automatic means to monitor employees' use or compliance with the Family and Medical Leave Act (FMLA). Under FMLA, eligible El Paso city employees were allowed a total of 12 work weeks of unpaid leave during any 12-month period without being penalized, but it was often unclear how many employees were taking more leave than allowed:

- With the current timekeeping system, city clerks were spending a significant amount of time manually recording and tracking absenteeism and FMLA cases. Because city clerks were managing other projects, tracking and updating paper documents regarding employee absences was often postponed.
- As a result, some employees would take advantage of the system's management and develop a pattern of long-term absenteeism that was difficult to track. City employees would then claim FMLA status to avoid consequences or to prolong leave time despite their eligibility status. However, because the city was unable to identify eligible and ineligible FMLA candidates, cases were often approved that should not have been, resulting in increased payroll costs and understaffing.

To avoid the growing cost and complexity of managing FMLA-related leave and compensation issues, the city needed to develop a consistent, auditable process.

RELATED RESEARCH

- G72 Kronos ROI Case
Study: Anonymous
Biotech Company
- G58 Kronos acquires
Unicru
- G53 Kronos ROI Case
Study: G&T
Conveyor
- G45 Kronos Workforce
Timekeeper ROI
Report
- F99 Integration and Self-
Service Turbo
Scheduling
- F98 Scheduling: What to
Expect when
Deploying

THE STRATEGY

In November of 2005, El Paso began looking for an automated leave solution and discovered Kronos had an application that could manage El Paso's FMLA challenges. Because the city was already using Kronos Workforce Timekeeper, managers were comfortable with Kronos and felt the Workforce Leave application would be an appropriate complement to their existing workforce management solution.

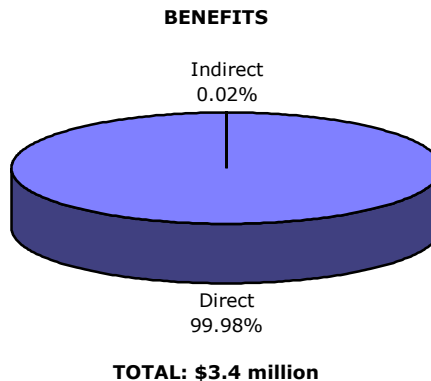
Implementation of Workforce Leave started in May 2006, with a Kronos technician working onsite for two to three weeks.

Initially, 80 clerks had two hours of training. Currently, the city of El Paso is rolling out training to the other 35 departments so that everyone can access and track employee absenteeism in the system.

With about 250 employees each year requesting FMLA leave, Workforce Leave helps the city monitor and track employees on FMLA leave, enabling payroll clerks to determine when employees exceed their FMLA time limits and should be removed from the payroll. Because payroll clerks have access to up-to-date and accurate information, any questionable FMLA-related cases can be quickly resolved with the legal department. In addition, the application has a built-in feature to alert managers when an employee has been out for more than three days so they can begin to properly document each case or determine whether or not an employee's absence qualifies for FMLA.

KEY BENEFIT AREAS

The city of El Paso achieved a number of benefits from its Workforce Leave deployment.



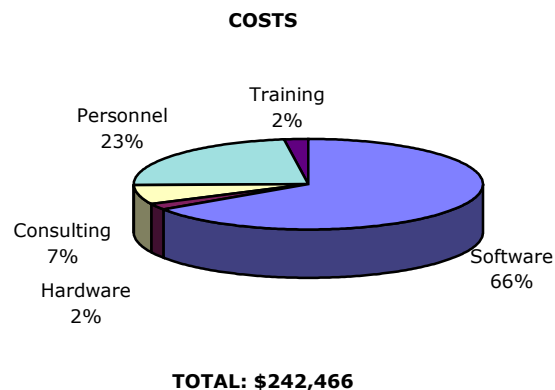
Key benefits included:

- Reduced monthly payroll and payroll overpayments. Workforce Leave's automated tracking system allows the city to better manage and reduce FMLA cases. As a result, El Paso has a clearer picture of staffing needs and can reduce overtime costs and temporary staffing costs that were driven by approved cases of ineligible leave.

- Increased productivity. By implementing a way to consistently manage and track employee absenteeism, clerks avoided wasting time tracking down leave request forms that were often confusing to read and difficult to understand, enabling the city to exhibit significant time savings and increase productivity by no longer having to track FMLA cases manually.
- Reduced insurance costs. Employees who exceeded FMLA leave time could be removed from the city's payroll into a COBRA account, which dissolved the city's responsibility to pay health insurance for those employees. In addition, once released from the payroll, the city no longer was subject to pay worker's compensation insurance to ineligible employees.
- Reduced legal fees. With up-to-date information, lawyers no longer had to question the accuracy of city records and could confidently proceed with an actionable process to address approved ineligible FMLA cases.

KEY COST AREAS

Key cost areas for implementing Workforce Leave were software, hardware, personnel, training, and consulting. Software made up the largest portion of costs, followed by personnel.



LESSONS LEARNED

El Paso found during its deployment that Workforce Leave required Microsoft Office 2003, so its deployment process was somewhat delayed to ensure the appropriate versions of Microsoft Office were in place to support the system.

El Paso also found that city clerks using the system had varying degrees of skill levels; therefore, training requirements varied per employee. In addition, to promote user adoption, infrequent users such as department clerks required only partial system knowledge and would have benefited from quick guides or short Web training modules on specific tasks.

CALCULATING THE ROI

Nucleus Research quantified the initial and ongoing costs of software, hardware, personnel, consulting, and training to analyze the return on investment for El Paso. Direct benefits quantified in the analysis included reductions in payroll overpayments through improved FMLA management, reduced legal fees and

insurance costs, and avoided additional hires. Indirect benefits included increased productivity.

Nucleus Research is a global provider of investigative technology research and advisory services. Building on its unique ROI case study approach, for more than 6 years Nucleus Research has delivered insight and analysis on the true value of technology and strategies for maximizing current investments and exploiting new technology opportunities. For more information or a list of services, visit NucleusResearch.com, call +1-781-416-2900, or e-mail info@NucleusResearch.com.

DETAILED FINANCIAL ANALYSIS

CITY OF EL PASO

SUMMARY

Project:	Kronos Workforce Leave
Annual return on investment (ROI)	463%
Payback period (years)	0.22
Net present value (NPV)	1,163,672
Average yearly cost of ownership	80,822

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	1,139,040	1,139,040	1,139,040
Indirect	0	225	225	225
Total Benefits Per Period	0	1,139,265	1,139,265	1,139,265

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	97,719	0	0	0
Hardware	5,000	0	0	0
Total Per Period	102,719	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	19,544	19,544	19,544
Hardware	0	1,000	1,000	1,000
Total Per Period	0	20,544	20,544	20,544

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	0	20,475	20,475	20,475
Hardware	0	0	0	0
Consulting	17,063	0	0	0
Personnel	15,300	13,600	13,600	13,600
Training	5,160	0	0	0
Other	0	0	0	0
Total Per Period	37,523	34,075	34,075	34,075

FINANCIAL ANALYSIS	Year 1	Year 2	Year 3
Net cash flow before taxes	1,105,190	1,105,190	1,105,190
Net cash flow after taxes	562,867	562,867	562,867
Annual ROI - direct and indirect benefits			463%
Net cash flow after taxes (direct only)	562,754	562,754	562,754
Annual ROI - direct benefits only			463%
Net present value (NPV)			1,163,672
Payback (years)			0.22
Average annual cost of ownership			80,822
3-year cumulative ROI			958%
3-year IRR			461%

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%



July 2005

Document **F65**

ROI CASE STUDY NETPRO NATIONAL INSTITUTES OF HEALTH

THE BOTTOM LINE

NIH used NetPro to simplify its network management, avoid additional IT expenses, and improve the efficiency of its researchers.

ROI: 492%

Payback: 0.23 years

THE COMPANY

The National Institutes of Health (NIH), a part of the U.S. Department of Health and Human Services, is the primary Federal agency for conducting and supporting medical research. Helping to lead the way toward important medical discoveries that improve people's health and save lives, NIH scientists investigate ways to prevent disease as well as the causes, treatments, and even cures for common and rare diseases. Composed of 27 institutes and centers, the NIH provides leadership and financial support to researchers in every state and throughout the world.

For over a century, the National Institutes of Health has played an important role in improving the health of the nation. With the headquarters in Bethesda, MD, the NIH has more than 17,000 employees on the main campus and at satellite sites across the country.

The NIH annually invests over \$28 billion in medical research. More than 80 percent of the NIH's funding is awarded through almost 50,000 competitive grants to more than 212,000 researchers at over 2,800 universities, medical schools, and other research institutions in every state and around the world. About 10 percent of the NIH's budget supports projects conducted by nearly 6,000 scientists in its own laboratories, most of which are on the NIH campus in Bethesda.

THE CHALLENGE

Because the NIH was supporting communication and analysis of data across multiple sites, many scientists who were not NIH employees needed access to its network. In addition to multiple parties needing access, NIH's multiple research sites had different local administrators who were responsible for supporting their own domains and directories. Any changes made by local administrators could impact the broader NIH network directory, causing potential downtime for users – which could impact their ability to conduct research.

As the NIH IT infrastructure team's responsibilities grew, so did the time needed for basic troubleshooting and repair of the directory and network infrastructure.

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RELATED RESEARCH

- D61 NetPro Secure Active Directory ROI Report
- E61 NetPro ROI Case study – Los Alamos National Laboratory
- F8 Kronos Workforce ROI Case Study
- F9 Microsoft CRM ROI Case Study

NIH needed a way to support a very distributed network of individuals and sites while maintaining security and a high level of access to central databases and applications.

THE STRATEGY

In January 2001, NIH began to take steps to improve the security and performance of its IT infrastructure while reducing the potential impact of changes made by downstream/remote administrators.

First, the IT infrastructure administration team responsible for Active Directory established a "place-holder" root domain and forest for all of NIH in 2000 and standardized on directory operations for identity and security. In 2001, NIH continued its deployment of Active Directory in institute child domains and geographically-dispersed locations.

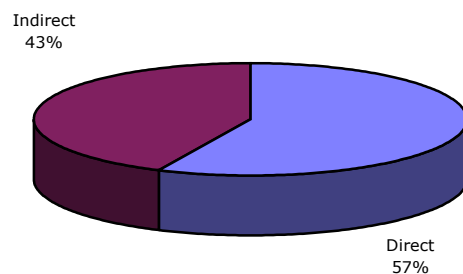
Second, the team deployed NetPro Directory Analyzer and Directory Troubleshooter to monitor system performance on a real-time basis and accelerate the identification and resolution of Active Directory problems.

Finally, NIH deployed NetPro DirectoryLockdown to support monitoring of Active Directory configuration for unauthorized changes, and to protect the NIH's infrastructure against denial of service issues, security breaches, and service interruptions.

KEY BENEFIT AREAS

Deploying NetPro technology to support monitoring, troubleshooting, and intrusion detection across its infrastructure enabled NIH to better leverage its global network of scientists and research efforts while providing secure access to data and applications. Key benefits from the solution include:

- IT staff cost avoidance. NetPro allows for more rapid diagnosis of problems in Active Directory, and can automate the troubleshooting that is performed. As a result, NIH IT staff spends less time on troubleshooting. DirectoryAnalyzer monitors system performance in real time, which helps prevent problems, maximize system uptime, and minimize staff time spent on data restorations.
- Improved access to applications and data. NetPro enables NIH's IT infrastructure team responsible for Active Directory to ensure cost-effective, reliable access to applications and information for NIH staff members.

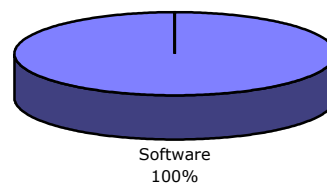
BENEFITS

TOTAL: \$2,028,846

KEY COST AREAS

The costs of installing NetPro included the initial purchase costs of DirectoryAnalyzer, DirectoryLockdown, and DirectoryTroubleshooter, and the related maintenance fees for three years. NetPro did not require any additional investment in hardware, and no training was needed to bring administrators up to speed in using the solutions. Because NetPro enabled Active Directory administrators to complete more work in less time, there was no net increase in IT resources as a result of the project.

COSTS



TOTAL: \$344,860

LESSONS LEARNED

According to NIH, the deployment of NetPro was highly successful, on budget, and on schedule. NIH encountered few problems or delays in the deployment. The organization has found that using Active Directory to support single sign-on, and using NetPro to proactively support Active Directory health, provides significant advantages for an organization with such a geographically-distributed and diverse user base.

CALCULATING THE ROI

Nucleus calculated the costs of software and ongoing maintenance fees to quantify NIH's total investment in NetPro. The direct benefit of increased IT productivity was quantified based on the average fully loaded salary of these employees. Time savings associated with reduced troubleshooting and maintenance was multiplied by a productivity correction factor to account for the inefficient transfer of time from time saved to additional time worked. Time savings associated with increased efficiency of NIH researchers was calculated similarly.

DETAILED FINANCIAL ANALYSIS

NATIONAL INSTITUTES OF HEALTH

SUMMARY

Project:	Netpro
Annual return on investment (ROI)	492%
Payback period (years)	0.23
Net present value (NPV)	1,242,591
Average yearly cost of ownership	114,953

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	385,000	385,000	385,000
Indirect	0	288,462	292,692	292,692
Total Benefits Per Period	0	673,462	677,692	677,692

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	122,500	107,400	0	0
Hardware	0	0	0	0
Total Per Period	122,500	107,400	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	24,500	45,980	45,980
Hardware	0	0	0	0
Total Per Period	0	24,500	45,980	45,980

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	0	24,000	45,480	45,480
Hardware	0	0	0	0
Consulting	0	0	0	0
Personnel	0	0	0	0
Training	0	0	0	0
Other	0	0	0	0
Total Per Period	0	24,000	45,480	45,480

FINANCIAL ANALYSIS	Year 1	Year 2	Year 3
Net cash flow before taxes	542,062	632,212	632,212
Net cash flow after taxes	542,062	632,212	632,212
Annual ROI - direct and indirect benefits			492%
Net cash flow after taxes (direct only)	253,600	339,520	339,520
Annual ROI - direct benefits only			254%
Payback (years)			0.23
Average annual cost of ownership			114,953
3-year cumulative ROI			1014%
3-year IRR			453%

FINANCIAL ASSUMPTIONS

All government taxes	0%
Discount rate	15%