

**NUCLEUS
RESEARCH**

RESEARCH NOTE D86

ROI ANALYSIS YOU CAN TRUST™

ROI Case Study: Ultimus Workflow Suite Prince William County, VA

THE BOTTOM LINE

By deploying Ultimus Workflow Suite to automate several manual steps in the processing of personnel action forms, Prince William County decreased cycle time and error rates. It also escaped the need to hire additional HR professionals, even as the county workforce grew from 3000 to 3600 employees.

ROI: 100%

Payback: 1.42 years

THE COMPANY

Prince William County Government in Virginia serves a population of about 321,000. The county employs approximately 3600 people in 37 agencies, providing a range of services including public works, fire and police response, and social services. Prince William County lies 35 miles southwest of Washington, D.C., and touches both the foothills of the Appalachian Mountains and the Potomac River Valley.

THE CHALLENGE

In the past few years, the number of county employees has grown significantly, but with few additions to the administrative staff. Prince William County struggled to meet the demands of processing, filling, and retrieving personnel action forms (PAFs) in a timely manner.

As with many government agencies, paper forms had to be filled out and carried by hand to each approver. Each PAF had to pass over several managers' desks for review and an approving signature; this often meant sending the PAF across the county by internal mail. Staff routinely lost track of where the PAF was in the process, necessitating follow-up calls to determine where a PAF was in the process and to make sure it continued to make its way to the human resources office. To satisfy same-day requests, a county employee might even make a special trip by car to deliver a PAF. At each stop, staff would make a copy of the PAF and file it for the group's records, increasing storage capacity demands. Because of the demand from increased paperwork, the county was experiencing an error rate of 20 percent on PAFs, which forced follow-up calls so that staff could make corrections.

These inefficiencies had a secondary, unwelcome impact on employee productivity. Because of delays in processing, employees often called the HR department to check on the status of their forms. With the difficulty HR staff members faced in finding a specific PAF, responding to these requests could take several calls and a few hours. Unavoidable data-entry mistakes might cause this cycle to be repeated for a single PAF.

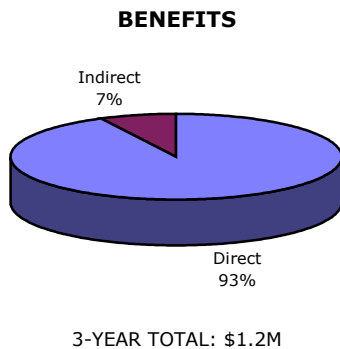
Prince William County needed a system that would allow its agencies to process PAFs more efficiently, reduce mistakes, limit paper use, and provide a central repository for PAFs.

THE STRATEGY

In 1998, the county developed a new strategic IT plan, with the goal of improving employee productivity; the PAF processes were identified as one of the best opportunities for improvement through technology. In 1999, county IT staff began to search for a solution that could partially automate PAF processing, taking several competing providers into consideration. In the spring of 2000, the group chose Ultimus Workflow Suite, which provided three features that they found particularly compelling:

- Ultimus was Web based. Most other solutions relied on e-mail to route forms through approval workflows. The county wanted to make sure that users could access the system from any PC.
- Ultimus could integrate easily with the county's enterprise resource planning (ERP) and finance applications. Since many PAFs effect changes in employee salary and benefits, direct integration with existing systems was a key requirement.
- Ultimus provided necessary calculations and reports out of the box. Many of the alternatives could not provide all of the data that county HR staff wanted to track.

The project manager assigned one internal developer to work half time on this project and engaged one expert developer from Ultimus. Together, they completed initial deployment of the software and the development of one PAF process in about six months. This included the integration of Ultimus with preexisting document management and HR applications. The initial implementation included 500 end-user licenses to support process contributors and approvers from all county departments and agencies. To help encourage effective use of the solution, 450 county employees spent 30 minutes in formal training sessions.



Today, the solution automates much of the data entry and approval routing for PAFs that are used to process events like merit pay requests, 6-month employee reviews, new hires, and separations. In an average month, the system handles 300 processes.

KEY BENEFIT AREAS

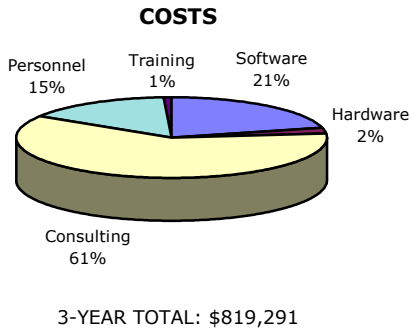
By deploying the Ultimus system to facilitate PAF processing, Prince William County has realized several direct and indirect benefits.

Key returns from the solution include the following:

- Reduced processing costs. Despite an increase in personnel from 3000 to 3600, staff in the HR and payroll departments has not had to grow. With the old system, this increase would have necessitated two additional hires. Likewise, individual agencies have been able to decrease the staff time devoted to PAFs.
- Reduced cost of delays and errors. Before deploying Ultimus, the manually directed approval workflows and their multiple points of data entry led to mistakes and delays approximately

20% of the time. These mistakes and delays spawned phone calls that consumed the time of both frustrated employees and central HR staff. The new solution has eliminated these problems almost entirely.

- Improved data access. Finding a form after it was filed used to be a potentially arduous task. County employees and HR staff no longer have to trek to the central records facility and comb through filing cabinets — a simple, quick search of the online database saves dozens of hours every month.
- Reduced storage costs. Instead of having to allot more storage space for PAFs, the county is actually able to reduce the amount of space it needs.



KEY COST AREAS

The total cost to Prince William County for the deployment and ongoing use of Ultimus has included expenditures for software, hardware, consulting, personnel, and training. Consulting and consultant travel costs have consumed 61 percent of the total budget, and software licenses and maintenance have made up another 21 percent. Internal personnel commitments account for 15 percent of the total. Hardware and training costs for the project have been minimal, with neither amounting to more than 2 percent of the total cost.

LESSONS LEARNED

County representatives report that they had very little trouble with the solution during deployment and have also had very little since deployment. On the basis of their experience, however, they would advise companies deploying Ultimus or any similar solution to completely inform internal customers of all the capabilities and opportunities open to them as early as possible. Because of the success of the project as it was originally defined, users requested an expanded scope to the initial requirements, forcing some redevelopment and additional automation. Had these requirements been made part of the initial project, project development work would have been easier.

CALCULATING THE ROI

Nucleus Research analyzed the costs of software, hardware, personnel, consulting, and training over a 3-year period to quantify the return on Prince William County's investment in Ultimus. The county's largest returns have come from the avoided cost of additional staff. Indirect benefits, including the increased productivity of HR staff, were calculated based on the average fully loaded cost of employees. Time savings associated with reduced error correction and data retrieval were multiplied by a productivity correction factor to account for the inefficient transfer of time from time saved to additional time worked.

SUMMARY

Project:	Ultimus Workflow Suite
Annual return on investment (ROI)	100%
Payback period (years)	1.42
Net present value (NPV)	241,680
Average yearly cost of ownership	273,097

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	378,560	378,560	378,560
Indirect	0	30,186	30,186	30,186
Total Benefits per Period	0	408,746	408,746	408,746

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	25,315	24,330	98,140	25,540
Hardware	17,500	0	0	0
Consulting	130,752	182,292	183,872	0
Personnel	31,200	31,200	31,200	31,200
Training	0	6,750	0	0
Other	0	0	0	0
Total per Period	204,767	244,572	313,212	56,740

FINANCIAL ANALYSIS	Results	Year 1	Year 2	Year 3
Net cash flow before taxes		164,174	95,534	352,006
Net cash flow after taxes		164,174	95,534	352,006
Annual ROI - direct and indirect benefits				100%
Annual ROI - direct benefits only				85%
Net present value (NPV)				241,680
Payback (years)	1.42			
Average annual cost of ownership		449,339	381,276	273,097
3-year cumulative ROI	118%			
3-year IRR	68%			

FINANCIAL ASSUMPTIONS

All government taxes	0%
Discount rate	15%

All calculations are based on Nucleus Research's independent analysis of the expected costs and benefits associated with the application profiled in the accompanying case. Financial modeling tool, format, and methodology copyright Nucleus Research Inc., all rights reserved.