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| Windows 7  Customer Solution Case Study |
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|  | cont_logo_baageneric.gif |  | BAA Will Improve Desktop Power and Agility;  Enhance Security and Increase Cost-EffectivenessWin Generic Header |
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| Overview  **Country or Region:** United Kingdom  **Industry:** Commercial aviation  Customer Profile  BAA Limited owns and operates six commercial airports located throughout  the United Kingdom.  Business Situation  BAA needed to modernize and operate its airports as more efficient, independent businesses while also enabling greater employee agility and reducing IT costs.  Solution  Microsoft® Windows® 7 will improve user network access, security, and deployment capabilities. Application Virtualization (an MDOP technology) will enable BAA to improve PC user productivity, reduce IT costs, and help make its IT operations more secure, responsive, and efficient.  Benefits   * Annual deployment cost savings estimated at £22 (USD$36) per PC * Annual application management cost savings estimated at £52 (USD$85) per PC * Annual desktop management cost savings of about £27 (USD$44) per PC * Annual help desk costs savings estimated at £62 (USD$102) per PC * Annual PC power savings estimated at £49 (USD$81) per PC |  |  | "Our Windows 7 deployment will provide us with technologies and tools that help our PC users to be more productive and our IT operations to become more secure, agile, and efficient...”  Philip Langsdale, Chief Information Officer, BAA Limited |
|  |  | BAA, a leader in commercial airport operations, has begun to transform its IT infrastructure to enable each of its six airports to function more independently as agile and efficient businesses.  The Microsoft® Windows® 7 desktop operating system and the Microsoft Desktop Optimization Pack for Software Assurance (MDOP) are cornerstones of the BAA infrastructure upgrade process. Windows 7 provides technologies and automated tools such as DirectAccess™ and Windows BitLocker™. Together with Microsoft Application Virtualization™ (App-V) and other MDOP technologies, these capabilities will provide BAA with increased flexibility, an improved user experience, and new business capabilities and will help to decrease desktop operational costs.  A business value analysis projects an ROI of 102%, an IRR of 65%, and a payback period within 15 months. Anticipated benefits include:   * IT labor and direct cost savings estimated at £163 (USD$268) per PC per year, made possible by automated network access, improved security, power savings, and better PC management tools. * PC user productivity benefits estimated at 14 hours per user per year. Productivity improvement estimates were based on PC users acquiring improved mobile PC capabilities, less time spent in PC support and self-help tasks, and faster search and access through the user interface.   BAA expects that 90% of its PCs will run Windows 7 by September, 2011. |
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Situation

“Windows 7 and MDOP will enable us to achieve more powerful PC management capabilities, while enhancing the business value that is important to us. Two important examples are more efficient and cost-effective IT support processes and flexible, remote computing capabilities that don’t sacrifice security.”

Tim Matthew

Head of IT Architecture

BAA Limited

Based in the United Kingdom, BAA operates six UK airports in a highly dynamic, often unpredictable business environment. Fluctuating demand for air travel is a factor challenging BAA to respond quickly to market changes, control costs, and ensure the satisfaction of airline operators and air travelers.

More than 6,000 BAA staff members use PCs as they support airport operations which touch 13 million arriving passengers monthly and 1,700 flights that leave BAA airports every day.

Within this dynamic environment, BAA faces challenges such as aging infrastructure, inflexible centralized processes, and rigorous security requirements, which combine to constrain user flexibility.

To meet these challenges, BAA is currently undergoing a modernization program to improve IT performance at its airports. The process was motivated by the need for PC users to have more flexibility in their PC-related work which, in turn, created a need for a modern PC environment and supporting infrastructure that would enable BAA to meet its business goals.

The company’s IT department views migration to the Microsoft® Windows® 7 desktop operating system as a significant part of achieving these goals. BAA IT managers wanted a solution that could:

* Reduce time spent deploying PC desktops.
* Reduce time the IT staff spends in routine application and desktop management tasks.
* Reduce service desk costs.

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* Reduce the time and money spent in security-related tasks.
* Provide flexible IT services that give PC users more control of where and how they work, without compromising security.
* Provide rapid remote connectivity services that promote PC user productivity.
* Reduce time that PC users spend in PC self-support and self-help tasks.

Tim Matthew, Head of IT Architecture at BAA commented, “As we undertake work to change our IT infrastructure, we are beginning to see a very positive trend: Windows 7 and MDOP [Microsoft Desktop Optimization Pack] will enable us to achieve more powerful PC management capabilities, while enhancing the business value that is important to us. Two important examples are more efficient and cost-effective IT support processes and flexible, remote computing capabilities that don’t sacrifice security.”

Solution

BAA operates a highly centralized, policy-driven IT infrastructure. In this environment, software policies used throughout the company restricted where and how PCs are used and led some PC users to configure their PCs in non-standard ways; these work-arounds added to help desk costs.

Company IT managers wanted to move toward a more flexible, less centralized IT infrastructure. The ideal desktop solution would provide users with greater PC functionality, provide more flexible security and desktop management, and enable each BAA airport to operate more independently, without changing the overall structure of the company’s IT infrastructure.

Although still engaged in their desktop pilot program, once the supporting infrastructure is in place, BAA plans to “turn

up the volume” on their Windows 7 deployment, enabling end users to migrate to rich-client PCs running Windows 7 beginning in June 2010. When the rich-client deployment is complete, BAA may also choose to convert some or all of its existing thin-client users to a Windows 7 configuration as well.

“Advanced Windows 7 reliability, diagnostic, and troubleshooting capabilities should help reduce help desk-related IT effort, and time spent resolving calls logged for desktop issues.”

Neil Jenkins  
Technical Architect   
BAA Limited

**Faster, Automated Deployments**

The IT group wanted a solution that was simpler, more flexible, and easier to deploy. Before the Windows 7 pilot began, the IT staff built and maintained desktop images with third-party software and a team of scripting specialists. The Windows 7 pilot program has demonstrated that significant value can be achieved by using Dynamic Driver Provisioning, the Desktop Image Service Management (DISM) tool, and other capabilities of the Microsoft Deployment Toolkit (MDT 2010).

At BAA, although the desktop image configuration and maintenance tasks had been developed into well-managed processes internally, they could on occasion be time-consuming to execute.

Neil Jenkins said, “Used together, Windows 7 imaging capabilities should help simplify the image build process by providing automated deployment capabilities out of the box, reducing the reliance on scripting.”

Group Policy® functionality in Windows Server® 2008 should also enable the IT staff to ensure that desktops remain in supported configurations, further reducing the complexity of managing the desktop environment. Improved power management configuration via new Group Policy Preferences is an example where BAA ishoping to reduce power consumption for client devices.

More Efficient Application Management

Before the Windows 7 pilot began, the IT staff performed many tasks by hand. Windows 7 will be a key enabler in the modernization by helping BAA to automate many of these processes. Analysis of IT tasks indicates that Windows 7 application management and desktop administration capabilities will enable the IT staff to spend an estimated 1.8 fewer hours per PC per year, providing improved application management services at lower cost.

The BAA packaging process provides a striking example of how the Application Virtualization technology of MDOP will help BAA simplify and automate challenging tasks. IT managers see that by using Application Virtualization, they will be able to pilot applications more easily without putting the entire IT infrastructure at risk. Application Virtualization will decrease the amount of time required to test application-to-application compatibility and will enable the IT staff to reduce the time between requests and deliveries of new applications. The reduction in packaging effort represents a potential IT labor improvement of 16% compared with current processes.

Kevin Mercer, Head of IT Services at BAA commented about Application Virtualization, “Before the deployment pilot began, our application packaging process was complex, manual, and had an average delivery time of 10 weeks. After [our Windows 7 and App-V] deployment is complete, delivering application packages should take about one week.”

BAA notes that many of these predicted benefits depend on the supporting infrastructure, particularly System Center Configuration Manager. The ability to deploy and manage the Windows-7 desktop environment through a single console is a key enabler for realizing future desktop benefits.

“As we undertake work to change our IT infrastructure, we are beginning to see a very positive trend: Windows 7 and MDOP will enable us to achieve more powerful PC management capabilities while enhancing the business value.”

Tim Matthew  
Head of IT Architecture  
BAA Limited

**Fewer Calls to the Help Desk**

At BAA, desktop help services are outsourced at a fixed price per contact. BAA expects that Windows 7 capabilities will help to save IT costs by reducing the number of calls to the help desk.

The Windows 7 operating system has improved fault tolerance, which should reduce the number of operating system-related calls to the service desk. For example, Startup Repair and System Restore capabilities enable the operating system to handle many types of system issues without causing user downtime.

BAA also expects that the Windows Troubleshooting Platform and the Action Center will significantly reduce the number of help desk calls and reduce help desk response time by enabling PC users to identify and resolve many problems quickly and easily without requiring a call to the help desk. In the event that help desk support is needed, the new Problem Steps Recorder will enable users to record their interactions with an application and provide the help desk staff with a detailed screen-by-screen view with accompanying information for help desk technicians.

Neil Jenkins noted, “Advanced Windows 7 reliability, diagnostic, and troubleshooting capabilities should help reduce help desk-related IT effort and improve time spent resolving calls logged for desktop issues.”

**Flexibility and Control for PC Users**

About 60% of BAA employees are task workers, who work within a very restricted desktop environment. Security and policy constraints tend to frustrate PC users, who want a more flexible PC experience which would enable them to optimize their work style. The remaining 40% of the BAA staff are information workers, who increasingly need to work at remote BAA offices or from home.

Concerned with security vulnerabilities, BAA uses a tightly locked down desktop and strict security policies to ensure desktop safety. About 70% of company PCs were locked down, while 30% of the company’s PC users are granted administrator privileges, which are relatively costly to support. Restricted desktop functionality and delays caused by double-password network authentication frustrated PC users.

User Account Control, BitLocker™ encryption, improved security, Group Policy®, and other Windows 7 features will enable users to have a more flexible desktop experience and use previously restricted Internet capabilities, without creating new security exposures.

Tim Matthew noted, “This approach is expected to reduce the number of users that run as administrators from 30% to 15%, and decrease PC-related security vulnerabilities by 50%.”

Following the implementation of Windows Server 2008 R2, DirectAccess will replace BAA’s current virtual private network (VPN) solution. Direct Access will enable IT administrators to manage remote PCs as if they were connected to the corporate network. Using Direct Access, the IT staff will be able to update Group Policy settings, apply application and operating system updates, monitor PCs, and troubleshoot network problems more quickly—any time the PC is online.

Direct Access will also enable remote users to seamlessly access the corporate network

any time they have an Internet connection, without the extra step of initiating a VPN connection. In this way, DirectAccess will provide company PC users with a more satisfying and productive user experience.

**Less Time Spent Minding PCs**

Improved PC user productivity is expected to provide BAA with additional business value. After the Windows 7 deployment, BAA expects PC user time savings of 14 hours per user annually. These savings will be made possible by new mobile PC capabilities, less time spent in PC support and self-help tasks, and faster search and data access on the UI.

Benefits

Preliminary results of the deployment pilot program, based on analysis of IT labor estimates gained through interviews with key BAA IT staff, indicate that Windows 7 and MDOP capabilities will enable BAA to provide more efficient, responsive, and lower-cost IT services and help PC users work more productively.

“Used together, Windows 7 imaging capabilities should help simplify the image build process by providing automated deployment capabilities out of the box, reducing the reliance on scripting.”

Neil Jenkins  
Technical Architect   
BAA Limited

Based solely on direct IT benefits (excluding user productivity benefits) extrapolated from early deployment pilot results, BAA expects to realize a return on investment (ROI) of 102% and an internal rate of return (IRR) of 65%, with a payback period of less than 15 months. The cumulative cash flow chart shows the expected break-even point for the three-year Windows 7 deployment project.

**BAA Spends £163 per PC Less   
in Annual IT Labor Costs**

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| **Direct (IT Labor) Benefits** | | |
| **Task** | **Savings**  (£/PC/yr) | **Savings**  ($/PC/yr) |
| Deployment | 22 | 37 |
| Application management | 52 | 85 |
| Desktop management | 27 | 44 |
| Help desk | 62 | 102 |
| **Total Value** | £**163** | **$268** |

Dramatic improvements in application packaging, more efficient image configuration and management, fewer calls to the help desk, and faster problem resolution will enable the BAA IT staff to

reduce annual direct IT costs by an estimated £163 (USD$268) per PC.

**Deployment costs.** Automated Windows 7 scripting and other tools will enable the IT staff to reduce deployment costs by an estimated £22 (USD$37) per PC annually.

**Application management costs.** A simpler, more efficient packaging process is expected to reduce average application delivery time by an estimated 75%. All application management-related IT effort will decrease, resulting in a time savings estimated at £52 (USD$85) per PC per year.

**Desktop management costs.** More efficient image configuration and management methods, in conjunction with Desktop Error Monitoring (DEM) and the Diagnosis and Recovery Tool (DART) enabled by MDOP, are expected to reduce desktop management costs by £27(USD$44) per PC annually.

**Help desk costs.** After deployment, the IT staff expects far fewer help desk calls related to remote access, application installation and conflicts, desktop configuration and personalization, and problem identification and resolution. As a result, BAA expects to save an average of £62 (USD$102) per PC annually.

**Windows 7 Deployment Translates into Power Cost Savings**

Deploying Windows 7 provides BAA with significant annual business cost savings.

**PC power cost savings.** Power management Group Policy settings and advanced Windows 7 capabilities such as idle resource and device power management are expected to reduce power costs by £49 (USD$81) per PC per year.

**PC Users More Productive,** **More Secure, and More Satisfied**

**Improved PC user productivity.** Acquiring mobile PC capabilities, spending less time in PC support and self-help tasks, and faster search and access though the new Windows 7 user interface (UI) will enable company PC users to recover lost productivity valued at 14 hours per user per year.

**Security improvements.** BAA also expects that Windows 7 security capabilities will reduce security vulnerabilities by about 50% and security breaches by at least 10%.

**Improved PC user satisfaction.** Preliminary PC user data indicates that by providing company PC users with secure, personalized desktops, the deployment can improve levels of user satisfaction from 25% to 65%.

Philip Langsdale, Chief Information Officer at BAA comments, “Ultimately, it’s about responsiveness. Our Windows 7 deployment, combined with the supporting infrastructure,

will provide us with the technologies and tools that help our PC users to be more

productive and our IT operations become more secure, agile, and efficient. For example, we look forward to expanding our Windows 7 environment to more desktops in the future. It’s what we need to become a network of independent airports that satisfy our airline partners and travelers.”

It is important to note that the deployment of Windows 7 is just one part of BAA’s phased approach to modernize their IT environment. The full value of Windows 7 as the desktop of choice at BAA will be realized as the technology program moves towards standardization on Microsoft technology, where appropriate. This will include configuration and management through Microsoft System Center, and a migration to Microsoft Exchange, Office Communication Server and SharePoint Server from Lotus Notes, Lotus Sametime and Notes databases.

Other areas where Microsoft technologies will help BAA modernize their infrastructure include security and access management, business intelligence and collaboration. Consolidation on the Microsoft platform throughout the technology program will help reduce IT costs and improve user experience through standardization, simplification, and automation. Coupled with Microsoft Services and Partners assisting with the technology program, BAA is confident of a quality transformation.

Windows 7

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| Software and Services   * Microsoft® Windows® 7 desktop operating system * Group Policy * Windows Server 2008 * System Center Configuration Manager * Automated tools and technologies * Microsoft Desktop Optimization Pack for Software Assurance (MDOP) | * DirectAccess * Windows BitLocker™ * Application-Virtualization™ (App-V) * Microsoft Deployment Toolkit (MDT 2010) |

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For more information about Microsoft Partner C&C Technologies connectivity solutions, visit the C&C Technologies Web site at: <http://www.cctechnology.co.uk/>

Works the way you want: Windows 7 will help your organization use information technology to gain a competitive advantage in today’s new world of work. Your people will be able to be more productive anywhere. You will be able to support your mobile workforce with better access to shared data and collaboration tools. And your IT staff will have better tools and technologies for enhanced corporate IT security and data protection, and more efficient deployment and management

For more information about Windows 7, go to:

[www.microsoft.com/windows/windows-7](http://www.microsoft.com/windows/windows-7)