

# BT saves £15 million and increases business agility with simplified sign-on.

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# Executive Summary

## Challenge

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The Web is an important communication and collaboration channel for BT, with more than eight million customers using its portals to access a range of services. With 100,000-plus BT staff and suppliers also making extensive use of Web-based applications for key business processes, the communications giant needs to ensure the security — and efficiency — of its online services. This means BT must be able to seamlessly authenticate the identity of every individual wishing to access a Web application and provide secure access for them to an authorised set of applications and services.

## Opportunity

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BT has created a reusable authentication capability for its Web applications based on the Identity & Access Management solution from CA. By taking a centralised approach to authenticating and authorising staff, suppliers and customers, the company has been able to rationalise 80 point solutions and reduce the average number of passwords needed by an employee. CA SiteMinder Web Access Manager — a key portion of CA's comprehensive Identity & Access Management solution — processes more than 35 million transactions a day. It provides BT with a flexible and reliable solution that is compatible with industry security standards and multiple authentication methods, such as passwords, digital certificates and one-time-password keys.

## Benefits

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This centralised authentication and authorisation capability has enabled BT to offer an enhanced and secure online experience to its staff, suppliers and customers. As a result, BT has been able to:

- Reduce annual costs by £4.5 million through fewer password reset requests
- Decrease the development time for new customer products and internal applications
- Increase productivity and efficiency

These factors all help to protect BT's brand and market share in the competitive communications sector and will also prove key to advancing the company's future vision.

## Delivering secure online services to millions of users

Signing up to a new service, paying a bill, reporting a problem or tracking an order: an increasing number of these processes are now being offered by companies as online options for customers.

Using the Web as a core service delivery channel not only helps reduce costs but also provides customers with unrivalled personalisation, control and flexibility. Instead of being restricted by call centre options or office opening hours, customers can access the services they want, when and how they want them. In today's on-demand society, this level of self-service can act as a key differentiator in competitive sectors, such as telecommunications and financial services.

Although establishing the Internet as a major customer channel can deliver significant business advantage, it can also open up the doors to significant risk. To deliver a truly transactional online experience, companies must provide customers with access to account and personal information. And herein lies the problem: ensuring that the right individual accesses the right information.

With customer details ripe for harvesting for both spam and identity theft purposes, user authentication is absolutely critical for any online service offering. With the Internet also increasingly being used by companies as a collaborative platform for remote staff and external suppliers, identity federation is also important for enabling more efficient ways of working.

### Protecting customer records and information

As a global communications provider, BT was quick to recognise the business potential of the Web — and the ensuing need for effective identity and access management. The company, which provides communications solutions to clients in Europe, the Americas and Asia Pacific, first began using the Internet as a customer channel well before the dot.com boom.

Each of its main business streams — BT Retail, BT Wholesale, Openreach and BT Global Services — now has a portal providing a range of self-service options. These services are currently used by more than eight million customers — a figure that could rise to as many as 20 million as more residential and business customers opt to manage their accounts online.

Alec Cartwright, a Lead Architect at BT, comments, “Technology is becoming more and more central to the services we provide and how we deliver them. If we can use technology innovatively and flexibly, then we can provide better services to our customers and do things faster and cheaper.”

The portals — BT.com being the most high-profile — are a prime example of how the company is using technology to not only improve the experience for its millions of customers but also launch new services. BT's desire to get closer to its customer base and provide them with choice and flexibility, however, has to be balanced with the need for security.

With BT.com and the other portals offering a gateway to personal information, it is essential that only authorised customers gain access to their own records. As a result, BT must have a robust and reliable framework for user authentication.

Robert Temple, Chief Security Architect for BT, comments, “Any problems with identity and information management could be very damaging to our reputation as one of the UK's most

*“We wanted to devise a reusable standards-based authentication and identity management architecture that would enable us to talk across all of the platforms as we move towards rationalisation.”*

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**Robert Temple**  
Chief Security Architect, BT

trusted brands. Customers expect us to get security right and don't want to worry about issues such as identity theft."

### Complex and costly authentication

The need for effective identity and access management also extends to BT's own staff and external partners, who also have access to a dedicated portal. This online resource provides secured access to BT's internal network and applications, and will form the foundation for future collaboration with suppliers based on federated identities.

Expanding its use of the Web as a delivery channel is a key part of BT's business strategy and vision for a 21st Century Network (21CN). In operational terms, 21CN will consolidate BT's complex network and systems infrastructure to ensure that the delivery of its next generation services is faster, more efficient and more cost-effective.

Simplification is therefore a key pillar of 21CN and also extends to BT's identity and access management strategy. "As part of 21CN, we wanted to devise a reusable standards-based access and identity management architecture that would enable us to talk across all of the platforms as we move towards rationalisation," comments Temple.

Thanks to a proliferation of new Web applications post-2000, the company had more than 80 different point solutions for user authentication in operation across the BT Group. As a result, staff had to remember a multitude of passwords, which was both complex and costly — especially when it came to password reset requests. As Cartwright confirms, "We wanted to be able to manage user logins through a single platform and provide staff with a reduced number of passwords. Our objective was to improve the employee experience of using Web applications and decrease the volume of password resets."

*"We wanted to be able to manage user logins through a single platform and provide staff with a reduced number of passwords."*

**Alec Cartwright**  
Lead Architect, BT

## SECTION 2: OPPORTUNITY

### Enabling simplified sign-on to improve the Web experience

To find a solution that could centralise and simplify user authentication and authorisation, BT underwent an extensive benchmarking exercise based on a range of functional and non-functional requirements. These included the ability to:

- Integrate with core enterprise applications in use at BT, such as Siebel, PeopleSoft and Oracle
- Operate on common platforms, such as Windows, HP-Unix and Solaris
- Support universal Web and Web service standards

Achieving this level of compatibility was essential if BT was to attain its goals for single sign-on. "We needed a solution that was flexible and reusable, so we could provide staff with a joined-up experience when using company applications," comments Cartwright.

A CA Identity & Access Management solution product component, CA SiteMinder Web Access Manager (WAM), was already among the authentication systems being used by BT, and the company decided to adopt this as its strategic platform. The solution's ability to support a range of authentication methods and federation standards, including Security Assertions Markup Language (SAML) and WS-Federation/ADFS, was a key factor behind BT's choice.

*“By implementing a fully tested enterprise-class Identity & Access Management solution, we are able to reduce our exposure to risk. CA SiteMinder WAM is robust, reliable and scalable and provides a consistent mechanism for controlling user authentication.”*

**Alec Cartwright**  
Lead Architect, BT

### **Establishing a reusable authentication capability**

The wide-scale adoption of CA SiteMinder WAM began in 2004. Educating employees about the new reusable authentication capability was one of the biggest challenges around the implementation — as well as ensuring standardised usage across so many applications.

Three years on, and the solution is used by BT’s 106,000 employees to access around 80 of the company’s Web-based applications. This could grow to as many as 400 applications as BT continues on its 21CN transformational journey.

BT is already leveraging the solution’s authentication capability for core internal services and systems, such as HR and finance, and for managing remote access via a virtual private network. On average, most staff log-on via CA SiteMinder WAM once or twice a day and can now use a single password to book a holiday, view pay slips and handle customer queries. User permissions and access are governed by information held in the company’s central corporate directory, which is based on Microsoft Active Directory 2003.

### **A federation for the future**

In addition to reducing the number of internal passwords needed by BT staff, the company has taken single sign-on to the next level by establishing federated partnerships with a number of its suppliers.

Identity federation enables individuals to securely move between trusted partners’ Web-enabled systems without the need for additional passwords or remote account administration. With organisations constantly seeking ways to reduce costs and increase efficiency through such steps as selective outsourcing, federation is expected to grow in popularity. IDC estimates the market for federated identity management and single sign-on products will hit the \$700 million mark in 2010 — compared with around \$50 million in 2005.

“Setting up federated partnerships was very simple using CA SiteMinder WAM,” comments Temple. “Although there are still cultural and legal challenges surrounding federation, we now have a flexible and scalable model that we will eventually be able to extend to thousands of suppliers.”

More than 120,000 BT and external partners already access applications using this federated approach. For example, BT staff use the company’s centralised authentication capability and federated sessions to access an annual employee survey as well as their personal performance and development records — both of which are hosted by external partners.

Prior to implementing a federated model, BT staff would have been issued unique passwords for each of these external services — and often have to spend time directly initiating password set/reset requests with the third party provider. Now, the provider automatically knows to permit access to a BT user, who is redirected to their site with a BT signed assertion following their initial authentication. These assertions, which are based on the SAML 2.0 standard, ‘travel’ with the BT user, which means they can move seamlessly between partner Web sites and services during the course of a Web browsing session.

### Single password, multiple uses

BT staff and partners are not the only communities to benefit from the company's reusable authentication capability. This model has also been extended to BT's customer portals, with CA SiteMinder WAM replacing a bespoke authentication solution.

"By implementing a fully tested enterprise-class Identity & Access Management solution, we are able to reduce our exposure to risk," comments Cartwright. "CA SiteMinder WAM is robust, reliable and scalable and provides a consistent mechanism for controlling user authentication."

Scalability is paramount — especially for BT. Every individual that registers to use one of the customer portals is given a unique identity. To validate an individual CA SiteMinder WAM draws on a centralised store of eight million users, which is held on four Oracle databases. The solution performs this process 36 million times per day, seamlessly authenticating and authorising the identity of not only customers but also staff and suppliers.

Once an individual has gained access to a BT portal, they can easily move between different service and product areas, which is key for ensuring customer loyalty and satisfaction. As Cartwright explains, "A research study carried out by BT revealed that only 50 percent of people complete an online registration process. It is important that we minimise the need for multiple registrations and keep the online experience for customers as simple and fast as possible."

FIGURE A

By using CA SiteMinder WAM, BT is able to offer customers a joined-up online experience. Using just one password, customers can seamlessly transfer between BT.com and specific product portals. This helps minimise security administration for BT and provides customers with faster access to self-service options.

### ENABLING A SEAMLESS AND SECURE ONLINE EXPERIENCE



### Choosing the authentication model to meet the business need

Although BT mainly uses passwords for internal and external user authentication, some suppliers and staff have been issued with one-time password key fobs to enable two-factor authentication with a unique PIN. The company has also started to leverage digital certificates for ensuring the secure delivery of Web services to its business clients.

Using industry standard x.509 certificates, BT is able to authenticate the identity of a company and then authorise access to requested Web services. The use of x.509 certificates is still in the early stages, as is the company's use of voice recognition authentication.

The ability to assign different levels of authentication helps BT ensure that its security measures address the different levels of online risks. CA SiteMinder WAM supports a range of authentication methods, including smartcards, biometric devices and zero-footprint multi-factor authentication.

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## SECTION 3: BENEFITS

*BT employees have significantly fewer passwords. This has dramatically reduced the number of password reset requests, resulting in savings of £4.5 million per annum.*

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### Maximising competitive advantage and operational efficiency

Introducing a reusable authentication capability has enabled BT to offer an enhanced online experience to its staff, suppliers and customers. Importantly, BT can ensure the security of customer personal information as well as access to internal applications and data.

Accessing this content is also a lot quicker and easier. Using CA SiteMinder WAM, BT has been able to adopt a simplified and centralised sign-on model, which means BT employees have significantly fewer passwords. This has dramatically reduced the number of password reset requests, resulting in savings of £4.5 million per annum since 2004. These savings are constantly increasing, as more and more applications are migrated to the reusable authentication capability.

With fewer passwords to remember and manage, BT staff are also more productive. "We've not only reduced our internal passwords but also those needed to access partner sites, which makes life a lot easier for staff," comments Cartwright. "With every password reset potentially taking a few minutes, we've been able to increase the time that staff spend on their core activities."

### Leveraging partner and customer relationships

Although increased operational efficiency can in itself influence competitive advantage, BT's reusable authentication capability has also impacted business agility more directly. For example, BT has been able to:

**EXPAND SELF-SERVICE OFFERINGS** By developing a secure and effective access model for its customer portals, BT is able to offer greater personalised and self-service options to business and residential customers. This approach not only helps improve customer relationships and satisfaction but also reduce operational costs.

**SPEED UP THE INNOVATION CYCLE** BT's developers now have access to 'ready-made' user authentication and authorisation modules that can be applied across the Group for new application and customer product launches. This speeds up the development cycle and enables

BT to get new customer services to market quicker. Any future acquisitions could also be integrated more quickly.

**ENCOURAGE ADOPTION OF NEW CUSTOMER SERVICES** A time-consuming registration process can discourage customers from signing up to new products and services online. By simplifying this process and eradicating the need for additional passwords, BT is in a stronger position to retain its customers and maximise cross-fertilisation opportunities.

**IMPROVE COLLABORATION WITH SUPPLIERS** By establishing federation-enabled partnerships, BT can leverage its supplier and partner relationships more effectively and share information easily and securely, which helps to increase productivity.

As well as increasing the flexibility of BT's operations, these factors also help to protect the company's brand and market share in the competitive communications sector. They will also prove key to advancing the company's 21CN vision.

"By establishing a standards-based reusable authentication capability, we have been able to reduce complexity and further our vision for 21CN," comments Temple. "We have been able to make things simpler, cheaper and better for ourselves and our customers. We also have the foundations we need for selling identity and access management as a managed service to our customers as a product proposition."

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#### SECTION 4: CONCLUSIONS

The Web is increasingly being used to deliver services and content to staff, suppliers and customers. As this use continues to expand, organisations must ensure that they have the ability to maintain the security and efficiency of their online offerings.

Deploying a reliable and scalable Identity & Access Management solution that enables seamless and centralised user authentication and authorisation across multiple systems and services is critical to achieving this goal.

Failure to establish a standardised and simplified model for user sign-on will not only impact cost control and operational efficiency but also hinder a company's ability to launch new online services, which has obvious implications for competitive advantage and customer satisfaction.

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