



**RSA**<sup>®</sup>

The Security Division of EMC

RSA Solution Brief

## **Securing Citrix<sup>®</sup>-based Access Infrastructure with Two-factor Authentication**

## Easy Connections to Applications and Information from Anywhere

Citrix Systems® provides flexible access infrastructure that makes it easy to connect people to applications and information from any location, with any device, over any network with the best possible access experience. As a member of the RSA Secured® Partner Program, Citrix has incorporated RSA technology into its Citrix Access Platform™ so organizations can gain the benefits of two-factor authentication to protect information and access to business applications.

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### Providing Streamlined Access to Enterprise Applications

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The Citrix Access Platform is a unique approach that recognizes the convergence of networking, management and security technologies required to deliver applications on-demand. Citrix access infrastructure includes software, services and appliances that bridge the key elements in the information supply chain, built around application delivery and access security and control.

Over 180,000 customers use Citrix products to deliver an efficient access experience to the applications and information people need - from anywhere and to anywhere - with fast performance, high security and low cost. Citrix is helping companies transform their businesses and industries, not just simplifying access and saving money, but actually changing the way and speed at which they conduct their businesses. Citrix customers include all of the Fortune 100 companies and 98% of the Fortune Global 500, as well as hundreds of thousands of small businesses and individuals. Citrix has offices in 22 countries, and more than 6,200 channel and alliance partners in more than 100 countries. The Citrix Access Platform delivers dividends over and over again, helping businesses to:

- Simplify access for all users and improve productivity for employees, partners, contractors and customers - whether they are local, remote or mobile.
- Close security gaps by leveraging Citrix SmartAccess™ technology that provides identity-driven access tailored to any use environment and by partnering with RSA to enable two-factor authentication for local, remote or mobile access.

- Increase visibility by enabling the management, measurement and observability of all dimensions of access, so management can clearly see who accessed what resources for how long.
- Ensure business continuity through continuous, reliable access regardless of business or technical disruptions, corporate expansion, technology evolutions or organizational changes.
- Protect investments through a flexible platform built for IT leverage and extensibility. It works with existing systems and is adaptable to support future requirements.

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### Gaining Access Through the Citrix Presentation Server

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The Citrix Presentation Server is a key element of the Citrix Access Platform, and it enables IT to centrally deploy and manage line of business applications while providing secure, on-demand access to these resources and delivering a low total cost of ownership and superior performance and scalability. It runs on Microsoft® Windows Server™ and UNIX operating systems, and extends the base Windows Terminal Services platform by enhancing the end-user experience as well as increasing manageability, compatibility and scalability to address business-critical environments.

Presentation Server expands the range of supported applications to include legacy software and Web-based, UNIX and Java™ solutions. It also enables any device or operating system - including those running on Macintosh and Linux platforms - to access virtualized applications.

### Fast, Simple and Secure Access to Enterprise Applications

The Citrix Presentation Server makes it easy to give all users across the organization fast, simple and secure access to business-critical applications. With its centralized model, Presentation Server enables IT to implement and deploy applications much more quickly than if they had to be installed and configured on each computer. It allows the enterprise to centralize control of enterprise applications, simplify access to information and reduce the cost of purchasing and maintaining access devices.

### Virtualizing Enterprise Applications

To virtualize applications, Presentation Server abstracts the user interface from the application processing that occurs on a centralized server. This “thin client” technology is ideal for virtualizing applications because it eliminates the complexities of deploying, managing and updating a vast array of software on each individual user’s access device. Instead, a single instance of the client application is installed on Presentation Server within the secure confines of the data center. When connected to the Presentation Server, the thin client essentially becomes a terminal accessing information that is stored and processed on central servers.

Applications are then “virtually” delivered to all the local, remote and mobile users, regardless of device, network or location. Maintaining critical business applications centrally in the data center ensures that the applications are deployed faster with less testing and are best protected and controlled by IT. This significantly reduces deployment costs and aids in ensuring regulatory compliance with data protection requirements. Desktop, remote and mobile PCs can be deployed with minimal investment in memory and hard disks, allowing the organization to reduce the cost of computing while enabling anywhere, anytime access to applications.

With Presentation Server application virtualization capabilities, users access applications running on the server the exact same way they would if the applications were running on the local device, making this process transparent. Meanwhile, IT administrators benefit from a far more cost-effective, easy-to-manage and secure method for deploying and managing business applications.

### Lowering Bandwidth Use While Delivering Faster Performance

By virtualizing applications and having both client and server components running together in the data center, organizations typically lower bandwidth use while delivering faster application performance. During this process, 100% of the application’s logic (for both the client and server components) executes on the server. Regardless of whether the application is Windows, UNIX, Java or web based, the application can then be accessed from any device and location over any network.

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### Protecting Access Via Two-Factor Authentication

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Citrix provides a computing architecture that allows company information to be accessed from anywhere, anytime, and two-factor authentication enhances security for Citrix solutions by creating an end-to-end trusted and secured solution for an enterprise. But while the Citrix family of products has made it easier for users to access critical information, simply using passwords to authenticate Citrix users can be costly and can put a company at risk.

The combination of the Citrix® Access Platform and RSA SecurID® authentication can be leveraged to protect web-based applications.

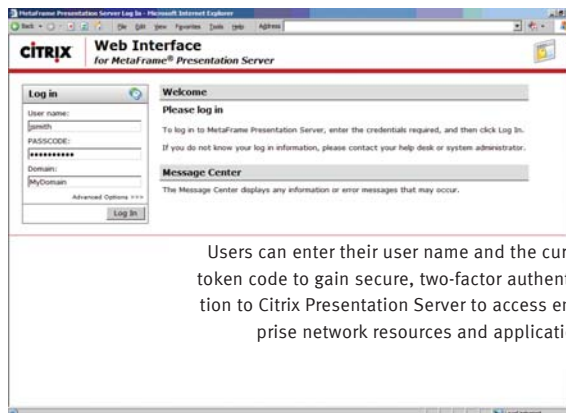
- Passwords can be easily hacked or stolen with tools readily available on the Internet.
- Password security is greatly reduced by users who frequently choose passwords that are easily guessed or written down on notes often placed near a PC.
- Inadequate password policies often fail to meet security audits.
- Passwords are costly to manage due to frequent help desk calls with password resets.

RSA SecurID two-factor authentication is based on something you know (a PIN), and something you have (an RSA SecurID authenticator) - and it provides more secure and cost-effective user authentication than reusable passwords.

## Integrating the Citrix Access Platform with RSA SecurID Authentication

For years, Citrix has been a member of the RSA Secured Partner Program, and has allowed the enterprise to leverage RSA SecurID solutions to protect access to information. The RSA Secured Partner Program works with software and hardware vendors to integrate or establish interoperability between partner products and products from RSA.

Citrix has integrated access to RSA SecurID solutions as a configuration option on the Citrix Presentation Server™ so that IT can easily protect access to enterprise infrastructure. Organizations can deploy Citrix Access Platform solutions with RSA SecurID authentication without the need for any custom software development, and the integration of these technologies has been tested and certified as interoperable by RSA and this joint solution has already been successfully deployed by many organizations worldwide.



Users can enter their user name and the current token code to gain secure, two-factor authentication to Citrix Presentation Server to access enterprise network resources and applications.

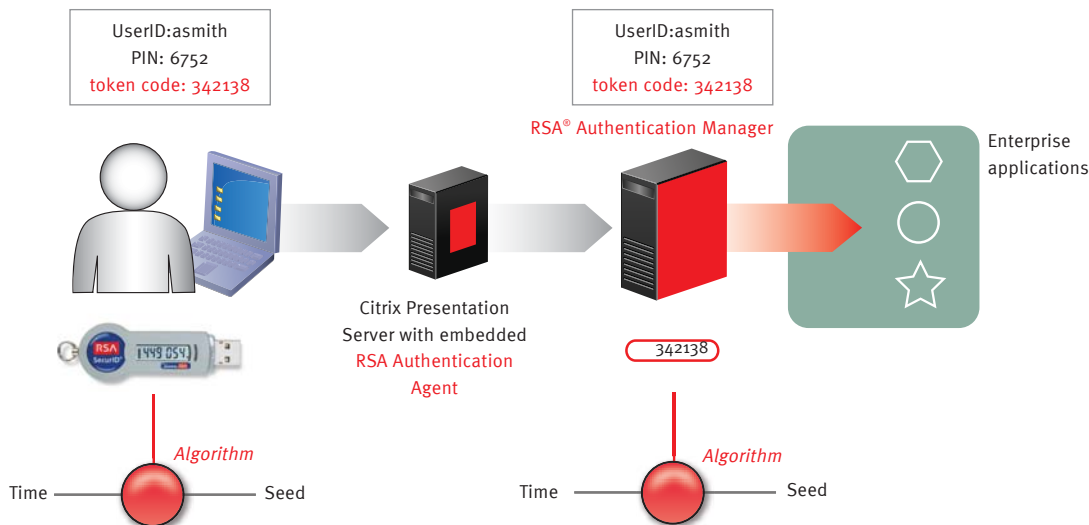
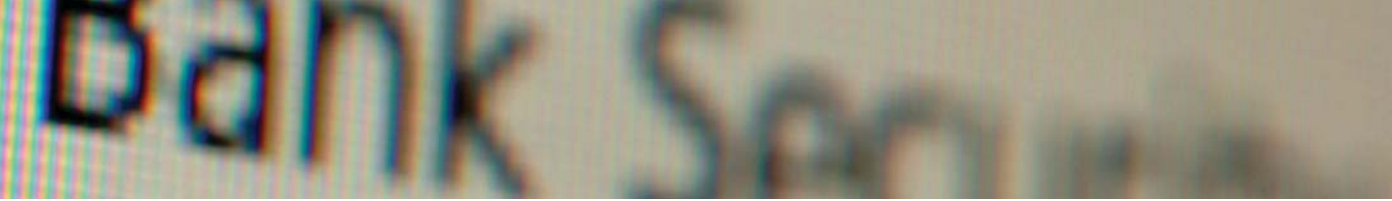
Through the RSA Secured Partner Program, Citrix has built the RSA® Authentication Agent into the Citrix Presentation Server. The RSA Authentication Agent functions much like a security guard, standing between users and the Citrix Presentation Server to enforce two-factor authentication.

RSA SecurID hardware tokens small enough to attach to a key chain or fit in a wallet can be distributed to users, and upon login users are asked to enter their PIN and the constantly changing code on their token. Access to protected information is granted only when the user has entered a valid RSA SecurID passcode; otherwise, access is denied.

### Local, Remote and Mobile Authentication

This integrated solution supports local, remote and mobile users. Users can be required to authenticate from their desktop while on the premises, and remote users can be required to authenticate before gaining enterprise access via a Virtual Private Network (VPN). Mobile users can login from a hotel or even a WiFi hot spot, and they will be granted secure access when they enter their PIN and the token code displayed at that moment on their authenticators. Organizations can also enable two-factor authentication via RSA SecurID software authenticators integrated into PDAs or smart phones.

The RSA Secured® Partner Program works to integrate or establish interoperability between partner products and products from RSA.



The PC used for accessing enterprise applications effectively serves as a terminal, with all processing implemented on central servers. The RSA Authentication Manager grants access to users who enter the appropriate PIN and the current token code.

### Protecting Enterprise Applications

Citrix has leveraged RSA SecurID technology to allow the enterprise to easily deploy two-factor authentication. The RSA SecurID solution comprises three components: RSA® Authentication Manager, RSA® Authentication Agent and RSA SecurID authenticator.

To ensure the authenticity of each user accessing the protected information, the RSA Authentication Agent software will prompt the user to enter their PIN and the token code displayed at the time on their RSA SecurID authenticator. When the user enters the information, the RSA Authentication Agent directs it to the RSA Authentication Manager software. This enterprise-class software is the management component of the RSA SecurID solution. It is used to verify authentication requests and centrally administer authentication policies for enterprise networks. RSA Authentication Manager will grant access to authorized users and reject access attempts that do not provide the correct PIN and token code. Once the user is authenticated a single time, the user is granted secure access to enterprise applications.

### Protecting Web-Based Applications

The combination of the Citrix Access Platform and RSA SecurID authentication can similarly be leveraged to protect web-based applications. Users turn to their hardware or software authenticators to get the current token code, and enter the token code and their passwords to gain access to web-based applications.

The RSA Authentication Agent resident on the Citrix Presentation Server intercepts each access request and forwards it to the RSA Authentication Manager. If the user has entered the correct PIN and the current token code, the user is provided secure access to web-based applications available through web servers behind the Citrix Presentation Manager in the corporate data center.

### Integrated Solutions from Citrix and RSA

The integration of RSA SecurID authentication and the Citrix Access Platform provides major business advantages to different organizations:

- Organizations already relying on Citrix infrastructure can easily add RSA SecurID two-factor authentication to enhance application security.
- Organizations with existing RSA SecurID authentication already deployed to protect access to information can reduce bandwidth and computing costs by migrating to Citrix Access Platform while continuing to leverage already-deployed RSA SecurID authenticators.
- Organizations evaluating enterprise access solutions can select the Citrix Access Platform to reduce the cost of computing and buttress it with RSA SecurID authentication solutions to protect access to enterprise applications and web-based applications.

All organizations deploying the Citrix Access Platform and RSA SecurID authentication benefit from application virtualization and applications security. This solution allows companies to:

- Implement cost saving and revenue generating e-business processes with positive user identification,
- Reduce the risks and costs associated with intellectual property theft and security breaches,

- Enable compliance with industry regulations and privacy laws,
- Reduce the costs associated with password-related help-desk calls and
- Provide secure access to critical information and transactions by establishing end-user accountability.

A combined implementation of the Citrix Access Platform and RSA SecurID authentication provides safe and secure access to corporate resources from any location and any device around the world. For more information, visit [www.rsa.com](http://www.rsa.com).

### Providing Two-Factor Authentication to Web-based Applications – a Case Study

Providence Health System-Oregon Region is part of an integrated delivery network that extends across Alaska, Washington, Oregon and Southern California. The organization needed to create a web-based access solution that would allow physicians, nurses and administrators to securely access critical information such as patient records, lab results, diagnostic imaging and nursing charting data from any location, using any device.

“From the outset, we recognized that rewriting legacy applications to web-enable them would have been costly and time-consuming and would have required linking to an authentication system for each application,” said Dr. Richard Gibson, Chief Medical Information Officer. “In contrast, the combined Citrix and RSA solution allowed us to deploy multiple applications easily, securely and cost-effectively, without any application rewrites.”


“The combined Citrix and RSA environment embodies the three qualities we were looking for in an information access solution...”

Gibson noted that centralized management capabilities make it easy for IT to add new applications and new users. “We can easily install and upgrade applications centrally on Presentation Servers and make them immediately accessible via the web,” he said. “Similarly, it is very easy to provision RSA SecurID tokens for new users so they can start taking advantage of web access right away.”

This solution helps Providence Health System comply with HIPAA, which defines requirements for healthcare providers to ensure the privacy and security of sensitive patient information. “The combined Citrix and RSA environment embodies the three qualities we were looking for in an information access solution: a high degree of convenience and mobility for our busy physicians, a high level of security to safeguard patient information and a total cost of ownership that’s consistent with today’s tight budgets.”

#### About Citrix

Citrix Systems, Inc. (NASDAQ:CTXS) is the global leader and most trusted name in on-demand access. More than 180,000 organizations around the world rely on Citrix to provide the best possible access experience to any application for any user. Citrix customers include 100% of the Fortune 100 companies and 98% of the Fortune Global 500, as well as hundreds of thousands of small businesses and individuals. Citrix has approximately 6,200 channel and alliance partners in more than 100 countries. Citrix annual revenues in 2005 were \$909 million. For more information, visit [www.citrix.com](http://www.citrix.com).



## RSA is your trusted partner

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RSA offers industry-leading solutions in identity assurance & access control, encryption & key management, compliance & security information management and fraud protection. These solutions bring trust to millions of user identities, the transactions that they perform, and the data that is generated. For more information, please visit [www.RSA.com](http://www.RSA.com) and [www.EMC.com](http://www.EMC.com).

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