



Securing the Banking Experience with Mobile

Discovering Enhanced Security through Mobile Banking

Shift to Mobile – An Obligation of the Digital Age

Most corporates are either partially or fully mobile, deriving enhanced productivity and other business benefits. To help your organization on this important journey, Citi's mobile solutions incorporate the convenience you want with market-leading security features that protect your assets and sensitive information. We have been focused on a secure mobile culture with transformative shifts including:

- Corporate applications on personal phones for business
- Mobile soft tokens for secure access to Citi systems

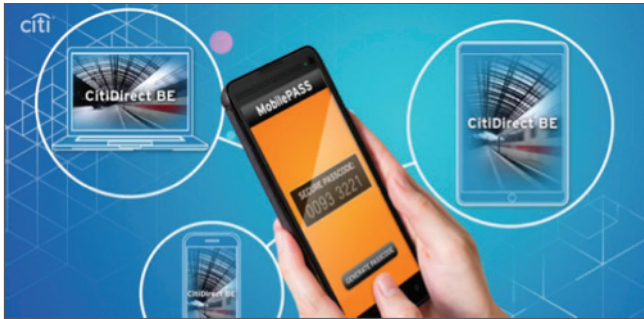
Enhancing Security by Complementing Traditional Login – MobilePASS™

What is MobilePASS?

MobilePASS soft tokens enable users to log in to CitiDirect BE® platforms, whether on a desktop, mobile or tablet interface, by securely generating dynamic passcodes from a smartphone. The digital solution eliminates the need for users to carry physical tokens for login. MobilePASS is an important part of Citi's continuing effort to bring a best-in-class security to online banking.

"CitiDirect BE® brings the power of Citi directly into our Treasury and now CitiDirect BE users have the option to use a mobile token to log on to their treasury and trade services. This mobile authentication solution provides choice and convenience along with strong security, making it much easier to access bank accounts and do business with Citi."

Gemalto's Treasurer for North America



Why is MobilePASS secure?

MobilePASS combines the security of proven multi-factor authentication with the convenience of dynamic passcodes generated on mobile devices. The solution is supported by Gemalto, a leader in device security, using advanced encryption technology to help prevent unauthorized access. It is fully hosted in Citi servers as a critical authentication service. Sophisticated control capabilities, including best-in-class authentication and identity management allow Citi to optimize the ease-of-use without compromising on security.

Security Compliance and Global Acceptance

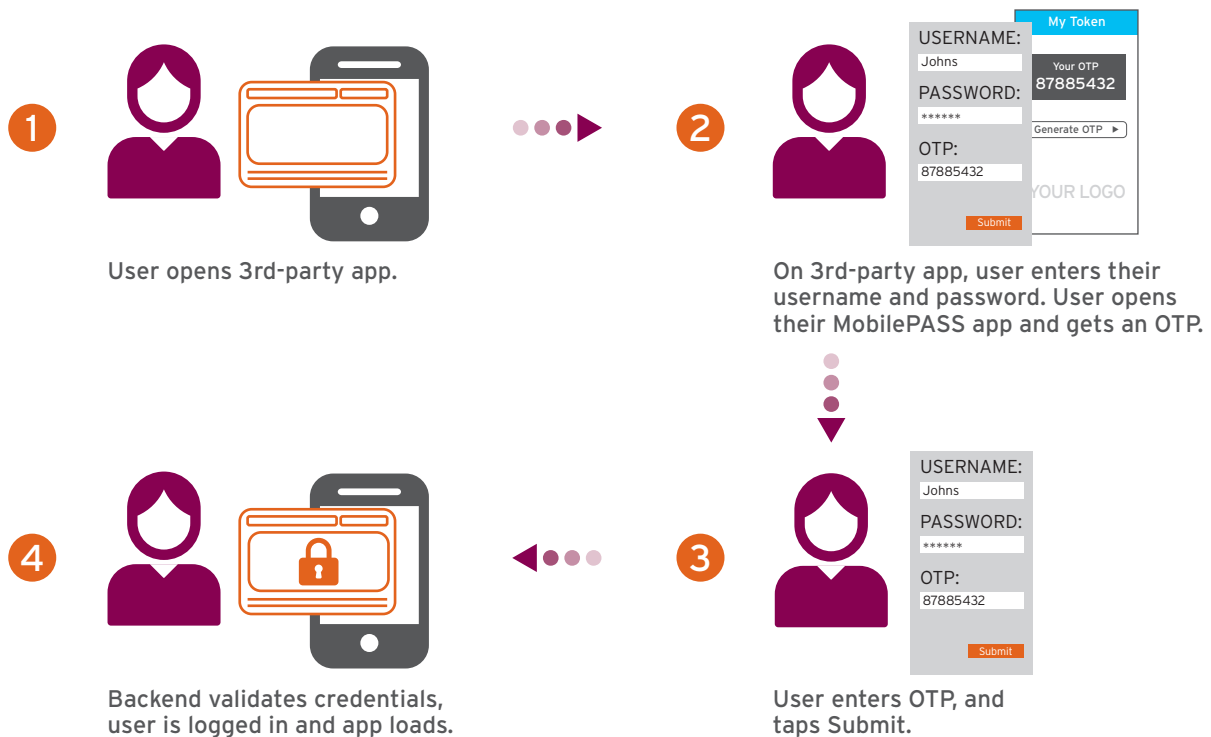
Following the 2016 launch in limited countries, MobilePASS secured regulatory approvals in nearly all Citi markets except China and Taiwan. Key security capabilities that accelerated global acceptance include:

- **Vulnerability Assessment:** Extensive reviews and certifications by Citi Information Security
- **Random Password Generator:** Each token has its own unique seed (i.e. password generator) randomly created during the user activation. No particular seed can be re-used on multiple tokens
- **Password Protection:** Each token has a 4-digit PIN fully bound to the device chosen by the user during the activation
- **Hacking Prevention:** Mechanism to deactivate the token after six attempts on the client side (new activation code required via secure CitiDirect BE channel)

44,000+ CitiDirect BE users around the world have chosen MobilePASS since its launch, unlocking tremendous benefits. As one of the treasurers of a multinational consumer goods company notes: "I decided to use MobilePASS when I learned that it provides the same high level of security as SafeWord®." Additional security benefits driving client adoption include:

- Users are less likely to share a mobile device versus a security token
- Easy configuration and self-selection of the PIN reduces likelihood of users writing the PIN on the back of tokens
- Leverage (optionally) additional mobile device security features such as Fingerprint, Swipe or PIN

MobilePASS Solution Overview



CitiDirect BE – A Simplified and Secure Banking Experience

CitiDirect BE allows you to conduct your critical tasks when you are not in front of your workstation! A natural benefit for adopting a complementary mobile solution is the ability to initiate transactions on a different channel (e.g. desktop) and authorize the same transaction via a physically separate mobile channel (i.e. out-of-band). This banking best practice reduces the risk of session hijacks during the payment life cycle. You may also leverage uniquely mobile tools to localize lost or stolen smart phones, which increasingly deter hackers from stealing mobile business devices today.



CitiDirect BE solutions – whether accessed via desktop, mobile or tablet devices - are protected by several security tools beyond the multi-factor authentication. Citi is most committed to helping your organization unlock the benefits of a mobile experience. As your trusted partner, we will continue to help ensure you remain digitally secure and confident to keep your online banking with Citi.

Mobile Security Best Practices

While Citi takes multiple steps to protect applications and tokens whether on a mobile or desktop channel, it is critical that clients follow security best practices to help ensure appropriate protections, while also deploying applicable protection to your own systems. Key industry best practices include:

- Anti-malware tools to regularly scan and remove viruses, where available
- Only install apps from known and trusted stores
- Please ensure the operating system on your mobile device is upgraded to the most current version
- For mobile devices utilizing the Android operating system, please ensure that you are not utilizing an Android version lower or earlier than Android version 6
- Don't jailbreak devices
- Don't use banking applications when connected to public Wi-Fi hotspots
- Leverage password or biometric to secure access to mobile device
- Partner with internal IT resources to introduce mobile software wrappers to ensure a secure BYOD experience for your staff

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Treasury and Trade Solutions
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