FAQ

Learn why Circle created CCTP and how it differs from traditional bridging.Suggest Edits

What is Cross-Chain Transfer Protocol (CCTP)?

CCTP is a permissionless on-chain utility that facilitates USDC transfers securely between blockchains via native burning and minting. With CCTP, USDC is effectively "teleported" from one blockchain to another.

How does CCTP differ from lock-and-mint bridging?

Lock-and-mint bridges are applications that lock a user's native USDC within a smart contract on a source chain and then mint a synthetic or bridged form of USDC on a destination chain. This process incurs additional trust assumptions and can result in poor UX due to the fragmentation of liquidity.

In contrast, CCTP enables USDC to move securely 1:1 between blockchains via a native burn-and-mint process. The result is greater capital efficiency and unified liquidity with no creation of bridged forms of USDC.

As a low-level primitive, CCTP can be embedded within existing bridge apps to replace their lock-and-mint functionality.

How does CCTP differ from liquidity pool bridging?

Liquidity pool bridges are applications that hold large pools of USDC on a source chain and a destination chain in order to facilitate cross-chain swaps for end users. This process incurs additional trust assumptions and fees associated with the liquidity tied up on each chain.

In contrast, CCTP enables USDC to move securely 1:1 between blockchains via a native burn-and-mint process. The result is greater capital efficiency and unified liquidity with no creation of large pools of USDC.

As a low-level primitive, CCTP can be embedded within existing bridge apps to replace their liquidity pool functionality. Alternatively, CCTP could be used by the bridge provider to programmatically rebalance their liquidity pools behind the scenes and reduce operational costs.

Who is CCTP designed for?

CCTP serves as permissionless infrastructure for developers to build on top of or integrate into their existing apps, wallets, and bridges.

Does CCTP require signing up with Circle?

No. CCTP is a permissionless on-chain utility for third-party developers.

What are the fees associated with cross-chain transfers via CCTP?

There would be a gas fee on the source chain and a gas fee on the destination chain. The app that integrates CCTP would be responsible for determining how gas fees are handled and/or passed on to the end user. There are no additional fees from CCTP.

When will CCTP be available on additional chains?

CCTP is available now on mainnet for Arbitrum, Avalanche, Base, Ethereum, Noble, OP Mainnet, and Polygon PoS. Expansion to additional blockchains is expected throughout 2023.

Can’t I use a Circle Mint account or Core API to move USDC across chains? What about a centralized exchange?

Yes, Circle Mint and Core API are capable of moving USDC natively across chains. However, those commercial products are only available to qualified businesses approved by Circle.

Centralized exchanges typically hold various native forms of USDC liquidity on their platforms. Users with an account at a centralized exchange can deposit USDC (native to a given chain) into their exchange wallet, and then withdraw USDC (native to a different chain) to their external wallet. This process incurs additional trust assumptions and possible delays or limitations to the amount allowed for withdrawals.

In contrast, CCTP is permissionless and runs on public blockchains. This means it is accessible to any third-party developer to integrate into their apps and and does not require signing up for an account. Users can move USDC through a CCTP-enabled app to any supported blockchain at any time. Developers can also compose new on-chain experiences on top of

CCTP within their apps.

How does a given quantity of USDC burned on the source chain become successfully minted on the destination chain?

When USDC is burned on the source chain, the event is automatically observed by Circle's attestation service. The app facilitating the burn of USDC is responsible for fetching the signed attestation from Circle, which then enables CCTP to mint USDC on the destination chain.

Have the CCTP smart contracts undergone security audits?

Yes. Please see our third-party audit documentation conducted by ChainSecurity (view PDF) and Halborn (view PDF) for more details.

What happens if Circle's attestation service is unresponsive?

While its unavailability would temporarily preclude new burn messages from being signed, we anticipate robust uptime and availability similar to how our existing minting services operate today.

Besides public wallet addresses on-chain, does Circle have access to any personally identifiable information (PII) when a user sends or receives USDC via CCTP?

No, we do not have access to, collect, or store any such data.

How does CCTP affect existing bridged forms of USDC?

CCTP has no direct impact upon existing bridged forms of USDC.

How does CCTP affect Circle's plans to launch USDC on more blockchains?

Circle's plans to bring USDC natively to more blockchain networks remain the same and will continue to grow. We envision CCTP establishing USDC as a universal liquidity layer for the Internet that is accessible to all. Updated3 months ago

What's Next