

## XTNDConnect Server: Security

In this growing mobile and wireless world, anytime, anywhere access to corporate data is becoming a necessity. Mobile workers are demanding access to mission-critical data in order to remain competitive in the market and efficient in their jobs. Now that corporate data can be accessed remotely and from a variety of devices, there are even more security challenges for the IT team. IT administrators must create and maintain corporate standards for secure mobile device access to corporate information.

XTNDConnect Server offers a variety of features to securely extend mission-critical enterprise applications to mobile devices in both wireless and wired environments. In addition to providing a robust synchronization service to end-users, XTNDConnect Server offers a comprehensive solution for IT administrators to securely manage a variety of mobile devices under a single server. With XTNDConnect Server mobile users can more securely connect their devices from inside the enterprise and outside the firewall. The XTNDConnect Server security features can be broadly classified into three categories:

1. Infrastructure security
2. Data security
3. Device security

### Infrastructure security

XTNDConnect Server is comprised of various components designed to provide a modular and distributed means for secure deployment.

- **DMZ proxy**—An application-specific HTTP proxy at the DMZ level.

XTNDCONNECT SERVER

OFFERS A VARIETY OF

FEATURES TO SECURELY

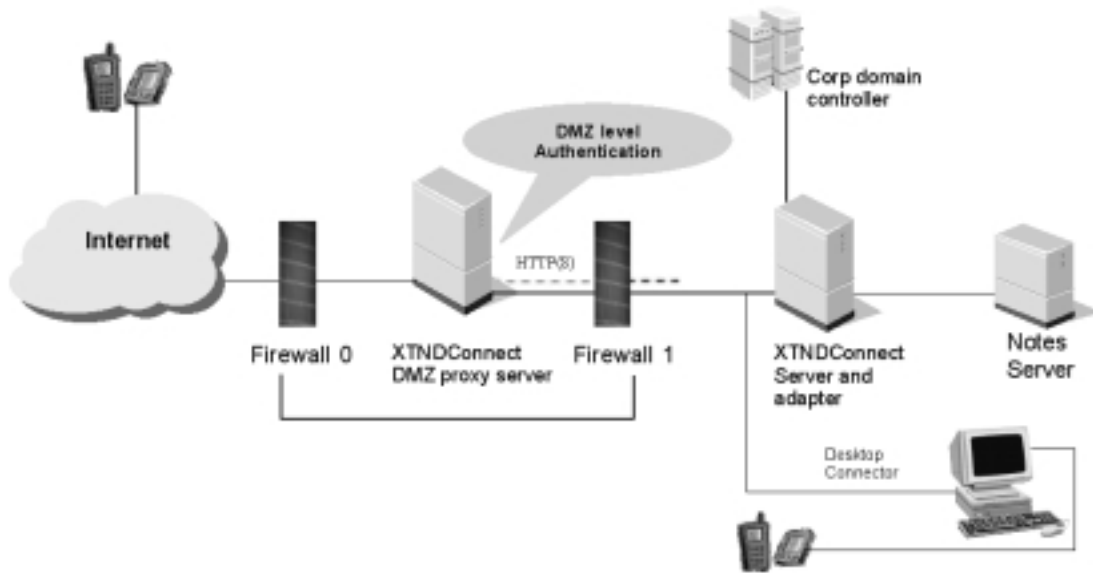
EXTEND MISSION-CRITICAL

ENTERPRISE APPLICATIONS

TO MOBILE DEVICES

# TECHNOLOGY BRIEF

- **XTNDConnect Server**–Synchronization and device management services along with authentication of mobile devices. This server is typically installed inside the firewall.
- **XTNDConnect desktop connector**–Provides serial and USB connectivity to mobile devices.



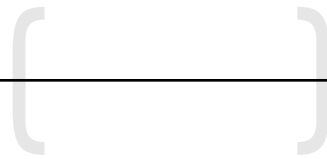
## **DMZ proxy**

The XTNDConnect Server DMZ proxy acts as an application-specific HTTP proxy. Through a user-defined HTTP or HTTPS port, this proxy performs the necessary security and packet validation checks on connections from mobile devices before letting the incoming packet data through to the XTNDConnect Server. This allows administrators to set up various types of filters to secure traffic through the firewall. The DMZ proxy has its own public key and private key pair used to decrypt the message header (this header has the session ID information and packet key). Additionally, all data in the packet is encrypted with the XTNDConnect Server public key and cannot be decrypted by the DMZ proxy.

- Acts as an application-specific HTTP proxy at DMZ.
- Validates each data packet before allowing traffic through the firewall.
- Uses HTTP(S) to communicate with XTNDConnect Server.
- Does not decrypt the data portion of the packet.

## **XTNDConnect Server (Authentication)**

With the DMZ proxy, the XTNDConnect Server can be securely deployed inside the firewall. XTNDConnect Server also uses HTTP to act as its transport protocol to communicate with rest of the XTNDConnect Server components. XTNDConnect Server has a two-tier



authentication mechanism. The first tier is with the Windows NT/Active directory, Notes, Database, RADIUS and SecureID. This tier is used to authenticate the user credentials and obtain the necessary group information to determine the actions that a user is authorized to run on XTNDConnect Server. The second tier provides authentication against groupware and database servers for synchronization. This two-tier authentication enables secure deployment of XTNDConnect Server and adapters at different locations.

- Uses HTTP(S) to communicate between DMZ proxy and adapters.
- Deployed securely inside the firewall.
- Provides two-tier authentication to validate user credentials.
- First tier: Windows NT, Notes, Database, RADIUS and SecureID

### **XTNDConnect desktop connector**

The XTNDConnect Server desktop connector serves as a desktop proxy and provides an easy way for users to connect their devices to XTNDConnect Server from their Windows desktops and laptop machines without the need for third-party software. This significantly reduces any security breaches because the access and management of information is controlled by the IT Administrator rather than the mobile user. While device users can use any desktop connector to connect back to XTNDConnect Server, they are still required to input their credentials on the device to connect to the XTNDConnect Server.

- Serves as a desktop proxy for mobile devices.
- Eliminates the need for varying third-party desktop sync software.
- User credentials are still required for connecting with XTNDConnect Server.

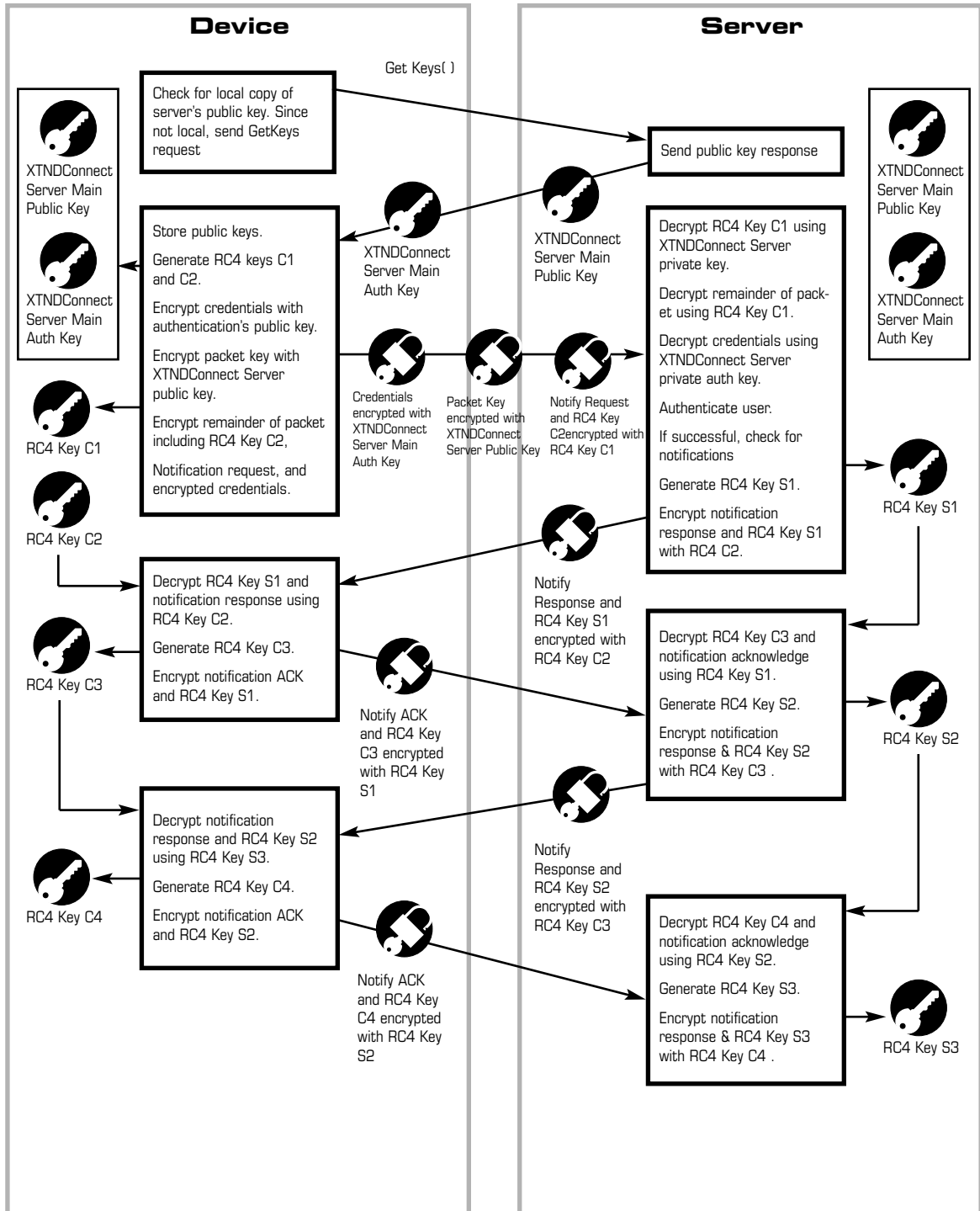
### **Data security**

XTNDConnect Server provides end-to-end data security by encrypting the data between the server and the device. In addition, it does not stage or store data anywhere within XTNDConnect Server other than in the original data source. For encryption, XTNDConnect Server uses a combination of Certicom ECC for key exchange, and RC4 for encrypting the data. This combination of asymmetric and symmetric algorithms provides the best security and performance. Because public-key cryptography is more computationally expensive than symmetric cryptography, public-key cryptography will be used to encode a secret key for symmetric cryptography; then the system falls back on a faster symmetric cryptography system. With 160-bit encryption key, RC4, a widely embraced bulk cipher, performs extremely well on mobile devices with limited processing power.

- End-to-end data security with 160 bit strong ECC and RC4 encryption.
- Does not store or stage data outside of the data sources.
- Sync engine uses a change-log-based algorithm, which does not store any data.

# TECHNOLOGY BRIEF

The following flow chart depicts encryption and key exchange:



## Device Security

Device security essentially refers to securing the data within the device in the event the device is lost or stolen.

XTNDConnect Server uses a variety of methods enabling IT administrators to protect data on devices. The administrator has the capability to force the device user to enter his credentials each time he/she connects to the server. Even in cases where the user is allowed to store credentials on the device, these credentials are encrypted with the server's public key thereby making it virtually impossible for unauthorized access. The IT administrator also can force the power-on password to be enabled. This requires users to key in their password to access their device.

- XTNDConnect Server administrators can force users to enter credentials each time the user connects.
- All credential information (if allowed to be stored on the device) is encrypted with the server's public key.
- XTNDConnect Server administrators can enforce power-on passwords on all devices (Palm, CE, Symbian, RIM).

## Conclusion

With the emerging "always-on" wireless devices and networks, it will be increasingly challenging to control devices and their access to enterprise applications. XTNDConnect Server provides IT an excellent opportunity to proactively control these devices by putting the right infrastructure in place to effectively monitor mobile usage without any user initiation. XTNDConnect Server research and development teams continue to actively work with these new technologies to ensure secure mobile device data access and synchronization.

Download the free 30-day evaluation  
[www.extendedsystems.com/go/pimsync](http://www.extendedsystems.com/go/pimsync)

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