Praxis Digital Certificates and Permits

Secure Digital Certificates and Permits

Praxis offers secure digital certificates and permits using the international ISO/IEC 20248 standard. The digital certificate created can be used electronically and printed on a hard copy certificate. It cannot be forged.

The trust relationship is established using the same mechanisms as Public Key Infrastructure. It utilises existing SSL infrastructure to ensure the validity of the Domain Authority SSL certificate. The private key of the Domain Authority SSL certificate can then be used to create and sign CID and DDD specific Digital Certificates. These DigSig Certificates are signed by DigSig Domain Authorities who in turn have their certificates signed by standard Certification Authorities.

JWT tokens are used for secure access. The transport layer is encrypted for safe communication. No personal data is stored on the Praxis Digital Certificate and Permit Portal and thus there is no risk of data hacks.

How does it work?

1. A secure encrypted connection between your application and the Praxis Digital Certificate portal is with private keys is setup.
2. For each different certificate or permit layout, you provide us a copy of the certificate or permit for which a digital certificate is required.
3. We use this to create a template with a unique id.
4. Your application calls our API using the secure connection setup, providing the template id and the data that is 'printed' on the certificate.
5. Our portal returns the QR code that is the digital permit as an image. The QR code contains all the information that makes up the permit or certificate.
6. Your application prints the certificate or permit with the digital certificate QR code or 2d barcode embedded, or your application sends it digitally to the recipient.
7. To verify the certificate or permit, you merely scan the QR code with our free ISO/IEC 20248 compliant scanning app on a mobile device and it will recreate on the screen an exact replica of the entire digital certificate.
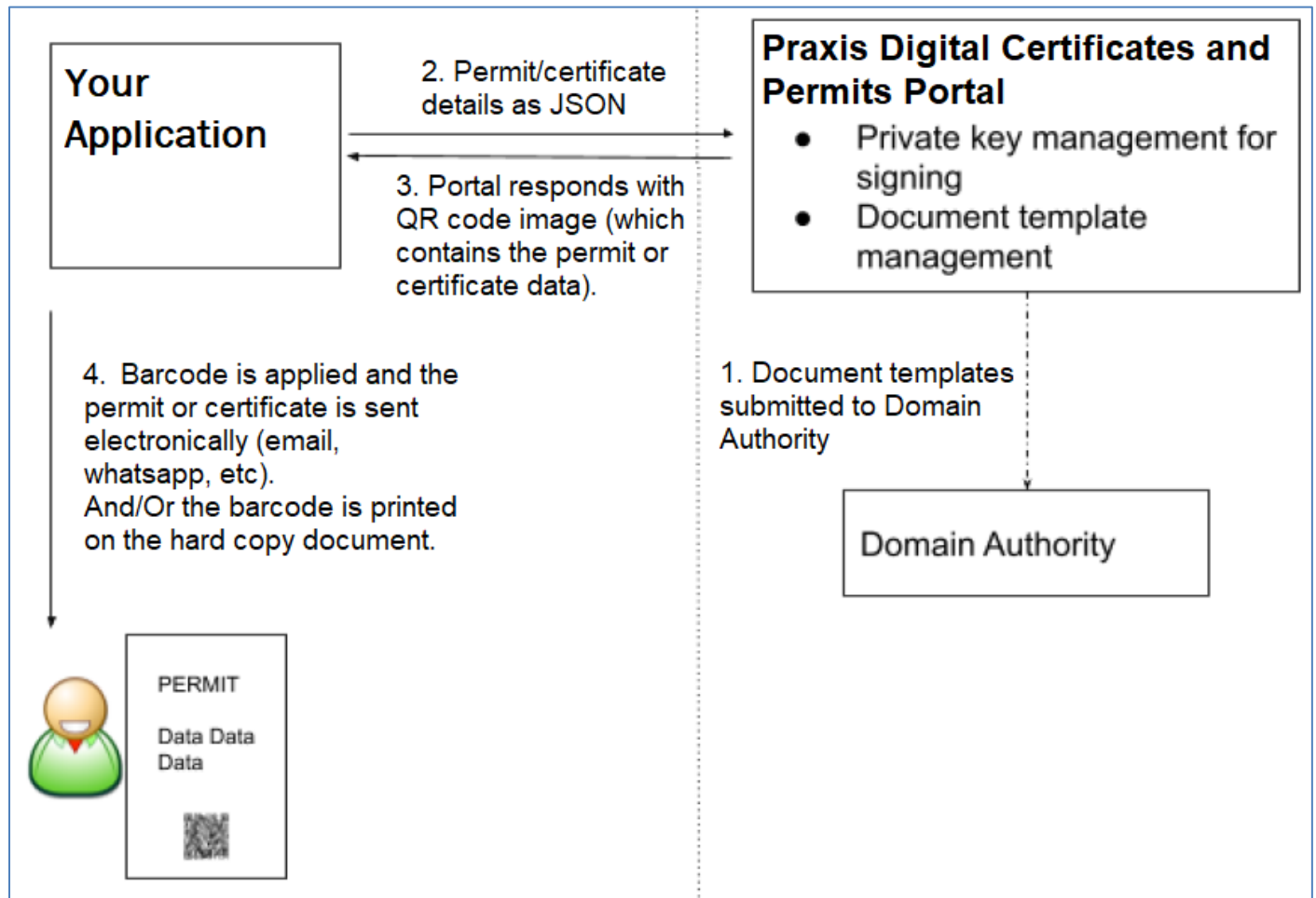
THE SCANNING APP CAN EVEN RECREATE THE CERTIFICATE WHEN OFFLINE

To illustrate the sue of a digital certificate, let's use the example of a matric certificate with a DigiSig QR code. When the QR code is scanned by the mobile app it will recreate on the screen an exact copy of the hard or soft copy of the certificate. The person checking can then see if anything has been altered on the matric certificate. The person can compare name, id number, subjects, and grades to confirm the authenticity of the certificate.

Another example is transport and route permits. If a traffic official scans the vehicle's permit QR code the app will recreate the permit on the officials screen even if offline. The official can then see if the permit presented is both valid and unaltered. If a permit has been cancelled for whatever reason, the app will report the permit as cancelled regardless of expiry date printed on the permit. This protects against the use of stolen permits or forged permits.
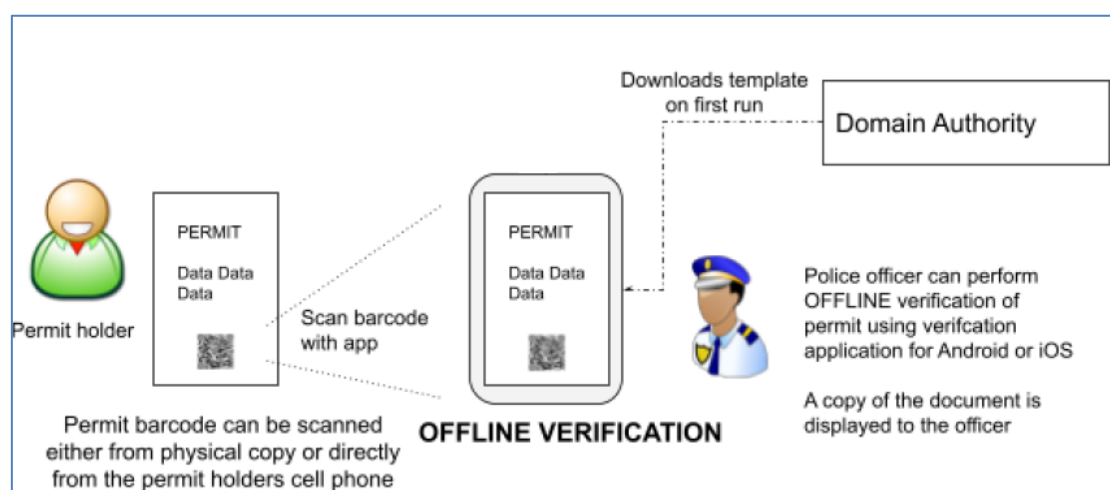
Costs

The cost depends on the number of certificates or permits issued with a DigiSig QR code per year. As a rough guide:

Certificate/permit template setup (per template)   R20,000

Annual portal fee   R70,000

Cost per digital certificate/permit issued   R5 to R12

Cost per certificate/permit revoked   R8 to R25 depending on volume and expiry