

DigiCert PKI Solutions for 5G Networks

If you're transitioning to Cloud as part of your 5G transformation, DigiCert PKI is your security solution.

The challenge

Securing and protecting a 5G network

The transition from 4G/LTE to 5G is not just a bandwidth change. It's a paradigm shift involving multiple technical transformations at once. A security solution for 5G must be scalable and flexible enough to keep pace with this rapidly expanding infrastructure as the network grows and evolves over time.

Cloud transition

The 5G transformation is also a transition from physical to virtual appliances. Configurability, reliability, and business and local compliance are all vital components of operational success. A security solution for 5G must encrypt, authenticate and provide integrity—all in the Cloud.



The three pillars of information security

- **Encryption:** Information is encoded end-to-end so intercepted data cannot be read
- **Authentication:** A sender or recipient's identity is validated
- **Integrity:** Signature cryptographically verifies container has not been altered

The solution

Public Key Infrastructure (PKI)

DigiCert® 5G Network Solution is built on DigiCert ONE, a new, modern PKI management platform designed to meet your unique needs—and the demands of advanced cellular networks.

Protection

DigiCert provides strong authentication, encryption and integrity verification for Cloud infrastructure, users and systems. In addition, with containerized technology, virtualization and orchestration, our 5G network solution delivers operational integrity for Docker Notary, encrypted transport and control over configurations. Dynamic authentication for systems and Ephemeral Encrypted Transport delivers efficiency and security in the DevOps CI/CD process.

Performance

Dynamic scaling is built into the DNA of DigiCert PKI solutions, so you can design your system to spin up or down at the speeds you need, when you need them.

With automation tools based on SCEP, EST, CMPv2 and REST API, DigiCert 5G Solution enables the orchestration of secure services for dynamic scaling in your network. Running on DigiCert's modern infrastructure, IoT Trust Manager can provision certificates for hundreds of thousands of gNBs at a single point in time. DigiCert's Online Certificate Status Protocol (OCSP) also provides instantaneous responses to mutual authentication requests between tens of thousands of gNBs and the 5G Core or O&M systems.

Configuration

Simplify management of authentication, integrity and encryption. IoT Trust Manager automates the deployment of custom private CA hierarchies and the establishment of a trusted root for interoperability between Mobile Network Operators (MNO) and private Clouds. It also provides granular controls with multiple enrollment options. Meanwhile, DigiCert lets you authenticate and secure the components in your Cloud, so you have the most control with the easiest management.

Flexibility

Built on a container-based Docker platform, DigiCert 5G Network Solution gives you flexibility, so you can deploy a security solution that works for your specific needs. Our Cloud provides a secure, audited and quick-to-deploy managed PKI service. This eliminates the cost and complexity associated with deploying and maintaining a self-managed PKI solution.

The flexibility of our solution gives you options for on-premises, private or hybrid Cloud deployments. Its light footprint lets you add more containers easily, if you need to support more gNBs, and you can easily transition between Cloud, on-premises and hybrid with minimal cost as your network grows and your needs change.

Integrity

With so many components and devices using the 5G network, data integrity is especially important. Our solution makes use of signatures to cryptographically verify data hasn't been altered. This not only protects data in transit, it also ensures integrity for containers, images and the execution environment.

digicert® ONE



IoT Trust
Manager



Software Trust
Manager



Trust Lifecycle
Manager



Document Trust
Manager

What is Public Key Infrastructure?

PKI is a security framework that facilitates the safe exchange of information using the principles of encryption, authentication and integrity. The framework involves a pair of cryptographic keys, digital certificates and an identity verifier known as a Certificate Authority (CA). The keys secure data by working in tandem. The public key is used to encrypt the data, and the data can only be decrypted by the private key that matches with the public key.

For broad exchanges of encrypted data and messages, an organization's public keys need to be available to the public. To do this, public keys are encoded in digital certificates, which are accessible on websites or embedded on devices. A CA verifies the identity of the organization or device and issues the digital certificate. A third-party CA, such as DigiCert, provides an external validation that the identity is authentic and can be trusted.

For decades, PKI has secured websites, documents, email, devices and users. It is also used to secure Cloud infrastructure, ensuring that only authorized users and devices are allowed access to sensitive information in the Cloud. Today's innovative PKI service providers not only provide authentication and integrity, but also modern management tools to ensure you efficiently deploy and maintain security and protection as your business grows.

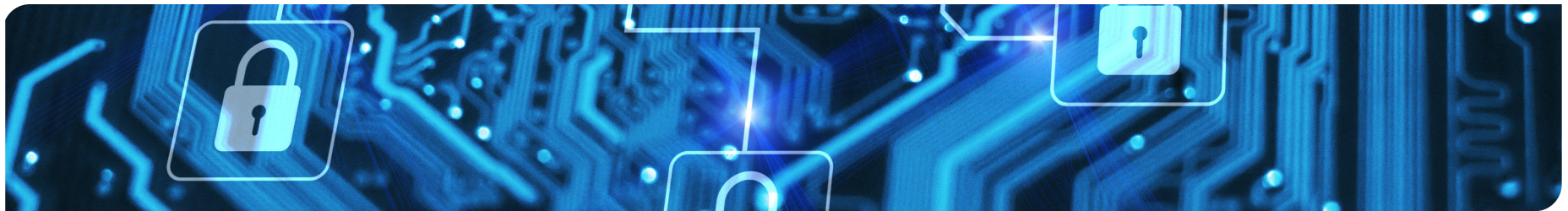
Key features

For Cloud migrations, DigiCert provides:

- Cloud storage
- Enterprise systems migrations
- Containerization
- Virtualization
- Orchestration
- CI/CD – DevOps
- Contract Signing

Migration options for:

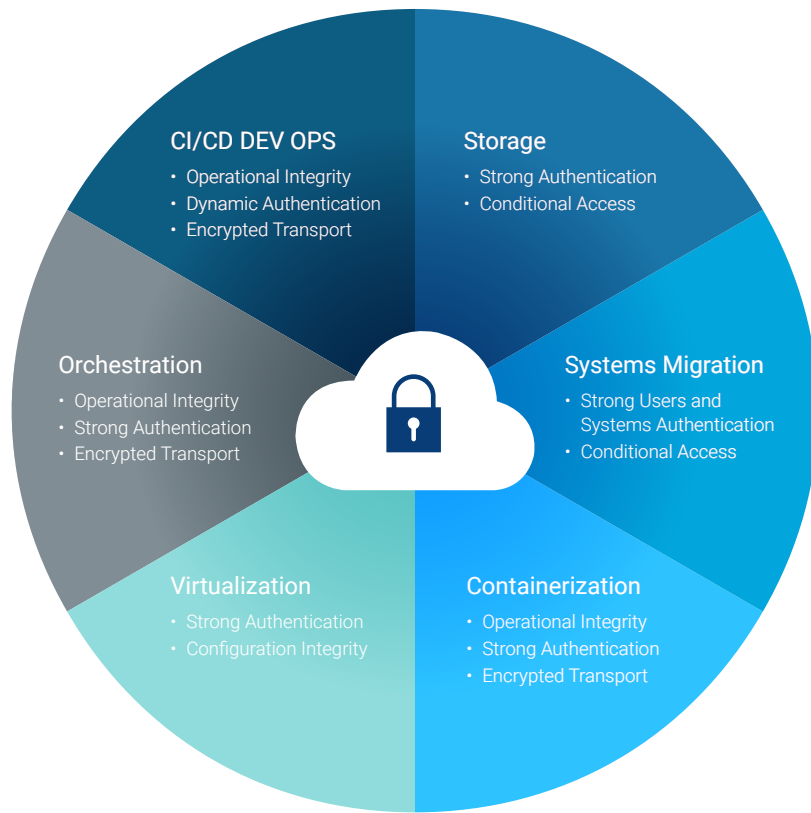
- Strong authentication (users)
- Strong authentication (systems)
- Dynamic Authentication
- Code Integrity
- Operational Integrity (Docker Notary)
- Azure Conditional Access
- Encrypted Transport
- Ephemeral Encrypted Transport



Key benefits

DigiCert 5G Network Solution delivers:

- A secure, dynamic environment with integrity
- An infrastructure built to accommodate a huge volume of devices with global coverage
- An expertly managed and flexible solution
- Extremely fast roll-out and simple management
- Customization and control
- Award-winning support



The Trusted Leader in PKI

The better way can't become common practice until someone builds it.

At DigiCert, building a better way to secure the internet is the single-minded pursuit that goes all the way back to our roots. That's why our TLS/SSL certificates are trusted everywhere, millions of times every day by 89% of the Fortune 500, 97 of the 100 top global banks, and for 81% of global e-commerce. It's why our customers consistently award us the most five-star service and support reviews in the industry. It's why we're modernizing PKI by building the DigiCert ONE platform and management tools to help enterprises and governments secure identities, access, servers, networks, email, code, signatures, documents and IoT devices. In SSL, IoT, PKI, and beyond—DigiCert is the uncommon denominator.

See how DigiCert can deliver security and integrity to your 5G network. Contact us at pki_info@digicert.com or visit us at www.digicert.com.

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