



RamSoft
Gateway Router

Setting Up Secure Communication

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Secure DICOM Communication

Gateway Router allows encrypted DICOM communication using TLS encryption. DICOM communication is encrypted and authentication is done using SSL keys and certificates. By providing each machine with a copy of the public certificate, the need for using a third party Certificate Authority is eliminated, making this a fully secure authentication system where the only involved parties are the two machines doing a DICOM transaction. The following describes the procedure involved in setting up secure DICOM communication.

TLS communication should only be set up if DICOM communication is taking place across an unsecure channel, such as the Internet. If the DICOM machines are all enclosed within a secure Local Area Network or a VPN, TLS does not need to be setup as it is not necessary.

1. Go to **C:\Program Files\RamSoft\GatewayRouter4\Tools**
2. Execute **Makecert**.
3. Enter the prompted information.
4. The utility creates a private key (**pacs.key**) and a public certificate (**pacs.crt**); both are placed in the tools directory.
5. The **certificate (pacs.crt)** needs to be placed in the **C:\Program Files\RamSoft\Gateway4\Certificates** folder on **every machine** that will be involved in the **DICOM communication**. This eliminates the need for a Local CA.
6. Next, **run Maintenance**.
7. **File->Dicom->Dicom Configuration**.
8. Point the certificate field at the **pacs.crt** file you just created.
9. Point the key field at the **pacs.key** file.
10. **Point the Peer Certificates** field at the **Certificates folder**.
11. **Click OK**.
12. **Open Gateway Router**.
13. **Setup -> Server -> Station List**.
14. For each station in the list, the default unencrypted **port is 104**. The default **TLS encrypted port is 2762**. To use TLS encryption, you have to change the **ports from 104 to 2762**.
15. Finally click the **DICOM tab**.
16. For each station using encryption, **check the Encrypt Data (TLS) box**.