

XNAT Gateway: DICOM connectivity tool

**Using XNAT as DICOM provider: a
Single Duck Presentation**

XNAT DICOM Gateway: why?

- Using Gateway, DICOM software can retrieve from XNAT through DICOM networking
- Allows radiology workstation users (Osirix, K-PACS, etc.) to query and retrieve scans (DICOM series) directly from XNAT

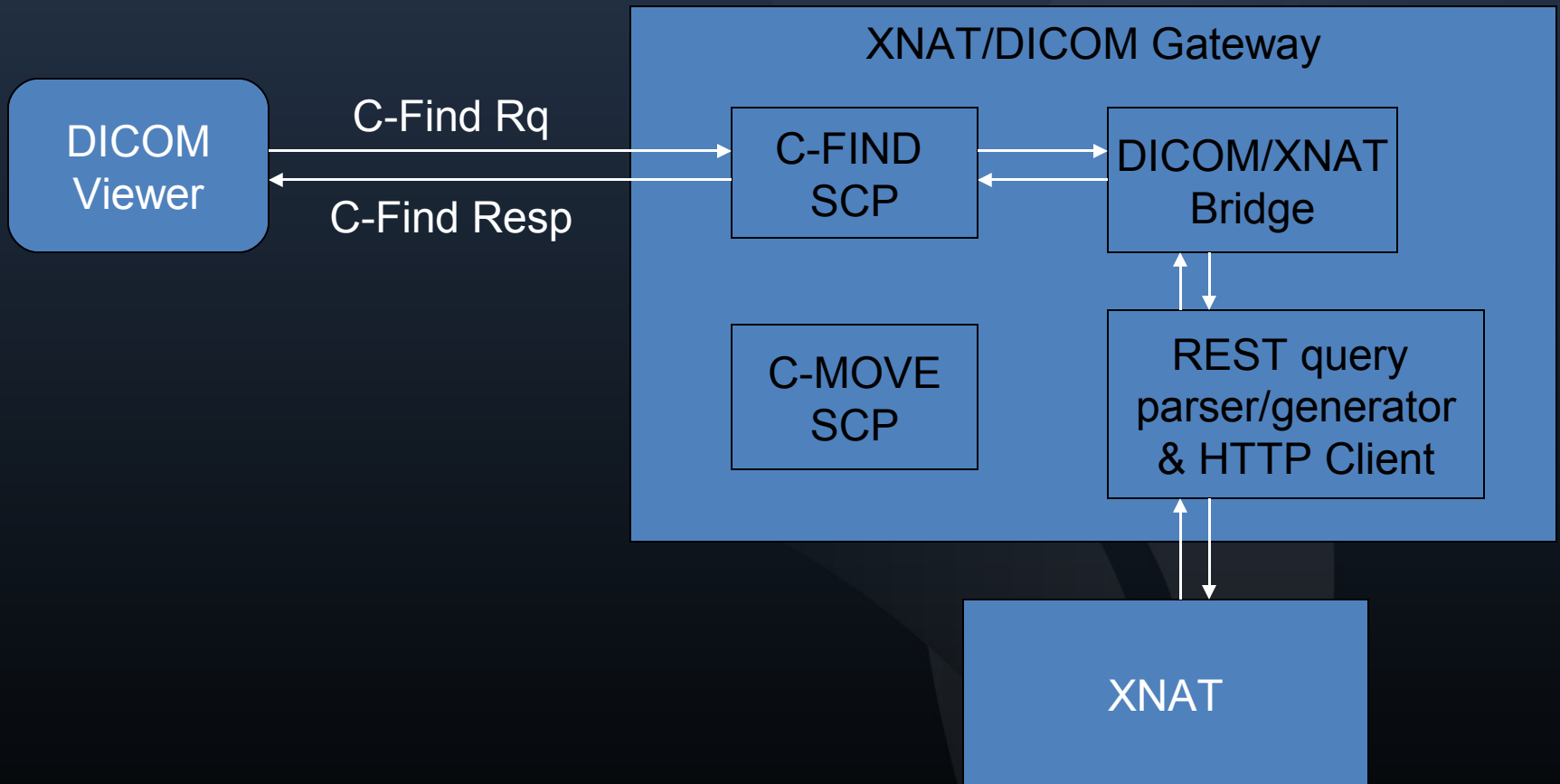
Technologies

- Self-contained
- Cross-platform (Java based)
- Open source dcm4cheE library used for DICOM communication part: C-Find and C-Move SCP roles at STUDY query root level
- XNAT to DICOM bridge via REST API
- (NEW!) graphical user interface for easy configuration

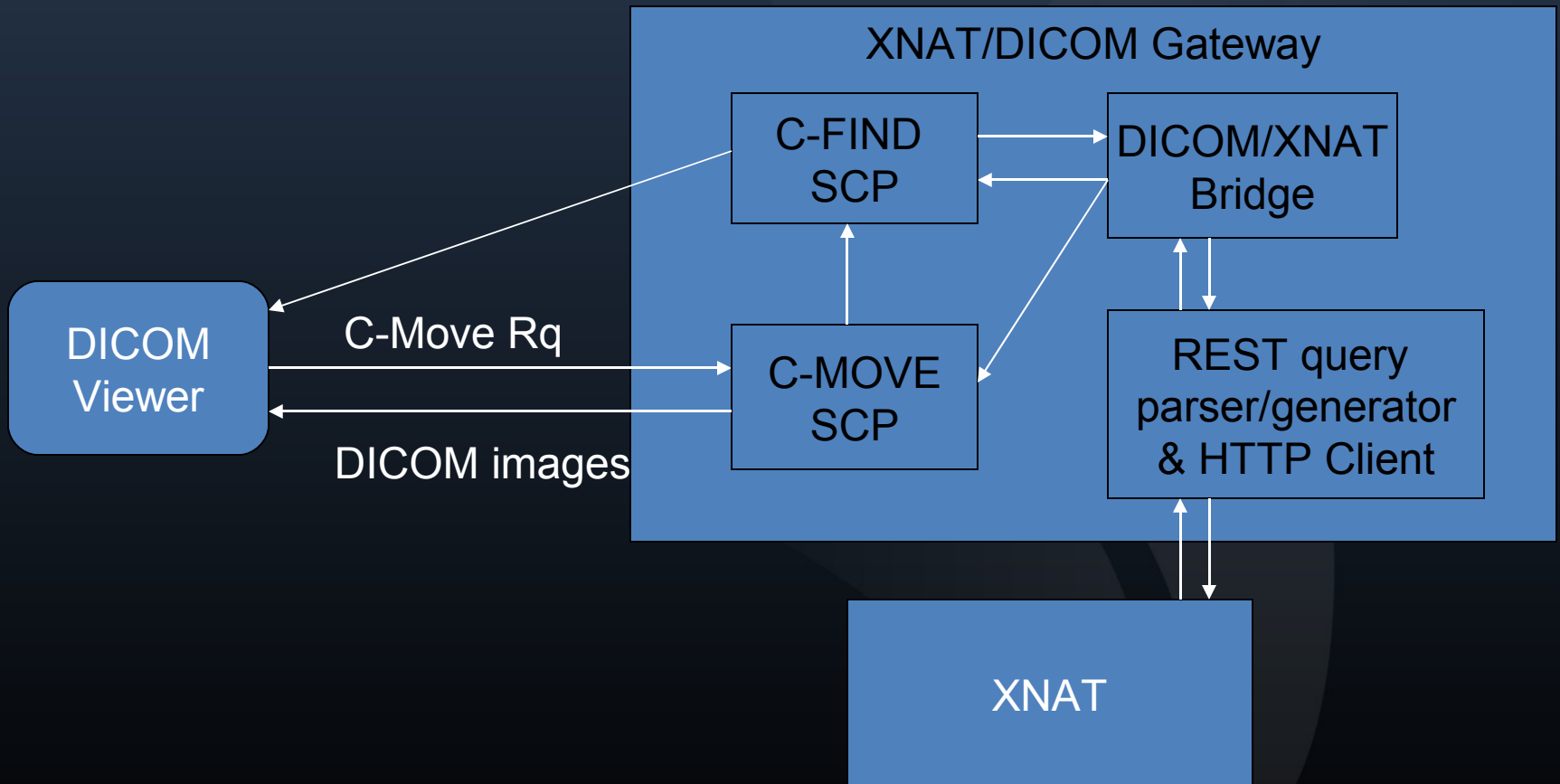
Setting up (with demo)

- Download & unzip
- Run `java -jar gateway.jar` (Java 1.6 required)
- Set XNAT destinations
- Add configuration for each DICOM AE that will be using the Gateway
- Add Gateway server as DICOM destination to DICOM client (Osirix, K-PACS, etc.)

Data flow: Find



Data flow: Retrieve



DICOM/XNAT query fields

DICOM field	XNAT field
Patient name	Subject label
Patient ID	Subject ID
Accession number	Experiment label
Modality	Image session type

Performance considerations

- Retrieve at series level for quicker access
- DICOM UID's have to be populated in XNAT database (this is automatic since XNAT 1.4)

Conclusions

- Use XNAT Gateway for radiology viewing of DICOM images stored in XNAT from anywhere
- Other possible users: medical DICOM – enabled devices such as MR scanners, for QC, administrative or backup purposes

Resources

- XNAT Gateway installation and usage manual:
<http://xnat.wikispaces.com/XNAT-DICOM+Gateway>
- Current distribution package:
<http://nrg.wustl.edu/xnd/download/gw/gatev>