



TytoLink: TytoCare Integration Services

Confidential

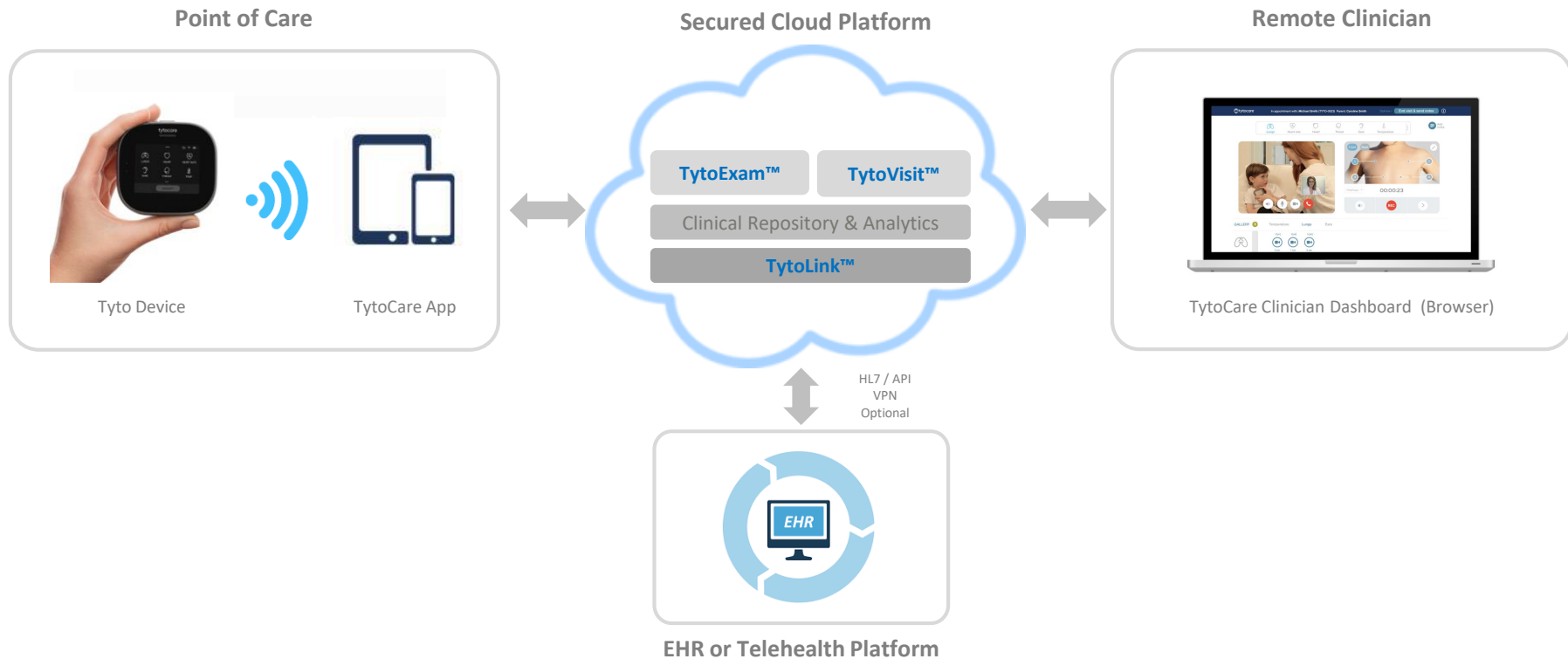
5/10/2018



TytoCare Overview



Complete cloud-based telehealth solution

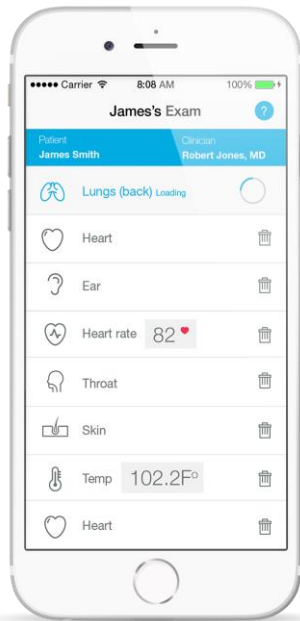


Tyto Device



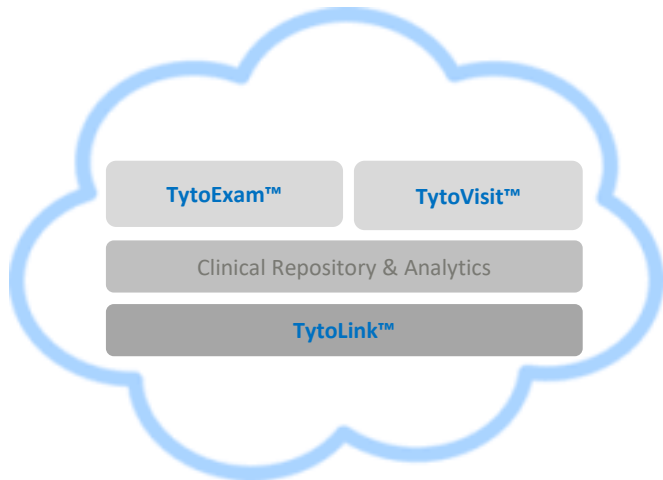
- Used to perform examinations at point of care
- Collects exam data and clinical recordings
- Works in conjunction with TytoCare App (or partner application)

TytoCare App



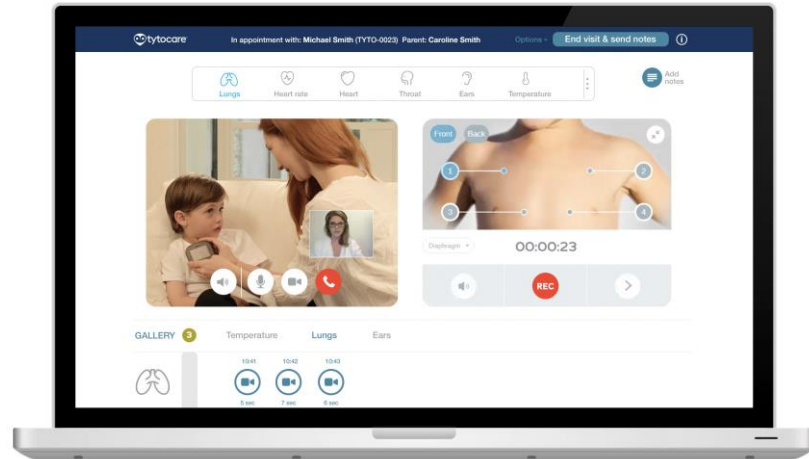
- iOS + Android (Summer 2018)
- Tyto Device support
- Account/patient management
- Clinician selection
- Video visit (online exam)
- Offline (asynchronous) exam
 - Exam guidance and tutorials
 - External clinical data

Secured cloud platform



- Account, patient and visit management via Tyto admin console
- Clinical data and exam recordings
- REST API with JSON for partner integrations
- Single Sign-On capability for clinicians
- Optional Bluetooth integration with peripheral exam devices (e.g. blood pressure monitor)

Clinician Dashboard



- Browser-based provider app
- Visit notifications
- Exam history
- Clinician profile management
- Online Exam iFrame
- Web Exam Review

Integration variants

EHR Integration

- Initiate TytoCare online visit from EHR
- View clinical results captured by Tyto Device in EHR (via Tyto Web Exam Review)
- Receive TytoCare telehealth workflow notifications in EHR
- Single Sign-On into TytoCare Clinician Dashboard from EHR

Telehealth Platform Integration

- Fully integrate TytoCare exam capabilities into the partner telehealth platform
- View TytoCare clinical results within the partner telehealth platform (via Tyto Web Exam Review)

Enterprise Videoconferencing Integration

- View TytoCare exam stream in parallel to partner videoconferencing stream

Integration entities and relationships

Clinician – Clinician using the *Tyto Clinician Dashboard*

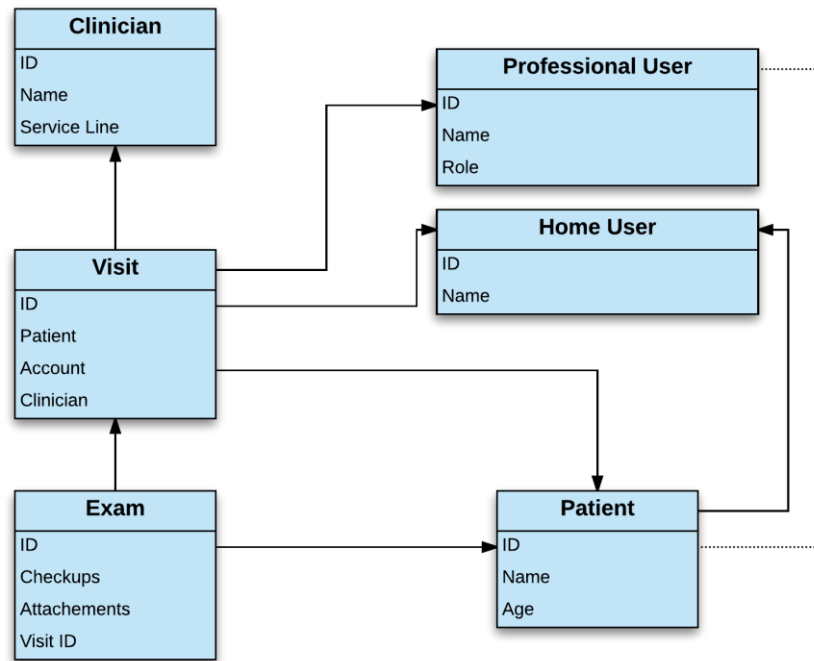
Professional User – Person with *Medical* training who examines the patient at the point-of-care using the *TytoCare App & Device*

Home User – *Consumer* who examines the patient using the *TytoCare App / Device* (e.g. parent, adult patient, etc.)

Patient – Person under examination [can be same as Home User]

Exam – Bundle of clinical recordings, metadata and analytics

Visit – An interaction between the point-of-care User [Professional / Home] and the Clinician



Metadata management

File import

- One-time file import (e.g. CSV) into Tyto platform
 - Patients
 - Clinicians

Registration codes (patients)

- Unique Tyto ID (per partner organization) distributed to patients

Continuous

- Via HL7/API – requires adaptation to Tyto REST API via middleware
 - Patients
 - Providers
 - Visits

Single Sign-On/Authentication

Tyto Clinician Dashboard

- Validated SAML 2.0 protocol for Active Directory integration, via ADFS and LDAP
- Required fields
 - Clinician
- Optional fields
 - IP address

Point-of-Care App

- Custom deep-link
- Required fields
 - User ID
- Optional fields
 - Patient ID
 - Clinician
 - Service line

Network and security

Hosting/Communication

- Tyto cloud servers on AWS
- HIPAA-compliant web services

S2S Encryption

- HTTPS with restricted IPs
- Basic authentication per message

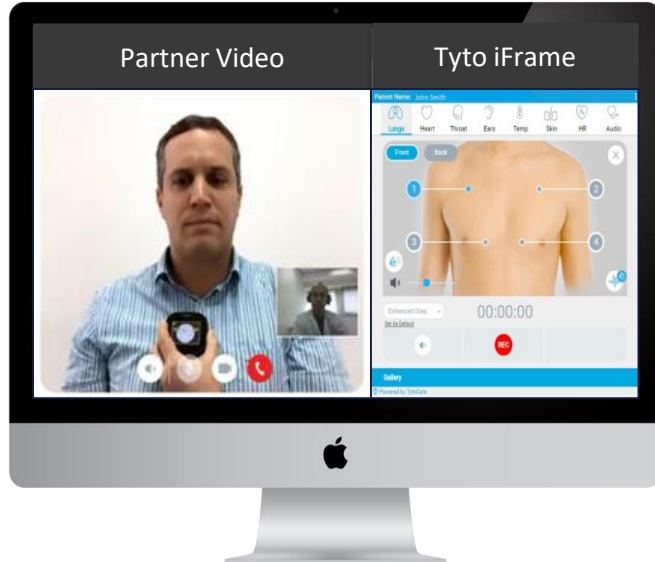
Stream

- Encrypted WebRTC
- WebRTC session IP + port restriction

Embedded Online Exam Integration



Embedded online visit



- Live TytoCare exam stream embedded into partner organization telehealth platform
- Point-of-care uses partner organization app, integrated with Tyto Device
- Clinician uses partner organization telehealth platform/EHR, integrated with Tyto Online Exam iFrame, to conduct exams and review clinical data

Integration responsibilities

TytoCare

- Enable live TytoCare exam in parallel to live video visit (powered by partner organization)
- Enable storage and review of clinical data generated during live TytoCare exam

Partner organization

- Video visit
- Telehealth platform & workflow
- Manage TytoCare visit information and status via TytoCare API integration
- Provide details about clinician, professional / consumer users and patients via TytoCare API integration

Integration points

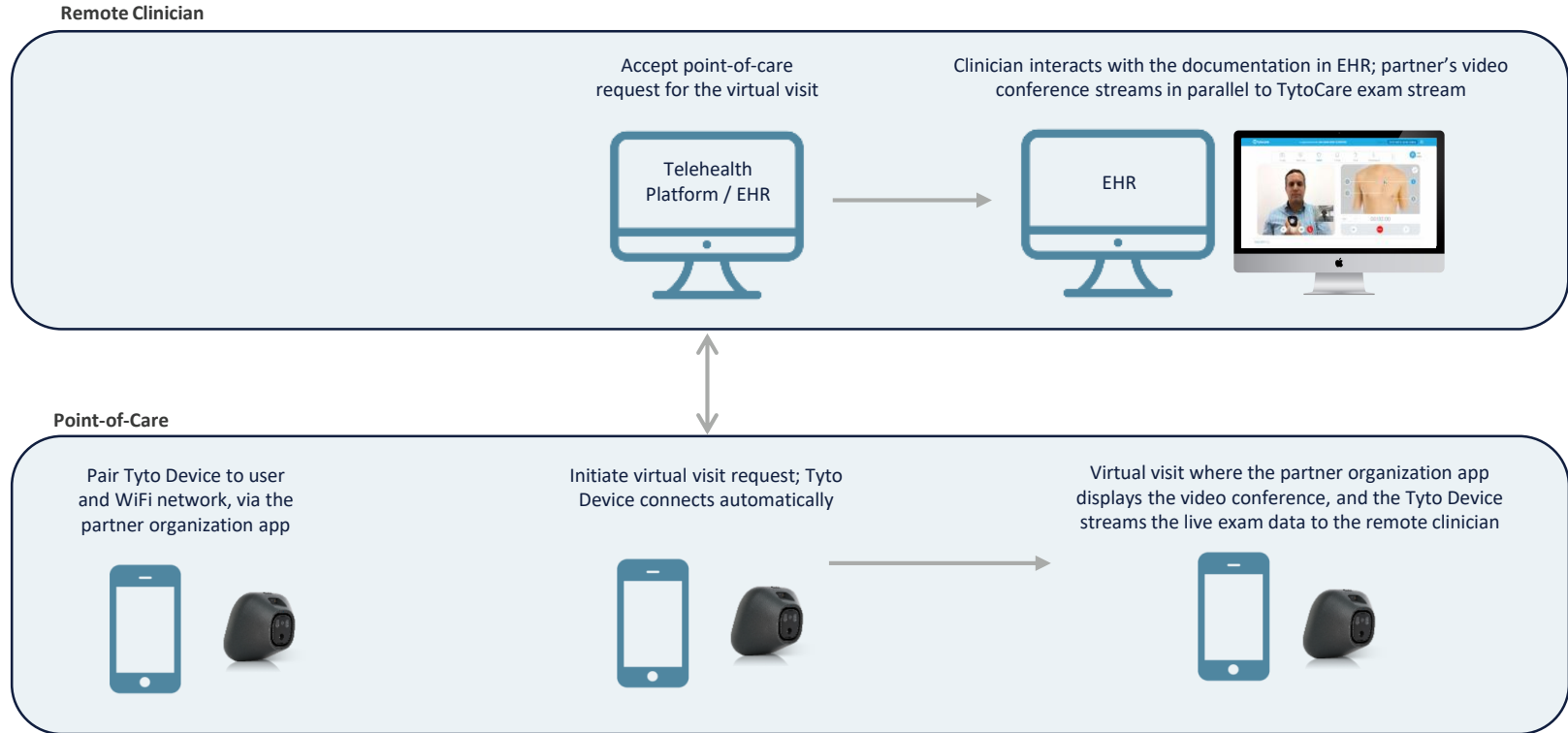
Provider-side integration

- Between partner organization app and Tyto Clinician Dashboard
- Tyto Online Exam iFrame
- Tyto Web Exam Review
- Single Sign-On/authentication

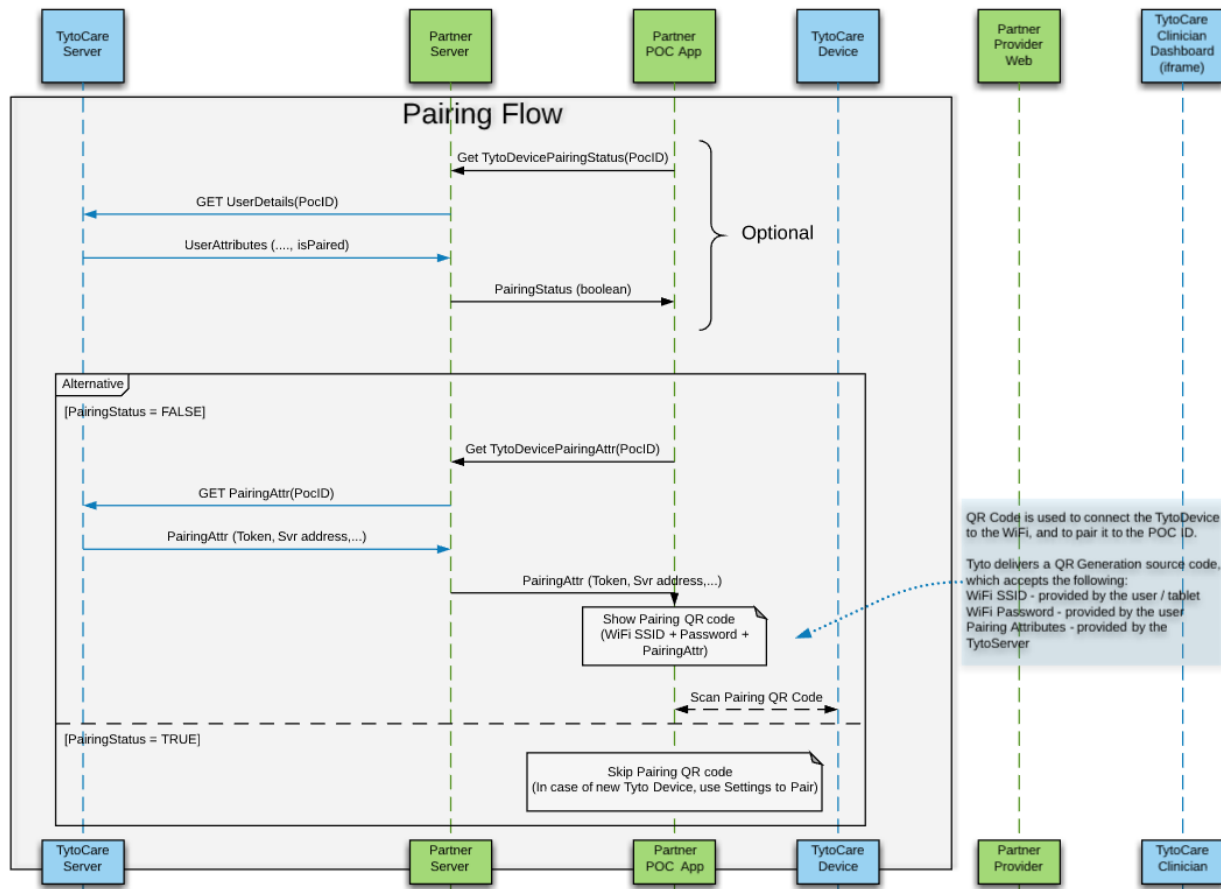
Server-side integration

- Between partner server and Tyto server
- Managing users / Synchronizing patients
- API integration
- Data transfer [HL7 / API]
- Visit updates

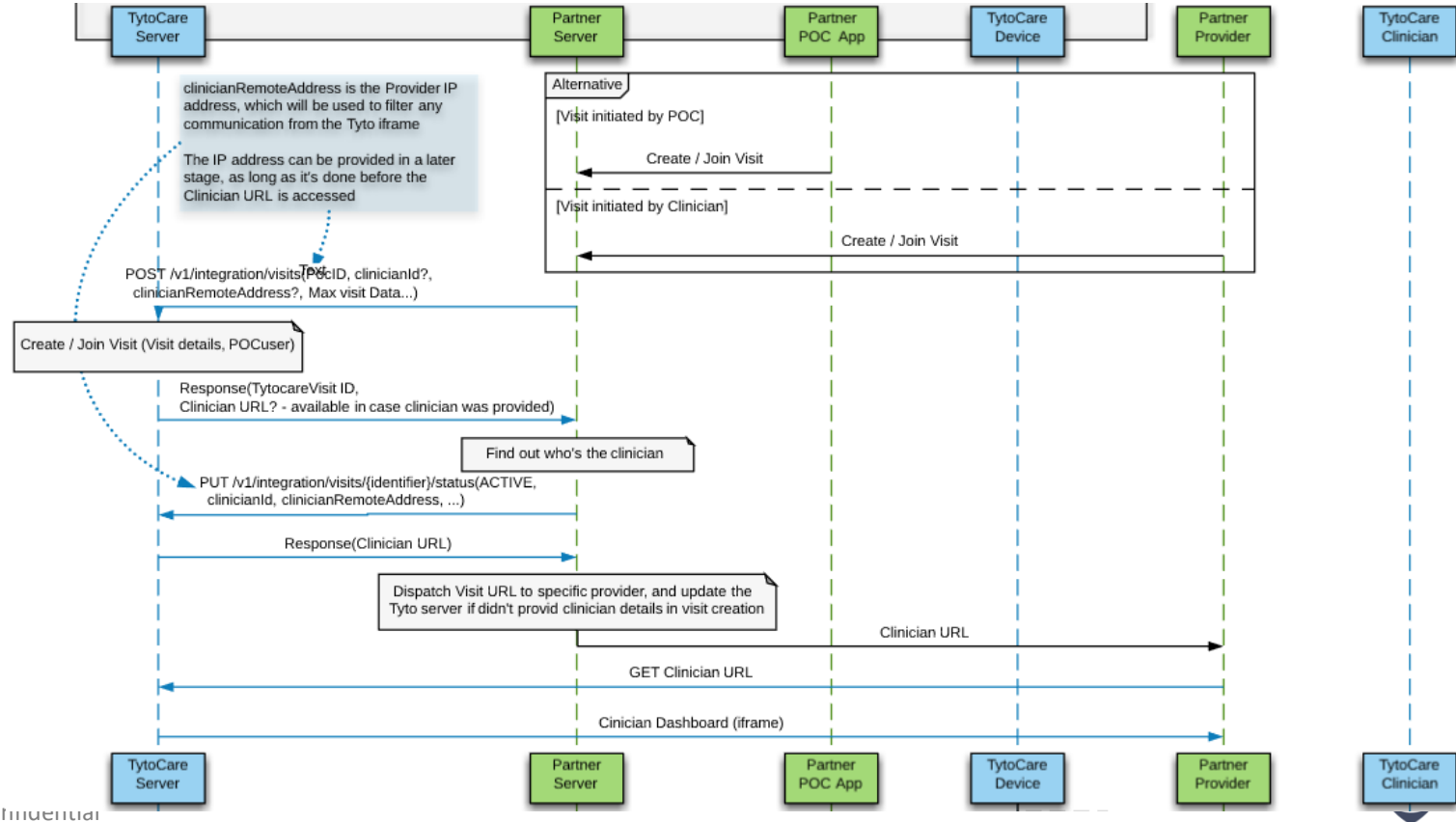
Workflow



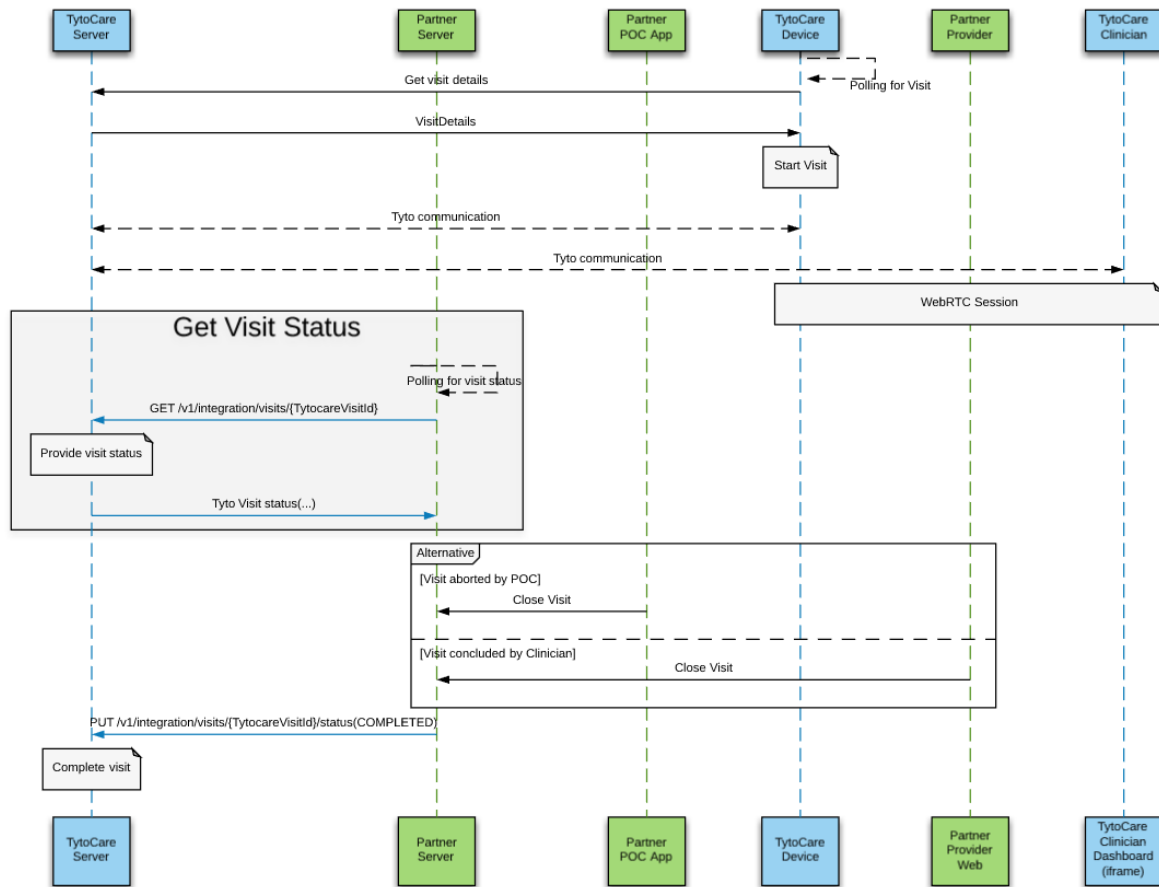
Device/user pairing



Visit pairing



Visit start, status and completion



Integration requirements

Clinician Dashboard

- 600 x 600 pixels for the Online Exam iFrame
- (Optional) Web Exam Review

Point-of-Care App

- QR Code for WiFi connectivity and POC ID pairing (*reference code provided by Tyto*)
- POC IP address for secure communication to Online Exam iFrame

General Requirements



System requirements

Clinician

- Firewall
- Browsers
 - Online visit: Chrome on Windows or Mac
 - Offline visit review: Chrome, Safari, Firefox
- Network
 - Recommended: 20Mbps download / 5Mbps upload
 - Minimum: 3Mbps download / 1.5Mbps upload

Point of Care

- Mobile device
 - Apple: iPhone 5S and above; iPad Air and above; iPad mini 2 and above, iPod Touch 6 and above
 - with iOS (v. 10 and above)
 - Android (summer 2018)
- Network
 - Recommended: 20Mbps download / 5Mbps upload
 - Minimum: 1.5Mbps download / 1.5Mbps upload

Entities data

Clinician, User, Patient

- Unique ID
- First and Last Name

Professional User

- Role

Visit Metadata

- Clinician ID
- User ID
- Patient ID
- Unique visit ID
- IP address
- Visit diagnosis

Recommended

- User Email and Phone
- Clinician, user, patient
 - Gender
 - Date of Birth

Middleware requirements

- Interface engine, hosted by partner organization, or development to Tyto API
- Queued messages to improve reliability
- Map HL7/3rd party API to Tyto REST API

Q&A

