





CLINDATA FOR DATA STEWARDSHIP

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WHAT IS CLINDATA

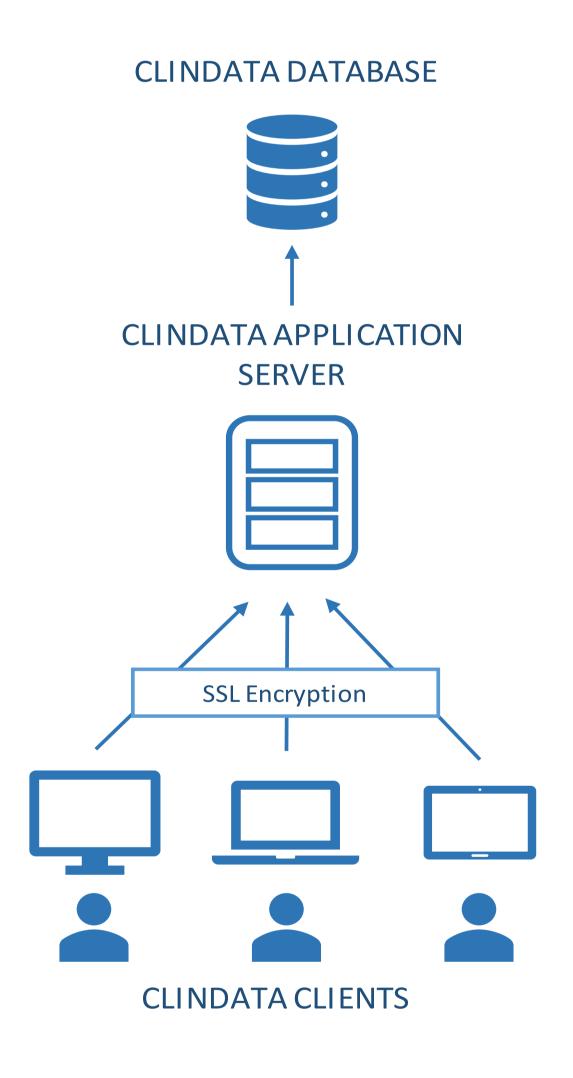
ClinData is software solution for collecting of clinical and laboratory data on patients included in various research projects and clinical studies. ClinData software features exceptional flexibility in design of research and clinical projects, ability to store data from several different, unrelated projects in parallel and secure access in multicenter studies. The data is stored in a parameterized format and ready for further statistical analysis or visualization and processing. More information about ClinData is available at webpage: https://confluence.imtm.cz/x/NAFp

ARCHITECTURE

ClinData software has web-based client/server architecture, the application runs on the server, the user is connected through a web browser from computer, tablet or smart phone.

All communication between the client and the server is secured by SSL encryption, which is currently industry standard.

Figure I. Basic schema of client/server architecture.



OPERATIONAL DATA

ClinData software is successfully used in more than 40 registries or clinical studies maintained by IMTM. It contains data from more than 50000 patients. Data covers selected clinical diagnosis, laboratory data, therapy or genomic data and are stored in parametric way suitable for further statistic analysis. There is about 700 active users from clinical stuff.

TECHNOLOGY

The Java 8 programming language is used for the server part of the application. It allows sustainability and long-term development.

The client interface uses open-source technologies HTML, Java Script, jQuery, Angular, Bootstrap.







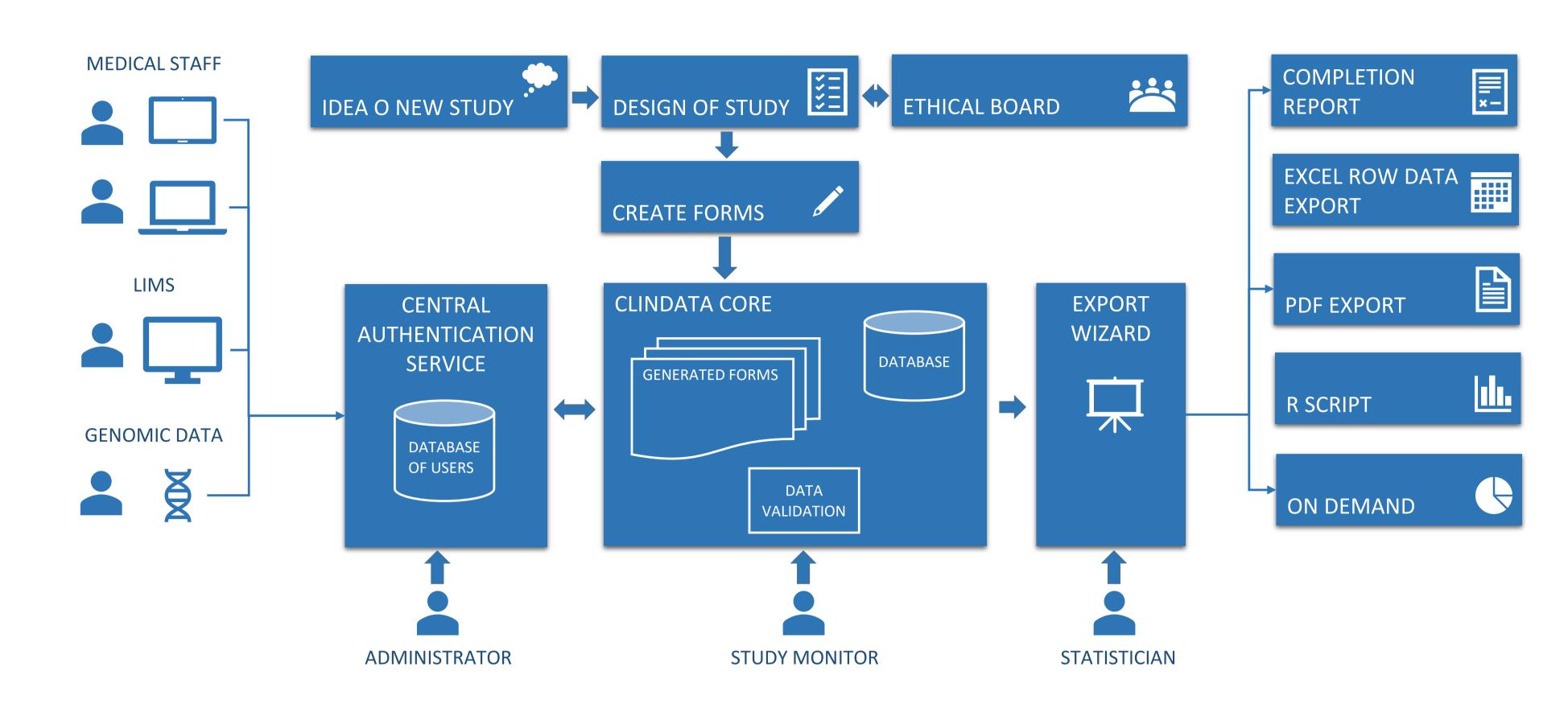






CLINDATA WORKFLOW

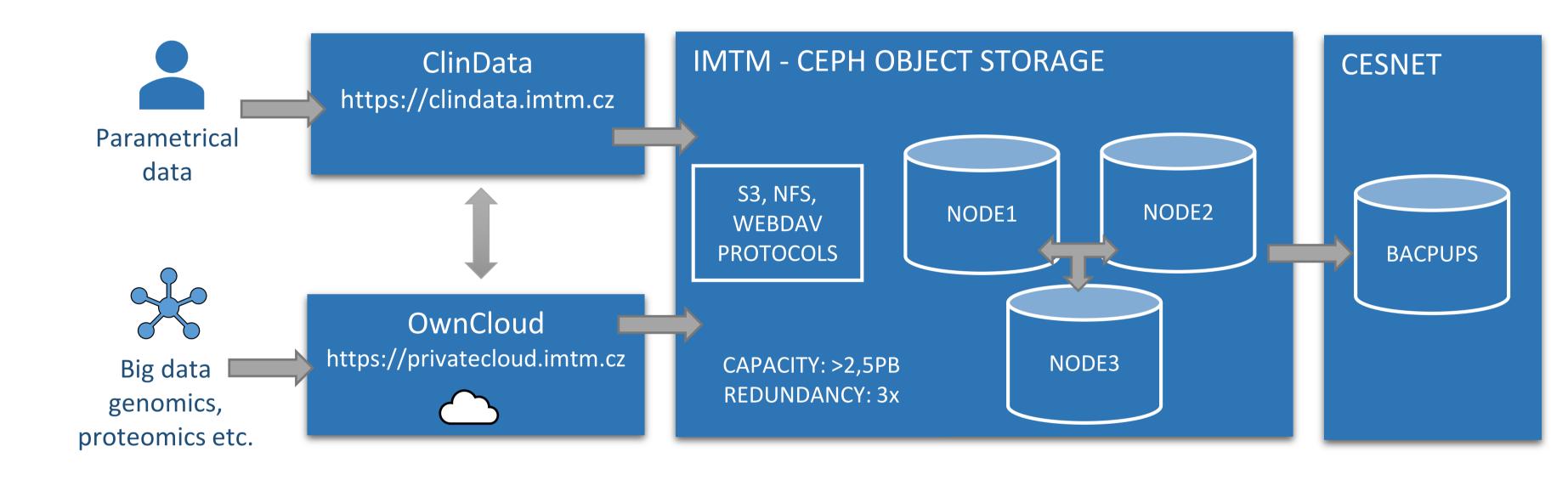
Figure II. ClinData workflow can cover needs from simple scientific databases to multi-centric clinical studies.



SAFE ENVIRONMENT FOR STORING OF BIG DATA

ClinData software is connected to IMTM Object storage which allows storing of big scientific data (genomic, proteomics) in safe way. Capacity of the object storage more than is 2.5PB. Objects can be directly linked to ClinData forms to allow accessing all data from one place.

Figure III. Basic schema of connection between ClinData and IMTM Object storage



CLINDATA USER INTERFACE

Figure IV. List of patients allows filtering and sorting them according to any parameter of study.

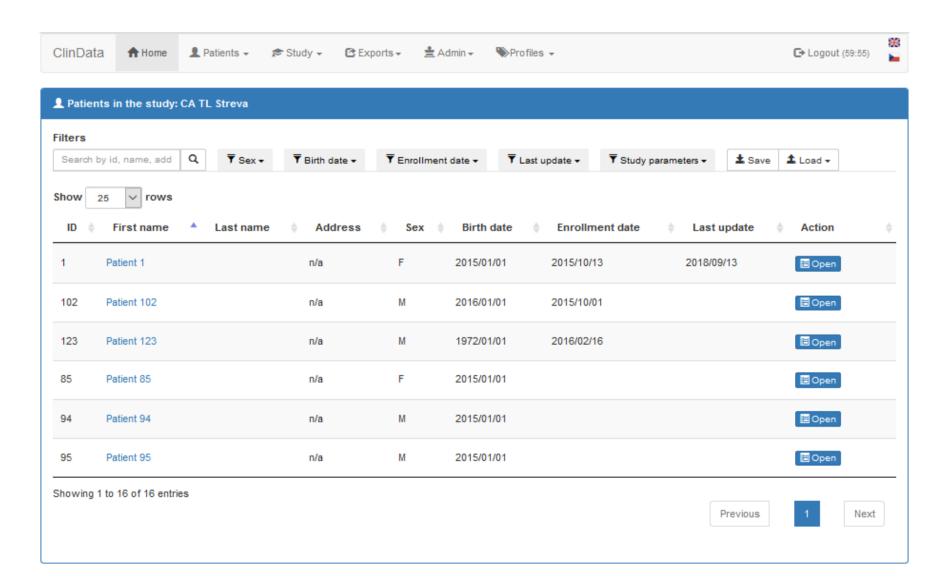


Figure V. Patient's details page displays information about forms (CRFs) and their statuses.

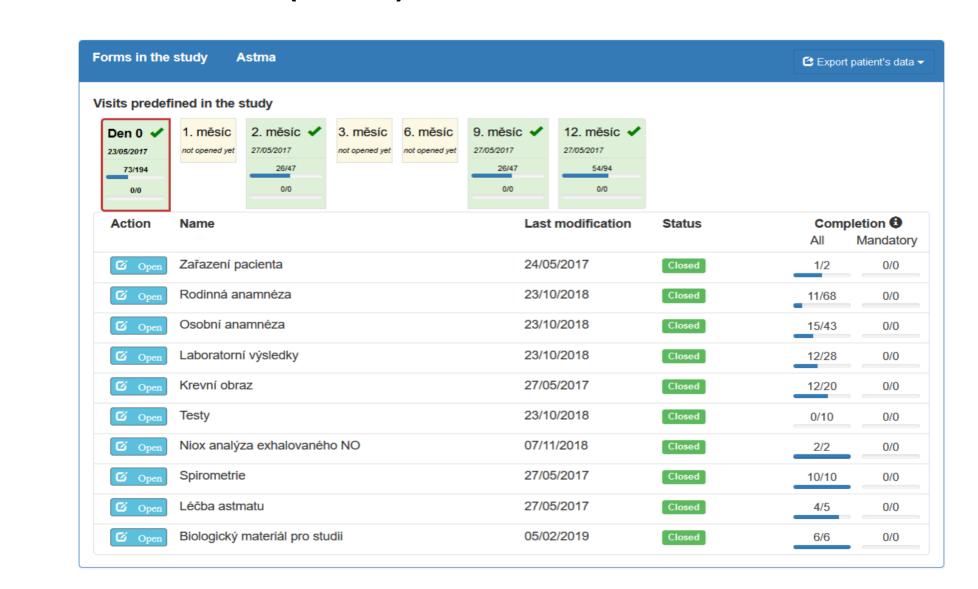


Figure VI. Generated form (CRF).

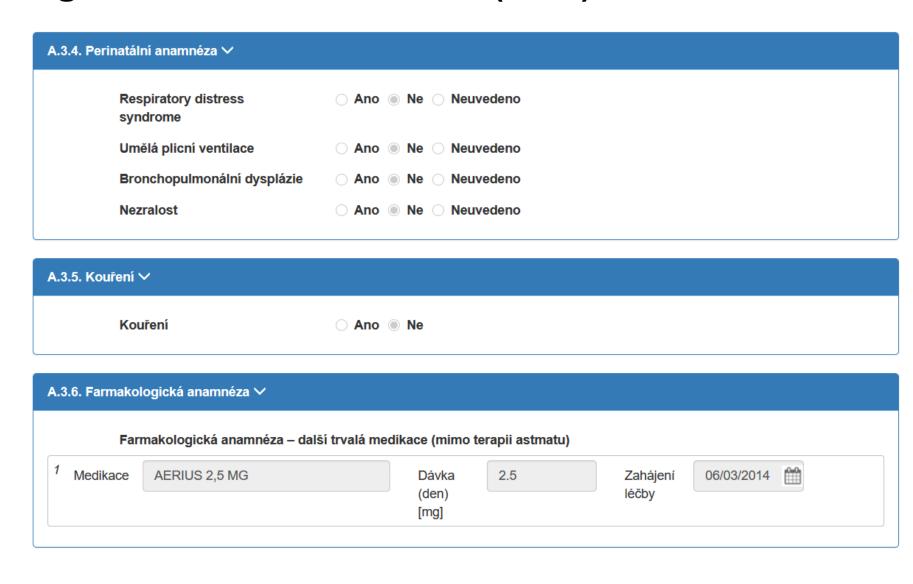


Figure VII. Completion report.

Δ	Α	В	С	D	E	F	G	Н	1	J	K	L	M	N	0	Р	Q	R	S	T	U
1							Laborator	Laboratorní vyšetření			Další vyšetření			Charakteristika nemocného		Biopsie			Nekropsie		
2	Patient ID	Name	Visit date	Status	All (con	npl Mandator	Status	All (comp	Mandator	Status	All (com	pl Mandator	Status	All (comp	Mandator	Status	All (compl	Mandato	Status	All (com	pl Mandato
108	2499	Patient 24	17.09.2018	Not open	e 0/11	0/0	Not open	0/19		Not opene	0/25	0/0	Not opene	0/18	0/0	In progress		0/0	Blocked	0/12	0/0
109	2500	Patient 25	17.09.2018	Not open	e 0/11		Not open	0/19		Not opene	0/25		Not opene	0/18	0/0	In progress		0/0	Blocked	0/12	0/0
110	2501	Patient 25	17.09.2018	Not open	e 0/11	0/0	Not open	0/19		Not opene			Not opene	0/18	0/0	In progress		0/0	Blocked	0/12	0/0
111	2502	Patient 25	17.09.2018	In progres	s: 5/12	0/0	In progres		0/0	In progress	2/25	0/0	In progress		0/0	In progress		0/0	Blocked	0/12	0/0
112	2503	Patient 25	17.09.2018	Not open	e 0/11	0/0	Not open	0/19		Not opene	_	0/0	Not opene		0/0	In progress		0/0	Blocked	0/12	0/0
113	2504	Patient 25	17.09.2018	In progres	s: 5/12	0/0	In progres	17/19		In progress		0/0	In progress	1/18	0/0	In progress	8/16	0/0	Not opene	€ 0/12	0/0
114	2527	Patient 25	02.11.2018	In progres	s: 6/12	0/0	In progres	17/19		In progress		0/0	Not opene		0/0	Not opene	0/16	0/0	Not opene	e 0/12	0/0
115	2528	Patient 25	07.11.2018	In progres	s: 5/12	0/0	In progres	17/19		In progress		0/0	In progress	1/18	0/0	Not opene	0/16	0/0	Not opene	e 0/12	0/0
116	2529	Patient 25	02.11.2018	In progres	s: 5/12	0/0	In progres	16/19		In progress		0/0	Not opene	0/18	0/0	Not opene	0/16	0/0	Not opene	e 0/12	0/0
117	2530	Patient 25	24.10.2018	In progres	s: 4/12	0/0	In progres			In progress		0/0	Not opene	0/18	0/0	Not opene	0/16	0/0	Blocked	0/12	0/0
118	2532	Patient 25	02.11.2018	In progres	s: 5/12	0/0	In progres			In progress		0/0	Not opene		0/0	Not opene		0/0	Not opene		0/0
119			07.11.2018			0/0	In progres			In progress		0/0	In progress		0/0	Not opene		0/0	Not opene		0/0
120			07.11.2018			0/0	In progres			In progress	_	0/0	Not opene		0/0	Not opene		0/0	Not opene		0/0
121	2601	Patient 26	15.10.2018	In progres	s:5/12	0/0	In progres	17/19		In progress		0/0	In progress	1/18	0/0	Not opene	•	0/0	Not opene		0/0
122	2602	Patient 26	08.11.2018	Not open	∈ 0/12	0/0	Not open	0/19		Not opene		0/0	Not opene		0/0	Not opene	•	0/0	Blocked		0/0
123	2603	Patient 26	15.10.2018	In progres	s: 1/12	0/0	Not open	0/19		Not opene		0/0	Not opene		0/0	Not opene		0/0	Not opene		0/0
124			08.11.2018			0/0	Not open			Not opene		0/0	Not opene		0/0	Not opene		0/0	Blocked		0/0
125	2606	Patient 26	08.11.2018	In progres	s: 4/12	0/0	In progres			In progress		0/0	Not opene		0/0	Not opene		0/0	Not opene		0/0
126	2607	Patient 26	17.10.2018	In progres	s: 6/12	0/0	In progres			In progress		0/0	In progress		0/0	Not opene		0/0	Not opene		0/0
127	2608	Patient 26	08.11.2018	In progres	s: 3/12	0/0	In progres			In progress			In progress		0/0	Not opene		0/0	Not opene		0/0
128	2610	Patient 26	08.11.2018	In progres	s: 5/12	0/0	In progres			In progress		0/0	Not opene	_	0/0	Not opene		0/0	Blocked		0/0
129	2611	Patient 26	17.10.2018	In progres	s: 7/12	0/0	In progres	17/19		In progress		0/0	In progress	4/18	0/0	Not opene		0/0	Not opene	e 0/12	0/0
130	2617	Patient 26	15.10.2018	In progres	s: 6/12	0/0	In progres	18/19		In progress	3/25	0/0	In progress	16/18	0/0	Not opene		0/0	l	0/12	0/0
131	2618	Patient 26	15.10.2018	In progres	s: 6/12	0/0	In progres	18/19		In progress	24/25	0/0	In progress	18/18	0/0	In progress	13/32	0/0		0/12	0/0
132	2619	Patient 26	15.10.2018	In progres	s: 6/12	0/0	In progres	18/19		In progress	15/25	0/0	In progress	18/18	0/0	Not opene		0/0		0/12	0/0
133	2620	Patient 26	16.10.2018	In progres	s: 6/12	0/0	In progres	18/19		In progress	24/25	0/0	In progress	18/18	0/0	In progress		0/0		0/12	0/0
134	2621	Patient 26	16.10.2018	In progres	s: 5/12	0/0	In progres	18/19		In progress	13/25		In progress	18/18	0/0	Not opene		0/0		0/12	0/0
135			16.10.2018	In progres	s: 5/12	0/0	In progres		0/0	Not opene			In progress		0/0	In progress		0/0		0/12	0/0
136	2631	Patient 26	31	In progres	s: 6/11	0/0	In progres	18/19		In progress	20/25	0/0	In progress	18/18	0/0	Not opene		0/0	Not opene		0/0
137			19.10.2018			0/0	In progres			Not opene	_	0/0	Not opene		0/0	Not opene		0/0		0/12	0/0
138	2646	Patient 26	23.10.2018	In progres	s: 5/12	0/0	In progres	18/19		In progress		0/0	In progress	3/18	0/0	Not opene		0/0	Blocked	0/12	0/0
139	2681	Patient 26	25.10.2018	In progres	s: 4/11	0/0	In progres	18/19	0/0	In progress	12/25	0/0	In progress	18/18	0/0	Not opene	0/16	0/0	Blocked	0/12	0/0