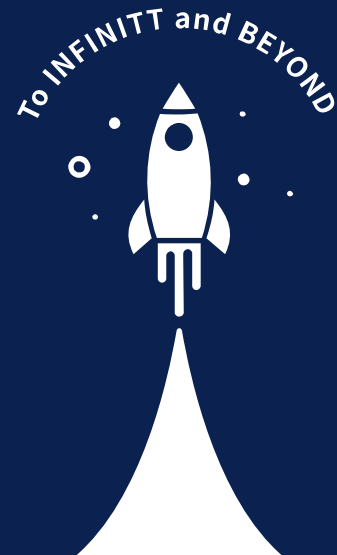


INFINITT Healthcare

PACS Structure for Group Hospitals

INFINITT Indonesia

Sep / 2020



INFINITT Healthcare



Multipolar Profile



PT Multipolar Technology Tbk (MLPT)

Pemimpin & Terpercaya

- *System Integrator* terkemuka sejak 1975
- IPO 8 Juli 2013 - Sektor Perdagangan Umum, Jasa dan Investasi (Kode saham MLPT)

Solusi & Layanan Menyeluruh

- *End-to-End System Integration*
- *Total IT Managed Services*
- Pengelolaan dan Pengoperasian *Data Center*

Basis Pelanggan yang Kuat

- Perbankan & Keuangan
- Publik
- Telekomunikasi
- Perusahaan besar lainnya di sektor komersial, kesehatan, pendidikan

Entitas Anak

PT Visionet Data Internasional (VDI)

Total IT Managed Services dengan titik layanan di seluruh Indonesia

PT Graha Teknologi Nusantara (GTN)

Layanan Pengelolaan dan Pengoperasian *Data Center* Rated 3 (GTN Data Center)

Mitra Terpercaya Penyedia TI Kelas Dunia

Cisco, F5, Google, HPE, IBM, Lenovo, Microsoft, NCR, Nutanix, Oracle, VMware

Tim yang Kompeten & Berkomitmen

- Jumlah karyawan 2.900+
- Sangat berpengalaman di berbagai proyek besar & kompleks, bersertifikasi & metodologi terpercaya

Infinitt Profile

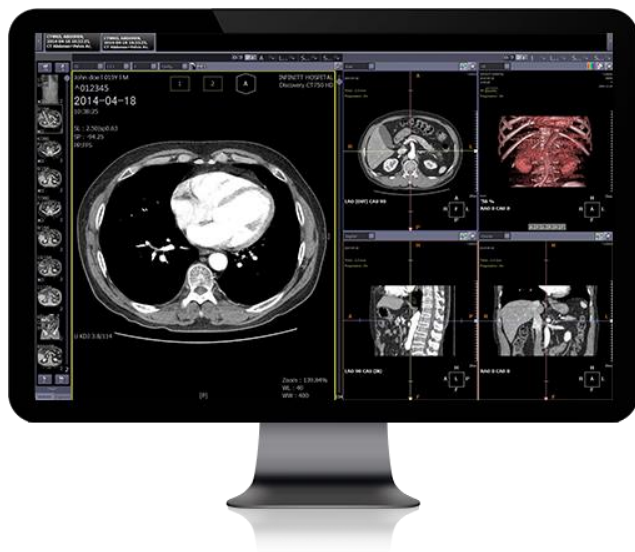
Founded	December 2002
Type	Public (listed on the Korean Exchange)
Headquarters	Seoul, Korea
Business	Medical software products & services development
Key products	PACS, VNA, cloud services
Global offices	U.S, Japan, China, Taiwan, Malaysia/Indonesia, UAE, Europe, U.K, Brazil
Employees	489 (2018)
Market share	75% of large hospitals (Korean PACS market, 2018) 31% of large hospitals (SE Asia PACS market, 2018)

Product Lineup

INFINITT continuously invests in R&D to diversify its technologies and products.

Radiology	Clinical Solutions	Enterprise Imaging
Radiology, cloud service & teleradiology	Cardiology, pathology, dentistry, radiation oncology, ophthalmology, etc.	VNA, universal viewer
PACS	Cardiology PACS	Vendor neutral archive
RIS	Digital pathology solution	Universal viewer
Data analytics solution	3D diagnosis support solution	Ecosystem
Reporting solution	3D printing service	
Fault prevention solution	Dental PACS	
Mobile viewer	Radiation oncology PACS	
Mammography PACS	Radiation oncology information solution	
Cloud PACS	Clinical information solution	
Cloud backup	Ophthalmology PACS	
Teleradiology solution	Vet PACS	





INFINITT PACS

Radiology PACS

All-in-one solution	PACS, RIS and 3D integrated under a single database platform
Ultra-fast image loading	JIT (Just-In-Time) image loading Progressive loading Oncall download 64-bit support
Easy-to-use UI	Intuitive user interface Good Design Award (2015)
Robust stability	Zero downtime support Robust, reliable data backup & backup loading
Robust security	128-bit SSL encryption HIPAA compliant DICOM TLS (Transport Layer Security) 6-level log reinforcement & audit trails
Standards-compliant	DICOM, IHE, HIPAA, HL7



INFINITT RIS

Radiology information solution

Flexible & scalable
architecture

Optimized for any facility type/workflow
Custom worklists

Smart scheduling

Easy, intuitive scheduling for multiple procedures
across different facilities
Recommends available time for each exam

Custom reports

User-defined report templates via MS Word
Automates report distribution via print, fax, email,
SMS

Physician portal

Referring physicians can access reports and images
online from anywhere, anytime.

Patient portal

Patients can access medical records and make
appointment reservations online.

Mammo portal
& lung portal

Manages the results of breast & lung cancer
treatments



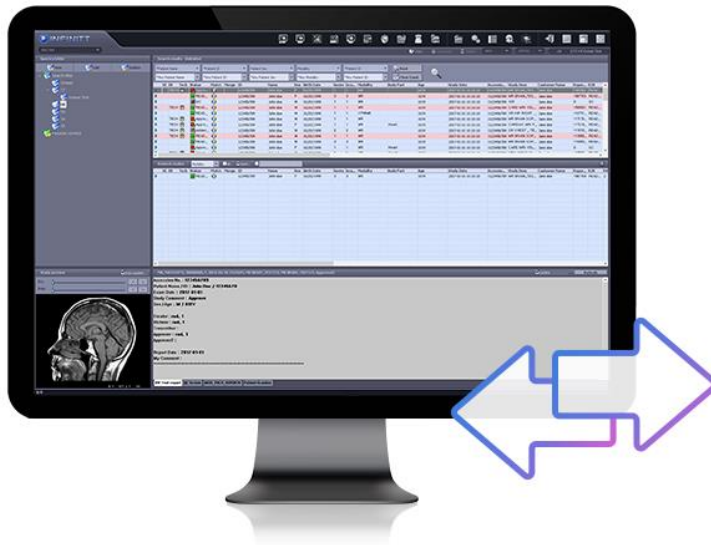
INFINITT Cloud PACS

Cloud PACS

Pay-per-use	Only charges the amount of storage used No need for initial IT infrastructure, hardware setup or operating staff
Technical support	INFINITT engineers provide regular system check-ups, data backups, and emergency on-call services.
Web access	Internet access to images from anywhere, anytime
Robust security	Prevents data loss and minimizes security risk via encryption and intrusion prevention system
Up-to-date PACS	Latest version of the award-winning INFINITT PACS
Remote reading	Improves diagnostic accuracy and reading turnaround time

INFINITT TeleRadiology

Teleradiology solution



High quality reading	Experienced radiologists from each specialty provides high-quality reading services.
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Emergency cases	Temporary reading services for emergency cases and in the absence of on-site radiologists
-----------------	---

Technical support	Regular system check-ups and emergency on-call services
-------------------	---

Robust security	Prevents data loss and minimizes security risk via encryption and intrusion prevention system
-----------------	---

Up-to-date PACS	Latest version of the award-winning INFINITT PACS
-----------------	---

Standards-compliant	DICOM, IHE, HIPAA, HL7
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45 Medical Facilities in Indonesia (July 2020)

RSUP Nasional
Dr. Cipto Mangunkusumo

Jakarta



INFINITT PACS 2012

INFINITT RIS 2012

ULite
(universal viewer) 2018

RSUP Sanglah

Bali



INFINITT PACS 2017

INFINITT RIS 2017

INFINITT DoseM 2017

ULite
(universal viewer) 2017

Siloam Hospitals

Indonesia



INFINITT PACS 2018

INFINITT RIS 2018

ULite
(universal viewer) 2018

INFINITT Consolidated Server 2018

INFINITT Distributed Server 2018

Jakarta RS Yarsi

Jakarta RSUD Cengkareng

Jakarta RS St. Carolus

Jakarta RS Royal Progress

Jakarta Kaikoukai Clinic

Jakarta 365 Open Clinic

Bandung RSUD Al-Ihsan

Bandung Santosa Hospital

Cilegon RSUD Cilegon

Surabaya RS Mitra Keluarga, Kenjeran

Depok RS Universitas Indonesia

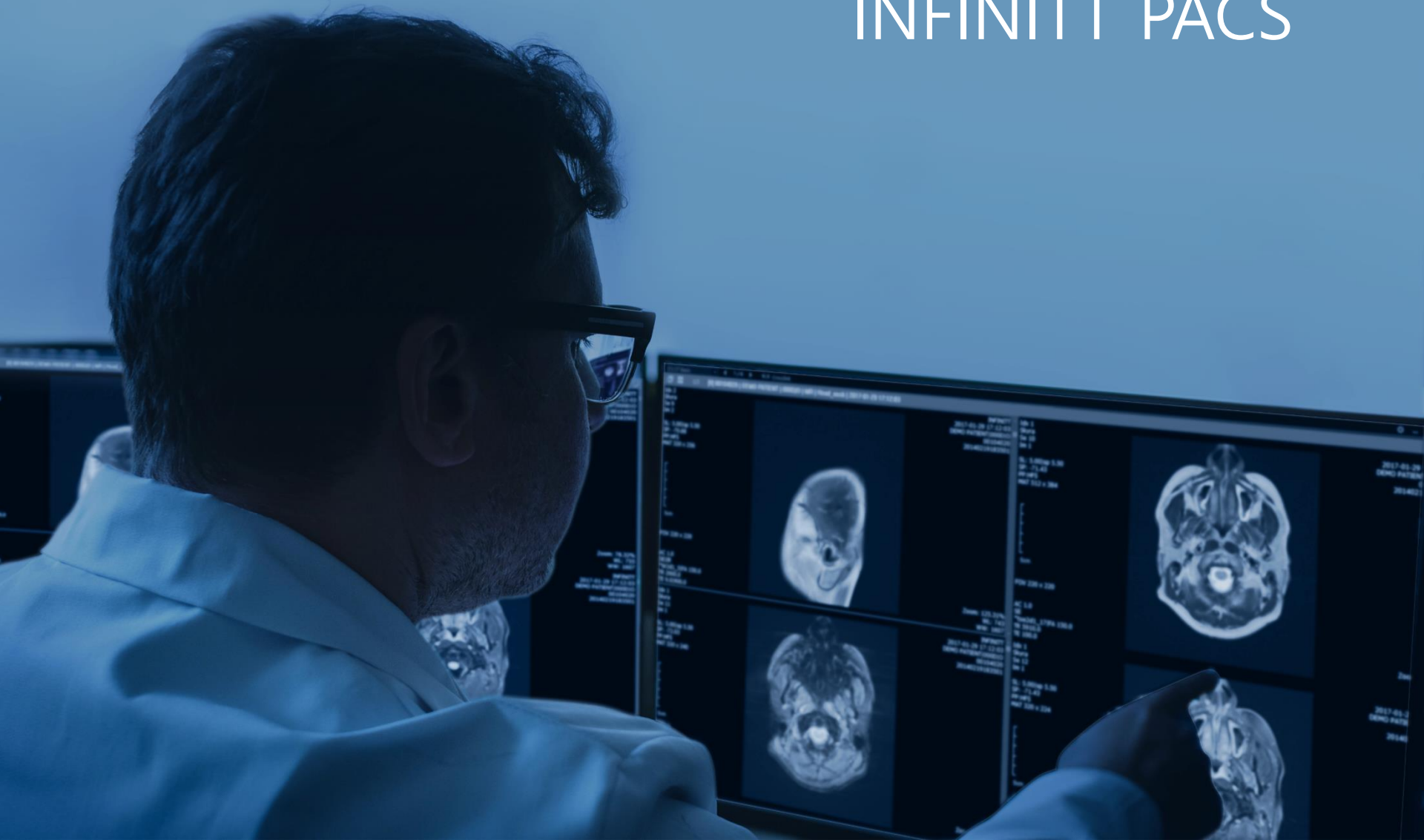
Medan RSUP H. Adam Malik

Medan RS Grandmed

Manado RSUP Prof. dr. R.D. Kandou

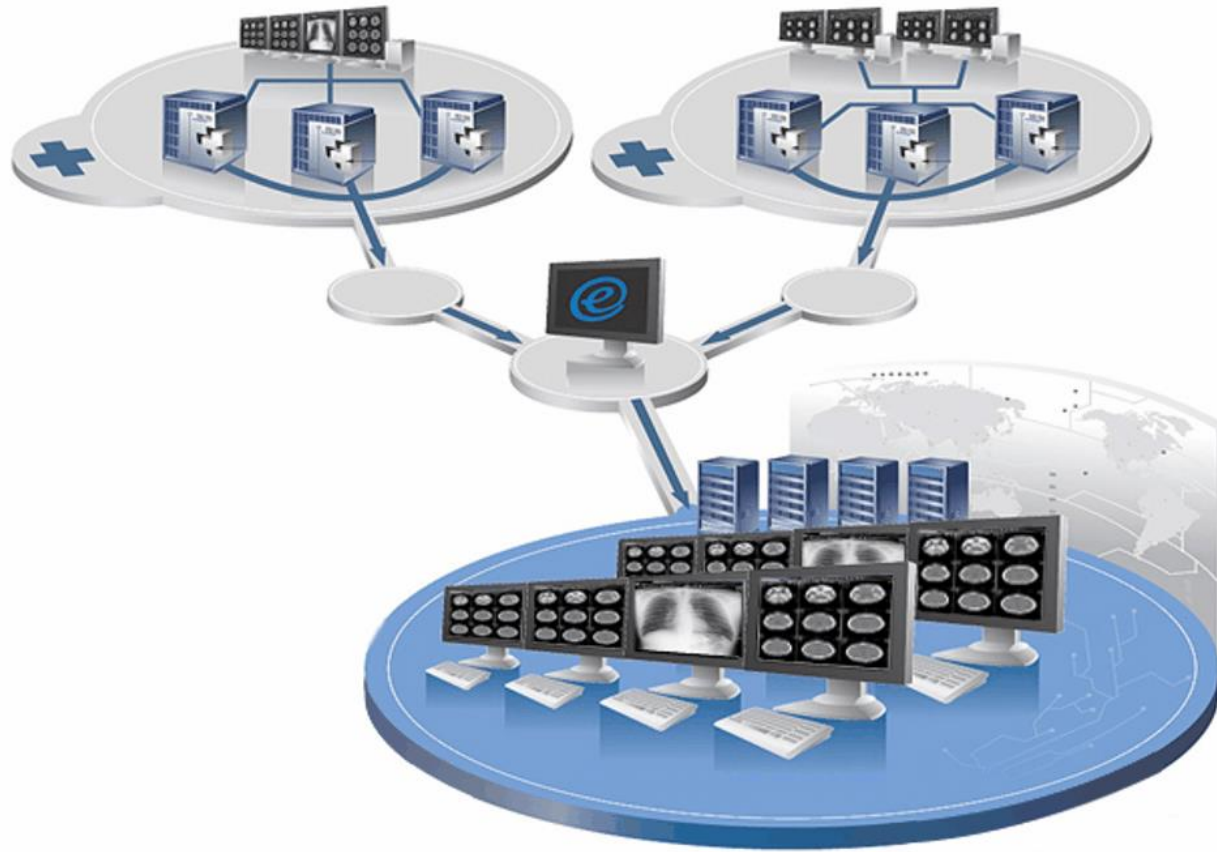
Pontianak RS Mitra Medika

INFINITT PACS



Distributed Server

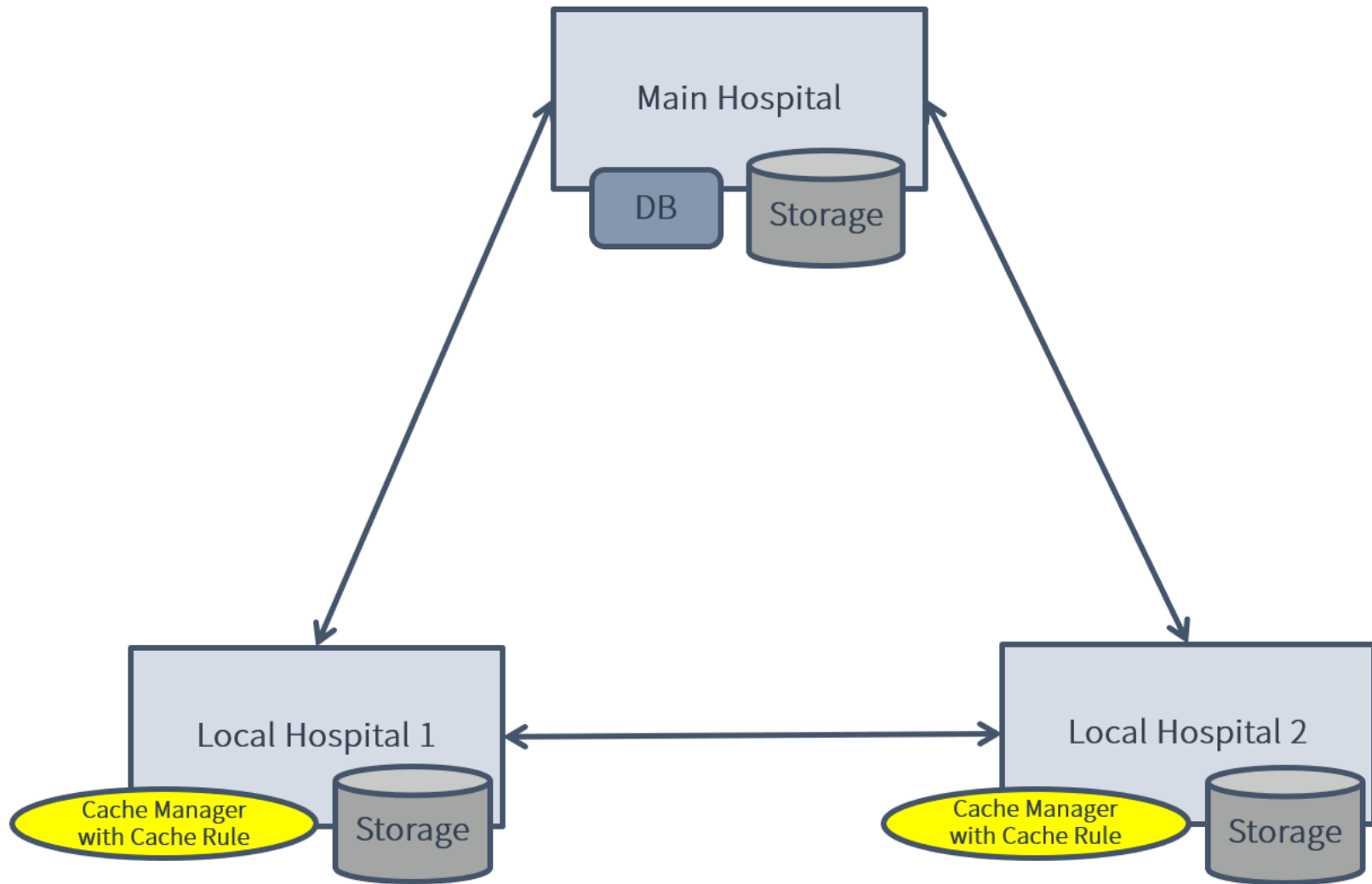
INFINITT PACS provides a single database for group hospitals by using Distributed Server(DS) system



Centralized Database Management

Distributed Server

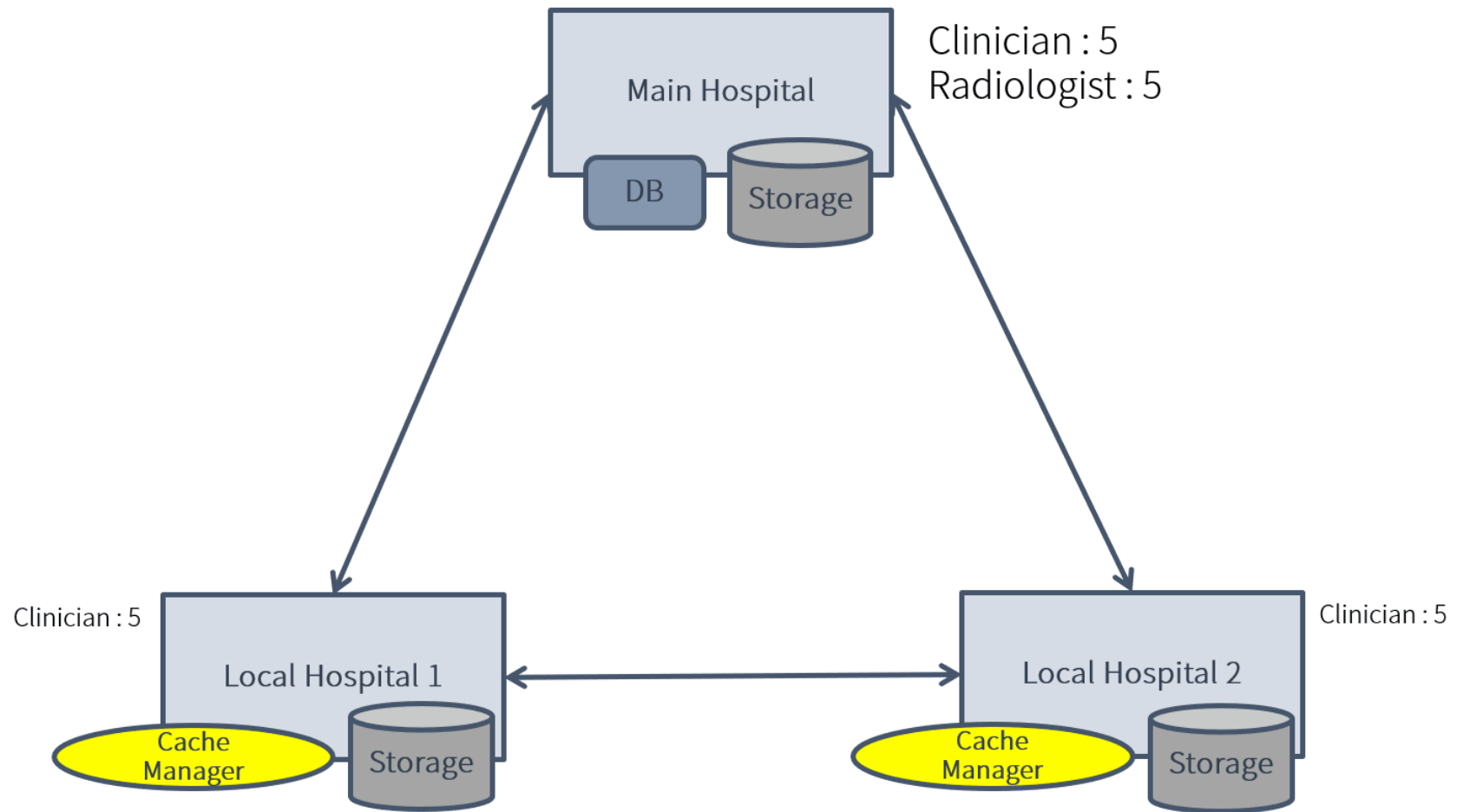
Retrieve images from local cache server via LAN while sync patient & order data with main DB via WAN



Distributed Server

Benefits of using Distributed Server

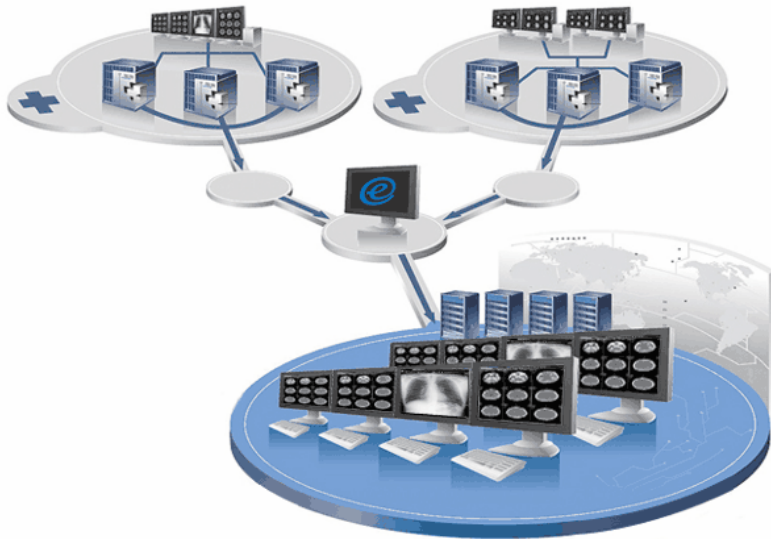
Hospital Group



Distributed Server

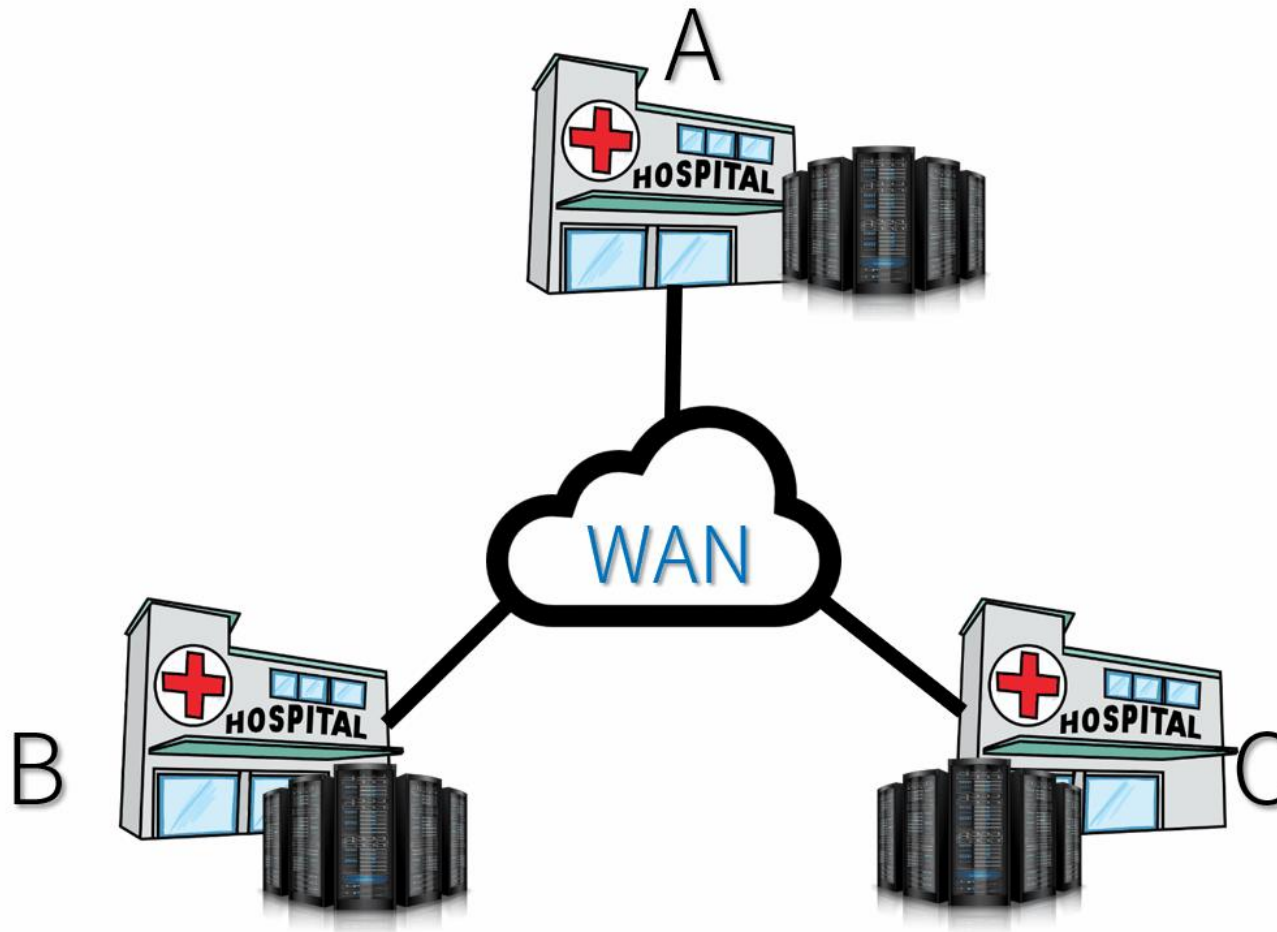
Emergency Cache Server

Ordinary



Consolidated Worklist

INFINITT PACS provide function to search information of the related other hospital.



Consolidated Worklist

- ✓ If there is same patient information

The screenshot displays the INFINITT medical software interface. The top menu bar includes options like 'SPECTRA', 'Start', 'Download', 'Delete', 'DEMO MAIN', 'OFFICE', and a user profile 'jhchae' with the date '2016-04-28' and time '5:49:55'.

Spectra folder: A sidebar on the left shows a 'Search Filter' with icons for CT, MR, US, XA, and CR. Below this is a 'Favorites (0/400)' section.

Search results Unlimited: The main panel shows a search filter section with dropdowns for Patient Name, Patient ID, Patient Sex, Modality, and Body part, all set to '*Any'. Below this is a table of search results.

C.H	OC	ER	Tech	Status	ID	Name	Sex	Body Part	Srs	Ins	Mdl	S
D-INFINI...				Check	53686	61345	F		1	1	MG	2
D-INFINI...				Check	ENG PTNM3^あ^	104020	F		1	2	CR	2
D-INFINI...				Transcribed	AN_ID_1222	AN_ID_1222	O		2	36	MR	2
D-INFINI...				Check	AN_ID_1222	AN_ID_1222	O		1	1	MR	2
D-INFINI...				Check	0327694	SIMEONE JOAN F	F		1	1	SD	2
D-INFINI...				Check	#@IKHS	#@IKHS	O		1	3	OT	2
D-INFINI...				Examined	143671143	TOMO DATA	F	BREAST	8	8	MG	2
D-INFINI...				Examined	46971216	DEMO.P&TINET3	M	HEAD	17	894	MR	5

Related studies: Below the search results, there is a section for 'Related studies' with a table showing one entry for 'D-INFINITDE...' with status 'Check' and ID 'AN_ID_1222'.

2D Job Lists: A section on the right titled '2D Job Lists' contains a table with columns: 'Opened', 'My Job File', 'Creator', 'Create Time', 'Monitor Num', and 'Job Com'.

Study preview: At the bottom left, there is a 'Study preview' section with a checkbox for 'Auto update' and a small image of a medical scan.

Study details: The bottom right section displays detailed information for the selected study:

- Accession No. : **AN_ID_1222**
- Patient Name / ID : **AN_ID_1222 / AN_ID_1222**
- Exam Date : **2015-12-17 11:26:17 (Transcribed)**
- Study Comment :
- Sex / Age : **O / 020D**
- Creator : **test**
- INF Text report

The bottom status bar shows '1 Studies (36 Images) Selected / Total 50 Studies'.

Consolidated Worklist

- ✓ If there is no same patient information

The screenshot displays the INFINITT medical software interface. The top menu bar includes options like 'SPECTRA', 'Start', 'Download', 'Delete', 'DEMO MAIN', 'OFFICE', and a user profile 'jychae' with the date '2016-04-28' and time '5:49:55'.

Spectra folder: A sidebar on the left shows a 'Search Filter' with icons for CT, MR, US, XA, and CR. Below this is a 'Favorites (0/400)' section.

Search results Unlimited: The main panel shows a search filter section with dropdowns for Patient Name, Patient ID, Patient Sex, Modality, and Body part, all set to '*Any Patient Name', '*Any Patient ID', '*Any Patient Sex', '*Any Modality', and '*Any Body part'. Below this is a table of search results.

C.H	OC	ER	Tech	Status	ID	Name	Sex	Body Part	Srs	Ins	Mdl	S
D-INFINI...				Check	53686	61345	F		1	1	MG	2
D-INFINI...				Check	ENG PTNM3^あ^	104020	F		1	2	CR	2
D-INFINI...				Transcribed	AN_ID_1222	AN_ID_1222	O		2	36	MR	2
D-INFINI...				Check	AN_ID_1222	AN_ID_1222	O		1	1	MR	2
D-INFINI...				Check	0327694	SIMEONE JOAN F	F		1	1	SD	2
D-INFINI...				Check	#@IKHS	#@IKHS	O		1	3	OT	2
D-INFINI...				Examined	143671143	TOMO DATA	F	BREAST	8	8	MG	2
D-INFINI...				Examined	46971216	DEMO.P&TINET3	M	HEAD	17	894	MR	5

Related studies: Below the search results, there is a 'Related studies' section with a table showing one entry: D-INFINITDE... with status 'Check' and ID 'AN_ID_1222'.

2D Job Lists: On the right, there is a '2D Job Lists' section with a table showing columns: Opened, My Job File, Creator, Create Time, Monitor Num, Job Com.

Study preview: At the bottom left, there is a 'Study preview' section with a checkbox for 'Auto update' and a small image of a patient's head.

Study details: The bottom right section displays study details for 'MR, AN_ID_1222, AN_ID_1222, O, 2015-12-17 11:26:17, Dr. Bauer^Funktion gro?'. It includes fields for Accession No., Patient Name / ID, Exam Date, Study Comment, Sex / Age, and Creator. A 'Refresh' button is also present.

Footer: The bottom of the interface shows 'end Local DICOM' on the left and '1 Studies (36 Images) Selected / Total 50 Studies' on the right.

Task Prioritization

Smart Assign

Automatically assign exams to the appropriate radiologists
Assignment of exams based on modalities(MR, Mammo, etc.),
institution, specialty, and difficulty of reading
Useful for group hospitals with TeleRadiology of all registered radiologists



Audio warning for STAT & new exam

Prioritization of reading cases are critical for radiology department's timely service.

An urgent request from ER comes to the radiology with very limited TAT.

Such a case, INFINITT PACS detect the urgent cases and alert the radiologist with audio warning



AI-empowered

- ✓ Value-based care
- ✓ Maximizing diagnostic productivity
- ✓ Automating diagnostic process
- ✓ Integrating AI & data analytics solutions into the daily diagnostic workflow



AI-empowered

- ✓ INFINITT PACS Worklist – AI Result (Type of disease and confidence score) display
- ✓ AI-empowered data analytics solutions accessible to radiologists by seamlessly integrating them into the daily diagnostic workflow

The screenshot displays the INFINITT PACS Worklist interface. At the top, there are navigation tabs: SERVER3_Study, Viewed History, Oncall TEST, Unread, and Tumor Board. Below these are filters for Exam status, Patient ID, Modality, Study key, and Accession number. The main table lists study entries with columns for Exam status, Accession number, Patient ID, Modality, Bodypart, and AI Analysis results. The AI Analysis results are presented in a pop-up window showing the disease type (Pneumonia) and the confidence score (ranging from 68 to 96). The table also includes columns for Study date and Study comments. At the bottom, there is a section for 'All' and 'Relevant' studies, followed by a detailed table with columns for Accession number, Exam status, Patient ID, Patient name, Other patient name, English patient name, Pa..., Bodypart, seri..., insta..., Modality, Study date, Modify date, Study descripti..., Study priority, and Tem....

Exam status	Accession number	Patient ID	Modality	Bodypart	AI Analysis	Score	Study date	Study comments
Dictated	A51746	I_49305104	CT	C	Pneumonia	90	2018 08:47:05	
Dictating	4539628	TEST2	CR	C	Pneumonia	85	2018 20:49:19	
Dictating	51744	00000005	OT	C	Pneumonia	68	2018 11:08:27	
Addendum dictating	51743	00000005	OT	C	Pneumonia	78	2018 11:08:27	
Dictated	49585	00000005	OT	C	Pneumonia	88	2018 11:08:27	
Dictated	50361	00000005	CT\SC\KO\PR	C	Pneumonia	96	2018 10:23:04	
Dictating	47096	00000005	CR	C	Pneumonia	79	2018 10:02:22	STUDY_COMM
Examined	AUTOLOADING	AUTOLOADING	MR	SPINE			2018 15:37:09	COLUMA LOMBAR
Addendum dictating	A44604	66060409665	DX	CHEST			2018 15:16:07	
Dictated	51721	TEST_20180913	CR\KO\PR	C			2018 13:40:48	
Verified	50602	AUTOLOADING	MR\PR	HEAD			2018 12:23:49	
Dictated	50721	AUTOLOADING	OT				2018 11:10:27	
Transcribed	A00AUTOLOADING	AUTOLOADING	CR\PR	VERTEBRAL CO... X			2018 10:59:17	
Dictated	A44603	66060409665	DX	CHEST			2018 10:15:17	
Dictated	A44601	66060409665	DX	CHEST			2018 10:15:16	1111111
Examined	161207421255644	AUTOLOADING_20180...	CT	ABDOMEN			09/12/2018 16:03:04	
Examined	161207421255644	AUTOLOADING_20180...	CT	ABDOMEN			09/12/2018 15:53:39	STUDY COMMENT
Addendum dictating	A51682	DEMO_NEW	CT\SC\PR				09/12/2018 09:56:50	
Examined	201801290305	I_34475652_NEW	CT\KO	CHEST			09/12/2018 09:55:31	
Examined	0000782429-05-04	DEMO_NEW	MR	FINGER			09/11/2018 10:34:44	

AI Solutions

Various AI solutions integrated into PACS in a way that makes it easy for the users to access and make use of the AI findings in real clinical settings. Users can directly refer to the AI results from the PACS worklist and viewer without having to switch between different systems.

Vendor	Modality/Exam	Functionality
AI analysis Inc.	Brain MR	Detection of differences in current and prior exams
Aidence	Lung CT	Lung nodule detection
ClariPi	Low-dose CT	CT noise-reduction for higher quality images
Lunit	Chest X-ray	Lung disease detection
	Breast Mammo	Breast cancer detection
Mevis	Lung CT	Lung nodule detection
Monitor	Lung CT	Lung nodule detection
Terarecon	Various modalities	67 kinds of AI modules
Vuno	Bone age	Bone age assessment
	Chest X-ray	Lung disease detection
	Brain MR	Dementia detection via qualification of brain lesions
	Fundus	Fundus exam screening
	Lung CT	Lung nodule detection
	Automatic voice recognition	Automatic voice recognition
INFINITT	Lung CT	Lung nodule detection
	Colonoscopy	Colonoscopy screening
JLK Inspection	Various modalities	AI hub for 37 solutions

No Film, No CD. QR-Code on radiology exam report to call patient's images on DICOM Viewer

Thank you!

