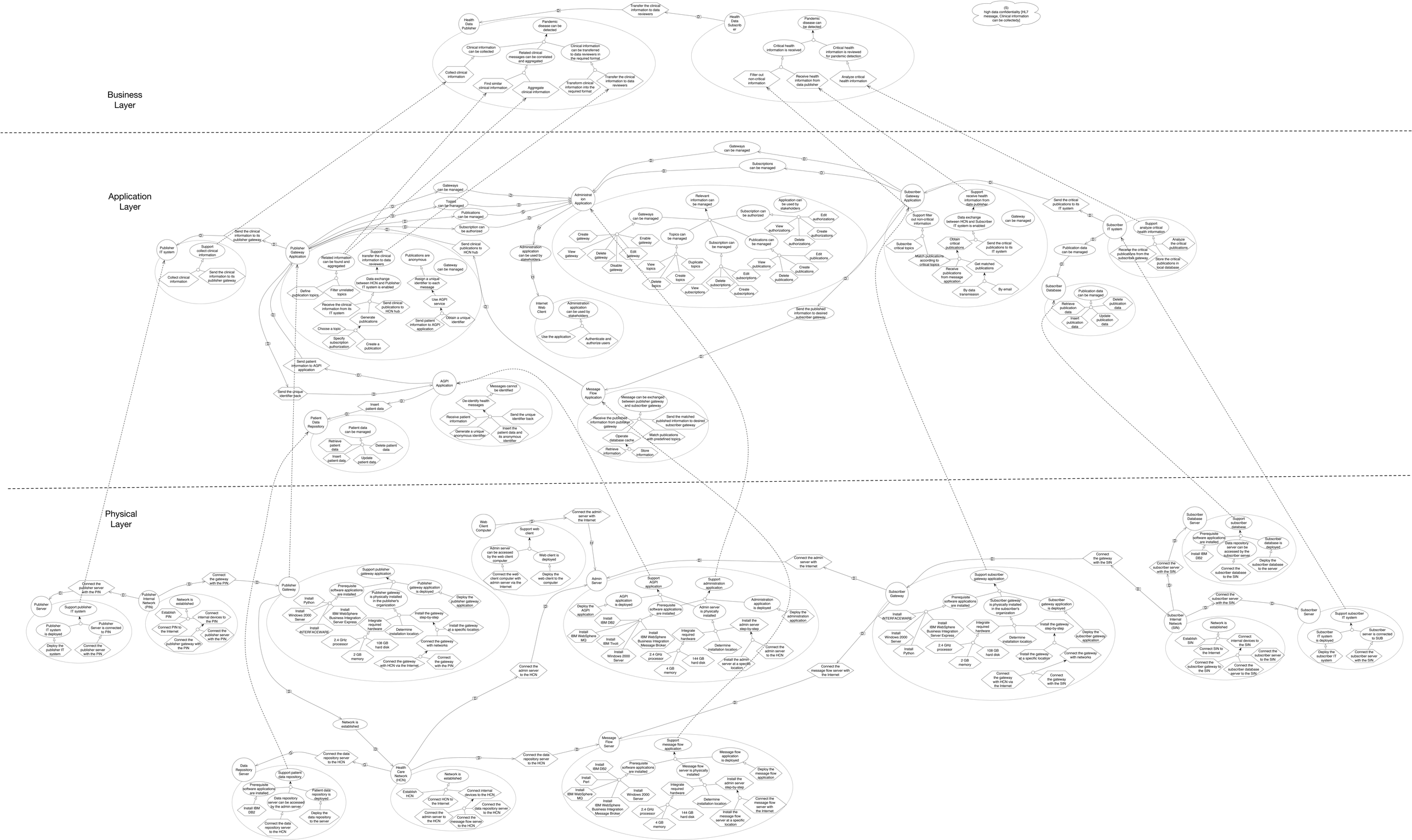
Business Layer
Application Layer
Physical Layer
Transfer the clinical information to data reviewers
Health Data Publisher
Health Data Subscriber
Pandemic disease can be detected
Clinical information can be collected
Related clinical messages can be correlated and aggregated
Clinical information can be transferred to data reviewers in the required format
Collect clinical information
Find similar clinical information
Aggregate clinical information
Transform clinical information into the required format
Transfer the clinical information to data reviewers
Critical health information is received
Critical health information is reviewed for pandemic detection
Filter out non-critical information
Receive health information from data publisher
Analyze critical health information
(S) high data confidentiality [HL7 message, Clinical information can be collected]
Gateways can be managed
Subscriptions can be managed
Topics can be managed
Publications can be managed
Subscription can be authorized
Administration application
Administration application can be used by stakeholders
Send the clinical information to its publisher gateway
Publisher IT system
Support collect clinical information
Collect clinical information
Send the clinical information to its publisher gateway
Publisher Gateway Application
Related information can be found and aggregated
Support transfer the clinical information to data reviewers
Data exchange between HCN and Publisher IT system is enabled
Publications are anonymous
Gateway can be managed
Send clinical publications to HCN hub
Define publication topics
Filter unrelated topics
Receive the clinical information from its IT system
Send clinical publications to HCN hub
Generate publications
Choose a topic
Specify subscription authorization
Create a publication
Assign a unique identifier to each message
Use AGPI service
Send patent information to AGPI application
Obtain a unique identifier
Send patent information to AGPI application
Send the unique identifier back
Internet Web Client
Administration application can be used by stakeholders
Use the application
Authenticate and authorize users
Relevant information can be managed
Application can be used by stakeholders
Subscription can be authorized
Edit authorizations
View authorizations
Create authorizations
Delete authorizations
Create gateway
View gateway
Delete gateway
Disable gateway
Enable gateway
Edit gateway
View topics
Delete topics
Create topics
Duplicate topics
View subscriptions
Delete subscriptions
Create subscriptions
Subscription can be managed
Publications can be managed
Edit publications
View publications
Create publications
Delete publications
Edit subscriptions
Subscriber Gateway Application
Support receive health information from data publisher
Support filter out non-critical information
Data exchange between HCN and Subscriber IT system is enabled
Gateway can be managed
Subscribe critical topics
Match publications according to critical topics
Obtain critical publications
Send the critical publications to its IT system
Receive publications from message application
Get matched publications
By data transmission
By email
Send the critical publications to its IT system
Subscriber IT system
Support analyze critical health information
Analyze the critical publications
Receive the critical publications from the subscribers gateway
Store the critical publications in local database
Publication data can be managed
Subscriber Database
Publication data can be managed
Retrieve publication data
Insert publication data
Delete publication data
Update publication data
Send the published information to desired subscriber gateway
AGPI Application
Messages cannot be identified
De-identify health messages
Receive patient information
Send the unique identifier back
Generate a unique anonymous identifier
Insert the patient data and its anonymous identifier
Insert patient data
Patient Data Repository
Patient data can be managed
Retrieve patient data
Delete patient data
Insert patient data
Update patient data
Message Flow Application
Message can be exchanged between publisher gateway and subscriber gateway
Receive the published information from publisher gateway
Send the matched published information to desired subscriber gateway
Operate database cache
Match publications with predefined topics
Retrieve information
Store information
Connect the publisher server with the PIN
Publisher Server
Support publisher IT system
Publisher IT system is deployed
Publisher Server is connected to PIN
Deploy the publisher IT system
Connect the publisher server with the PIN
Connect the gateway with the PIN
Publisher Internal Network (PIN)
Network is established
Establish PIN
Connect internal devices to the PIN
Connect PIN to the Internet
Connect the publisher server with the PIN
Connect the publisher gateway with the PIN
Publisher Gateway
Support publisher gateway application
Prerequisite software applications are installed
Publisher gateway is physically installed in the publisher's organization
Publisher gateway application is deployed
Deploy the publisher gateway application
Install Python
Install Windows 2000 Server
Install IBM WebSphere Business Integration Server Express
Install INTERFACEWARE
Integrate required hardware
Install the gateway step-by-step
Install the gateway at a specific location
Determine installation location
2.4 GHz processor
108 GB hard disk
2 GB memory
Connect the gateway with networks
Connect the gateway with HCN via the Internet
Connect the gateway with the PIN
Connect the admin server to the HCN
Network is established
Web Client Computer
Support web client
Admin server can be accessed by the web client computer
Web client is deployed
Connect the web client computer with admin server via the Internet
Deploy the web client to the computer
Connect the admin server with the Internet
Admin Server
Support AGPI application
Support administration application
Deploy the AGPI application
AGPI application is deployed
Install IBM DB2
Prerequisite software applications are installed
Admin server is physically installed
Administration application is deployed
Deploy the administration application
Install IBM WebSphere MQ
Install IBM Tivoli
Install IBM WebSphere Business Integration Message Broker
Integrate required hardware
Install the admin server step-by-step
Install Windows 2000 Server
2.4 GHz processor
144 GB hard disk
4 GB memory
Determine installation location
Install the admin server at a specific location
Connect the admin server to the HCN
Connect the admin server with the Internet
Connect the message flow server with the Internet
Subscriber Gateway
Support subscriber gateway application
Prerequisite software applications are installed
Subscriber gateway is physically installed in the subscriber's organization
Subscriber gateway application is deployed
Install INTERFACEWARE
Install Windows 2000 Server
Install Python
Install IBM WebSphere Business Integration Server Express
Integrate required hardware
Install the gateway step-by-step
Deploy the subscriber gateway application
2.4 GHz processor
108 GB hard disk
2 GB memory
Determine installation location
Install the gateway at a specific location
Connect the gateway with networks
Connect the gateway with HCN via the Internet
Connect the gateway with the SIN
Connect the gateway with the SIN
Subscriber Database Server
Support subscriber database
Prerequisite software applications are installed
Data repository server can be accessed by the subscriber server
Subscriber database is deployed
Install IBM DB2
Connect the subscriber database to the SIN
Deploy the subscriber database to the server
Connect the subscriber server with the SIN
Subscriber Internal Network (SIN)
Network is established
Establish SIN
Connect internal devices to the SIN
Connect SIN to the Internet
Connect the subscriber server to the SIN
Connect the subscriber gateway to the SIN
Connect the subscriber database server to the SIN
Subscriber Server
Support subscriber IT system
Subscriber IT system is deployed
Subscriber server is connected to SUB
Deploy the subscriber IT system
Connect the subscriber server with the SIN
Data Repository Server
Support patient data repository
Prerequisite software applications are installed
Patient data repository is deployed
Install IBM DB2
Data repository server can be accessed by the admin server
Deploy the data repository to the server
Connect the data repository server to the HCN
Connect the data repository server to the HCN
Health Care Network (HCN)
Network is established
Establish HCN
Connect internal devices to the HCN
Connect HCN to the Internet
Connect the admin server to the HCN
Connect the data repository server to the HCN
Connect the message flow server to the HCN
Message Flow Server
Support message flow application
Prerequisite software applications are installed
Message flow server is physically installed
Message flow application is deployed
Deploy the message flow application
Install IBM DB2
Install Perl
Install IBM WebSphere MQ
Install IBM WebSphere Business Integration Message Broker
Install Windows 2000 Server
Integrate required hardware
Install the admin server step-by-step
Determine installation location
Connect the message flow server with the Internet
2.4 GHz processor
144 GB hard disk
4 GB memory
Install the message flow server at a specific location