

PHILIPS

IntelliBridge Enterprise

Integration and interoperability
in one comprehensive solution





Philips IntelliBridge Enterprise (IBE)

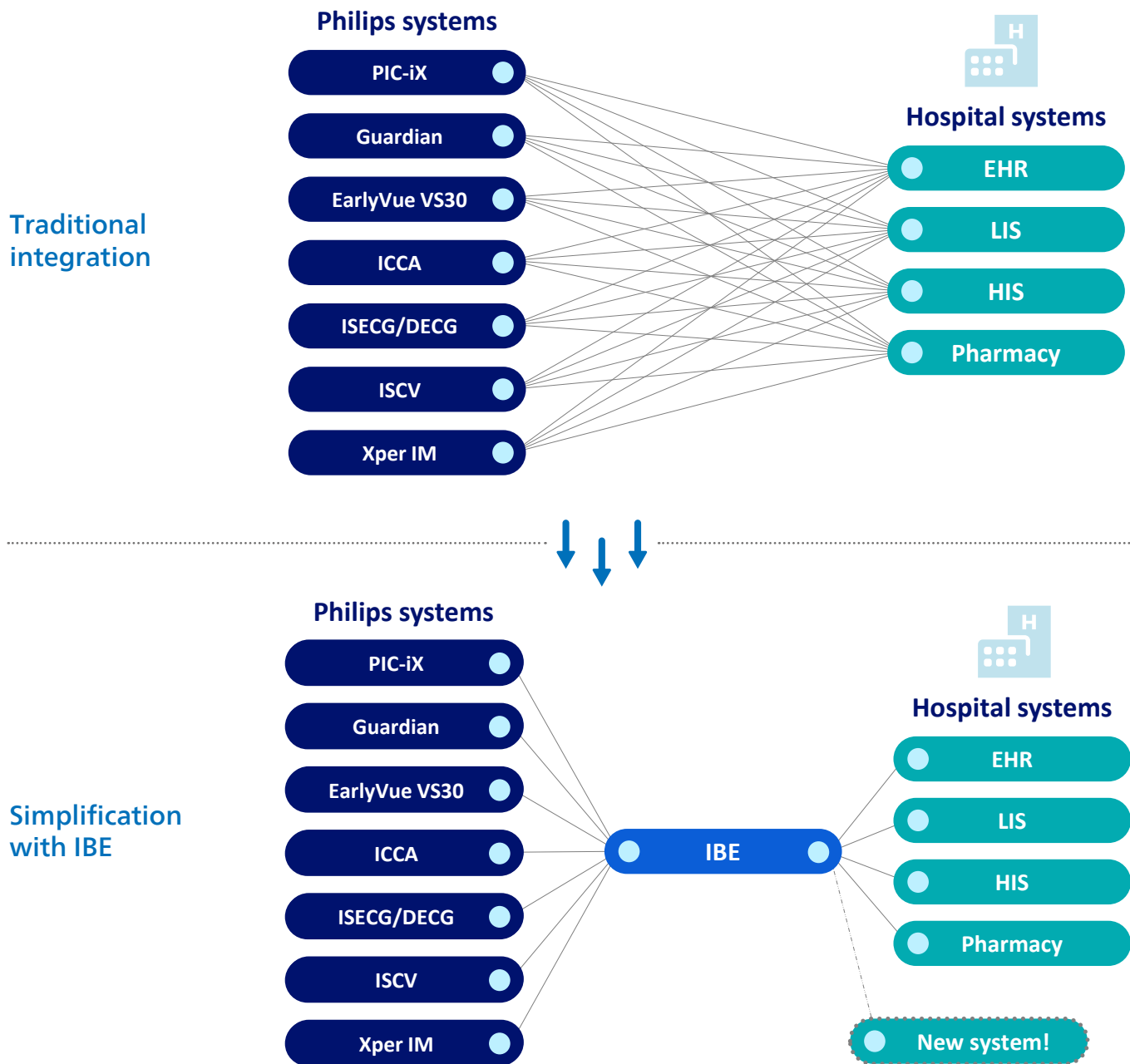
A single, standards-based (such as HL7 v2, FHIR and DICOM) point of interoperability between various clinical systems with hospital's enterprise information system(s); while reducing complexity and cost in the healthcare setup.

Key interoperability challenges

- Patient ID matching
- Complex diverse technology ecosystems
- Data quality
- Data silos
- Integration costs
- Multiple integration engines
- Performance and scalability
- Maintenance overhead
- Workflow integration
- High effort
- Data latency
- Fragmented IT ecosystem
- Security and privacy concerns



Harmonizing data and services into a single unified platform lowers hardware and maintenance costs, guarantees consistent data management, and enhances compliance with industry standards.



Benefits

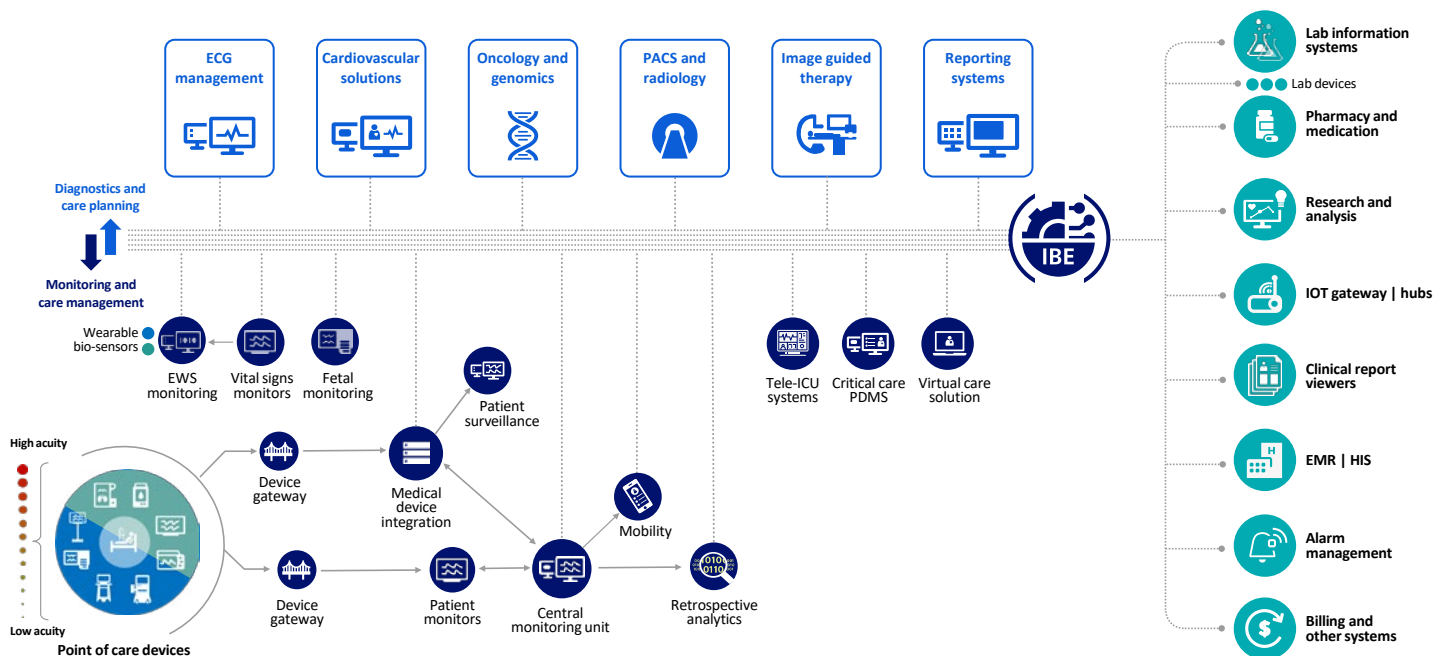
- One pipe solution for all interoperability needs
- Unified data access and workflows
- Scalable platform with lower cost of ownership
- Supports multitude of deployment models — cloud, on-premise, hybrid
- Optimized, out-of-box validated clinical workflows, making Interoperability simpler for Philips customers

IntelliBridge Enterprise: simplifying the interoperability challenge

IntelliBridge Enterprise serves as a centralized HL7 messaging service, connecting Philips systems with your hospital's clinical information systems or EMRs. It streamlines communication protocols, handles mapping and message delivery, and efficiently filters, transforms, and routes data. By offering a single point of interoperability with Philips systems, IntelliBridge Enterprise reduces interface complexity and maximizes the value of your IT investments.

IBE allows various healthcare systems, devices, and applications to securely share and utilize patient information beyond departmental, organizational and geographic limits.

Also, as healthcare shifts from large hospital IT teams and private data centers to "as-a-service" models, IBE is at the forefront of this transformation, reshaping Philips' value proposition. IBE on cloud streamlines data workflows, enhances Electronic Health Record (EHR) investments, boosts operational efficiency, and lays the groundwork for AI-driven clinical decision support.



From medical devices and imaging modalities to PACS and informatics systems, there are a lot of contact points to a patient during their hospital stay.

In emergency and operating rooms, and in intensive care and step-down units, the devices and systems involved in delivering care generate volumes of data which are critical for your decisions. The number and variety of these supporting technologies means complexity in getting them all to work together, and inconsistencies in the format of the information being shared.

We designed Philips IntelliBridge Enterprise to bring together these different sources of information, and provide the interface through which they combine data with your hospital information system and electronic medical record (EMR). IntelliBridge Enterprise applies healthcare standards to achieve workflow efficiencies that simplify collaborative care and help you enhance the quality of patient care.



Connecting care by meaningful interoperability — right information, right place

Empowering clinical decisions at the bedside

Patient-centric access to data helps care providers make informed clinical decisions, particularly in high acuity care settings where an overview of data from different sources can matter most. This can be data from hospital information systems, such as the EMR or laboratory results, or from patient care devices, such as ventilators.

To make this possible, IntelliBridge Enterprise can consolidate patient data from different sources and make it available on the bedside monitor or Patient Information Center: the point where the care provider needs it most. IntelliBridge Enterprise can gather device data, vital signs or ECG waveforms captured by Philips patient care devices, combine it with the patient's demographic data, and deliver it using the HL7 interface to your information system and EMR.

Alarm management and delivery

To reap the advantage of mobile technology, it is important to have a reliable way of relaying the alerts (physiological, technical or advisory) from the patient care devices to an information system that can send them to the care provider.

By applying the IHE Alarm Communication Management profile, IntelliBridge Enterprise can communicate with PIC-Event Notification and other alarm management systems. Also, IBE can help bring in your Staff Assignments to the Event Notification system, so that the right events are communicated to the right care provider at the right time. This lets the caregiver determine the validity and priority of the alarm, and make an informed decision to respond, escalate it to a colleague, or rule it non-actionable.



Managing your ECGs

As a cardiology caregiver, you require seamless access to resting ECGs, Holter, and stress reports, whether inside or outside your department. You also need to read, create, and share ECG reports as part of your daily workflow.

To streamline this process efficiently and cost-effectively, IntelliBridge Enterprise integrates with the IntelliSpace ECG management system and connects to your enterprise information systems. With standardized HL7 communication, you can easily access demographics and order worklists, ensuring smooth distribution of results. IntelliBridge Enterprise enhances electrocardiographs by complementing worklists with patient demographic data and order information, reducing manual data entry and improving data consistency.

Advancing patient outcomes

Healthcare is undergoing radical changes, demanding a new approach to address various illnesses. As patients age, their conditions become more complex. While early discharge initiatives can alleviate burdens and lower hospital readmissions, implementing these strategies can be challenging. This is especially true when devices don't communicate effectively, disrupting the flow of data across different care settings.

From Philips EarlyVue VS30 patient monitors to IntelliVue Guardian software the choice in monitoring: periodic, continuous, mobile and wearable biosensors, all seamlessly enabled with IntelliBridge Enterprise for secure and efficient data integration with your EHR. With your existing User Management, IBE utilizes single sign-on to automatically document vital signs in your EHR system, minimizing errors and enhancing accuracy. Further, the Patient Administration Toolkit ensures positive Patient Identification when it comes to physiological parameters recorded from a wide range of Wearable biosensors, managing device assignments.

Unlocking virtual care

Telehealth, remote patient monitoring, and virtual collaboration is now part of daily practice in many countries. It allows healthcare providers to remotely interact with each other and their patients. By leveraging eICU, healthcare organizations can make optimal use of their existing critical care resources, instead of adding additional resources.

IntelliBridge Enterprise can securely collect relevant clinical data from your hospital information systems, Labs and medical devices and eICU solutions can presents key patient information to remote clinicians that collaborate with your bedside teams for care delivery.

Patient record across the care continuum

Patients receiving care in both the OR and ICU gain from a continuous, detailed record of their treatment, emphasizing intake and output sites, fluid totals, and essential therapies.

Philips IntelliSpace Critical Care and Anesthesia (ICCA) leverages IntelliBridge Enterprise for ensuring interoperability with existing hospital systems such as ADT, labs, document export/import, orders, order results, and patient data export/import. In addition, IBE can also integrate with the Pharmacy Systems and help initiate drug-drug interaction checks.

Elevating medical device integration

IntelliBridge Enterprise (IBE) compliments the Medical Device Information Platform (MDIP) as part of Philips' MDI Solution strategy, allowing customers to securely access and maximize the value of device data. IBE serves as a centralized HL7 messaging service, connecting Philips Capsule MDIP to document medical data in electronic medical records and data repositories for qualitative analysis and research.



Connected diagnosis: industry standard data exchange, when and where you need

Integrating the cardiology PACS

Compiling comprehensive reports can mean combining data from different sources, taking both time and concentration. By acting as a central point of data exchange, IntelliBridge Enterprise can gather patient demographic data, schedules, and ECG reports from your patient management, order management and ECG management systems, as well as images from your imaging modalities, using DICOM-based services such as DICOM Modality Worklist (DMWL) and Modality Performed Procedure Step (MPPS). The results can then be accessed in Xcelera and IntelliSpace Cardiovascular for finalization. Once completed, being able to flexibly export those reports from IntelliSpace Cardiovascular can contribute to simplifying your clinical workflow. IntelliBridge Enterprise can create reports as formatted or unformatted text or as a PDF document - as it would display in a cardiology PACS. And using the HL7 standard, IntelliBridge Enterprise can look after forwarding those reports to your information systems.

With IntelliBridge Enterprise, you have a choice between cloud, on-premise or hybrid configurations designed to meet your unique needs.

IBE is equipped with robust security protocols and compliance measures to ensure the confidentiality and integrity of protected medical information, providing your organization peace of mind.

Enhance your cath lab workflow

Cath lab data management is becoming more complex, and caregivers cover workflows which can connect this information in a convenient way. Xper IM, as the interventional module of IntelliSpace Cardiovascular platform, leverages IntelliBridge Enterprise to take connected cardiology further, together. Using IBE multiple clinical, operational and financial information systems within the hospital are linked to create more efficient workflows, with less effort for the clinician. IBE uses industry-standard data exchange technologies and protocols including HL7, DICOM, TCP/IP, and more enabling two-way exchanges of information exchange of information between the cardiology informatics portfolio and a wide range of external systems. This helps provide data security and patient privacy.

Manage diagnostic cardiology tests

The ECG is one of the most commonly prescribed diagnostic tests in cardiology. Philips offers innovative diagnostic cardiology solutions that help you acquire, analyze, interpret, and present patient data effectively using Clinical Decision Support tools, advanced algorithms, cardiographs, stress testing, Holter monitoring, and ECG data management systems, all designed to enhance the flow of cardiology knowledge within your organization.

With IntelliBridge Enterprise being the robust interoperability solution, this diagnostic cardiology offerings enable connected care and swift information exchange across your departments and locations.

Clinical reporting for diagnostic confidence

Advanced reporting platforms depend on enterprise solutions that integrate smoothly with Hospital Information Systems, PACS, and modalities. Philips Advanced Visualization Workspace is a scalable platform that fits effortlessly into your enterprise, delivering clinical insights that enhance workflow and boost diagnostic confidence. IntelliBridge Enterprise facilitates automatic result sharing between the AVW platform and your reporting solution, reducing reporting time and improving workflow outcomes. IBE utilizes HL7 and FHIR standards to connect with reporting systems like PowerScribe, mModal, etc, enabling the sharing of discrete results from

- MR cardiac suite
- CT calcium automated analysis
- CT comprehensive cardiac analysis
- CT lung nodule assessment
- Transcatheter aortic valve implantation
- Advanced vessel analysis

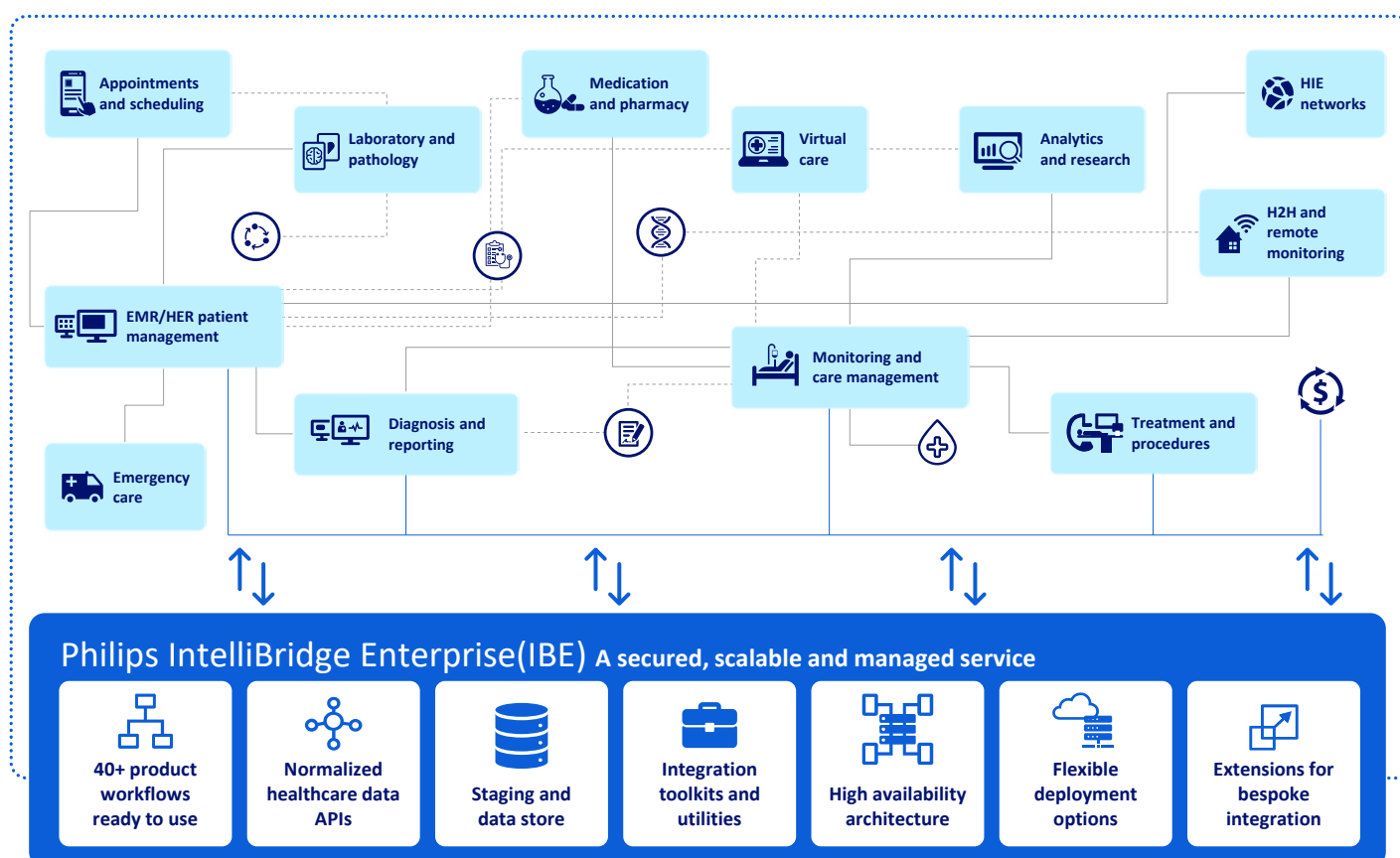
Interoperability across your enterprise

IntelliBridge Enterprise empowers healthcare organizations to control the cost of enterprise interoperability, enhance the efficiency of clinical workflows, and help care providers make informed clinical decisions by leveraging data from patient care devices, informatics systems and the EMRs.

Enterprise interoperability powered by IntelliBridge Enterprise empowers different information systems, applications, and technologies within an organization to effectively exchange, interpret, and use data in a coherent and efficient manner. This facilitates collaboration across various departments, business units, and external partners, ensuring that systems work together toward common business goals. And the best part, IBE is also available as a service on the on Philips managed cloud.

IBE relies on widely recognized industry standards as one of the most effective ways to ensure interoperability, such as:

- HL7 and DICOM for health-related interoperability
- FHIR (Fast Healthcare Interoperability Resources) for healthcare data exchange
- RESTful APIs (Representational State Transfer) for flexible, web-based system communication



Enterprise interoperability is a critical component of modern business success.

By adopting the right technologies, standards, and practices, organizations can break down silos, improve operational efficiency, and enhance collaboration across departments and with external partners. While the journey toward full interoperability may be challenging, the benefits of streamlined workflows, improved data accuracy, and enhanced innovation using IBE makes it a worthwhile endeavor.

Importance of Enterprise Interoperability

- Enhancing operational efficiency
- Streamlined and centralized data flow
- Improving data accuracy and consistency
- Cost-effective and vendor-neutral integration
- Enabling real-time collaboration
- Supporting innovation and scalability

Key capabilities to compliment enterprise interoperability



1. FHIR Transformation Service

FHIR is being increasingly influenced by global regulations, many of which require or suggest its use for exchanging electronic health data. Our IBE FHIR transformation service automates the conversion of health data from legacy formats like HL7 v2 or CDA into FHIR profiles, helping you stay compliant with essential regulations.

2. SMART on FHIR

Data standard to access information from electronic health record (EHR) systems.

3. FHIR facade

FHIR facade is a software layer between an FHIR client application and a backend system, such as a database or a legacy healthcare system.



DICOM Manager Service

DICOM standards, provides a reliable framework for image sharing across platforms.

IBE DICOM Manager service enables a seamless exchange of medical data between modality devices, PACS, HIS/RIS and reporting systems, enhancing collaboration between healthcare providers.

Capabilities

- MWL and MPPS as SCP
- Store SCP
- IAN SCP
- Store SCU
- C-Find and C-Move SCU
- DICOM conversion utilities
- DICOM migration utilities



Data API

APIs are the backbone of modern healthcare data integration, driving efficiency, enhancing patient outcomes, and enabling the continuous evolution of digital health services.

IBE Data API allows you to unlock the true value of your healthcare data not just for clinical workflows, but also enabling integration with advanced analytics, research and AI/ML solutions.

Data accessibility list

- Patient search
- Demographics and visits
- Orders query — telemetry, medication procedure, etc.
- Staff assignments
- Patient device association

Key capabilities to compliment enterprise interoperability



LIS Gateway

Laboratory automation is essential for modernizing lab operations, boosting efficiency, and enhancing result quality. By automating workflows and centralizing data management, laboratories can see remarkable gains in productivity, accuracy, and compliance. The IBE LIS gateway is the solution your organization needs, featuring a vendor-neutral library of preconfigured device drivers. Combined with IBE's native LIS and EMR integration capabilities, we ensure a seamless workflow.

Key aspects

- Automated data transfer
- Improved data accuracy and reliability
- Increased efficiency and reduced operational costs
- Improved data management and centralized workflows
- Enhanced QA and compliance



IBE Agent Service

The IBE Agent is a cutting-edge service within the IBE Solution that streamlines efficient and reliable data transfer between health systems in your hospital network and the Philips Cloud platform. This enhances interoperability workflows through our IBE-on-cloud solution. With a smaller footprint, the Agent service supports high-volume data transmission and various communication protocols, making it essential for today's medical data processing and integration.

Operational modes

IBE Agent can be configured as per your Integration needs, like:

- One way relay service
- Bi-directional data service
- Distributed load processing

