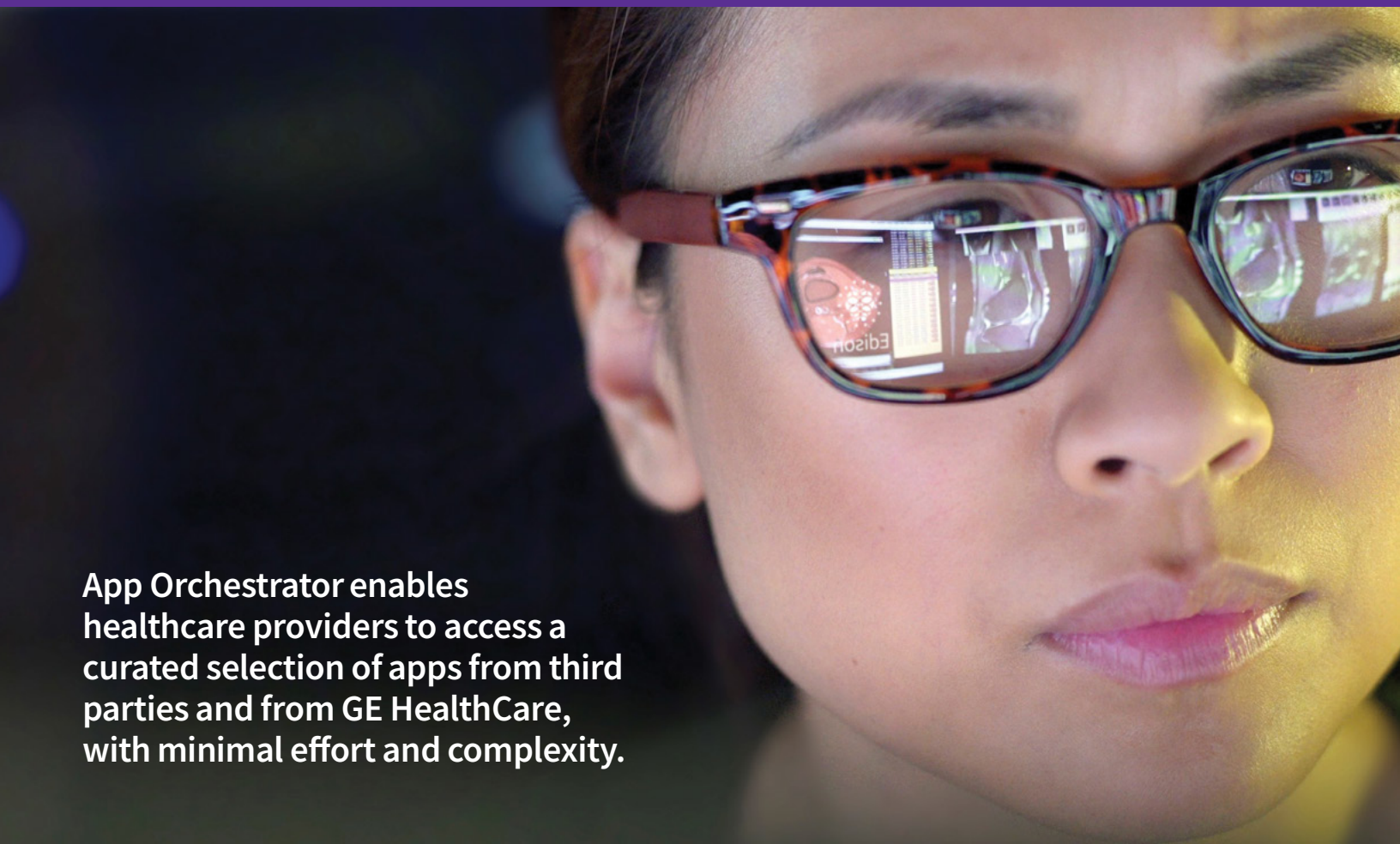
GE HealthCare

AI transformation. Simplified.



App Orchestrator enables healthcare providers to access a curated selection of apps from third parties and from GE HealthCare, with minimal effort and complexity.

Can productivity software actually create more work? In a word, yes.

While many applications show promise to alleviate work and enable clinicians, they can actually cause even more work and frustration if they require additional training, more time on the computer, and can't work together in a cohesive manner. It's no surprise that numerous studies have reported an increasing workload is one of the leading sources of job-related stress leading to burnout.[1-5]

In radiology, not only have workloads steadily increased over the last 20 years due to the increased utilization of imaging, they're getting more complicated. This has led to 54% of radiologists reporting the feeling of being burned out or depressed.[6]

And then there's the added stress of additional computerization of practice.[6] The irony here is that many technologies designed to help productivity can actually be adding work. In fact, over half of institutions report challenges in getting personnel to train and adopt.[7] Thus, in attempting to alleviate radiologist burnout, adding more productivity tools may actually be further enhancing radiologist burnout level. Productivity solutions should be implemented for the end result of alleviating work—not adding to it.

54% of radiologists reported feeling burned out or depressed.[6]

Challenges to adopting AI

Complexity and costs of onboarding new vendors

Difficulty in integrating apps into existing workflows

Risk of security breaches scales with number of vendors

Risk of investing time and money on apps that don't help

Complexity and costs of implementing applications

Risk of missing apps that help due to high purchase process burden

Artificial Intelligence (AI) is no longer just an idea for the future, it's a requirement today. But given the number and variety of vendors providing these applications, finding, trying, and buying these applications can add significant complexity and cost of deployment and ownership.

And once integrated into your workflows, learning new software can be tedious—and one of the top reasons for personnel frustration.

What is needed are ways to effectively orchestrate the application with assistive productivity-enhancing technologies in radiology reading workflows to reduce clicks and the number of UX interactions rather than adding to them. This approach also reduces the requirement to learn and adapt reading habits to new workflows.

Efficient. Improved. Familiar.

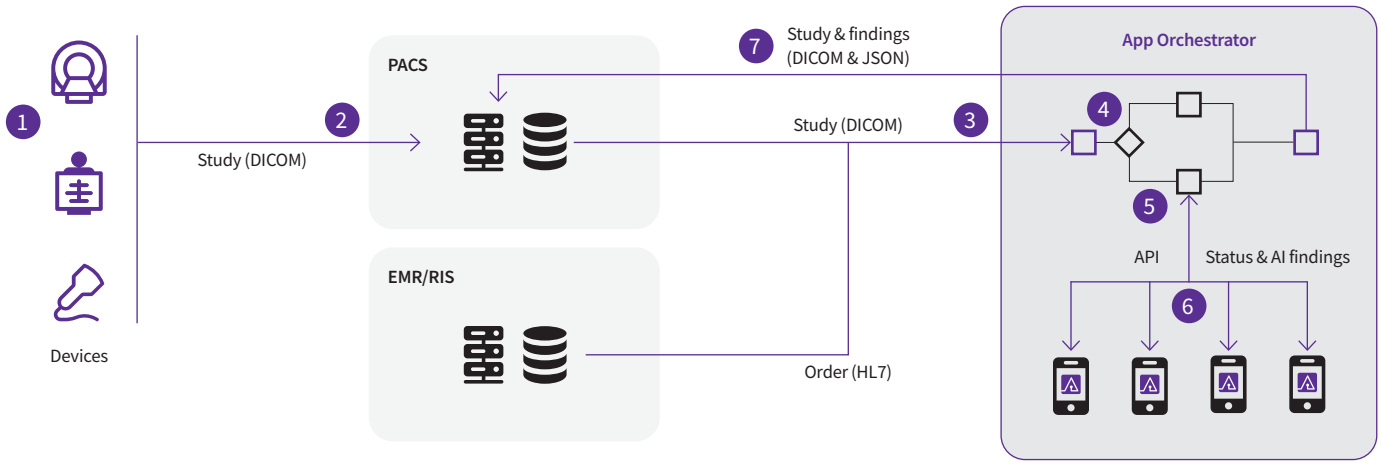
At GE HealthCare, we believe solutions should work with you, not against. That is why we created App Orchestrator. App Orchestrator is designed to seamlessly integrate AI-based clinical applications into the radiology reading workflows radiologists are already using and familiar with. This helps to reduce the need for additional training and adoption times for new clinical applications.

It efficiently manages these applications along with their execution and dataflows by orchestrating the interoperation with various imaging devices, data stores, and other information technology systems. App Orchestrator provides an efficient alternative to working separately with a multitude of vendors to integrate, configure, and maintain each application. This helps organizations optimize IT resources, freeing them up for other important activities.

- Efficiently manage and automate AI and non-AI-enabled processes encompassing imaging workflows
- Easily manage rules governing use of AI applications and interoperability with external systems
- Provide a way to instrument and subsequently learn and improve the workflow process
- Reduce the time and overhead of standing up new AI-based applications in existing workflows

Seamless integration into your workflow

App Orchestrator serves as a centralized application workflow automation system that allows routing of images from data storage to third-party processing applications and routing the results of these processing applications back to data storage to be viewed with the facility image viewer. It leverages standards to interface with the worklist of customers' choice[8] in which applicable filtering and prioritization may be applied.



How it works:

1. Image is acquired on imaging device.
2. DICOM study is sent to PACS or VNA.
3. DICOM study is then routed to App Orchestrator Order information from an EMR or RIS can also be routed with the study.
4. Using rules incorporated into the defined workflows, App Orchestrator identifies an image or series that correspond to one or more clinical applications designed for a specific anatomical body part, order indication, disease process, or other specified criteria.
5. App Orchestrator then routes the relevant images and other necessary data, including priors, from a PACS, archive, RIS, and EMR to these applicable clinical applications.
6. The GE HealthCare or third-party clinical AI application processes information, and sends status and AI findings back to App Orchestrator.
7. App Orchestrator sends the DICOM study with any AI findings and status back to the appropriate data store.
8. AI findings reported by the clinical application can be used to triage and prioritize exam worklists as well as provide decision support in the radiologists' viewer of choice.[9]

The power and freedom clinicians need

As powerful as new, AI-based tools are, they are not replacing the radiologist or clinician. They are supporting healthcare organizations in their goal to provide the right diagnosis for the right patient at the right time.

As they operate in workflows, AI applications will still need to be monitored and adjusted by humans, as they will be assessing the relevancy and effectiveness and of the output of these tools in radiology workflows for the foreseeable future.

To assist in assessment and optimization by clinicians vs. IT personnel, App Orchestrator provides a visual workflow display and comprehensive administration interface to facilitate easy management of multiple AI solutions from any number of vendors. It explicitly documents the implemented care process and required parameters of operation.

This helps facilitate an understanding and build trust with AI algorithms before committing to large-scale deployment. It can also help reduce the complexity and risk of implementation errors associated with interfacing multiple systems and algorithms.

Backed by exceptional service

It's no secret that there are numerous AI companies to choose from, and selecting a vendor for your AI needs requires significant consideration.

At GE HealthCare, we understand the fundamental importance of functionality. We also know you need to think about the future, and how your investment will be supported. This includes:

- Seamless integration with existing imaging equipment
- Utilization of industry standards to support interoperation with third-party vendors[8]
- Excellent service and support
- Rich history and company stability
- Ability to maximize existing PACS, VNA, EHR, and RIS investments

In addition, GE HealthCare's team of workflow and application specialists have decades of clinical and IT experience working with imaging organizations to ensure they maximize their investment in new applications.

The bottom line? GE HealthCare can provide the level of service you need to help you understand how to best utilize your AI capabilities.

We'll even help you explore a wide choice of AI-based clinical applications to ensure your investment in AI results in optimized imaging workflows and improved care delivery.

That's the GE HealthCare difference.

What is Edison™ Digital Health Platform?

Edison Digital Health Platform is a vendor-neutral application hosting and development environment that aggregates data across the healthcare environment, includes an AI engine, and provides a single deployment point for healthcare applications.

App Orchestrator is part of GE HealthCare's digital health platform designed to help you achieve greater efficiency, and improve and increase access to care.

Embedded within existing workflows, App Orchestrator applications can integrate and assimilate data from disparate sources, and apply analytics or advanced algorithms to generate clinical, operational, and financial insights.

GE HealthCare

To learn more about how GE HealthCare can assist your organization in deploying AI-based applications for radiology, please contact your GE HealthCare representative or visit www.GEHealthCare.com

About GE HealthCare

GE HealthCare is a leading global medical technology, pharmaceutical diagnostics, and digital solutions innovator, dedicated to providing integrated solutions, services, and data analytics to make hospitals more efficient, clinicians more effective, therapies more precise, and patients healthier and happier. Serving patients and providers for more than 100 years, GE HealthCare is advancing personalized, connected, and compassionate care, while simplifying the patient's journey across the care pathway. Together our Imaging, Ultrasound, Patient Care Solutions, and Pharmaceutical Diagnostics businesses help improve patient care from prevention and screening, to diagnosis, treatment, therapy, and monitoring.

We are an $18 billion business with 51,000 employees working to create a world where healthcare has no limits.

Follow us on Facebook, LinkedIn, Twitter, Instagram, and Insights for the latest news, or visit our website gehealthcare.com for more information.

App Orchestrator is not available in all countries.
Contact your local representative for more information.

References:

1. Magnavita N, Fileni A, Magnavita G, et al. Work stress in radiologists. A pilot study. Radiology Med. 2008; 113:329–346.
2. Graham J, Ramirez AJ, Field S, et al. Job stress and satisfaction among clinical radiologists. Clin Radiology 2000; 55:182–185
3. Chew FS, Mulcahy MJ, Porrino JA, et al. Prevalence of burnout among musculoskeletal radiologists. Skeletal Radiology 2017; 46:497–506.
4. Harolds JA, Parikh JR, Bluth EI, et al. Burnout of radiologists: frequency, risk factors, and remedies: a report of the ACR commission on human resources. J Am Coll Radiology 2016; 13:411–416.
5. Nicola R, McNeeley MF, Bhargava P. Burnout in radiology. Current Problems in Diagnostic Radiology, 2015; 44:389–390.
6. Medscape National Physician Burnout, Depression & Suicide Report 2019, Leslie Kane, MA, January 16, 2019
7. Brian P. Watson, The State of Enterprise Software Adoption, CIO Insight, October 21, 2009.
8. Not available with all radiology IT systems. Please contact your local GE Healthcare representative for more information.
9. App Orchestrator does not alter the intended use of the 3rd party application it interfaces with. Refer to 3rd party application labeling for intended use.

September 2023
JB42842XX