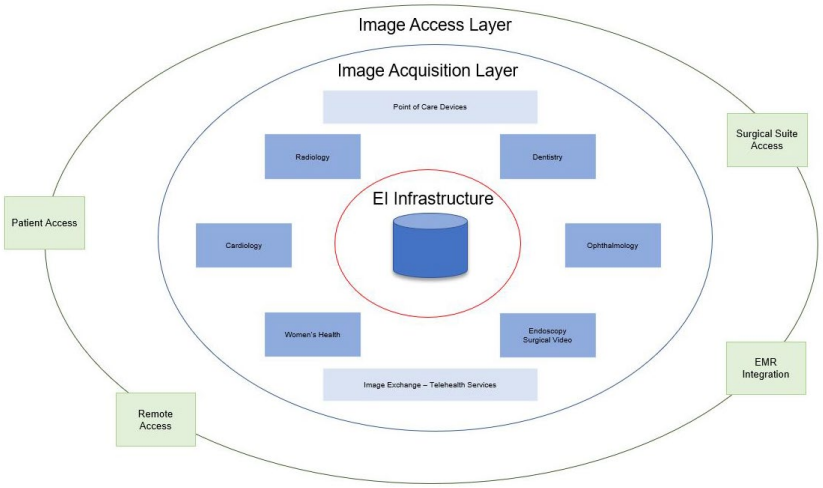
HEARTBEAT
BY INTELLIGENT IMAGING

In Support of an Enterprise Imaging Ecosystem

Introduction

As the organization begins to develop an Enterprise Imaging (EI) Program to manage, store, exchange and provide access to the growing amount of imaging content across multiple service lines a complex enterprise infrastructure is being designed and implemented. This infrastructure includes a technology core, department system integrations and exchange infrastructure that supports image acquisition and management. The image access layer includes all the devices, processes and network infrastructure required to access the images as part of an EMR integration.

Often overlooked in the initial planning stage of the EI program is the service and support requirements of a new complex, multi-vendor ecosystem. The availability of imaging content for diagnostic review and interpretation as well as procedural and evidence-based images is essential in providing patient care and managing clinical outcomes.



Currently most image management and support initiatives are a siloed approach, with each department responsible for their own management. The subsequent support strategies tend to focus on the requirements of each clinical business unit. However, as an EI program is implemented across the organization and content is being acquired, stored and made available at the point-of-care through integration with the EMR, the support requirements become an enterprise issue and responsibility.

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Enterprise Support Considerations

Organizations should assess their current imaging support initiatives and consider the following points:

Required Personnel	How many personnel are currently supporting the imaging technology and operations environment within each department? (example, who is currently managing and supporting the Ophthalmology system). Is there an opportunity to reduce current staffing while consolidating and centralizing support activities?
Problem Recognition	How does the organization become aware that there is a problem with imaging systems, devices or access? Current support efforts are typically a reaction to a system or access problem (usually identified by the users). As a user reports an issue, that problem is already cascading across other systems and access points around the organization. Pinpointing the problem can become a challenge.
Ecosystem	At what point in the ecosystem can things go wrong? Systematically map the areas where imaging content is acquired and managed as well as access nodes for imaging viewing and exchange.
Escalation	How many tiers of escalation? The escalation process must be well documented, and service-level-agreements established between department and facilities regarding the management of the imaging environment.
Troubleshooting	How long does it currently take to troubleshoot and fix the issue? Each access node, department system, integration point and network infrastructure can be the source of an issue and it may take hours to localize the problem and additional time to rectify the issue.
Proactive Monitoring	Are there tools in place that identify issues before user recognition? A monitoring system can be put in place that proactively monitors all the nodes in the imaging ecosystem (department systems, image access points, integration points, storage and exchange infrastructure.

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EI Support Plan

As the imaging initiative grows a comprehensive EI Support Plan is required and must include the following points:

1. Technical support and management of the EI Ecosystem including the enterprise core technology as well as all the department systems and devices that acquire and process the images.

2. Central HELP Desk to receive and triage calls. The end-user community has blossomed beyond department users but now includes every healthcare professional that has access to the imaging content.

3. Managing the vendor support structure there are a number of vendors that have provided imaging technology across the multiple imaging service-lines. It is essential to develop a triage process that includes all the imaging vendors.

4. Determining the right mix and number of analysts and support personnel that are required to manage the growing imaging environment.

5. Mapping an Early Warning System – Technology currently exists to include every imaging node in the system within an application that constantly monitors imaging activity and throughput across the health system to proactively identify bottlenecks and system outages, usually before an end-user realizes there is a problem. Not only can the early warning system identify potential system and network issues, it can also help reduce the amount of time it currently takes to triage and troubleshoot the issue.

Conclusion

The Enterprise Imaging strategy has created a technology-rich environment that supports the delivery of healthcare by indexing imaging content and providing access to all caregivers. It is essential to include support planning as part of an overall EI strategy with the primary focus on system availability and stability. Given the need to quickly and efficiently access imaging content at the patient's point- of- care, it is no longer acceptable to wait for a user to encounter a problem and call the HELP desk to begin a triage process that may take hours and involve personnel from multiple areas throughout the organization as well as technology vendors. The earlier an issue can be identified, the quicker resources can be marshaled, and problems solved before patient care is drastically affected.

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Today, technology exists that can proactively monitor all the nodes on the imaging ecosystem, automatically identify throughput and integration issues and allow support personnel to pinpoint sources of a potential problem and react appropriately. Relying on an "early warning system" to identify possible system issues takes the burden of problem notification out of the hands of the end-users and reduces the length of the troubleshooting and remediation. Since potential issues are identified before they can become system failures, systems and processes are more available and there is less system downtime. The ability to quickly identify and triage problems and the corresponding reduction in downtime will have a positive impact on user experience, patient care and reduced cost of system failure.

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About the Author:

Founder and Principal Consultant with Lannum & Associates, specializing in strategic design and program management, governance, and value realization in enterprise imaging.

Previously, Mr. Lannum has worked as a strategic consultant with Agfa HealthCare and the Director of Enterprise Imaging at the Cleveland Clinic.

He is a nationally recognized leader in enterprise imaging and a frequent presenter at numerous national conferences. Mr. Lannum is one of the founding members of the HIMSS-SIIM Collaborative Enterprise Imaging Workgroup where he continues to serve in a leadership capacity. As a member of the workgroup, he has co-authored several whitepapers on Enterprise Imaging.