



Independence through Innovation

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The Mach7 Communication Workflow Engine

Workflow Orchestration for the Modern Healthcare Enterprise

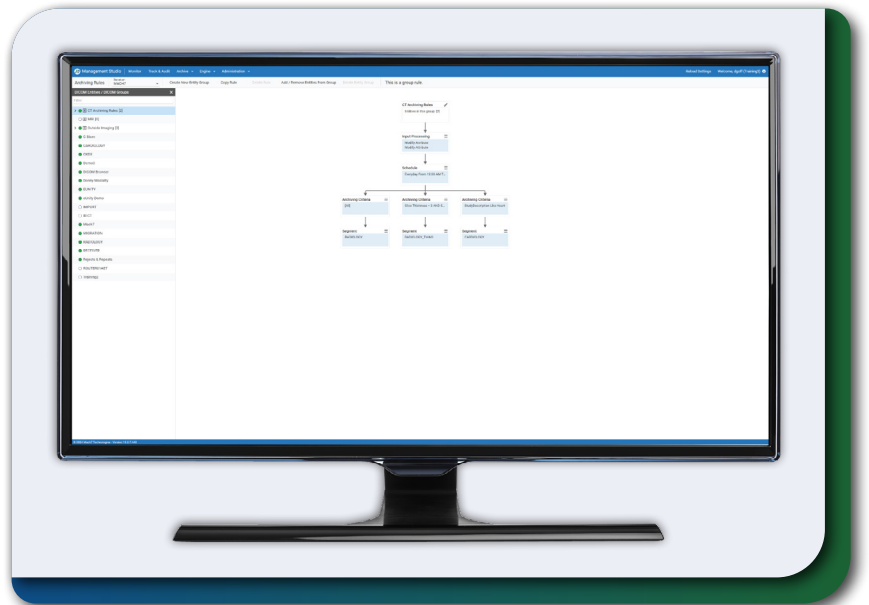
Enabling Better Patient Care



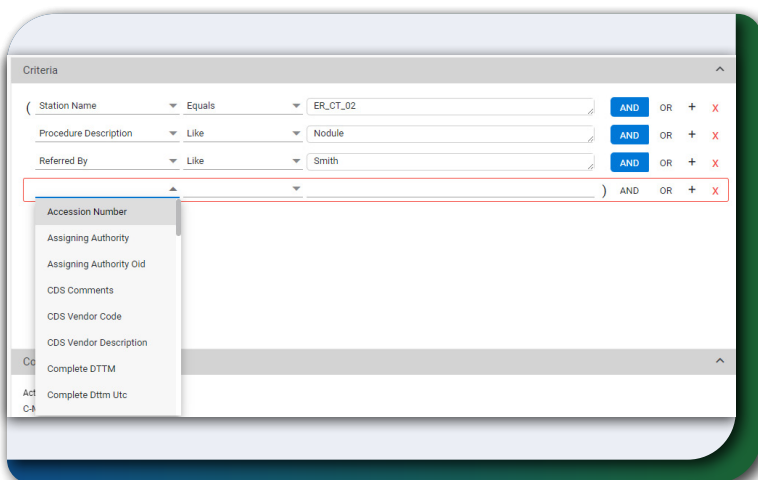
Workflow Orchestration - Communication Workflow Engine (CWE)

Our Workflow Orchestration applications include a powerful communications workflow engine designed to optimize efficiency and improve clinical workflows while allowing IT professionals the flexibility and power to distribute imaging data to anywhere in their organization.

The **Mach7 Enterprise Imaging Solution** drives and supports workflows across the enterprise to optimally capture, index, manage, store, distribute, view, exchange, and analyze all clinical imaging and multimedia content to enhance your patient's electronic health record. Our **Communication Workflow Engine (CWE)** is one component of our overall solution, but it can also be implemented in a stand-alone configuration to provide DICOM routing and data normalization functionality.



The CWE utilizes a rule-based engine for defining how DICOM imaging studies are routed through the system. The graphical user interface visually represents the workflow for routing imaging studies to destinations in a clear manner and DICOM normalization capabilities further enable data to be communicated in a clean and standards-based format according to an institution's requirements and interoperability needs. Both Public and Private tags are included in the data normalization / tag morphing functionality and the processing rules can be configured to occur at either the input or output of the routing workflow. This capability provides the system administrator additional flexibility when a routing destination requires the data to be sent in a specific transfer syntax or other destination-specific requirement.



Individual elements within the DICOM Header can be used to trigger the routing workflow and nested Boolean-type logic provides the ability to create very granular rules based on your specific workflow requirements.

The system is designed to be fully managed by the local system administrator which makes it efficient to create new routing workflow based on changes in your organization or to leverage new functionality such as on-prem or cloud-based AI algorithms.

Customer Use Cases

Customers utilize the **Mach7 Communication Workflow Engine** for many reasons to streamline workflows, improve productivity and efficiencies with the goal of enhancing patient care. Here are several real-world customer use cases to depict the value presented when utilizing this powerful application.



Automation to Ensure Data Accuracy and Create Time Savings

In this use case, a customer wished to concentrate on automating workflows for their many joint venture partners locations (e.g., local hospitals, health systems or imaging centers within the community).

Specifically, Mach7 software is used to automatically match MRI images that are captured at the customers joint venture partner locations to the appropriate patient record and merge these studies within the customer's enterprise VNA (Vendor Neutral Archive). This automated process improved efficiency and productivity as the previous method required a manual merging of data.

The results are now recognized, as this automation is helping to improve the image/study review process as well as contributing to imaging technologist workflow efficiencies. A noteworthy aspect of this improvement is the removal of the need to edit and reconcile patient identifier discrepancies within two uniquely different systems.



Auto-sending Prior Studies to PACS for Immediate Review

In a common use case scenario, **Mach7's Communication Workflow Engine** enabled every customer imaging center using their secure PACS to connect directly to the customer's VNA. In this use case, Mach7 software is utilized to ensure that any relevant prior studies stored on the VNA are sent to the PACS, providing a comprehensive view of the patient's imaging history. With this process, when a patient arrives, any relevant prior imaging studies in the VNA are automatically pulled into the PACS. This replaces the time-consuming manual export process and eliminates the need for a Radiologist or Administrator to request a manual export from a Technologist.

The Mach7 auto-send routing capability ensures continuity of care by making relevant prior studies readily available for radiologists, thus enhancing diagnostic confidence, and contributing to quality patient care. By integrating prior studies into the patient's imaging record, radiologists can have peace of mind knowing they have the complete imaging history before dictating a diagnostic report.



Saving Time for Technologists

In addition to automating the patient identifier and exam information process, the technology assists with providing workflow efficiencies for Technologists. Prior to implementing Mach7, Technologists would need to manually match patient or exam information from one system to another in a time-consuming and tedious process. By removing the manual step from the Technologist workflow, the technology decreased exam QA (Quality Assurance) time to complete a study. This improvement allows Technologists to focus more on exam room readiness and patient care rather than cumbersome administrative tasks.

Following the initial implementation of Mach7 at this customer site, in the first quarter of 2024, the customer conducted a time study analysis of approximately 22,000 MRI imaging studies utilizing Mach7's automation capabilities. The analysis revealed an average time savings of 3 to 5 minutes per Technologist exam compared to the previous manual process. As more sites adopt this automated workflow, even greater time savings are expected.

The customer was quoted as saying, ***“We have received glowing feedback from our Technologists and clinicians stating that by removing a manual merge process, the imaging workflow has been improved and that they have been able to focus on more patient-focused responsibilities.”***



Improving Data Reconciliation

In this scenario, customer partners utilize a distinct EMR (Electronic Medical Record) system or PACS (Picture Archiving and Communication System) which have unique patient and exam identifiers for images acquired within their network. As these identifiers may be different than those within the customer's system, this information must be updated and reviewed to ensure proper patient matching occurs as well as any necessary patient procedure/exam identifier (i.e., accession number) changes are made.

Mach7's role in this important workflow is to provide enterprise workflow tools to facilitate an automated process that ensures this information is updated accurately and in a timely manner to accelerate quality patient care.

The Director of Transformation at customer site stated, ***“With the introduction of Mach7's solution into our workflows, we can automate the time-consuming but important process of patient and exam identifier reconciliation. This creates efficiencies and improves the ability for clinicians to have timely access to a patient's imaging information, which in turn delivers better patient care.”***

Creating Value for Better Patient Care

By enabling customizable tools and workflow intelligence capabilities, our applications support informed clinical decision-making. With added features like teleradiology services and customizable workflows, our tools help departments operate more efficiently and empower healthcare professionals in providing exceptional patient care.

Customers utilize Mach7 in a myriad of ways to support their unique and sometimes complex study archiving, distribution, and customization requirements. Whether it's the need to route images to specific locations or providers, or the desire to reconcile, normalize, anonymize, update, or edit data, Mach7 gives administrators immense capabilities and flexibility.



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